

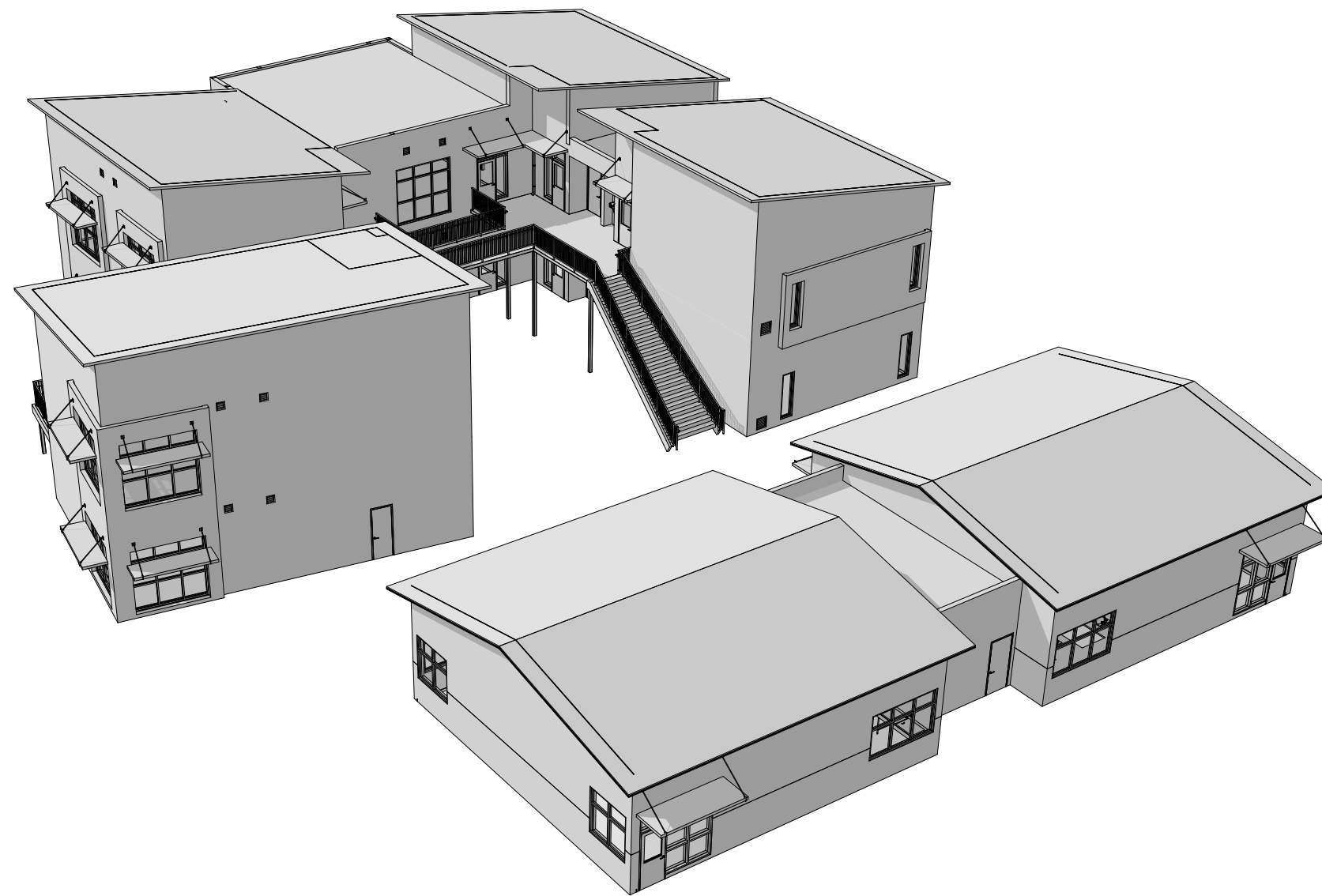
HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS

101 AMERICAN AVENUE, BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

INCREMENT 2 OF 2



DSA FILE NO 7-H4

DSA APPLICATION NO: 01-119268

PTN: 61721-77

DSA SUBMITTAL

PROJECT TEAM

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Email: gwillson@vaengineering.com

ENERGY

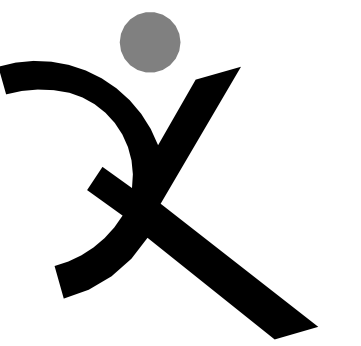
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2227 Capricorn Way, Suite 202
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FIRE PROTECTION

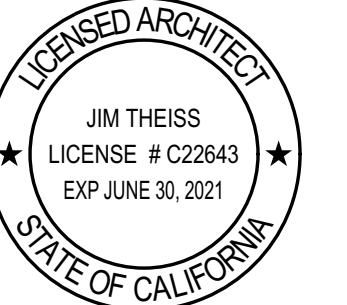
Cypress Engineering Group
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ELECTRICAL ENGINEER

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SIGNED: MAY 10, 2021

HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119268

ARCH PROJECT NO: 1870.00

DRAWN BY:

DRAWING SCALE: N.T.S.

PTN: 61721-77 FILE NO: 7-H4

BID SET

MAY 10, 2021

SHEET TITLE

COVER SHEET

SHEET NUMBER

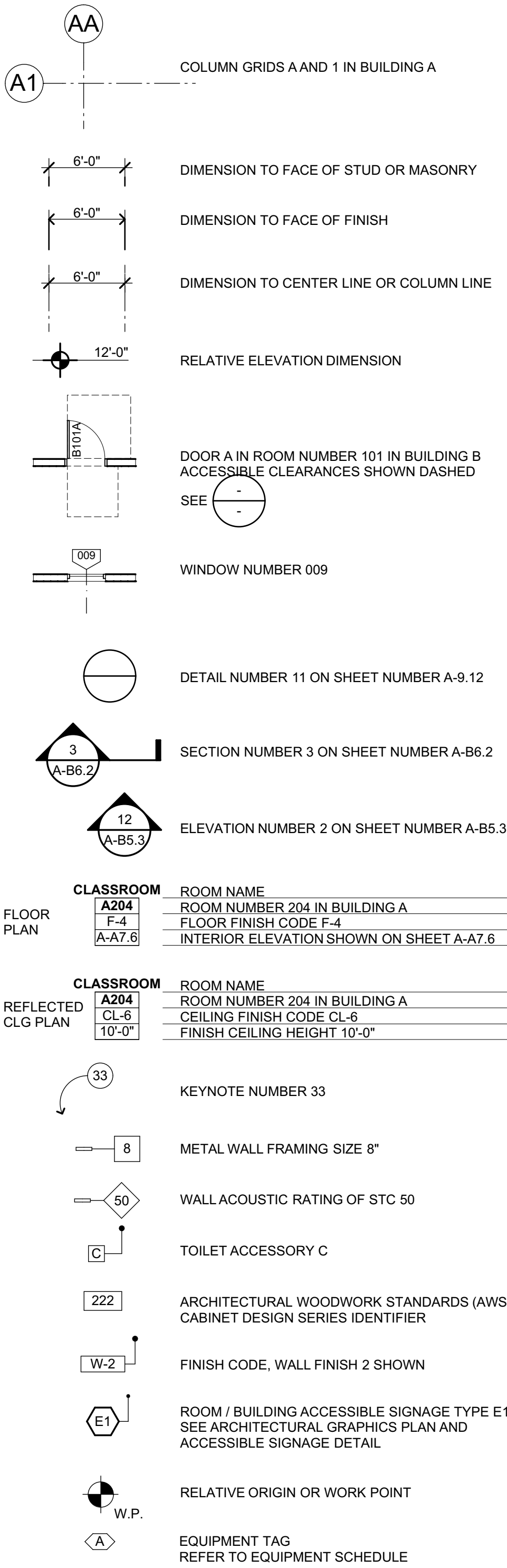
G-0.1

ABBREVIATIONS

& @ C ' " #	AND ANGLE AT CENTERLINE FEET INCHES PENNY POUND/ NUMBER	F FACE FA FIRE ALARM FCO FLOOR CLEAN OUT FD FLOOR DRAIN FDN FOUNDATION FE FIRE EXTINGUISHER FEC FIRE EXTINGUISHER CABINET FF FINISH FLOOR FG FINISH GRADE FGL FIBERGLASS FH FIRE HYDRANT FHMS FLAT HEAD MACHINE SCREW FHS FIRE HOSE STATION FHWS FLAT HEAD WOOD SCREW FIN FINISH FIXT FIXTURE ADJ ADJUSTABLE FLASH FLUOR FLUORESCENT FLR FLOOR FM / FOM FACE OF MASONRY FN FACE NAIL FOC FACE OF CONCRETE FOF FACE OF FINISH FOS FACE OF STUD FRMG FRAMING FR FIRE-RESISTANT FRP FIBERGLASS REINFORCED	FACE FIRE ALARM FLOOR CLEAN OUT FLOOR DRAIN FOUNDATION FIRE EXTINGUISHER FIRE EXTINGUISHER CABINET FINISH FLOOR FINISH GRADE FIBERGLASS FIRE HYDRANT FLAT HEAD MACHINE SCREW FIRE HOSE STATION FLAT HEAD WOOD SCREW FINISH FIXTURE FLOOR LINE FLASHING FLUORESCENT FLOOR FACE OF MASONRY FACE NAIL FACE OF CONCRETE FACE OF FINISH FACE OF STUD FRAMING FIRE-RESISTANT FIBERGLASS REINFORCED	PC P.C.F. PDA PERF PH PL P.L. PLAM PLAS PLF PLYWOOD P.O.C. PAIR PROPERTY PSF POUNDS PER SQUARE FOOT PSI POUNDS PER SQUARE INCH PT POINT PTDF PRESSURE TREATED PTN PARTITION PVC PAPER TOWEL RECEPTACLE PVT POLYVINYL CHLORIDE PVMT PAVEMENT	PORTLAND CEMENT POUNDS PER CUBIC FOOT POWER DRIVEN ANCHOR PERFORATED PLATE HEIGHT PLATE PROPERTY LINE PLASTIC LAMINATE PLASTER/ PLASTIC POUNDS PER LINEAL FOOT PLYWOOD POINT OF CONTACT PAIR PROPERTY POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH POINT PRESSURE TREATED DOUGLAS FIR PARTITION PAPER TOWEL RECEPTACLE POLYVINYL CHLORIDE PAVEMENT
BD BITUM BLDG BLK BLKG BM BOT BY BRK BRG BTWN BU BUR	BOARD BITUMINOUS BUILDING BLOCK BLOCKING BEAM BOTTOM BY OWNER BREAK BEARING BETWEEN BUILT-UP BUILT-UP ROOFING	GA GALV GB GC GI GL GLB GND GR GYP BD	GAUGE GALVANIZED GRAB BAR GENERAL CONTRACTOR GALVANIZED IRON GLASS/ GLAZING GLUE LAMINATED BEAM GROUND GRADE GYPSUM BOARD	R RISER R / RAD RADIUS RD ROOF DRAIN REF REFERENCE REFR REFRIGERATOR REG REGULAR REQD REQUIRED REINF REINFORCED RH ROOF HATCH RHMS ROUND HEAD MACHINE SCREW RHSW ROUND HEAD WOOD SCREW ROOM RO ROUGH OPENING RWL RAIN WATER LEADER RWD REDWOOD	
CAB CB CBC CEM CER CI CIR CJ CORR CL CLG CLR CLS CMU CO COL COMB COMP CONC CONN CONST CONT CONTR CT CTR CTSK CUST CW	CABINET CATCH BASIN CALIFORNIA BUILDING CODE CEMENT CERAMIC CAST IRON CIRCLE CONTROL JOINT CORRIDOR CLOSE/ CENTER LINE CEILING CLEAR CLOSURE CONCRETE MASONRY UNIT CLEANOUT HEIGHT COLUMN COMBINATION COMPOSITION CONCRETE CONNECTION CONSTRUCTION CONTINUOUS CONTRACTOR CERAMIC TILE CENTER COUNTERSINK CUSTODIAN COLD WATER	HB HOSE BIBB HC HOLLOW CORE HDR HEADER HDWD HARDWOOD HDWR HARDWARE HM HOLLOW METAL HOR HORIZONTAL HP HIGH POINT HR HOUR HSS HOLLOW STEEL SECTION HT HEIGHT HTG HEATING HVAC HEATING, VENTILATING, AIR-CONDITIONING		S S.A.D. SEE ARCHITECTURAL DRAWINGS S.A.V.D. SEE AUDIO/VIDEO DRAWINGS SC SOLID CORE S.C.D. SEE CIVIL DRAWINGS SCHD SCHEDULE SD STORM DRAIN SECT SECTION SEE ELECTRICAL DRAWINGS SEP SEPARATION SEE FIRE PROTECTION DRAWINGS SFTG SHEATHING SIM SIMILAR SL SLIDING S.L.D. SEE LANDSCAPE DRAWINGS SM SHEET METAL S.M.D. SEE MECHANICAL DRAWING SOV SHUT OFF VALVE S.P.D. SEE PLUMBING DRAWINGS SPEC SPECIFICATION SPKR SPEAKER SQ SQUARE SS STAINLESS STEEL S.S.D. SEE STRUCTURAL DRAWINGS S.T.H.D. SEE THEATER DRAWINGS STA STATION STD STANDARD STL STEEL STR STORAGE STRUCT STRUCTURAL SUSP SUSPENDED SYM SYMMETRICAL	
DBL DEPT DET DF DG	DOUBLE DEPARTMENT DETAIL DRINKING FOUNTAIN DECOMPOSED	LAB LABORATORY LAM LAMINATE LAV LAVATORY LL LIVE LOAD LP LOW POINT LT LIGHT		T TREAD T&B TOP & BOTTOM TC TOP OF CURB TEL TELEPHONE TER TERRAZZO T&G TONGUE & GROOVE TH THICK THRU THROUGH TJ TOOL JOINT TN TOE NAIL T.O.D. TOP OF DECK T.O.P. TOP OF PLATE T.O.R. TOP OF ROOF T.O.W. TOP OF WALL TOP OF PAVEMENT TRN TRANSOM TRANS TRANSPARENT TS TUBE STEEL TUB TUBULAR TV TELEVISION TW TACKWALL TYP TYPICAL UNF UNFINISHED U.O.N. UNLESS OTHERWISE NOTED UR URINAL UTIL UTILITY	
DI DIA DIAG DIM DISP DIV DN DO DIR DR DS DSA DSP DT DW DWG DWR	DIAMETER DIAGONAL DIMENSION DISPOSAL DIVISION DOWN DOOR OPENING DIRECTLY DOOR DOWN SPOUT DIVISION OF STATE ARCHITECT DRY STAND PIPE DRAIN TILE DISHWASHER DRAWING DRAWER	MAT MATERIAL MAX MAXIMUM MB MACHINE BOLT MC MEDICINE CABINET MECH MECHANICAL MED MEDIUM MEMB MEMBRANE MFR MANUFACTURER MH MANHOLE MIN MINIMUM MIR MIRROR MISC MISCELLANEOUS MO MASONRY OPENING MOD MODULAR MR MOISTURE RESISTANT MTD MOUNTED MTL METAL MUL MULLION		VB VAPOR BARRIER VCT VINYL COMPOSITION TILE VERT VERTICAL VEST VESTIBULE V.I.F. VERIFY IN FIELD VTR VENT THROUGH ROOF VWC VINYL WALL COVERING	
E (E) EA EB EE EF EL ELEC ELEV EMER EMT ENCL EQ EQ EQUIP EQUIV ES EW EXH EXIST EXP EXT	EAST EXISTING EACH EXPANSION BOLT EACH END EXHAUST FAN EXPANSION JOINT ELEVATION GRADE ELECTRICAL ELEVATION EMERGENCY ELECTRIC METALLIC TUBING ENCLOSURE ELECTRIC PANEL EQUAL EQUIPMENT EQUIVALENT EACH SIDE EACH WAY EXHAUST EXISTING EXPANSION EXTERIOR	OA OVERALL OBS OBSCURE OC ON CENTER OD OUTSIDE DIAMETER OF OVERFLOW OWNR OWNER FURNISHED/ CONTRACTOR INSTALLED OCCUPANT LOAD FACTOR OFF OFFICE OPNG OPENING OPP OPPOSITE OVHD OVERHEAD		W WEST WI WITH WC WATER CLOSET WD WOOD WH WINDOW WH WATER HEATER W/O WITHOUT WP WATER PROOF W.P. WORK POINT WR WATER RESISTANT WSCOT WAINSCOT WT WEIGHT	
		N NORTH (N) NEW NAT NATURAL N.I.C. NOT IN CONTRACT NO NUMBER NOM NOMINAL N.T.S. NOT TO SCALE		YD YARD	

LEGEND

ALL NOTES AND SYMBOLS ARE INTENDED TO APPLY AT ALL OTHER LOCATIONS OF SIMILAR GRAPHIC REPRESENTATION. SUCH INDICATIONS MAY BE LIMITED TO PROMOTE CLARITY. NO LIMITATION OF APPLICATION IS INTENDED EXCEPT AS SPECIFICALLY NOTED.

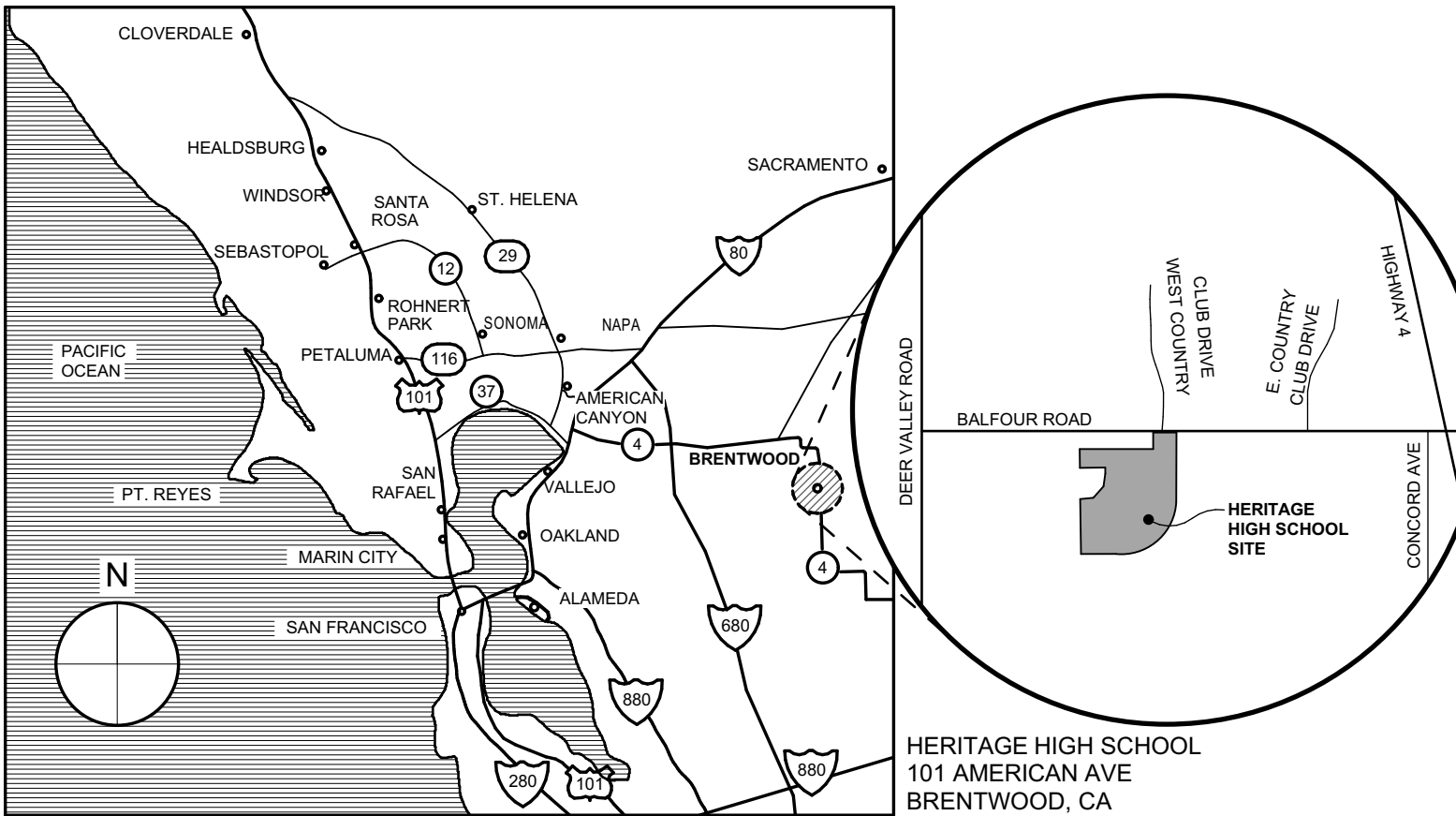


GENERAL NOTES

- ALL WORK IS SHOWN, DESCRIBED OR SPECIFIED IN THE DRAWINGS INDEXED ON THIS PAGE OR IN THE SPECIFICATIONS.
- ALL FRAMING DIMENSIONS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE.
 - DO NOT SCALE DRAWINGS.
 - VERIFY ALL DIMENSIONS WHERE WORK INVOLVES FRAMING FOR WINDOWS, DOORS, OR CABINETS.
- ONLY WORK SO NOTED IS NOT IN CONTRACT (N.I.C.). ALL N.I.C. ITEMS ARE NOT PART OF DSA APPROVAL
- GOVERNING CODES: A COPY OF TITLE 24 PARTS 1-5 SHALL BE KEPT ON THE JOB AT ALL TIMES. CALIFORNIA CODE OF REGULATIONS TITLE 24 BUILDING STANDARDS CODE:
 - PART 1 2019 CALIFORNIA ADMINISTRATIVE CODE (CAC), PART 1, TITLE 24 CCR
 - PART 2 2019 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 CCR
 - (2018 INTERNATIONAL BUILDING CODE, VOL. 1 & 2, AND 2019 CALIFORNIA AMENDMENTS)
 - PART 3 2019 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 CCR
 - (2017 NATIONAL ELECTRICAL CODE AND 2019 CALIFORNIA AMENDMENTS)
 - PART 4 2019 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 CCR
 - (2018 IAPMO UNIFORM MECHANICAL CODE AND 2019 CALIFORNIA AMENDMENTS)
 - PART 5 2019 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 CCR
 - (2018 IAPMO UNIFORM PLUMBING CODE AND 2019 CALIFORNIA AMENDMENTS)
 - PART 6 2019 CALIFORNIA ENERGY CODE (CEC), PART 6, TITLE 24 CCR
 - PART 9 2019 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24 CCR
 - (2018 INTERNATIONAL FIRE CODE AND 2019 CALIFORNIA AMENDMENTS)
 - PART 10 2019 CALIFORNIA EXISTING BUILDING CODE (CEBC), PART 10, TITLE 24 CCR
 - (2018 INTERNATIONAL EXISTING BUILDING CODE AND 2019 CALIFORNIA AMENDMENTS)
 - PART 11 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE (CAL-GREEN), PART 11, TITLE 24 CCR
 - TITLE 19 CCR, PUBLIC SAFETY CODE, STATE FIRE MARSHAL REGULATIONS
 - 2010 ADA STANDARDS FOR ACCESSIBILITY DESIGN
 - 2016 ASME A17.1-16/CSA B44-16 SAFETY CODE FOR ELEVATORS AND ESCALATORS
- STANDARD AND GUIDES:

NFPA 13	INSTALLATION OF FIRE SPRINKLER SYSTEMS (CA AMENDED)	2016 EDITION
NFPA 14	INSTALLATION OF STANDPIPE AND HOSE SYSTEMS	2016 EDITION
NFPA 17	DRY CHEMICAL EXTINGUISHING SYSTEMS	2017 EDITION
NFPA 17A	WET CHEMICAL FIRE EXTINGUISHING SYSTEMS	2017 EDITION
NFPA 20	INSTALLATION OF STATIONARY PUMPS FOR FIRE PROTECTION	2016 EDITION
NFPA 24	STANDARD FOR THE INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES	2016 EDITION
NFPA 25	CALIFORNIA EDITION - TESTING, MAINTENANCE OF WATER-BASED FIRE PROTECTION SYSTEMS	2013 EDITION
NFPA 72	NATIONAL FIRE ALARM AND SIGNALING CODE (CA AMENDED)	2016 EDITION
NFPA 80	STANDARD FOR FIRE DOORS AND OTHER OPENING PROTECTIVES	2016 EDITION
NFPA 110	EMERGENCY AND STANDBY POWER SYSTEMS	2016 EDITION
NFPA 170	STANDARD FOR FIRE SAFETY AND EMERGENCY SYMBOLS	2018 EDITION
NFPA 2001	STANDARD ON CLEAN AGENT FIRE EXTINGUISHING SYSTEMS	2015 EDITION
UL 300	STANDARD FOR FIRE TESTING OF FIRE EXTINGUISHING SYSTEMS FOR PROTECTION OF COMMERCIAL COOKING EQUIPMENT	2005 (R2010)
UL 464	AUDIBLE SIGNALING DEVICES FOR FIRE ALARM AND SIGNALING SYSTEMS, INCLUDING ACCESSORIES	2003 EDITION
UL 521	STANDARD FOR HEAT DETECTORS FOR FIRE PROTECTIVE SIGNALING SYSTEMS	1999 EDITION
UL 1971	STANDARD FOR SIGNALING DEVICES FOR THE HEARING IMPAIRED	2002 EDITION
UL 2034	STANDARD FOR SINGLE AND MULTIPLE CARBON MONOXIDE ALARMS	2017 EDITION
ICC 300	STANDARD FOR BLEACHERS, FOLDING AND TELESCOPIC SEATING, AND GRANDSTANDS	2017 EDITION
- IN ACCORDANCE WITH TITLE 24 PART 1 CHAPTER 4: THE ADMINISTRATIVE REGULATIONS FOR THE DIVISION OF THE STATE ARCHITECT STRUCTURAL SAFETY (DSA/SS).
 - 4-331 DSA SHALL BE NOTIFIED AT THE START OF CONSTRUCTION.
 - 4-332 WHEN CONSTRUCTION IS SUSPENDED FOR MORE THAN ONE MONTH, THE PROJECT INSPECTOR SHALL INFORM DSA.
 - 4-333(a) OBSERVATION OF THE WORK SHALL BE BY ARCHITECT OR REGISTERED ENGINEER.
 - 4-333(b) THE DISTRICT MUST PROVIDE AND PAY FOR PROJECT INSPECTOR.
 - 4-334 SUPERVISION OF CONSTRUCTION BY DSA SHALL BE IN ACCORDANCE WITH THIS SECTION.
 - 4-335 STRUCTURAL TESTS AND INSPECTION ARE REQUIRED IN ACCORDANCE WITH THIS SECTION. TESTS OF MATERIALS AND TESTING LAB SHALL BE IN ACCORDANCE WITH SECTION 4-335 AND THE DISTRICT SHALL EMPLOY AND PAY THE LAB. COSTS OF RE-TEST MAY BE BACKCHARGED TO THE CONTRACTOR. ALL TESTS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 4-335 AND APPROVED T & I SHEET (DSA-103)
 - 4-336 VERIFIED REPORTS SHALL BE SUBMITTED BY CONTRACTORS (DSA 008-C); INSPECTORS (DSA 006-P); ARCHITECTS AND ENGINEERS (DSA 006-AE) IN ACCORDANCE WITH SECTIONS 4-336 AND 4-343.
 - 4-337 SEMI-MONTHLY REPORTS SHALL BE SUBMITTED BY INSPECTORS (DSA - 155), IN ACCORDANCE WITH SECTIONS 4-337.
 - 4-338 WORK SHALL BE EXECUTED IN ACCORDANCE WITH THE APPROVED PLANS, ADDENDA AND CONSTRUCTION DOCUMENTS. CHANGES IN THE APPROVED PLANS AND SPECIFICATIONS SHALL BE MADE BY ADDENDA OR CONSTRUCTION CHANGE DOCUMENTS STAMPED AND SIGNED BY THE ARCHITECT OR REGISTERED ENGINEER IN CHARGE. ADDENDA AND CHANGE DOCUMENTS SHALL BE SUBMITTED TO AND APPROVED BY DSA PRIOR TO COMMENCEMENT OF WORK.
 - 4-341(a) THE ARCHITECT AND THE REGISTERED ENGINEER SHALL PERFORM THEIR DUTIES IN ACCORDANCE WITH SECTIONS 4-333(a) AND 4-341.
 - 4-341(d) INSPECTOR SHALL BE APPROVED BY DSA.
 - 4-342 INSPECTION SHALL BE IN ACCORDANCE WITH SECTION 4-333 THE DUTY OF THE INSPECTOR SHALL BE IN ACCORDANCE WITH THIS SECTION.
 - 4-343 THE CONTRACTOR SHALL PERFORM HIS DUTIES IN ACCORDANCE WITH THIS SECTION.
- THE INTENT OF THE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF ALTERATION, REHABILITATION OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24, C.C.R. SHOULD ANY EXISTING CONDITIONS BE DISCOVERED WHICH ARE NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH SAID TITLE 24 C.C.R. A CONSTRUCTION CHANGE DOCUMENT DETAILING AND SPECIFYING THE REQUIRED REPAIR WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE REPAIR WORK. (TITLE 24 PART 1, SECTION 4-338(c))
- COMPLIANCE WITH CFC CHAPTER 33, FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION AND CBC CHAPTER 33, SAFETY DURING CONSTRUCTION SHALL BE ENFORCED.
- EMERGENCY VEHICLE ACCESS ROADS AND ON-SITE FIRE HYDRANTS SHALL BE IN SERVICE AND OPERABLE PRIOR TO LOADING THE SITE WITH COMBUSTIBLE MATERIALS.
- GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD AND ACCESS REQUIREMENTS, AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH APPLICABLE LOCAL ORDINANCES.

VICINITY MAP



SHEET INDEX (167 SHTS)

GENERAL (6 SHTS)	
G-0.1	COVER SHEET
G-0.2	ABBREVIATIONS AND NOTES
G-0.3	SHEET INDEX
G-0.4	FIRE LIFE AND SAFETY PLAN
G-0.5	SITE ACCESS PLAN
G-0.6	ENLARGED SITE PLAN, CODE ANALYSES EXITING PLAN

CIVIL (11 SHTS)	
C-1.0	EXISTING CONDITIONS / DEMOLITION
C-2.0	HORIZONTAL CONTROL PLAN
C-2.1	DETAILS
C-3.0	OVERALL UTILITY PLAN
C-3.1	UTILITY PLAN
C-3.2	UTILITY PLAN
C-4.0	GRADING AND DRAINAGE PLAN
C-4.1	GRADING AND DRAINAGE PLAN
C-4.2	GRADING AND DRAINAGE PLAN
C-5.0	STORMWATER CONTROL PLAN
C-6.0	EROSION CONTROL PLAN

LANDSCAPE (16 SHTS)	
L1.0	MATERIAL AND DETAIL REFERENCE PLAN
L1.1	CONSTRUCTION DETAILS
L1.2	CONSTRUCTION DETAILS
L1.3	CONSTRUCTION DETAILS
L1.4	CONSTRUCTION DETAILS
L2.0	LAYOUT PLAN
L3.0	IRRIGATION PLAN & SCHEDULES
L3.1	IRRIGATION LEGEND & NOTES
L3.2	IRRIGATION DETAILS
L3.3	IRRIGATION DETAILS
L3.4	IRRIGATION DETAILS
L3.5	IRRIGATION DETAILS
L3.6	IRRIGATION DETAILS
L4.0	PLANTING PLAN
L4.1	PLANTING NOTES
L4.2	PLANTING DETAILS

ARCHITECTURAL (41 SHTS)	
A-A2.1	BLDG-A FLOOR PLAN
A-A3.1	BLDG-A REFLECTED CEILING PLAN
A-A4.1	BLDG-A ROOF PLAN
A-A5.1	BLDG-A EXTERIOR ELEVATIONS
A-A6.1	BLDG-A BUILDING SECTIONS
A-A6.2	BLDG-A WALL SECTIONS
A-A7.1	BLDG-A INTERIOR ELEVATIONS
A-A7.2	BLDG-A INTERIOR ELEVATIONS
A-A7.3	BLDG-A INTERIOR ELEVATIONS
A-B2.1	BLDG-B FIRST FLOOR PLAN
A-B2.2	BLDG-B SECOND FLOOR PLAN
A-B3.1	BLDG-B FIRST FLOOR REFLECTED CEILING PLAN
A-B3.2	BLDG-B 2ND FLOOR REFLECTED CEILING PLAN
A-B4.1	BLDG-B ROOF PLAN
A-B5.1	BLDG-B EXTERIOR ELEVATIONS
A-B5.2	BLDG-B EXTERIOR ELEVATIONS
A-B6.1	BLDG-B BUILDING SECTIONS
A-B6.2	BLDG-B BUILDING SECTIONS
A-B6.3	BLDG-B WALL SECTIONS
A-B6.4	BLDG-B WALL SECTIONS
A-B6.5	BLDG-B WALL SECTIONS
A-B6.6	BLDG-B WALL SECTIONS
A-B6.7	STAIR/ELEVATOR PLANS
A-B7.1	BLDG-B INTERIOR ELEVATIONS
A-B7.2	BLDG-B INTERIOR ELEVATIONS
A-B7.3	BLDG-B INTERIOR ELEVATIONS
A-8.1	DOOR & WINDOW SCHEDULE
A-9.1	WALL DETAILS
A-9.2	ROOF DETAILS
A-9.3	ROOF DETAILS
A-9.4	CANOPY DETAILS
A-9.5	OPENING DETAILS
A-9.6	OPENING DETAILS
A-9.7	DETAILS
A-10.1	CEILING / INTERIOR DETAILS
A-10.2	INTERIOR DETAILS
A-10.3	INTERIOR DETAILS
AG-2.1	BLDG-A SIGNAGE PLAN
AG-2.2	BLDG-B SIGNAGE PLAN
AG-2.3	BLDG-A FINISH PLAN
AG-2.4	BLDG-B FINISH PLAN

STRUCTURAL (22 SHTS)	
S-0.1	GENERAL NOTES
S-1.1	TYPICAL CONCRETE DETAILS
S-1.2	TYPICAL WOOD DETAILS
S-1.3	TYPICAL WOOD DETAILS
S-1.4	TYPICAL I-JOIST DETAILS
S-1.5	TYPICAL METAL DECKING DETAILS
S-A2.1	BUILDING A FOUNDATION PLAN
S-A2.2	BUILDING A ROOF FRAMING PLAN
S-B2.1	BUILDING B FOUNDATION PLAN
S-B2.2	BUILDING B SECOND FLOOR FRAMING PLAN
S-B2.3	BUILDING B ROOF FRAMING PLAN
S-B3.1	EAST/WEST SHEAR WALL ELEVATIONS
S-B3.2	NORTH/SOUTH SHEAR WALL ELEVATIONS
S-B3.3	SEISMICALLY SEPARATE BUILDING SHEAR WALL ELEVATIONS
S-4.1	FOUNDATION DETAILS
S-5.1	STEEL FRAMING DETAILS
S-6.1	ROOF FRAMING DETAILS
S-6.2	SECOND FLOOR FRAMING DETAILS
S-7.1	RAIN CANOPY DETAILS
S-7.2	SHADE CANOPY DETAILS
S-7.3	STEEL STAIR DETAILS
S-7.4	ELEVATOR ELEVATION AND DETAILS

MECHANICAL (13 SHTS)	
M-1.1	MECHANICAL LEGENDS & SCHEDULES
M-1.2	MECHANICAL SCHEDULES & NOTES
M-A2.1	BLDG A MECHANICAL PLAN
M-A4.1	BLDG A ROOF MECH PLAN
M-B2.1	BLDG B 1ST FLOOR MECH PLAN
M-B2.2	BLDG B 2ND FLOOR MECH PLAN
M-B4.1	BLDG B ROOF MECH PLAN
M-3.1	MECHANICAL DETAILS
M-3.2	MECHANICAL DETAILS & DIAGRAMS
M-3.3	MECHANICAL DETAILS
M-3.4	PIPING DIAGRAM
M-4.1	CONTROLS DIAGRAMS
M-4.2	CONTROLS DIAGRAMS

PLUMBING (11 SHTS)	
P-1.1	PLUMBING LEGENDS & SCHEDULES
P-A2.1	BLDG A PLUMBING PLAN
P-A2.2	BLDG A ENLARGED WASTE AND VENT PLANS
P-A2.3	BLDG A ENLARGED WATER PLANS
P-A4.1	BLDG A ROOF PLBG PLAN
P-B2.1	BLDG 1ST FLOOR PLBG PLAN
P-B2.2	BLDG B 2ND FLOOR PLBG PLAN
P-B2.3	BLDG B ENLARGED PARTIAL PLBG PLANS
P-B4.1	BLDG B ROOF PLBG PLAN
P-3.1	PLUMBING DETAILS & DIAGRAMS
P-3.2	PLUMBING DETAILS

ELECTRICAL (26 SHTS)	
E-0.1	SYMBOLS LIST, GENERAL NOTES & LIST OF DRAWINGS
E-0.2	LUMINAIRE SCHEDULE
E-1.1	SITE PLAN-ELECTRICAL
E-A2.1	FLOOR PLAN BLDG. A -LIGHTING
E-B2.1	FIRST FLOOR PLAN BLDG B - LIGHTING
E-B2.2	SECOND FLOOR PLAN BLDG. B -LIGHTING
E-A3.1	FLOOR PLAN BLDG. A -POWER & SIGNAL
E-B3.1	FIRST FLOOR PLAN BLDG. B -POWER & SIGNAL
E-B3.2	SECOND FLOOR PLAN BLDG. B -POWER & SIGNAL
E-5.1	SINGLE LINE DIAGRAMS
E-5.2	DIAGRAMS
E-6.1	PANEL SCHEDULES
E-7.1	DETAILS
E-7.2	DETAILS
E-7.3	DETAILS
E-8.1	TITLE 24 DOCUMENTATION
E-8.2	TITLE 24 DOCUMENTATION
E-8.3	TITLE 24 DOCUMENTATION
FE-0.1	FIRE ALARM EQUIPMENT LIST & NOTES
FE-1.1	SITE PLAN - FIRE ALARM
FE-5.1	RISER DIAGRAM - FIRE ALARM
FE-5.2	RISER DIAGRAM - FIRE ALARM
FE-A3.1	FLOOR PLAN BLDG. A -FIRE ALARM
FE-B3.1	FIRST FLOOR PLAN BLDG. B -FIRE ALARM
FE-B3.2	SECOND FLOOR PLAN BLDG. B -FIRE ALARM
FE-6.1	CALCULATIONS - FIRE ALARM

FIRE PROTECTION (14 SHTS)	
FP-0.1	LEGEND, NOTES, AND ABBREVIATIONS FIRE PROTECTION
FP-0.2	DETAILS - FIRE PROTECTION
FP-1.1	SITE PLAN - FIRE PROTECTION
FP-A2.1	BLDG A PIPING PLAN - FIRE PROTECTION
FP-A3.1	BLDG A CEILING PLAN - FIRE PROTECTION
FP-A4.1	BLDG A SECTIONS - FIRE PROTECTION
FP-B2.1	BLDG B FIRST FLOOR PIPING PLAN - FIRE PROTECTION
FP-B2.2	BLDG B SECOND FLOOR PIPING PLAN - FIRE PROTECTION
FP-B3.1	BLDG B CEILING PLAN - FIRE PROTECTION
FP-B3.2	BLDG B SECOND FLOOR CEILING PLAN - FIRE PROTECTION
FP-B4.1	BLDG B SECTIONS - FIRE PROTECTION
FP-6.1	DETAILS - FIRE PROTECTION
FP-6.2	DETAILS - FIRE PROTECTION
FP-6.3	SEISMICBRACINGCALCULATIONS-FIREPROTECTION

TITLE -24 (5 SHTS)	
T-1.1	BLDG A TITLE 24 ENERGY CALCS
T-1.2	BLDG A TITLE 24 ENERGY CALCS
T-1.3	BLDG B TITLE 24 ENERGY CALCS
T-1.4	BLDG B TITLE 24 ENERGY CALCS
T-1.5	CALGREEN MANDATORY MEASURES

CATHODIC PROTECTION (2 SHTS)	
CP-1.1	CATHODIC PROTECTION
CP-1.2	CATHODIC PROTECTION



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SIGNED: MAY 10, 2021

HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS

INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119268

ARCH PROJECT NO: 1870.00
DRAWN BY: *RIC*
DRAWING SCALE: N.T.S.
PTN: 61721-77 FILE NO: 7-H4

BID SET

MAY 10, 2021

SHEET TITLE

SHEET INDEX

SHEET NUMBER

G-0.3

PROJECT INFORMATION

School District/Owner: Liberty Union High School District

Project Name/School: Heritage High School, New 12 Classroom Buildings

Project Address: 101 American Avenue, Brentwood, CA

FIRE & LIFE SAFETY INFORMATION

- | | | |
|---|--|--|
| 1. | Has a fire hydrant flow test been performed within the past 12 months?
<i>(If yes, provide a copy of the test data.)</i> | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| 2. | Was the fire hydrant water flow test performed as for this LFA? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| 3. | Is the project located within a designated fire hazard severity zone (FHSZ) as established by Cal-Fire? <i>(If yes, indicate FHSZ classification below.)</i> | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Refer to the following website for FHSZ locations:
http://egis.firs.ca.gov/FHSZ/ | | Moderate <input type="checkbox"/> High <input type="checkbox"/> Very High <input type="checkbox"/> |
| Wildland Interface Area (WIFA) <i>(If any designations are checked, project design must meet the requirements of CBC Chapter 7A.)</i> | | WIFA <input type="checkbox"/> |

CONDITION MEANS AND METHODS RESOLUTION

ALTERNATE ACCEPTED

- | | | Yes | No | N/A | N/R |
|-----|---|-----|----|-----|-----|
| 4. | Emergency vehicle access roadways do not meet CFC requirements. | | | | ✓ |
| 4a. | Acceptable Alternate: Emergency vehicle and personnel access as proposed by the project architect is acceptable for providing fire suppression and protection of life and property. | | | | |
| 5. | Fire Hydrants: Number and spacing does not meet CFC requirements. | | | | ✓ |
| 5a. | Acceptable Alternate: Number of fire hydrants and spacing as proposed by the project architect is acceptable for fire suppression and protection of life and property. | | | | |
| 6. | Fire Hydrants: Water flow and pressure are less than CFC minimum. | | | | ✓ |
| 6a. | Acceptable Alternate: The available flow and pressure is acceptable for providing fire suppression and protection of life and property. | | | | |
| 7. | Location of fire department connection(s) serving fire sprinkler systems or standpipe systems does not meet CFC requirements. | | | | ✓ |
| 7a. | Acceptable Alternate: The location of fire department connection serving the fire sprinkler system and/or standpipe system is acceptable for providing fire suppression and protection of life and property. | | | | |

School District Acceptance of Acceptable Design Alternates

By signing this form, the school district acknowledges and accepts the proposed design as an alternative to California Building Code (CBC) and California Fire Code (CFC) minimum requirements, as indicated by one or more of the conditions indicated at items 4a, 5a, 6a or 7a, for providing fire and life safety protection of life and property.

Accepted by: _____ Title: _____

Signature: _____ Date: _____

LOCAL FIRE AUTHORITY (LFA) INFORMATION

LFA Agency Name: **East Contra Costa Fire Protection**

LFA Review Official: _____


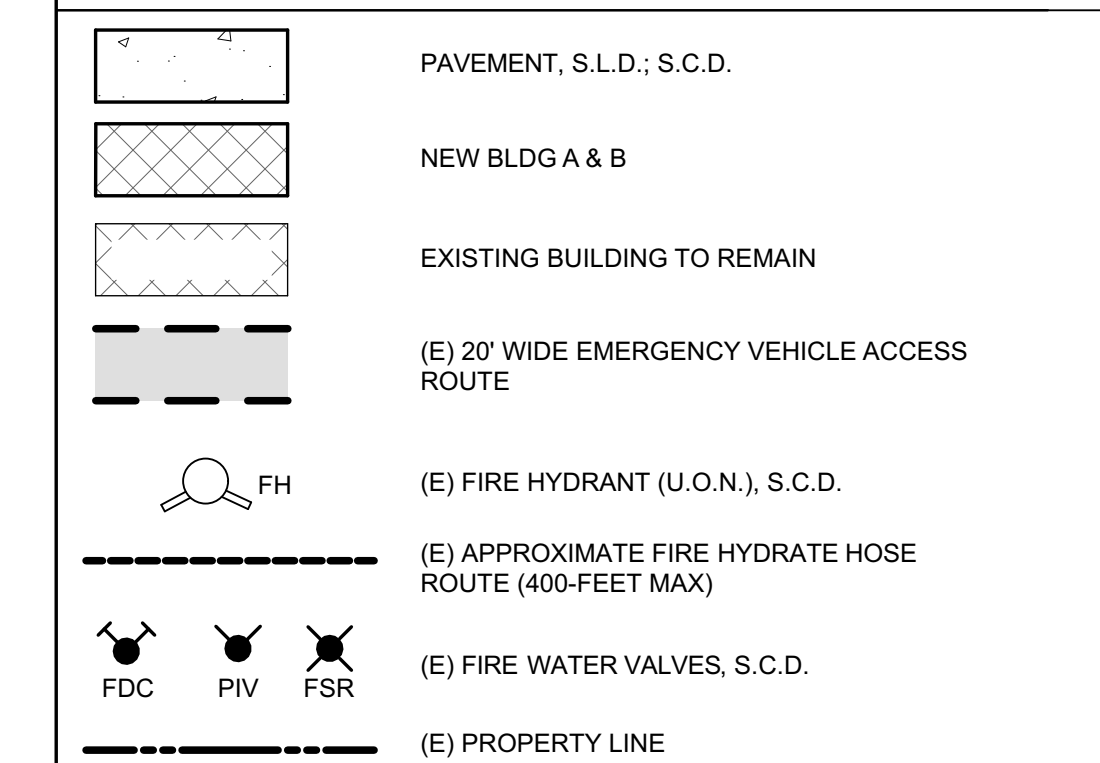
Title:	Work Phone:
--------	-------------

Work Email: _____

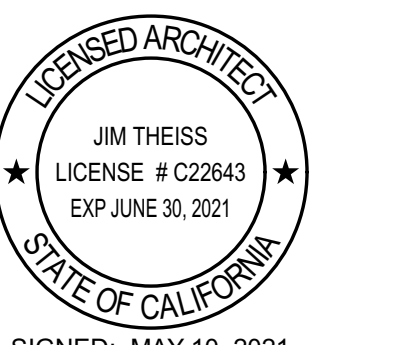
EA Reviewer's Signature: _____ Date: _____

FIRE FLOW CALCULATIONS:
SEE FIRE PROTECTION DRAWING FP-0.1

SITE PLAN LEGEND

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SIGNED: MAY 10, 2021

RITAGE HIGH SCHOOL

W CLASSROOM BUILDINGS

AMERICAN AVENUE,
NANTWOOD, CA 94513

PROPERTY UNION HIGH
SCHOOL DISTRICT

SA APP NO. 01-119268

PROJECT NO: 1870.00

BY: RIC

GRAPH SCALE: 1" = 100'-0"

721-77 FILE NO: 7-H4

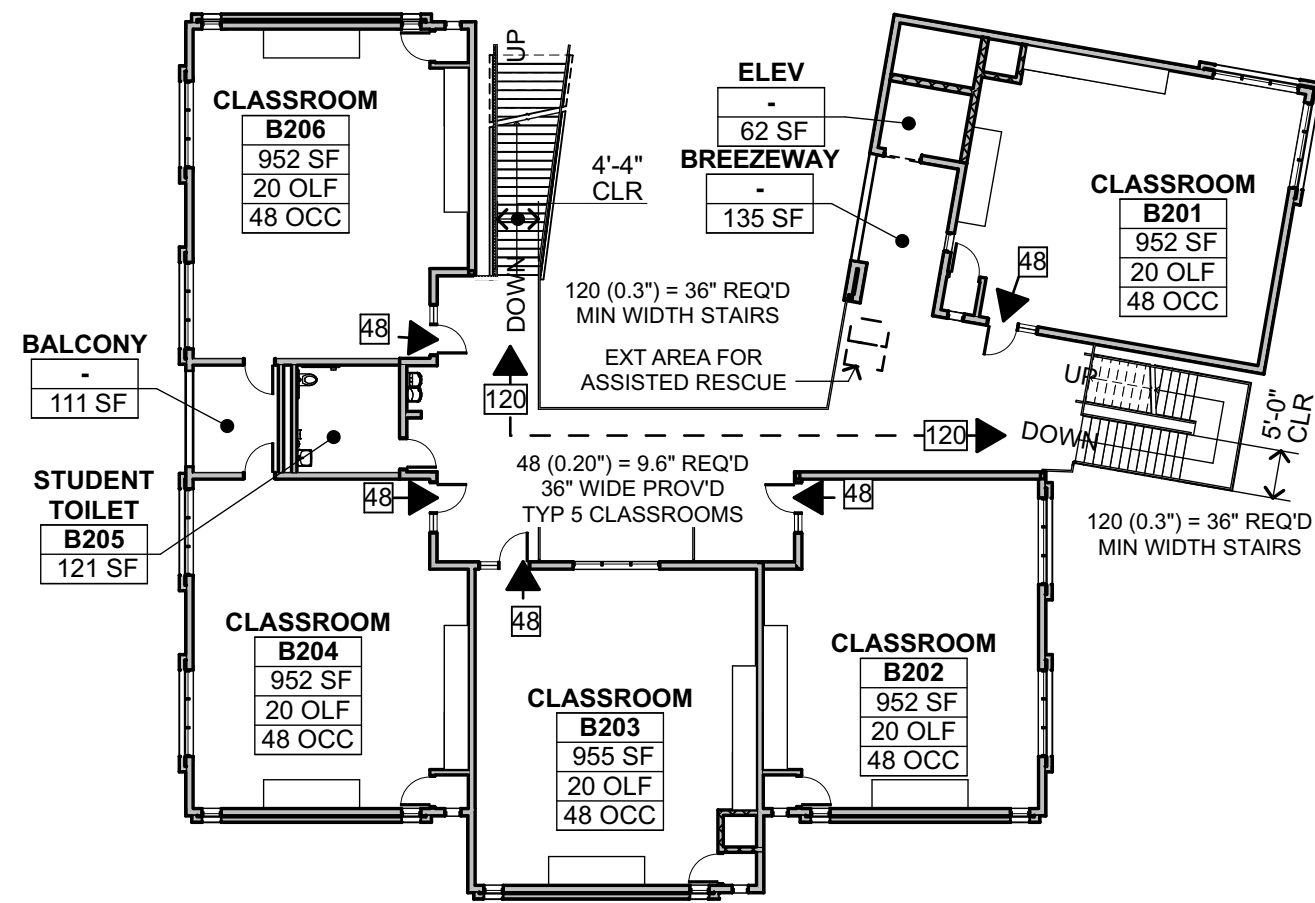
BID SET

MAY 10, 2021

FIRE LIFE AFETY SITE PLAN

NUMBER _____

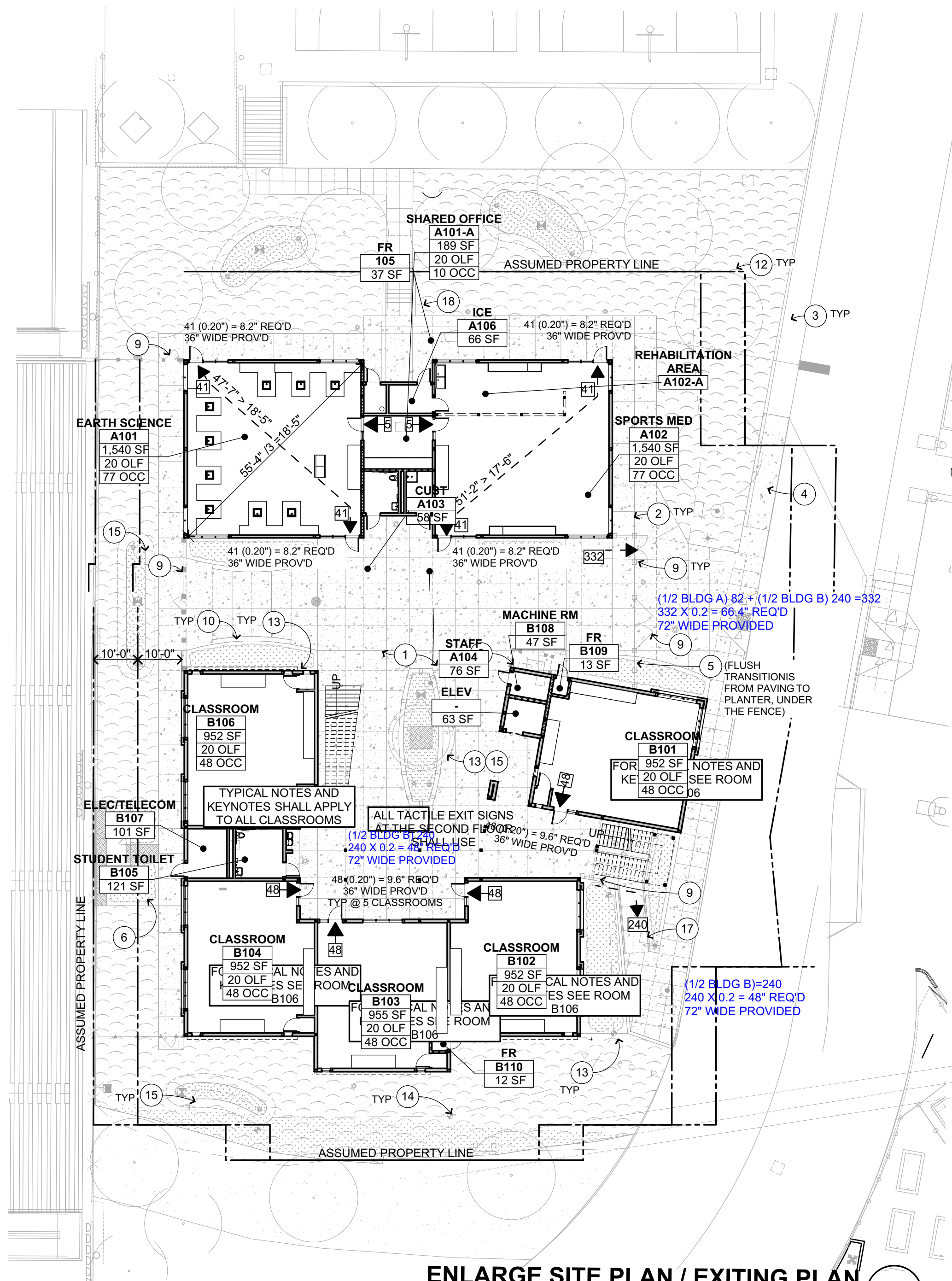
G-0.4



2ND FLOOR EXITING PLAN

1" = 20'

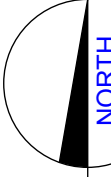
2



ENLARGE SITE PLAN / EXITING PLAN

1" = 20'

1



CODE COMPLIANCE SUMMARY Based on 2019 California Building Code (CBC)			
BUILDING ID	CR Bldg. A	CR Bldg. B	COMPLIES
Scope	New Classrooms		
OCCUPANCY GROUP - Sec 303	VB	VA	
CONSTRUCTION TYPE - Sec 601	60'	70'	
AUTOMATIC FIRE SUPPRESSION SYSTEM	YES	YES	
ALLOWABLE BUILDING HT - Table 504.3	17'	31'	
ACTUAL BUILDING HT	1	2	
ALLOWABLE NUMBER OF STORIES - Table 504.4	1	2	
ACTUAL STORIES	28,500	18,500	OK
ALLOWABLE AREA FACTOR (SF) A - Table 506.2	N/A	N/A	
ALLOWABLE AREA W/ FRONTAGE INCREASE - Sec 506.3.3	3,705	5,614	OK
ACTUAL AREA - FIRST FLOOR	9,319	5,614	(Not Needed)
TOTAL FIRST FLOOR	5,614	1,336	
ACTUAL AREA - SECOND FLOOR	1,336	1,600	
SECOND FLOOR EXTERIOR WALK	8,550	1,600	
ROOF OVERHANG	17,869		
TOTAL SECOND FLOOR			OK
TOTAL AREA			OK
COMMON PATH OF EGRESS TRAVEL - Sec 1006	75'	75'	OK
EXIT ACCESS TRAVEL DISTANCE - Table 1017.2	250'	250'	OK
FIRE RESISTANCE RATING FOR BUILDING ELEMENTS - Table 601	0-Hour	1-Hour	
FIRE RESISTANCE RATING FOR EXTERIOR WALLS	5-X<10=1 HR	10-X<30 = 0 HR	
BASED ON FIRE SEPARATION DISTANCE - Table 602			
ALLOWABLE AREAS FOR OPENINGS - Table 705.8	UP, S	UP, S	OK
	45%	45%	
ACTUAL AREAS FOR OPENINGS - FIRST FLOOR			
ACTUAL AREAS FOR OPENINGS - SECOND FLOOR			

ENLARGED SITE PLAN KEYNOTES

NOT ALL KEYNOTES MAY APPLY TO THIS SHEET

- 1 PAVING, S.C.D., S.L.D.
- 2 CONC EXP JT OR CONTROL JT, S.L.D.
- 3 (E) CONC WALKWAY, DSA #01-105009
- 4 CONC WALKWAY, S.C.D.
- 5 FLUSH TRANSITION, S.C.D.
- 6 MECHANICAL EQUIPMENT AT CONC PAD, S.C.D. & S.M.D.
- 7 ELECTRICAL ITEM, S.E.D.
- 8 (E) FIRE HYDRANT / FDC, DSA #01-105009
- 9 FENCING / GATES, S.L.D.
- 10 CONCRETE SEATWALL, S.C.D., S.L.D.
- 11 CONCRETE CURB, S.C.D.
- 12 PLANTING AREA, S.L.D.
- 13 PLANTERS, S.L.D.
- 14 IRRIGATION ITEM, S.E.D., S.L.D.
- 15 BIO-RETENTION AREA, S.C.D.
- 16 SITE LIGHTING, S.C.D. & S.E.D.
- 17 CONCRETE RAMP W/ HANDRAIL, S.C.D. & S.L.D.
- 18 CONCRETE STAIR W/ HANDRAIL, S.C.D. & S.L.D.

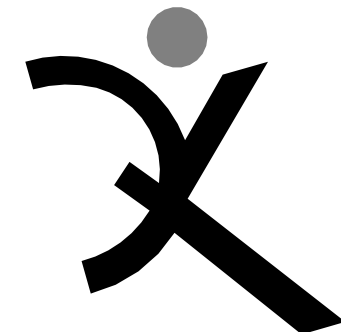
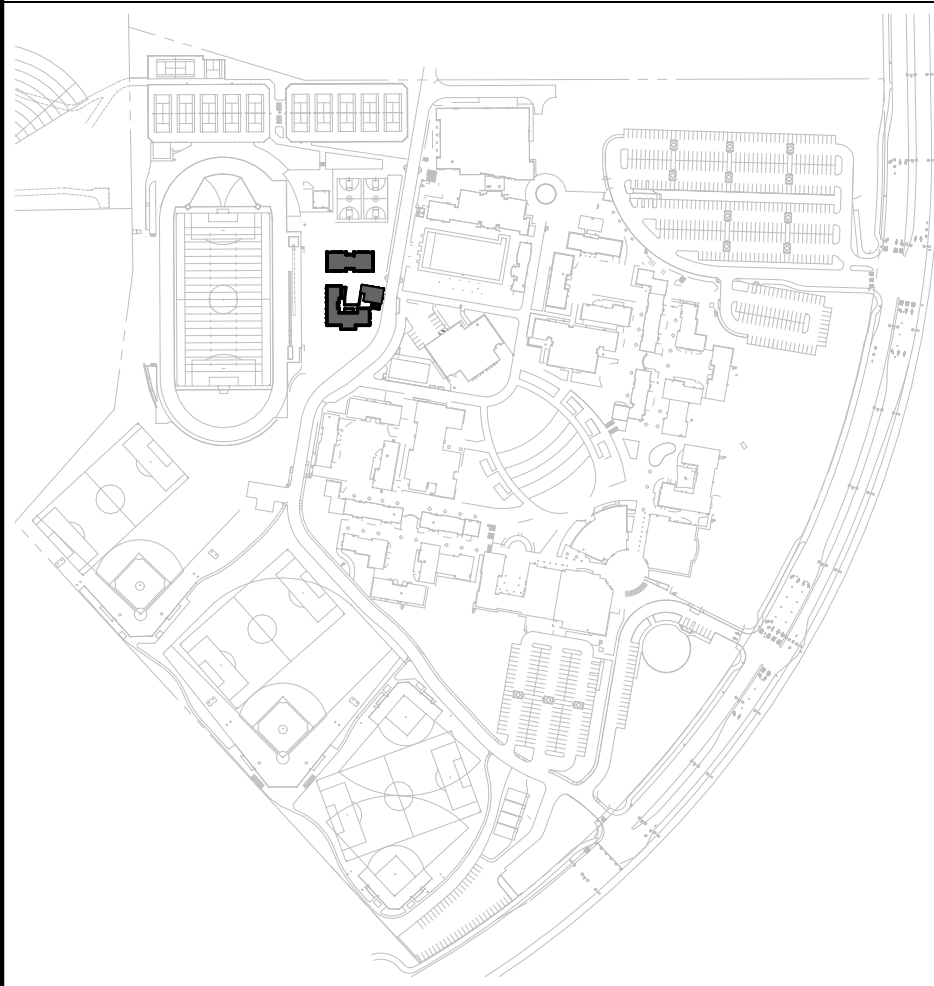
SITE PLAN GENERAL NOTES

1. SEE SHEET G-0.4 FOR FIRE & LIFE SAFETY SITE PLAN
2. SEE SHEET G-0.5 FOR ACCESSIBILITY SITE PLAN
3. SEE SHEET G-0.6 FOR BUILDING CODE ANALYSIS PLAN
4. REFER TO CIVIL ENGINEERING DWGS FOR SIDEWALK GRADES
5. REFER TO CIVIL ENGINEERING DRAWINGS AND LANDSCAPE PLANS FOR SITE FEATURES NOT OTHERWISE INDICATED
6. CONCRETE SHALL SLOPE 1/8" PER FOOT AWAY FROM BUILDINGS

ENLARGED SITE PLAN LEGEND

- (N) BUILDING A & B
- PAVING, S.C.D. & S.L.D.
- ASSUMED PROPERTY LINE

KEYPLAN



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SIGNED: MAY 10, 2021

HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS

INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH
SCHOOL DISTRICT

DSA APP NO. 01-119268

ARCH PROJECT NO: 1870.00

DRAWN BY:

DRAWING SCALE: 1" = 20'-0"

PTN: 61721-77 FILE NO: 7-H4

BID SET

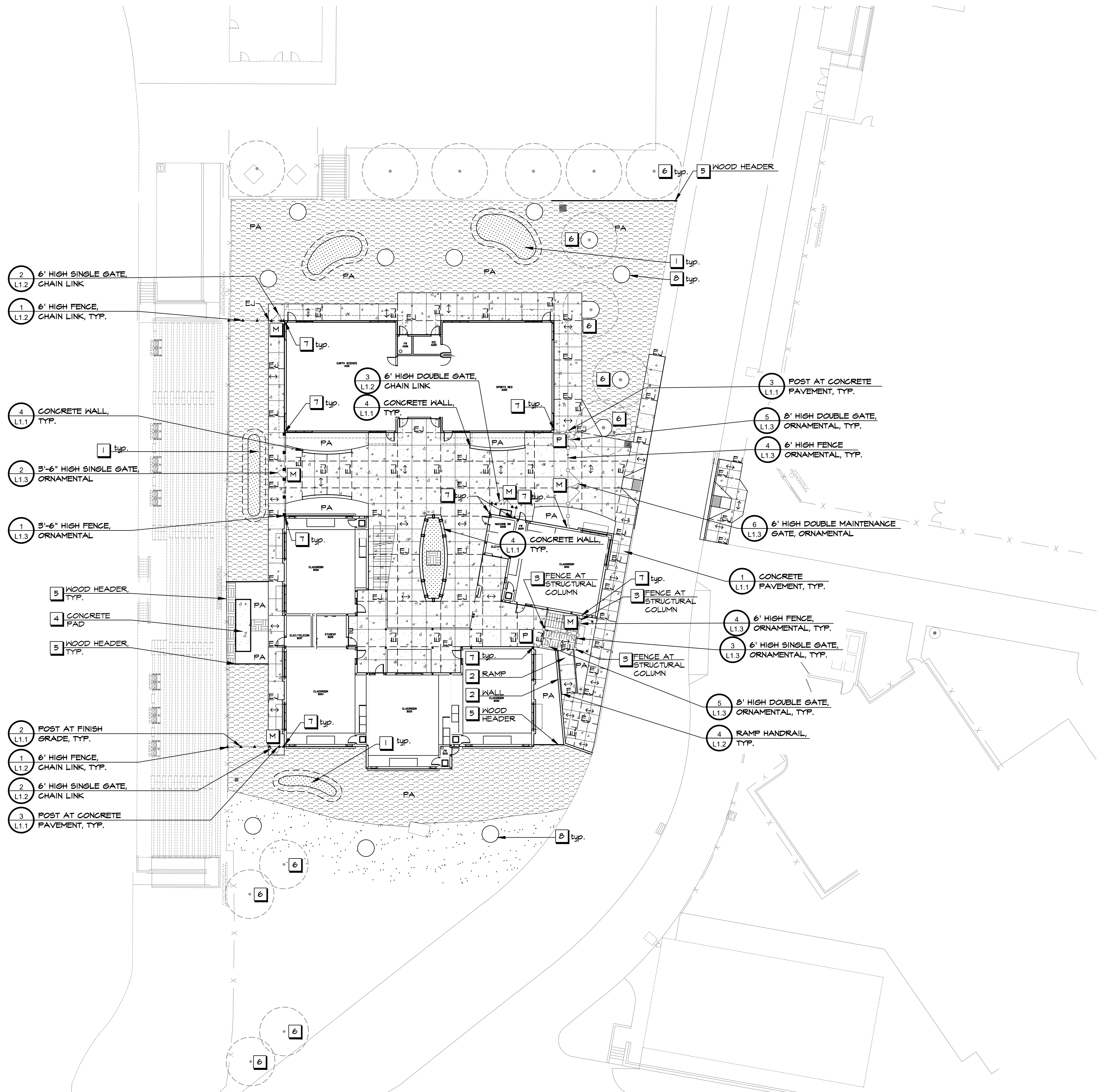
MAY 10, 2021

SHEET TITLE

ENLARGED SITE PLAN, CODE ANALYSES EXITING PLAN

SHEET NUMBER

G-0.6



KEY NOTES

- 1 Biotiltration Facilities. See Civil Drawings.
- 2 See Civil Drawings.
- 3 See Structural Drawings.
- 4 See Mechanical Drawings.
- 5 Wood Header. See Planting Details on L4.2.
- 6 Existing tree to remain, typ. Comply with Tree Preservation Standards on L4.1.
- 7 Clearance shall be less than 4", typ.
- 8 3' radius shovel-cut circle around tree, typ. See Planting Plan.

MATERIAL LEGEND

- Concrete Pavement. Concrete shall have a slip resistant broom finish in the direction shown on this sheet.
- Asphalt Pavement. See Civil Drawings.
- Biotiltration Facilities. See Civil Drawings.
- Expansion Joint. See Civil Drawings.
- Tooled Control Joint. See Civil Drawings.
- Direction of broom finish
- PA Planting Area. See L4.0.
- Concrete Seat Wall
- Handrail
- 3'-6" High Fence, Ornamental
- 6' High Fence, Ornamental
- 6' High Fence, Black Vinyl with 1.25" Mesh
- 3'-6" High Single Gate, Ornamental
- 6' High Single Gate, Ornamental
- 6' High Single Gate, Black Vinyl with 1.25" Mesh
- 6' High Double Gate, Black Vinyl with 1.25" Mesh
- 8' High Double Gate, Ornamental
- 6' High Double Maintenance Gate, Ornamental

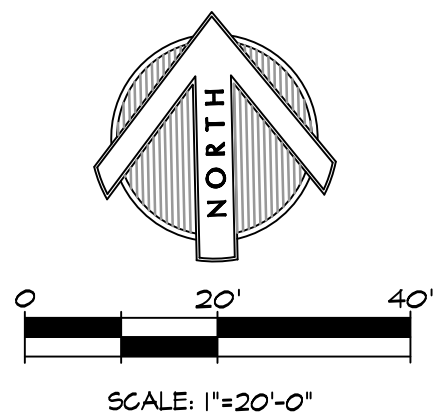
- P Panic Hardware Gate
 - M Maintenance Gate
- Refer to General Fencing and Gate Notes and Schedules on L1.3

CONCRETE NOTES

1. Subgrade preparation shall be done in accordance with the recommendations in the Geotechnical Report.
2. Toolled control joints shall run continuously and extend through integral curbs and thickened edges. Toolled control joint layout shall be as shown on the Layout Plan, and coincide with the corners of objects, structures and the beginning and ends of curves. Joints should have a minimum depth of 25% of the slab thickness, unless otherwise noted on plans.
3. Expansion joints shall be laid out as shown on the Layout Plan.
4. Contractor shall place 3/8" asphalt impregnated fiber board where new concrete meets building, walls, curbs and planters.
5. The base rock layer, prior to placement of concrete, shall be sprinkled with clean water several times to restore any moisture that may have been lost after completion of compaction.
6. Cure concrete with curing compound or keep continuously moist for a minimum of 7 days.
7. Contractor shall prepare a 4"x4" sample of all flatwork and 4' length of all walls and curb in the field prior to construction, for review and approval by the District.
8. Concrete pavement with slopes less than 6% shall receive a medium broom finish and slopes greater than 6% shall receive a heavy broom finish. Finish shall be in the direction shown on this sheet.

NOTE

1. Provide and install on campus at District approved locations:
 - (2) Bike racks, 6/L1.1
 - (2) Bike lockers, 7/L1.1



Existing features and topographic information have been taken from a Survey provided by CBE, dated September 17, 2020. GSM landscape architects, inc. assumes no liability, real or alleged, regarding the accuracy of existing features or topographic information shown.



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HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS INCREMENT 2 OF 2

101 AMERICAN AVE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

NO.	DESCRIPTION	DATE

DSA APP NO. 01-119268

ARCH PROJECT NO. 1870.00

DRAWN BY:

DRAWING SCALE: 1"=20'-0"

PTN: 61721-77 FILE NO: 7-H4

BID SET

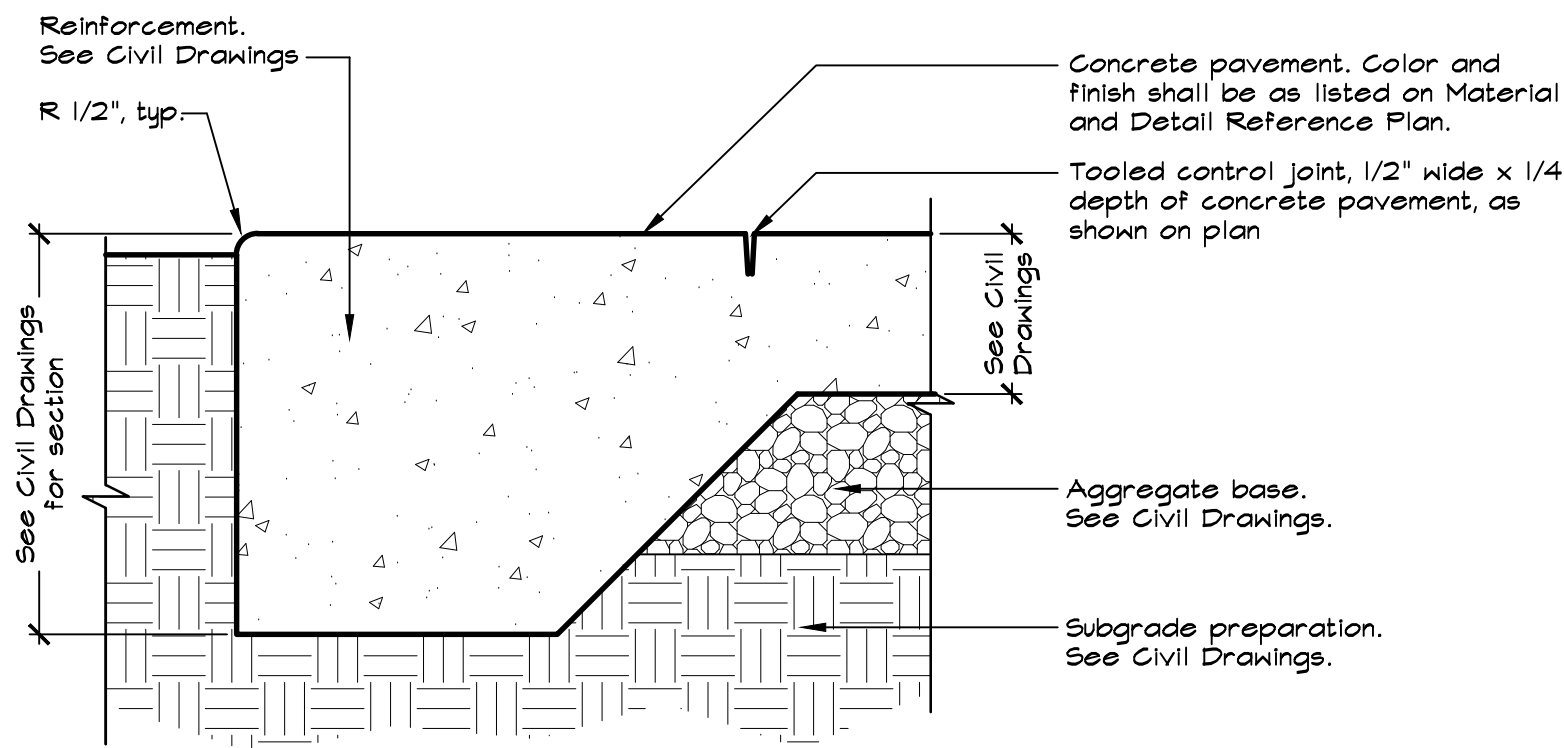
MAY 10, 2021

SHEET TITLE

MATERIAL AND DETAIL REFERENCE PLAN

SHEET NUMBER

L1.0

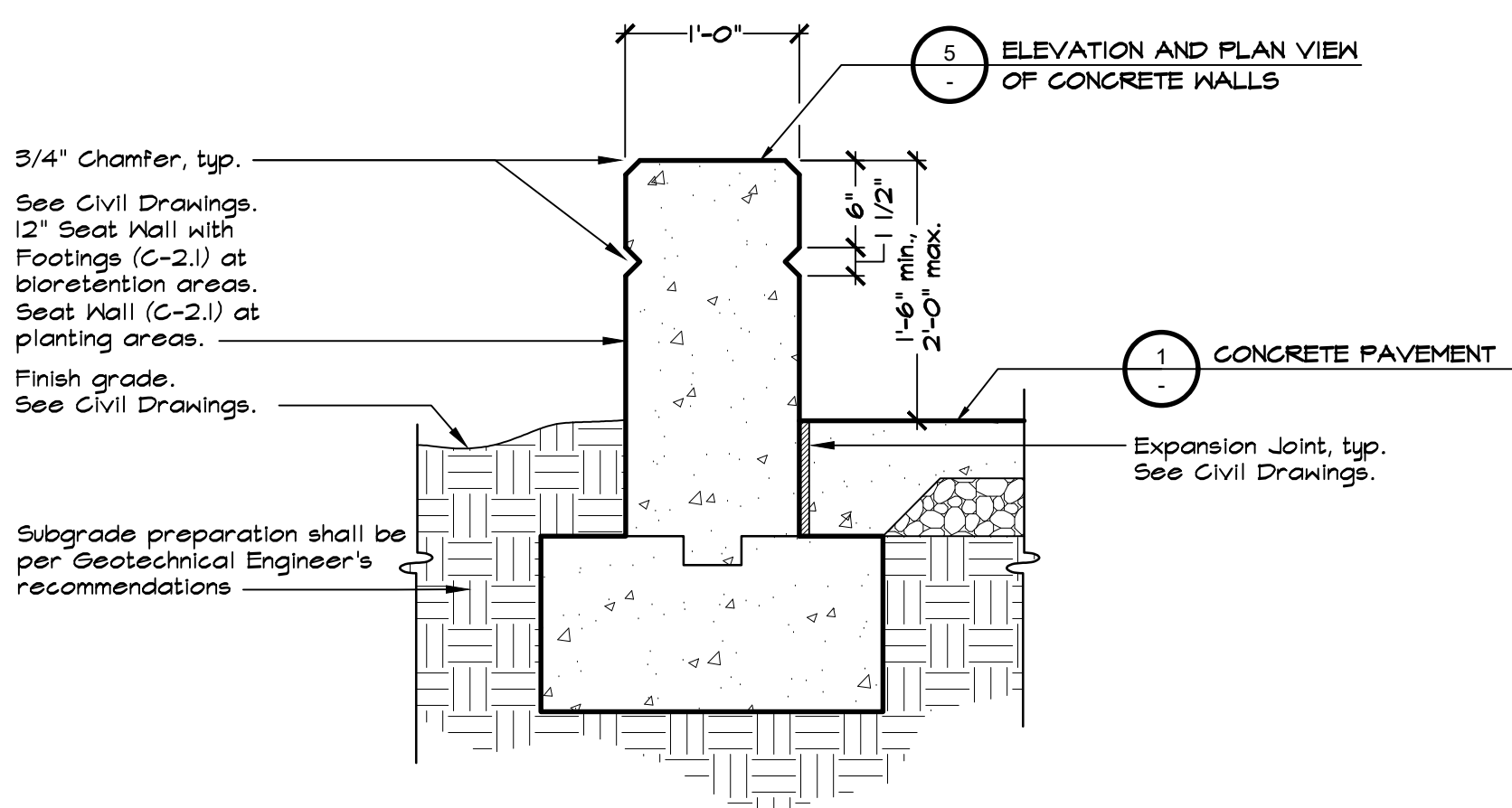


NOTES:

1. See Concrete Notes on the Material and Detail Reference Plan.
2. See Material and Detail Reference Plan for concrete color and finish.
3. See Material and Detail Reference Plan for tooled control joint and expansion joint locations.
4. See Civil Drawings for grading and drainage design and information.

1 CONCRETE PAVEMENT

NOT TO SCALE

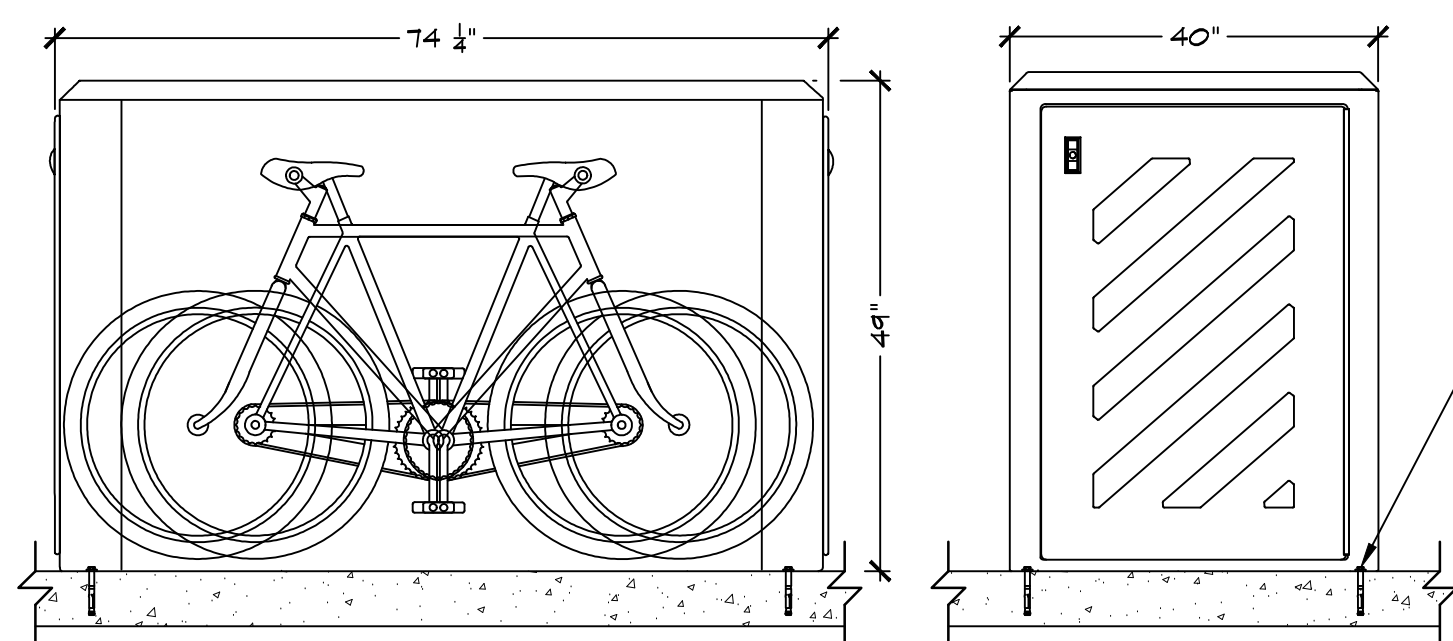


NOTES:

1. See Concrete Notes on the Material and Detail Reference Plan.
2. See Civil Drawings for detailed grading and drainage plans.
3. Provide integral color where noted on the Material and Detail Reference Plan.
4. Hold top of wall level unless otherwise noted on Civil Drawings.
5. Wall finish shall be smooth sack finish on all surfaces and edges.
6. See Civil Drawings for detailed wall, reinforcement and wall drainage design.

4 CONCRETE WALL

NOT TO SCALE



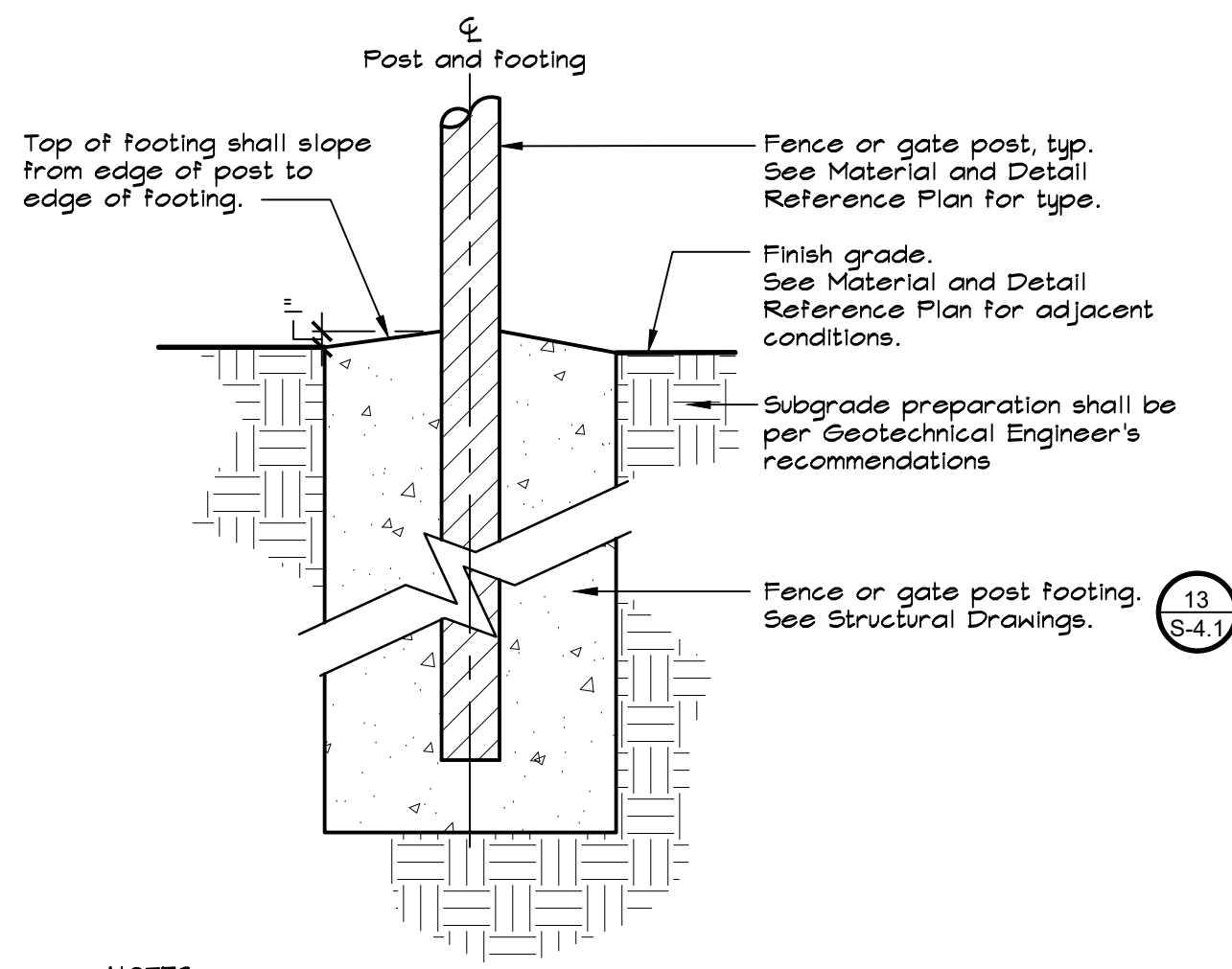
NOTES:

1. Bike Locker shall be Ground Control Systems Fiberglass Bicycle Vault, Bike Locker-FBV2, Leather (Tan) UV stable color, fire retardant composite finish, closed door and padlock handle. Available through Ground Control Systems, (800) 650-7225, info@groundcontrolsystems.com, or approved equal.
2. Installation shall be per manufacturer's specifications.

GROUND CONTROL
SYSTEMS

7 BIKE LOCKER

NOT TO SCALE

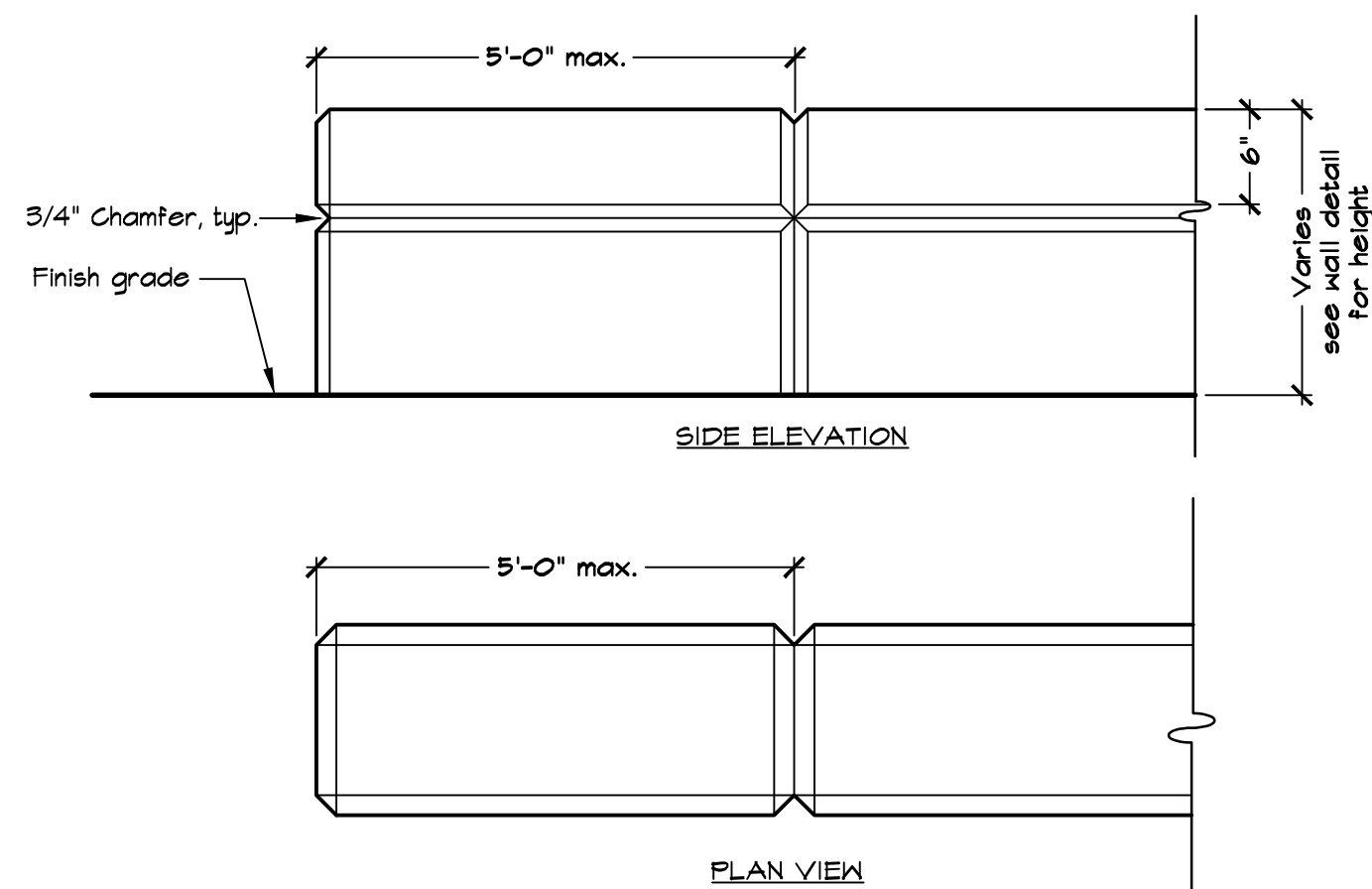


NOTES:

1. See Concrete Notes on the Material and Detail Reference Plan.
2. See Structural Drawings for fence footing design.
3. See General Fencing and Gate Notes and Schedules on Sheet L1.3.

2 POST AT FINISH GRADE

NOT TO SCALE

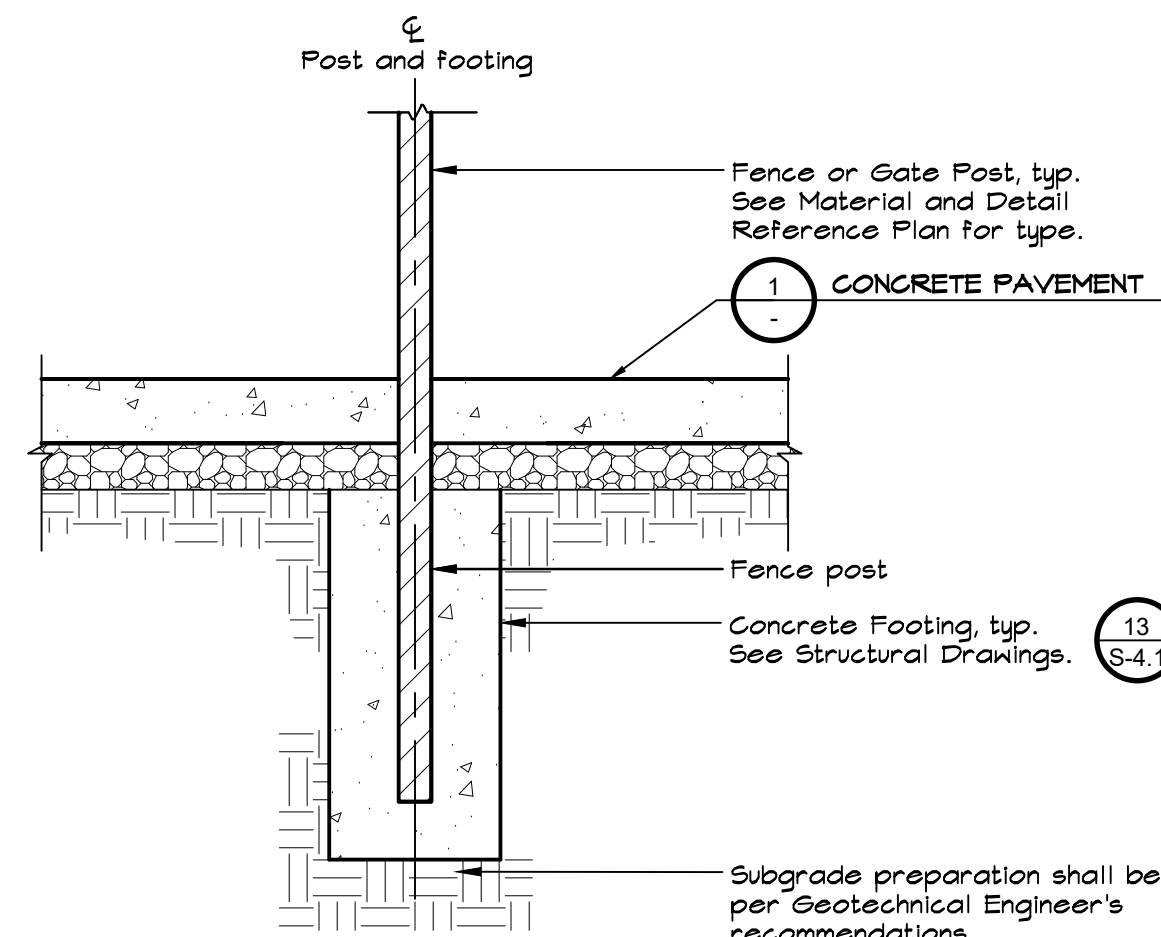


NOTES:

1. See Civil Drawings for reinforcement and expansion joints.

5 ELEVATION AND PLAN VIEW OF CONCRETE WALLS

NOT TO SCALE

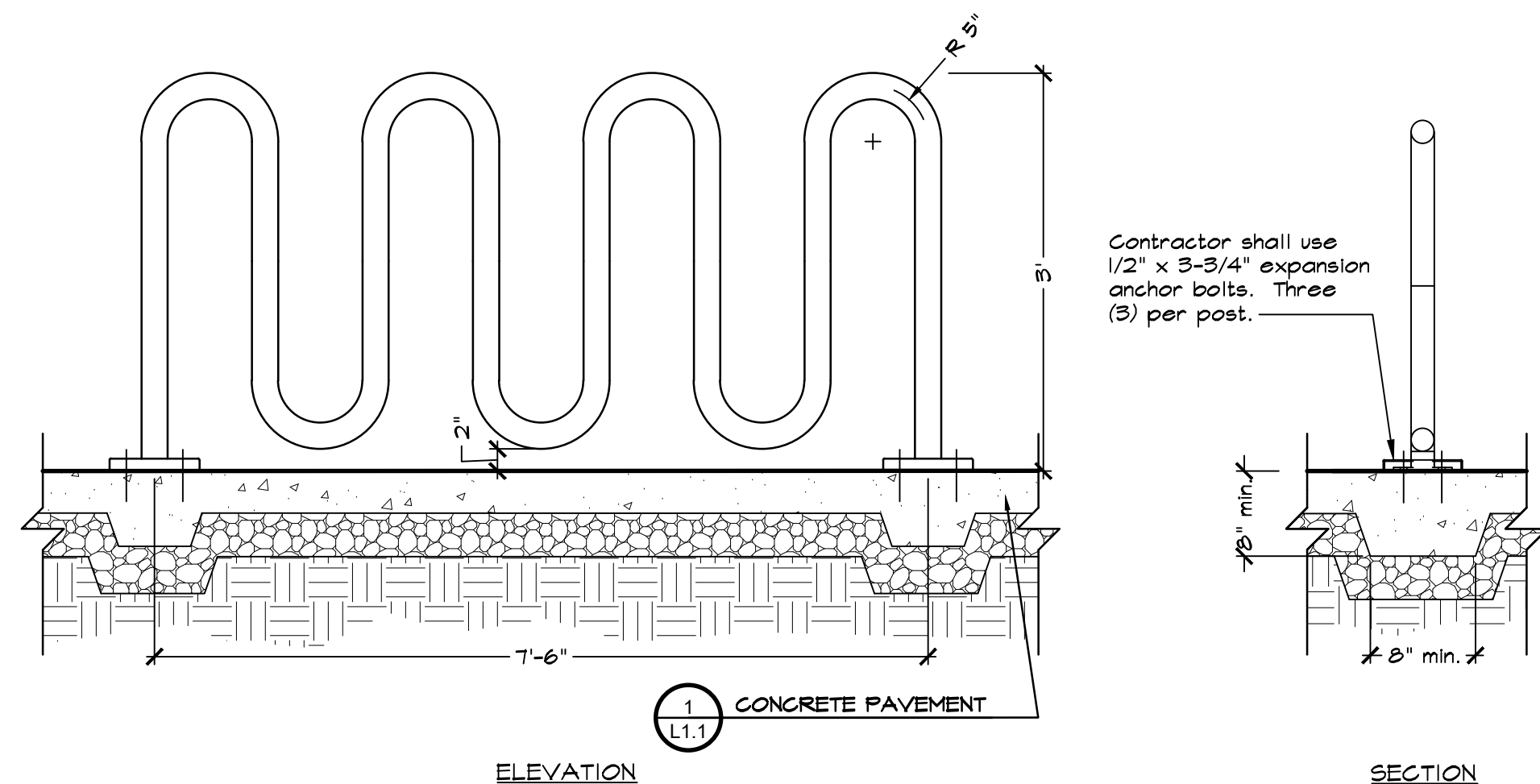


NOTES:

1. See Concrete Notes on the Material and Detail Reference Plan.
2. See Structural Drawings for fence footing design.
3. See General Fencing and Gate Notes and Schedules on Sheet L1.3.

3 POST AT CONCRETE PAVEMENT

NOT TO SCALE

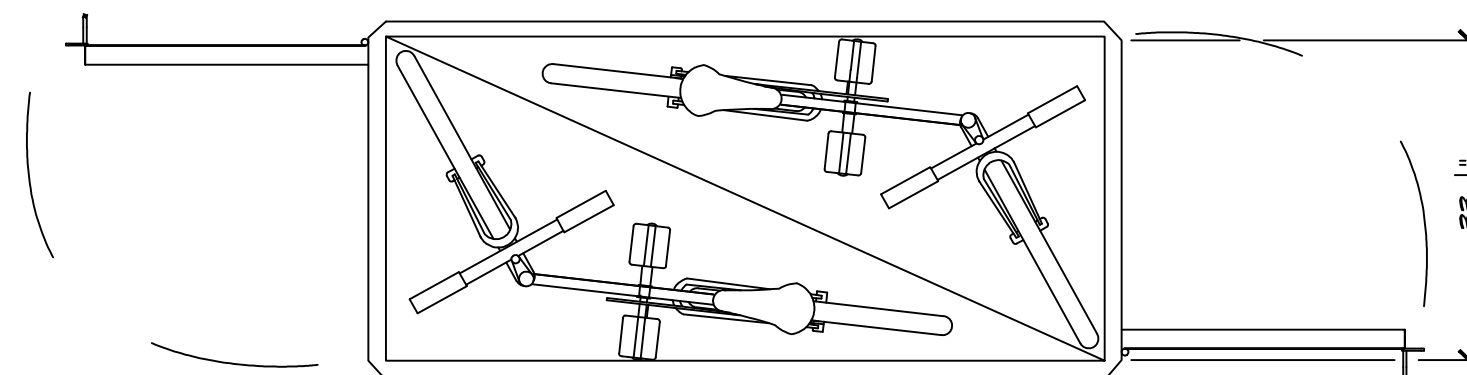


NOTES:

1. Bike Rack shall be DuMor Series 150-40HG, hot-dipped galvanized, 4 peaks. Contact Jon Bowden of Ross Recreation Equipment Co. (530) 342-2860.
2. Installation shall be per manufacturer's specifications.

6 BIKE RACK

NOT TO SCALE

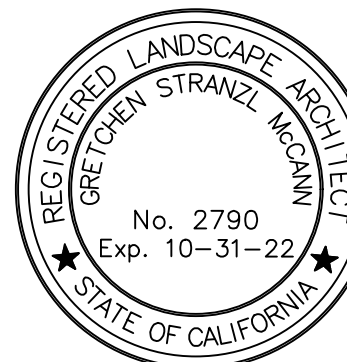


Contractor shall use 3/8" x 16-UNC x 3-3/4" stainless steel wedge anchors per 18/S-002. Four (4) per locker, typ.



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HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS INCREMENT 2 OF 2

101 AMERICAN AVE,
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DISTRICT

REVISIONS

DSA APP NO. 01-119268

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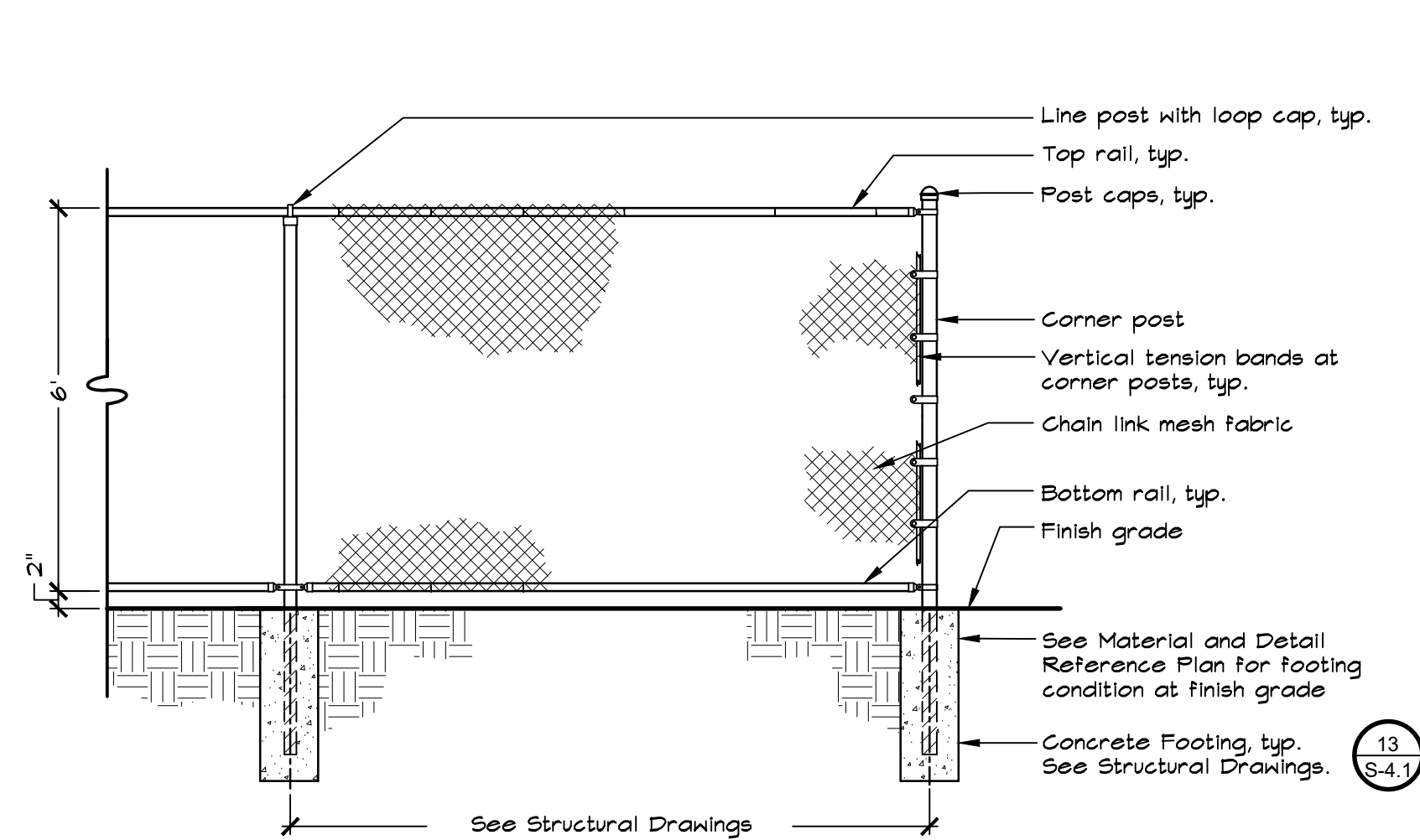
MAY 10, 2021

SHEET TITLE

CONSTRUCTION DETAILS

SHEET NUMBER

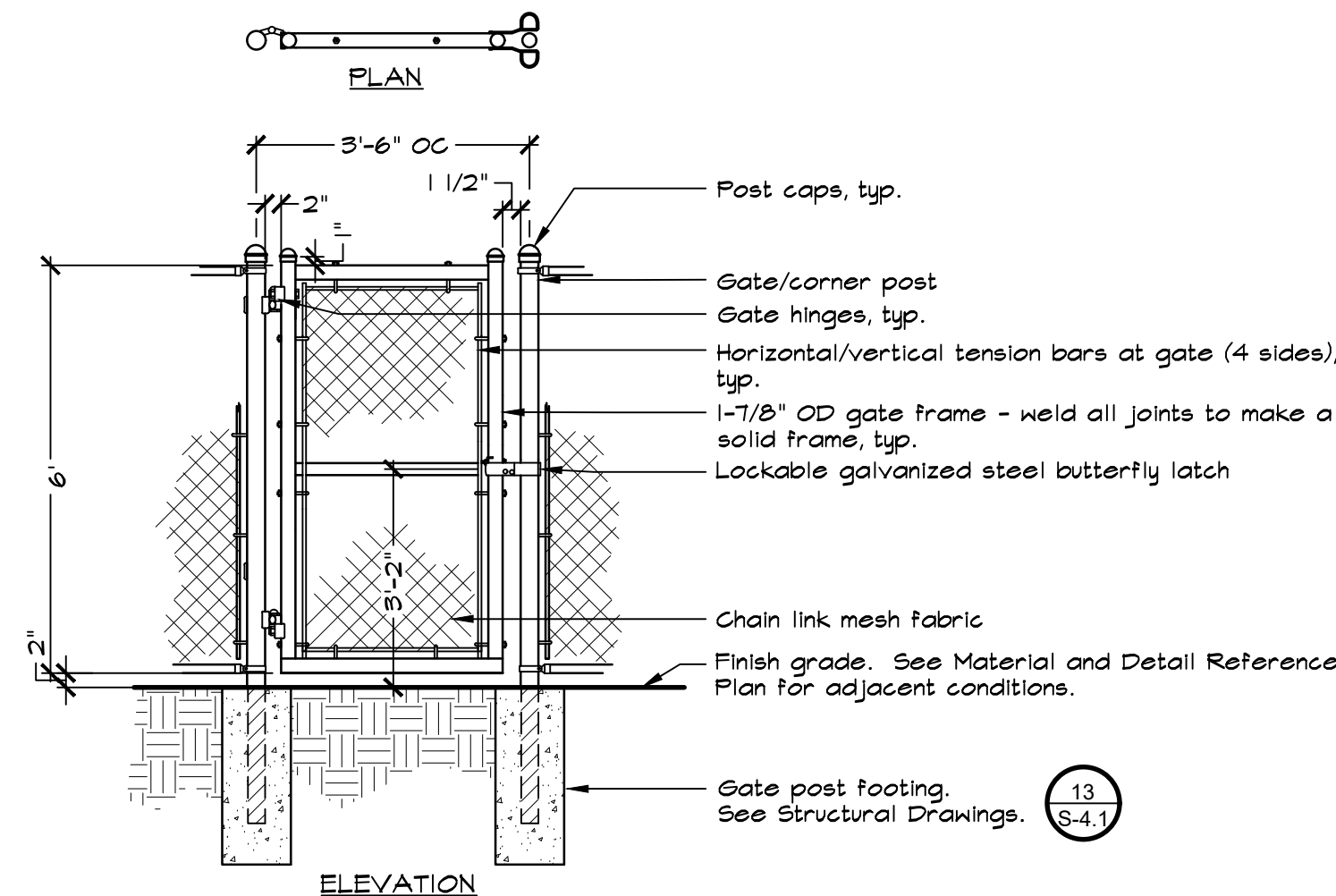
L1.1



- NOTES:
1. See General Fencing and Gate Notes and Schedules on L1.3.
 2. See Material and Detail Reference Plan and Layout Plan for post locations.
 3. See Structural Drawings for post and footing information.

1 6' HIGH FENCE, CHAIN LINK

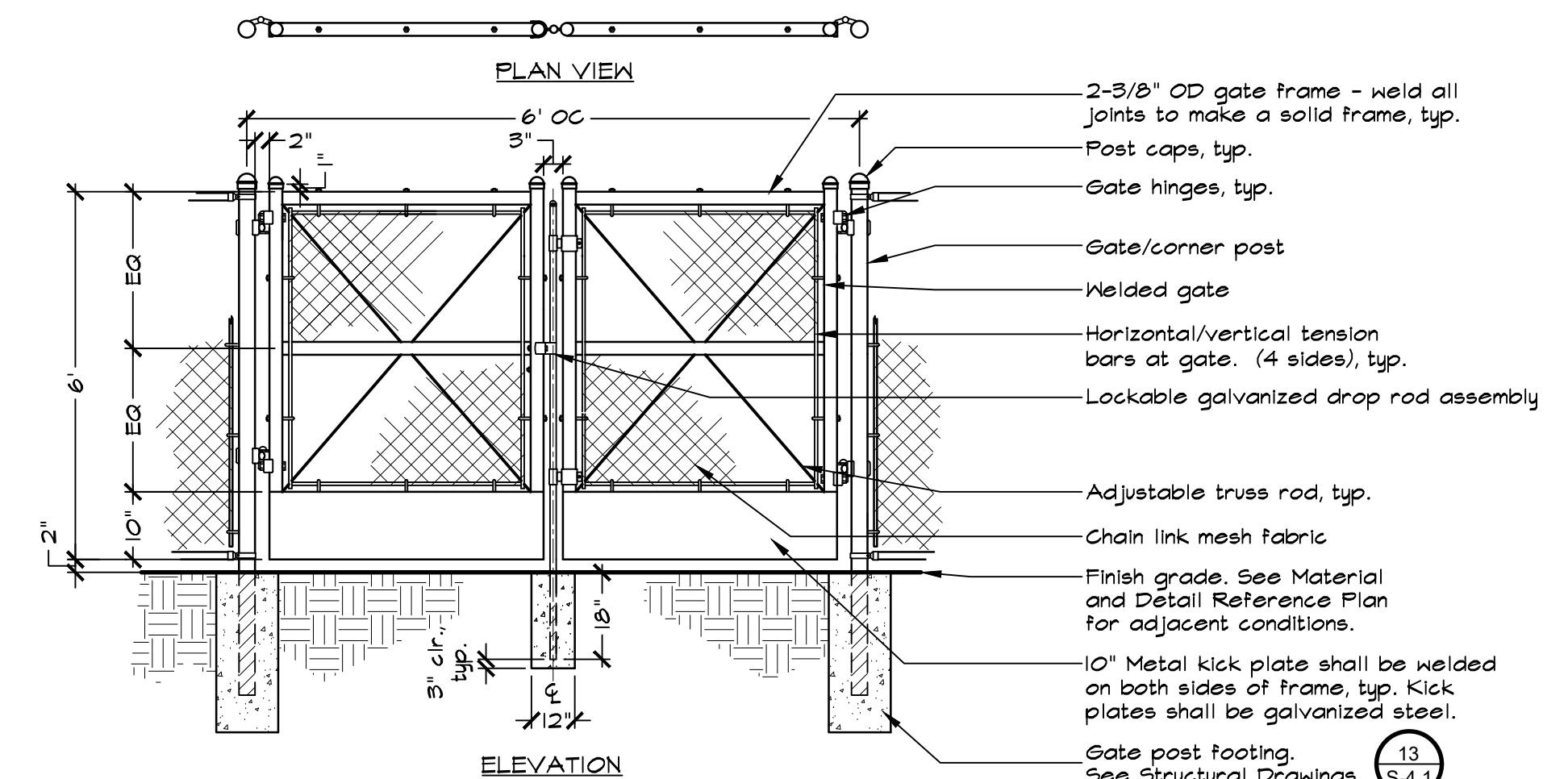
NOT TO SCALE



- NOTES:
1. See General Fencing and Gate Notes on L1.3.
 2. See Material and Detail Reference Plan and Layout Plan for gate post locations.
 3. See Structural Drawings for post and footing information.

2 6' HIGH SINGLE GATE, CHAIN LINK

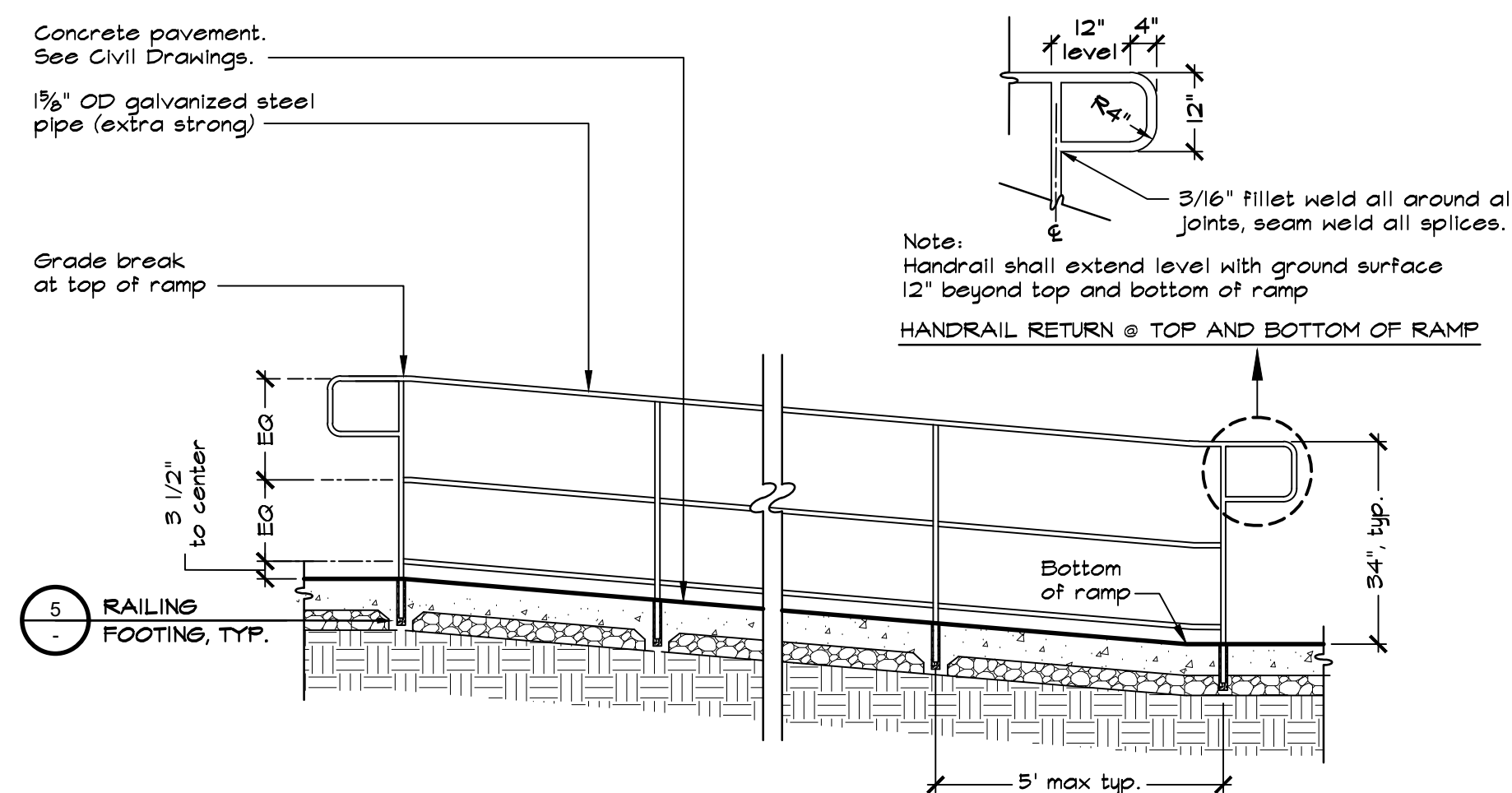
NOT TO SCALE



- NOTES:
1. See General Fencing and Gate Notes and Schedules on Sheet L1.3.
 2. See Material and Detail Reference Plan and Layout Plan for post locations.
 3. See Structural Drawings for post and footing information.

3 6' HIGH DOUBLE GATE, CHAIN LINK

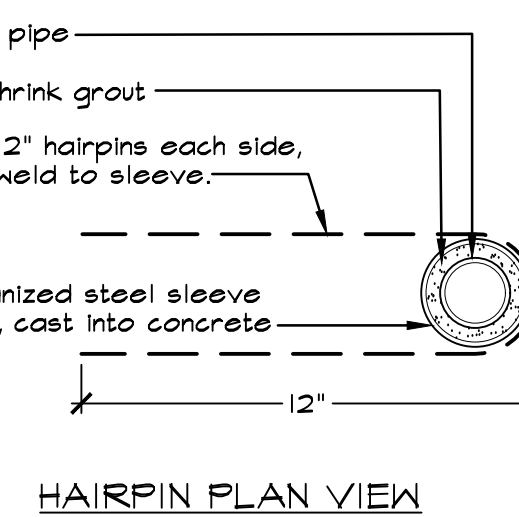
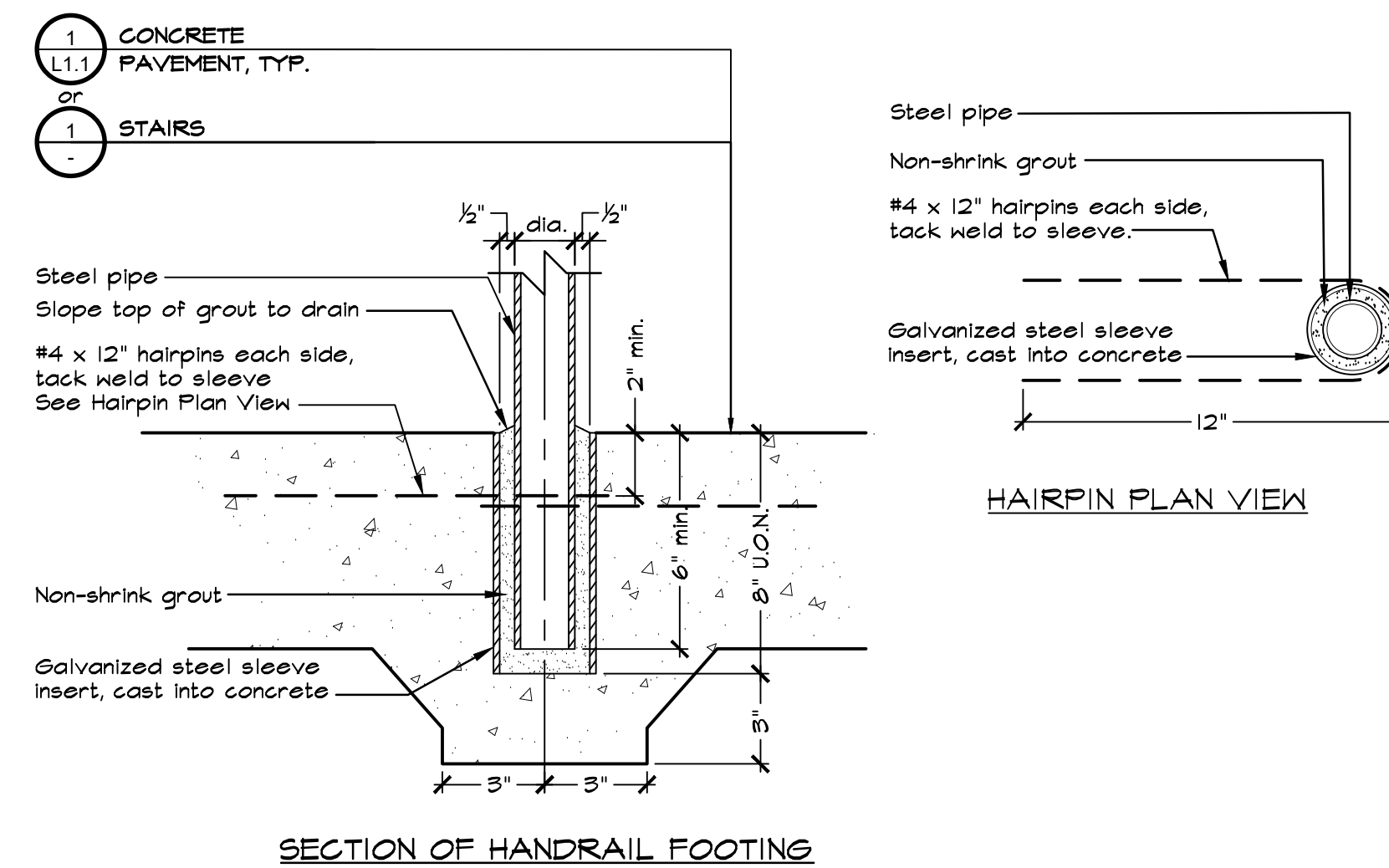
NOT TO SCALE



- NOTES:
1. Handrail shall be manufactured from steel pipe, and then hot-dipped galvanized. All joints shall be fully welded and sanded smooth before hot-dipping the handrail.
 2. District shall review and approve handrail in place prior to grouting.
 3. See Material and Detail Reference Plans for handrail locations.

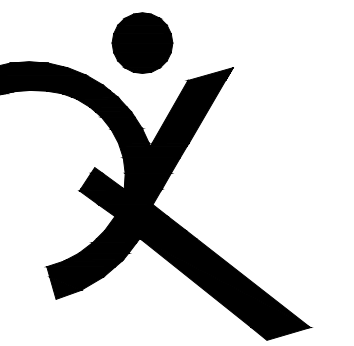
4 RAMP HANDRAIL

NOT TO SCALE



5 RAILING FOOTING

NOT TO SCALE



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HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS INCREMENT 2 OF 2

101 AMERICAN AVE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS		

DSA APP NO. 01-119268
ARCH PROJECT NO. 1870.00
DRAWN BY:
DRAWING SCALE: 1"=20'-0"
PTN: 61721-77 FILE NO: 7-H4

BID SET

MAY 10, 2021

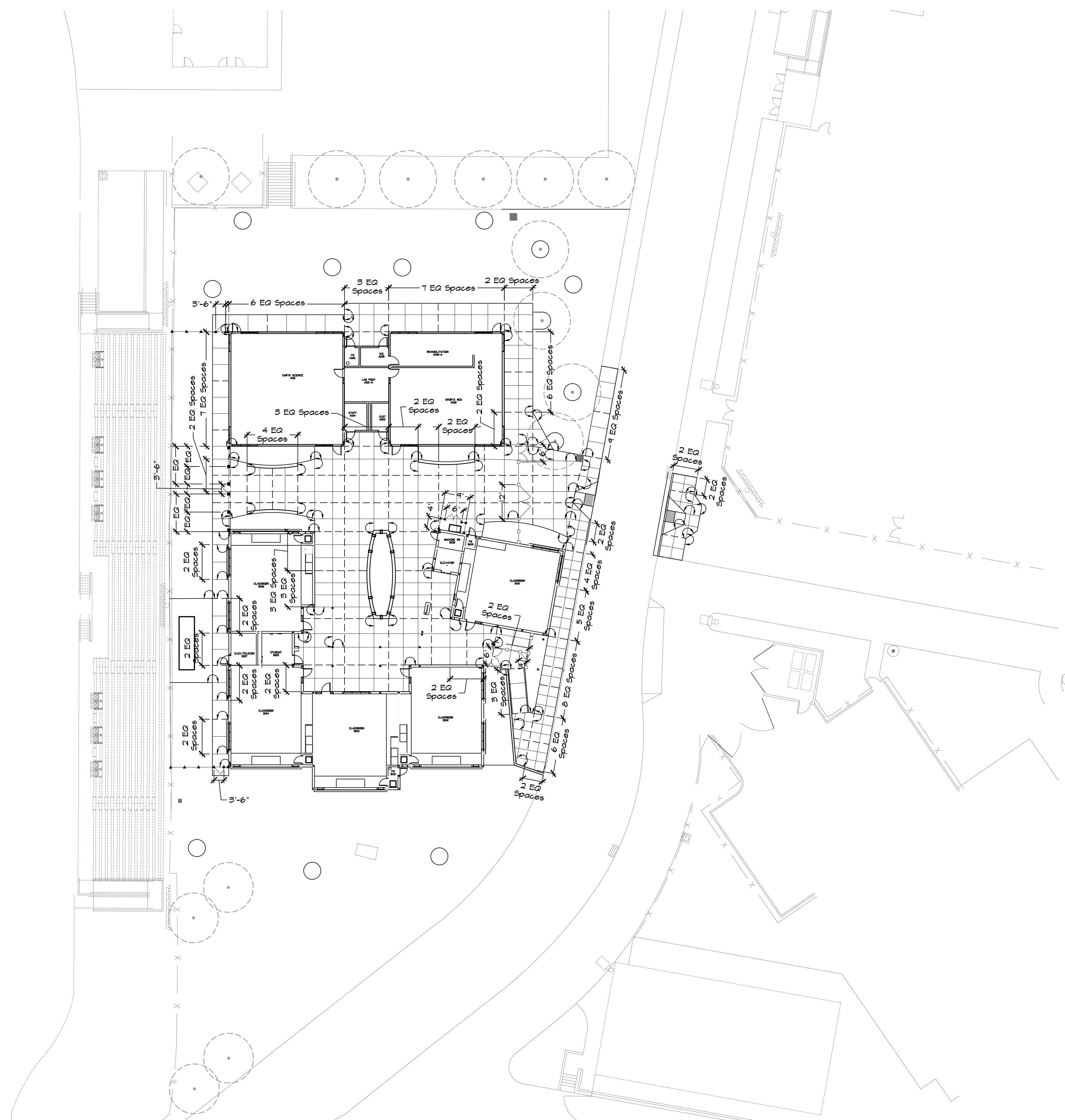
SHEET TITLE

CONSTRUCTION DETAILS

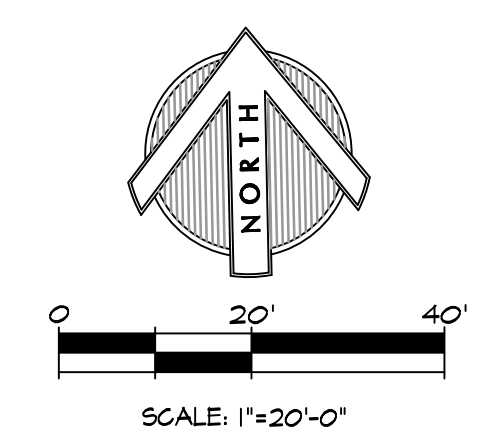
SHEET NUMBER

L1.2





Existing features and topographic information have been taken from a Survey provided by CBE, dated September 17, 2020. GSM landscape architects, inc. assumes no liability, real or alleged, regarding the accuracy of existing features or topographic information shown.



LAYOUT LEGEND

- | | | | |
|--|-----------------------------|--|-------------------|
| | Radial Dimension | | Clear Opening |
| | Arc Dimension | | Equal |
| | Linear Dimension | | Midpoint of Arc |
| | Align | | On Center |
| | Sightline to show alignment | | Point of Tangency |
| | Centerline | | 90 Degree Angle |
| | | | Control Points |

LAYOUT NOTES

- Contractor shall notify all public or private utility companies two (2) working days prior to commencement of work on this project to verify the locations of existing utility lines. Call Underground Service Alert (U.S.A.) toll free at 1-800-227-2600 or 811, 7:00am to 5:00pm, Monday through Friday.
- All coordinates and dimensions shown are in a horizontal plane.
- Written dimensions always take precedence over scaled dimensions. If there is a conflict, notify the District and Landscape Architect and obtain a clarification. No deviation or substitution shall be allowed without obtaining written approval from the District and Landscape Architect.
- See Civil Drawings for additional layout information.
- This Plan does not represent a Property Line Survey. Property lines shown herein may not represent the true position of the line.
- The Contractor shall coordinate all construction elements including utility locations and required sleeving prior to installation of any underground utilities.
- The Contractor shall verify critical dimensions, reference and control point locations and construction conditions prior to construction.
- All dimensions shall be verified in the field, chalked, painted, and/or string lined. Any adjustments, major or minor, required to achieve overall design layout shall be reviewed and approved by the District and Landscape Architect prior to construction.
- All materials shall be furnished and installed by the Contractor per Manufacturer's specifications, unless otherwise noted in these Plans or Specifications.
- Existing features and topographic information have been taken from a survey performed by Carlson, Barbee and Gibson and provided by Quattrocchi Kwok Architects. GSM landscape architects, inc. assumes no liability, real or alleged, regarding the accuracy of the existing features or topographic information shown.

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HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS INCREMENT 2 OF 2

101 AMERICAN AVE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS	

DSA APP NO.	01-119268
ARCH PROJECT NO.	1870.00
DRAWN BY:	ECD
DRAWING SCALE:	1"=20'-0"
PTN: 61721-77	FILE NO: 7-H4

BID SET
MAY 10, 2021
SHEET TITLE

LAYOUT
PLAN

SHEET NUMBER

L2.0

SHEET NOTES

GENERAL NOTE: THE DRAWING IS DIAGRAMMATIC AND LOCATION OF EXISTING IRRIGATION EQUIPMENT HAS NOT BEEN FIELD MEASURED. LOCATE ACTUAL EXISTING PIPE, VALVE, AND HEAD LOCATIONS IN THE FIELD PRIOR TO CONSTRUCTION. CONFIRM IN THE FIELD THAT AFTER CONSTRUCTION ALL (E) HEADS OUTSIDE OF THE CONTRACT WORK AREA REMAIN AS-IS AND ARE CONNECTED TO AN RCV TO CONTROL THE HEAD(S). MAKE CONSTRUCTION CORRECTIONS TO OBTAIN FULL IRRIGATION COVERAGE FOR THE (E) IRRIGATION SYSTEM, AS NEEDED.

1 (E) NON-POTABLE IRR MAIN LINE TO BE ABANDONED. EXCAVATE AND REMOVE (E) PIPING, CONDUIT, AND WIRE. (E) MAIN LINE SHALL REMAIN IN SERVICE UNTIL INSTALLATION OF (N) MAIN LINE AND LOW VOLTAGE CONTROL WIRE IS FINISHED AND OPERATIONAL.

2 (E) NON-POTABLE IRR MAIN LINE TO REMAIN IN SERVICE, AS-IS. CONFIRM ACTUAL LOCATION IN THE FIELD.

3 REROUTE AND INSTALL (N) 4" DIA. MAIN LINE AROUND CONTRACT WORK AREA AS SHOWN.

4A POINT OF WATER CONNECTION TO (E) NON-POTABLE 4" DIA. IRRIGATION MAIN LINE PIPING, LOCATION "A": CONNECT (N) MAIN LINE PIPE TO (E) MAIN LINE PIPE AND REROUTE (E) MAIN LINE AS SHOWN. LOCATE BURIED (E) LOW VOLTAGE WIRE BUNDLE ADJACENT TO (E) MAIN LINE AND FROM (E) CONTROLLER. INSTALL A PULL BOX, CUT WIRES, SPLICE (E) CONTROL WIRE TO (N) WIRES AND REROUTE (N) LOW VOLTAGE WIRE ALONGSIDE (N) MAIN LINE TO LOCATION "B".

4B POINT OF WATER CONNECTION TO (E) NON-POTABLE 4" DIA. IRRIGATION MAIN LINE PIPING, LOCATION "B": CONNECT (N) MAIN LINE PIPE TO (E) MAIN LINE PIPE AND REROUTE (E) MAIN LINE AS SHOWN. LOCATE BURIED (E) LOW VOLTAGE WIRE BUNDLE ADJACENT TO (E) MAIN LINE AND FROM (E) CONTROLLER. INSTALL A PULL BOX, CUT WIRES, SPLICE (E) CONTROL WIRE TO (N) WIRES AND REROUTE (N) LOW VOLTAGE WIRE ALONGSIDE (N) MAIN LINE TO LOCATION "A".

5 PROVIDE A 10-FOOT SEPARATION BETWEEN POTABLE WATER AND NON-POTABLE PIPES, TYPICAL.

6 IRRIGATION CONTROLLER (PEDESTAL MOUNT):
IRRIGATION CONTRACTOR SHALL PROVIDE AND INSTALL:
1. THE CONTROLLER, PEDESTAL MOUNTED AT SITE LOCATION AS DIRECTED BY THE DISTRICT.
2. THE 120 VAC ELECTRICAL CONNECTIONS TO THE CONTROLLER TERMINALS.
3. THE RAIN SHUT-OFF DEVICE.
4. LAMINATED IRRIGATION PLANS AND SCHEDULES AS THE SPECIFICATIONS INDICATE.
5. GROUNDING OF CONTROLLER.
6. COMMUNICATION WITH THE RAINMASTER ICENTRAL SERVICE
ELECTRICAL CONTRACTOR IS TO PROVIDE AND INSTALL:
1. THE 120 VAC/15 AMP SERVICE (1 AMP DEMAND) ELECTRICAL SERVICE TO CONTROLLER LOCATION.
2. THE RIGID STEEL ELECTRICAL CONDUIT, PULL BOXES AND SWEEP ELLS FROM ELECTRICAL PEDESTAL TO CONTROLLER LOCATION. WIRE TYPE IN CONDUIT TO MATCH THE PROJECT'S ELECTRICAL SPECIFICATIONS.
NOTE: LOCATE CONTROLLER TO AVOID OBSTRUCTING WINDOW VIEWS AND OPERATION OF DOORS OR GATES.

7 (E) IRRIGATION PUMP TO REMAIN AS-IS

8 SEE "IRRIGATION INSTALLATION NOTES" NOTE #28/L3.1

9 STUB 2-WIRE CABLE FROM CONTROLLER TO THIS PULL BOX FOR FUTURE EXPANSION.

CONSTRUCTION NOTES:

- (E) IRRIGATION INSIDE THE (N) WORK AREA SHALL BE DEMOLISHED AS REQUIRED TO MAKE WAY FOR THE (N) HARDSCAPE/LANDSCAPE CONSTRUCTION. THIS INCLUDES (E) LATERAL LINE PIPE. WHEN IN DOUBT, CONFER WITH ARCHITECT FOR DIRECTION.
- THE (E) NON-POTABLE IRRIGATION MAIN LINE SERVING HERITAGE HIGH SCHOOL CAMPUS LANDSCAPE AND FIELDS SHALL REMAIN IN SERVICE AND IN GOOD WORKING ORDER AT ALL TIMES. THE CONTRACTOR SHALL PROVIDE THE FOLLOWING RESEARCH AND SERVICES PRIOR TO ACTUAL CONSTRUCTION OF THE NEW WORK:
 - DISCUSS THE ACTUAL IRRIGATION MAIN LINE PIPE LOCATIONS WITH THE ARCHITECT. STAKE LOCATIONS AS REQUIRED.
 - POT HOLE TO ESTABLISH WHAT BURIED PIPES ARE IRRIGATION MAIN LINES SERVING THE CAMPUS AND FIELDS (NON-POTABLE WATER) AND THE SCHOOL CAMPUS QUAD AND CULINARY ARTS (POTABLE WATER).
- WIRING NOTE FOR (E) RCV WIRING FOUND IN THIS CONTRACT AREA: (E) RCV'S CONTROLLED FROM AND WIRED TO (E) ON-SITE CONTROLLERS MAY BE FOUND DURING EXCAVATION. SALVAGE AND PROTECT (E) CONVENTIONAL CONTROL WIRING FOUND NEXT TO THE (E) PVC MAIN LINE. REROUTE WITH (N) WIRE WHERE NECESSARY TO KEEP THE (E) IRRIGATION SYSTEM IN OPERATION. (E) SPLICED WIRES SHALL BE CONTAINED WITHIN AN APPROVED 14x19 BURIED SPLICE BOX WITH LID SURFACE AT GRADE.

IRRIGATION SCHEDULES

NOTE: USE OF NON-POTABLE WATER ESTABLISHES THE WATERED AREAS AS "SPECIAL LANDSCAPED AREAS" OR "SLA".
BUBBLER IRRIGATION @ TREES - (SLA)

MANUFACTURER: RAIN BIRD		TREE CANOPY(SQ.FT.): 19.6											
MODEL: RWS		SPECIES FACTOR(K _c): 1.0											
PSI: 30		MICROCLIMATE FACTOR(K _{mc}): 1.0											
GPM OF BUBBLER: 0.25		DENSITY FACTOR(K _d): 1.0											
NO. OF BUBBLERS: 2		IRRIGATION EFFICIENCY: 0.81											
GPM OF ALL BUBBLERS(S): 0.5		SOIL INFILTRATION RATE(INCHES): 0.2											
TREE CANOPY(FT.): 5		YEAR 2 REDUCTION AMOUNT(%): 10											
MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	TOTAL
ADJUSTED ETO/MONTH(INCHES)	1.0	1.5	2.9	4.5	6.1	7.1	7.9	6.7	5.2	3.2	1.4	0.7	48.3
ADJUSTED ETO/WEEK(INCHES)	0.2	0.3	0.7	1.0	1.4	1.6	1.8	1.5	1.2	0.7	0.3	0.2	
MINUTES PER WEEK	YEAR 1	7	11	21	31	42	49	54	46	36	22	10	5
	YEAR 2	7	10	19	28	38	45	49	42	33	20	9	5
DAYS PER WEEK	YEAR 1	1	1	2	2	3	3	3	3	3	2	1	
	YEAR 2	1	1	2	2	3	3	3	3	3	2	1	
MINUTES OF WATER PER DAY	YEAR 1	7	11	11	16	14	17	18	16	12	8	5	5
	YEAR 2	7	10	10	15	13	16	17	15	11	8	5	5
CYCLES PER DAY TO MEET SOIL INFILTRATION RATE	YEAR 1	2	2	2	3	3	3	3	2	2	1	1	
	YEAR 2	2	2	2	3	3	3	3	2	2	1	1	
MAX. RUN TIME (MINUTES) PER CYCLE	YEAR 1	4	6	6	6	5	6	6	6	4	5	5	
	YEAR 2	4	5	5	5	5	6	6	6	4	5	5	

NOTE: APPLY LESS WATER TO TREES IN TURF ZONES.

BUBBLER IRRIGATION @ SHRUBS - (SLA)

MANUFACTURER: RAIN BIRD		SHRUB CANOPY(SQ.FT.): 3.1											
MODEL: 1401		SPECIES FACTOR(K _c): 1.0											
PSI: 30		MICROCLIMATE FACTOR(K _{mc}): 1.0											
GPM OF BUBBLER: 0.25		DENSITY FACTOR(K _d): 1.0											
NUMBER OF BUBBLERS: 1		IRRIGATION EFFICIENCY: 0.81											
GPM OF ALL BUBBLERS(S): 0.25		SOIL INFILTRATION RATE(INCHES): 0.2											
SHRUB CANOPY(FT.): 2		YEAR 2 REDUCTION AMOUNT(%): 10											
MONTH	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	TOTAL
ETO/YEAR(INCHES)	1.0	1.5	2.9	4.5	6.1	7.1	7.9	6.7	5.2	3.2	1.4	0.7	48.3
ETO/MONTH(INCHES)	0.2	0.3	0.7	1.0	1.4	1.6	1.8	1.5	1.2	0.7	0.3	0.2	
MINUTES PER WEEK	YEAR 1	3	4	7	10	14	16	18	15	12	7	4	2
	YEAR 2	3	4	7	9	13	15	17	14	11	7	4	2
DAYS PER WEEK	YEAR 1	1	1	2	2	3	3	3	3	3	2	1	
	YEAR 2	1	1	2	2	3	3	3	3	3	2	1	
MINUTES OF WATER PER DAY	YEAR 1	3	4	4	5	5	6	6	5	4	3	2	2
	YEAR 2	3	4	4	5	5	6	6	5	4	3	2	2
CYCLES PER DAY TO MEET SOIL INFILTRATION RATE	YEAR 1	2	2	2	3	3	3	3	3	2	2	1	1
	YEAR 2	2	2	2	3	3	3	3	3	2	2	1	1
MAX. RUN TIME (MINUTES) PER CYCLE	YEAR 1	2	2	2	2	2	2	2	2	2	2	2	2
	YEAR 2	2	2	2	2	2	2	2	2	2	2	2	2



JDE

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P.O. BOX 2291
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PLANNING-DESIGN-MANAGEMENT
JDE PROJECT NO: 20036

IRRIGATION DESIGNER:

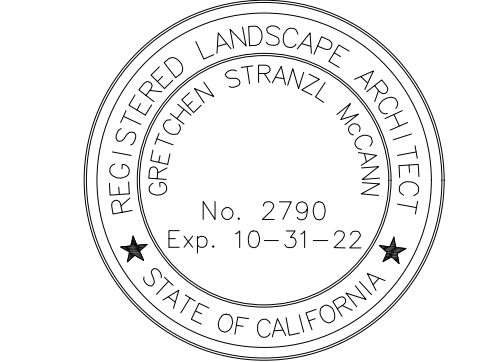
JAMES D. EDDY ASSOCIATES, DANVILLE, CALIFORNIA
NOTE: NO LICENSE FOR THE LANDSCAPE IRRIGATION
SYSTEM DESIGN PROFESSION IS AVAILABLE IN THE STATE
OF CALIFORNIA.
MEMBER: AMERICAN SOCIETY OF IRRIGATION CONSULTANTS

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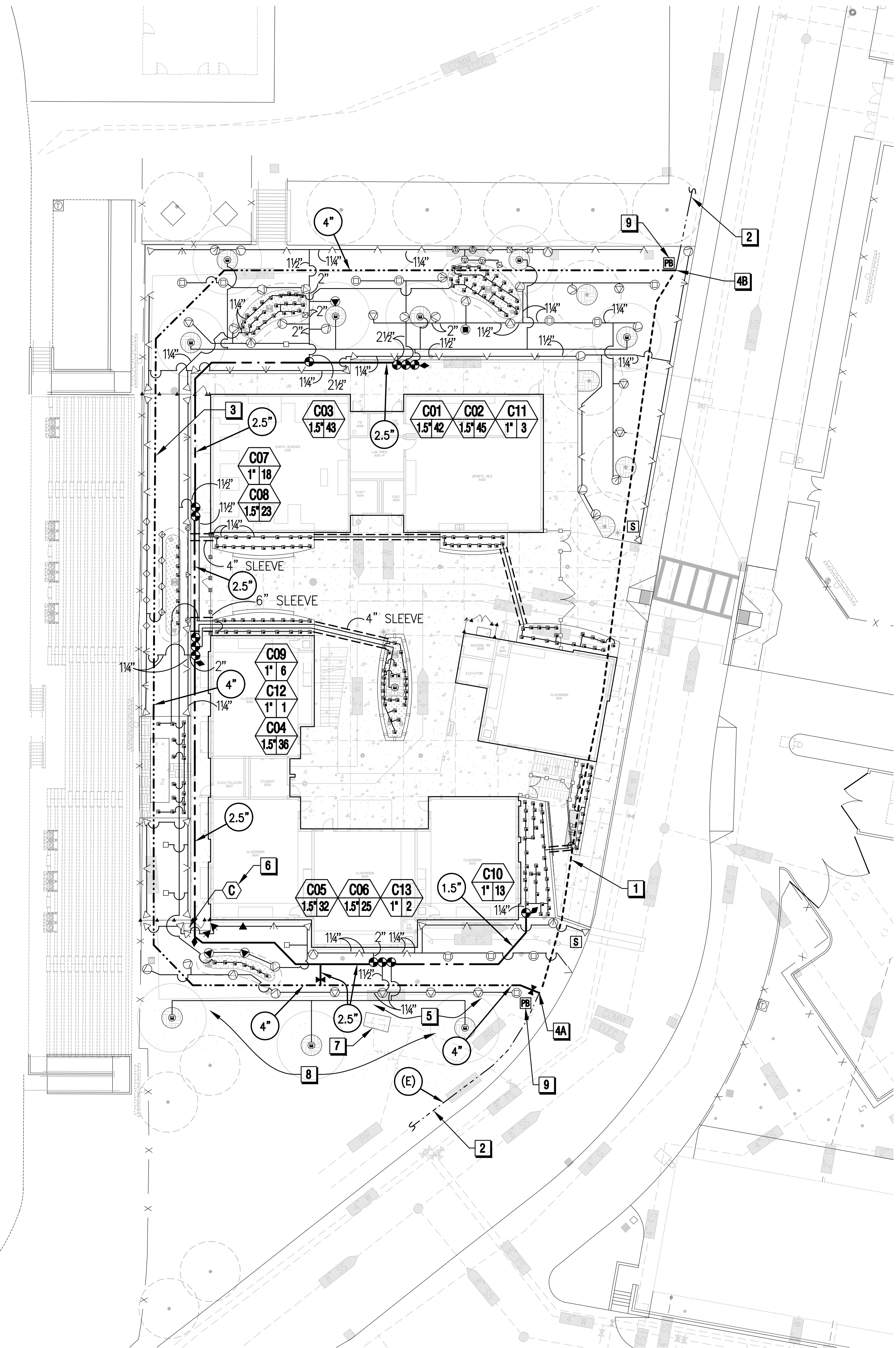
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&
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











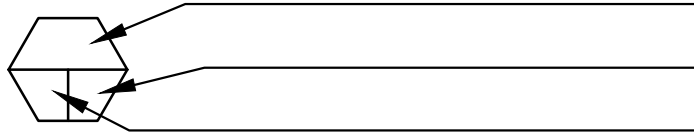




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IRRIGATION INSTALLATION NOTES

- REFER TO IRRIGATION SPECIFICATIONS FOR DETAILED INFORMATION.
LUHSD = LIBERTY UNION HIGH SCHOOL DISTRICT
1. PROVIDE INSTALLATION BY PERSONS FAMILIAR WITH IRRIGATION WORK AND UNDER THE SUPERVISION OF A QUALIFIED SUPERVISOR.
 2. OBTAIN THE PERMITS REQUIRED AND PROVIDE LABOR AND MATERIALS NECESSARY TO FULLY COMPLETE THE WORK IN ACCORDANCE WITH THE DRAWINGS AND THE SPECIFICATIONS.
 3. LOCATE AND PROTECT NEW AND EXISTING UTILITIES PRIOR TO EXCAVATION. DO NOT DAMAGE EXISTING UTILITIES, PAVING OR STRUCTURES. PROVIDE THE NECESSARY REPAIRS AT NO ADDITIONAL COST TO LUHSD.
 4. REMOVE DEBRIS AND ACCUMULATION OF DEBRIS AS A RESULT OF IRRIGATION CONSTRUCTION FROM THE SITE AND LEAVE AREA IN A CLEAN CONDITION ACCEPTABLE TO LUHSD. MAINTAIN SITE FOR THE SPECIFIED CALENDAR DAYS FOLLOWING ACCEPTANCE OF THE WORK BY LUHSD AND MAKE CORRECTIONS OR REPAIRS TO THE IRRIGATION AS DIRECTED BY LUHSD AT THE COMPLETION OF THE MAINTENANCE PERIOD.
 5. THE DRAWINGS ARE DIAGRAMMATIC. PIPE AND EQUIPMENT MAY BE SHOWN IN PAVING FOR CLARITY ONLY – INSTALL IN PLANTING AREAS WHERE POSSIBLE. DUE TO THE SCALE OF THE DRAWINGS, ALL OFFSETS, FITTINGS, SLEEVES, ETC. WHICH MAY BE REQUIRED ARE NOT INDICATED. INVESTIGATE THE STRUCTURAL AND FINISHED CONDITIONS AFFECTING THE CONTRACT WORK INCLUDING OBSTRUCTIONS GRADE DIFFERENCES OR AREA DIFFERENCES WHICH MAY HAVE NOT BEEN CONSIDERED IN THE ENGINEERING. WHERE FIELD CHANGES EXIST, COORDINATE THE INSTALLATION WORK ACCORDINGLY BY NOTIFICATION AND APPROVAL OF LUHSD AS PER THE CONTRACT SPECIFICATIONS. COORDINATE IRRIGATION CONTRACT WORK WITH ALL APPLICABLE CONTRACTORS FOR THE LOCATION AND INSTALLATION OF PIPE, CONDUIT, OR SLEEVES OF PIPE, CONDUIT OR SLEEVES THROUGH OR UNDER WALLS, ROADWAYS, PAVING, STRUCTURE, ETC. BEFORE CONSTRUCTION. ASSUME FULL RESPONSIBILITY FOR REQUIRED REVISIONS IF THESE NOTIFICATIONS ARE NOT PERFORMED.
 6. CONTRACTOR SHALL COORDINATE WITH OTHER CONTRACTORS ALL IRRIGATION SLEEVES, CONDUIT, AND PIPING INSTALLED UNDER PAVEMENT PRIOR TO INSTALLATION.
 7. THE INTENT OF THIS IRRIGATION SYSTEM DESIGN IS TO PROVIDE THE MINIMUM AMOUNT OF WATER REQUIRED TO SUSTAIN GOOD PLANT HEALTH.
 8. PROGRAM THE CONTROLLER TO PROVIDE THE MINIMUM AMOUNT OF WATER NEEDED TO SUSTAIN GOOD PLANT HEALTH. MAKE ADJUSTMENTS TO THE PROGRAM FOR SEASONAL WEATHER CHANGES, PLANT MATERIAL, WATER REQUIREMENTS, MOUNDS AND SLOPES, SUN, SHADE AND WIND EXPOSURES.
 9. THE IRRIGATION SYSTEM IS DESIGNED FOR 1 VALVE TO OPERATE AT ONE TIME. THIS WILL ALLOW THE SYSTEM TO IRRIGATE IN APPROXIMATELY 8 HOURS OR LESS ACCORDING TO WEATHER CONDITIONS. TOTAL GPM DEMAND OF SYSTEM WILL BE APPROXIMATELY 50 GPM MAXIMUM. DO NOT UNDER ANY CIRCUMSTANCE EXCEED 50 GPM OR OPERATE MORE THAN ONE (1) VALVE AND ONE QUICK COUPLING VALVE AT THE SAME TIME.
 11. IRRIGATION CONTROL WIRE: RAINMASTER 2–WIRE CABLE, TW–CAB–14, WITH U.L. APPROVAL FOR DIRECT BURIAL IN GROUND, SIZE AWG–UF #14–1.
 12. SPLICES: MADE WITH 3M–DBY, OR SPEARS MODEL #400, OR APPROVED EQUAL SEAL PACKS.
 13. INSTALL ONE SPARE 2–WIRE CABLE FROM CONTROLLER ALONG THE ENTIRE MAIN LINE. INSTALL 36” EXCESS WIRE INTO A QUICK COUPLER BOX AT EACH VALVE GROUP. WEATHERPROOF UNUSED WIRE ENDS. SPLICING OF 2–WIRE CABLE AND 24 VOLT WIRES IS NOT PERMITTED EXCEPT IN VALVE BOXES. LEAVE A 36” LONG, 1” DIAMETER COIL OF EXCESS WIRE AT EACH SOLENOID WIRE SPLICE.
 14. PLASTIC VALVE BOXES AND LIDS SHALL BE PURPLE IN COLOR WITH BOLT DOWN, NON–HINGED COVER MARKED "IRRIGATION". BOX BODY SHALL HAVE KNOCK OUTS. MANUFACTURER: RAIN BIRD, NDS, OLD CASTLE, OR APPROVED EQUAL.
 15. INSTALL REMOTE CONTROL VALVE BOXES 12” FROM WALK, CURB, BUILDING OR LANDSCAPE FEATURE. AT MULTIPLE VALVE BOX GROUPS, EACH BOX SHALL BE AN EQUAL DISTANCE FROM THE WALK, CURB, ETC. AND EACH BOX SHALL BE 12” APART. SHORT SIDE OF RECTANGULAR VALVE BOXES SHALL BE PARALLEL TO WALK, CURB, ETC. REFER TO BOX INSTALLATION DETAIL.
 16. FLUSH AND ADJUST IRRIGATION HEADS FOR EFFICIENT PERFORMANCE. PREVENT OVERSPRAY ON THE WALKS, ROADWAYS, SIGNS, LIGHTS, AND/OR BUILDINGS. SELECT THE BEST DEGREE OF ARC TO FIT THE EXISTING SITE CONDITIONS AND THROTTLE THE FLOW CONTROL OR PRESSURE REGULATION DEVICE AT EACH VALVE TO OBTAIN THE BEST OPERATING PRESSURE FOR EACH SYSTEM.
 17. SET POP–UP HEADS PERPENDICULAR TO FINISH GRADE OF THE AREA TO BE IRRIGATED UNLESS OTHERWISE NOTED ON THE DRAWINGS.
 18. IRRIGATION HEAD LAYOUT AND PIPING AS SHOWN ON THE DRAWINGS IS INDICATIVE OF THE WORK TO BE INSTALLED. IRRIGATION HEADS, ARC OF SPRAY, RADIUS OF SPRAY AND PIPING AT CERTAIN LOCATIONS MAY REQUIRE FIELD ADJUSTMENT TO PREVENT HARM TO TREE ROOTS AND INTERFERENCE OF TREES TO IRRIGATION SPRAY.
 19. EXERCISE PARTICULAR ATTENTION AT ALL EXISTING AND NEW TREES TO ELIMINATE DIRECT SPRAY OF IRRIGATION HEADS ON TREE TRUNKS.
 20. THE SPRINKLER SYSTEM DESIGN IS BASED ON THE MINIMUM OPERATING PRESSURE SHOWN ON THE IRRIGATION DRAWINGS. VERIFY WATER PRESSURE PRIOR TO CONSTRUCTION. REPORT ANY DIFFERENCE BETWEEN THE WATER PRESSURE INDICATED ON THE DRAWINGS AND THE ACTUAL PRESSURE READING AT THE IRRIGATION POINT OF CONNECTION TO LUHSD.
 21. IRRIGATION DEMAND: 50 GPM MAX. AT (E) NON–POTABLE WATER PRESSURE.
 22. PIPE SIZING SHOWN ON THE DRAWINGS IS TYPICAL. AS CHANGES IN LAYOUT OCCUR DURING STAKING AND CONSTRUCTION ADJUST THE SIZE ACCORDINGLY.
 23. PIPE THREAD SEALANT COMPOUND SHALL BE PERMATEX 51 OR RECTORSEAL T+2.
 24. BEFORE COMMENCING WITH WORK UNDER THIS CONTRACT, NOTIFY UNDERGROUND SERVICE ALERT AT 811 OR 1–800–227–2600. DETERMINE THE EXACT LOCATION OF EXISTING UTILITIES, PIPES, AND STRUCTURES BEFORE COMMENCING WORK. COSTS OF DAMAGES WHICH OCCUR FROM FAILURE TO ACCURATELY LOCATE AND PRESERVE THESE UTILITIES SHALL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR.
 25. CAUTION: USE SHOVELS AND HAND DIG TRENCHES AROUND (E) TREE ROOT SYSTEMS. INSTALL PIPING AWAY FROM (E) TREE ROOT SYSTEMS. PROTECT (E) TREE ROOT SYSTEMS AT ALL TIMES. TYPICAL FOR ALL (E) TREE ROOT SYSTEMS: INSTALL ALL BURIED IRRIGATION SUCH AS PVC PIPING, VALVES, HEADS, BOXES, CONDUIT WITH WIRES, IN A MANNER TO AVOID EXCAVATING OR TRENCHING WITHIN THE EXISTING TREE DRIPLINES AND ROOTZONES.
 26. NOTE: NO PLASTIC PIPE OR SOLVENT WELDED JOINTS ARE PERMITTED ABOVE GRADE.
 27. CONTROLLER NOTE: CONTRACTOR SHALL BE RESPONSIBLE FOR ORDERING, COORDINATION WITH DISTRIBUTOR AND CONTROLLER ASSEMBLY VENDOR, THE INSTALLATION OF ALL ASSOCIATED PARTS AND HARDWARE TO PROVIDE A COMPLETE AND FULLY OPERABLE SYSTEM.
 28. CONTRACTOR SHALL COORDINATE WORK AFFECTING EXISTING, TEMPORARY AND PROPOSED IMPROVEMENTS TO PROVIDE CONTINUOUS IRRIGATION SYSTEM OPERATION.
 27. PROVIDE THE STANDARD HORIZONTAL AND VERTICAL CLEARANCE BETWEEN NON–POTABLE PIPES TO POTABLE WATER PIPES. REFER TO POTABLE PIPE CLEARANCE REQUIREMENTS DETAIL, SHEET L3.5
 28. THIS IRRIGATION SYSTEM INTERFACES WITH AN EXISTING IRRIGATION SYSTEM WHICH IS TO REMAIN IN SERVICE. THE EXISTING UNDERGROUND IRRIGATION EQUIPMENT AND OTHER UTILITIES HAVE NOT BEEN FIELD VERIFIED UNDER THE CONSTRUCTION DOCUMENT PHASE OF WORK. FIELD VERIFY THE LOCATION OF EXISTING IRRIGATION MAIN LINE PIPING, LATERAL LINE PIPING, LOW VOLTAGE AND HIGH VOLTAGE WIRE, COMMUNICATION CABLE, AND VALVES BEFORE CONSTRUCTION IS STARTED. ADJUST, REPAIR, MOVE, OR INSTALL SPRINKLERS AS REQUIRED TO MAINTAIN 100% EVEN COVERAGE BETWEEN THE EXISTING LANDSCAPE AND NEW LANDSCAPE. DAMAGE TO THE EXISTING IRRIGATION SYSTEM AND OTHER VARIOUS UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE DISTRICT. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING THE CURRENT OPERATION OF THE EXISTING IRRIGATION SYSTEM WHICH SERVICES AREAS OUTSIDE THE CONTRACT WORK AREA IN WORKING ORDER. DO NOT SHUT DOWN GATE VALVES, SEVER MAIN OR LATERAL PIPING, AND/OR SEVER WIRE WHICH ORIGINATES IN OR TRAVELS THROUGH THIS CONTRACT WORK AREA UNLESS SPECIFICALLY DIRECTED TO DO SO BY THE CONTRACT DOCUMENTS OR BY WRITTEN APPROVAL FROM THE ARCHITECT. LANDSCAPE STRESS OUTSIDE OF THIS CONTRACT AREA WILL REQUIRE FULL REPLACEMENT OF THE LANDSCAPE DAMAGED UNDER THIS CONTRACT WORK AT NO ADDITIONAL EXPENSE TO THE DISTRICT. IF THE CONTRACTOR IS NOT AGREEABLE TO THIS CONDITION THEN THE CONTRACTOR MUST STATE THIS IN THE BID PROPOSAL DOCUMENTS.

IRRIGATION LEGEND

SYMBOL	NUMBER	MANUFACTURER/DESCRIPTION	PSI	FLOW (GPM OR GPH)	RADIUS (MIN./MAX.)	PRECIP. RATE
12" POP-UP SPRAYS AT NO MOW TURF						
	PROS–12–PRS30–CV–F–R/ 15F,H,Q	HUNTER 12” POP–UP BODY WITH CHECK VALVE, FLOGUARD TECHNOLOGY, NON–POTABLE CAP, & HUNTER NOZZLE	30	3,8,1,9,1,0	12–15	1.8 IN/H
	PROS–12–PRS30–CV–F–R/ 15A	HUNTER 12” POP–UP BODY WITH CHECK VALVE, FLOGUARD TECHNOLOGY, NON–POTABLE CAP, & HUNTER NOZZLE	30	0.5–3.7	12–15	1.8 IN/H
	PROS–12–PRS30–CV–F–R/ 12F,H,Q	HUNTER 12” POP–UP BODY WITH CHECK VALVE, FLOGUARD TECHNOLOGY, NON–POTABLE CAP, & HUNTER NOZZLE	30	2,7,1,3,0,7	10–12	2.0 IN/H
	PROS–12–PRS30–CV–F–R/ 12A	HUNTER 12” POP–UP BODY WITH CHECK VALVE, FLOGUARD TECHNOLOGY, NON–POTABLE CAP, & HUNTER NOZZLE	30	0.3–2.5	10–12	2.0 IN/H
	PROS–12–PRS30–CV–F–R/ 10F,H,Q	HUNTER 12” POP–UP BODY WITH CHECK VALVE, FLOGUARD TECHNOLOGY, NON–POTABLE CAP, & HUNTER NOZZLE	30	0.9,0,4	8–10	2.0 IN/H
	PROS–12–PRS30–CV–F–R/ 10A	HUNTER 12” POP–UP BODY WITH CHECK VALVE, FLOGUARD TECHNOLOGY, NON–POTABLE CAP, & HUNTER NOZZLE	30	0.25–2.00	8–10	2.2 IN/H
	PROS–12–PRS30–CV–F–R/ 8F,H,Q	HUNTER 12” POP–UP BODY WITH CHECK VALVE, FLOGUARD TECHNOLOGY, NON–POTABLE CAP, & HUNTER NOZZLE	30	1,0,0,5,0,24	6–8	1.7 IN/H
	PROS–12–PRS30–CV–F–R/ 8A	HUNTER 12” POP–UP BODY WITH CHECK VALVE, FLOGUARD TECHNOLOGY, NON–POTABLE CAP, & HUNTER NOZZLE	30	0.22–1.76	6–8	3.1 IN/H
	PROS–12–PRS30–CV–F–R/ 5H	HUNTER 12” POP–UP BODY WITH CHECK VALVE, FLOGUARD TECHNOLOGY, NON–POTABLE CAP, & HUNTER NOZZLE	30	0.2	4–5	2.1 IN/H
	PROS–12–PRS30–CV–F–R/ SS–530	HUNTER 12” POP–UP BODY WITH CHECK VALVE, FLOGUARD TECHNOLOGY, NON–POTABLE CAP, & HUNTER NOZZLE	30	1.3	5 X 30	1.7 IN/H
	PROS–12–PRS30–CV–F–R/ LCS–515,RCS–515	HUNTER 12” POP–UP BODY WITH CHECK VALVE, FLOGUARD TECHNOLOGY, NON–POTABLE CAP, & HUNTER NOZZLE	30	0.65,0,65	5 X 15	1.7 IN/H
TREE ROOT WATERING SYSTEM WITH SOCK						
	[RWS–B–C–1401]+[RWS–SOCK]	RAIN BIRD, INSTALL 2 BUBBLERS PER TREE	30	0.25	FLOOD	0.5 GPM
BUBBLERS						
	1401	RAIN BIRD BUBBLER, INSTALL 1 BUBBLER PER SHRUB	30	0.25	FLOOD	0.25 GPM
VALVES						
	[100DWS.IB–R(1”)]+[TW–D–1] [150DWS.IB–R(1.5”)]+[TW–D–1]	GRISWOLD REMOTE CONTROL VALVE, NORMALLY CLOSED, BRASS CONSTRUCTION, FIPT, WITH INTERNAL BLEED, INTEGRAL UNION AND BALL VALVE (MINIMUM FLOW: 0.1 GPM).				
	44NP (1”)	RAIN BIRD QUICK COUPLING VALVE WITH YELLOW LOCKING RUBBER COVER				
	LGT252SS304X (2.5”)	LEEMCO 304 SS GATE VALVE WITH FIPT CONNECTIONS AND CROSS TOP				
	LMV–44BB (4”)	LEEMCO RESILIENT WEDGE GATE VALVE WITH SLIP–ON CONNECTIONS AND 2” SQ. WRENCH NUT. IPS SERIES (BELL X BELL).				
CONTROLLER						
	[EGP–TWi–SPED]+ [PROMAX]+[RS1000]	CONTROLLER ASSEMBLY CONSISTING OF A RAINMASTER “EAGLE” 200 STATION 2–WIRE CONTROLLER AND THE FOLLOWING OPTIONS: <ul style="list-style-type: none">• COMPLETE ASSEMBLY PROVIDED AND BUILT BY TORO/RAINMASTER• SS PEDESTAL• ICENTRAL SERVICE• RAINMASTER REMOTE ASSEMBLY: PROMAX• RAINMASTER RAIN SENSOR: RS1000. WIRELESS, MOUNT TO EVE OR SIDE OF BUILDING PER MANUFACTURER’S INSTRUCTIONS AND AS DIRECTED BY DISTRICT.• RAINMASTER 1 STATION DECODER: TW–D–1, ONE PER VALVE• RAINMASTER LIGHTNING ARRESTOR EVERY 600 FEET: TW–LA–1• RAINMASTER 2–WIRE CABLE: TW–CAB–14• RECYCLED WATER LABEL, T.CHRISTY NOTE: THIS CONTROLLER IS A 2–WIRE CABLE CONTROLLER WITH STATION DECODERS.				
						
SLEEVES AND PIPE						
						
						
						
						

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SYSTEM DESIGN PROFESSION IS AVAILABLE IN THE STATE
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ABBREVIATIONS:
AV AIR VALVE
CI CAST IRON
CU COPPER
DEG DEGREES
DI DUCTILE IRON
DIA DIAMETER
ECV EMITTER CONTROL VALVE
EFF EFFICIENCY
ETWU ESTIMATED TOTAL WATER USE
ETO(ET) EVAPOTRANSPIRATION
(E) EXISTING
(F) FUTURE
FC FULL CIRCLE (360°)
FT FEET
FIPT FEMALE IRON PIPE THREAD
FPS FEET PER SECOND
FS FLOW SENSOR
FV FLUSH VALVE
GA GAUGE
GI GALVANIZED IRON
GV GATE VALVE
GPH GALLONS PER HOUR
GPM GALLONS PER MINUTE
ID INTERNAL DIAMETER
IN INCHES
IRR IRRIGATION
LA LANDSCAPE ARCHITECT
MAWA MAXIMUM APPLIED WATER ALLOWANCE
MAX MAXIMUM
MCV MASTER CONTROL VALVE
MV MASTER VALVE
MIN MINIMUM
MIPT MALE IRON PIPE THREAD
MPR MATCHED PRECIPITATION RATE
MWLO MODEL WATER EFFICIENT LANDSCAPE ORDINANCE
(N) NEW
NIC NOT IN CONTRACT
NPW NON POTABLE WATER
NTS NOT TO SCALE
OD OUTSIDE DIAMETER
PC PART CIRCLE (20°–360°)
PE POLYETHYLENE
POC POINT OF CONNECTION
PRECIP PRECIPITATION
PRV PRESSURE REDUCING VALVE
PVBA PRESSURE VACUUM BREAKER ASSEMBLY
PSI POUNDS PER SQUARE INCH
PVC POLYVINYLCHLORIDE
PW POTABLE WATER
QTY QUANTITY
QCV QUICK COUPLING VALVE
RCV REMOTE CONTROL VALVE
RPBA REDUCED PRESSURE BACKFLOW ASSEMBLY
RIGID STEEL
RS RECYCLED WATER
SCH SCHEDULE
SF SQUARE FOOT OR FEET
SQ SQUARE
SS STAINLESS STEEL
STD STANDARD
TBD TO BE DETERMINED
TBE THREADED BOTH ENDS
TOE THREADED ONE END
TYP TYPICAL
UON UNLESS OTHERWISE NOTED
UPC UNIFORM PLUMBING CODE
USA UNDERGROUND SERVICE ALERT
UV ULTRAVIOLET
UVR ULTRAVIOLET RESISTANT
VAC VOLTS–ALTERNATING CURRENT
VB VALVE BOX
WM WATER METER



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ARCH PROJECT NO.	1870.00
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DRAWING SCALE:	1"=20'-0"
PTN: 61721-77	FILE NO: 7-H4

BID SET
MAY 10, 2021

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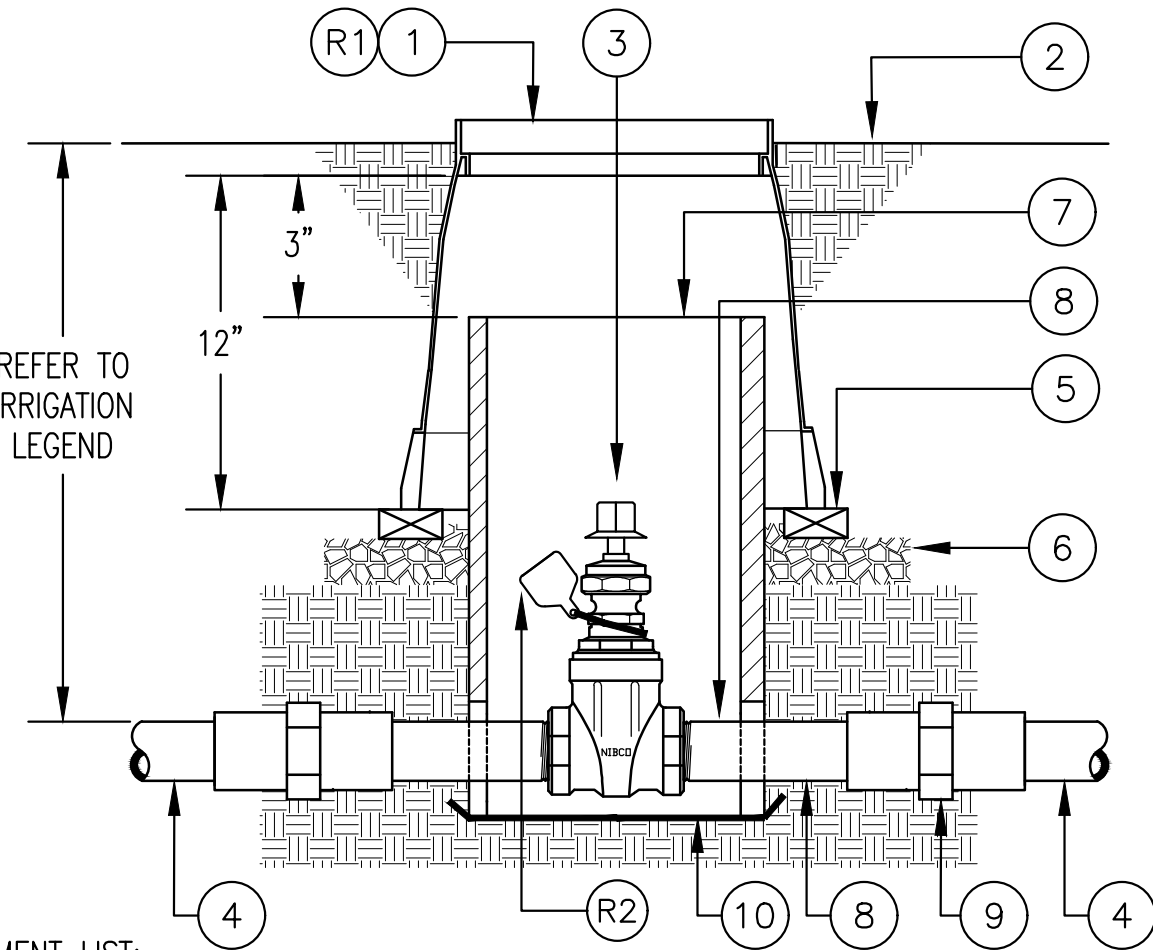
IRRIGATION
LEGEND
& NOTES

SHEET NUMBER

L3.1

NON-POTABLE WATER ITEMS:

- R1. VALVE BOX AND LID COLOR: RECYCLED WATER PURPLE
R2. RED WELL WATER TAG – ATTACH TO VALVE WITH PLASTIC ZIP TIE.



EQUIPMENT LIST:

(REFER TO BUBBLED NUMBERS)

- 10" ROUND PLASTIC VALVE BOX WITH PLASTIC BOLT-DOWN LID.
- FINISH GRADE
- GATE VALVE WITH SQ. NUT
- PVC MAIN LINE, SIZE AND TYPE PER SPECIFICATIONS
- COMMON BRICK, 2 TOTAL, 180 DEGREES APART.
- CRUSHED GRAVEL BASE, 6" DEEP, ALL AROUND
- 8" DIAMETER PVC VERTICAL SLEEVE FOR ACCESS – NOTCH SLEEVE TO FIT OVER PIPE
- NIPPLE, PVC SCH 80, TOE, 2 TOTAL, SIZED EQUAL TO GATE VALVE
- FEMALE ADAPTER, PVC SCH 80, S X S, 2 TOTAL, SIZED EQUAL TO GATE VALVE
- METAL WIRE MESH TO PREVENT GOPHER INTRUSION, 1/2" MESH, 19 GA, GALVANIZED

INSTALLATION NOTES:

- INSTALL VALVE BOX FLUSH WITH FINISH GRADE IN TURF AND 1" ABOVE FINISH GRADE IN SHRUB AREAS.
- KEEP BRICKS AWAY FROM PIPE.

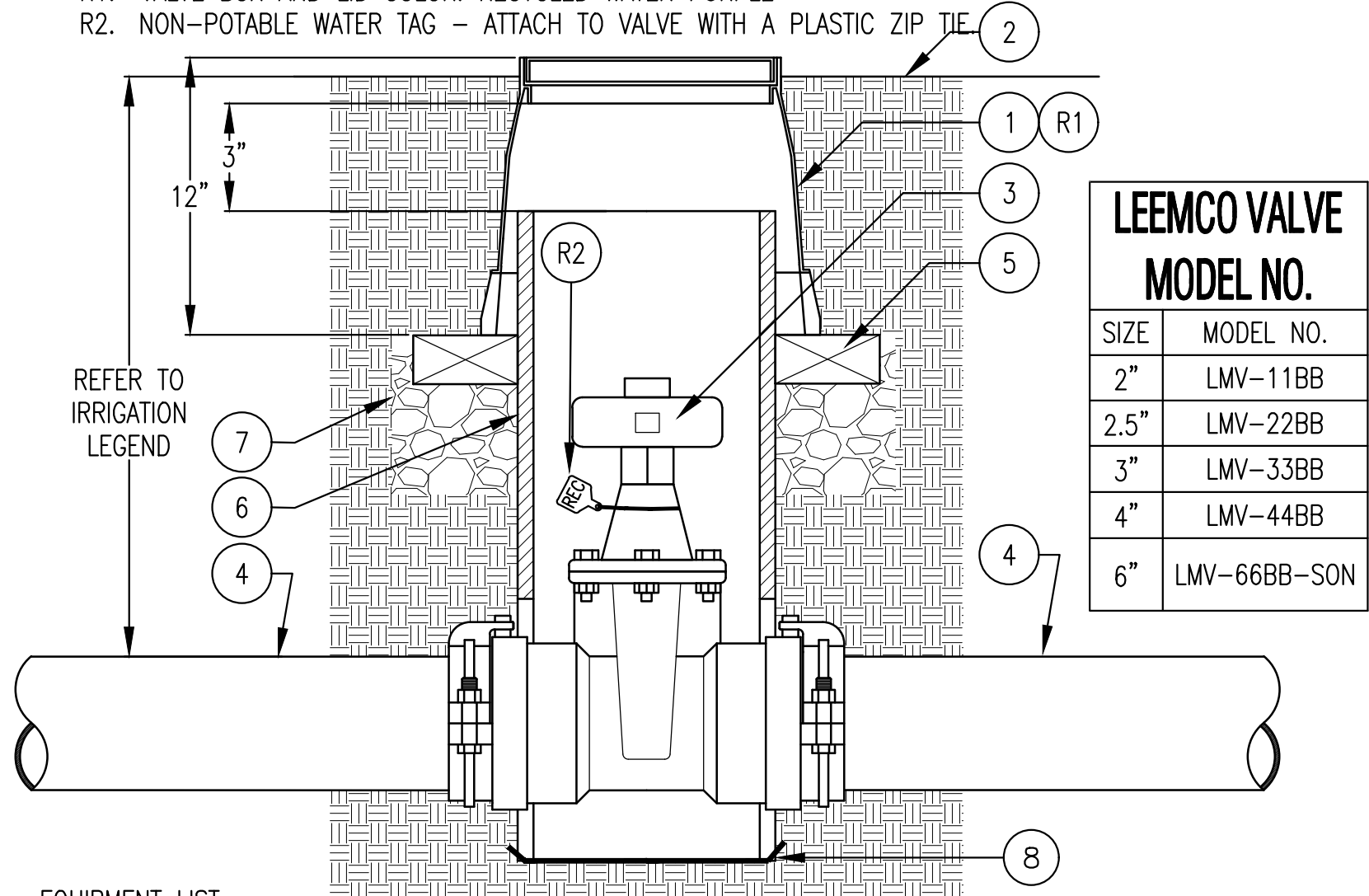
1 GATE VALVE, THREADED (1.5")

NOT TO SCALE

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NON-POTABLE WATER ITEMS:

- R1. VALVE BOX AND LID COLOR: RECYCLED WATER PURPLE
R2. NON-POTABLE WATER TAG – ATTACH TO VALVE WITH A PLASTIC ZIP TIE.



EQUIPMENT LIST:

(REFER TO BUBBLED NUMBERS)

- 10" ROUND PLASTIC VALVE BOX WITH PLASTIC BOLT-DOWN LID.
- FINISH GRADE
- LEEMCO GATE VALVE, BELL CONNECTIONS WITH INTEGRAL RESTRAINTS. UNLESS OTHERWISE NOTED, PLACE VALVE IN THE OPEN POSITION. BOLT TORQUE: 3" = 20 FT-LBS; 4", 6" & 8" = 50 FT-LBS.
- MAIN LINE PIPE (ACCORDING TO LEGEND AND SPECIFICATIONS)
- BRICK BASE (2 TOTAL, 180 DEGREES APART)
- 10" SCH. 40 OR CLASS 200 PVC RISER-NOTCH RISER TO FIT OVER PIPE
- CRUSHED GRAVEL BASE, 6" DEEP, ALL AROUND
- METAL WIRE MESH TO PREVENT GOPHER INTRUSION, 1/2" MESH, 19 GA, GALVANIZED

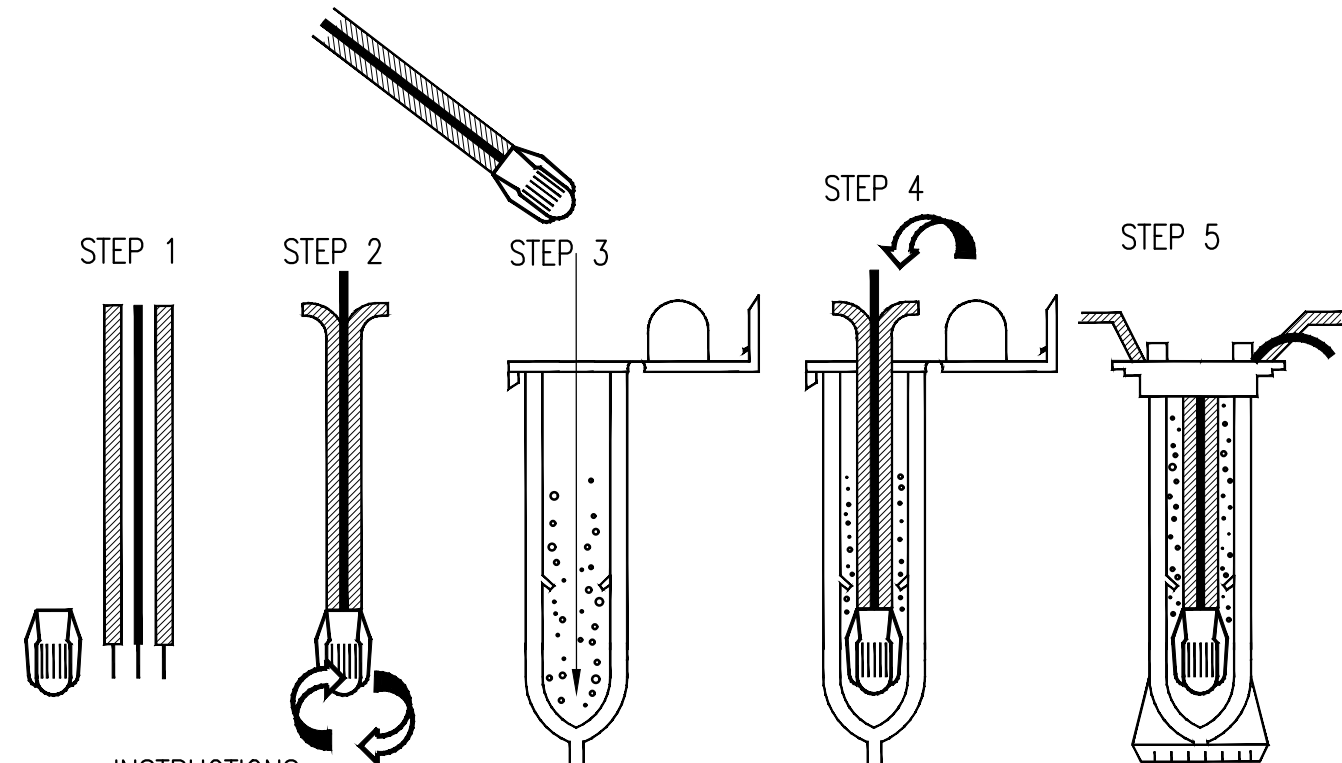
INSTALLATION NOTES:

- INSTALL VALVE BOX FLUSH WITH FINISH GRADE IN TURF AND 1" ABOVE FINISH GRADE IN SHRUB AREAS.
- KEEP BRICKS AWAY FROM PIPE.

4 GATE VALVE, LEEMCO WITH BELL CONNECTIONS & RESTRAINTS (4")

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INSTRUCTIONS:

- STRIP WIRES APPROXIMATELY 1/2" TO EXPOSE WIRE.
- TWIST CONNECTOR AROUND WIRES CLOCKWISE UNTIL HAND TIGHT, DO NOT OVERTIGHTEN.
- INSERT WIRE ASSEMBLY INTO PLASTIC TUBE UNTIL WIRE CONNECTOR SNAPS PAST LIP IN BOTTOM OF TUBE.
- PLACE WIRES WHICH EXIT TUBE IN WIRE EXIT HOLES AND CLOSE CAP UNTIL IT SNAPS.
- INSPECT FINAL SPLICE ASSEMBLY TO BE SECURE AND FINISHED.

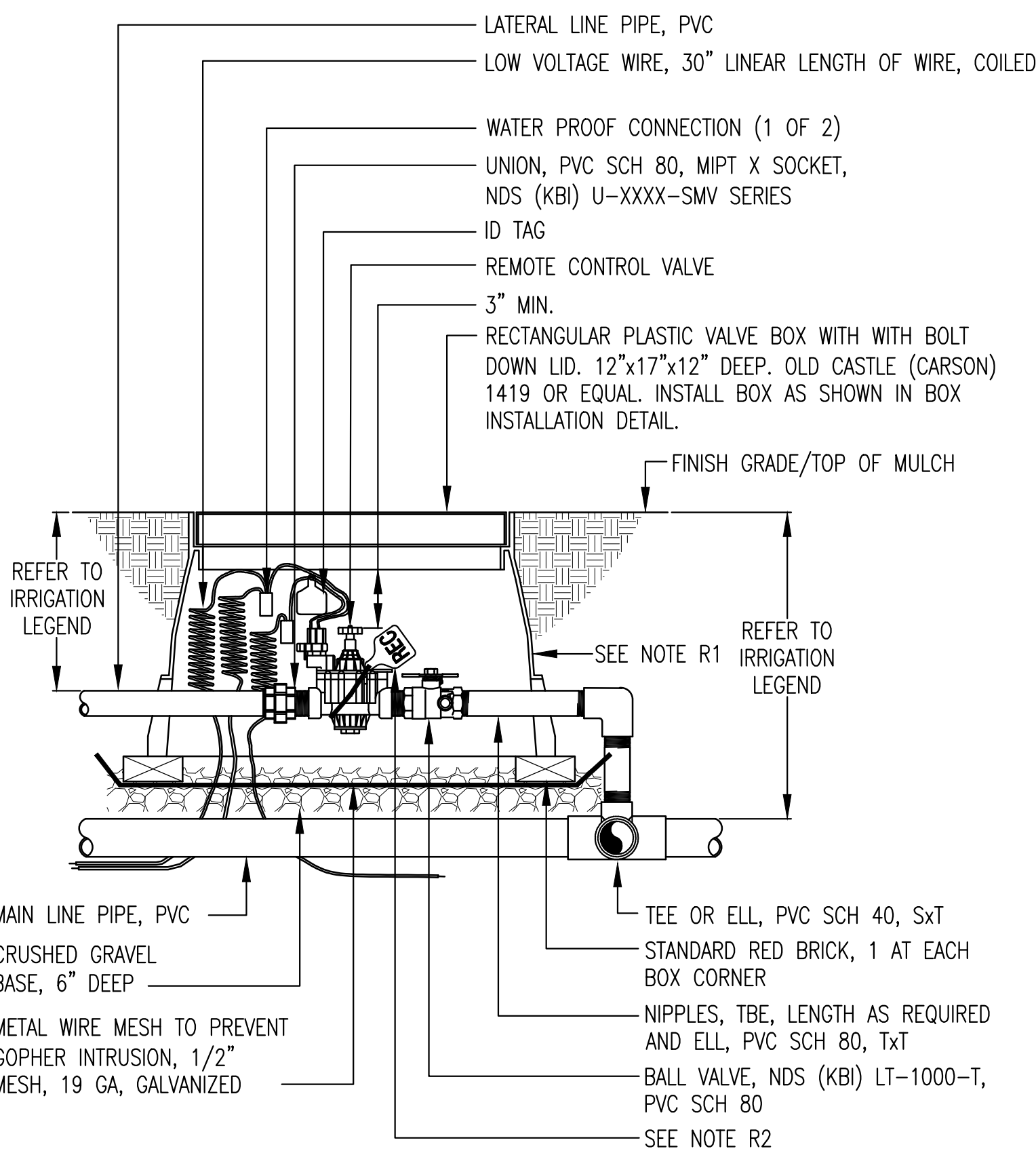
2 WIRE SPLICE

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NON-POTABLE WATER ITEMS:

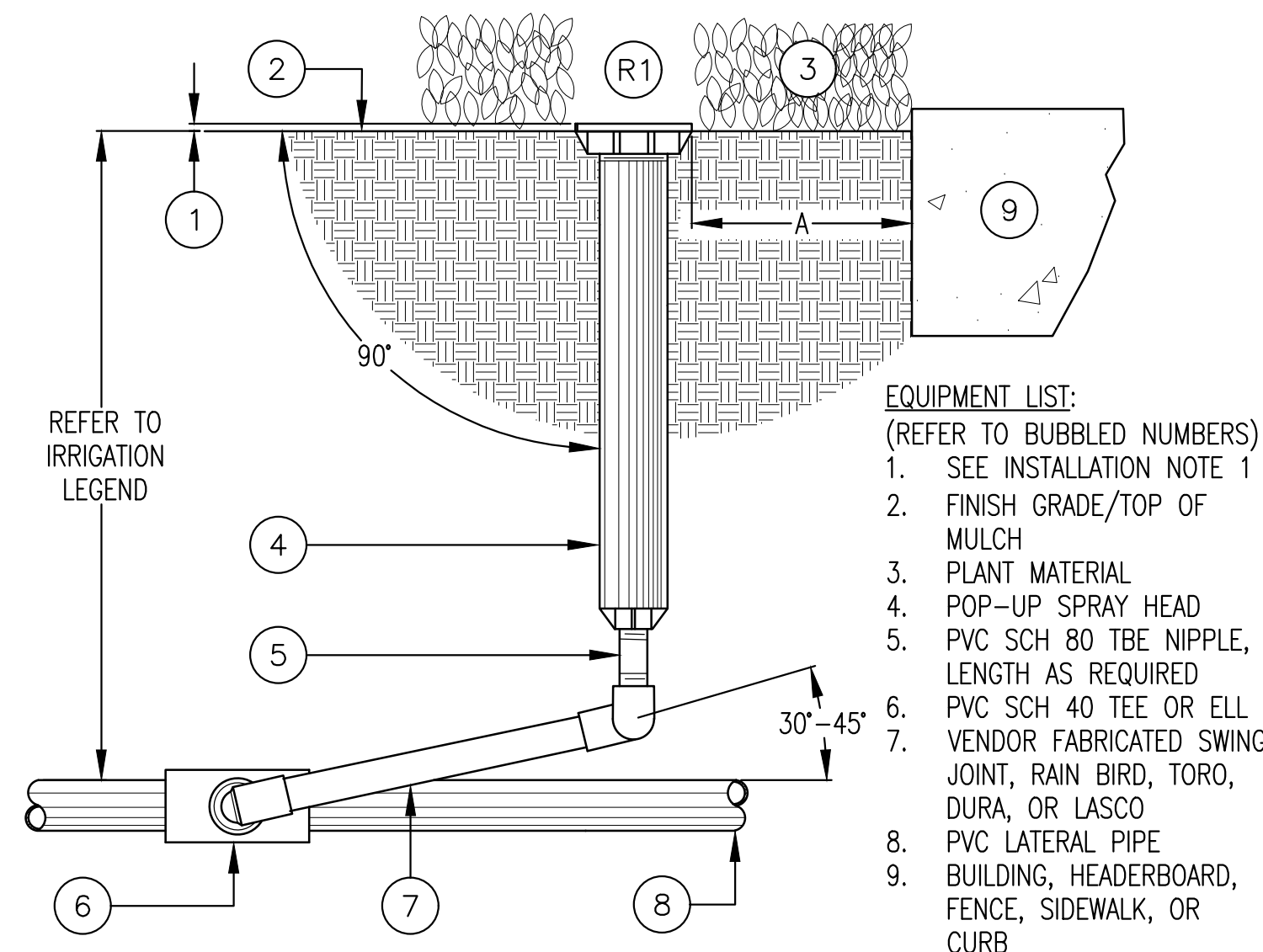
- R1. VALVE BOX AND LID COLOR: RECYCLED WATER PURPLE
R2. RED WELL WATER TAG – ATTACH TO VALVE WITH A PLASTIC ZIP TIE.



5 REMOTE CONTROL VALVE (SPRAY AND BUBBLER ZONES)

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EQUIPMENT LIST:

(REFER TO BUBBLED NUMBERS)

- SEE INSTALLATION NOTE 1
- FINISH GRADE/TOP OF MULCH
- PLANT MATERIAL
- POP-UP SPRAY HEAD
- PVC SCH 80 TBE NIPPLE, LENGTH AS REQUIRED
- PVC SCH 40 TEE OR ELL VENDOR FABRICATED SWING JOINT, RAIN BIRD, TORO, DURA, OR LASCOR
- PVC LATERAL PIPE
- BUILDING, HEADERBOARD, FENCE, SIDEWALK, OR CURB

NON-POTABLE WATER ITEMS:

- R1. TOP OF HEADS MUST CLEARLY INDICATE THE USE OF NON-POTABLE WATER.

INSTALLATION NOTES:

- INSTALL TOP OF HEAD 1" ABOVE FINISH GRADE IN SHRUB AREAS AND FLUSH WITH GRADE IN TURF AREAS. SIDE INLET USE IS NOT PERMITTED.
- DIMENSION "A": INSTALL HEAD 4" FROM HEADERBOARD OR FENCE AND 24" FROM BUILDINGS AND NON-PERMEABLE PAVED SURFACES.
- INSTALL HEAD PERPENDICULAR TO FINISHED GRADE.
- PRIOR TO NOZZLE INSTALLATION, FLUSH HEAD WITH WATER USING MANUFACTURER'S FLUSH NOZZLE TO ELIMINATE DEBRIS FROM WITHIN HEAD AND RISER.
- INSTALL NOZZLE SCREEN. INSTALL NOZZLE, HAND TIGHT. RATCHET POP-UP RISER AND ADJUST VARIABLE ARC NOZZLES SO NOZZLE SPRAY IS WITHIN PLANTED AREA. NO OVERSPRAY ON WINDOWS, BUILDINGS, STREETS OR PAVEMENT.

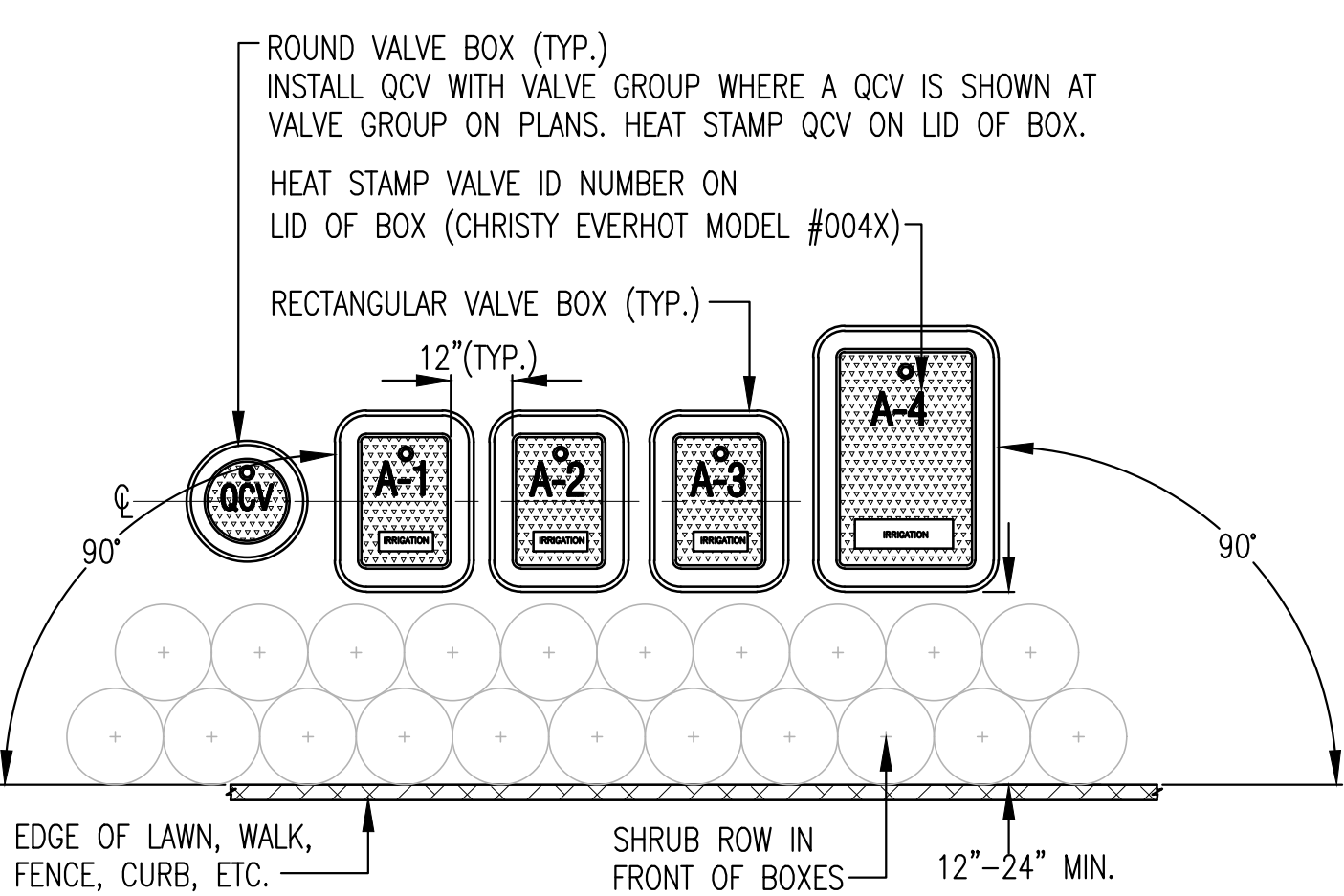
3 POP-UP SPRAY

NOT TO SCALE

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NON-POTABLE WATER ITEMS:

1. VALVE BOX AND LID COLOR: RECYCLED WATER PURPLE



INSTALLATION NOTES:

- INSTALL VALVE BOXES AS SHOWN IN THE DETAIL ABOVE.
- INSTALL VALVE BOX ASSEMBLIES IN SHRUB OR GROUND COVER ZONES. VALVE ASSEMBLIES INSTALLED IN A TURF ZONE IS PERMITTED ONLY IF A SHRUB OR GROUND COVER AREA DOES NOT EXIST IN THE PROXIMITY OF THE IRRIGATION ZONE.
- PLACE THE CENTER OF THE VALVE BOX OVER THE CENTER OF THE REMOTE CONTROL VALVE. INSTALL VALVE BOX IN A WAY TO ENABLE EASY SERVICING OR REMOVAL OF VALVE.
- INSTALL TOP OF BOX 1" ABOVE FINISHED GRADE IN SHRUB OR GROUND COVER AREAS OR EQUAL TO THE DEPTH OF THE MULCH AND FLUSH WITH GRADE IN TURF ZONES. INSTALL THE TOP OF BOX AT THE SAME ANGLE AS THE FINISHED GRADE.
- PREVENT THE COLLAPSE AND DEFORMATION OF VALVE BOX SIDES. DO NOT HEAVILY COMPACT SOIL AGAINST THE SIDES OF THE VALVE BOX.
- INSTALL EXTENSION RISERS TO VALVE BOX AS REQUIRED TO COMPLETELY ENCLOSE VALVE ASSEMBLY. PROVIDE EXTENSION RISER MANUFACTURED BY THE SAME MANUFACTURER OF THE VALVE BOX.
- PREVENT SOIL INTRUSION INTO THE BOX. USE 20 MIL POLYETHYLENE TAPE AROUND PIPE CUTOUPS AS NEEDED.
- SAWCUTTING OR MODIFYING THE VALVE BOXES BEYOND WHAT THE MANUFACTURER ALLOWS IS NOT PERMITTED.
- WHEN ASSEMBLY IS COMPLETE INSTALL THE GRAVEL BELOW THE VALVE. FINISHED GRAVEL SHALL BE CLEAN WITHOUT DEBRIS IN THE VALVE BOX.
- WHEN WORK IS COMPLETE AND ACCEPTED BY THE DISTRICT OR TO PREVENT VANDALISM, BOLT DOWN THE LIDS.

6 BOX INSTALLATION

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JDE PROJECT NO: 20036

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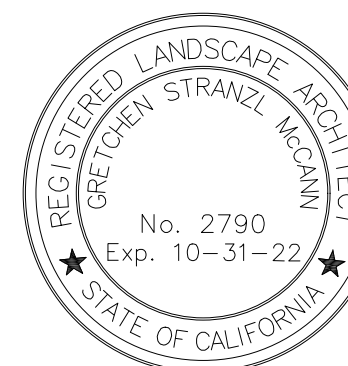
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PTN: 61721-77 FILE NO: 7-H4

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MAY 10, 2021

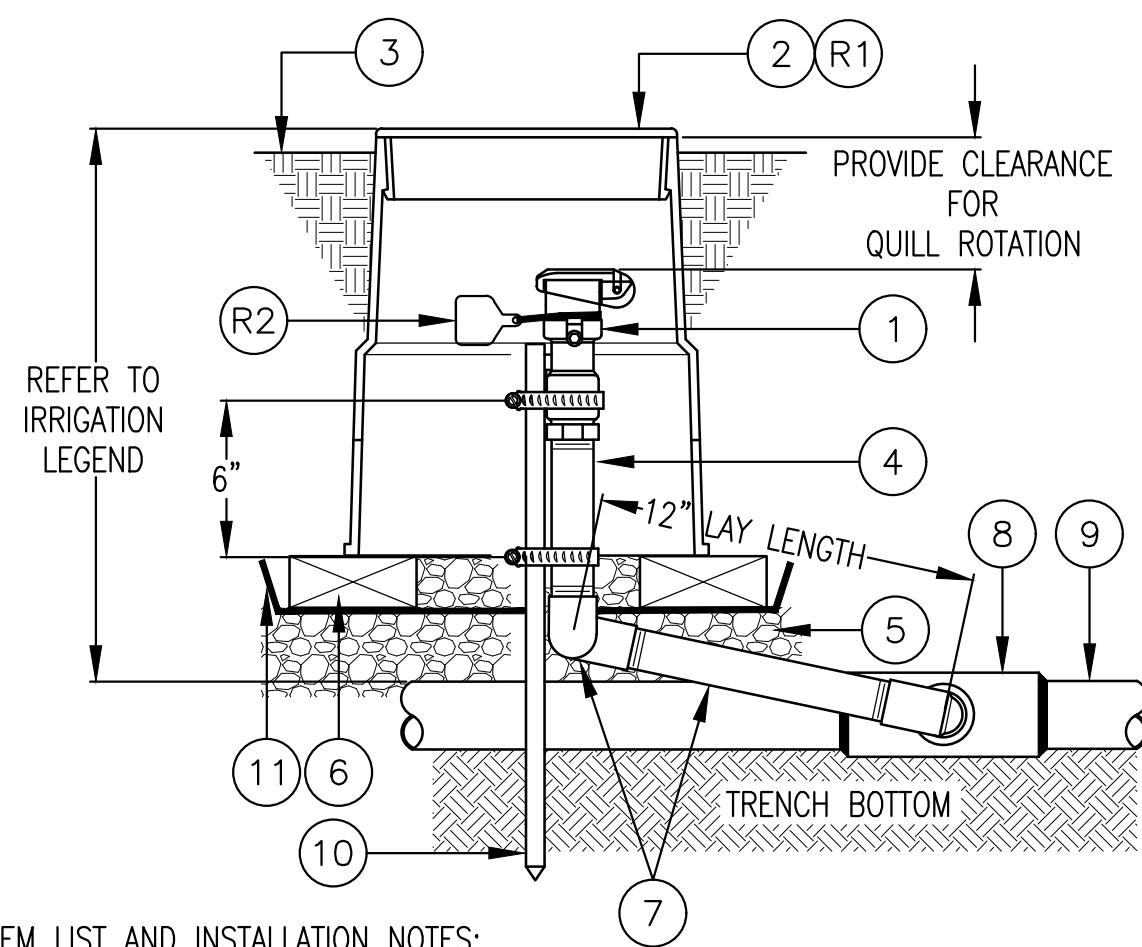
SHEET TITLE

IRRIGATION
DETAILS

SHEET NUMBER

L3.2

NON-POTABLE WATER ITEMS:
R1. VALVE BOX AND LID COLOR: RECYCLED WATER PURPLE
R2. RED WELL WATER TAG – ATTACH TO VALVE WITH A PLASTIC ZIP TIE.



ITEM LIST AND INSTALLATION NOTES:

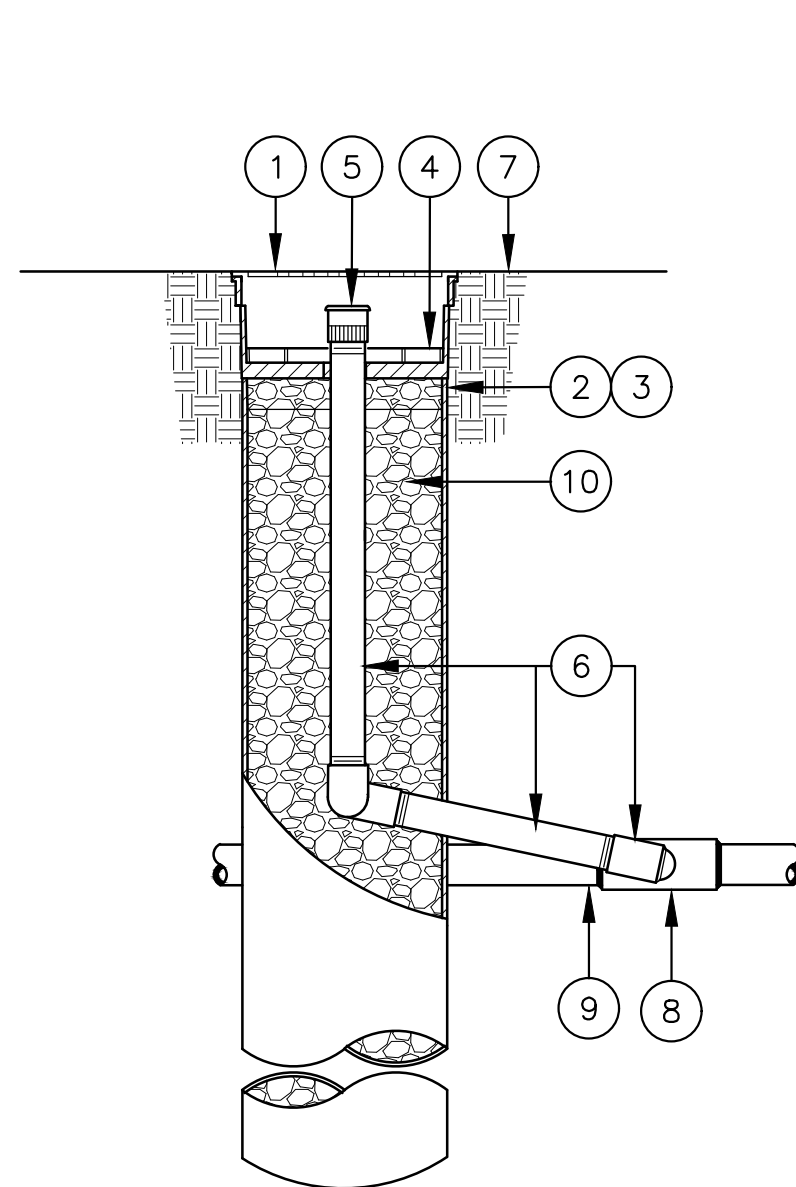
1. QUICK COUPLING VALVE – INSTALL VALVE PERPENDICULAR TO FINISHED GRADE UNLESS FIELD CONDITIONS REQUIRE ADJUSTMENT. INSTALL IN OUT-OF-PLAY OR PEDESTRIAN ACCESS AREAS. UNLESS OTHERWISE NOTED, FITTINGS ARE THE SAME IPT SIZE AS THE VALVE IPT INLET THREAD SIZE.
2. PLASTIC VALVE BOX AND LID, 10" ROUND, BOLT-DOWN LID – INSTALL VALVE BOX FLUSH WITH FINISH GRADE IN TURF AND 1" ABOVE FINISH GRADE IN SHRUB AREAS
3. FINISH GRADE OR TOP OF MULCH
4. PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
5. CRUSHED GRAVEL BASE, 6" DEEP
6. COMMON BRICK, 2 TOTAL, 180 DEGREES APART
7. SWING JOINT ASSEMBLY:
 - A. FINGER TIGHTEN O-RING JOINTS AND BACK-OFF ONE FULL TURN TO ALLOW FOR SWING ACTION.
 - B. PROVIDE 12" BETWEEN CENTER LINES OF ELBOWS ON SWING ARM.
 - C. INSTALL THE SWING JOINT LAY ARM AT AN ANGLE BETWEEN 30° AND 45° OF THE LATERAL IN ORDER TO ABSORB DOWNWARD IMPACT.
 - D. SWING JOINT MANUFACTURER: RAIN BIRD SWJ SERIES, 1" DURA STANDARD UNI-BODY MODEL 1-A2-2-1-12, OR APPROVED EQUAL.
8. TEE, ELBOW OR SADDLE CONNECTION (PER MAIN LINE FITTING SPECIFICATIONS)
9. MAIN LINE PIPE, (MATERIAL AND TYPE PER LEGEND AND SPECIFICATIONS)
10. #4 X 24" REBAR STAKE W/STAINLESS STEEL GEAR CLAMPS OR EQUIVALENT SUPPORT SYSTEM
11. METAL WIRE MESH TO PREVENT GOPHER INTRUSION, 1/2" MESH, 19 GA, GALVANIZED

1 QUICK COUPLING VALVE IN LANDSCAPED AREAS
NOT TO SCALE

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INSTALLATION NOTES:

1. INSTALL QUANTITY OF BUBBLERS PER LEGEND, SEE SHEET L3.1.
2. INSTALL DEEP WATERING TUBE ADJACENT AND AGAINST THE ROOTBALL.

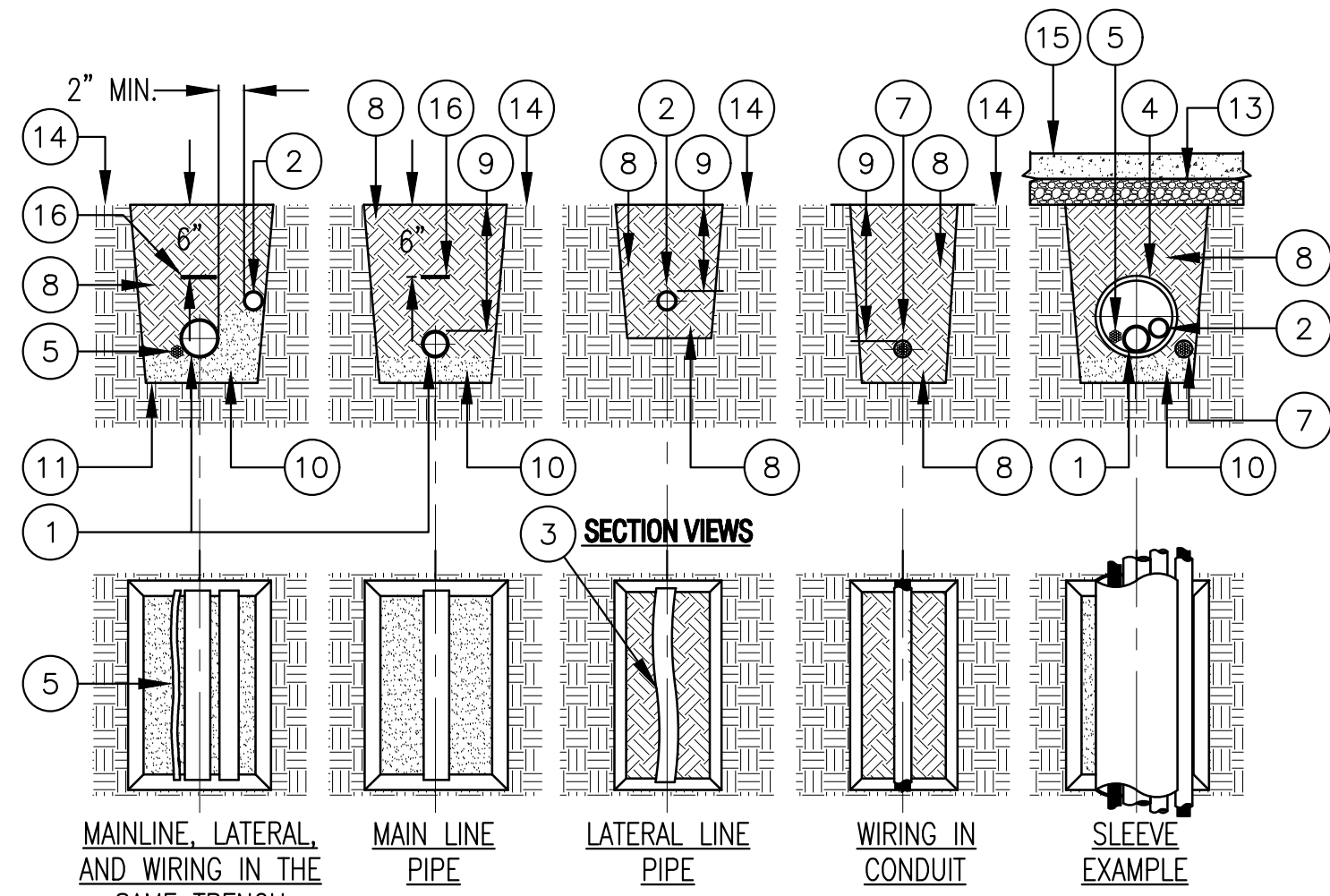


1. ROOT WATERING SYSTEM: RAIN BIRD RWS-BG (INCLUDES CANISTER, BUBBLER WITH SWING JOINT RISER AND GRATE)
2. 4" BASKET WEAVE CANISTER* –PLACE AGAINST TREE ROOTBALL
3. RAIN BIRD RWS SOCK*
4. 4" GRATE*
5. BUBBLER*
6. RAIN BIRD SWING JOINT RISER ASSEMBLY*
7. FINISH GRADE
8. PVC SCH 40 TEE OR ELL
9. LATERAL PIPE
10. PLACE DRAIN ROCK INSIDE THE CANISTER FROM UNDER THE BUBBLER PLATE TO THE BOTTOM OF THE CANISTER

* RAIN BIRD ROOT WATERING SYSTEM INCLUDES CANISTER, BUBBLER, SWING JOINT RISER, SOCK AND PURPLE GRATE

4 TREE DEEP ROOT WATERING SYSTEM
NOT TO SCALE

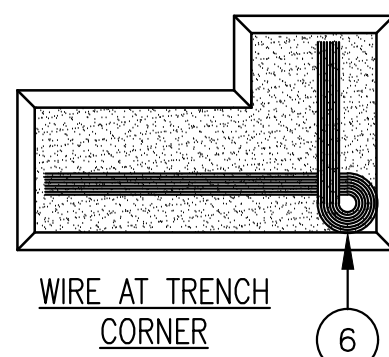
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PLAN VIEWS

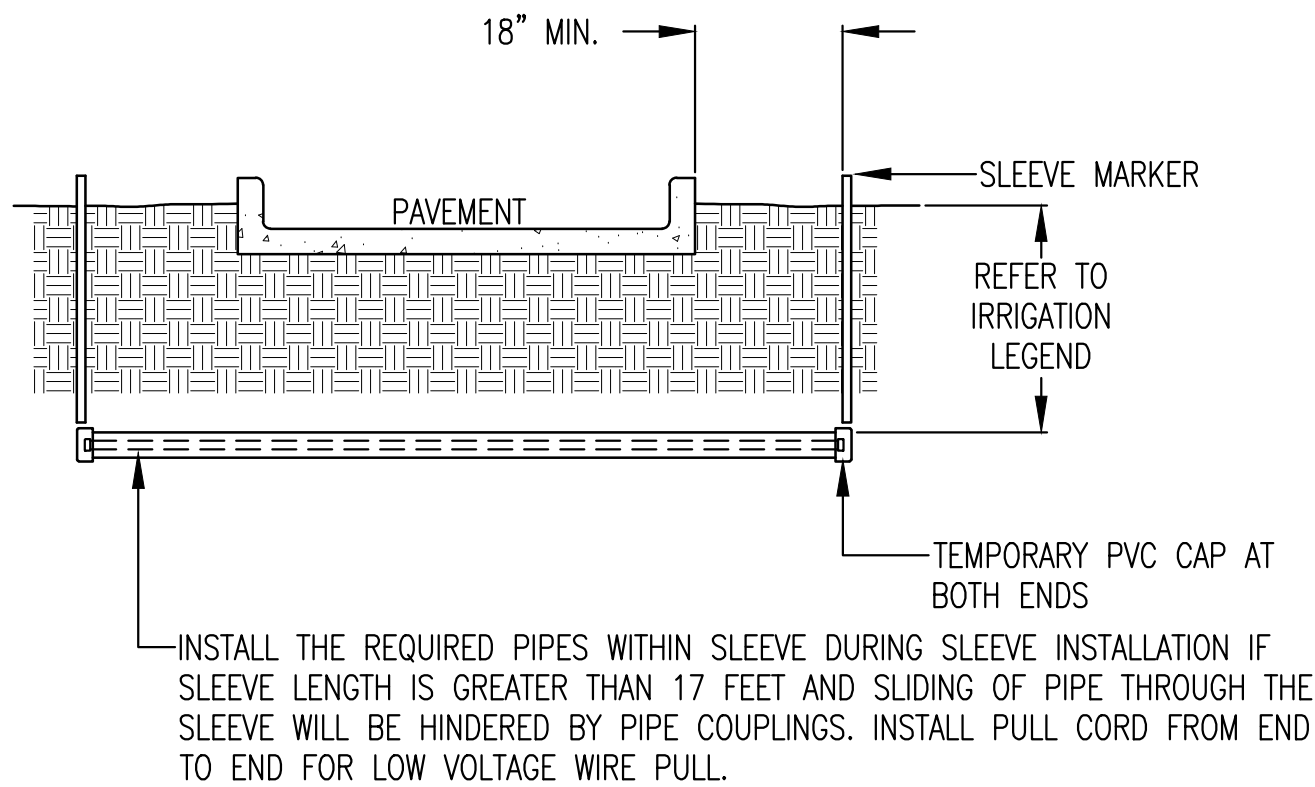
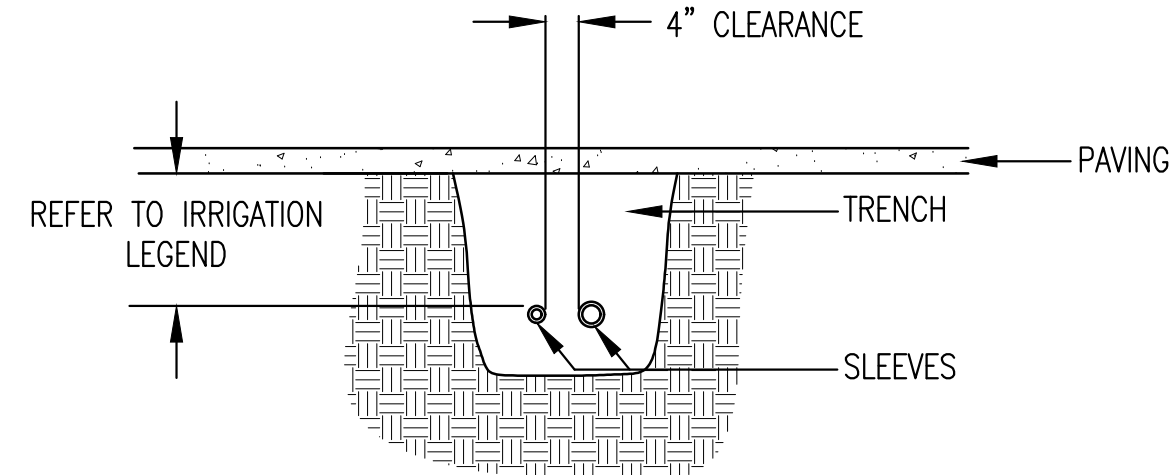
ITEM LIST AND INSTALLATION NOTES:

1. MAIN LINE PIPE; PROVIDE A MINIMUM OF 2" BETWEEN ALL PIPES.
2. LATERAL LINE PIPE; PROVIDE A MINIMUM OF 2" BETWEEN ALL PIPES.
3. SNAKE SOLVENT WELD PLASTIC PIPING IN TRENCH AS SHOWN.
4. SLEEVE BELOW ALL HARDSCAPE ELEMENTS WITH SLEEVING TWICE THE DIAMETER OF THE PIPE OR WIRE BUNDLE WITHIN.
5. WIRE BUNDLE: INSTALL WIRING BENEATH AND BESIDE MAIN LINE. TAPE AND BUNDLE AT 10-FOOT INTERVALS.
6. TIE A 24-INCH LOOP IN WIRING AT CHANGES OF DIRECTION OF 30° OR GREATER. UNTIE AFTER ALL CONNECTIONS HAVE BEEN MADE.
7. LOW VOLTAGE WIRE CONDUIT (WHERE SPECIFIED).
8. CLEAN BACKFILL PER THE SPECIFICATIONS, TYPICAL.
9. FOR PIPE, SLEEVE AND WIRE BURIAL DEPTHS, REFER TO IRRIGATION LEGEND AND SPECIFICATIONS.
10. PROVIDE A SAND BED FOR PIPE.
11. TRENCH BOTTOM OF UNDISTURBED SOIL, TYPICAL.
12. WHERE BORING UNDER EXISTING PAVEMENT IS REQUIRED – REFER TO DRAWINGS FOR SPECIFIC INFORMATION.
13. PAVEMENT AND SUBGRADE
14. FINISH GRADE
15. PAVED OR CONCRETE SURFACE
16. DETECTABLE WARNING TAPE PER SPECIFICATIONS



2 TRENCH
NOT TO SCALE

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NOTES:

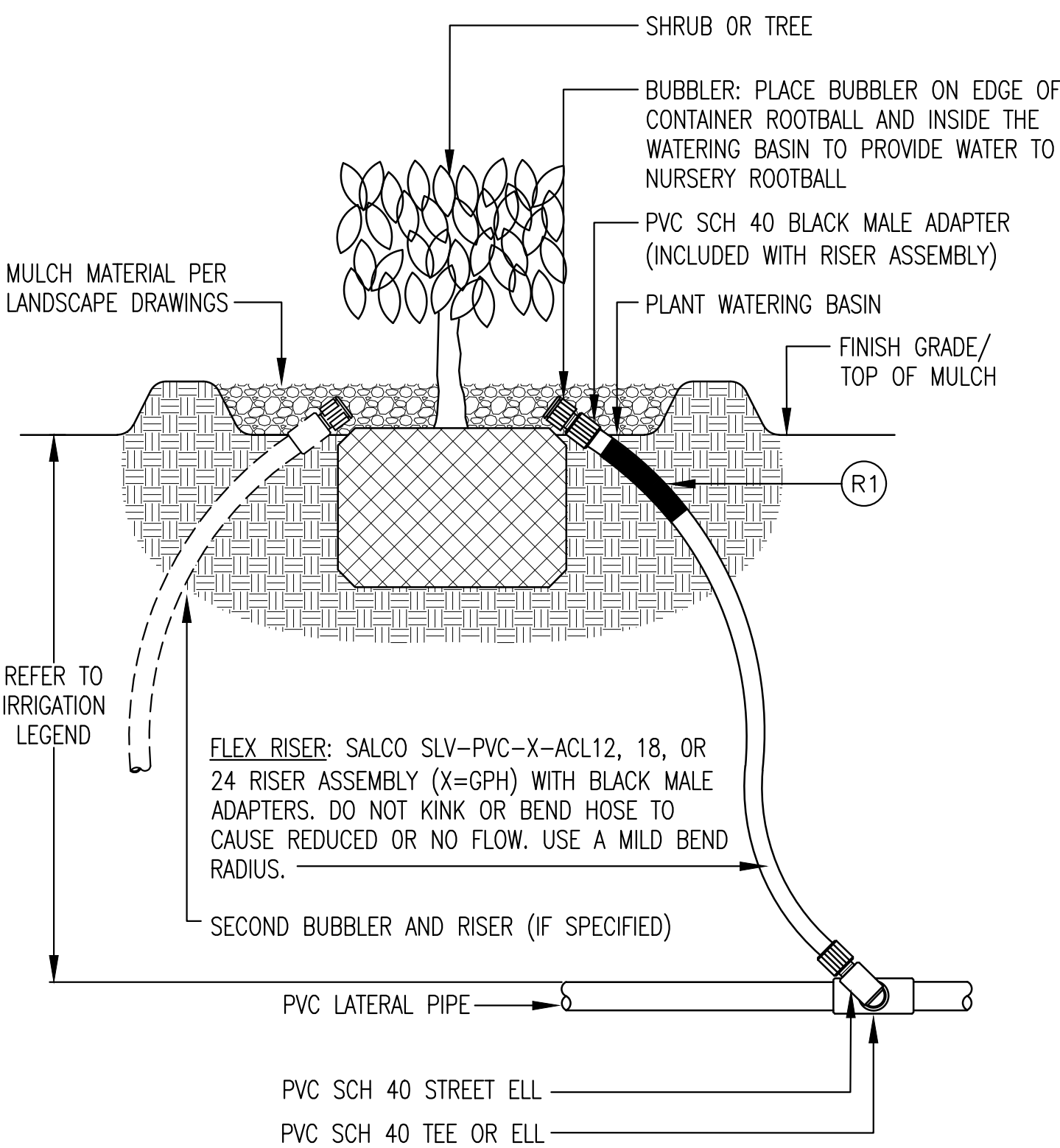
1. IRRIGATION SLEEVES TO BE PVC CLASS 200 OR SCH 40 PIPE. USE THE PIPE WITH THE THICKEST WALL DIMENSION.
2. JOINTS TO BE SOLVENT WELDED AND WATERTIGHT.
3. IF PIPING IS TO BE INSTALLED AFTER SLEEVING IS BACKFILLED, MARK SLEEVE LOCATION WITH A T. CHRISTY ENTERPRISES FIBERGLASS COMPOSITE MARKING POST, LABELED "IRRIGATION", EXPOSED AT GRADE, MODEL #ID-SF66-IRR.
4. MECHANICALLY TAMP BACKFILL TO 95% COMPACTION.
5. INSTALL SLEEVES LEVEL AND AFTER PIPE INSTALLATION, SEAL ENDS OF PIPE WITH GROUT TO PREVENT ROOT INTRUSION INTO THE SLEEVE.

3 SLEEVE INSTALLATION
NOT TO SCALE

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NON-POTABLE WATER ITEMS:

- R1. GREEN WELL WATER RISER MARKER – ATTACH TO FLEX RISER, USE T. CHRISTY ENTERPRISES RISER MARKER, MODEL #5200 WITH ADHESIVE BACKING.



6 SHRUB OR TREE BUBBLER RISER
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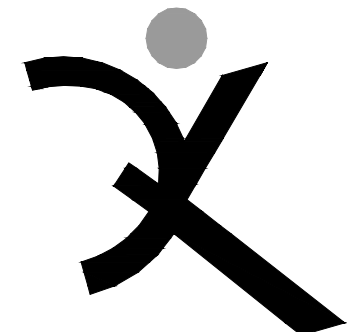
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HERITAGE
HIGH SCHOOL

NEW CLASSROOM
BUILDINGS
INCREMENT 2 OF 2

101 AMERICAN AVE,
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LIBERTY UNION
HIGH SCHOOL
DISTRICT

REVISIONS	

DSA APP NO. 01-119268

ARCH PROJECT NO: 1870.00
DRAWN BY: ST/JE
DRAWING SCALE: 1"=20'-0"
PTN: 61721-77 FILE NO: 7-H4

BID SET

MAY 10, 2021

SHEET TITLE

IRRIGATION
DETAILS

SHEET NUMBER

L3.3

LEEMCO FITTING & JOINT RESTRAINT CONSTRUCTION DETAILS (also refer to the Leemco's current guidelines and recommendations)

LEEMCO JOINT RESTRAINTS DISTANCE TABLES:

SIZE REDUCTION, REDUCERS

TABLES BELOW SHOW "L" DISTANCES IN FEET. WHEN AN ADJACENT JOINT TO A REDUCER OR A REDUCING TEE IS WITHIN THIS DISTANCE, OTHER JOINTS ON THE LARGER DIAMETER END MUST BE RESTRAINED.

TABLE VALUES ARE LISTED FOR 125 PSI LINE PRESSURE.

TABLE VALUES ARE BASED ON TYPE 3 TRENCHING AND COMPACTNESS METHOD, 30" COVER AND A SAFETY FACTOR OF 2. DESIGN COVER IS 36".

BENDS, DEAD ENDS

TABLES BELOW SHOW "L" DISTANCES. WHEN AN ADJACENT JOINT TO A BEND IS WITHIN THIS DISTANCE, THE JOINT MUST BE RESTRAINED. FOR BENDS ADJACENT JOINTS ON BOTH SIDES OF THE BEND REQUIRE RESTRAINTS. USE THE 90-DEGREE BEND VALUES FOR THE SIDE (BRANCH) OUTLET OF TEE'S.

TABLE VALUES ARE LISTED FOR 125 PSI LINE PRESSURES.

TABLE VALUES ARE BASED ON TYPE 3 TRENCHING AND COMPACTNESS METHOD, 30" COVER AND A SAFETY FACTOR OF 2. DESIGN COVER IS 36".

SANDY-CLAY SOIL MIXTURE					
TABLE A-125 PSI LINE PRESSURE					
PIPE SIZE	DEGREE OF BEND				DEAD END
	11"	22"	45"	90"	
	DISTANCE IN FEET				
3"	2	3	5	11	30
4"	2	4	9	20	45
6"	3	6	13	29	63

SANDY-CLAY SOIL MIXTURE	
SIZE REDUCTION	TABLE A-125 PSI LINE PRESSURE DISTANCE IN FEET
3 x 2	10
3 x 2.5	8
4 x 2	31
4 x 2.5	20
4 x 3	14

NOTE: ALL DI FITTINGS SHALL BE WRAPPED COMPLETELY WITH T. CHRISTY POLYETHYLENE FITTING WRAP SECURED WITH CHRISTY'S PIPE WRAP TAPE.

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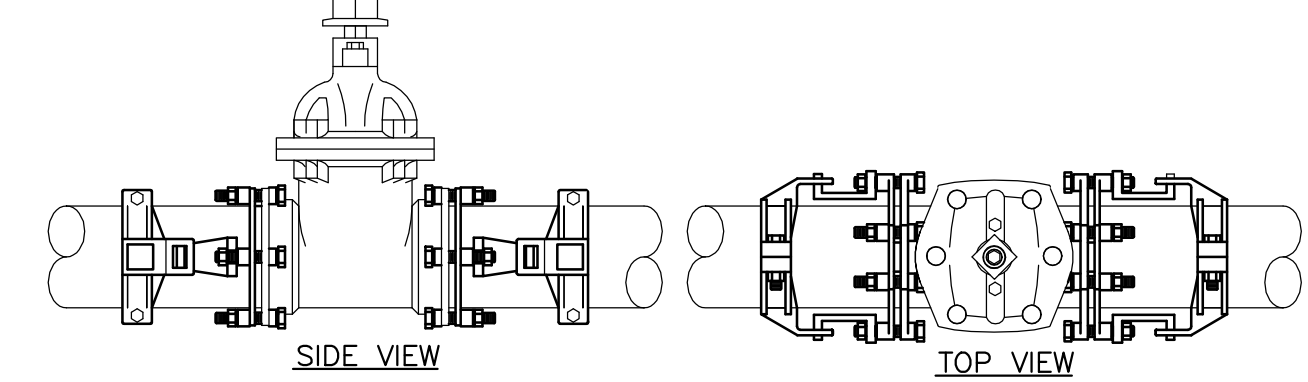
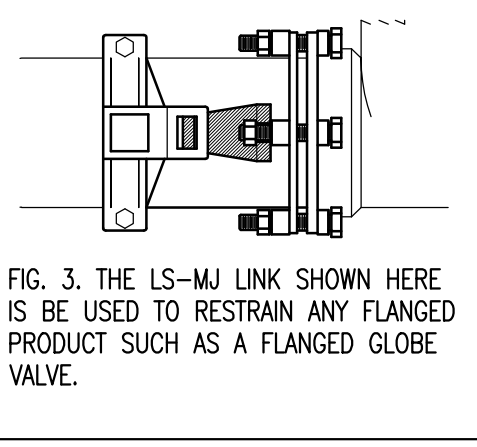
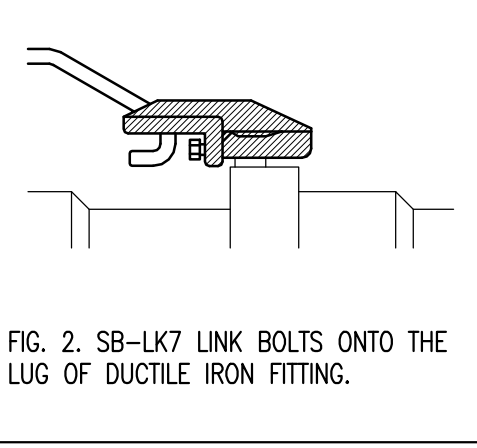
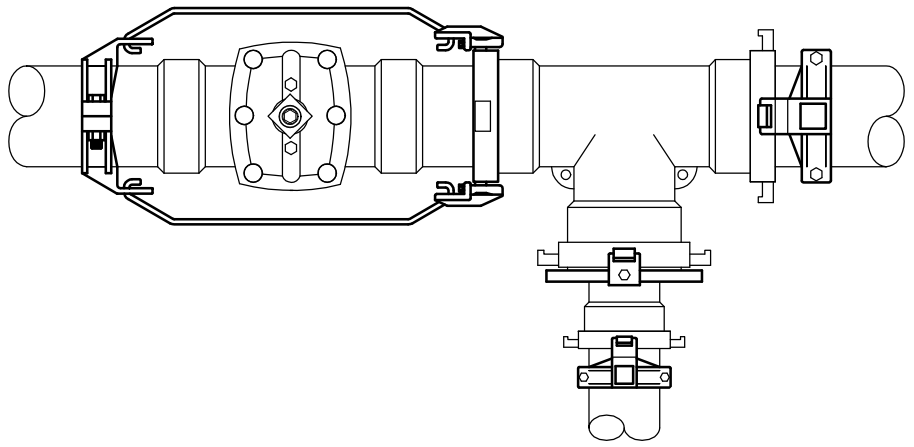


FIG. 1. TOP AND SIDE VIEW OF THE RESTRAINED GATE VALVE. THE SB-LK7 LINKS BOLT ONTO THE LUGS OF THE FITTING. THE RESTRAINT BARS SPAN ACROSS THE VALVE AND ATTACH TO THE JOINT RESTRAINT SECURED TO THE PIPE.

FIG. 2. SB-LK7 LINK BOLTS ONTO THE LUG OF DUCTILE IRON FITTING.

FIG. 3. THE LS-MJ LINK SHOWN HERE IS BE USED TO RESTRAIN ANY FLANGED PRODUCT SUCH AS A FLANGED GLOBE VALVE.

FIG. 4. THE LS-MJ LINKS ATTACH TO THE FLANGE OF AN MJ GATE VALVE OR A FLANGED DEVICE.

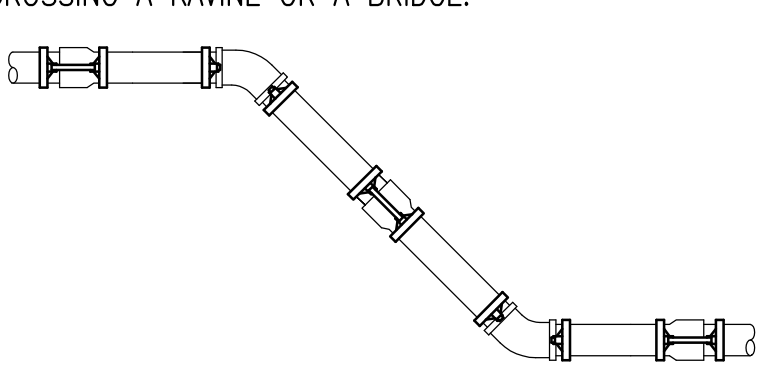
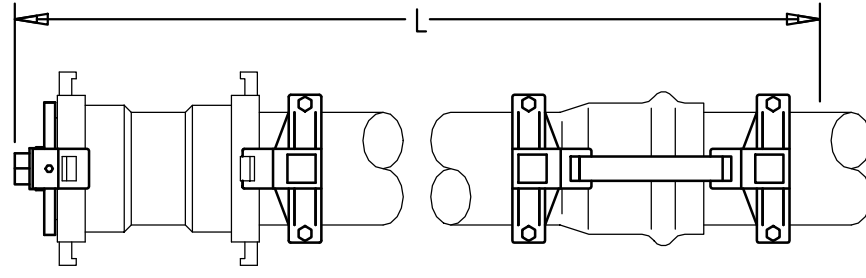
1

GATE VALVES, MJ & FLANGED CONNECTIONS

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- NOTES:
- A DEAD-END WILL REQUIRE SEVERAL UPSTREAM JOINTS TO BE RESTRAINED. REFER TO DISTANCE CHART FOR NUMBER OF UPSTREAM JOINTS TO BE RESTRAINED.
 - WHEN CROSSING A RAVINE, ROADWAY, OR A STREAM BED, USE JOINT RESTRAINTS ON ALL JOINTS TO PREVENT BUCKLING.



CAPPING, PLUGGING OR TERMINATING A LINE WITH A GATE VALVE CAUSES A DEAD-END.

DEADEND RESTRAINT

RESTRAIN JOINTS IN VERTICAL OFFSETS SUCH AS CROSSING A RAVINE OR A BRIDGE.

VIEWED LEFT TO RIGHT: ROAD OR RAVINE CROSSING.
VIEWED RIGHT TO LEFT: BRIDGE CROSSING.

BRIDGE, RAVINE, ROAD WAY CROSSING RESTRAINT

5

LEEMCO-DEADEND OR CROSSINGS

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2

PUSH-ON GATE VALVES

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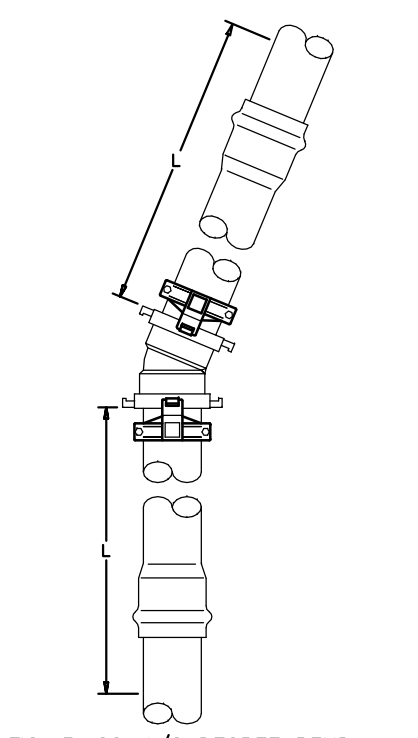
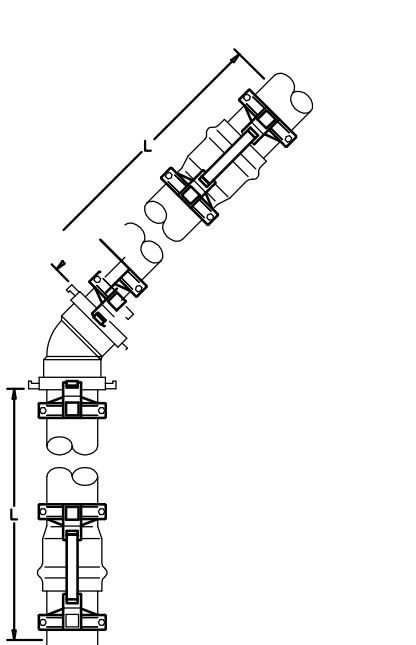
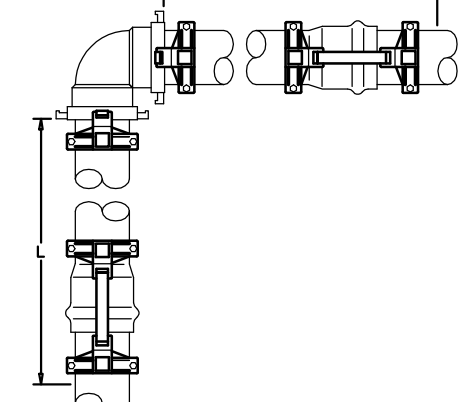


FIG. 1. 90 DEGREE BEND

FIG. 2. 45 DEGREE ELBOW - IN SOME CASES THE ADJACENT JOINTS NEED RESTRAINTS.

FIG. 3. 22-1/2 DEGREE BEND - NO NEED FOR ADJACENT RESTRAINTS.

6

ELBOW RESTRAINTS

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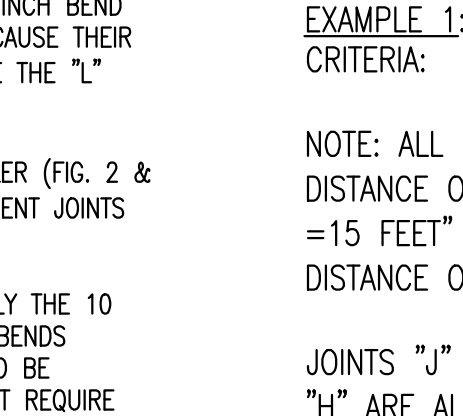
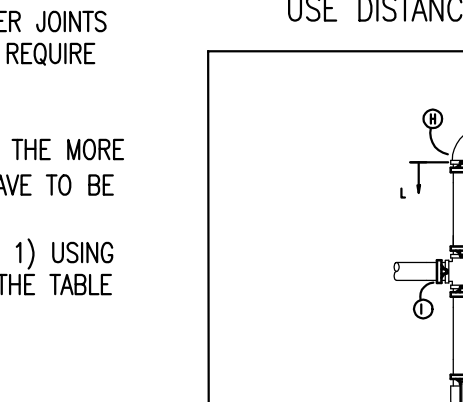
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3

TEE RESTRAINTS

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USE DISTANCE TABLES TO DETERMINE NUMBER AND DISTANCE OF JOINT RESTRAINTS

EXAMPLE 1: 8" PIPING SYSTEM
CRITERIA: SANDY-CLAY SOIL, 125 PSI

NOTE: ALL BENDS ARE RESTRAINED; JOINT "B" IS RESTRAINED BECAUSE IT'S DISTANCE OF 15 FEET AWAY FROM JOINT "C" (45 BEND) IS LESS THAN THE "L" =15 FEET" (FROM TABLE VALUE). JOINT "D" IS NOT RESTRAINED BECAUSE IT'S DISTANCE OF 20 FEET FROM "C" IS FARTHER THAN TABLE VALUE OF 15 FEET.

JOINTS "J" (15 FEET), "K" (35 FEET), AND "G" (20 FEET) AWAY FROM 90-BEND "H" ARE ALL WITHIN THE 38 FEET ALLOWED DISTANCE "L" TABLE VALUE.

EXAMPLE 2: 12 INCH PIPING SYSTEM: WITH THE "L" TABLE VALUES OF 21 FEET FOR A 45 BEND AND 53 FEET FOR A 90-BEND, RESTRAIN JOINTS AS FOLLOWS:

JOINT A: WON'T REQUIRE A RESTRAINT BECAUSE ITS 35 FEET DISTANCE AWAY IS FURTHER OUT THAN 21-FOOT REQUIREMENT. JOINTS B & D: BOTH WITHIN 21 FEET OF "C" WILL NEED TO BE RESTRAINED.

JOINTS G,J,K ARE ALL WITHIN THE 53 FEET OF THE "H" (90-BEND).

7

WORKING WITH THE DISTANCE TABLES

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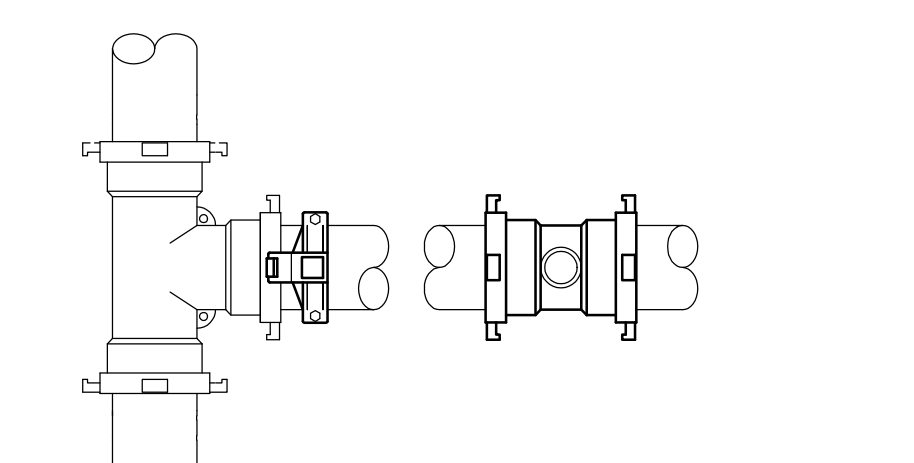
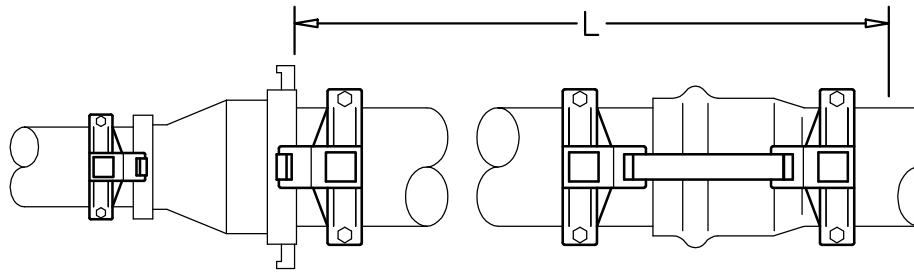


FIG. 1. THE REDUCER IS RESTRAINED ON BOTH ENDS. ADDITIONALLY THE PIPE-TO-PIPE JOINT ON THE LARGER DIAMETER SIDE IS ALSO RESTRAINED (AS SHOWN).

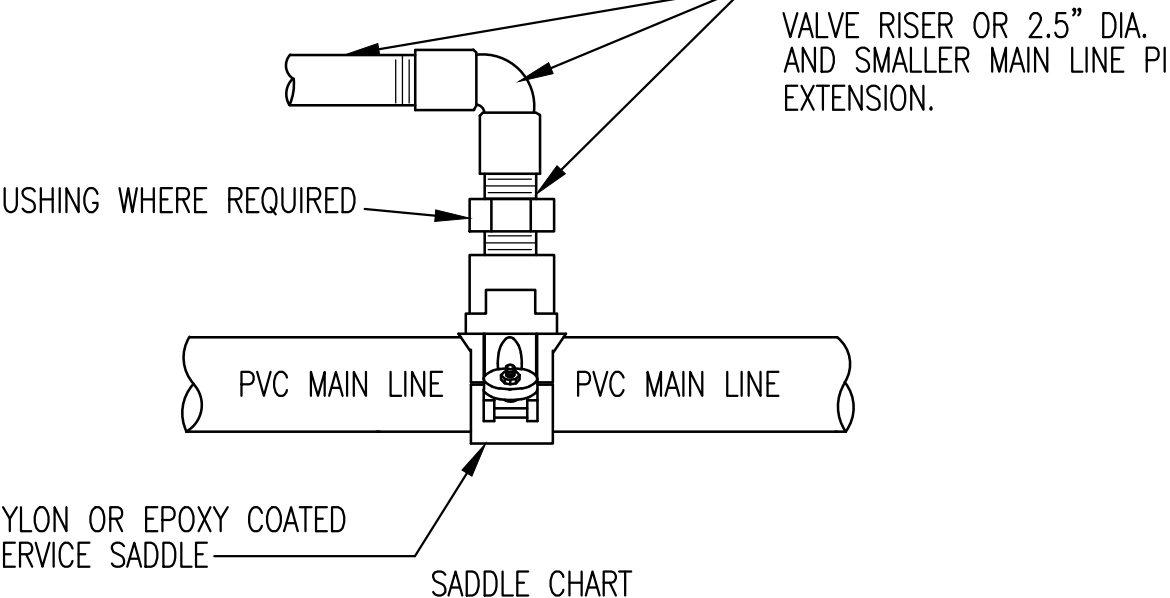
FIG. 2. SERVICE TEES INSTALLED OUTSIDE THE "L" DISTANCE OF A TEE REQUIRES NO JOINT RESTRAINTS.

4

REDUCERS & TAPPED TEES

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THREADED FITTINGS FOR A VALVE RISER OR 2.5" DIA. AND SMALLER MAIN LINE PIPE EXTENSION.

BUSHING WHERE REQUIRED

PVC MAIN LINE

PVC MAIN LINE

NYLON OR EPOXY COATED SERVICE SADDLE

SADDLE CHART

NOMINAL PIPE DIA. (INCHES)	MAIN LINE AVERAGE O.D. (INCHES)	SADDLE MANUFACTURER
4	4.50	LEEMCO LTS SERIES; ROMAC 202N; SMITH-BLAIR 317; TAP SIZE AS REQUIRED TO MATCH TAP SIZE OF VALVE OR PIPE.
6	6.63	
8	8.63	
RECOMMENDED NUT TORQUE		
NUT SIZE	PVC PIPE	CI, DI, OR OTHER PIPE
1/2"	20 FT-LBS.	40-50 FT-LBS.
5/8"	30-40 FT-LBS.	60-70 FT-LBS.
3/4"		80-90 FT-LBS.

- NOTES:
- TIGHTEN NUTS EVENLY UNTIL SADDLE BODY CONFORMS SNUGLY TO PIPE. LOOSEN NUTS AND TORQUE AS INDICATED ABOVE OR BY MANUFACTURER.
 - FOR VALVE CONNECTION, USE TAP SIZE EQUAL TO THE VALVE.
 - FOR QUICK COUPLING VALVE CONNECTION, USE 1" FIPT TAP SIZE.
 - FOR AIR/VACUUM RELIEF VALVE CONNECTION, USE 1" FIPT TAP SIZE.
 - FOR 2.5" OR SMALLER MAIN LINE EXTENSION, USE TAP SIZE EQUAL TO MAIN LINE SIZE.
 - PROTECT THREADS FROM DISTORTING, SCREW THE CORPORATION STOP OR OTHER FITTING INTO THE SADDLE BODY PRIOR TO FINAL TIGHTENING.

8

SADDLE CONNECTION - 4" DIA. MAIN LINE POC

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HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS INCREMENT 2 OF 2

101 AMERICAN AVE,
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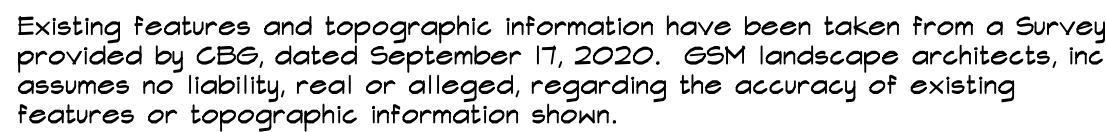
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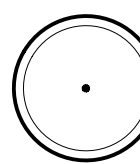














DSA APP NO.	01-119268
ARCH PROJECT NO.	1870.00
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DRAWING SCALE:	1"=20'-0"
PTN: 61721-77	FILE NO: 7-H4

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MAY 10, 2021
SHEET TITLE


IRRIGATION DETAILS



PLANT LEGEND

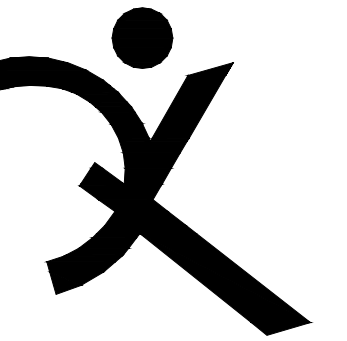
SYMBOL	BOTANICAL NAME COMMON NAME		SIZE	WATER USE	QUANTITY
TREES					
	Arb mar	Arbutus 'Marina' Marina Madrone	24" box	L	1
	Que agr	Quercus agrifolia Coast Live Oak	24" box	L	1
SHRUBS					
	Car div	Carex divulsa Berkeley Sedge	1 gallon	L	23
	Mah rep	Mahonia repens Creeping Oregon Grape	5 gallon	L	10
	Nan dom	Nandina domestica 'Gulf Stream' Gulf Stream Heavenly Bamboo	1 gallon	L	15
	Ole eur	Olea europaea 'Little Ollie' Dwarf Olive	5 gallon	L	18
	Pitt tob	Pittosporum tobira 'Cream de Mint' Variegated Dwarf Mock Orange	5 gallon	L	8
	Rha cal	Rhamnus californica 'Mound San Bruno' Mound San Bruno Coffeeberry	5 gallon	L	2
	Rib san	Ribes sanguineum Flowering Currant	5 gallon	L	2
	Ros noa	Rosa 'Noaschnee' White Flowercarpet Rose	2 gallon	M	38
	Ses aut	Sesleria autumnalis Autumn Moor Grass	1 gallon	M	24
BIOFILTRATION FACILITIES					
	Car div	Carex divulsa Berkeley Sedge	1 gallon	L	22
	Cho tec	Chondropetalum toctorum Cape Rush	1 gallon	L	23
	Epi can	Epilobium canum California fuchsia	1 gallon	L	32
	Jun pat	Juncus patens California Gray Rush	1 gallon	L	16

LANDSCAPE MATERIALS

 Landscape Mulch: Weed fabric and 3" thick mulch (shown graphically for areas not planted). All planting areas shall have weed fabric and 3" depth of mulch applied. See Planting Notes on L4.1 for mulch type.

KEY NOTES

1. Biofiltration Facilities. See Civil Drawings.
2. Existing tree to remain, typ. Comply with Tree Preservation Standards on L4.1.
3. Replace all turf and Irrigation impacted by construction.
4. Existing turf and Irrigation to remain in service.
5. 3' radius shovel-cut circle around tree, typ.



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**HERITAGE
HIGH SCHOOL**

**NEW CLASSROOM
BUILDINGS
INCREMENT 2 OF 2**

101 AMERICAN AVE,
BRENTWOOD, CA 94513

LIBERTY UNION
HIGH SCHOOL
DISTRICT

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DSA APP NO. 01-119268

ARCH PROJECT NO: 1870.00

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PTN: 61721-77 FILE NO: 7-H4

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MAY 10, 2021

SHEET TITLE

PLANTING PLAN

SHEET NUMBER

L4.0

PLANTING NOTES

1. Prior to commencement of planting, the Contractor shall verify locations of all underground utilities.
2. Contractor shall adjust all plant material around electrical utilities, valve boxes, etc., as required in the field.
3. All landscape grades shall be smooth and feathered in appearance.
4. Irrigation system shall be fully operational prior to planting. Contractor shall thoroughly water all plants immediately after planting.
5. All trees shall be staked and installed per planting details. All trees shall be of adequate trunk caliper to stand without support.
6. Installing Contractor shall verify existing grade in the field prior to planting. Finished surfaces shall be uniform and smooth. Finished grade of planting and bark mulch areas shall be flush with top of edging, pavement and walks.
7. Soil for all exposed soil and planting areas except sod and bioretention areas shall receive weed fabric and a 3" minimum depth of bark mulch. Bark mulch shall be Eco-Mini Natural Mulch, as available through EcoMulch, 5010 Pacheco Blvd., Martinez, (925) 228-1613. Bioretention areas shall receive 3" minimum depth of the compost used in the biotreatment soil mix.
8. All trees planted within 8' of adjacent paving, curbing, hardscape, water meters, joint trenches, etc. shall receive Deep Root Barrier UB 24-2 (24" depth x 10' min. length) as manufactured by Deep Root Partners (800) 458-1668, or approved equal.
9. No plant material shall be substituted without prior written consent from the Landscape Architect.
10. Contractor shall be responsible for the pre-ordering of all plant material after the Notice to Proceed. Photographs for all plants shall be submitted to the Landscape Architect prior to placing order.
11. All plant material shall be certified by the Agricultural Commissioner Inspection program for freedom from the glassy winged sharpshooter or other pests identified by the Agricultural Commissioner. The Agricultural Commissioner's office shall be notified of all impending deliveries of live plants with points of origin outside of the County so that inspection can be arranged.
12. All plants of the same type and container size shall be matched in height and width.
13. The Plant Legend is provided for convenience only, not accurate bidding purposes. Graphic depiction of plant material shall take precedence over stated quantities. Contractor shall notify the Architect to obtain clarification if there are discrepancies.

SOILS MANAGEMENT NOTES

- A. The following organic amendments, soil amendments and fertilizer rates and quantities shall be used for bid basis only. Contractor shall arrange and pay for soil fertility testing by an accredited soils laboratory of existing site soil after rough grading operations are complete, and shall amend the soils according to said laboratory's recommendations. The soils recommendations shall be considered a part of these contract documents. The soils report must provide the following information:
1. Soil permeability rate in inches per hour.
 2. Soil texture test.
 3. Cation exchange capacity.
 4. Soil fertility, including test for nitrogen, potassium, phosphorous, pH, organic matter and specific conductance (electrical conductivity).
 5. Recommendation for amendments to the planting area soil.
- B. Topsoil: All landscape areas shall have a minimum 8" depth of topsoil with greater depths as required for planting work. Contractor shall provide topsoil which is fertile and friable, possessing characteristics of representative productive soils on the site. It shall not contain toxic substances which may be harmful to plant growth. When herbicide contamination is suspected then a radish/rye grass growth trial must be performed. Consult with the District prior to decision to test. It shall be uniformly textured and free of all objectionable foreign materials, oil or chemicals which may be injurious to plant growth. Natural topsoil shall possess a pH factor between 5.5 and 7.5, a sodium absorption ratio (SAR) of less than 8, a boron concentration of the saturation extract of less than 1 ppm, and salinity of the saturation extract at 25 degrees C. of less than 4.0 millimhos per centimeter. If required to import topsoil, Contractor shall obtain topsoil from naturally well-drained sites where topsoil occurs in a depth of not less than four inches (4"); do not obtain from bogs or marshes.
- C. Organic Amendment: Nitrified fir bark having a minimum organic content of 94% and a nitrogen content of 0.8% minimum to 1.2% maximum on a dry weight basis. Fir bark shall be shredded to pass a one quarter inch (1/4") mesh screen. Incorporate organic amendment and fertilizer into the soil to a minimum depth of six inches (6") at a minimum rate of six cubic yards (6 cy) per one thousand square feet (1,000 sf) or per specific amendment recommendations from the soils report.
- D. Fertilizer:
1. Fertilizer shall be a commercial inorganic fertilizer in the granular or pelleted form. Fertilizer shall be delivered to the site in containers labeled in accordance with the applicable State of California regulations, bearing the warranty of the producer or the grade furnished, and shall be uniform in composition, dry and free-flowing.
 2. Turf, Shrubs and Vines:
 - a. 6N-20P-20K, and 16-6-8, pelleted type.
 - b. Sulphate - sulphur
 - c. Lime for pH adjustment of moderately acid soil
 - d. Starting one (1) month after planting on a monthly basis, 21N-0P-0K Ammonium sulfate. 5 lbs. per 1,000 square feet.
 3. Trees:
 - a. 21 gram 20N-10P-5K slow release fertilizer tablets as manufactured by Agriform. Apply according to manufacturer's instructions.
 - b. After planting: 21N-0P-0K Ammonium sulfate 5lbs. per 1,000 square feet.

TREE PRESERVATION STANDARDS

1. Tree Protection Specifications shall be utilized for the protection of trees to remain within the Limit of Work. Construction activity shall include, but is not limited to, grading, trenching, excavating, and operation of construction equipment or vehicles in the vicinity of the tree to be protected, or work which has the potential to harm or affect the health or vigor of the tree.
2. Roots of single standing trees often extend two to three times the distance of the actual drip line and function primarily in the uptake of nutrients and water. The drip line is arbitrarily established as the minimum root area generally required to preserve tree health. As much area around the circumference of the tree beyond the drip line shall have minimum intrusion to further ensure tree survival and health.
3. Original grade shall be maintained at all times in the immediate area of the root crown, where the soil contacts tree bole. No increase in grade shall be allowed under any circumstances in this area.
4. All underground work within tree drip lines shall be avoided wherever possible to reduce negative impact on trees. Underground utilities should be located well outside the tree drip line for preservation purposes.
5. All underground work required within the drip line of the trees and below original grade shall be previewed by the District to determine potential impact on trees. Hand trenching shall be required where existing tree root systems could be damaged by equipment.
6. Construction materials or facilities shall not be placed under the dripline of existing trees.
7. Root pruning shall be restricted to roots less than two (2) inches in diameter. Roots shall be cut with a sharp saw. Roots may not be severed, pulled or broken with any soil excavation equipment during grading or trenching. Cutting of roots larger than two (2) inches in diameter must be approved by the District.

TREE PROTECTION SPECIFICATIONS

Site Preparation Phase
The following work, #1 through #12, must be accomplished before any site clearing, grading or other earthwork occurs within 100 feet of trees that are to be retained.

1. The General Contractor and grading contractor are required to meet with the District's Consulting Arborist (CA) at the site prior to beginning work to review all work procedures, access routes and tree protection measures.
2. Tree Protection Zones (TPZ's) shall be a minimum of 12 times the diameter at breast height (DBH) of all protected trees. The boundaries of all TPZ's shall be staked in the field.
3. No change to grade or trenching shall take place within the Critical Radius, a minimum 5 times the DBH, of all protected trees without prior approval of the CA.
4. Trees to be removed that have branches extending into canopies of trees to remain must be removed by a qualified arborist, not by demolition or construction contractors.
5. Tree removals shall be performed so as to prevent damage to branches, trunks and roots of protected trees.
6. Trees to be removed from within a TPZ shall be removed by a qualified arborist. Stumps shall be cut as low as possible. If stump grinding is preferred by the owner or contractor, grinding shall not be deep enough to damage woody roots of adjacent protected trees.
7. All downed brush and trees shall be removed from TPZ's either by hand or with equipment sitting outside the TPZ, by lifting the material out, not by skidding across the ground.
8. Roots or other underground features to be removed where a TPZ would be disturbed shall be done so as to minimize disturbance. Equipment shall operate from outside the TPZ. The CA shall be on site during all operations within the TPZ to monitor activity.
9. Any pruning required for site preparation shall be performed by a qualified arborist and in accordance with current professional standards.
10. A four foot high visibility or comparable barrier fence, affixed with locking zip-ties to steel T posts shall be erected to fully enclose TPZ's, or partially enclose them.
11. Any tree damage resulting from grading or other site preparation work shall be reported to the Architect and CA within six hours so that remedial action can be taken. Timeliness is critical.
12. If temporary access pathways for vehicles must pass over TPZ's, Contractor shall place geogrid and a bed of 6 inches of coarse wood chip under the mulch to protect the soil and roots.

Construction Phase

13. The General Contractor and grading contractor are required to meet with the CA at the site prior to beginning work to review all work procedures, access routes and tree protection measures.
14. Tree protection fences erected before site grading shall remain in place throughout the construction phase and may not be relocated, detached or removed without written permission of the CA.
15. Construction trailers, traffic, parking and storage areas shall remain outside of fenced areas at all times.
16. All underground utilities, drainage or irrigation lines shall be routed outside the TPZ's as much as is feasible. If lines must traverse a TPZ they shall be tunneled or bored under trees, or hand excavated under observation of the CA to minimize root pruning.
17. No materials, equipment, spoil or waste or washout water shall be deposited, stored, or parked within a TPZ.
18. Additional tree pruning required for clearance during construction shall be performed by a qualified arborist and not by construction personnel.
19. If injury should occur to any tree during construction, it shall be evaluated as soon as possible by the CA so that appropriate treatments can be applied.
20. Any grading, trenching, construction, demolition or other work that is expected to encounter tree roots shall be observed by the CA.
21. The CA may require the General Contractor to apply supplementary irrigation for protected trees that have received root damage in the course of grading or construction work.
22. Before grading pad preparation, or excavation for foundations, footings, walls, or trenching, any tree with a TPZ within or adjacent to such a location shall be evaluated by the CA and Contractor in order to establish a plan that will prevent or minimize tree damage. Such plans may include manual or pneumatic excavation to expose and evaluate roots, alternative construction techniques, root pruning observed by the CA.
23. Any woody roots damaged during grading and construction shall be exposed back to sound tissue by the Contractor and evaluated by the CA for further action, which might include cleanly severing damaged roots back to tight cambium or excising damaged bark.
24. Spoils from trenches or other excavations shall not be placed within TPZ's.
25. No debris, garbage or other waste materials shall be placed within TPZ's.
26. If temporary access pathways for vehicles must pass over TPZ's, Contractor shall place geogrid and a bed of 6 inches of coarse wood chip under the mulch to protect the soil and roots.



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REVISIONS		
DSA APP NO. 01-119268		
ARCH PROJECT NO:	1870.00	
DRAWN BY:		
DRAWING SCALE:	1"=20'-0"	
PTN: 61721-77	FILE NO: 7-H4	

BID SET

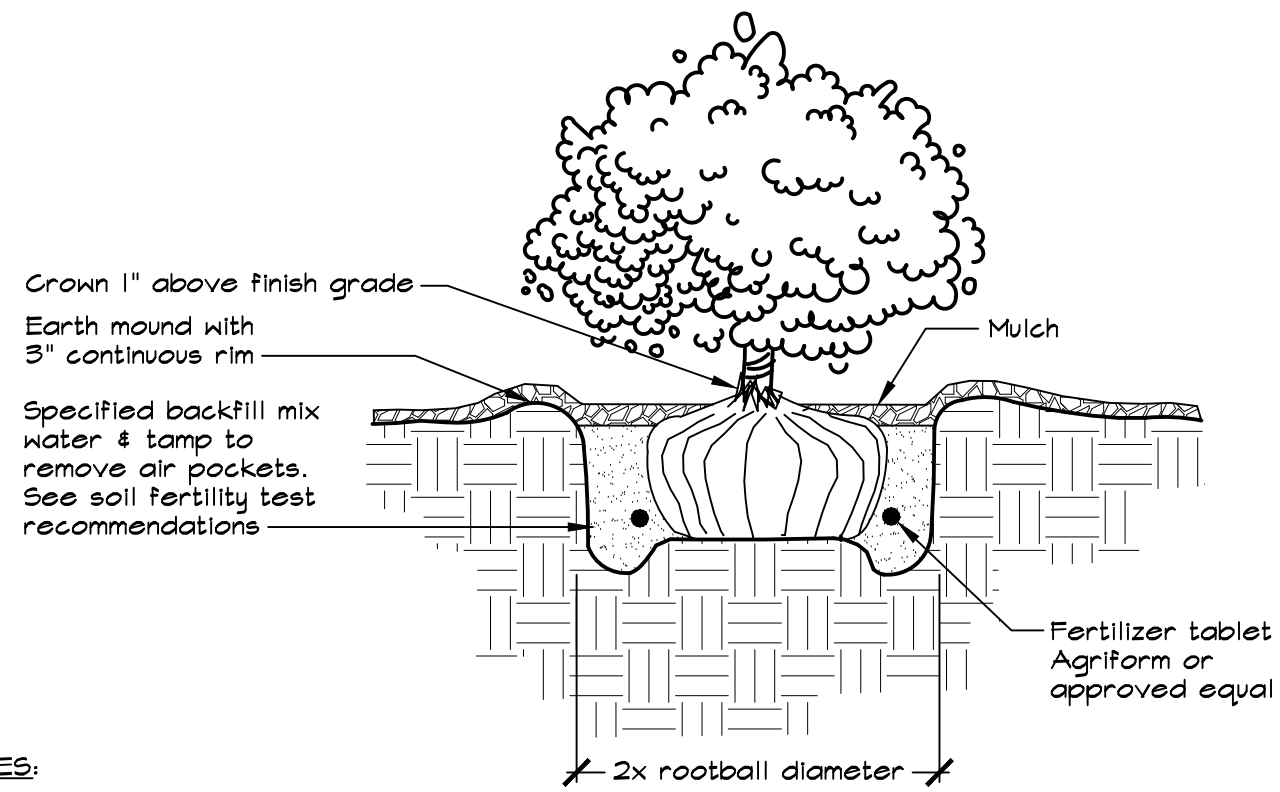
MAY 10, 2021

SHEET TITLE

PLANTING
NOTES

SHEET NUMBER

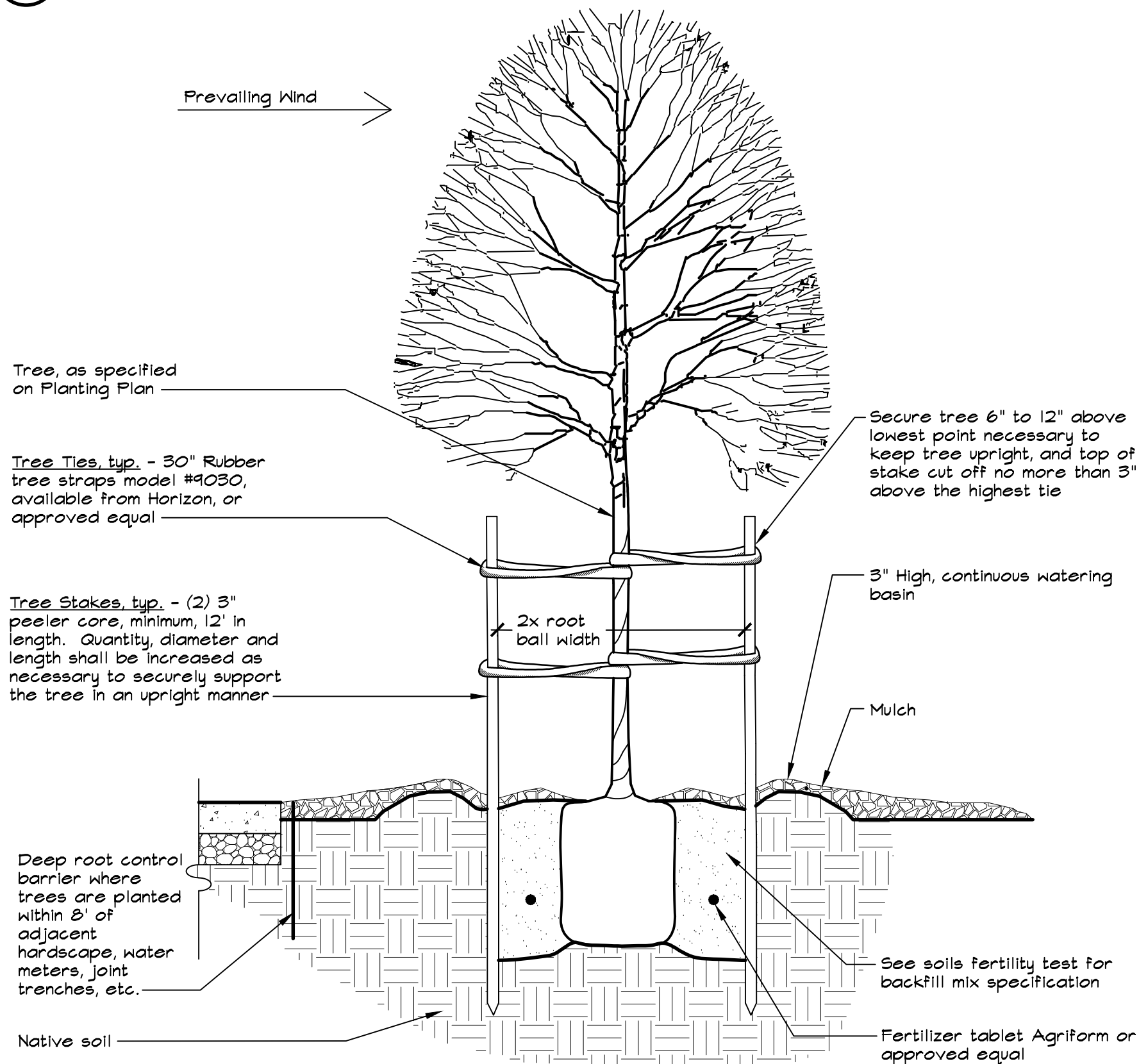
L4.1



NOTES:

1. Root ball shall rest on undisturbed soil.
2. Plant tablets shall be equally spaced around root ball. The number of tablets shall be 1 for 4" pot or liner, 2 for 1 gallon, 3 for 5 gallon, and 4 for 15 gallon, or as specified in the soils fertility test recommendations.
3. Contractor shall water planting pit thoroughly following planting.
4. See Planting Notes on L4.1 for mulch specification.

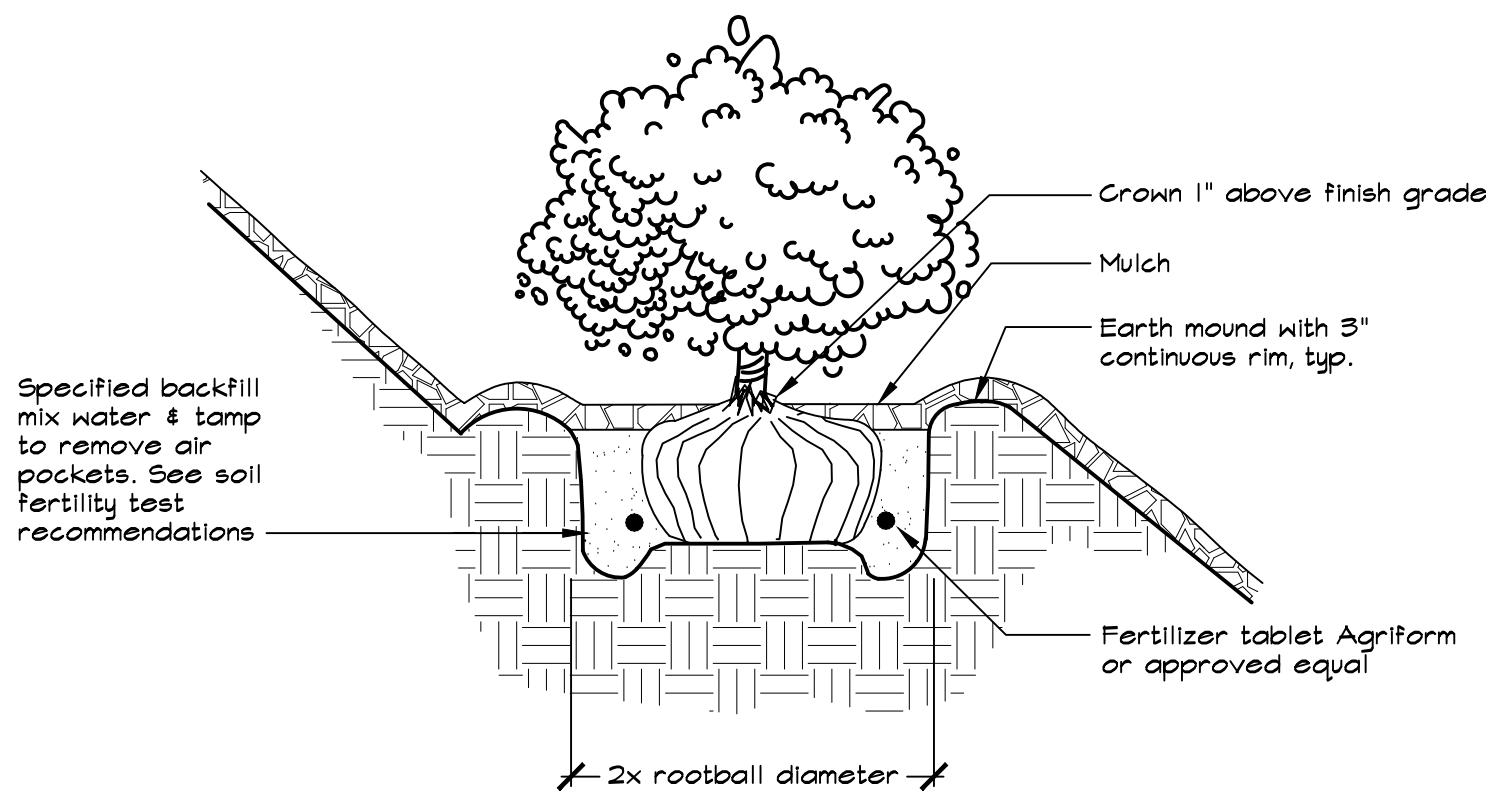
1 SHRUB/GROUNDCOVER PLANTING
NOT TO SCALE



NOTES:

1. Root ball shall rest on undisturbed soil.
2. Plant tablets shall be equally spaced around root ball. The number of tablets shall be 4 for 15 gallon and 6 for 24", 36" box, or as specified in the soils fertility test recommendations.
3. Contractor shall water planting pit thoroughly following planting.
4. Trees shall be staked parallel with the direction of the prevailing wind.
5. Tree stakes shall have equal degree of separation between stakes.
7. Contractor shall use Deep Root Barrier where trees are planted within 8' of adjacent hardscape, water meters, joint trenches, etc. See Planting Notes on Planting Plan for more information.
8. See Planting Notes on L4.1 for mulch specification.

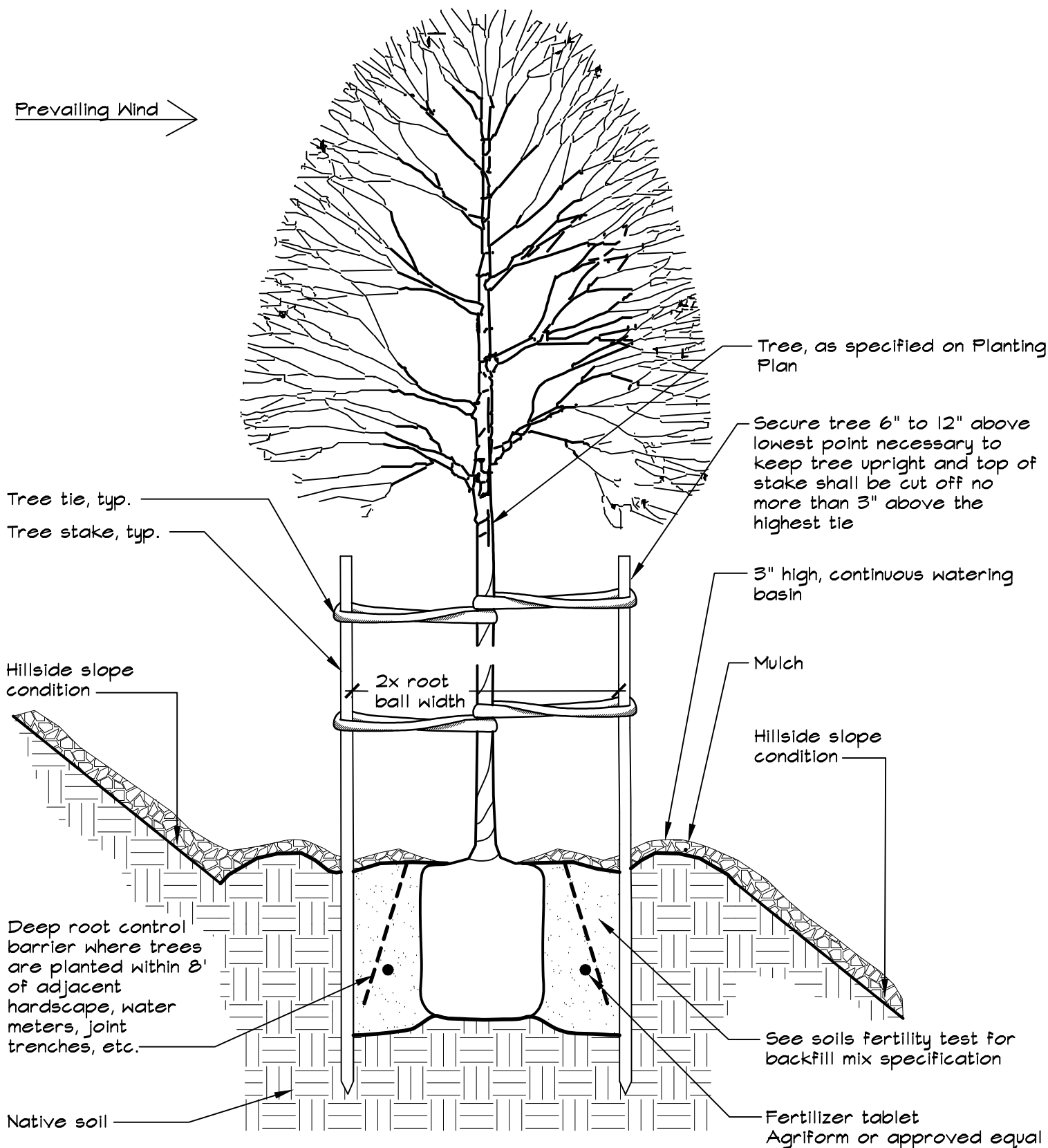
4 TREE PLANTING AND STAKING
NOT TO SCALE



NOTES:

1. Root ball shall rest on undisturbed soil.
2. Plant tablets shall be equally spaced around root ball. The number of tablets shall be 1 for 4" pot or liner, 2 for 1 gallon, 3 for 5 gallon, and 4 for 15 gallon, or as specified in the soils fertility test recommendations.
3. Contractor shall water planting pit thoroughly following planting.
4. See Planting Notes on L4.1 for mulch specification.

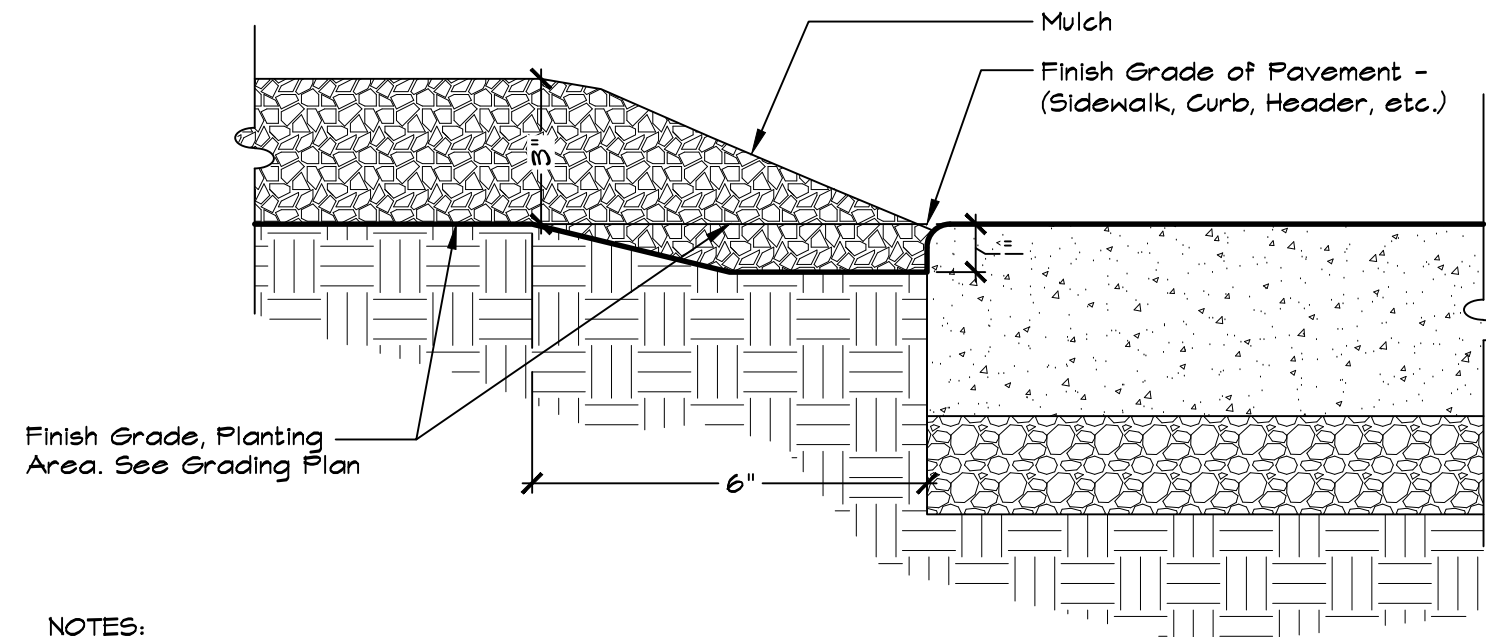
2 HILLSIDE SHRUB/GROUNDCOVER PLANTING
NOT TO SCALE



NOTES:

1. Root ball shall rest on undisturbed soil.
2. Plant tablets shall be equally spaced around root ball. The number of tablets shall be 4 for 15 gallon and 6 for 24", 36" box, or as specified in the soils fertility test recommendations.
3. Contractor shall water planting pit thoroughly following planting.
4. Trees shall be staked parallel with the direction of the prevailing wind.
5. Tree stakes shall have equal degree of separation between stakes.
7. Contractor shall use Deep Root Barrier where trees are planted within 8' of adjacent hardscape, water meters, joint trenches, etc. See Planting Notes on Planting Plan for more information.
8. See Planting Notes on L4.1 for mulch specification.

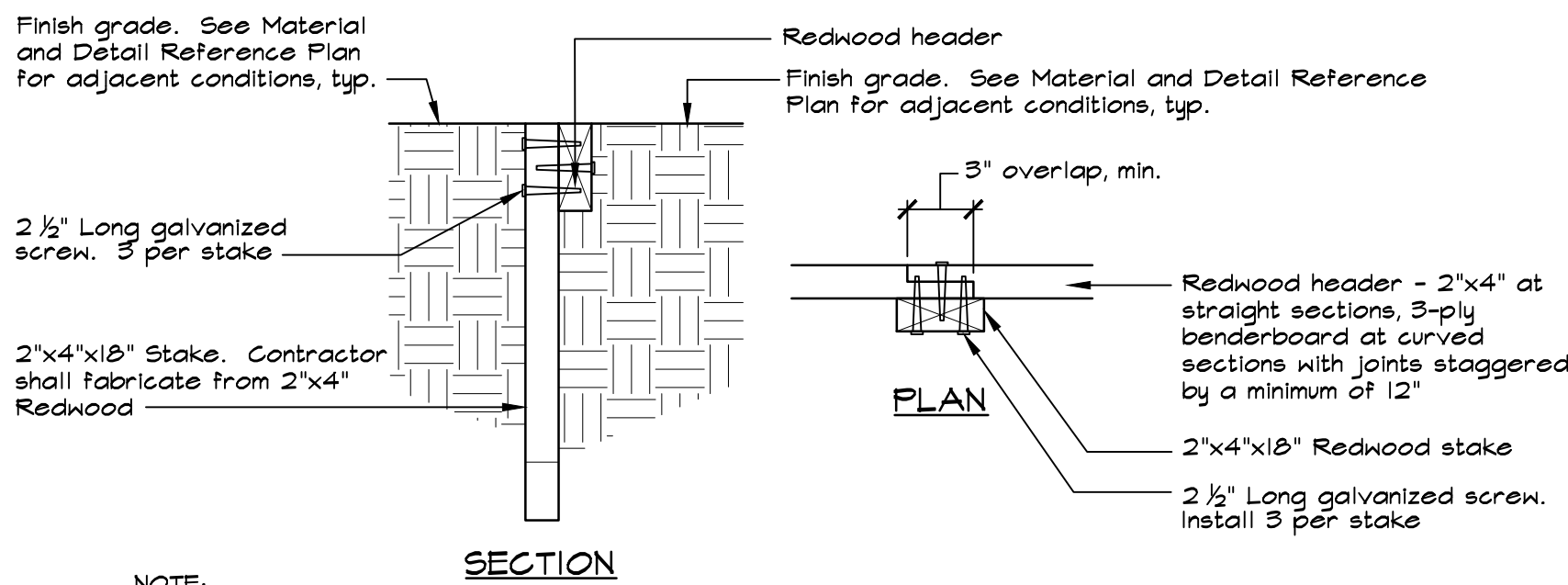
5 HILLSIDE TREE PLANTING AND STAKING
NOT TO SCALE



NOTES:

1. Grading shall provide for natural runoff of water without low spots or pockets.
2. See Planting Notes on L4.1 for mulch specification.

3 MULCH
NOT TO SCALE



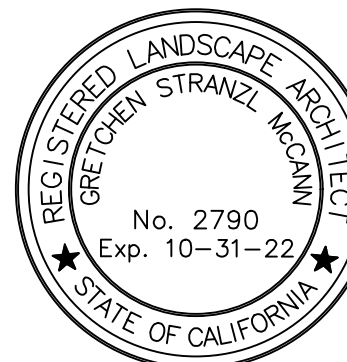
NOTE:

1. Wood header and stakes shall be Redwood Construction Heart or better, or approved equal.

6 WOOD HEADER
NOT TO SCALE


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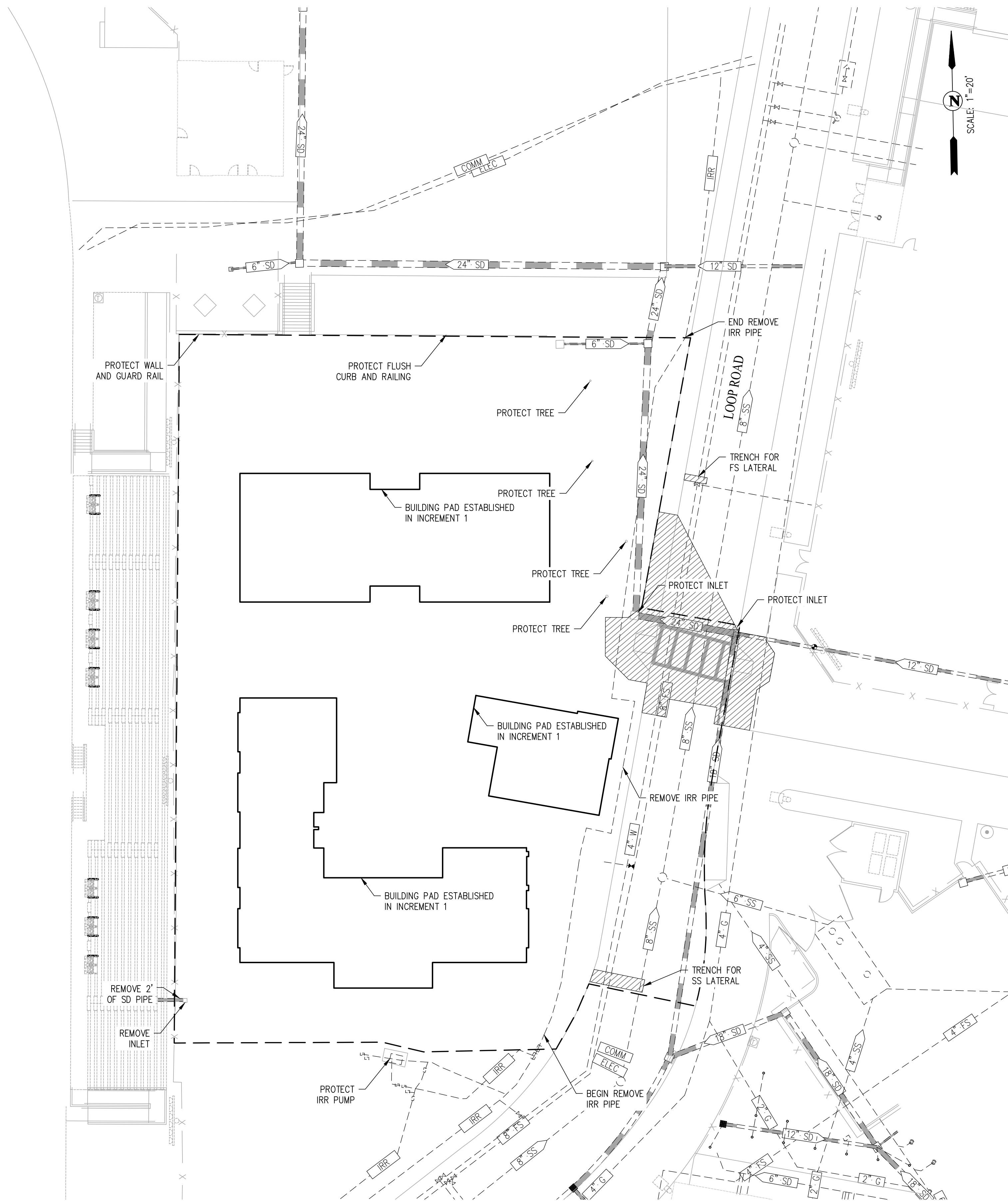
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DRAWING SCALE:	1"=20'-0"
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MAY 10, 2021
SHEET TITLE

PLANTING
DETAILS

SHEET NUMBER

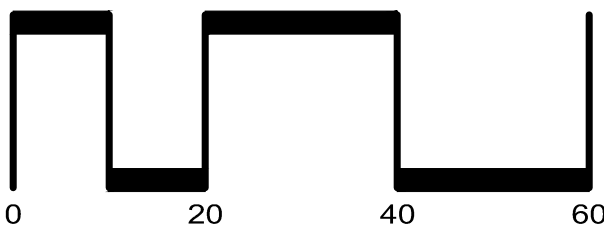
L4.2



LEGEND

- LIMIT OF WORK
- REMOVE AC/CONCRETE
- 6" SS EXISTING SANITARY SEWER
- 18" SD EXISTING STORM DRAIN
- 12" W EXISTING WATER
- 6" IRR EXISTING IRRIGATION LINE
- COMM EXISTING COMMUNICATION LINE
- ELEC EXISTING ELECTRICAL LINE
- EXISTING INLET
- EXISTING MANHOLE

- NOTES:
- SAWCUT CONCRETE ON NEAREST SCORE LINE.
 - PRIOR TO DEMOLITION OF IRRIGATION LINES, PROVIDE AND INSTALL IRRIGATION TO SUPPORT EXISTING TURF AND LANDSCAPING TO REMAIN. SEE LANDSCAPE DRAWINGS (IRRIGATION PLAN).
 - EXISTING IRRIGATION PUMP, POTABLE WATER SUPPLY AND BACKFLOW DEVICE MUST STAY IN SERVICE AT ALL TIMES.
 - SEE TREE PROTECTION STANDARDS ON SHEET L-4.1



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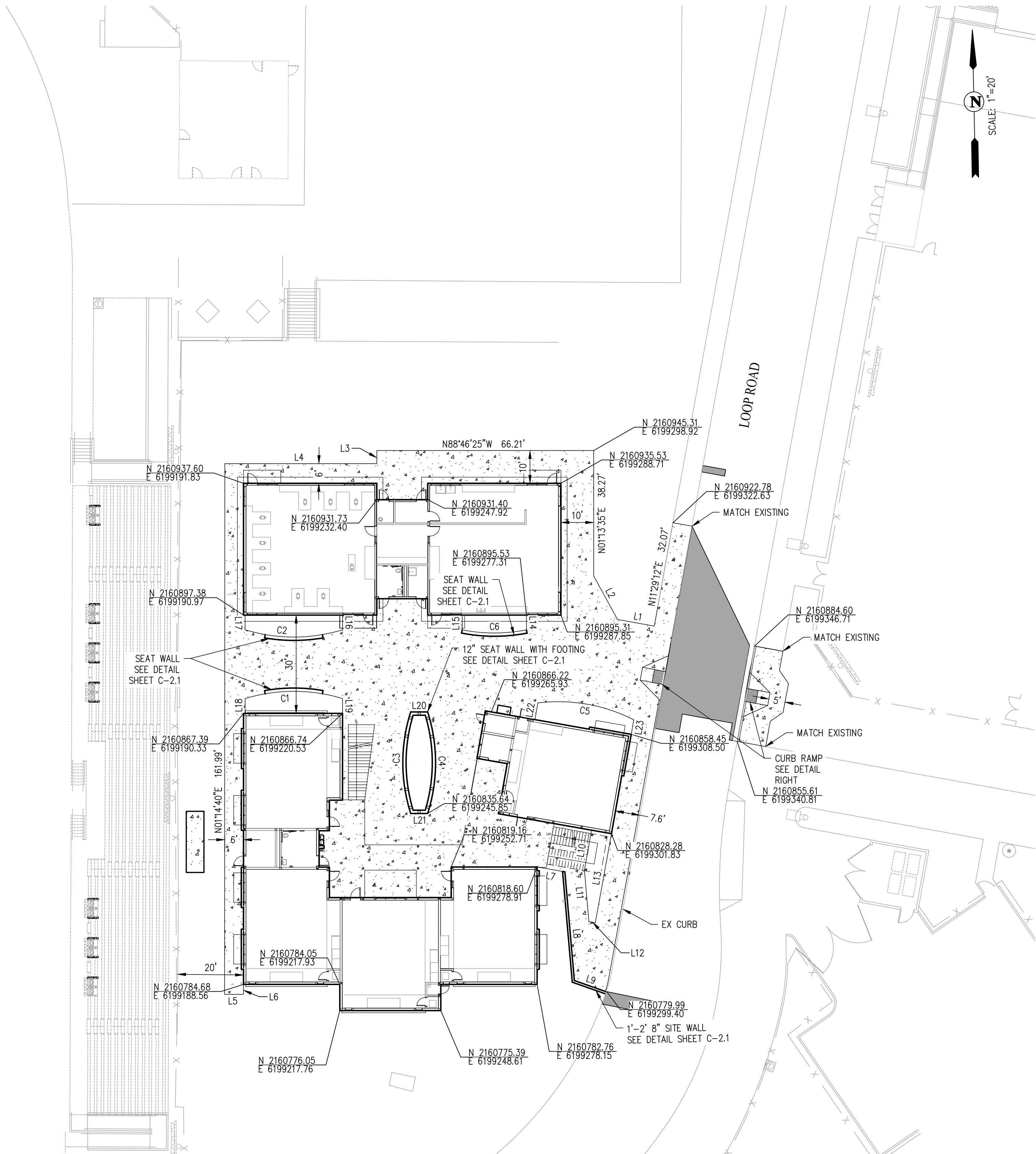
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ARCH PROJECT NO.	1870.00
DRAWN BY:	MJV
DRAWING SCALE:	
PTN: 61721-77	FILE NO: 7-H4

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MAY 10, 2021	
SHEET TITLE	

**EXISTING
CONDITIONS /
DEMOLITION**

SHEET NUMBER

C-1.0



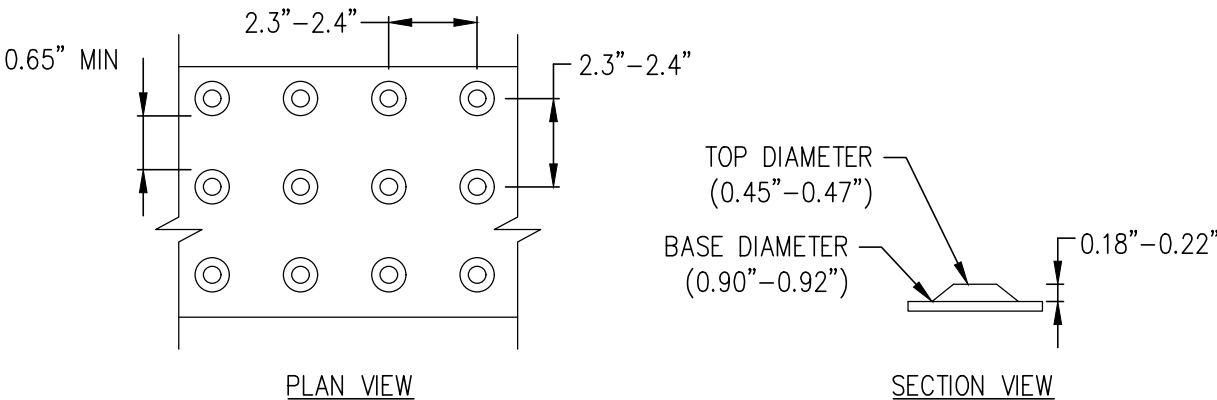
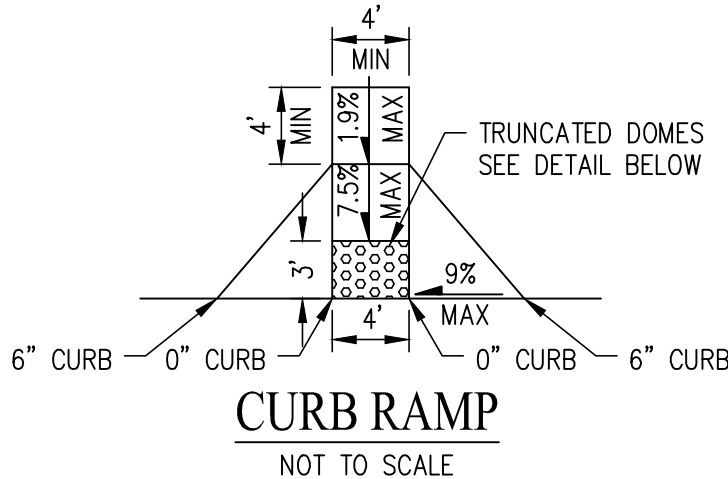
LEGEND

- AC PAVEMENT (SEE SHEET C-2.1 FOR SECTION)
- CONCRETE SIDEWALK/GUTTER/PAVEMENT
- VALLEY GUTTER (SEE SHEET C-3.0 FOR DETAIL)
- CURB AND GUTTER
- CURB CUT (SEE SHEET C-2.1 FOR DETAIL)

LINE TABLE		
NO	BEARING	LENGTH
L1	11.402	S78° 29' 10.71"E
L2	15.123	S27° 25' 18.86"E
L3	4.000	N01° 13' 35.20"E
L4	46.396	N88° 46' 24.80"W
L5	5.761	N88° 46' 10.77"W
L6	3.032	S01° 13' 49.23"W
L7	8.604	S78° 48' 01.10"E
L8	33.330	N03° 46' 28.78"W
L9	10.519	S69° 30' 04.31"E
L10	12.392	N11° 13' 34.53"E
L11	15.761	N03° 46' 28.78"W
L12	2.000	S78° 31' 29.84"E
L13	27.625	N11° 28' 30.16"E
L14	4.500	S01° 13' 34.33"W
L15	4.500	N01° 13' 34.53"E
L16	4.500	S01° 13' 34.33"W
L17	4.500	N01° 13' 34.33"E
L18	4.501	N01° 16' 15.22"E
L19	4.501	S01° 13' 34.33"W
L20	5.172	N88° 46' 25.47"W

LINE TABLE		
NO	BEARING	LENGTH
L21	5.172	S88° 46' 25.47"E
L22	5.167	N11° 13' 34.53"E
L23	4.493	S11° 13' 34.53"W

CURVE TABLE			
NO	RADIUS	DELTA	LENGTH
C1	51.00'	033°52'17"	30.15'
C2	51.00'	033°52'05"	30.15'
C3	51.00'	035°23'12"	31.50'
C4	51.00'	035°23'12"	31.50'
C5	50.99'	033°52'37"	30.15'
C6	51.00'	022°09'59"	19.73'



TYPICAL TRUNCATED DOME DETAIL
PER CBC 11B-705.1.1
COLOR TO BE YELLOW
NOT TO SCALE



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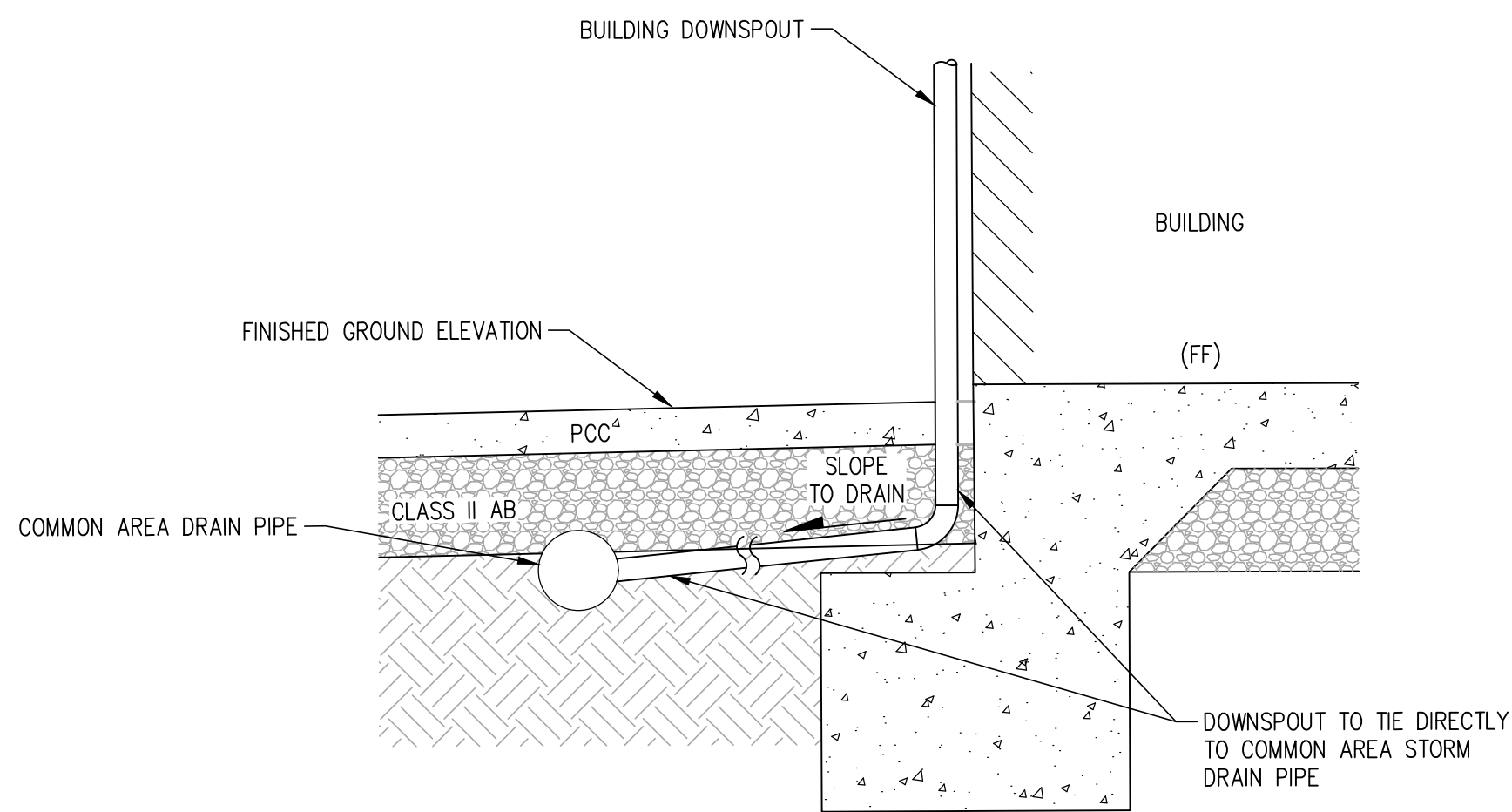
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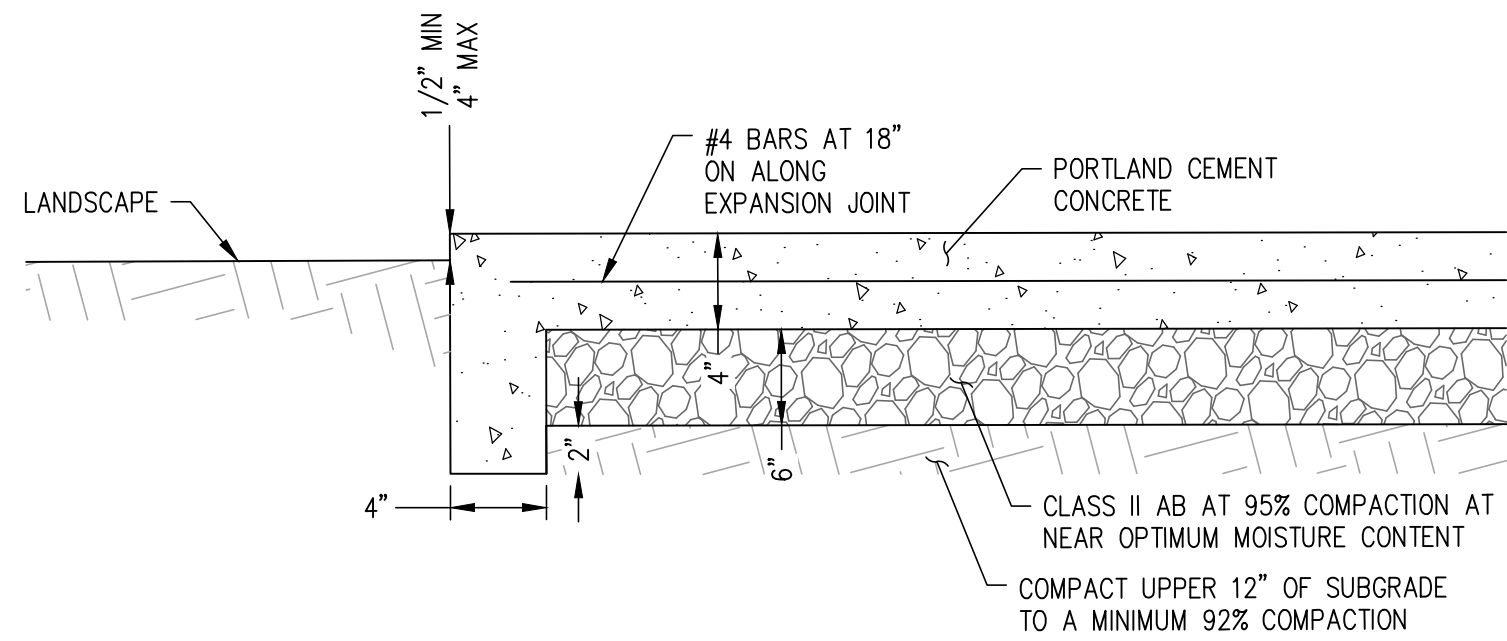
HORIZONTAL
CONTROL PLAN

SHEET NUMBER

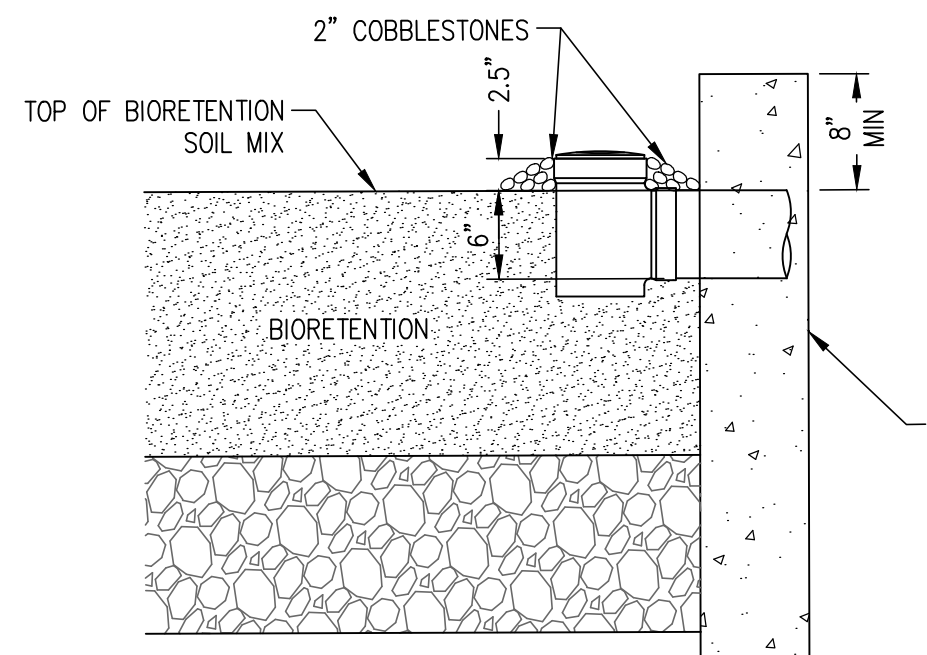
C-2.0



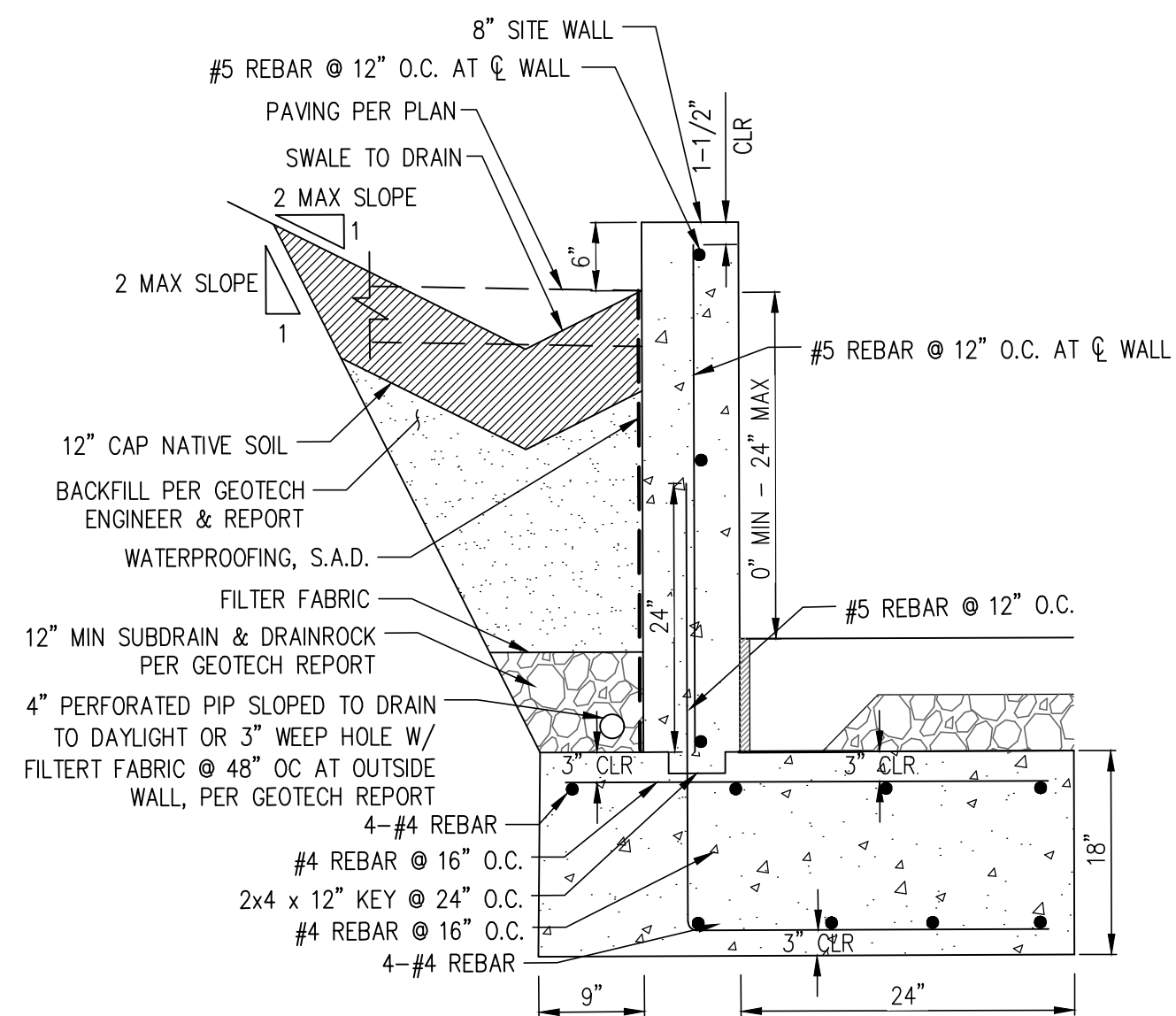
DOWNSPOUT TO COMMON AREA CONNECTION DETAIL
NOT TO SCALE



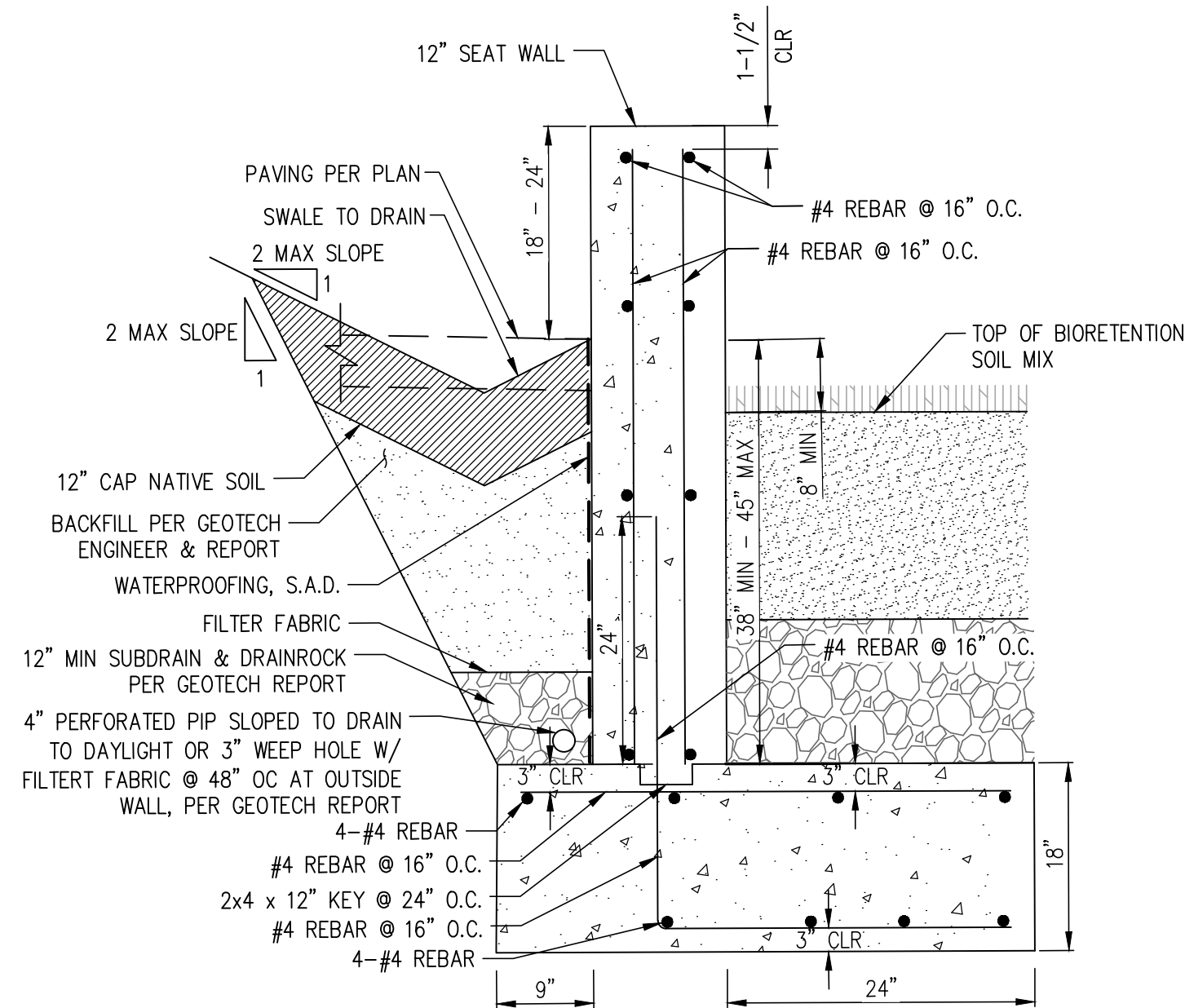
PEDESTRIAN CONCRETE PAVEMENT SECTION
NOT TO SCALE



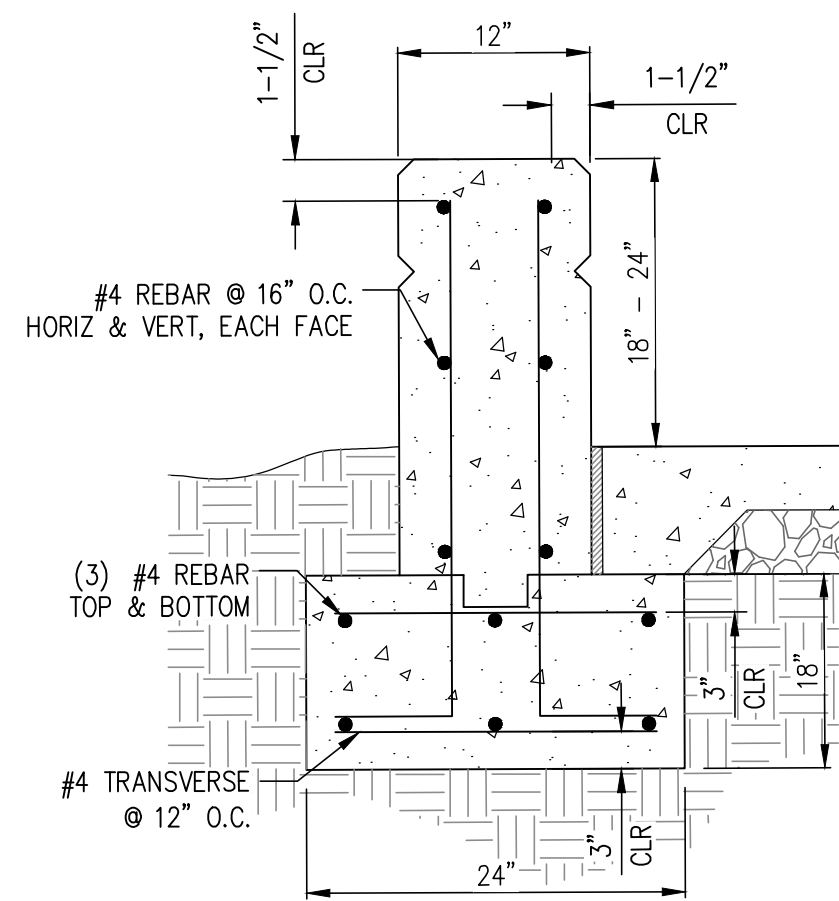
NDS POP-UP DRAINAGE EMITTER - (OR APPROVED EQUIVALENT) AT BIORETENTION PLANTERS
NOT TO SCALE



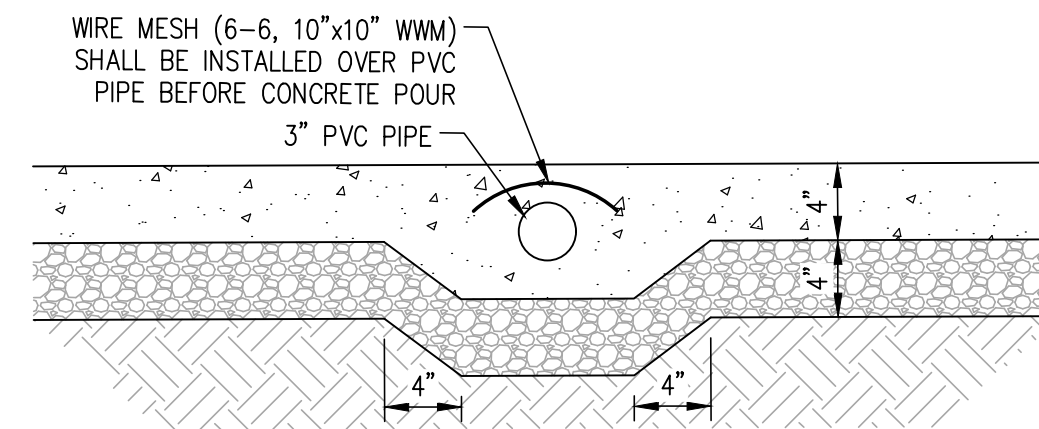
8" SITE WALL WITH FOOTING
NOT TO SCALE



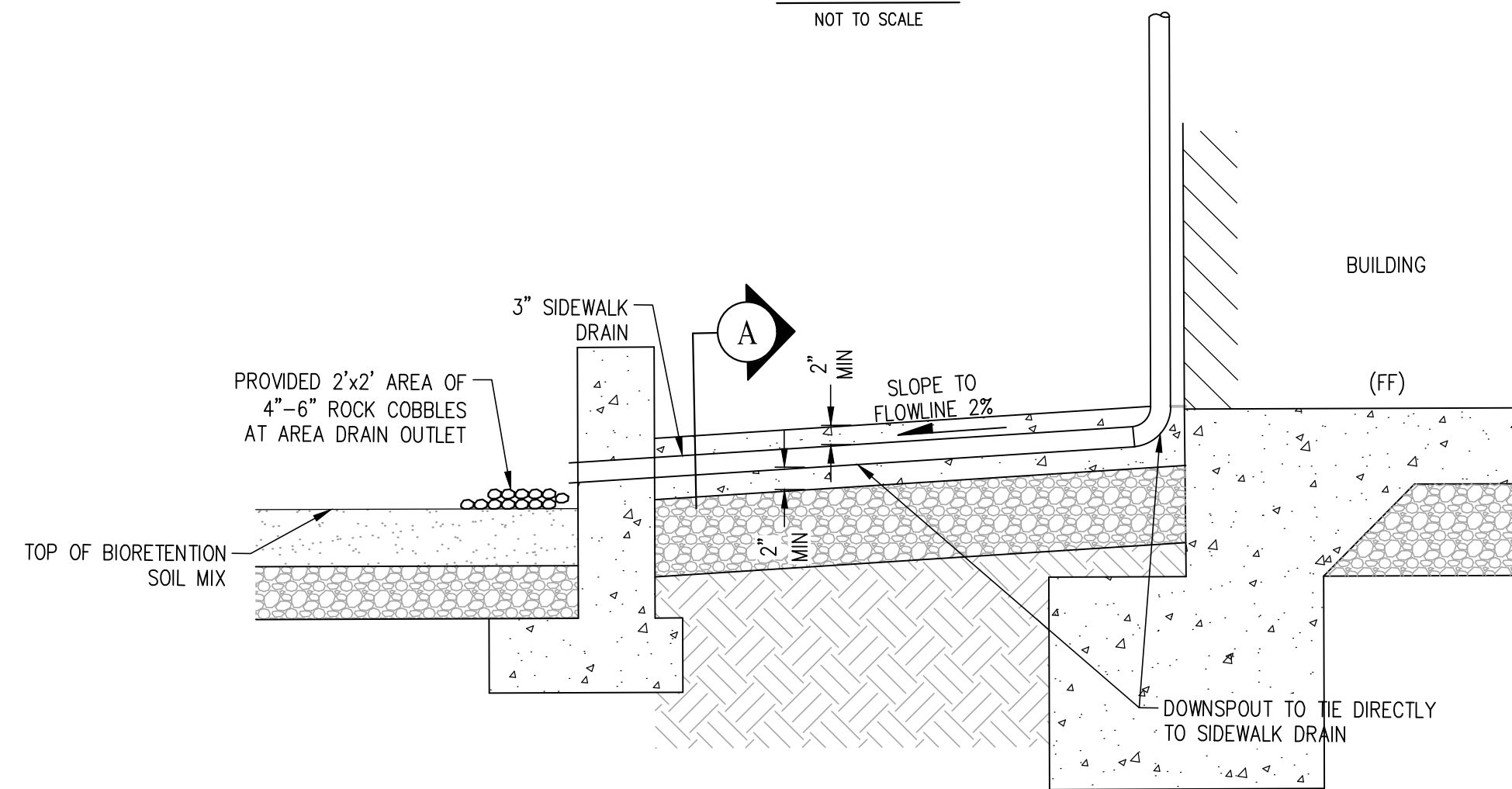
12" SEAT WALL WITH FOOTING
NOT TO SCALE



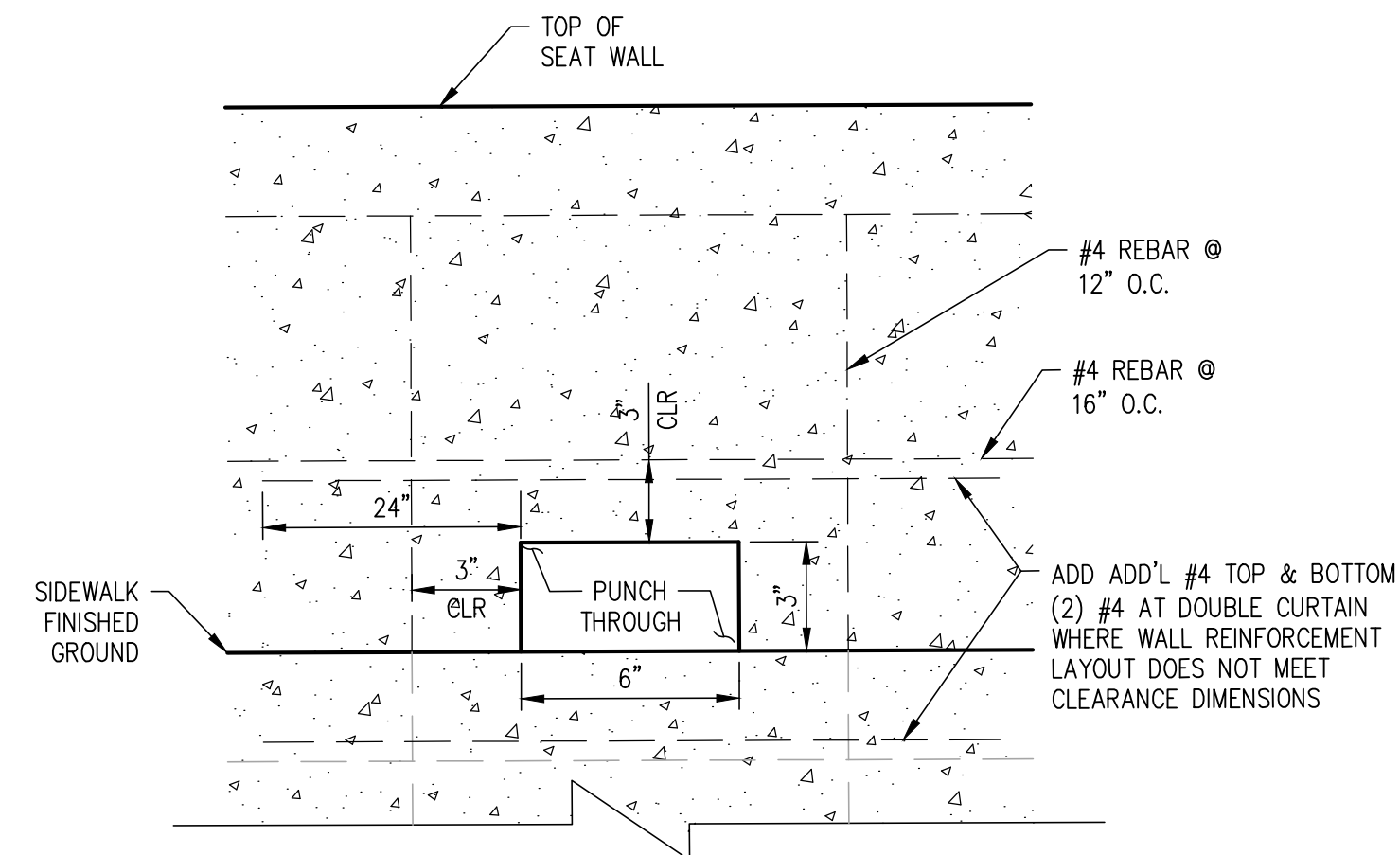
SEAT WALL
NOT TO SCALE



SECTION A
NOT TO SCALE



DOWNSPOUT TO BIORETENTION DETAIL
NOT TO SCALE



SEAT WALL PUNCH THROUGH
NOT TO SCALE



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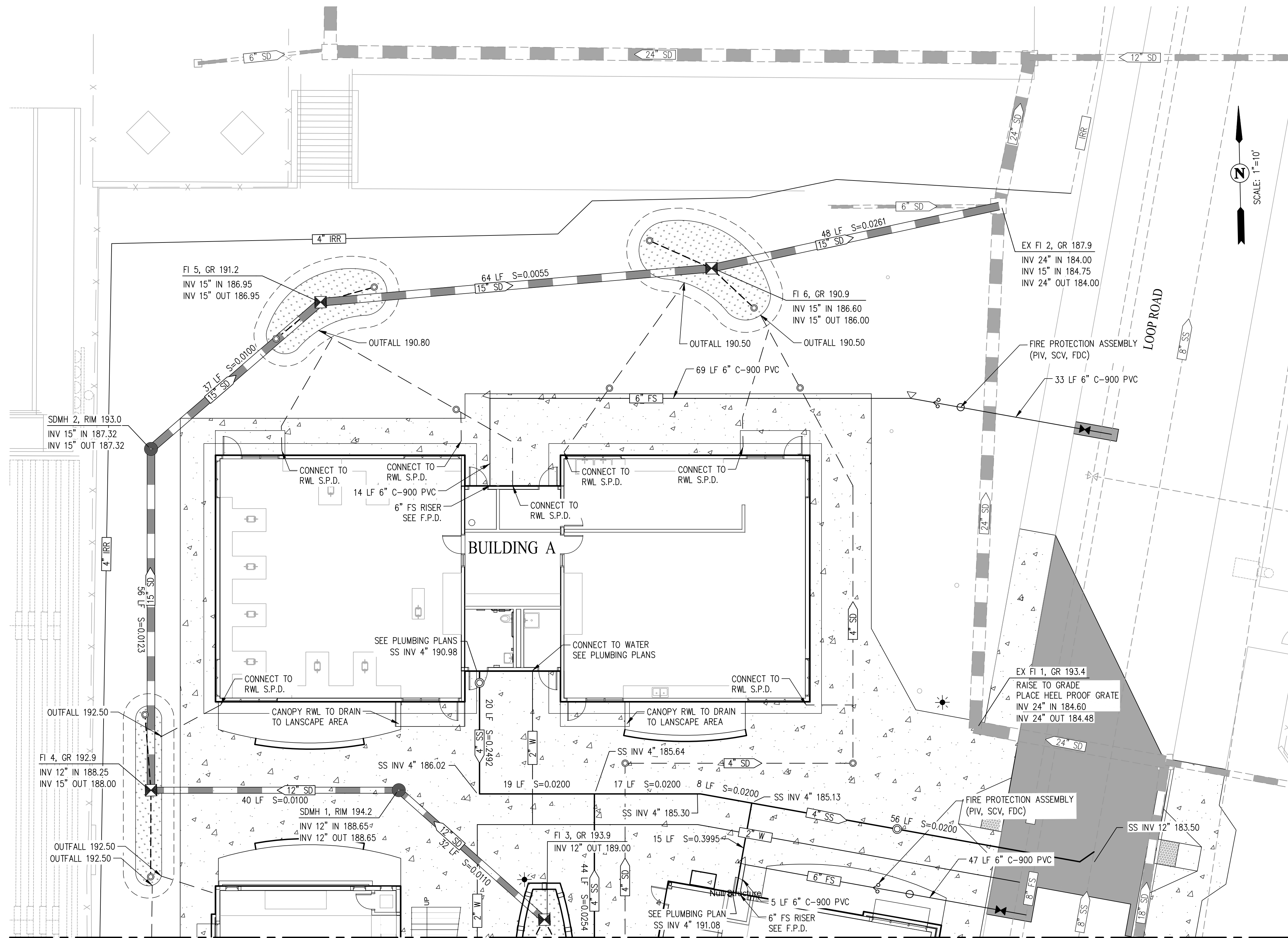
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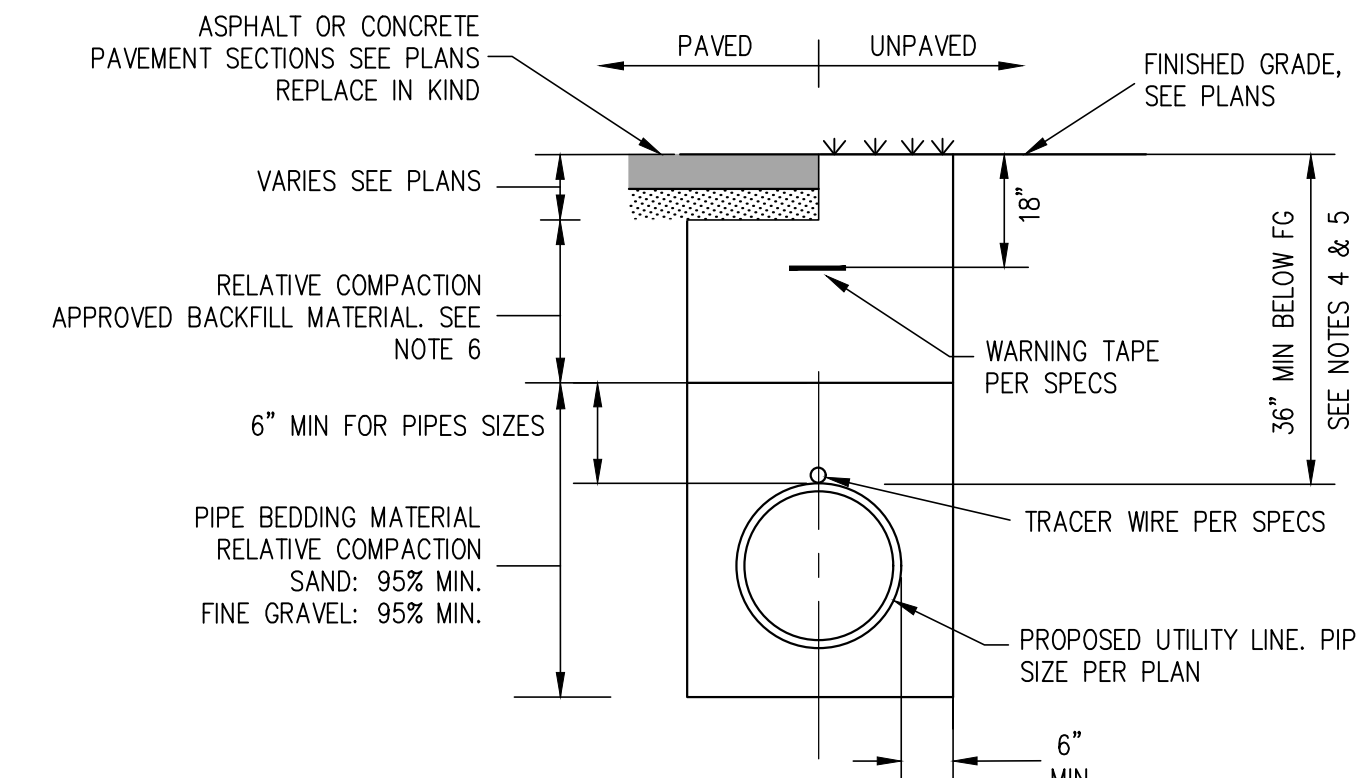
C-2.1



MATCH LINE -SEE SHEET C-3.2

LEGEND

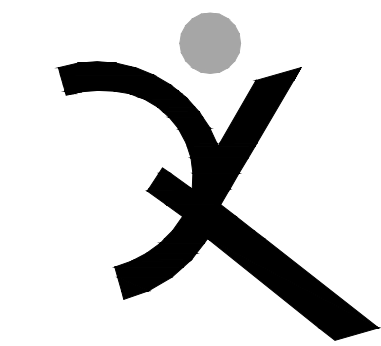
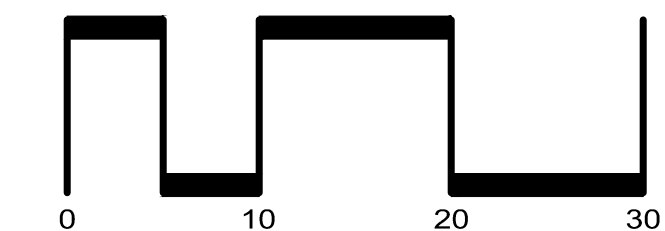
- AC PAVEMENT
- CONCRETE SIDEWALK/GUTTER
- BIO-RETENTION AREA
- 15" SD PROPOSED STORM DRAIN
- 4" SD PROPOSED PERFORATED STORM DRAIN
- 4" SS PROPOSED SEWER LATERAL
- 2" W PROPOSED WATER LATERAL
- 4" FS PROPOSED FIRE SERVICE
- IRR IRRIGATION SLEEVE - SEE LANDSCAPE PLANS
- RAIN WATER LEADER / COMMON AREA DRAIN
- THRUST BLOCK - SEE DETAIL SHEET C-3.2
- PIV
- FDC
- PROPOSED MANHOLE
- PROPOSED CATCH BASIN
- AREA DRAIN
- PROPOSED SD OR SS CLEANOUT
- PROPOSED CURB CUT
- PROPOSED STREET LIGHT, SEE ELECTRICAL PLANS
- 8" SS EXISTING SEWER
- 18" SD EXISTING STORM DRAIN
- 12" W EXISTING WATER
- 6" IRR EXISTING IRRIGATION
- EXISTING FIELD INLET
- EXISTING MANHOLE



- NOTES:
- BEDDING SHOULD EXTEND A MINIMUM D/4 (D=OUTSIDE PIPE DIAMETER) BELOW BOTTOM OF PIPE.
 - SEE PROJECT SPECIFICATIONS FOR FURTHER UTILITY TRENCH REQUIREMENTS.
 - WHERE TRENCHES EXCEED 5' DEEP, CONTRACTOR TO CONFORM TO CURRENT OSHA REQUIREMENTS FOR SHORING, SLOPING, AND WORKING SAFELY.
 - COVER FOR PAVED AREAS IS DEFINED FROM TOP OF PIPE TO BOTTOM OF AGGREGATE BASE.
 - COVER FOR UNPAVED AREAS IS DEFINED FROM TOP OF PIPE TO TOP OF FINISHED SURFACE.
 - THE RELATIVE COMPACTION FOR APPROVED NATIVE MATERIAL, IMPORTED FILL, AND CALTRANS CLASS II AGGREGATE BASE SHALL BE AS FOLLOW:
PAVED AREAS: 95% MINIMUM
NON-PAVED AREAS: 90% MINIMUM

FIRE WATER TRENCH DETAIL

NOT TO SCALE



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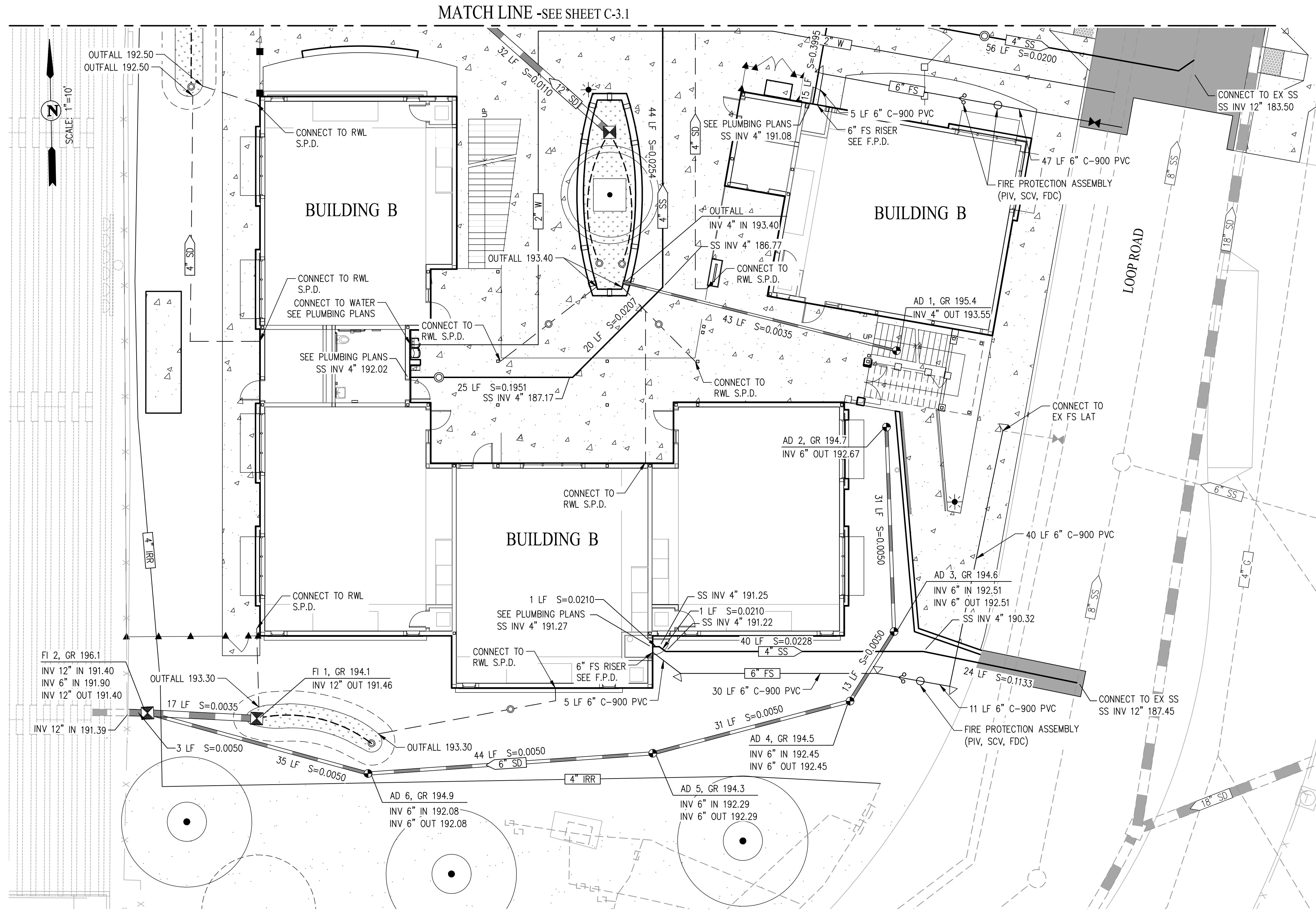
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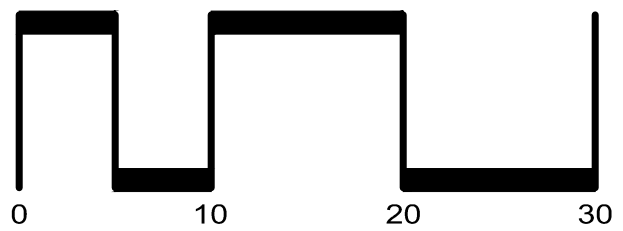
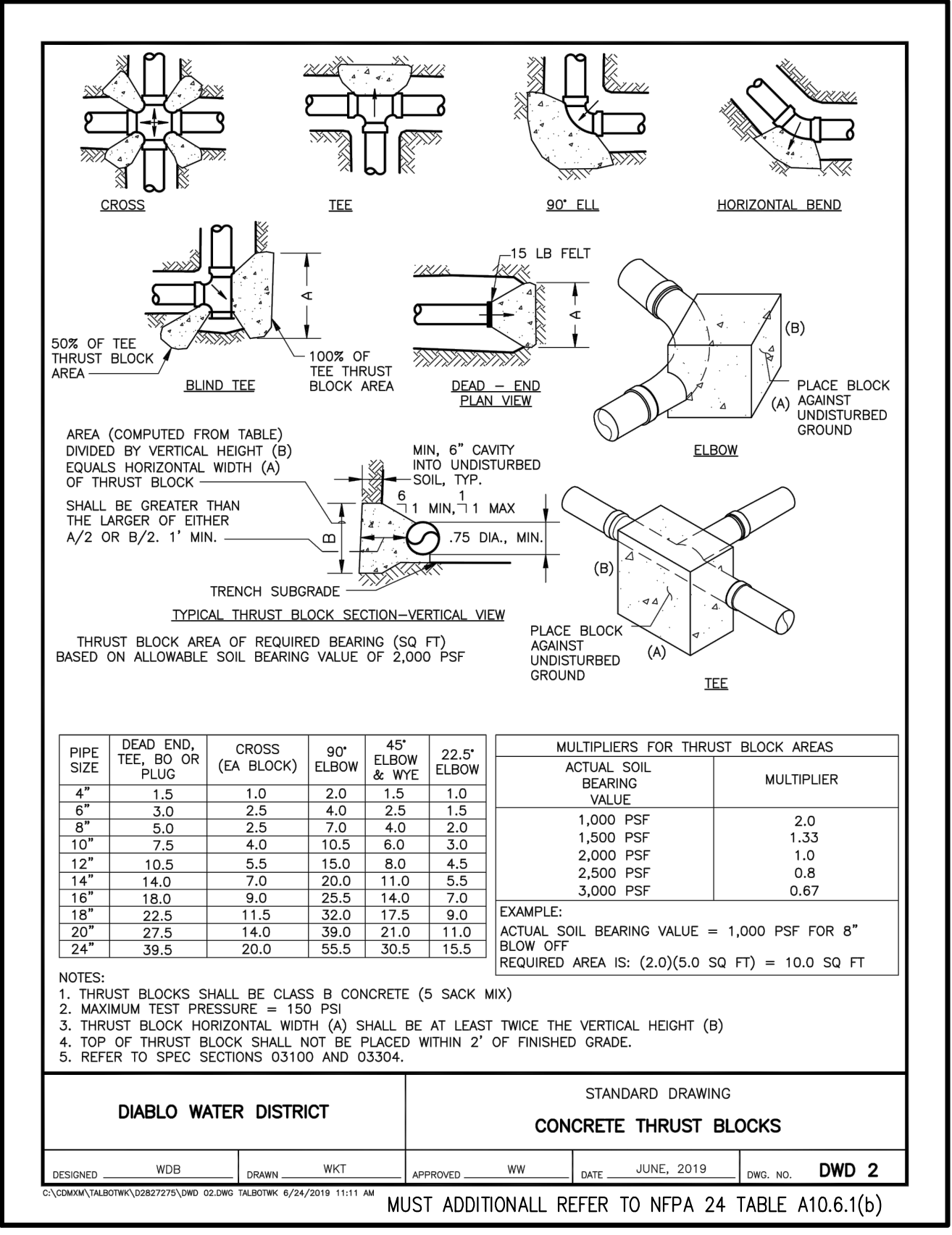
UTILITY PLAN

SHEET NUMBER

C-3.1



- LEGEND**
- AC PAVEMENT
 - CONCRETE SIDEWALK/GUTTER
 - BIO-RETENTION AREA
 - PROPOSED STORM DRAIN
 - PROPOSED PERFORATED STORM DRAIN
 - PROPOSED SEWER LATERAL
 - PROPOSED WATER LATERAL
 - PROPOSED FIRE SERVICE
 - IRRIGATION SLEEVE - SEE LANDSCAPE PLANS
 - RAIN WATER LEADER / COMMON AREA DRAIN
 - THRUST BLOCK - SEE DETAIL BELOW
 - PIV
 - FDC
 - PROPOSED MANHOLE
 - PROPOSED CATCH BASIN
 - AREA DRAIN
 - PROPOSED SD OR SS CLEANOUT
 - PROPOSED CURB CUT
 - PROPOSED STREET LIGHT, SEE ELECTRICAL PLANS
 - EXISTING SEWER
 - EXISTING STORM DRAIN
 - EXISTING WATER
 - EXISTING IRRIGATION
 - EXISTING FIELD INLET
 - EXISTING MANHOLE



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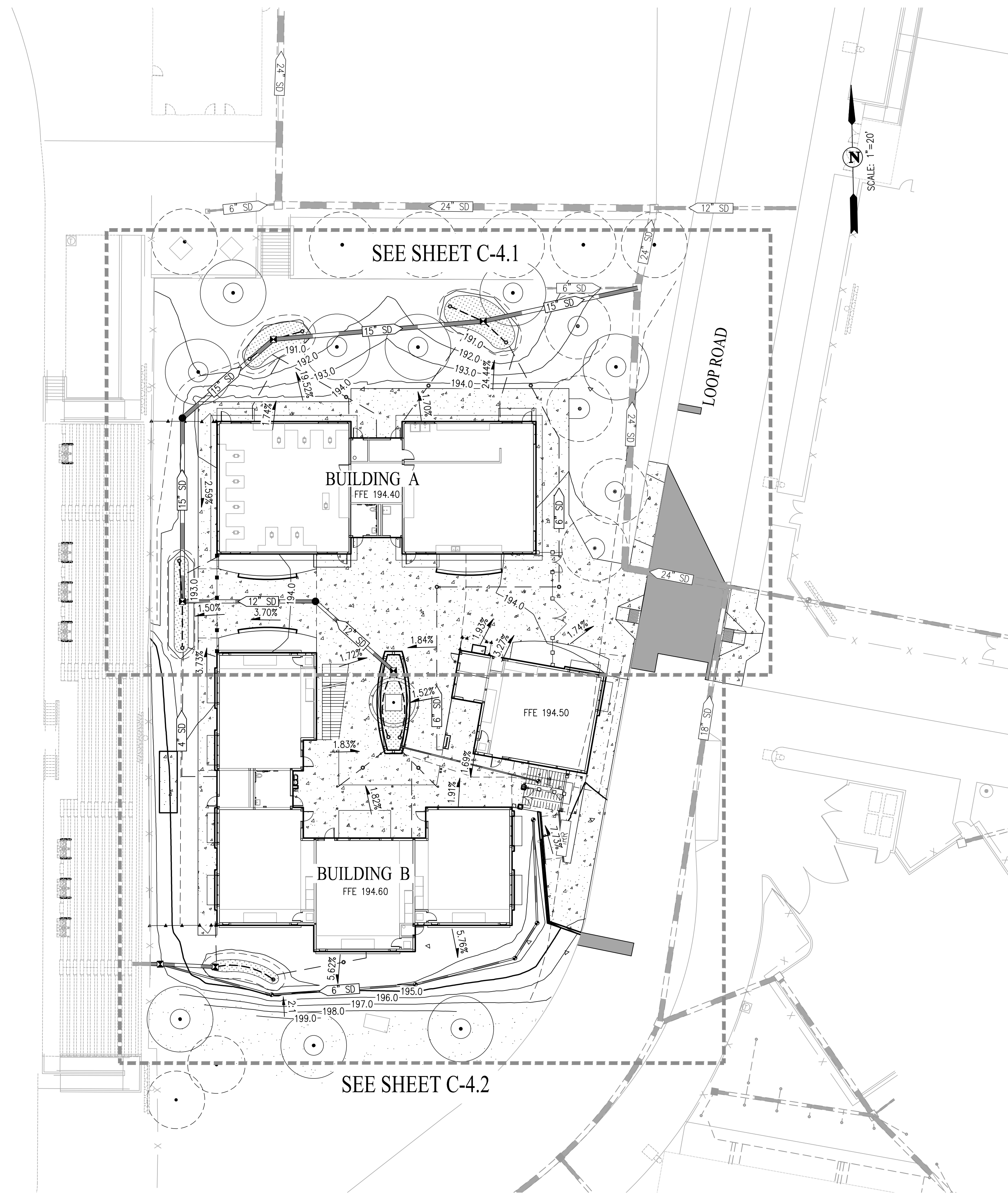
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UTILITY PLAN
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C-3.2

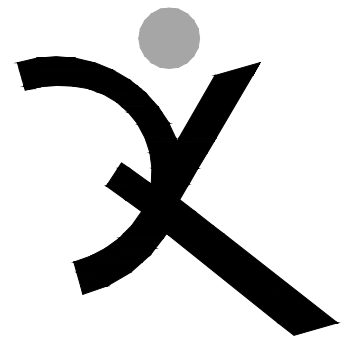


LEGEND

- AC PAVEMENT
- CONCRETE SIDEWALK/GUTTER
- BIO-RETENTION AREA
- PROPOSED STORM DRAIN
- PROPOSED PERFORATED STORM DRAIN
- PROPOSED MANHOLE
- PROPOSED CATCH BASIN
- AREA DRAIN
- PROPOSED SD CLEANOUT
- PROPOSED CURB CUT
- EXISTING STORM DRAIN
- EXISTING FIELD INLET
- EXISTING MANHOLE

NOTE

ALL EARTHWORK, TRENCHING, EXCAVATION, SUBGRADE AND FOOTING PREPARATION, BACKFILLING, ETC. SHALL BE PER RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEERING AND GEOLOGIC HAZARDS REPORT, HERITAGE HIGH SCHOOL CULINARY ARS BUILDING AND FUTURE TWO-STORY CLASSROOMS BY WALLACE KUHL & ASSOCIATES DATED OCTOBER 29, 2018.



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HERITAGE
HIGH SCHOOL

NEW CLASSROOM
BUILDINGS
INCREMENT 2 OF 2

101 AMERICAN AVE,
BRENTWOOD, CA 94513

LIBERTY UNION
HIGH SCHOOL
DISTRICT

REVISIONS		

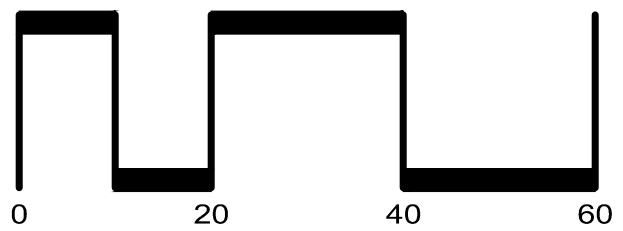
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DRAWING SCALE:
PTN: 61721-77 FILE NO: 7-H4

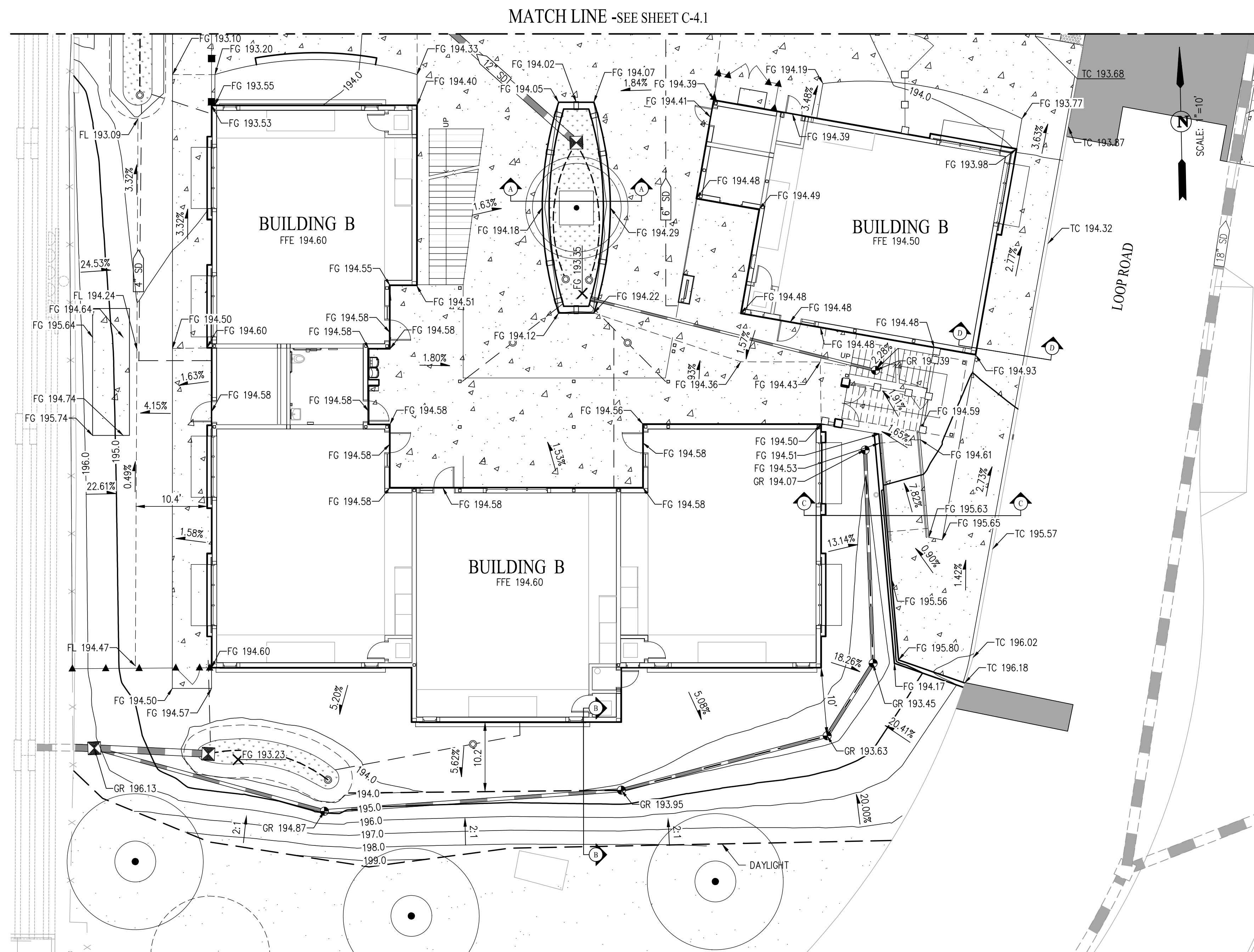
BID SET
MAY 10, 2021
SHEET TITLE

GRADING AND
DRAINAGE PLAN

SHEET NUMBER

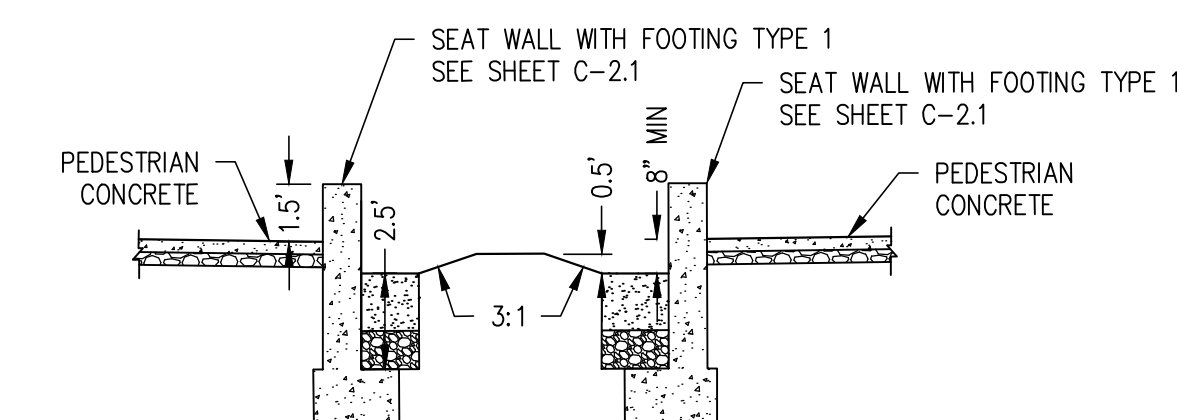
C-4.0





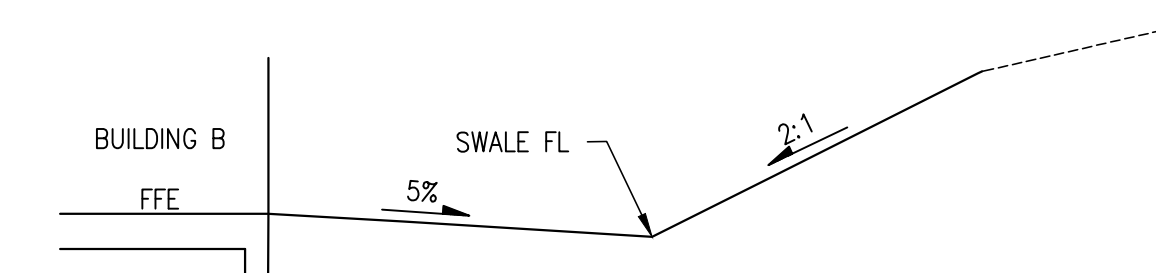
LEGEND

- AC PAVEMENT
- CONCRETE SIDEWALK/GUTTER
- BIO-RETENTION AREA
- PROPOSED STORM DRAIN
- PROPOSED PERFORATED STORM DRAIN
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- PROPOSED CURB CUT
- EXISTING STORM DRAIN
- EXISTING FIELD INLET
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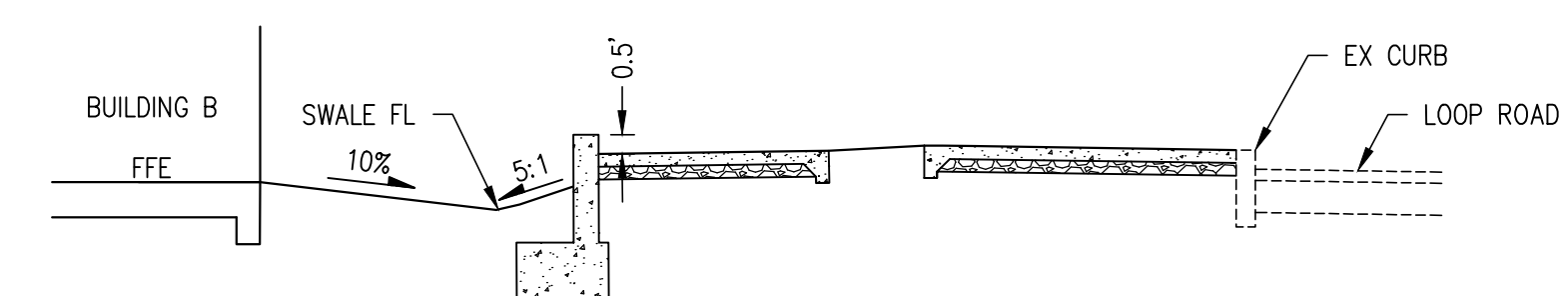
A-A DETAIL

NOT TO SCALE



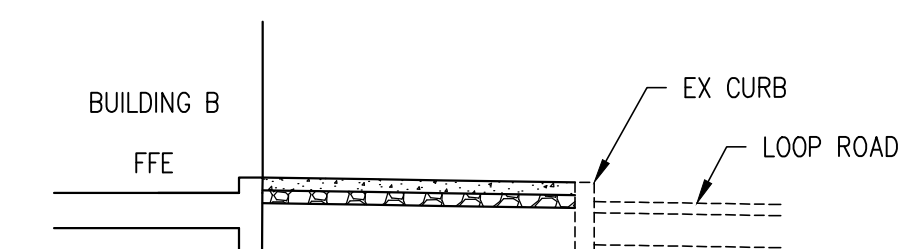
B-B DETAIL

NOT TO SCALE



C-C DETAIL

NOT TO SCALE

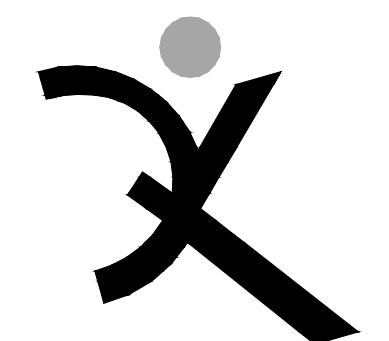
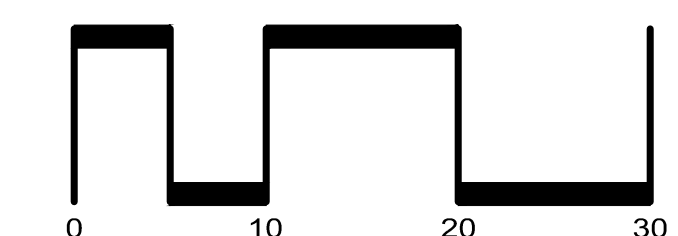


D-D DETAIL

NOT TO SCALE

NOTE

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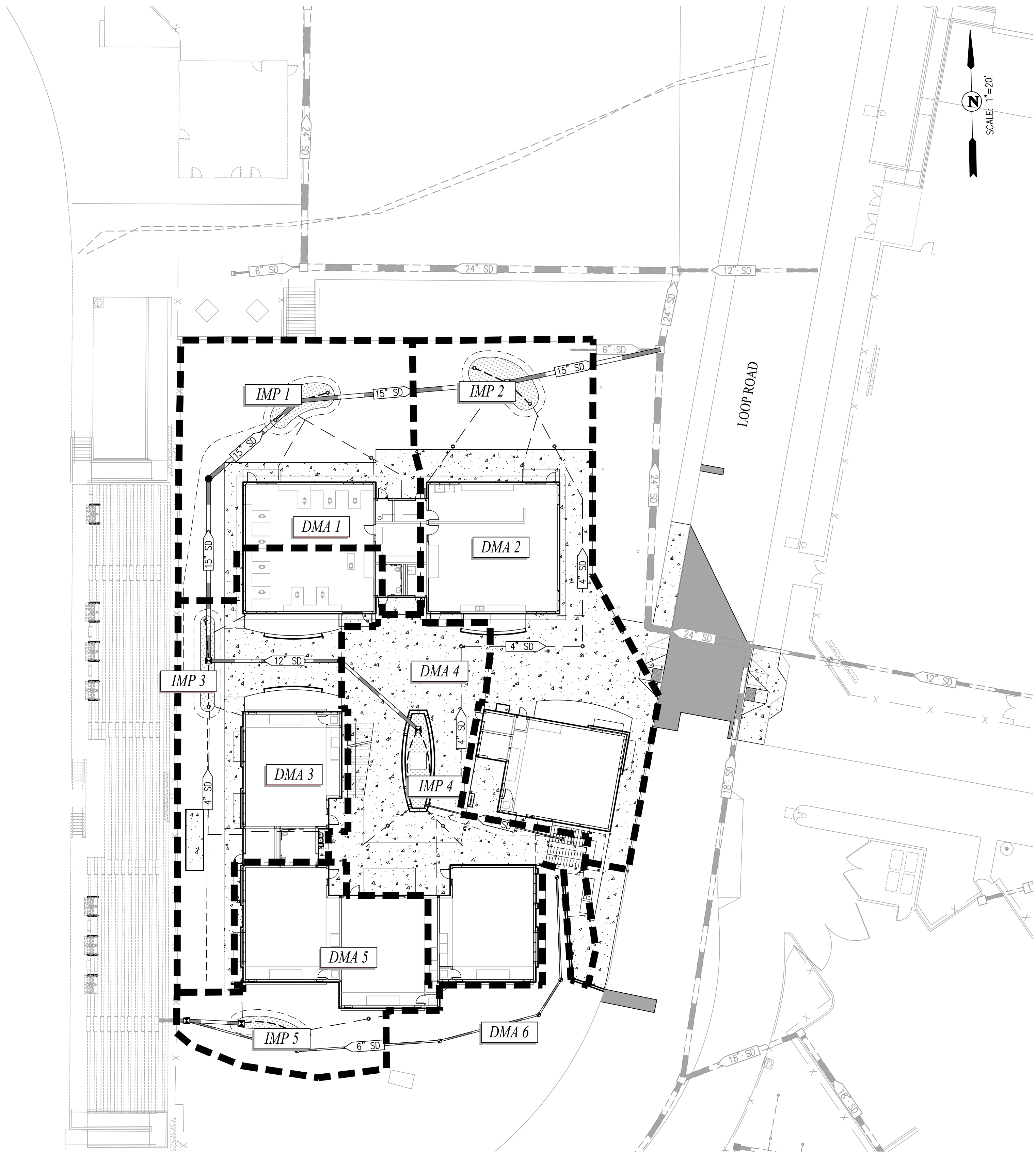
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SHEET TITLE

GRADING AND DRAINAGE PLAN

SHEET NUMBER

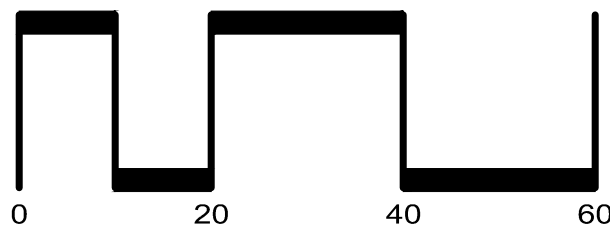
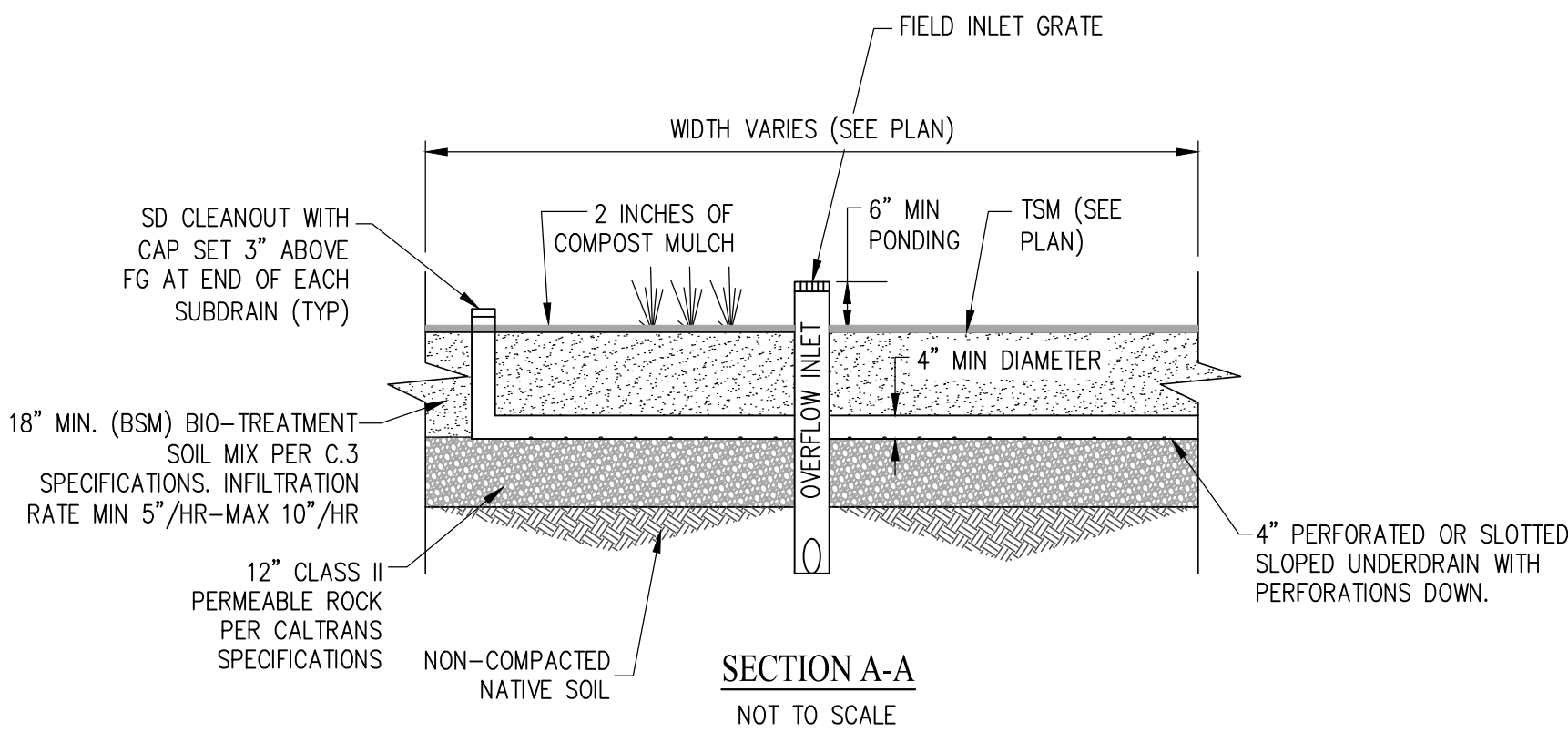
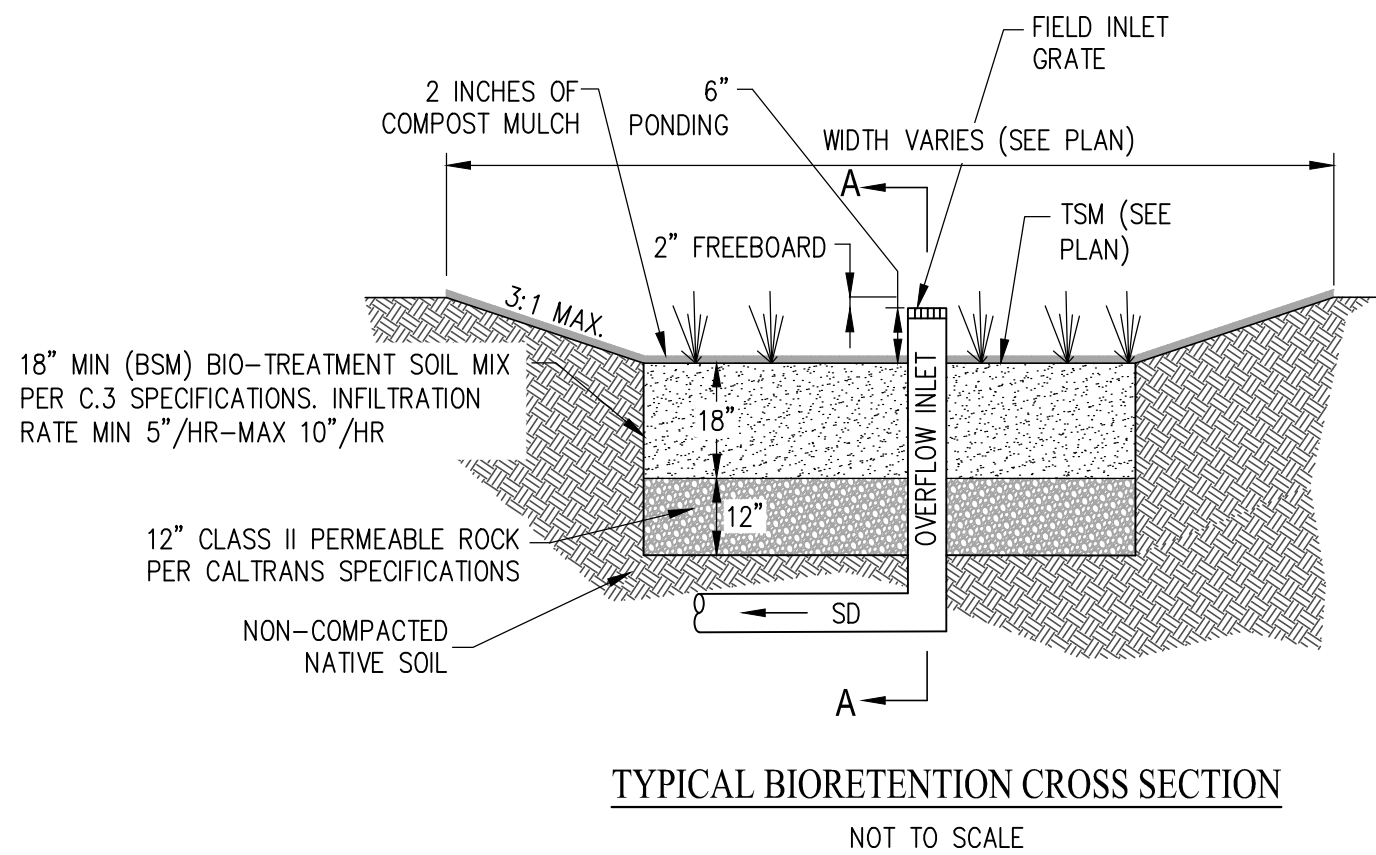
C-4.2



BIORETENTION AREAS	
DMA	PROVIDED TREATMENT AREA (SF)
1	155
2	210
3	121
4	165
5	73
TOTAL	724

DMA 6 IS A SELF TREATED AREA

- LEGEND**
- AC PAVEMENT
 - CONCRETE SIDEWALK/GUTTER
 - INTEGRATED MANAGEMENT PRACTICE: BIO-RETENTION AREA
 - PROPOSED STORM DRAIN
 - PROPOSED PERFORATED STORM DRAIN
 - RAIN WATER LEADER / COMMON AREA DRAIN
 - PROPOSED MANHOLE
 - PROPOSED CATCH BASIN
 - AREA DRAIN
 - PROPOSED SD CLEANOUT
 - PROPOSED CURB CUT
 - EXISTING STORM DRAIN
 - EXISTING FIELD INLET
 - EXISTING MANHOLE
 - DRAINAGE MANAGEMENT AREA BOUNDARY
 - DRAINAGE MANAGEMENT AREA DRAINING TO PARKING INFILTRATION TRENCH AREA OR BIO-RETENTION AREA



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REGISTERED PROFESSIONAL ENGINEER
JASON D. VOGAN
53299
CIVIL
STATE OF CALIFORNIA

HERITAGE HIGH SCHOOL
NEW CLASSROOM BUILDINGS INCREMENT 2 OF 2
101 AMERICAN AVE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

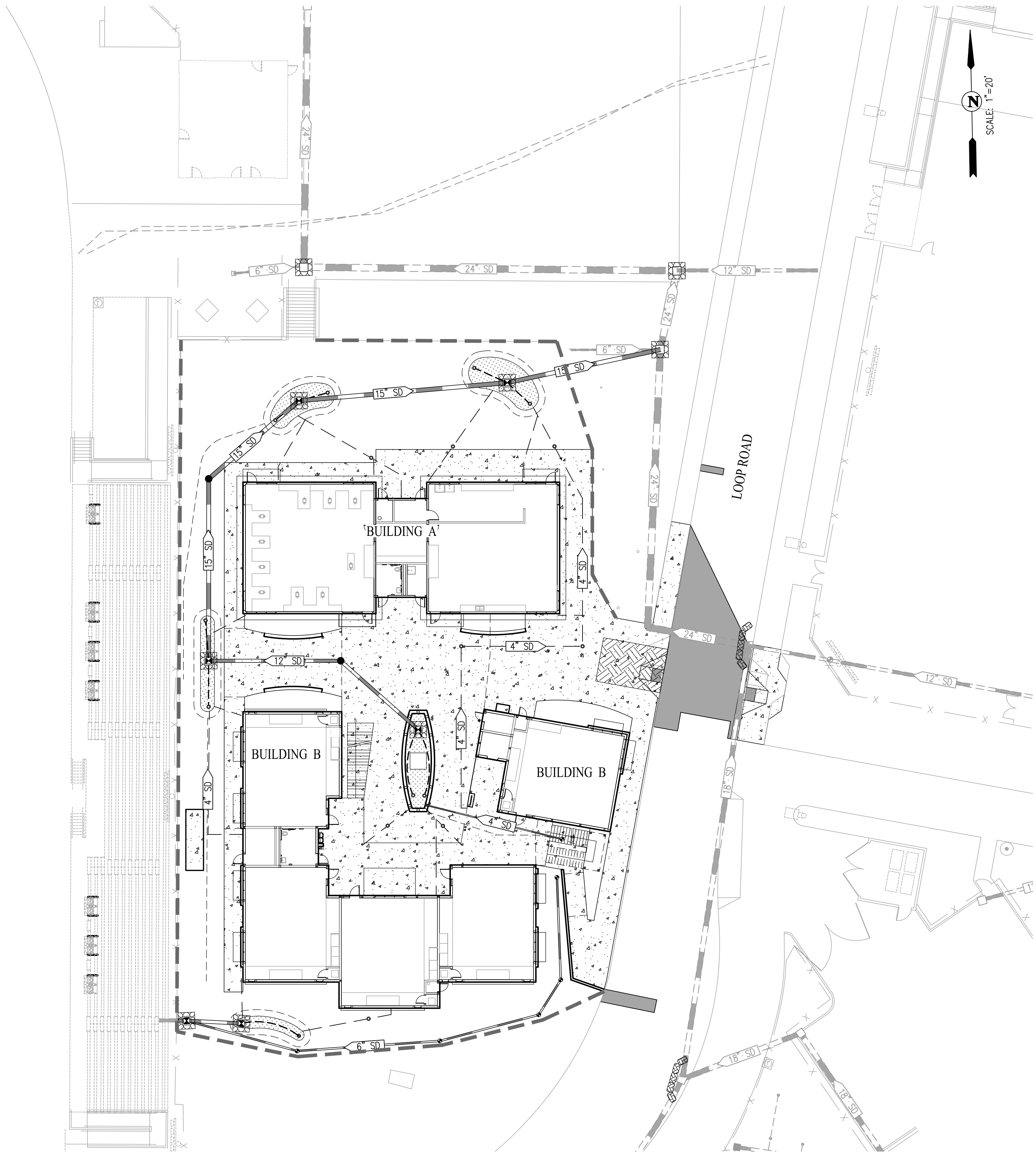
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ARCH PROJECT NO. 1870.00
DRAWN BY: MJV
DRAWING SCALE:
PTN: 61721-77 FILE NO: 7-H4
BID SET
MAY 10, 2021
SHEET TITLE

STORMWATER CONTROL PLAN

SHEET NUMBER

C-5.0



WDID #:

GENERAL NOTES:

1.

LEGALLY RESPONSIBLE PARTY/PERSON (LRP) OWNER/SUBDIVIDER:

LIBERTY UNION HIGH SCHOOL DISTRICT
850 2ND STREET
BRENTWOOD, CA 94513
2.

CIVIL ENGINEER:

CARLSON, BARBEE & GIBSON, INC.
2633 CAMINO RAMON, SUITE 350
SAN RAMON, CA 94583
(925) 866-0322
JASON VOGAN, RCE 59299
3.

GEOTECHNICAL ENGINEER:

BSK ASSOCIATES
399 LINDBERGH AVENUE
LIVERMORE, CA 94551
(925) 315-3151
CARRIE FOULK

LEGEND

- DIRECTION OF FLOW WITH STORM DRAIN INSTALLED
- FIELD INLET PROTECTION - (SE-10)
- CURB INLET PROTECTION - (SE-10)
- FIBER ROLL - (SE-5)
- STABILIZED CONSTRUCTION ENTRANCE/EXIT - (TC-1)
- FIELD INLET
- CURB CUT
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN

NOTE:
* STORMWATER DISCHARGE, SAMPLING LOCATIONS ARE SUBJECT TO CHANGE AND WILL BE REMOVED, RELOCATED OR ADDED AT THE QSP'S DISCRETION.

APPLICABLE (BUT NOT LIMITED TO)
CURRENT CASQA STORMWATER BMP
CONSTRUCTION HANDBOOK

- EC-1

SCHEDULING
- EC-3

HYDROMULCH
- EC-4

HYDROSEED
- NS-1

WATER CONSERVATION PRACTICES
- NS-2

DEWATERING OPERATIONS
- NS-3

PAVING & GRINDING OPERATIONS
- NS-8

VEHICLE & EQUIPMENT CLEANING
- NS-9

VEHICLE & EQUIPMENT FUELING
- NS-10

VEHICLE & EQUIPMENT MAINTENANCE
- NS-12

CONCRETE CURING
- NS-13

CONCRETE FINISHING
- SE-1

SILT FENCE
- SE-4

CHECK DAMS
- SE-5

FIBER ROLLS
- SE-10

DI PROTECTION TYPE 1
- SE-10

DI PROTECTION TYPE 2
- SE-10

DI PROTECTION TYPE 3
- TC-1

STABILIZED CONSTRUCTION ENTRANCE/EXIT
- TC-2

STABILIZED CONSTRUCTION ROADWAY
- TC-3

ENTRANCE & OUTLET TIRE WASH
- WE-1

WIND EROSION CONTROL
- WM-1

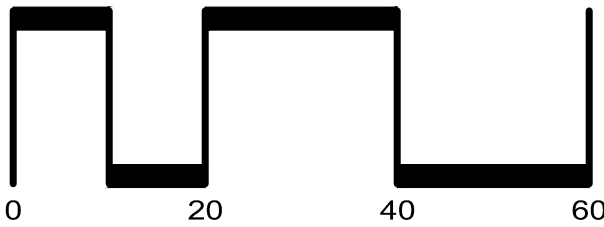
MATERIAL DELIVERY & STORAGE
- WM-2

MATERIAL USE
- WM-3

STOCKPILE MANAGEMENT
- WM-8

CONCRETE WASTE MANAGEMENT
- WM-9

SANITARY/SEPTIC WASTE MANAGEMENT



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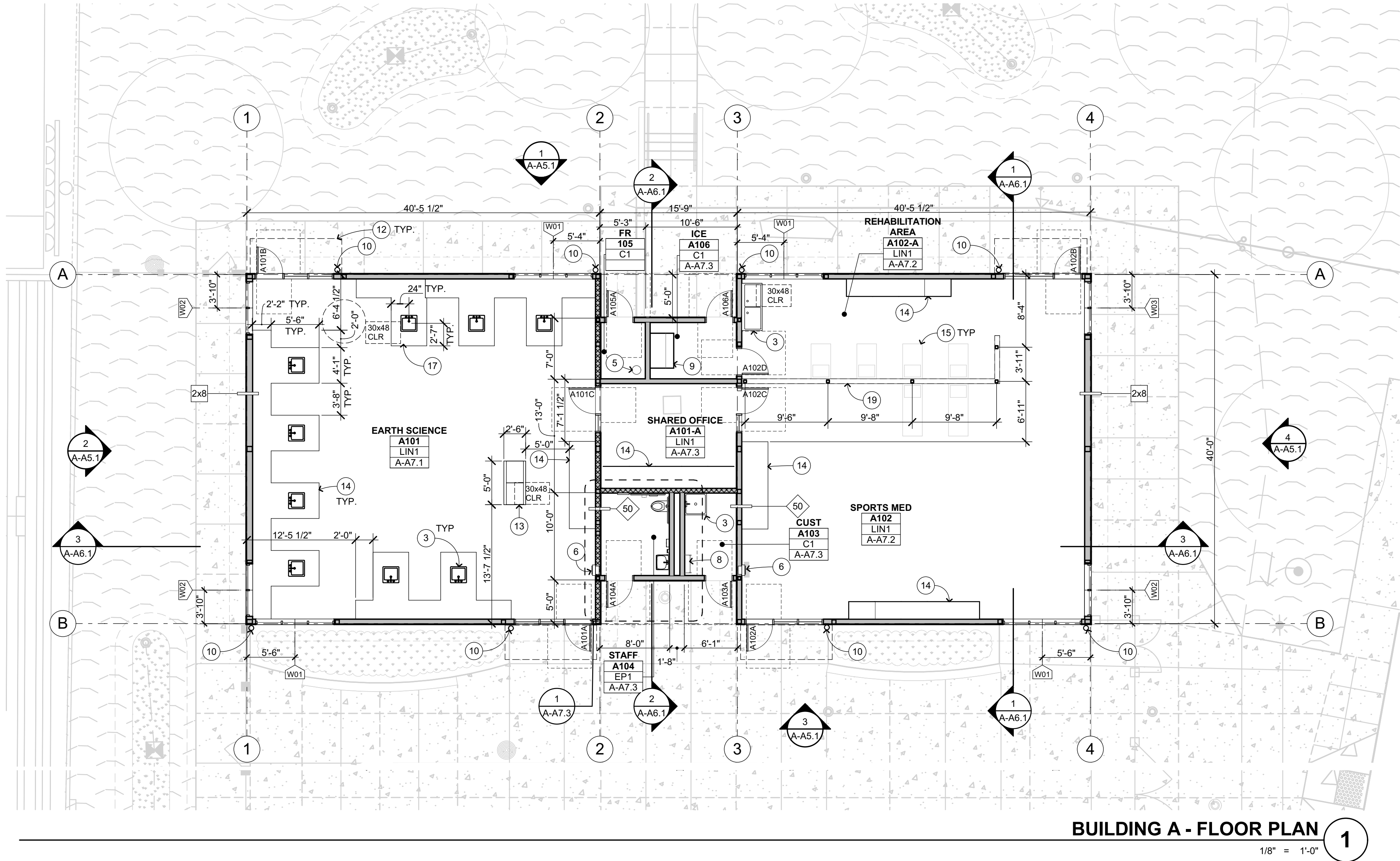
MAY 10, 2021

SHEET TITLE

EROSION
CONTROL PLAN

SHEET NUMBER

C-6.0



FLOOR PLAN KEYNOTES

- NOT ALL KEYNOTES MAY APPLY TO THIS SHEET
- 1 STRUCTURAL ITEM, S.S.D.
 - 2 MECHANICAL ITEM, S.M.D.
 - 3 PLUMBING ITEM / FIXTURE, S.P.D.
 - 4 ELECTRICAL ITEM, S.E.D.
 - 5 FIRE SPRINKLER RISER, S.F.P.D.
 - 6 FIRE EXTINGUISHER CABINET, SEE INT ELEVS
 - 7 SECTIONAL DOORS, SEE ELEVATIONS AND DOOR SCHEDULE
 - 8 ROOF ACCESS LADDER, SEE DETAIL
 - 9 ICE MACHINE, S.E.D. AND S.P.D.
 - 10 RAIN WATER LEADER, SEE RCP
 - 11 RAIN CANOPY ABOVE, SEE RCP
 - 12 SUNSHADE CANOPY ABOVE, SEE RCP
 - 13 DEMONSTRATION TABLE, SEE DETAIL
 - 14 CASEWORK, SEE INTERIOR ELEVATIONS
 - 15 (E) TREATMENT/TRAINING BEDS
 - 16 MARKERBOARD, SEE DETAIL
 - 17 ACCESSIBLE LAB COUNTERTOP, SEE DETAIL
 - 18 SEISMIC JOINT, S.S.D. AND DETAIL
 - 19 5'-0" PARTIAL HEIGHT WALL, SEE INTERIOR ELEVATIONS AND S.S.D.
 - 20 WALK-OFF CARPET
 - 21 METAL ROOF GUTTER, SEE DETAIL
 - 22 HI-LOW DRINKING FOUNTAIN, SEE DETAIL

FLOOR PLAN GENERAL NOTES

- EXTERIOR CONCRETE FLATWORK SHALL HAVE A MAXIMUM SLOPE OF 1:20, U.O.N.; EXTERIOR DOOR LANDINGS SHALL SLOPE 1/4" PER FOOT FOR 60" PERPENDICULAR TO DOOR FACE, MAXIMUM FOR DRAINAGE. CONCRETE SHALL SLOPE MINIMUM 1/8" PER FOOT AWAY FROM BUILDINGS, S.C.D.
- FINISHED FLOOR ELEVATIONS SHOWN INDICATE FLOOR SLABS FOR THIS BUILDING. FOR ELEVATIONS RELATIVE TO THE REST OF THE SITE, REFER TO CIVIL ENGINEERING DRAWINGS.
- REFER TO CIVIL ENGINEERING DRAWINGS AND SITE PLAN FOR SITE FEATURES NOT OTHERWISE INDICATED.
- REFER TO ARCHITECTURAL GRAPHICS DRAWINGS FOR SIGNAGE NOT SHOWN.
- ALL INTERIOR WALL FRAMING AND GYP BD EXTEND TO UNDERSIDE OF ROOF SHEATHING ABOVE, U.O.N.
- FOR MINIMUM DISTANCES OF DOORS FROM ADJACENT PERPENDICULAR WALLS SEE

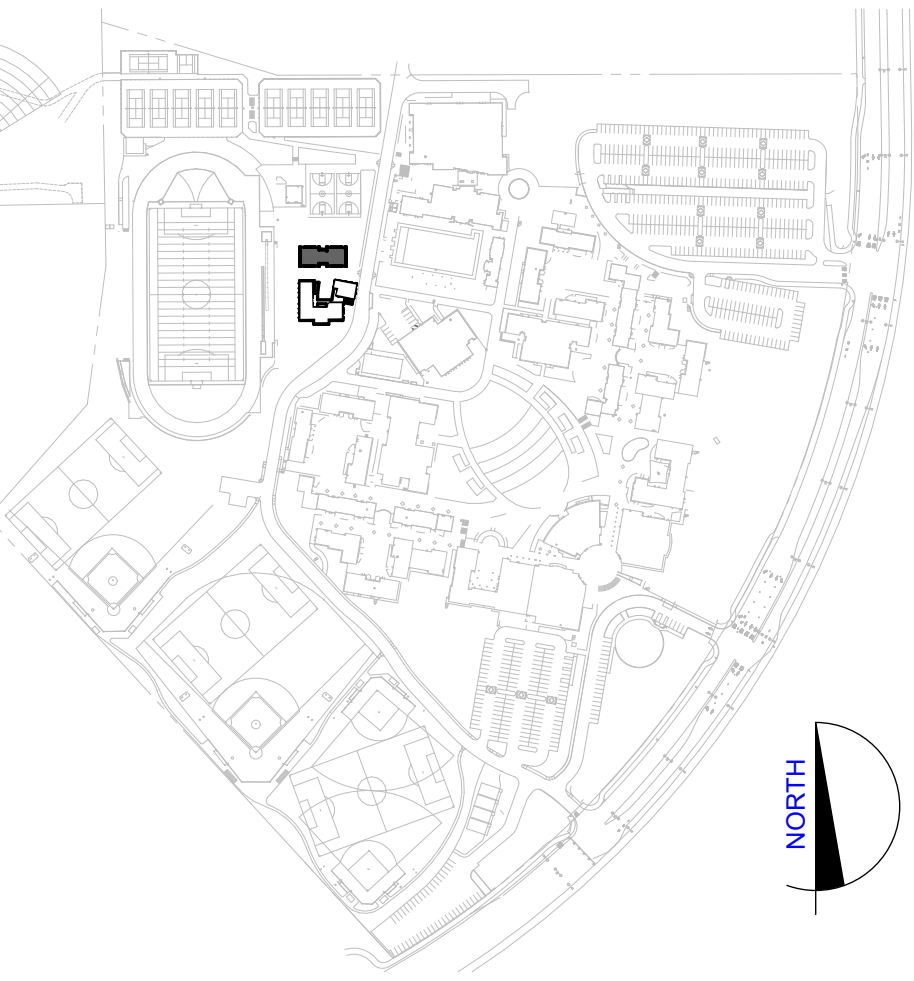
WALL TYPE LEGEND

- S.S.D. FOR WOOD FRAMING SIZES FOR ALL BEARING WALLS.
ALL OTHER WALLS ARE:
BLDG A - 2X6 WOOD STUDS, U.O.N.
BLDG B - 2X8 WOOD STUDS, U.O.N.
- WOOD FRAMING - NON RATED
 - WOOD FRAMING - 1 HOUR RATED
 - EDGE OF SOFFIT, CANOPY, BALCONY OR ROOF ABOVE
 - WOOD STUD SIZE
 - WOOD STUD SIZE
 - ACOUSTIC RATING (STC). SEE SHEET A-10.3 FOR ACOUSTIC WALL DETAILS.

FLOOR FINISH CODES

- C1 SEALED CONCRETE
- CPT1 CARPET TILE - TYPE 1 (CLASSROOM)
- TC1 TRAFFIC COATING AT CONCRETE

KEYPLAN



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LICENSED ARCHITECT

JIM THEISS
LICENSE # C22643
EXP JUNE 30, 2021

SIGNED: MAY 10, 2021

HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS
INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119268

ARCH PROJECT NO: 1870.00

DRAWN BY: SL & HE

DRAWING SCALE: 1/8" = 1'-0"

PTN: 61721-77 FILE NO: 7-H4

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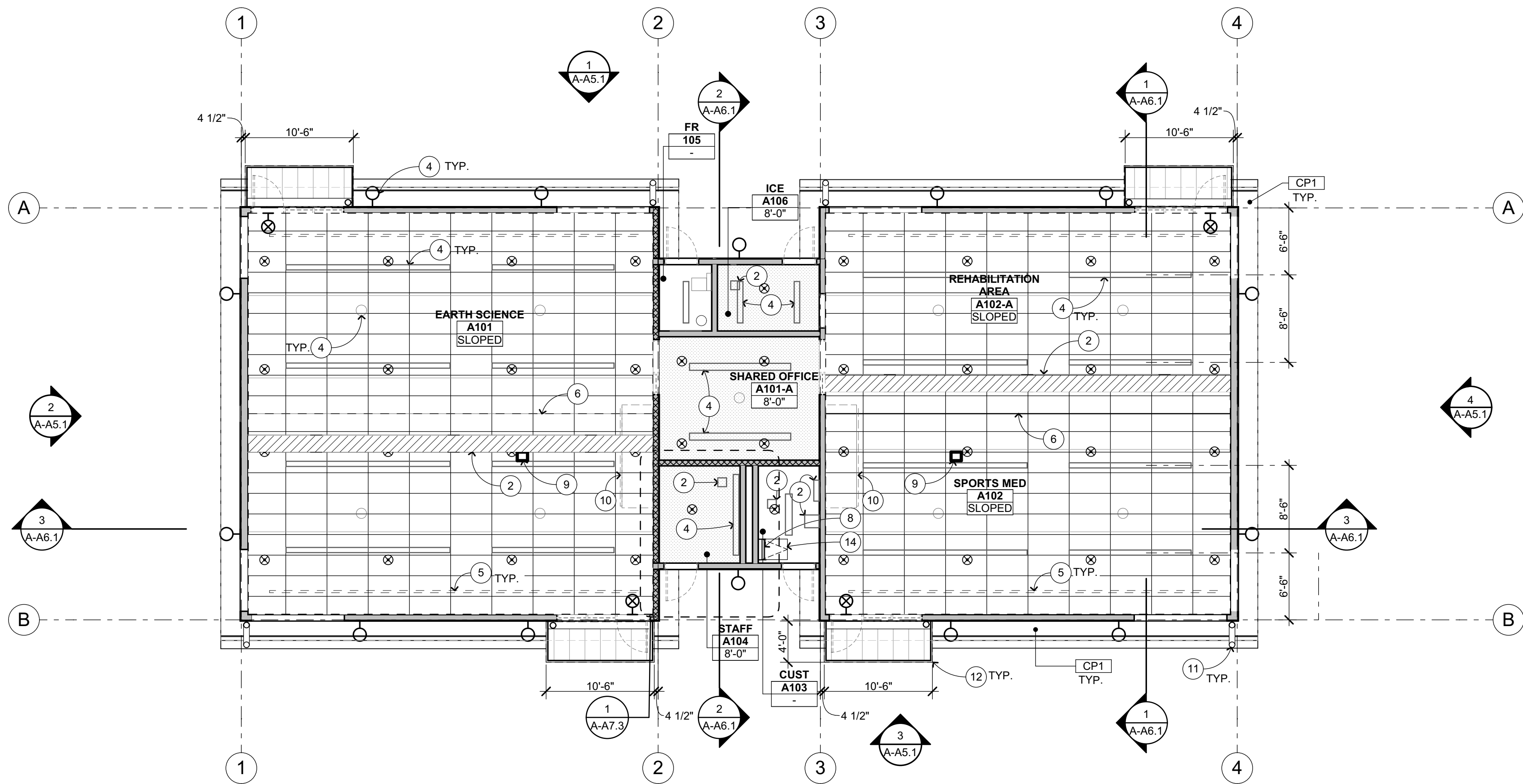
MAY 10, 2021

SHEET TITLE

BLDG-A
FLOOR PLAN

SHEET NUMBER

A-A2.1



REFLECTED CEILING PLAN 1
1/8" = 1'-0"

REFLECTED CEILING PLAN KEYNOTES

NOT ALL KEYNOTES MAY APPLY TO THIS SHEET

- 1 STRUCTURAL ITEM, S.S.D.
- 2 MECHANICAL ITEM, S.M.D.
- 3 PLUMBING ITEM / FIXTURE, S.P.D.
- 4 ELECTRICAL ITEM, S.E.D.
- 5 FIRE PROTECTION ITEM, S.F.P.D.
- 6 RIDGE LINE AT GABLED CEILING
- 7 NOT USED
- 8 ROOF ACCESS LADDER, SEE FLOOR PLAN
- 9 PROJECTOR, S.E.D. AND 14 A-10.1
- 10 PROJECTION SCREEN 21 A-10.2 7 A-9.2 3 A-9.4 19 A-9.4
- 11 RAIN WATER LEADER, SEE RCP &
- 12 RAIN CANOPY
- 13 SUNSHADE CANOPY, SEE.
- 14 ROOF HATCH ABOVE, SEE ROOF PLAN
- 15 METAL ROOF GUTTER, SEE DETAIL 10 A-9.3

REFLECTED CEILING PLAN GENERAL NOTES

1. NOTES & SYMBOLS ARE TO APPLY TO ALL AREAS OF SIMILAR GRAPHIC REPRESENTATION. SUCH INDICATIONS MAY BE LIMITED TO PROMOTE CLARITY OR AVOID REDUNDANCY. NO LIMITATION OF APPLICATION SHALL BE CONSTRUED WITHOUT SPECIFIC NOTATION.
2. PENDANT LIGHT FIXTURE LOCATION DIMENSIONS ARE NOMINAL. VERIFY IN FIELD TO MAINTAIN 45° SWING CLEARANCES TO FIXED ELEMENTS.
3. S.E.D. FOR HORNS, SPEAKERS, PULL STATIONS, LIGHT FIXTURES AND OTHER FEATURES NOT OTHERWISE SHOWN.
4. S.E.D. FOR EXIT SIGNS & EMERGENCY LIGHTING CONDITIONS.
5. S.M.D. FOR PIPING, REGISTERS & VENTS NOT OTHERWISE SHOWN. MECHANICAL DUCT LOCATION DIMENSIONS ARE NOMINAL. VERIFY IN FIELD TO MAINTAIN CLEARANCES TO FIXED ELEMENTS.

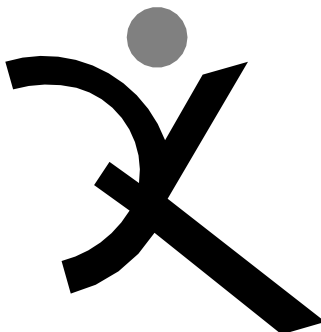
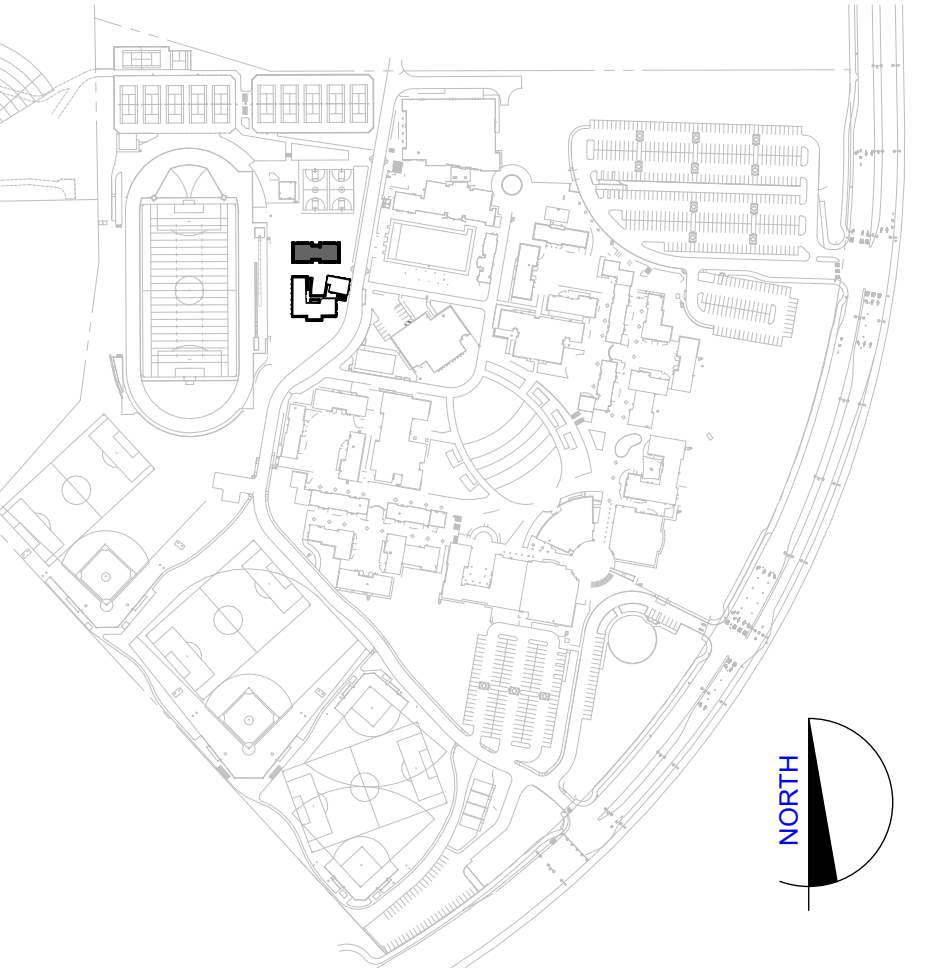
REFLECTED CEILING PLAN LEGEND

- 10'-0" ROOM NAME ROOM # X'-X" CL-XX REFERS TO CEILING FINISH CODE SEE BELOW. X'-X" REFERS TO FINISHED CEILING HEIGHT AFF. WHERE CEILING HEIGHT IS INDICATED AS "OPEN" OR "-". ROOM IS OPEN TO STRUCTURE ABOVE. FOR CEILING CONFIGURATION & HEIGHT WHERE CEILING HEIGHT IS INDICATED AS CURVED, SLOPING, OR VARIES, REFER TO SECTION DRAWINGS.
- GYPSUM BOARD, SEE FINISH CODE
- SURFACE MOUNTED ACOUSTIC TILES AT GYP BD CLG. SEE FINISH CODES
- 2'x4' SUSPENDED CEILING SYSTEM W/ ACOUSTIC TILE, SEE FINISH CODES
- METAL ROOF DECK AT RAIN CANOPIES
- EXTRUDED FIBERGLASS GRATING AT SUNSHADE CANOPY
- CEMENT PLASTER, SEE FINISH CODE
- DOORS SHOWN DASHED INDICATE DOOR BELOW. FOR DEMO, (E), AND (N) DOOR/FRAME INFORMATION SEE FLOOR PLANS & DOOR SCHEDULE
- ELECTRICAL ITEMS, S.E.D.
- MECHANICAL ITEMS, S.M.D.
- FIRE SPRINKLERS, S.F.P.D. AND DTL 15 A-10.1

CEILING FINISH CODES FOR PAINT FINISHES SEE SEC. 09 9113 (EXTERIOR) & 09 9123 (INTERIOR).

- GYP1 GYP BOARD
- ACT1 ACOUSTICAL CEILING TILE CEILING GRID SYSTEM
- ACP1 ACOUSTIC CEILING PANELS
- ES1 EXPOSED STRUCTURE
- CP1 CEMENT PLASTER

KEYPLAN



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SIGNED: MAY 10, 2021

HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119268

ARCH PROJECT NO: 1870.00

DRAWN BY: SL & HE

DRAWING SCALE: 1/8" = 1'-0"

PTN: 61721-77 FILE NO: 7-H4

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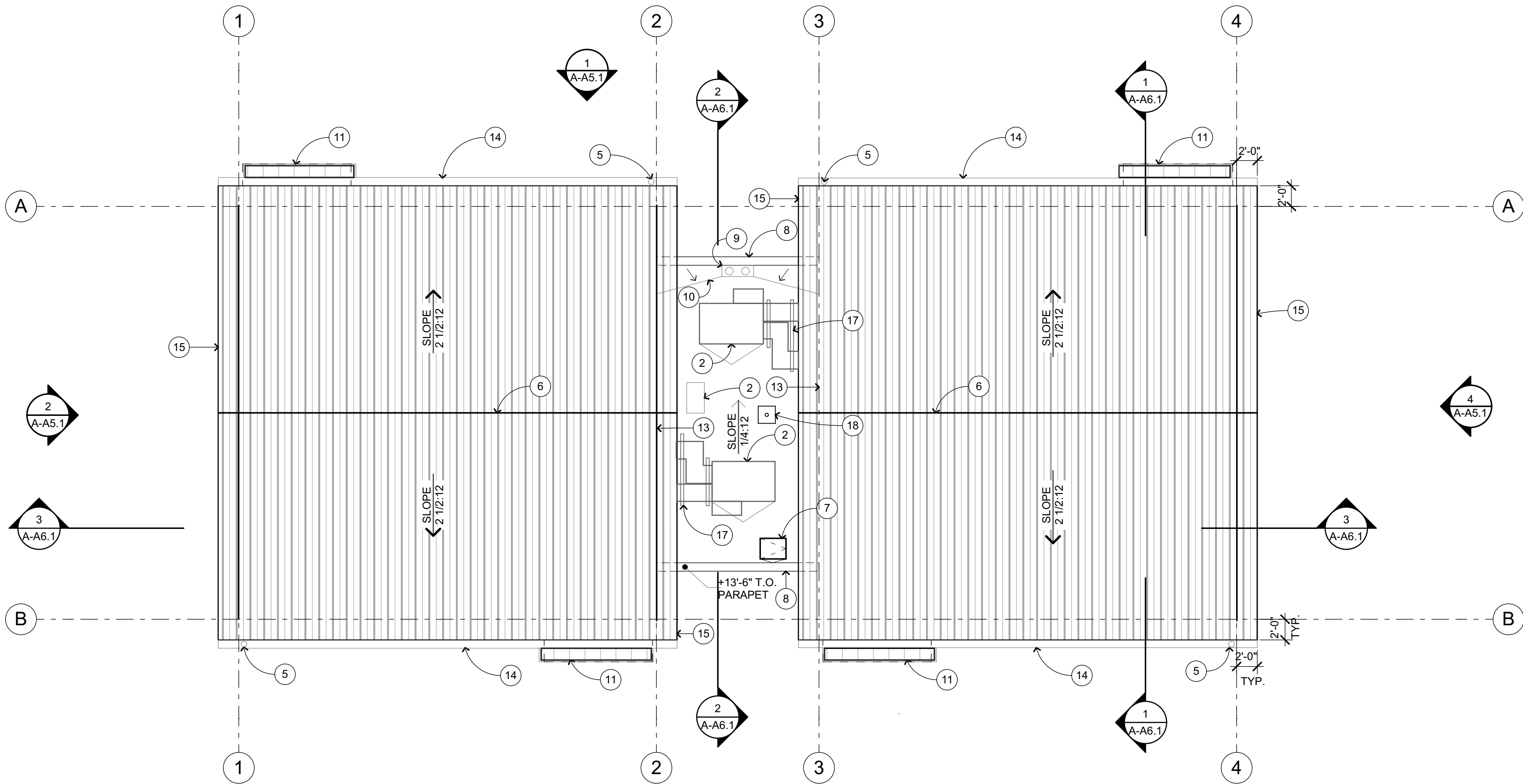
MAY 10, 2021

SHEET TITLE

BLDG-A REFLECTED CEILING PLAN

SHEET NUMBER

A-A3.1



ROOF PLAN 1
1/8" = 1'-0"

ROOF PLAN KEYNOTES

- NOT ALL KEYNOTES MAY APPLY TO THIS SHEET
- 1 STRUCTURAL ITEM, S.S.D.
 - 2 MECHANICAL ITEM, S.M.D.
FOR MECHANICAL CURB, SEE DETAIL S-1.3
 - 3 PLUMBING ITEM / FIXTURE, S.P.D.
 - 4 ELECTRICAL ITEM, S.E.D.
 - 5 RAIN WATER LEADER, SEE EXT ELEVATIONS
 - 6 METAL ROOF RIDGE, SEE DETAIL A-9.3
 - 7 ROOF HATCH, SEE DETAIL A-9.3
 - 8 PARAPET, SEE DETAIL A-9.2
 - 9 ROOF DRAIN & OVERFLOW, SEE DETAIL A-9.2
 - 10 CRICKET, SLOPE DOWN AT 1/2":12"
 - 11 RAIN CANOPY OR SHADE CANOPY BELOW, SEE RCP
 - 12 DOWNSPOUT TO ROOF BELOW, SEE DETAIL A-9.3
 - 13 WALL FLASHING, SEE BUILDING SECTION
 - 14 METAL ROOF GUTTER, SEE DETAIL A-9.3
 - 15 METAL ROOF RAKE, SEE DETAIL A-9.2
 - 16 METAL ROOF UPPER SHED, SEE DETAIL A-9.2
 - 17 EQUIPMENT SUPPORT FOR DUCT LEGS, S.P.D.
 - 18 ROOF ANCHOR, SEE DETAIL A-9.2

ROOF PLAN GENERAL NOTES

- LOCATE ALL METAL ROOF PENETRATIONS IN THE CENTER OF THE PAN.
 - SLOPE MIN 1/4":12" TO DRAIN.
 - ALL ROOFING TO BE CLASS A.
 - REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR ROOF PENETRATION LOCATIONS NOT OTHERWISE INDICATED, TYPICAL.
 - MECHANICAL UNIT MOUNTING CURBS PER S.M.D.
 - MECHANICAL OR PLUMBING VENT FLASHING, SEE DETAIL A-9.2
- BOOTS, SEE 18 A-9.3 METAL, OR 9 A-9.2 B.U.R.

ROOF PLAN LEGEND

- +0'-0" DIMENSION INDICATING TOP OF ROOF LEVEL. SEE DETAILS FOR TOP OF ROOF LOCATION WITHIN ASSEMBLY
- MODIFIED BITUMEN ROOFING O/ SLOPED INSULATION, SEE DETAIL 1 A-9.2
 - PREFORMED METAL ROOF, SEE DETAIL 20 A-9.3
 - METAL DECKING, SEE DETAIL 2 A-9.4

KEYPLAN



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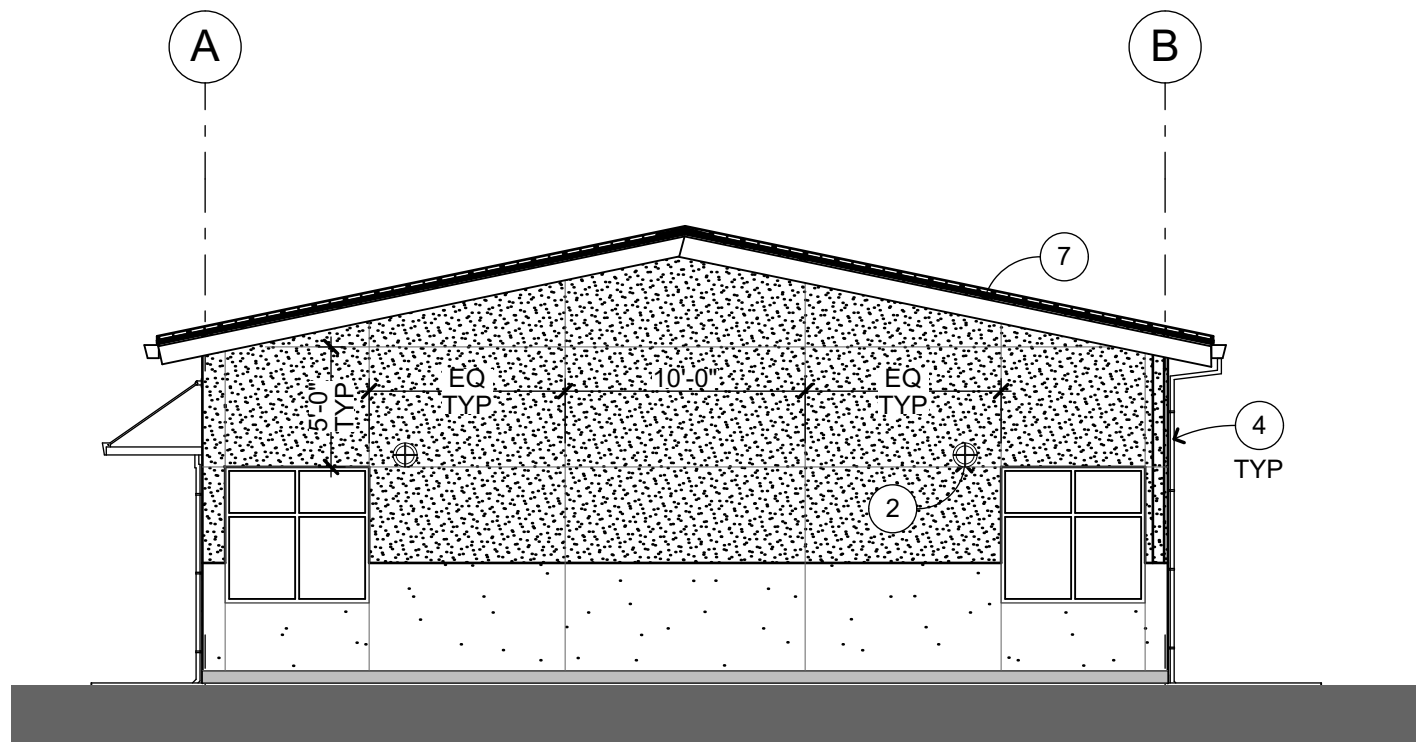
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MAY 10, 2021
SHEET TITLE

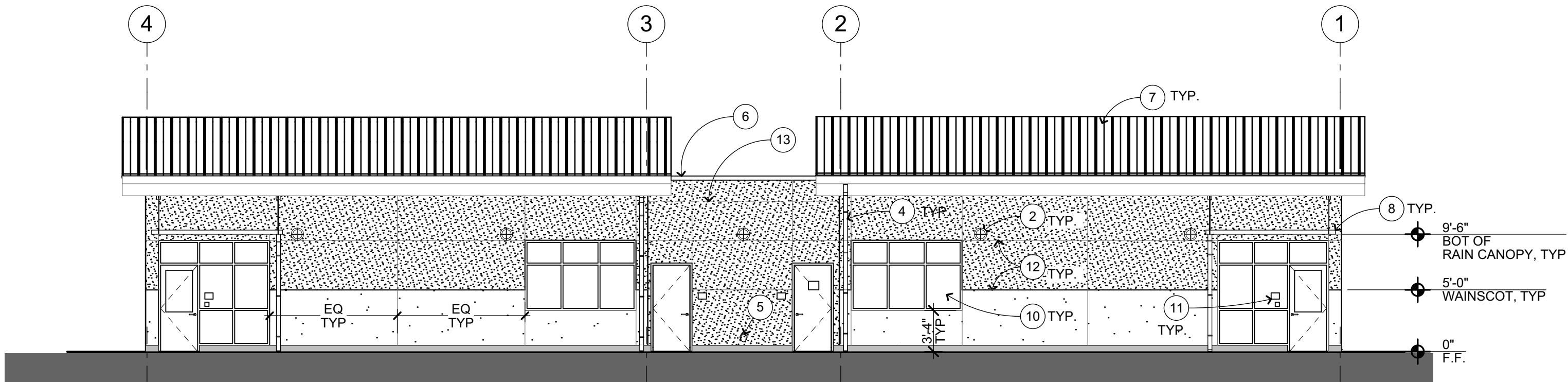
BLDG-A ROOF PLAN

SHEET NUMBER
A-A4.1

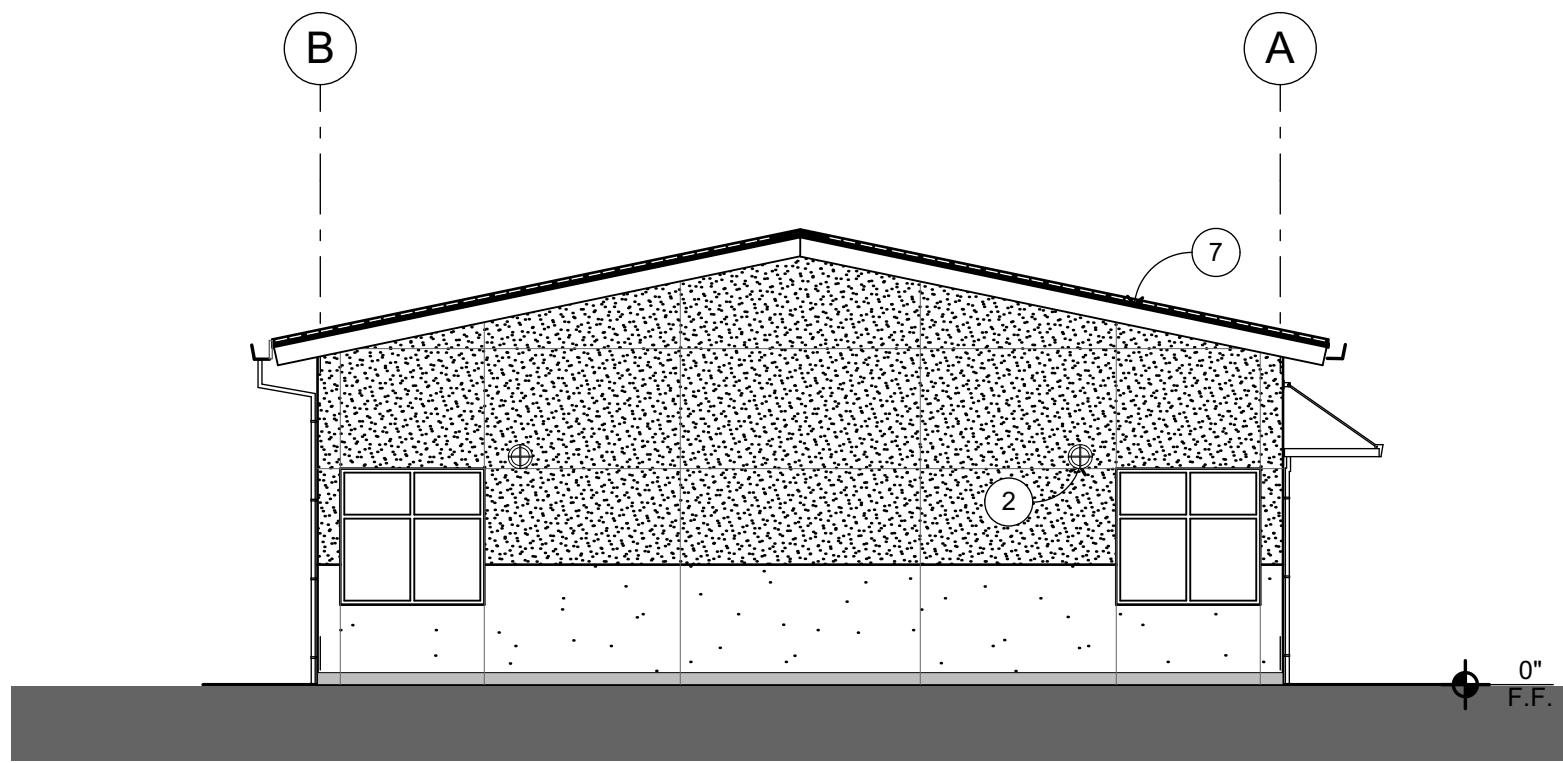
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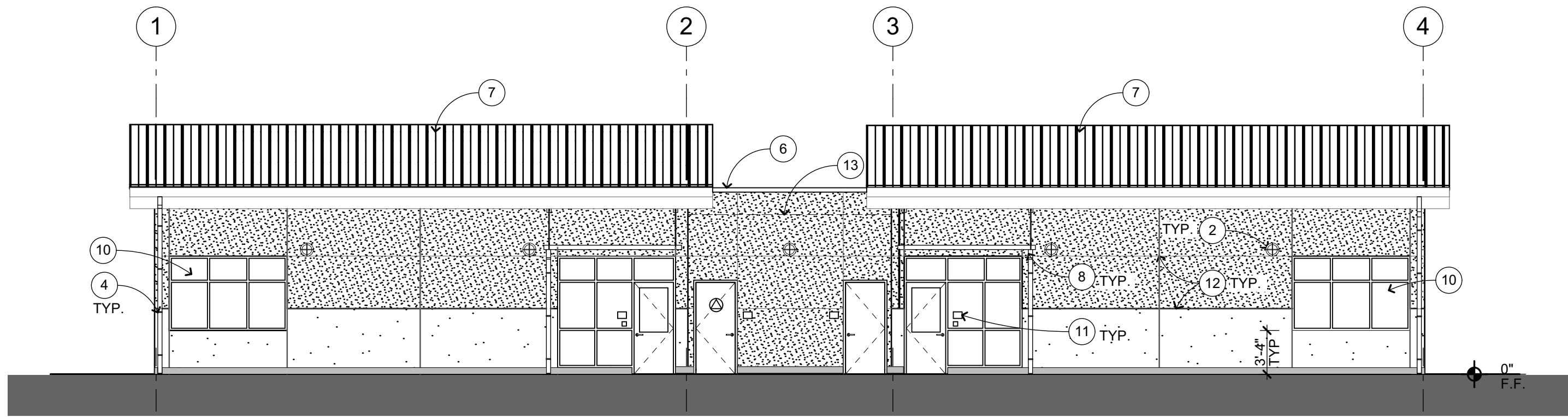
WEST ELEVATION 2
1/8" = 1'-0"



NORTH ELEVATION 1
1/8" = 1'-0"



EAST ELEVATION 4
1/8" = 1'-0"



SOUTH ELEVATION 3
1/8" = 1'-0"

EXTERIOR ELEVATION KEYNOTES

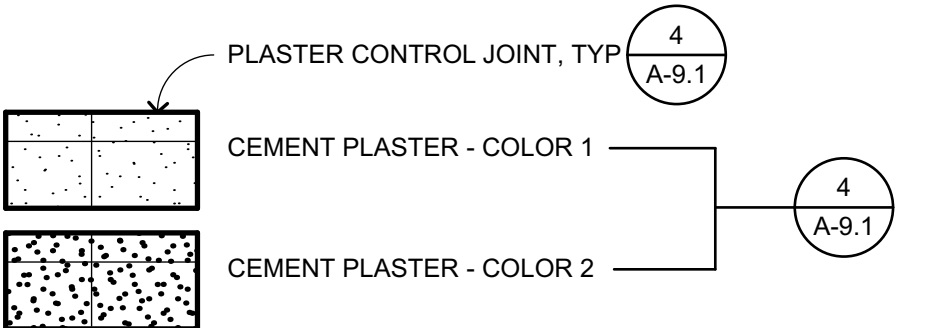
NOT ALL KEYNOTES MAY APPLY TO THIS SHEET

- 1 PLUMBING/ MECH. ITEM / FIXTURE, S.P.D.
- 2 ELECTRICAL ITEM, S.E.D.
- 3 STRUCTURAL ITEM, S.S.D.
- 4 RAIN WATER LEADER, SEE FLOOR PLAN
- 5 ROOF DRAIN OVERFLOW, SEE FLOOR PLAN
- 6 ROOF COPING AT PARAPET, SEE ROOF PLAN
- 7 PREFORMED METAL ROOF, SEE ROOF PLAN
- 8 RAIN CANOPY, SEE RCP
- 9 SUNSHADE CANOPY, SEE RCP
- 10 STOREFRONT, SEE FLOOR PLAN
- 11 SIGNAGE, S.A.G.D.
- 12 CONTROL & EXPANSION JOINTS, TYP
- 13 GUARD RAIL AT EXTERIOR WALKWAY, SEE 4 A-9.7
- 14 LOUVER, SEE 11 A-9.5

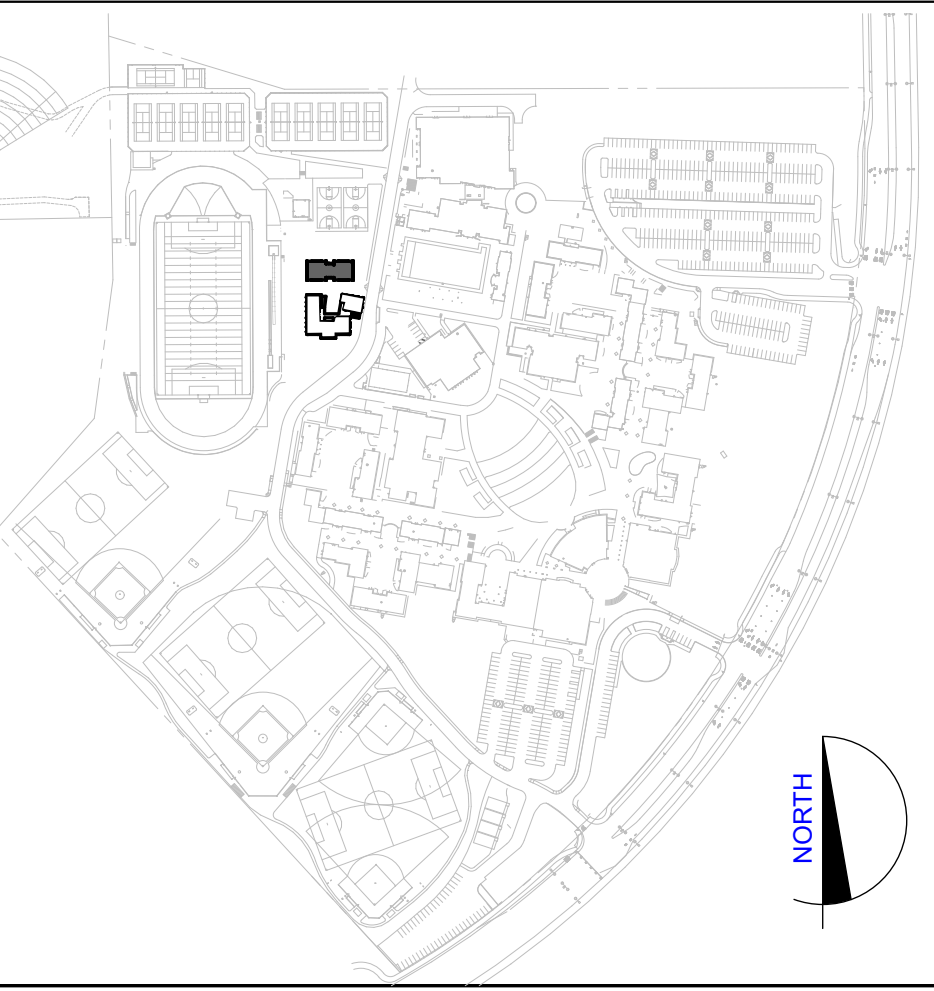
EXTERIOR ELEVATION GENERAL NOTES

1. NOTES AND SYMBOLS ARE TO APPLY AT ALL AREAS OF SIMILAR GRAPHIC REPRESENTATION. SUCH INDICATIONS MAY BE LIMITED TO PROMOTE CLARITY OR AVOID REDUNDANCY. NO LIMITATION OF APPLICATION SHALL BE CONSTRUED WITHOUT SPECIFIC NOTATION.
2. ALL PENETRATIONS THROUGH EXTERIOR ROOF AND WALLS, AND FLOORS SHALL BE FLASHED AND SEALED WEATHER TIGHT. ALL PENETRATIONS THROUGH THE BUILDING INSULATION ENVELOPE SHALL BE PACKED WITH INSULATION.
3. PROVIDE OPENING FLASHINGS AT ALL WINDOWS, DOORS, LOUVERS AND SIMILAR WALL OPENINGS PER 10 A-9.5
4. PROVIDE CEMENT PLASTER CONTROL JOINTS AS INDICATED AND AS FOLLOWS: PROVIDE CONTROL JOINTS SO THAT THE MAXIMUM DISTANCE BETWEEN JOINTS, VERTICALLY OR HORIZONTALLY DOES NOT EXCEED 12'-0". ALL CEMENT PLASTER "PANELS" SHALL BE DEFINED BY FOUR STRAIGHT AND UNINTERRUPTED EDGES; PROVIDE JOINTS AS REQUIRED TO AVOID INSIDE CORNERS IN ANY INDIVIDUAL PANEL.
5. REFER TO MECHANICAL DRAWINGS FOR REGISTERS AND VENTS NOT OTHERWISE SHOWN.
6. REFER TO ELECTRICAL DRAWINGS FOR HORNS, SPEAKERS, PULL STATIONS AND OTHER FEATURES NOT OTHERWISE SHOWN.

EXTERIOR ELEVATION LEGEND



KEYPLAN



SIGNED: MAY 10, 2021

HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119268

ARCH PROJECT NO. 1870.00

DRAWN BY:

DRAWING SCALE: 1/8" = 1'-0"

PTN: 61721-77 FILE NO: 7-H4

BID SET

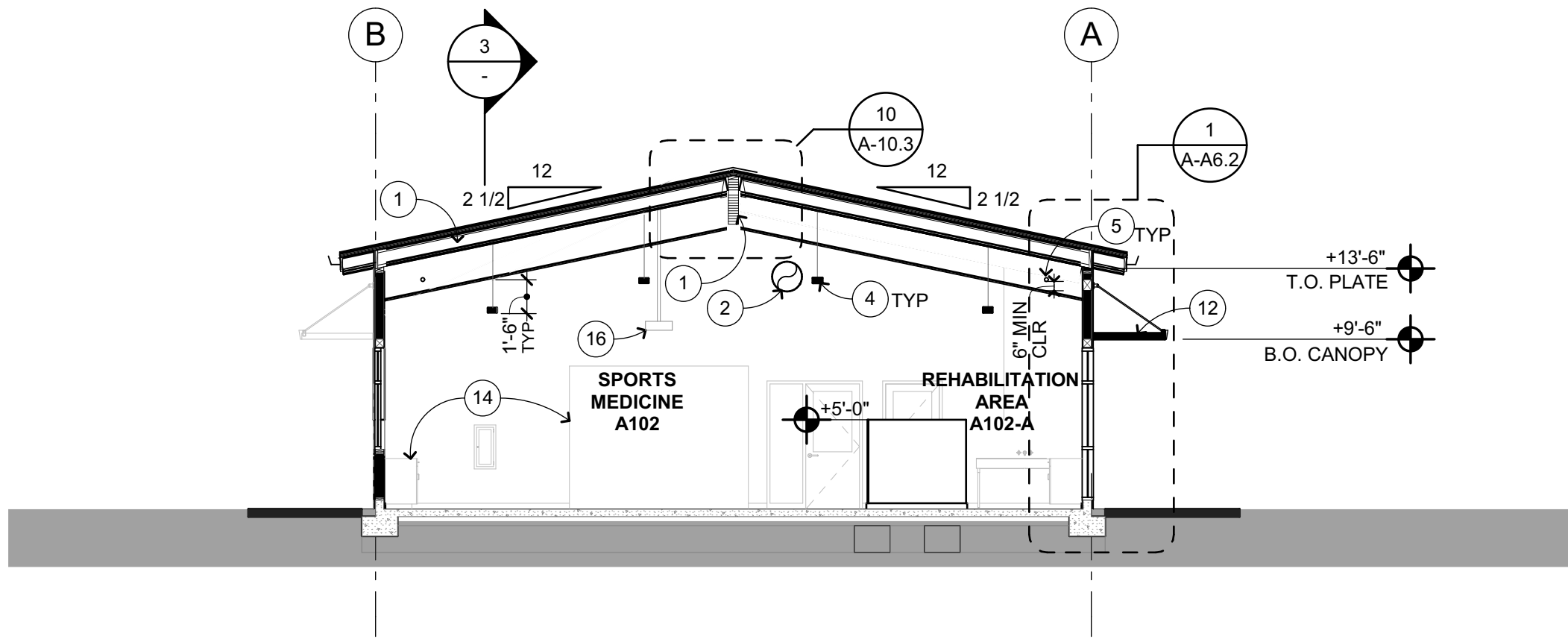
MAY 10, 2021

SHEET TITLE

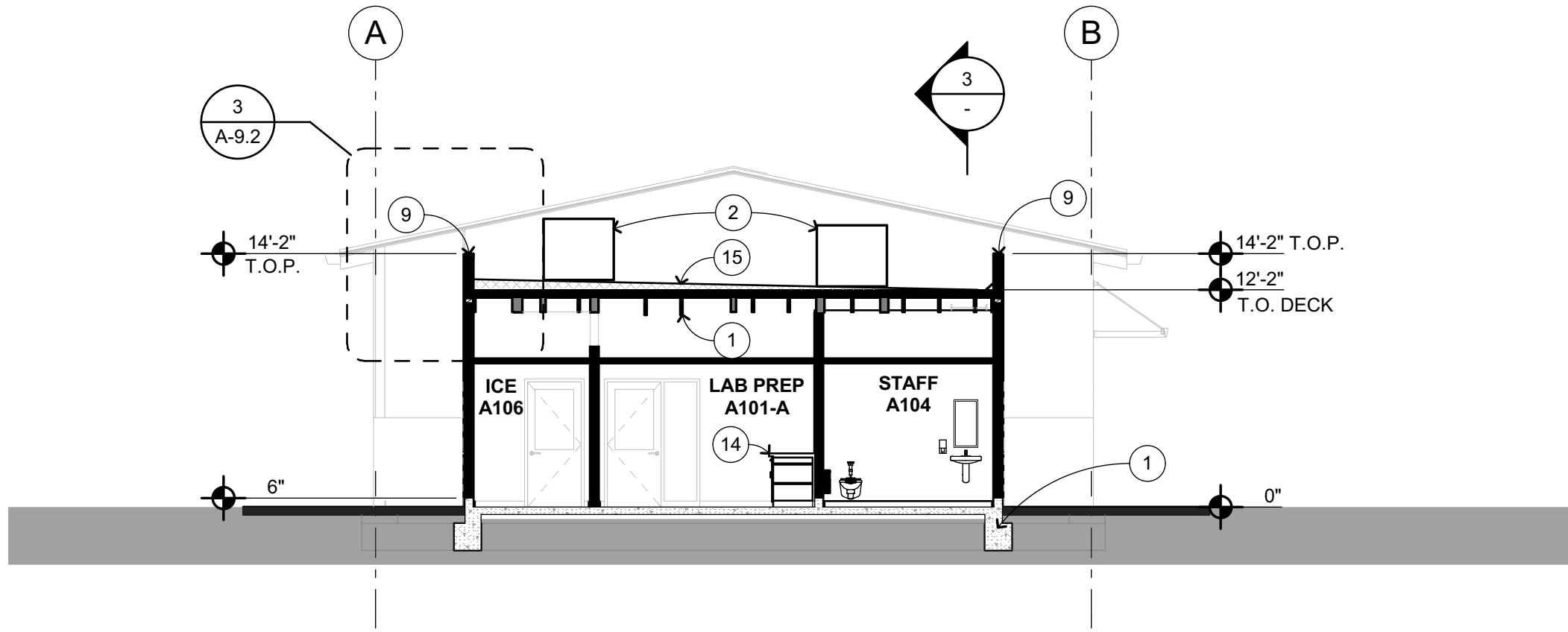
BLDG-A EXTERIOR ELEVATIONS

SHEET NUMBER

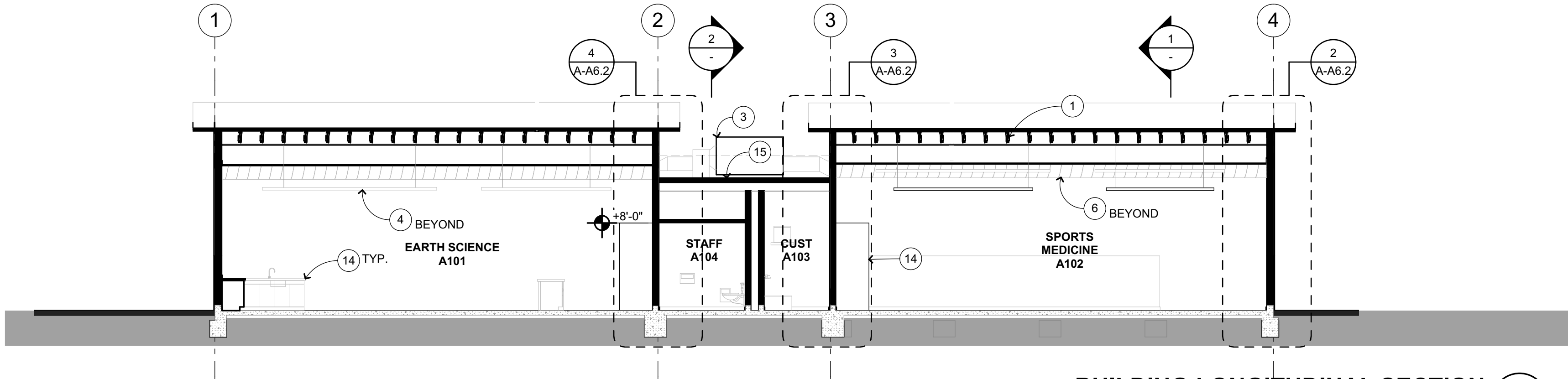
A-A5.1



SECTION 1
1/8" = 1'-0"



SECTION 2
1/8" = 1'-0"



BUILDING LONGITUDINAL SECTION 3
1/8" = 1'-0"

SECTION KEYNOTES

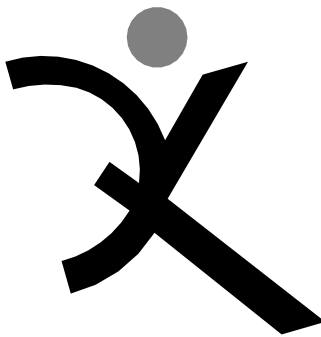
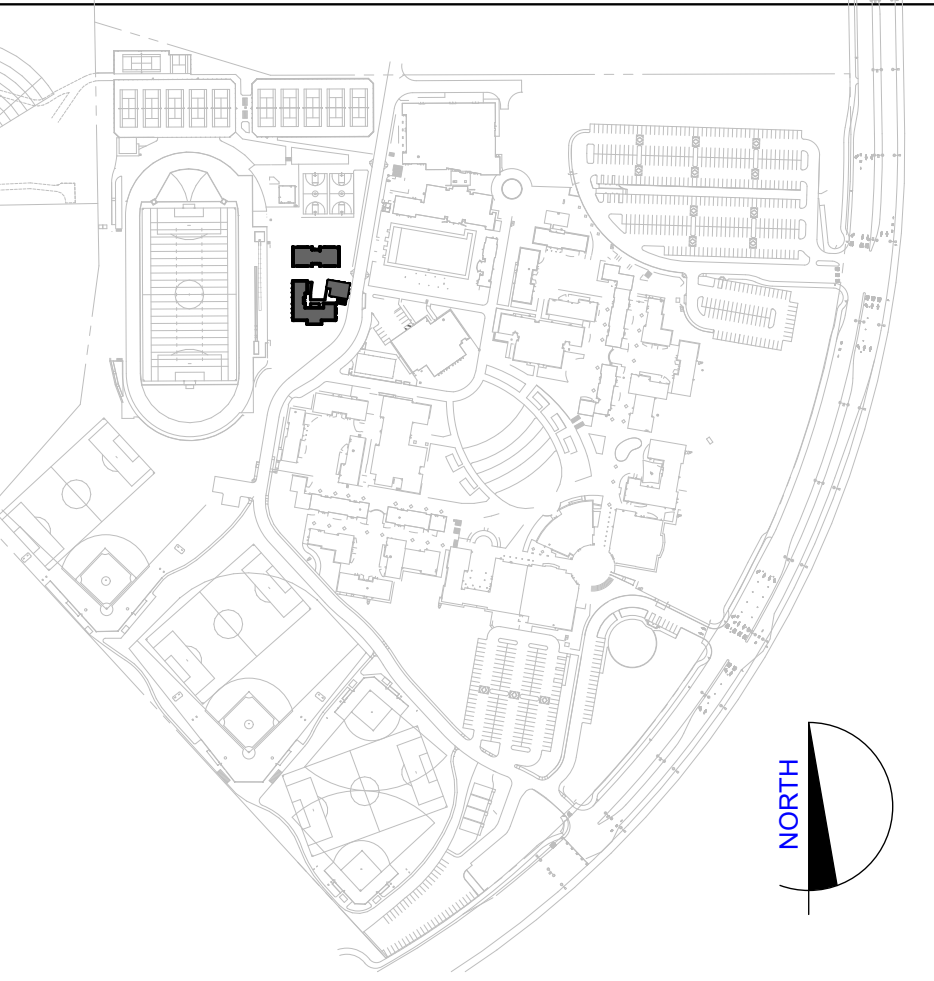
NOT ALL KEYNOTES MAY APPLY TO THIS SHEET

- 1 STRUCTURAL ITEM, S.S.D.
- 2 MECHANICAL ITEM, S.M.D.
- 3 PLUMBING ITEM / FIXTURE, S.P.D.
- 4 ELECTRICAL ITEM, S.E.D.
- 5 FIRE PROTECTION ITEM, S.F.P.D.
- 6 CEILING SYSTEM. SEE DETAILS, A-10.1
- 7 5/8" GYPSUM BOARD
- 8 SECTIONAL DOORS (MOTORIZED), SEE ELEVATIONS AND DOOR SCHEDULE
- 9 PARAPET & COPING, SEE ROOF PLAN
- 10 ROOF DRAIN & OVERFLOW, IN-WALL, SEE RCP, ROOF PLAN, & S.C.D.
- 11 RAIN WATER LEADER, SEE RCP & A-9.2
- 12 RAIN CANOPY, SEE RCP
- 13 SUNSHADE CANOPY, SEE RCP.
- 14 CASEWORK, SEE INTERIOR ELEVATIONS
- 15 MODIFIED BITUMEN ROOFING O/ TAPERED INSULATION, SEE ROOF PLAN AND DETAIL
- 16 SHORT-THROW PROJECTOR, SEE RCP AND S.E.D.

SECTION GENERAL NOTES

1. NOTES AND SYMBOLS ARE TO APPLY AT ALL AREAS OF SIMILAR GRAPHIC REPRESENTATION. SUCH INDICATIONS MAY BE LIMITED TO PROMOTE CLARITY OR AVOID REDUNDANCY. NO LIMITATION OF APPLICATION SHALL BE CONSTRUED WITHOUT SPECIFIC NOTATION.
2. ALL PENETRATIONS THROUGH EXTERIOR ROOF AND WALLS, AND FLOORS SHALL BE FLASHED AND SEALED WEATHER TIGHT. ALL PENETRATIONS THROUGH THE BUILDING INSULATION ENVELOPE SHALL BE PACKED WITH INSULATION.
3. PROVIDE OPENING FLASHINGS AT ALL WINDOWS, DOORS, LOUVERS AND SIMILAR WALL OPENINGS PER DETAIL.
4. PROVIDE FIRESTOPPING AT CONCEALED SPACES, INCLUDING FURRED SPACES, CEILING/FLOOR LEVELS AND 10'-0" INTERVALS ALONG LENGTHS OF WALL, SOFFITS, DROP CEILINGS, AND COVE CEILINGS PER CBC 718.
5. REFER TO INTERIOR ELEVATIONS FOR WALL FINISHES AND INFORMATION NOT SHOWN, TYPICAL.
6. REFER TO FLOOR PLAN FOR FLOOR FINISHES, TYPICAL.
7. REFER TO REFLECTED CEILING PLAN FOR CEILING FINISHES, TYPICAL.
8. REFER TO MECHANICAL DRAWINGS FOR REGISTERS AND VENTS NOT OTHERWISE SHOWN.
9. REFER TO ELECTRICAL DRAWINGS FOR HORNS, SPEAKERS, PULL STATIONS AND OTHER FEATURES NOT OTHERWISE SHOWN.
10. PROVIDE CONTINUOUS R30 BATT INSULATION AT ROOF AND CONTINUOUS R19 BATT INSUL AT ALL EXTERIOR WALLS (INTERIOR WALLS AS OCCURS), SEE BLDG & WALL SECTIONS.

KEYPLAN



QUATTROCCHI KWOK

ARCHITECTS

Main:

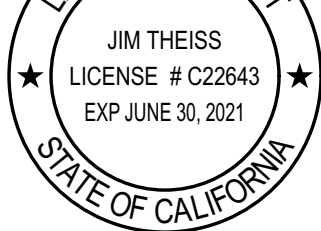
636 Fifth Street, Santa Rosa, CA 95404

East Bay:

55 Harrison Street, Suite 525,

Oakland, CA 94607

(707) 576-0829



SIGNED: MAY 10, 2021

HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS

INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119268

ARCH PROJECT NO. 1870.00

DRAWN BY:

DRAWING SCALE: 1/8" = 1'-0"

PTN: 61721-77 FILE NO: 7-H4

BID SET

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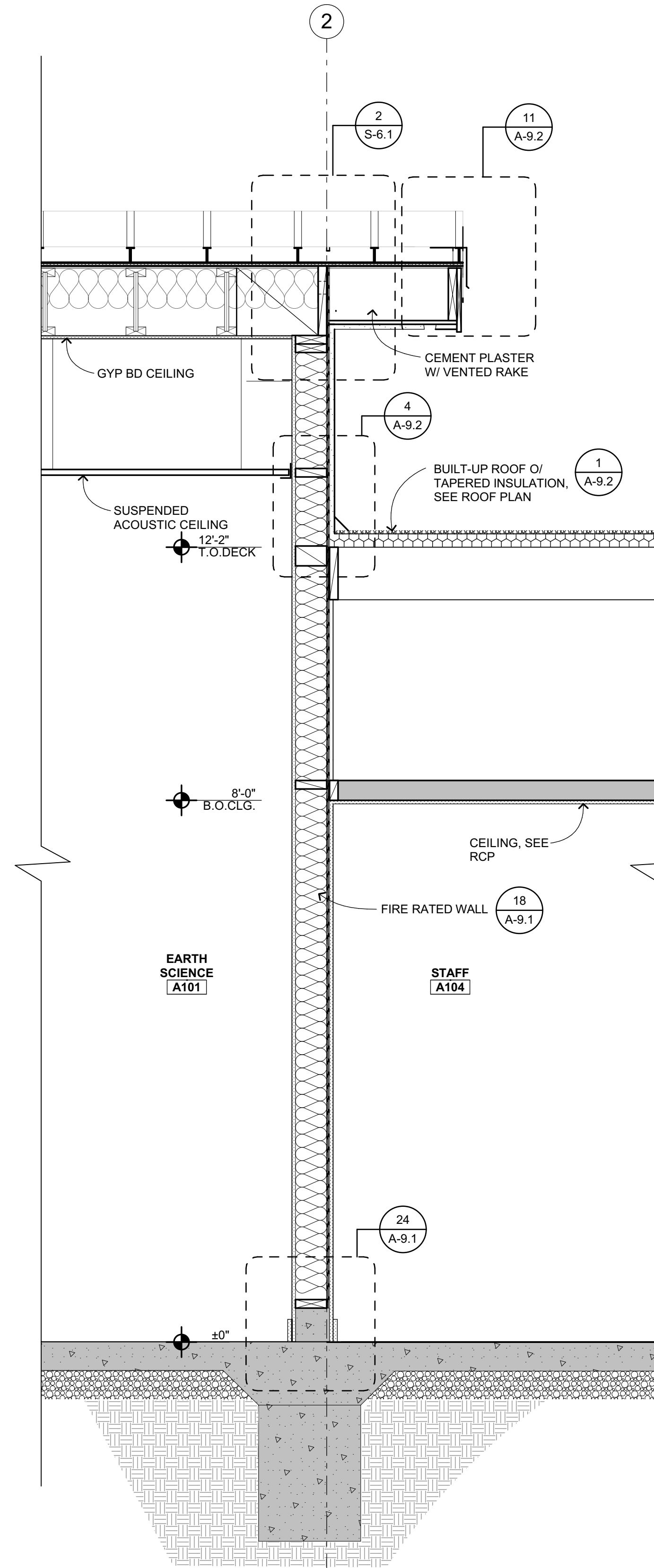
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BLDG-A BUILDING SECTIONS

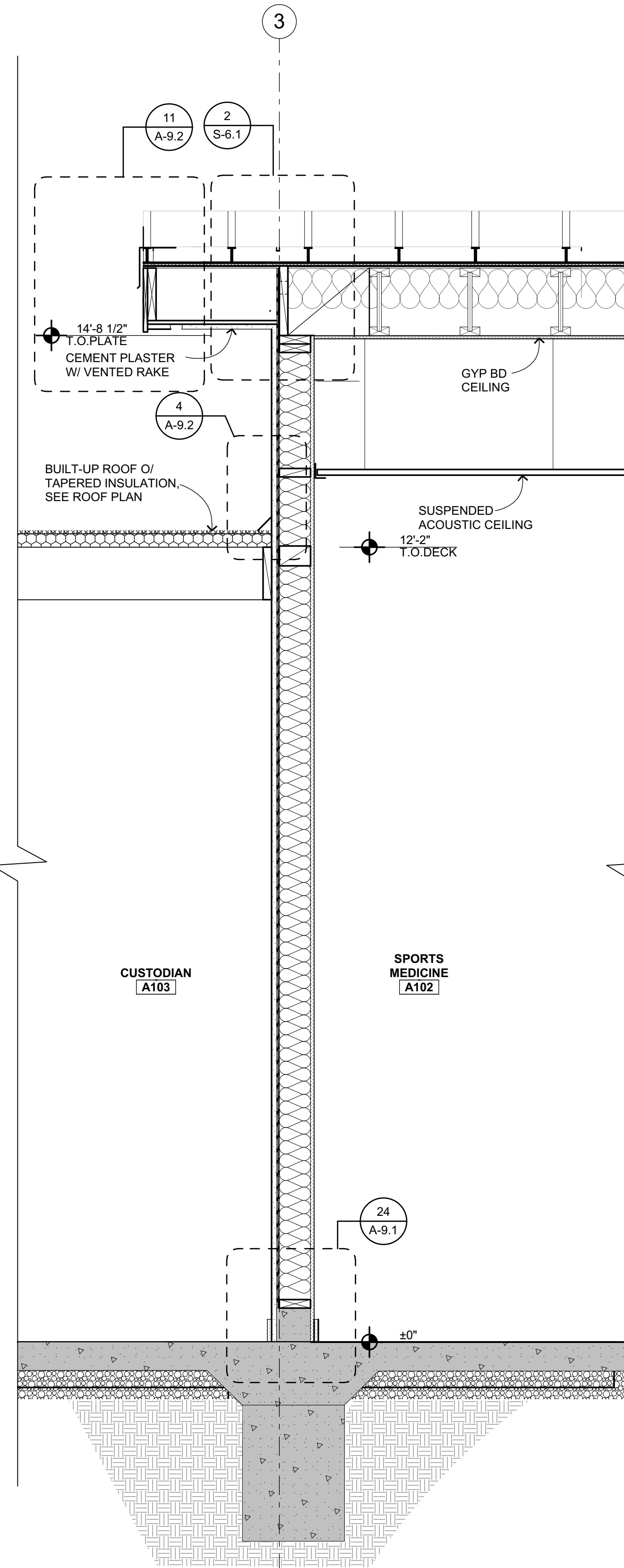
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A-A6.1

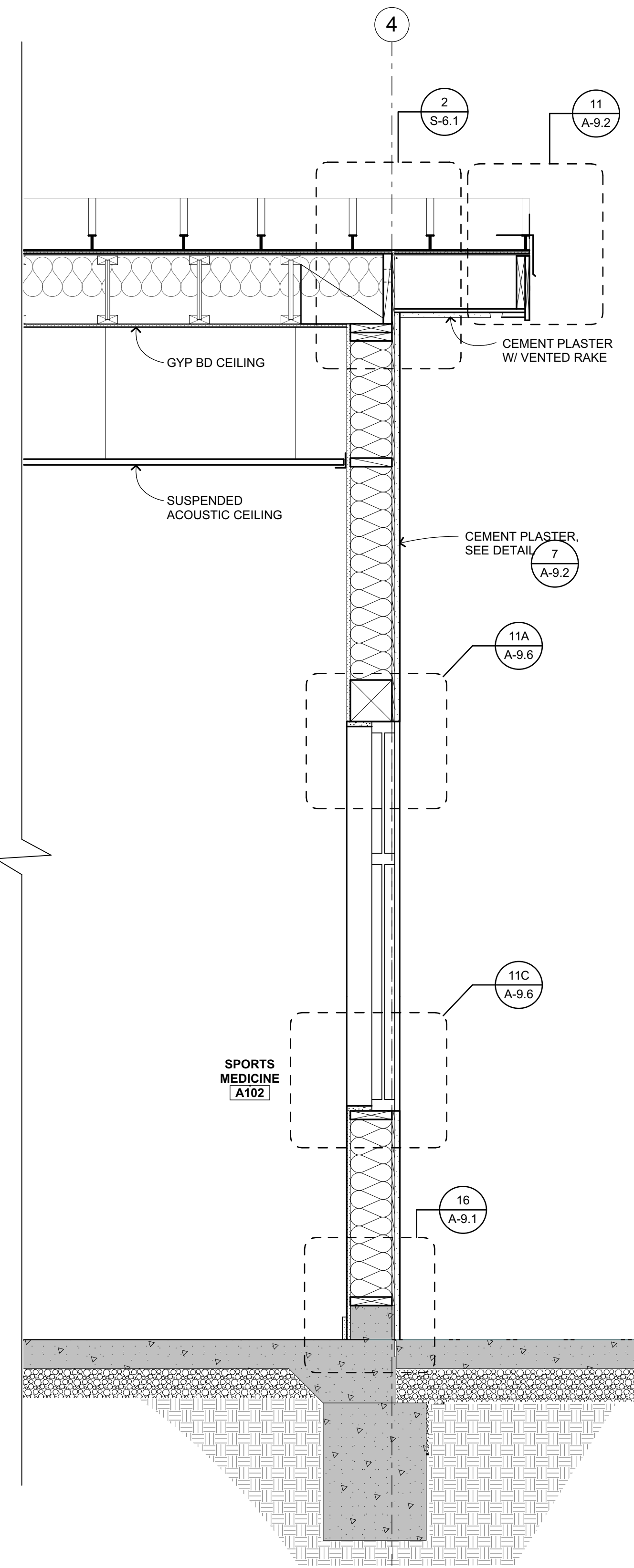
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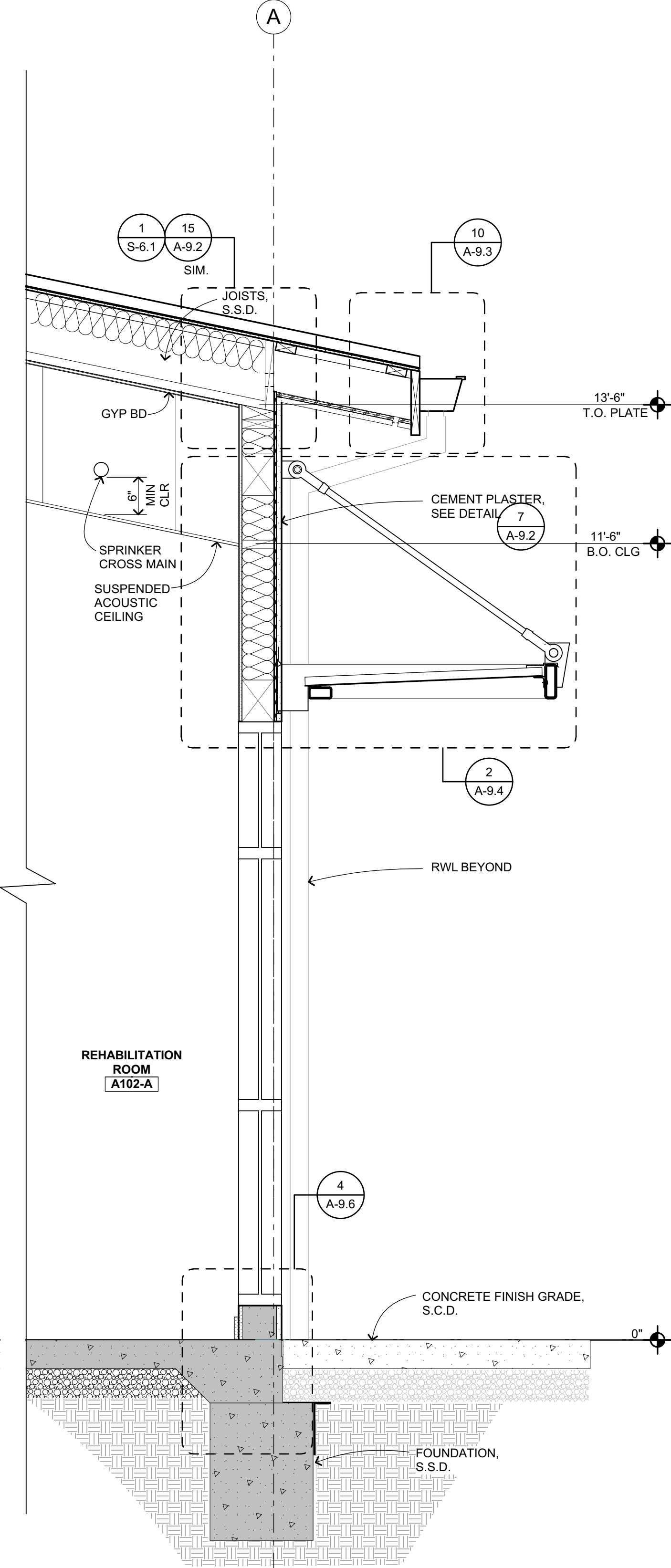
BLDG A RATED WALL 4
3/4" = 1'-0"



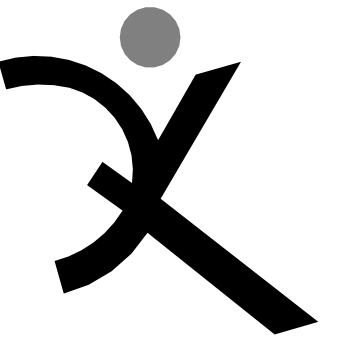
BLDG A INTERIOR WALL 3
3/4" = 1'-0"



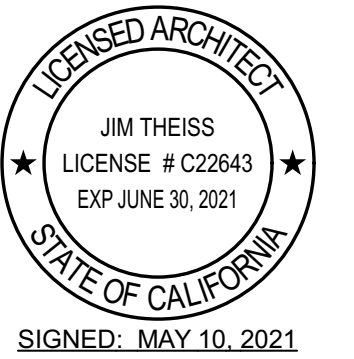
BLDG A EXTERIOR WALL 2
3/4" = 1'-0"



BLDG A EXTERIOR WALL 1
3/4" = 1'-0"



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HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

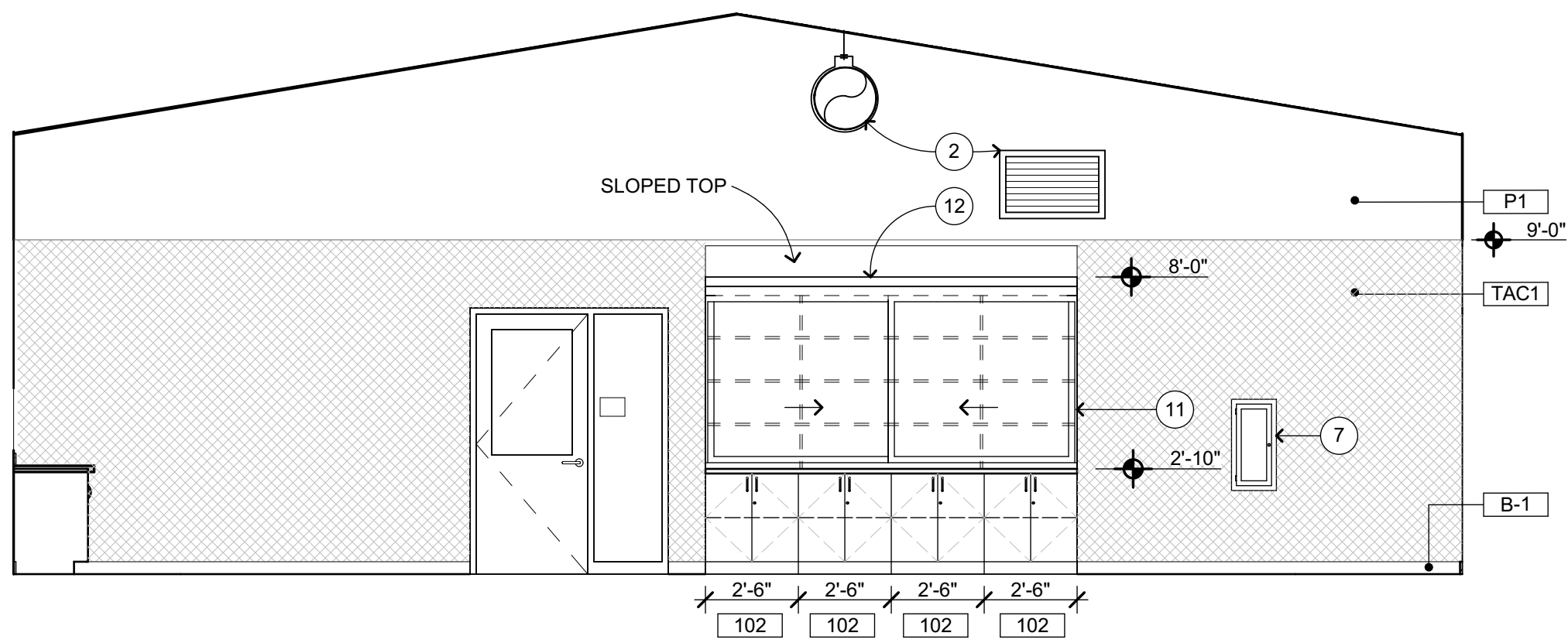
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ARCH PROJECT NO. 1870.00
DRAWN BY:
DRAWING SCALE: 1/8" = 1'-0"
PTN: 61721-77 FILE NO: 7-H4

BID SET
MAY 10, 2021
SHEET TITLE

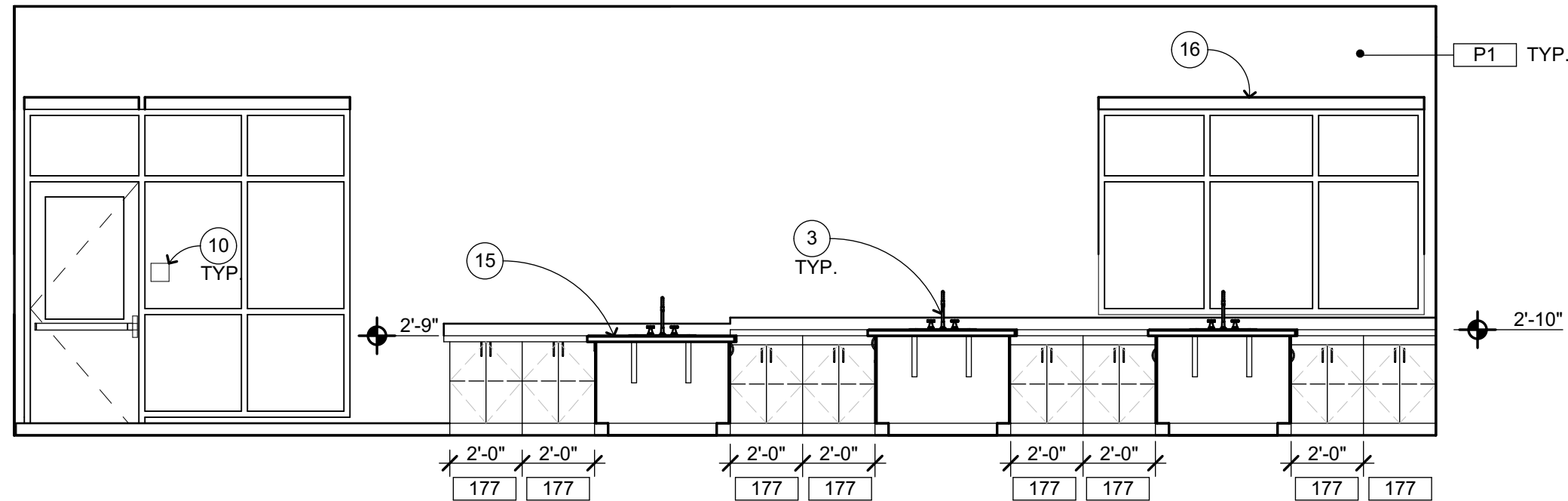
BLDG-A WALL SECTIONS

SHEET NUMBER

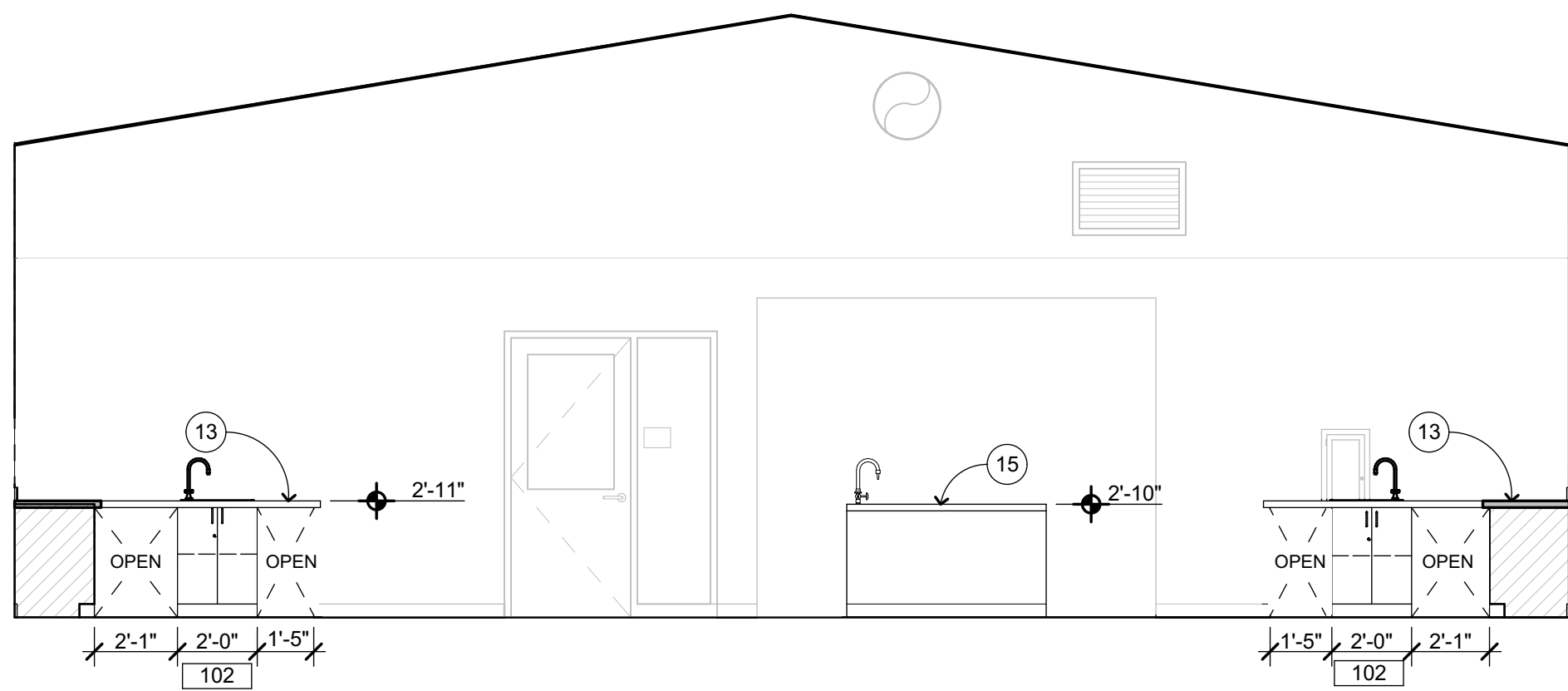
A-A6.2



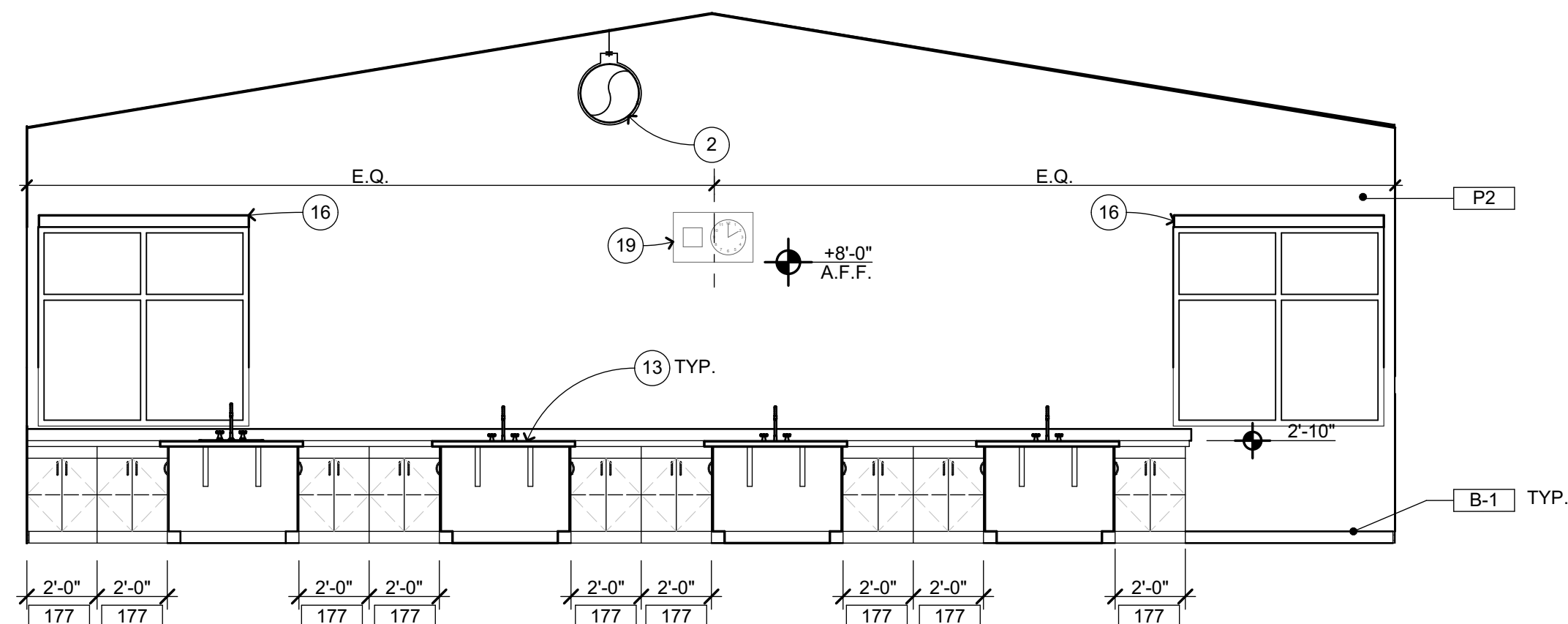
EAST



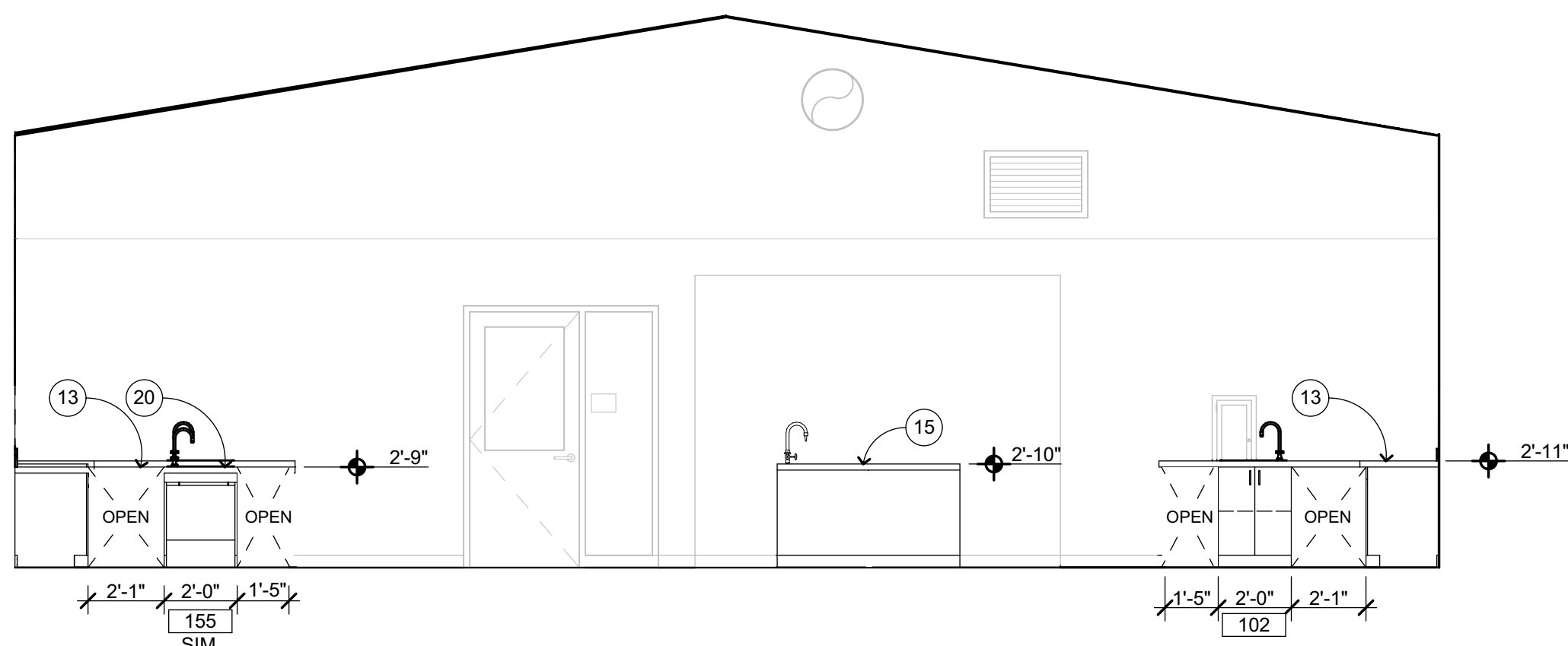
NORTH



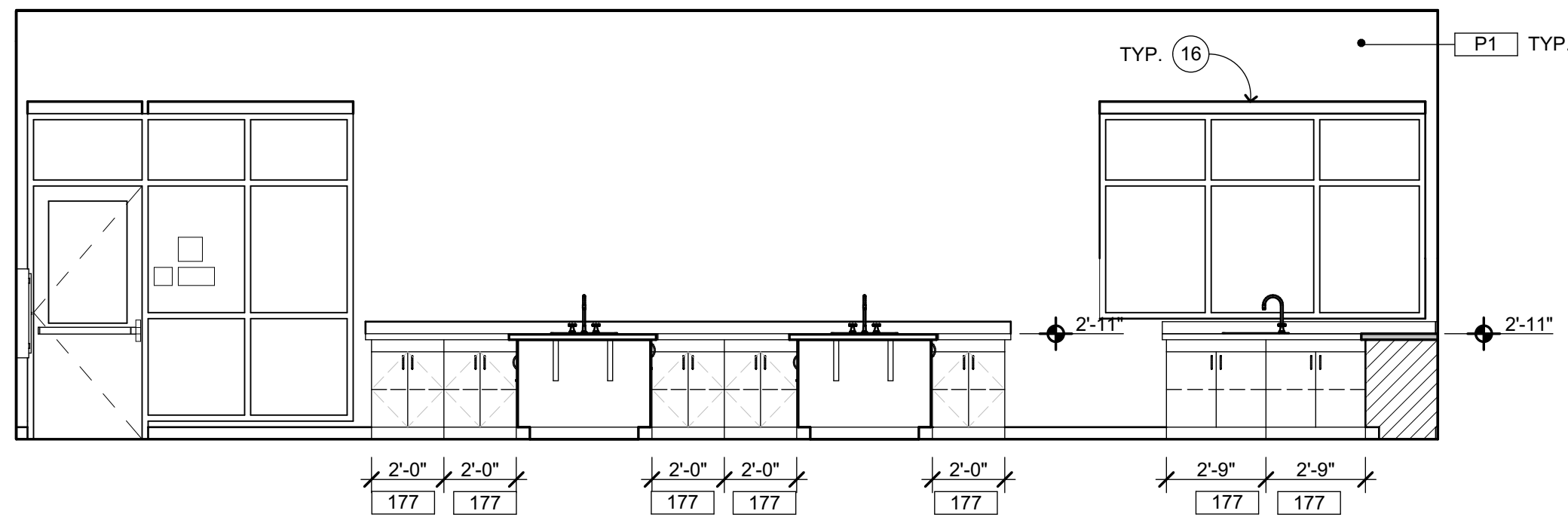
EAST CENTER
OF ROOM



WEST



EAST
ACCESSIBLE
WORK STATION



SOUTH

EARTH SCIENCE **A101**
1/4" = 1'-0" **A-A2.1**

INTERIOR ELEVATION KEYNOTES

NOT ALL KEYNOTES MAY APPLY TO THIS SHEET

- 1 STRUCTURAL ITEM, S.S.D.
- 2 MECHANICAL ITEM, S.M.D.
- 3 PLUMBING FIXTURE, S.P.D.
- 4 ELECTRICAL ITEM, S.E.D.
- 5 ICE MACHINE, S.E.D. AND S.P.D.
- 6 ROOF ACCESS LADDER, SEE DETAIL **12** **A-9.3**
- 7 FIRE EXTINGUISHER CABINET, SEMI-RECESSED **4** **A-10.3** **22** **A-10.1**
- 8 ACCESSIBLE WORK STATION, SEE DETAIL **21** **A-10.3**
- 9 MARKERBOARD, SEE **5** **A-10.3**
- 10 SIGNAGE, S.A.G.D.
- 11 TEACHING WALL CASEWORK, SEE **19** **A-10.2** **17** **A-10.2**
- 12 PROJECTOR SCREEN, SEE **19** **A-10.2**
- 13 CASEWORK, SEE **7** **A-10.2**
- 14 MEDICAL BED, N.I.C.
- 15 ACCESSIBLE DEMONSTRATION TABLE
- 16 MANUAL WINDOW SHADE, SEE DETAIL **24** **A-10.2**
- 17 PARTIAL HEIGHT WALL W/ W/D CAP, SEE DTL **19** **A-10.3**
- 18 CANTILEVER COUNTERTOP **11** **A-10.3**
- 19 CLOCK SPEAKER SYSTEM, SEE SPEC, S.E.D.
- 20 ELEVATOR, SEE STAIR/ELEVATOR PLANS

INTERIOR ELEVATION GENERAL NOTES

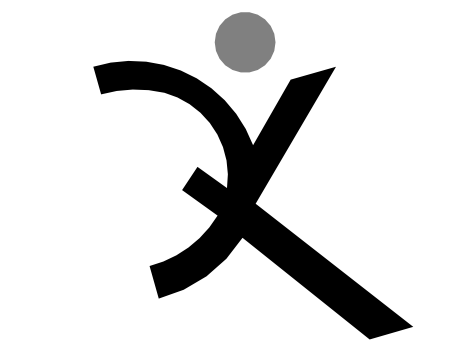
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3. REFER TO ELECTRICAL DRAWINGS FOR HORNS, SPEAKERS, PULL STATIONS AND OTHER FEATURES NOT OTHERWISE SHOWN.
4. TYPICAL MOUNTING HEIGHTS OF ACCESSIBLE ELEMENTS AT ACCESSIBLE FIXTURES SEE **4** **A-10.3**
5. PROVIDE SOLID BLOCKING FOR CABINET, ACCESSORY, OR EQUIPMENT MOUNTING **1** **A-10.3**

WALL AND BASE FINISH CODES

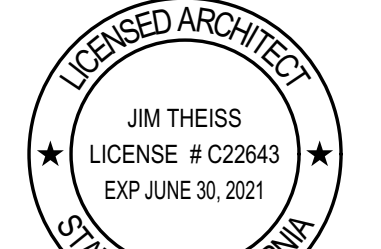
FOR PAINT FINISHES SEE SEC. 09 9113 (EXTERIOR) & 09 9123 (INTERIOR). ALL GYP BD TO BE TYPE 'X'.

WT1	CERAMIC WALL TILE	B-1	4" RESILIENT BASE
TAC1	TACKWALL		(COVERED AT RESILIENT
WC1	WALLCOVERING - DRY ERASE		TILE FLOORING, TOP
WP1	WALL PROTECTION - FRP PANEL		SET AT CARPET)
P1	GYP BD - PAINT (COLOR 1)	B-2	EPOXY COVE
P2	GYP BD - PAINT (COLOR 2)		BASE
P3	GYP BD - PAINT (COLOR 3)	B-3	SEALED CONC. CURB
GB1	GYP BD - IMPACT RESISTANT		

KEYPLAN



QUATTROCCHI KWOK
ARCHITECTS
Main:
636 Fifth Street, Santa Rosa, CA 95404
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55 Harrison Street, Suite 525,
Oakland, CA 94607
(707) 576-0829



SIGNED: MAY 10, 2021

HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS

INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119268

ARCH PROJECT NO. 1870.00

DRAWN BY: **SL & HE**

DRAWING SCALE: 1/4" = 1'-0"

PTN: 61721-77 FILE NO: 7-H4

BID SET

MAY 10, 2021

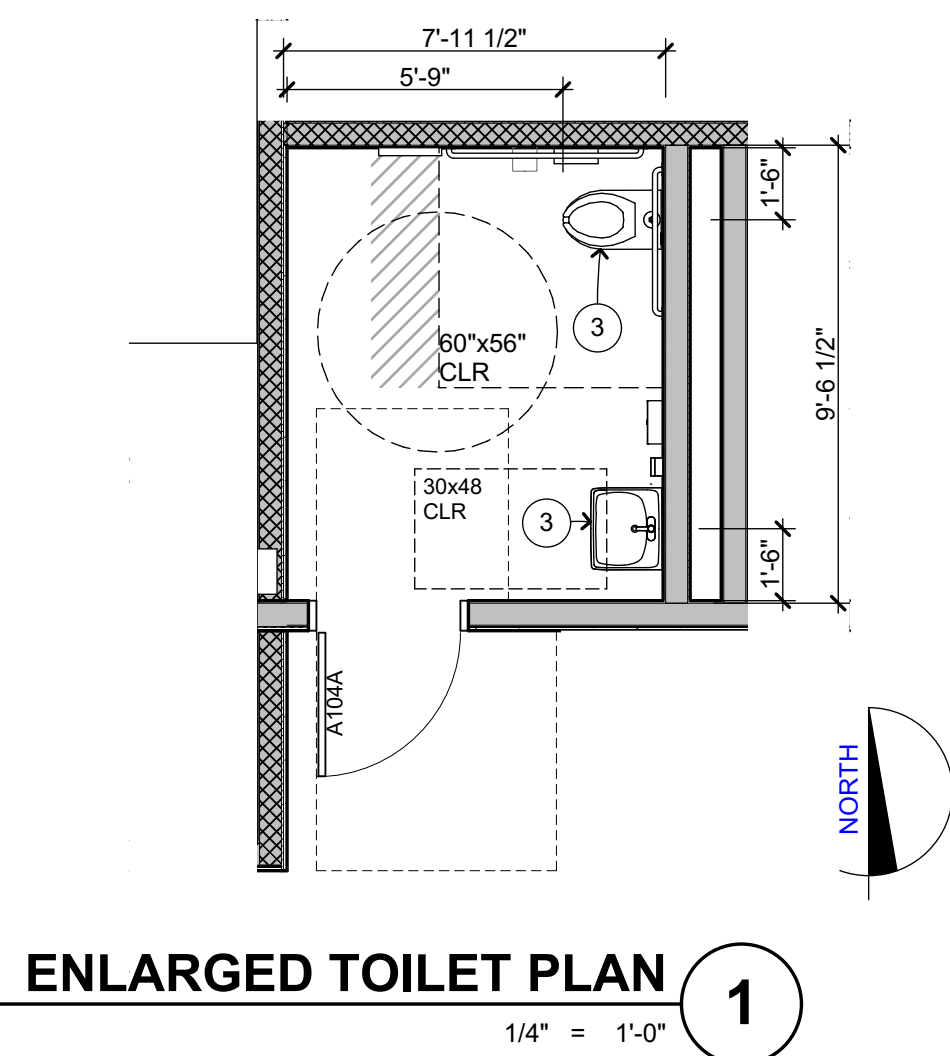
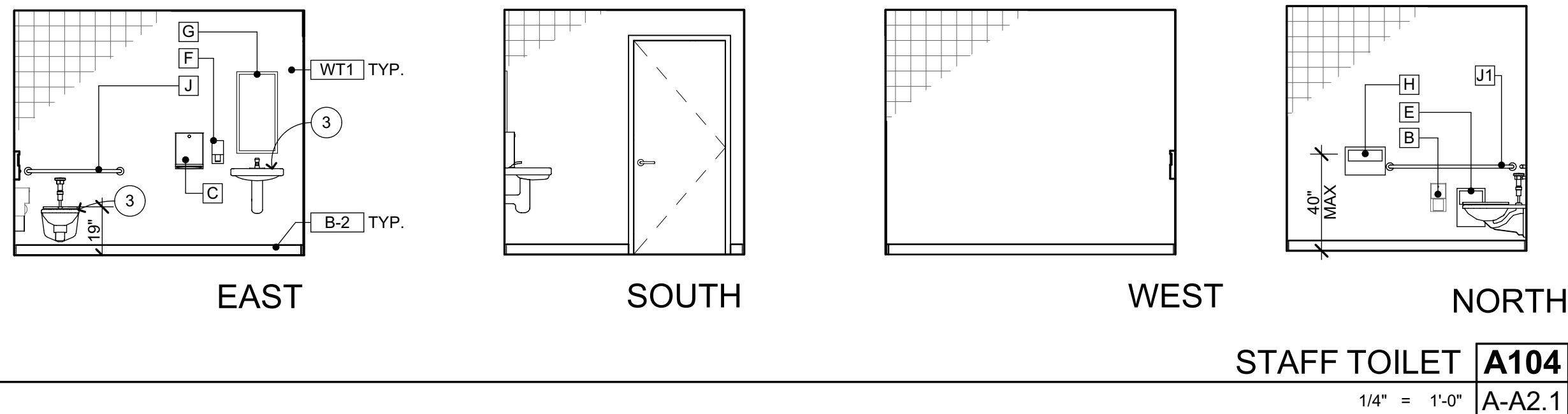
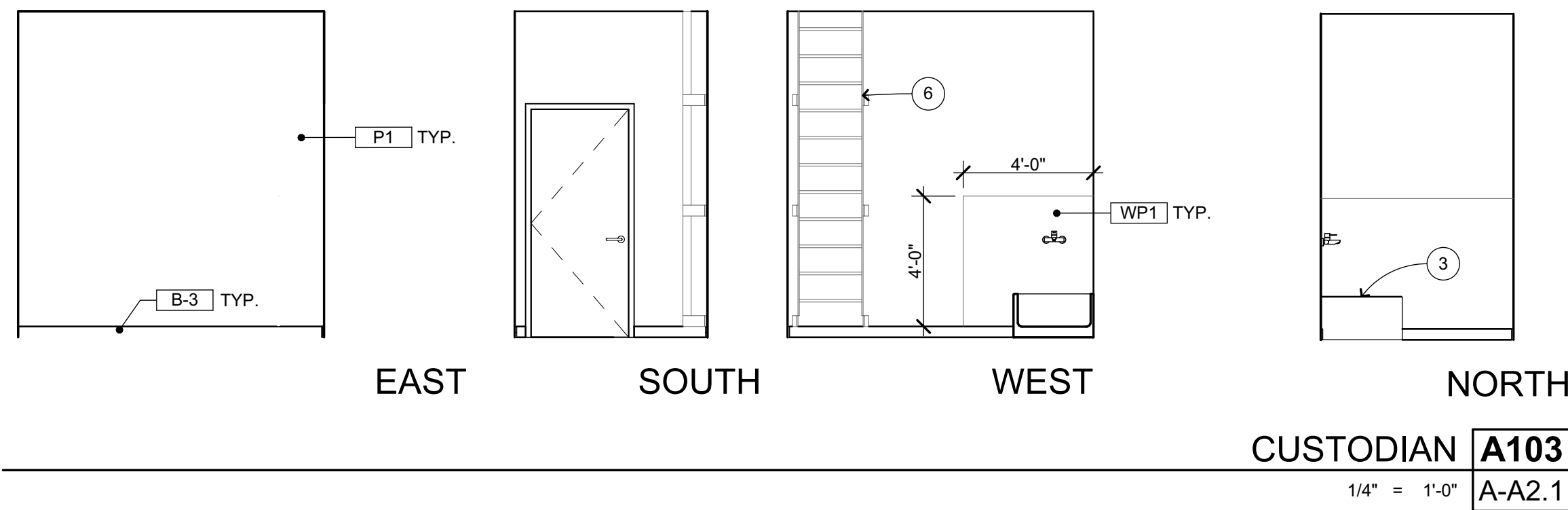
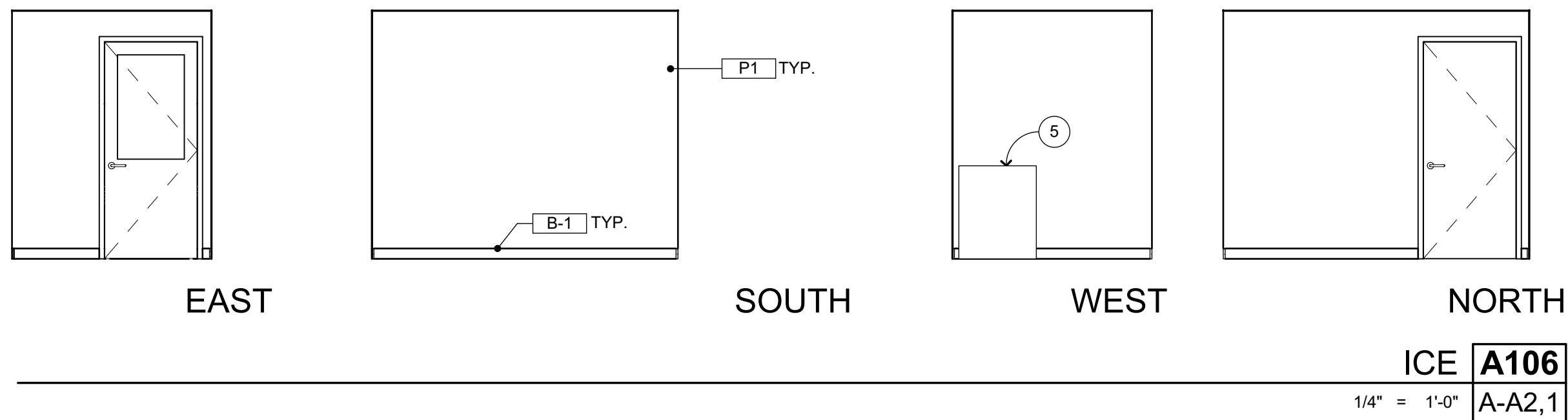
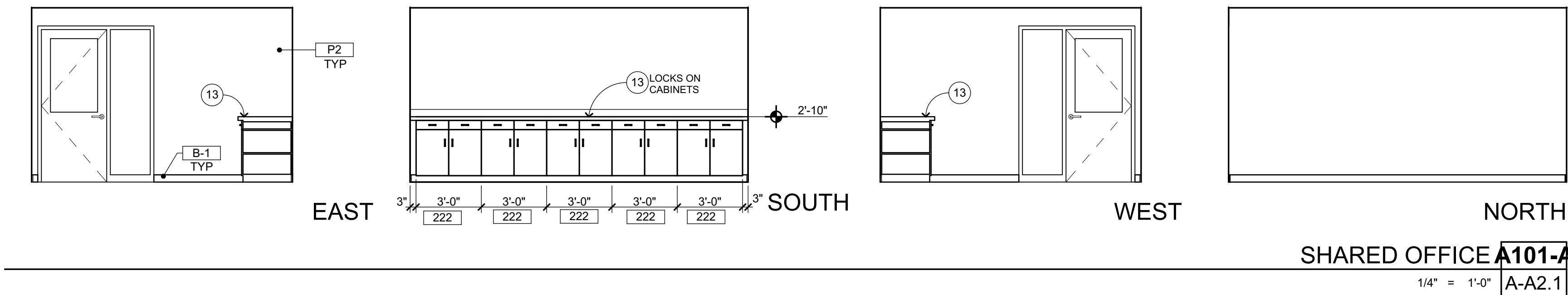
SHEET TITLE

BLDG-A INTERIOR ELEVATIONS

SHEET NUMBER

A-A7.1

A-A7.2



INTERIOR ELEVATION KEYNOTES

NOT ALL KEYNOTES MAY APPLY TO THIS SHEET

- 1 STRUCTURAL ITEM, S.S.D.
- 2 MECHANICAL ITEM, S.M.D.
- 3 PLUMBING FIXTURE, S.P.D.
- 4 ELECTRICAL ITEM, S.E.D.
- 5 ICE MACHINE, S.E.D. AND S.P.D.
- 6 ROOF ACCESS LADDER, SEE DETAIL
- 7 FIRE EXTINGUISHER CABINET, SEMI-RECESSED
- 8 ACCESSIBLE WORK STATION, SEE DETAIL
- 9 MARKERBOARD, SEE
- 10 SIGNAGE, S.A.G.D.
- 11 TEACHING WALL CASEWORK, SEE
- 12 PROJECTOR SCREEN, SEE
- 13 CASEWORK, SEE
- 14 MEDICAL BED, N.I.C.
- 15 ACCESSIBLE DEMONSTRATION TABLE
- 16 MANUAL WINDOW SHADE, SEE DETAIL
- 17 PARTIAL HEIGHT WALL W/ WD CAP, SEE DTL
- 18 CANTILEVER COUNTERTOP
- 19 CLOCK SPEAKER SYSTEM, SEE SPEC, S.E.D.
- 20 ELEVATOR, SEE STAIR/ELEVATOR PLANS

TOILET ROOM ACCESSORY SCHEDULE

- | | |
|----|---|
| A | TOILET PAPER DISPENSER, RECESSED (3" MAXIMUM PROJECTION) |
| B | TOILET PAPER DISPENSER, SURFACE MOUNTED |
| C | PAPER TOWEL DISPENSER, SURFACE MOUNTED 4" MAX DEPTH FROM FACE OF WALL |
| D | WASTE RECEPTACLE, N.I.C. |
| E | SANITARY NAPKIN RECEPTACLE, SURFACE MOUNTED |
| F | SOAP DISPENSER, SURFACE MOUNTED |
| G | MIRROR (TYP), FOR ATTACHMENT SEE |
| H | TOILET SEAT COVER DISPENSER, SURFACE MOUNTED |
| J | 36" GRAB BAR, FOR ATTACHMENT SEE |
| J1 | 42" GRAB BAR, FOR ATTACHMENT SEE |

INTERIOR ELEVATION GENERAL NOTES

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3. REFER TO ELECTRICAL DRAWINGS FOR HORNS, SPEAKERS, PULL STATIONS AND OTHER FEATURES NOT OTHERWISE SHOWN.
4. TYPICAL MOUNTING HEIGHTS OF ACCESSIBLE ELEMENTS AT ACCESSIBLE FIXTURES SEE
5. PROVIDE SOLID BLOCKING FOR CABINET, ACCESSORY, OR EQUIPMENT MOUNTING

WALL AND BASE FINISH CODES

FOR PAINT FINISHES SEE SEC. 09 9113 (EXTERIOR) & 09 9123 (INTERIOR). ALL GYP BD TO BE TYPE 'X'.

- | | | | |
|------|-----------------------------|-----|---|
| WT1 | CERAMIC WALL TILE | B-1 | 4" RESILIENT BASE (COVERED AT RESILIENT |
| TAC1 | TACKWALL | | TILE FLOORING, TOP |
| WC1 | WALLCOVERING - DRY ERASE | | SET AT CARPET) |
| WP1 | WALL PROTECTION - FRP PANEL | B-2 | EPOXY COVE |
| P1 | GYP BD - PAINT (COLOR 1) | | BASE |
| P2 | GYP BD - PAINT (COLOR 2) | | SEALED CONC. CURB |
| P3 | GYP BD - PAINT (COLOR 3) | B-3 | |
| GB1 | GYP BD - IMPACT RESISTANT | | |

KEYPLAN



QUATTROCCHI KWOK ARCHITECTS
Main: 636 Fifth Street, Santa Rosa, CA 95404
East Bay: 55 Harrison Street, Suite 525, Oakland, CA 94607 (707) 576-0829

LICENSED ARCHITECT
JIM THEISS
LICENSE # C22643
EXP JUNE 30, 2021
STATE OF CALIFORNIA

SIGNED: MAY 10, 2021

HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS INCREMENT 2 OF 2

101 AMERICAN AVENUE, BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119268

ARCH PROJECT NO. 1870.00

DRAWN BY: SL & HE

DRAWING SCALE: 1/4" = 1'-0"

PTN: 61721-77 FILE NO: 7-H4

BID SET

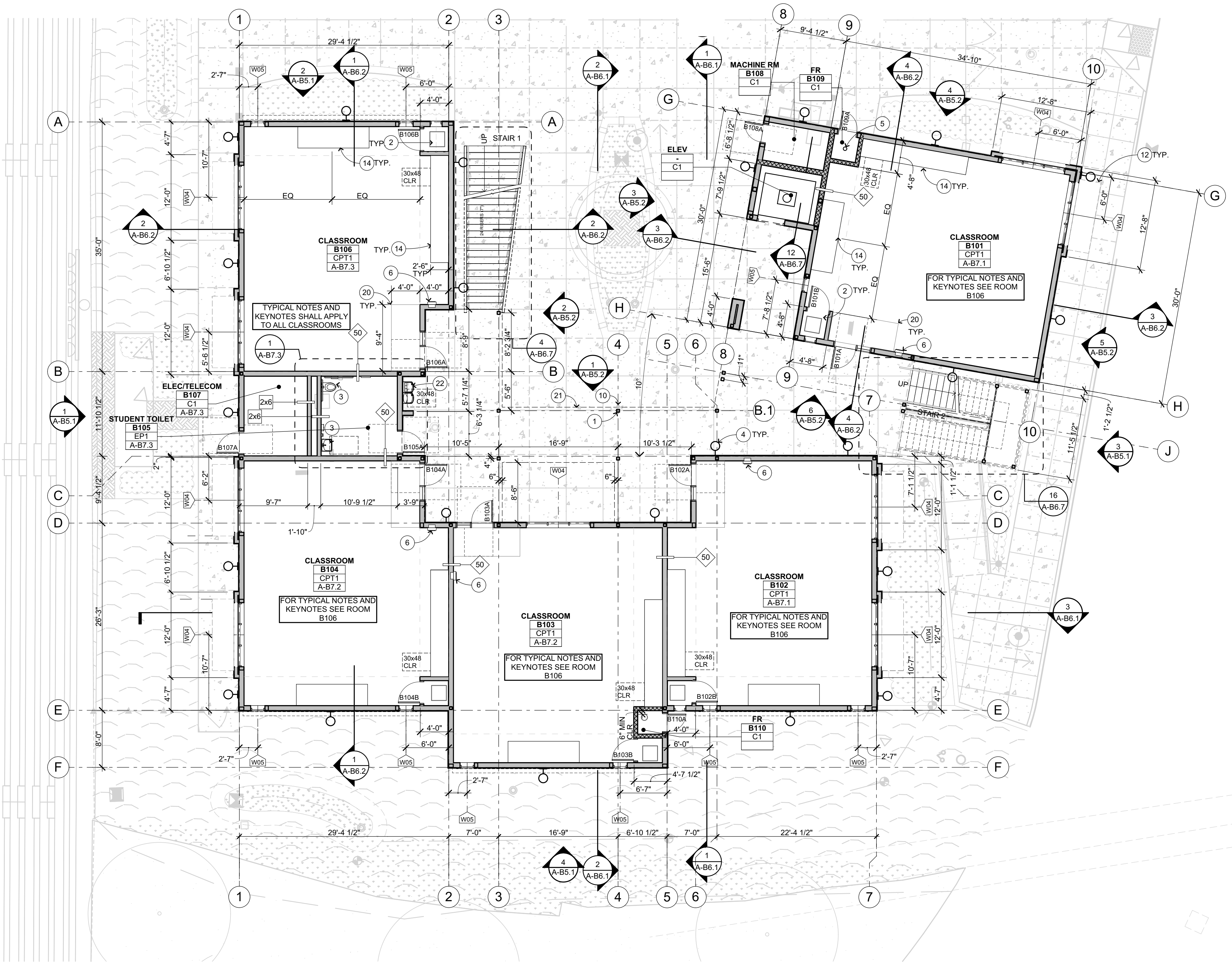
MAY 10, 2021

SHEET TITLE

BLDG-A INTERIOR ELEVATIONS

SHEET NUMBER

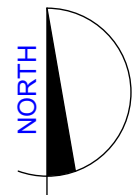
A-A7.3



BLDG-B FIRST FLOOR PLAN

1/8" = 1'-0"

1



FLOOR PLAN KEYNOTES

NOT ALL KEYNOTES MAY APPLY TO THIS SHEET

- 1 STRUCTURAL ITEM, S.S.D.
- 2 MECHANICAL ITEM, S.M.D.
- 3 PLUMBING ITEM / FIXTURE, S.P.D.
- 4 ELECTRICAL ITEM, S.E.D.
- 5 FIRE SPRINKLER RISER, S.F.P.D.
- 6 FIRE EXTINGUISHER CABINET, SEE INT ELEV
- 7 SECTIONAL DOORS, SEE ELEVATIONS AND DOOR SCHEDULE
- 8 ROOF ACCESS LADDER, SEE DETAIL
- 9 ICE MACHINE, S.E.D. AND S.P.D.
- 10 RAIN WATER LEADER, SEE RCP
- 11 RAIN CANOPY ABOVE, SEE RCP
- 12 SUNSHADE CANOPY ABOVE, SEE RCP
- 13 DEMONSTRATION TABLE, SEE DETAIL
- 14 CASEWORK, SEE INTERIOR ELEVATIONS
- 15 (E) TREATMENT/TRAINING BEDS
- 16 MARKERBOARD, SEE DETAIL
- 17 ACCESSIBLE LAB COUNTERTOP, SEE DETAIL
- 18 SEISMIC JOINT, S.S.D. AND DETAIL
- 19 5'-0" PARTIAL HEIGHT WALL, SEE INTERIOR ELEVATIONS AND S.S.D.
- 20 WALK-OFF CARPET
- 21 METAL ROOF GUTTER, SEE DETAIL
- 22 HI-LOW DRINKING FOUNTAIN, SEE DETAIL

FLOOR PLAN GENERAL NOTES

1. EXTERIOR CONCRETE FLATWORK SHALL HAVE A MAXIMUM SLOPE OF 1:20, U.O.N.; EXTERIOR DOOR LANDINGS SHALL SLOPE 1/4" PER FOOT FOR 60" PERPENDICULAR TO DOOR FACE, MAXIMUM FOR DRAINAGE. CONCRETE SHALL SLOPE MINIMUM 1/8" PER FOOT AWAY FROM BUILDINGS, S.C.D.
2. FINISHED FLOOR ELEVATIONS SHOWN INDICATE FLOOR SLABS FOR THIS BUILDING. FOR ELEVATIONS RELATIVE TO THE REST OF THE SITE, REFER TO CIVIL ENGINEERING DRAWINGS.
3. REFER TO CIVIL ENGINEERING DRAWINGS AND SITE PLAN FOR SITE FEATURES NOT OTHERWISE INDICATED.
4. REFER TO ARCHITECTURAL GRAPHICS DRAWINGS FOR SIGNAGE NOT SHOWN.
5. ALL INTERIOR WALL FRAMING AND GYP BD EXTEND TO UNDERSIDE OF ROOF SHEATHING ABOVE, U.O.N.
6. FOR MINIMUM DISTANCES OF DOORS FROM ADJACENT PERPENDICULAR WALLS SEE

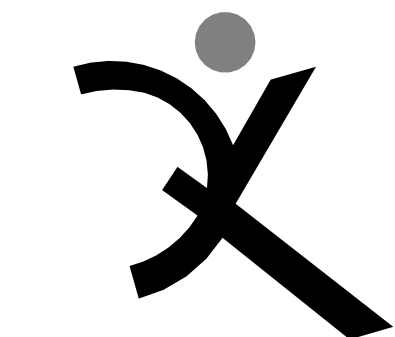
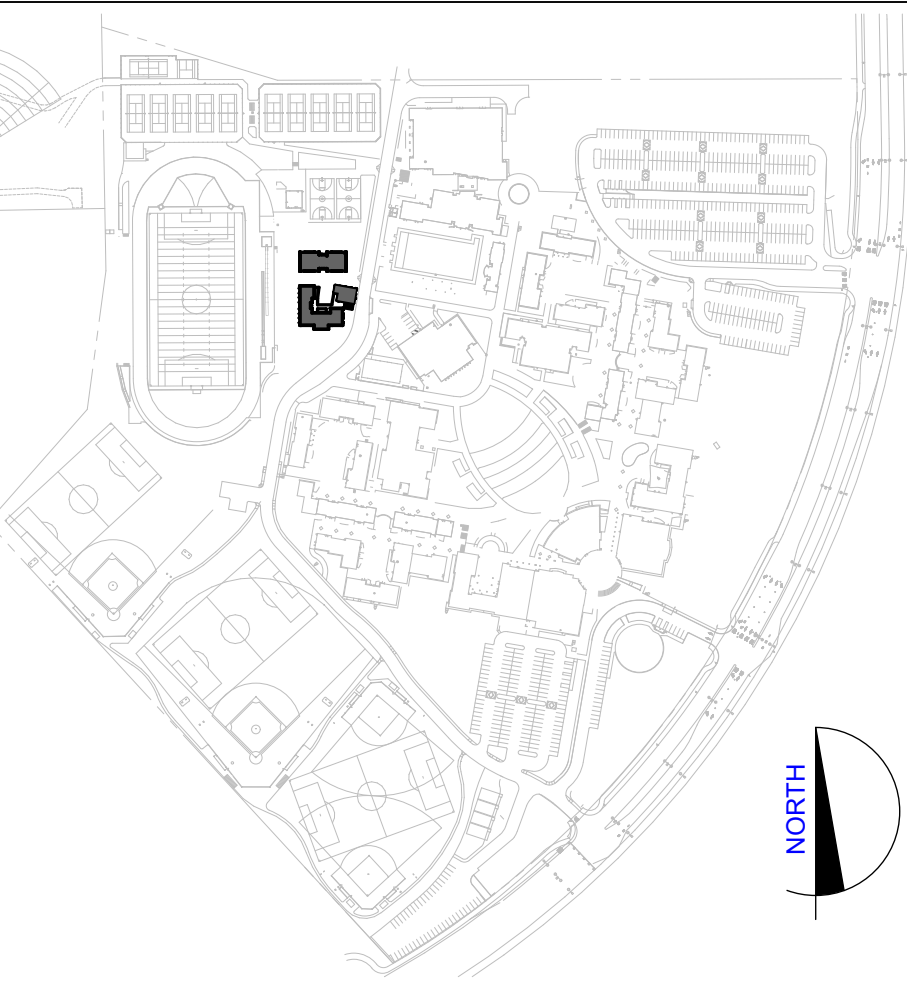
WALL TYPE LEGEND

- S.S.D. FOR WOOD FRAMING SIZES FOR ALL BEARING WALLS.
ALL OTHER WALLS ARE:
BLDG A - 2X6 WOOD STUDS, U.O.N.
BLDG B - 2X8 WOOD STUDS, U.O.N.
- WOOD FRAMING - NON RATED
WOOD FRAMING - 1 HOUR RATED
EDGE OF SOFFIT, CANOPY, BALCONY OR ROOF ABOVE
- WOOD STUD SIZE
WOOD STUD SIZE
ACOUSTIC RATING (STC). SEE SHEET A-10.3 FOR ACOUSTIC WALL DETAILS.

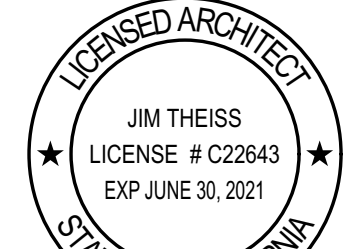
FLOOR FINISH CODES

- C1 SEALED CONCRETE
LIN1 LINOLEUM TILE FLOOR
EP1 EPOXY FLUID APPLIED FLOORING
CPT1 CARPET TILE - TYPE 1 (CLASSROOM)
TC1 TRAFFIC COATING AT CONCRETE

KEYPLAN



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55 Harrison Street, Suite 525,
Oakland, CA 94607
(707) 576-0829



SIGNED: MAY 10, 2021

HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS

INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119268

ARCH PROJECT NO. 1870.00

DRAWN BY: fill out manually ea sheet

DRAWING SCALE: 1/8" = 1'-0"

PTN: 61721-77 FILE NO: 7-H4

BID SET

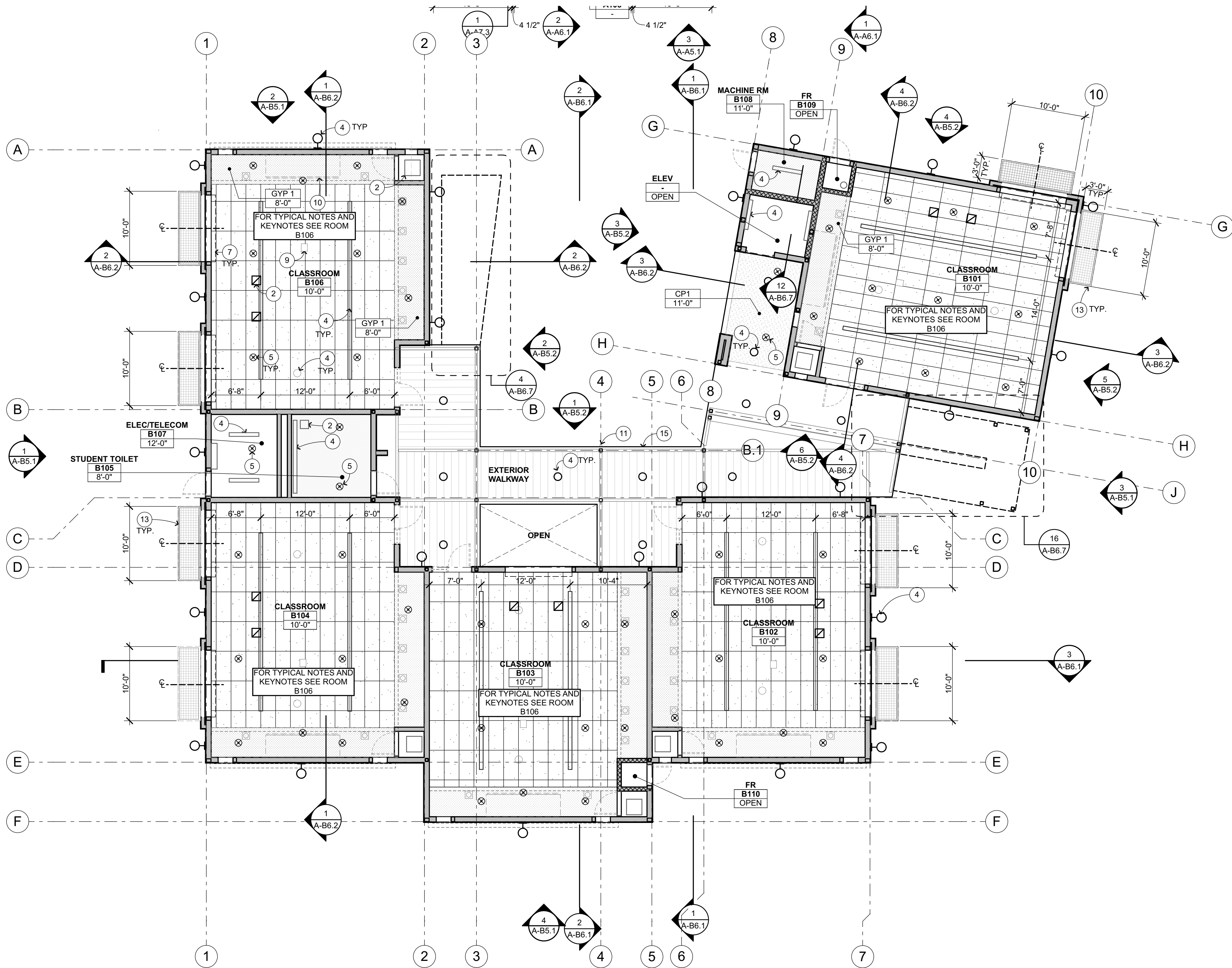
MAY 10, 2021

SHEET TITLE

BLDG-B FIRST FLOOR PLAN

SHEET NUMBER

A-B2.1



1ST FLOOR RCP BLDG-B

1/8" = 1'-0"

1

REFLECTED CEILING PLAN KEYNOTES

NOT ALL KEYNOTES MAY APPLY TO THIS SHEET

- 1 STRUCTURAL ITEM, S.S.D.
- 2 MECHANICAL ITEM, S.M.D.
- 3 PLUMBING ITEM / FIXTURE, S.P.D.
- 4 ELECTRICAL ITEM, S.E.D.
- 5 FIRE PROTECTION ITEM, S.F.P.D.
- 6 RIDGE LINE AT GABLED CEILING
- 7 NOT USED
- 8 ROOF ACCESS LADDER, SEE FLOOR PLAN
- 9 PROJECTOR, S.E.D. AND 14 A-10.1
- 10 PROJECTION SCREEN 21 A-10.2 7 A-9.2 3 A-9.4 19 A-9.4
- 11 RAIN WATER LEADER, SEE RCP & 10 A-9.3
- 12 RAIN CANOPY
- 13 SUNSHADE CANOPY, SEE.
- 14 ROOF HATCH ABOVE, SEE ROOF PLAN
- 15 METAL ROOF GUTTER, SEE DETAIL

REFLECTED CEILING PLAN GENERAL NOTES

- NOTES & SYMBOLS ARE TO APPLY TO ALL AREAS OF SIMILAR GRAPHIC REPRESENTATION. SUCH INDICATIONS MAY BE LIMITED TO PROMOTE CLARITY OR AVOID REDUNDANCY. NO LIMITATION OF APPLICATION SHALL BE CONSTRUED WITHOUT SPECIFIC NOTATION.
- PENDANT LIGHT FIXTURE LOCATION DIMENSIONS ARE NOMINAL. VERIFY IN FIELD TO MAINTAIN 45° SWING CLEARANCES TO FIXED ELEMENTS.
- S.E.D. FOR HORNS, SPEAKERS, PULL STATIONS, LIGHT FIXTURES AND OTHER FEATURES NOT OTHERWISE SHOWN.
- S.E.D. FOR EXIT SIGNS & EMERGENCY LIGHTING CONDITIONS.
- S.M.D. FOR PIPING, REGISTERS & VENTS NOT OTHERWISE SHOWN. MECHANICAL DUCT LOCATION DIMENSIONS ARE NOMINAL. VERIFY IN FIELD TO MAINTAIN CLEARANCES TO FIXED ELEMENTS.

REFLECTED CEILING PLAN LEGEND

10'-0" CL-XX REFERS TO CEILING FINISH CODE SEE BELOW. X-X" REFERS TO FINISHED CEILING HEIGHT AFF. WHERE CEILING HEIGHT IS INDICATED AS "OPEN" OR "-". ROOM IS OPEN TO STRUCTURE ABOVE. FOR CEILING CONFIGURATION & HEIGHT WHERE CEILING HEIGHT IS INDICATED AS CURVED, SLOPING, OR VARIES, REFER TO SECTION DRAWINGS.

ROOM NAME ROOM # X-X"

GYPSUM BOARD, SEE FINISH CODE

SURFACE MOUNTED ACOUSTIC TILES AT GYP BD CLG. SEE FINISH CODES

2'x4' SUSPENDED CEILING SYSTEM W/ ACOUSTIC TILE, SEE FINISH CODES

METAL ROOF DECK AT RAIN CANOPIES

EXTRUDED FIBERGLASS GRATING AT SUNSHADE CANOPY

CEMENT PLASTER, SEE FINISH CODE

DOORS SHOWN DASHED INDICATE DOOR BELOW. FOR DEMO, (E), AND (N) DOOR/FRAME INFORMATION SEE FLOOR PLANS & DOOR SCHEDULE

ELECTRICAL ITEMS, S.E.D.

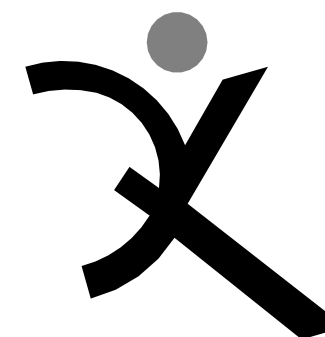
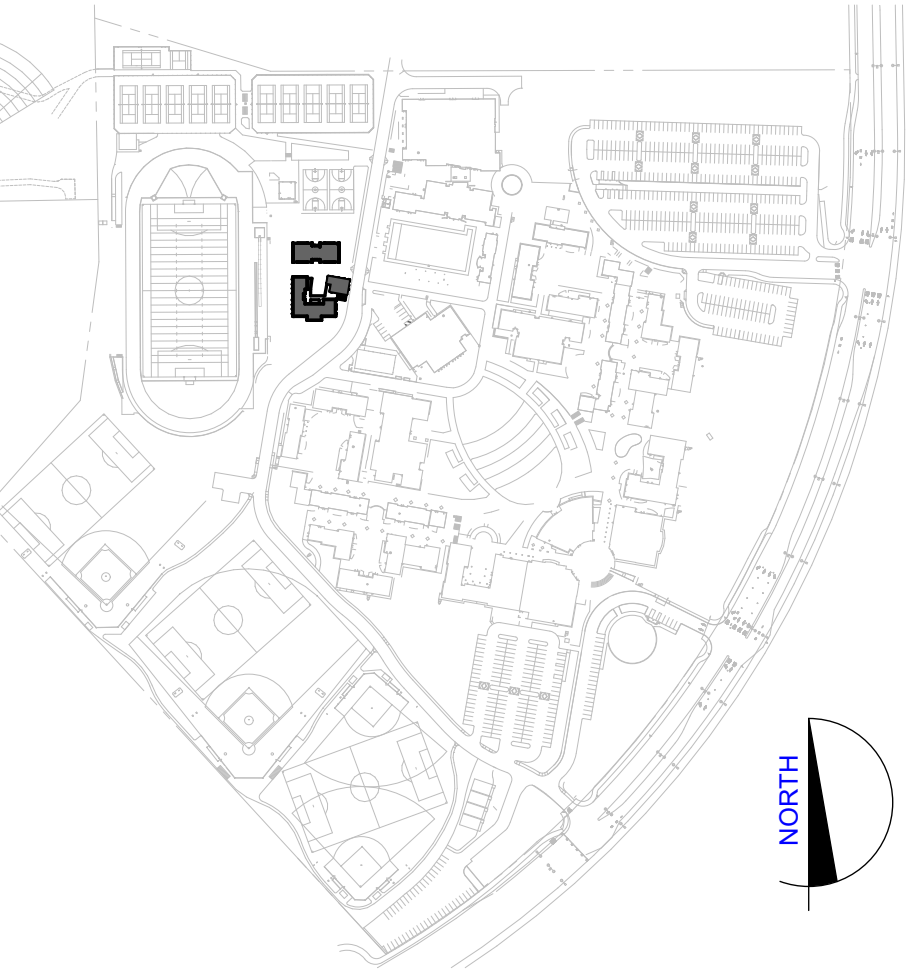
MECHANICAL ITEMS, S.M.D.

FIRE SPRINKLERS, S.F.P.D. AND DTL 15 A-10.1

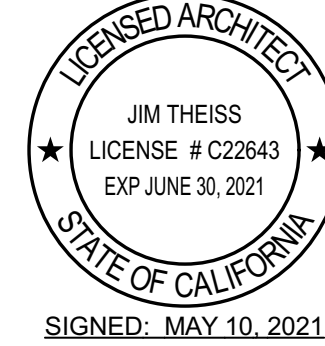
CEILING FINISH CODES FOR PAINT FINISHES SEE SEC. 09 9113 (EXTERIOR) & 09 9123 (INTERIOR).

- GYP1 GYP BOARD
- ACT1 ACOUSTICAL CEILING TILE CEILING GRID SYSTEM
- ACP1 ACOUSTIC CEILING PANELS
- ES1 EXPOSED STRUCTURE
- CP1 CEMENT PLASTER

KEYPLAN



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HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS
INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119268

ARCH PROJECT NO: 1870.00

DRAWN BY: fill out manually ea sheet

DRAWING SCALE: 1/8" = 1'-0"

PTN: 61721-77 FILE NO: 7-H4

BID SET

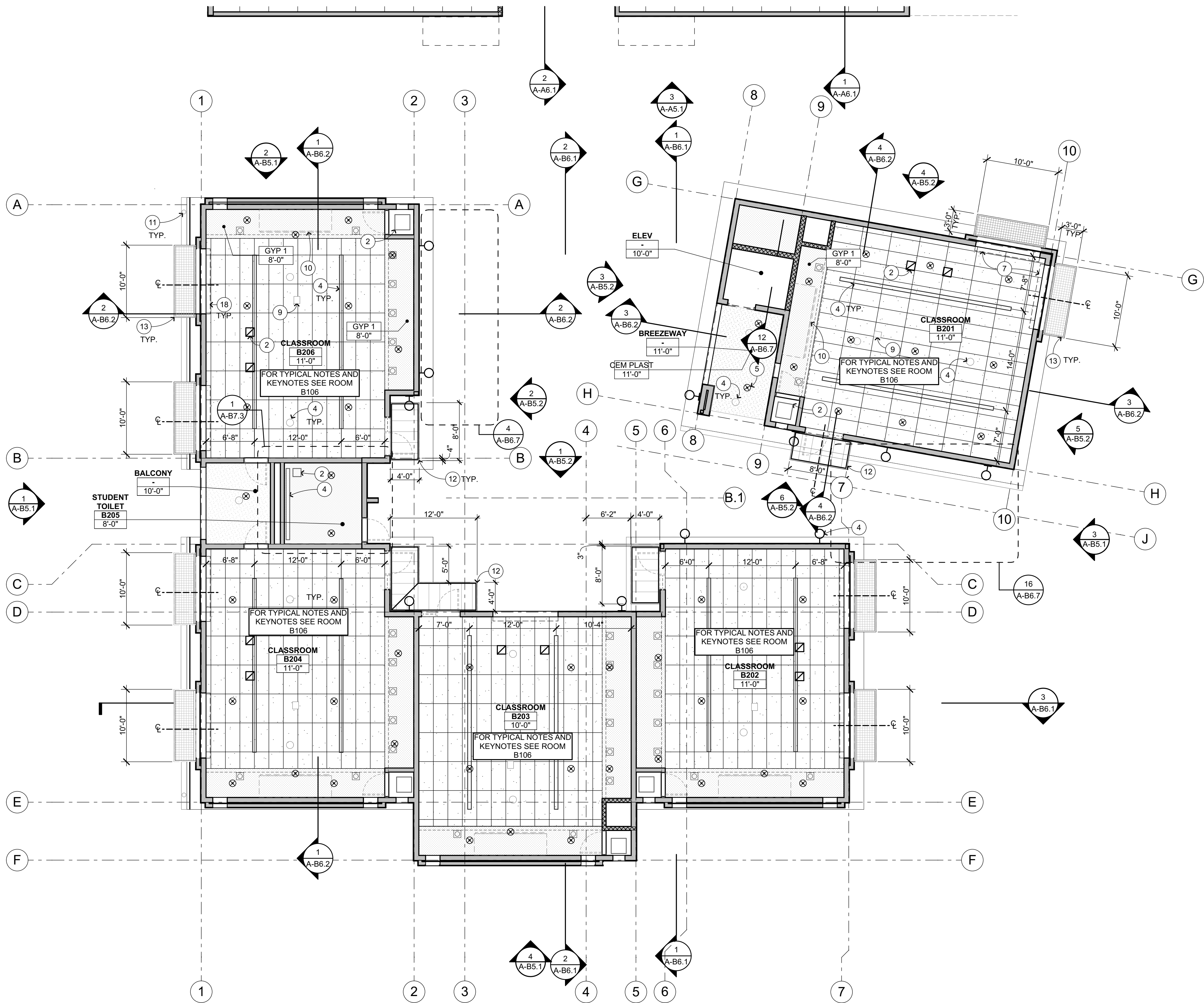
MAY 10, 2021

SHEET TITLE

BLDG-B FIRST FLOOR
REFLECTED
CEILING PLAN

SHEET NUMBER

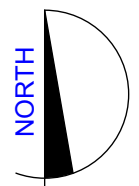
A-B3.1



2ND FLOOR RCP BLDG-B

1/8" = 1'-0"

1



REFLECTED CEILING PLAN KEYNOTES

NOT ALL KEYNOTES MAY APPLY TO THIS SHEET

- 1 STRUCTURAL ITEM, S.S.D.
- 2 MECHANICAL ITEM, S.M.D.
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- 10 PROJECTION SCREEN 21 A-10.2 7 A-9.2 3 A-9.4 19 A-9.4
- 11 RAIN WATER LEADER, SEE RCP &
- 12 RAIN CANOPY
- 13 SUNSHADE CANOPY, SEE.
- 14 ROOF HATCH ABOVE, SEE ROOF PLAN
- 15 METAL ROOF GUTTER, SEE DETAIL 10 A-9.3

REFLECTED CEILING PLAN GENERAL NOTES

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5. S.M.D. FOR PIPING, REGISTERS & VENTS NOT OTHERWISE SHOWN. MECHANICAL DUCT LOCATION DIMENSIONS ARE NOMINAL. VERIFY IN FIELD TO MAINTAIN CLEARANCES TO FIXED ELEMENTS.

REFLECTED CEILING PLAN LEGEND

10'-0" ROOM NAME ROOM # X'-X" CL-XX REFERS TO CEILING FINISH CODE SEE BELOW. X'-X" REFERS TO FINISHED CEILING HEIGHT AFF. WHERE CEILING HEIGHT IS INDICATED AS "OPEN" OR "-". ROOM IS OPEN TO STRUCTURE ABOVE. FOR CEILING CONFIGURATION & HEIGHT WHERE CEILING HEIGHT IS INDICATED AS CURVED, SLOPING, OR VARIES, REFER TO SECTION DRAWINGS.

GYPSUM BOARD, SEE FINISH CODE

SURFACE MOUNTED ACOUSTIC TILES AT GYP BD CLG. SEE FINISH CODES

2'x4' SUSPENDED CEILING SYSTEM W/ ACOUSTIC TILE, SEE FINISH CODES

METAL ROOF DECK AT RAIN CANOPIES

EXTRUDED FIBERGLASS GRATING AT SUNSHADE CANOPY

CEMENT PLASTER, SEE FINISH CODE

DOORS SHOWN DASHED INDICATE DOOR BELOW. FOR DEMO, (E), AND (N) DOOR/FRAME INFORMATION SEE FLOOR PLANS & DOOR SCHEDULE

ELECTRICAL ITEMS, S.E.D.

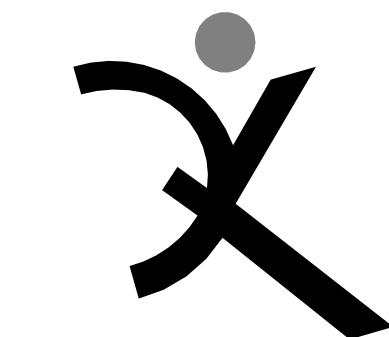
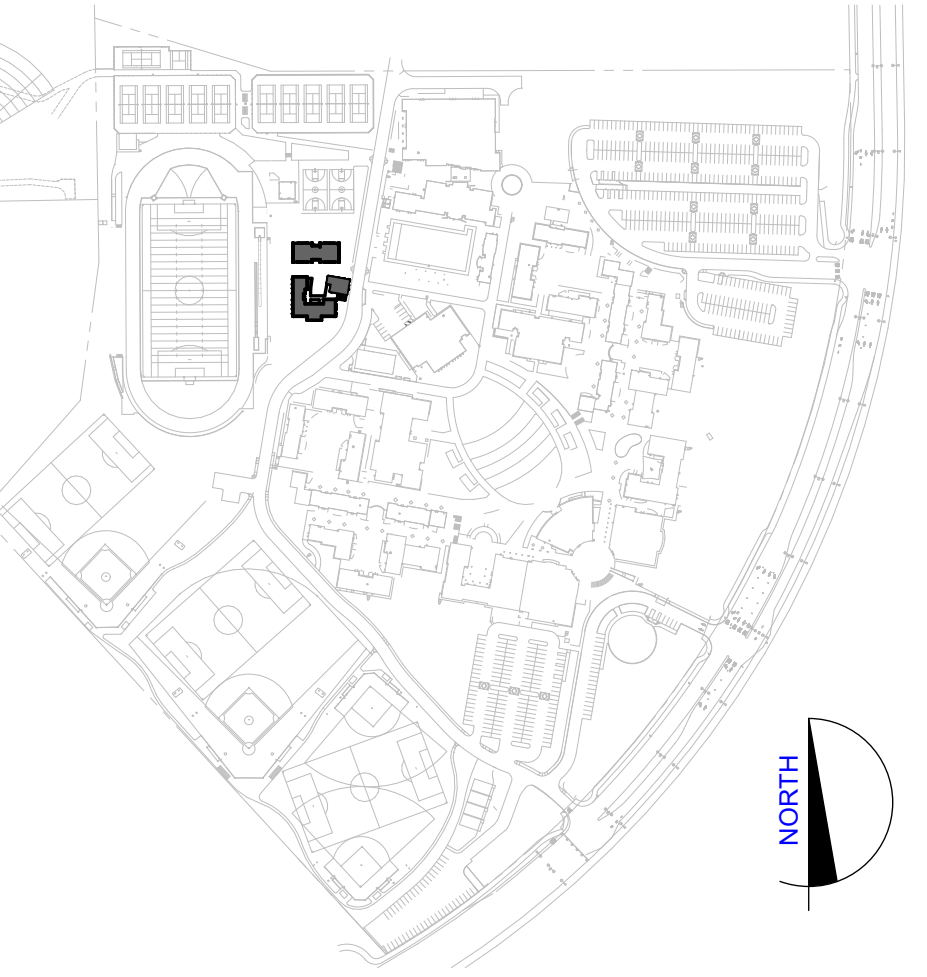
MECHANICAL ITEMS, S.M.D.

FIRE SPRINKLERS, S.F.P.D. AND DTL 15 A-10.1

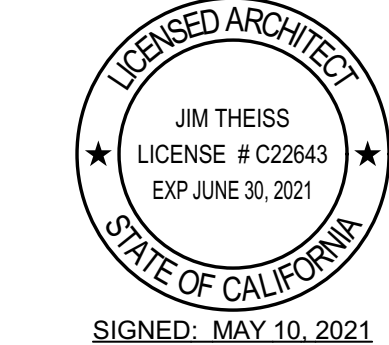
CEILING FINISH CODES

- FOR PAINT FINISHES SEE SEC. 09 9113 (EXTERIOR) & 09 9123 (INTERIOR).
- GYP1 GYP BOARD
- ACT1 ACOUSTICAL CEILING TILE CEILING GRID SYSTEM
- ACP1 ACOUSTIC CEILING PANELS
- ES1 EXPOSED STRUCTURE
- CP1 CEMENT PLASTER

KEYPLAN



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SIGNED: MAY 10, 2021

HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS
INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119268

ARCH PROJECT NO. 1870.00

DRAWN BY:

DRAWING SCALE:

PTN: 61721-77 FILE NO: 7-H4

BID SET

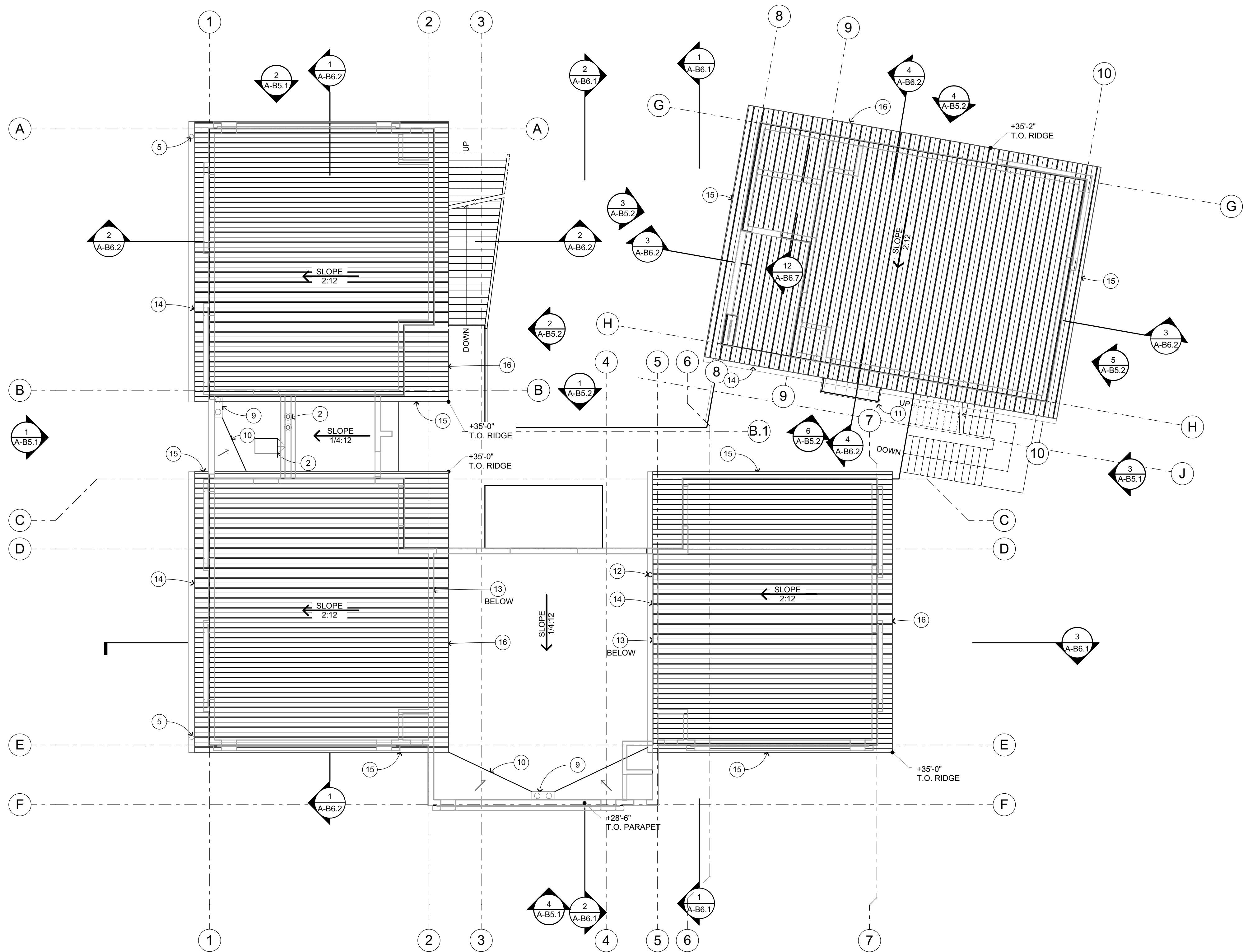
MAY 10, 2021

SHEET TITLE

BLDG-B 2ND FLOOR
REFLECTED
CEILING PLAN

SHEET NUMBER

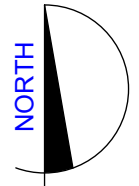
A-B3.2



ROOF PLAN - BLDG B

1/8" = 1'-0"

1



ROOF PLAN KEYNOTES

NOT ALL KEYNOTES MAY APPLY TO THIS SHEET

- STRUCTURAL ITEM, S.S.D.
- MECHANICAL ITEM, S.M.D.
FOR MECHANICAL CURB, SEE DETAIL S-1.3
- PLUMBING ITEM / FIXTURE, S.P.D.
- ELECTRICAL ITEM, S.E.D.
- RAIN WATER LEADER, SEE EXT ELEVATIONS
- METAL ROOF RIDGE, SEE DETAIL A-9.3
- ROOF HATCH, SEE DETAIL A-9.3
- PARAPET, SEE DETAIL A-9.2
- ROOF DRAIN & OVERFLOW, SEE DETAIL A-9.2
- CRICKET, SLOPE DOWN AT 1/2":12"
- RAIN CANOPY OR SHADE CANOPY BELOW, SEE RCP
- DOWNSPOUT TO ROOF BELOW, SEE DETAIL A-9.3
- WALL FLASHING, SEE BUILDING SECTION
- METAL ROOF GUTTER, SEE DETAIL A-9.3
- METAL ROOF RAKE, SEE DETAIL A-9.2
- METAL ROOF UPPER SHED, SEE DETAIL A-9.2
- EQUIPMENT SUPPORT FOR DUCT LEGS, S.P.D.
- ROOF ANCHOR, SEE DETAIL A-9.2

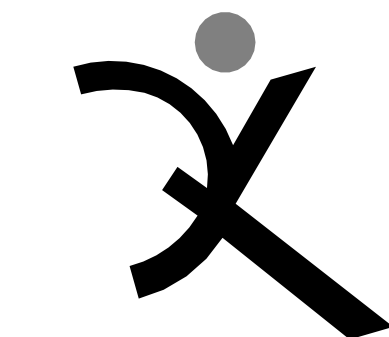
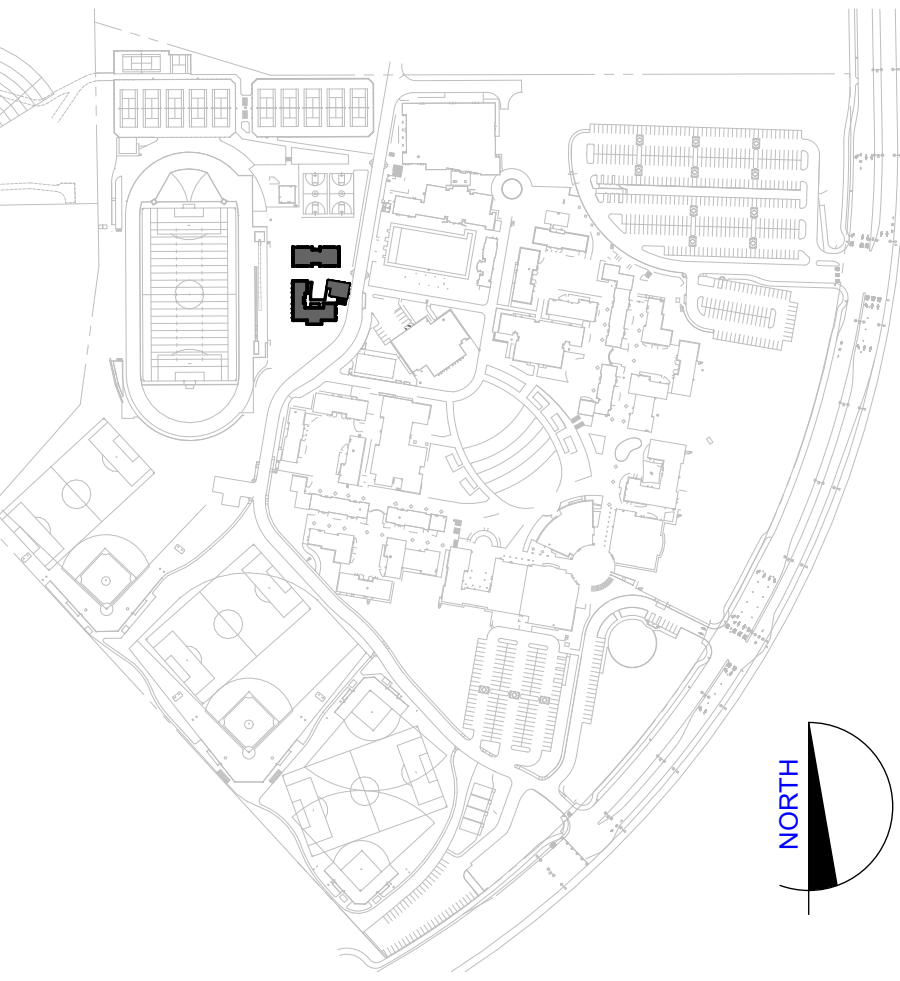
ROOF PLAN GENERAL NOTES

- LOCATE ALL METAL ROOF PENETRATIONS IN THE CENTER OF THE PAN.
 - SLOPE MIN 1/4":12" TO DRAIN.
 - ALL ROOFING TO BE CLASS A.
 - REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR ROOF PENETRATION LOCATIONS NOT OTHERWISE INDICATED, TYPICAL.
 - MECHANICAL UNIT MOUNTING CURBS PER S.M.D.
 - MECHANICAL OR PLUMBING VENT FLASHING, SEE DETAIL A-9.2
- BOOTS, SEE A-9.3 METAL, OR A-9.2 B.U.R.

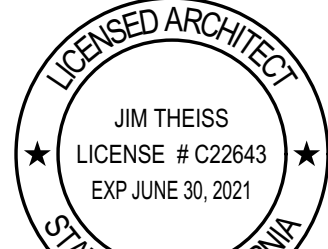
ROOF PLAN LEGEND

- +0'-0" DIMENSION INDICATING TOP OF ROOF LEVEL. SEE DETAILS FOR TOP OF ROOF LOCATION WITHIN ASSEMBLY
- MODIFIED BITUMEN ROOFING O/ SLOPED INSULATION, SEE DETAIL A-9.2
- PREFORMED METAL ROOF, SEE DETAIL A-9.3
- METAL DECKING, SEE DETAIL A-9.4

KEYPLAN



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SIGNED: MAY 10, 2021

HERITAGE HIGH
SCHOOL

NEW CLASSROOM
BUILDINGS
INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH
SCHOOL DISTRICT

DSA APP NO. 01-119268

ARCH PROJECT NO: 1870.00

DRAWN BY:

DRAWING SCALE:

PTN: 61721-77 FILE NO: 7-H4

BID SET

MAY 10, 2021

SHEET TITLE

BLDG-B ROOF
PLAN

SHEET NUMBER

A-B4.1

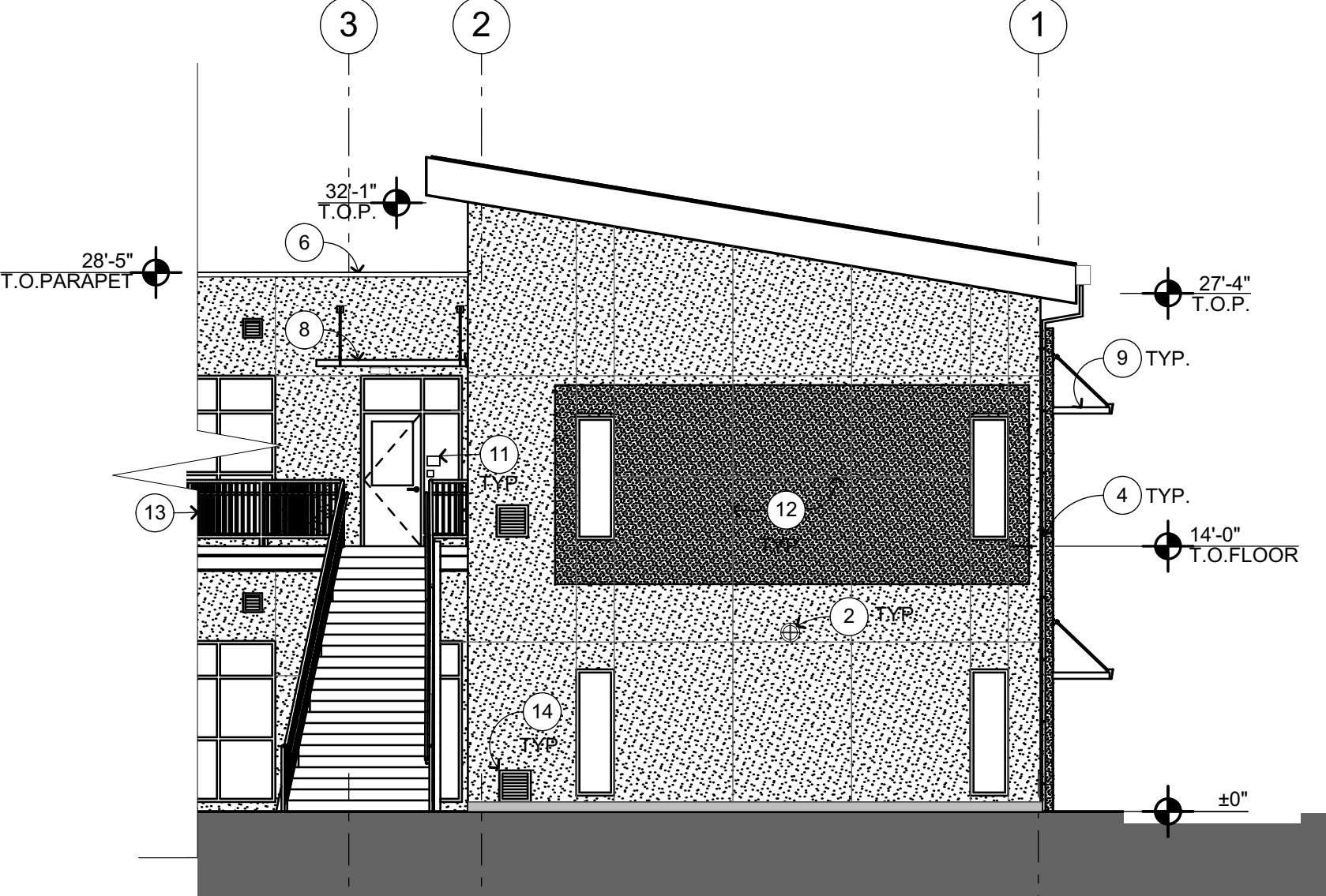
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WEST ELEVATION

1

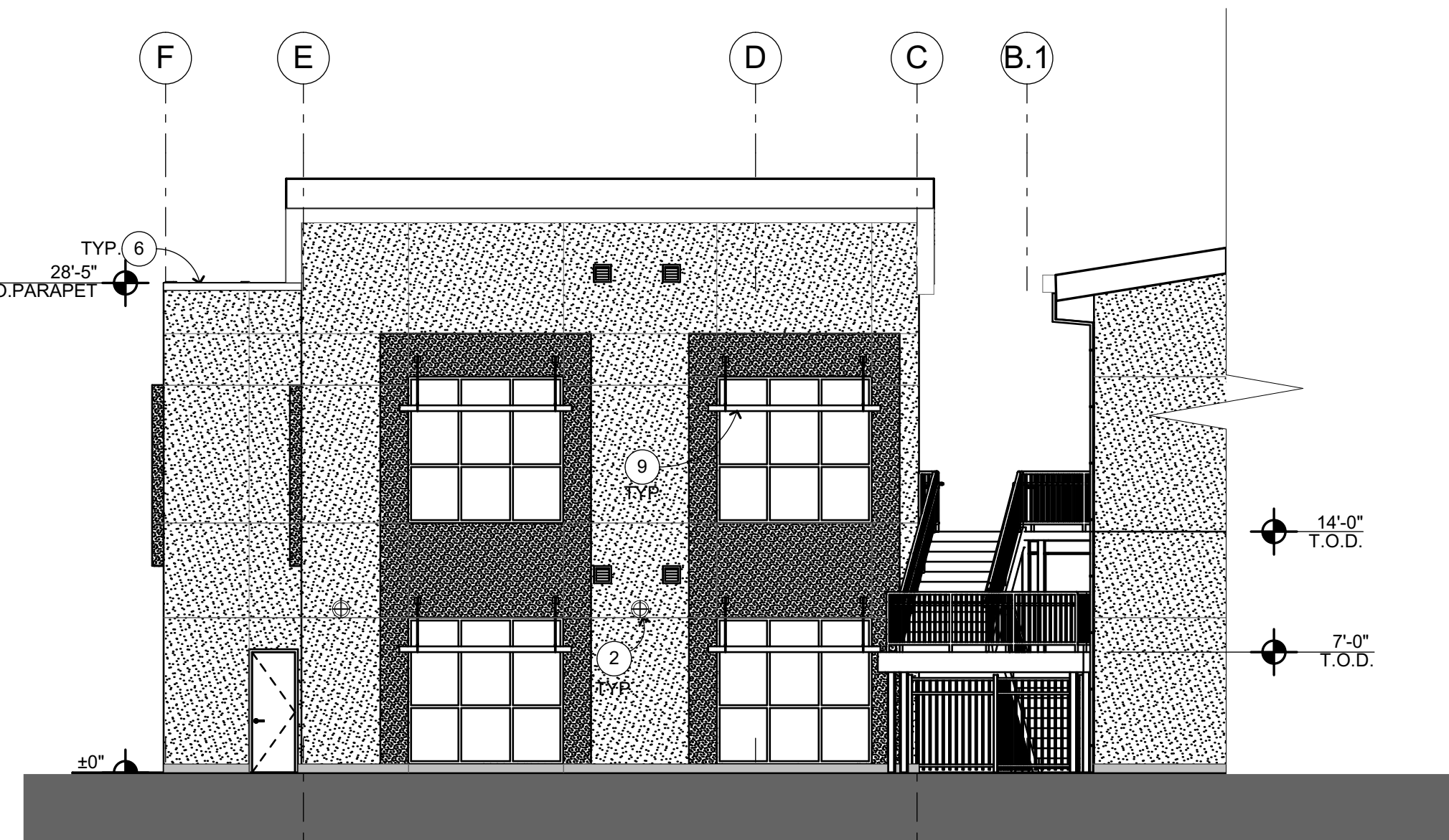
1/8" = 1'-0"



NORTH ELEVATION

2

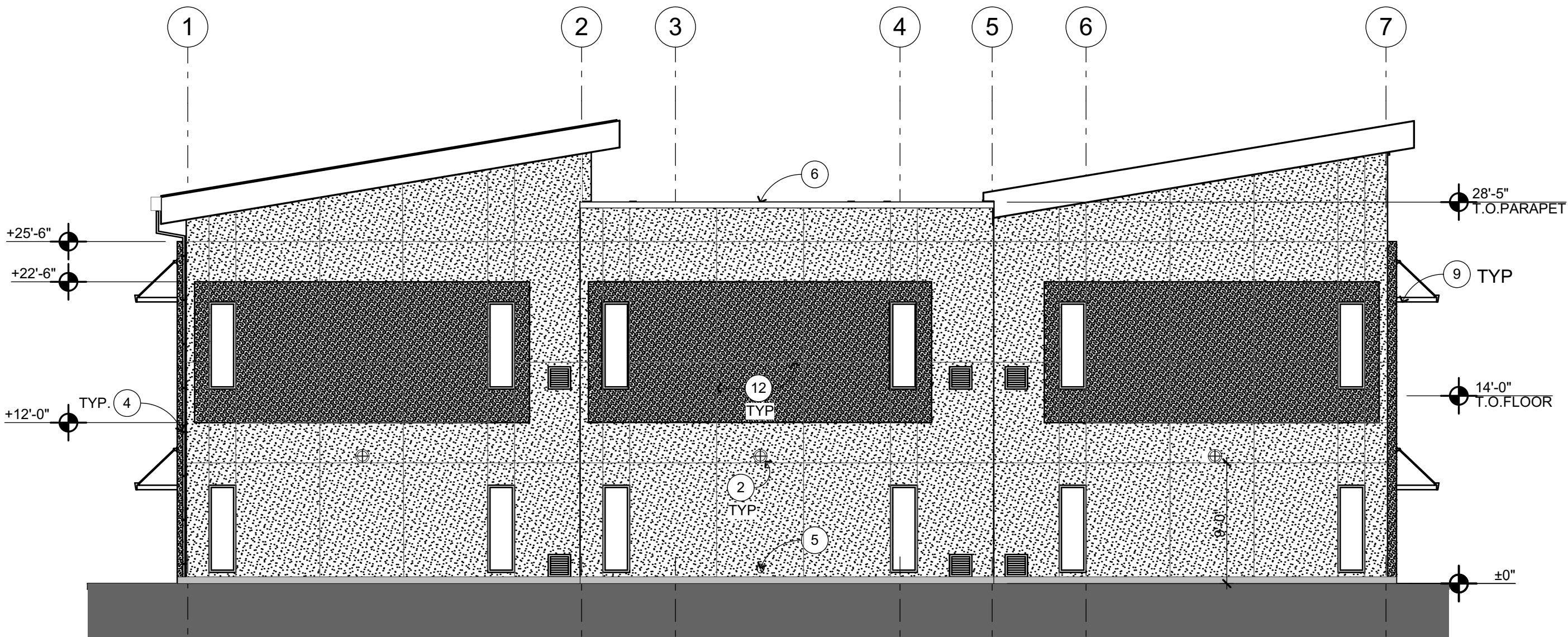
1/8" = 1'-0"



EAST ELEVATION

3

1/8" = 1'-0"



SOUTH ELEVATION

4

1/8" = 1'-0"

EXTERIOR ELEVATION KEYNOTES

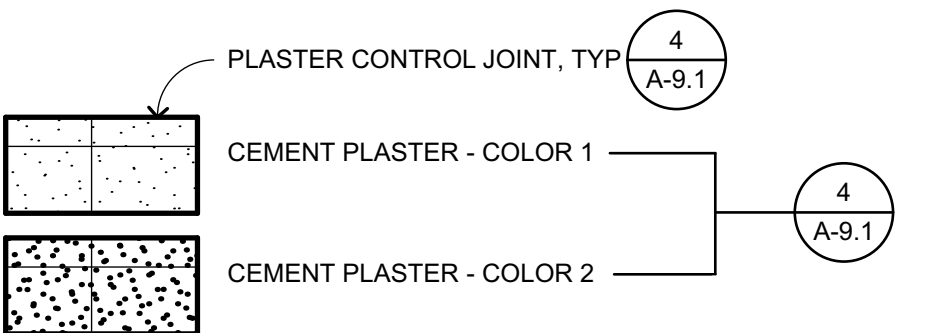
NOT ALL KEYNOTES MAY APPLY TO THIS SHEET

- 1 PLUMBING/ MECH. ITEM / FIXTURE, S.P.D.
- 2 ELECTRICAL ITEM, S.E.D.
- 3 STRUCTURAL ITEM, S.S.D.
- 4 RAIN WATER LEADER, SEE FLOOR PLAN
- 5 ROOF DRAIN OVERFLOW, SEE FLOOR PLAN
- 6 ROOF COPING AT PARAPET, SEE ROOF PLAN
- 7 PREFORMED METAL ROOF, SEE ROOF PLAN
- 8 RAIN CANOPY, SEE RCP
- 9 SUNSHADE CANOPY, SEE RCP
- 10 STOREFRONT, SEE FLOOR PLAN
- 11 SIGNAGE, S.A.G.D.
- 12 CONTROL & EXPANSION JOINTS, TYP
- 13 GUARD RAIL AT EXTERIOR WALKWAY, SEE
- 14 LOUVER, SEE

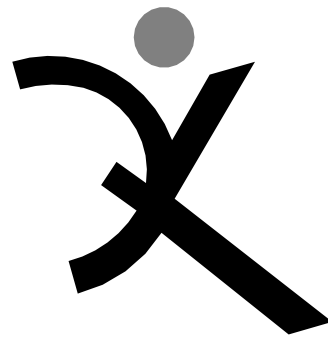
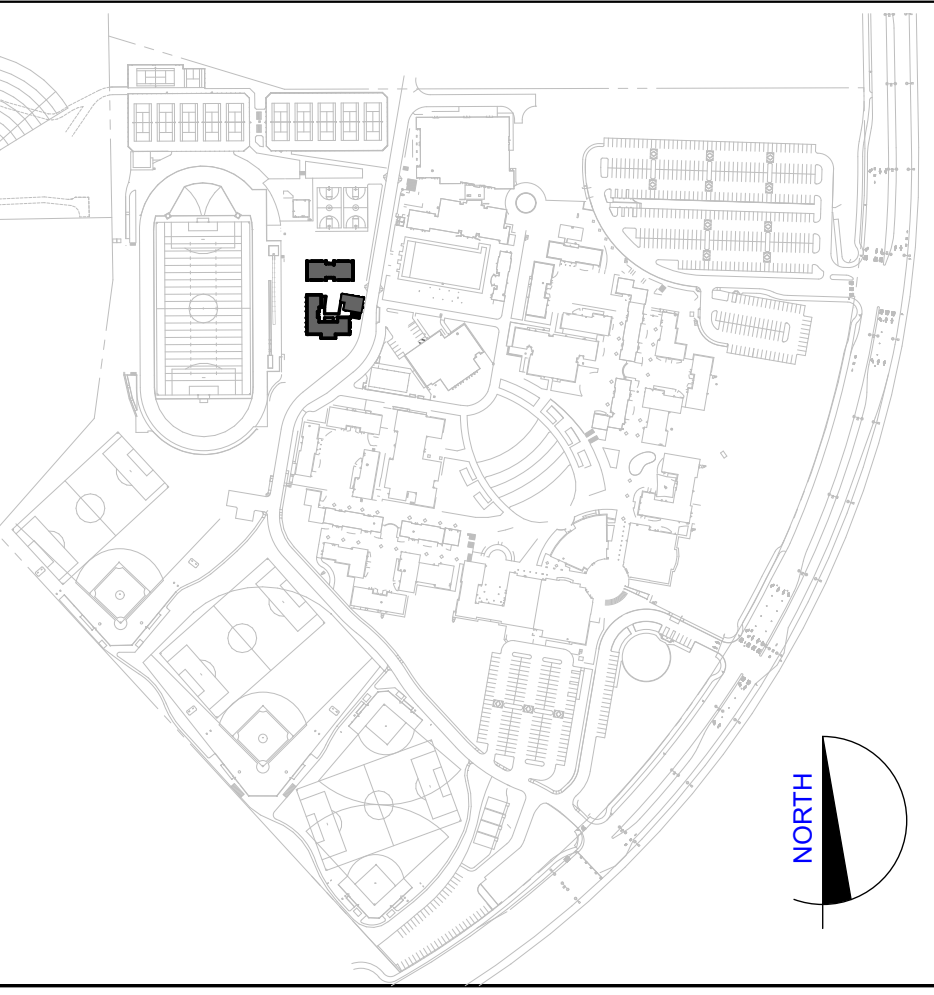
EXTERIOR ELEVATION GENERAL NOTES

1. NOTES AND SYMBOLS ARE TO APPLY AT ALL AREAS OF SIMILAR GRAPHIC REPRESENTATION. SUCH INDICATIONS MAY BE LIMITED TO PROMOTE CLARITY OR AVOID REDUNDANCY. NO LIMITATION OF APPLICATION SHALL BE CONSTRUED WITHOUT SPECIFIC NOTATION.
2. ALL PENETRATIONS THROUGH EXTERIOR ROOF AND WALLS, AND FLOORS SHALL BE FLASHED AND SEALED WEATHER TIGHT. ALL PENETRATIONS THROUGH THE BUILDING INSULATION ENVELOPE SHALL BE PACKED WITH INSULATION.
3. PROVIDE OPENING FLASHINGS AT ALL WINDOWS, DOORS, LOUVERS AND SIMILAR WALL OPENINGS PER
4. PROVIDE CEMENT PLASTER CONTROL JOINTS AS INDICATED AND AS FOLLOWS: PROVIDE CONTROL JOINTS SO THAT THE MAXIMUM DISTANCE BETWEEN JOINTS, VERTICALLY OR HORIZONTALLY DOES NOT EXCEED 12'-0". ALL CEMENT PLASTER "PANELS" SHALL BE DEFINED BY FOUR STRAIGHT AND UNINTERRUPTED EDGES; PROVIDE JOINTS AS REQUIRED TO AVOID INSIDE CORNERS IN ANY INDIVIDUAL PANEL.
5. REFER TO MECHANICAL DRAWINGS FOR REGISTERS AND VENTS NOT OTHERWISE SHOWN.
6. REFER TO ELECTRICAL DRAWINGS FOR HORNS, SPEAKERS, PULL STATIONS AND OTHER FEATURES NOT OTHERWISE SHOWN.

EXTERIOR ELEVATION LEGEND

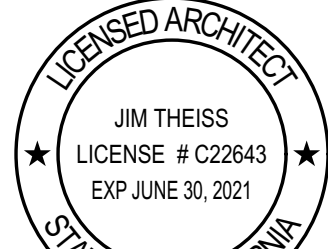


KEYPLAN



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SIGNED: MAY 10, 2021

HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119268

ARCH PROJECT NO. 1870.00

DRAWN BY:

DRAWING SCALE:

PTN: 61721-77 FILE NO: 7-H4

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MAY 10, 2021

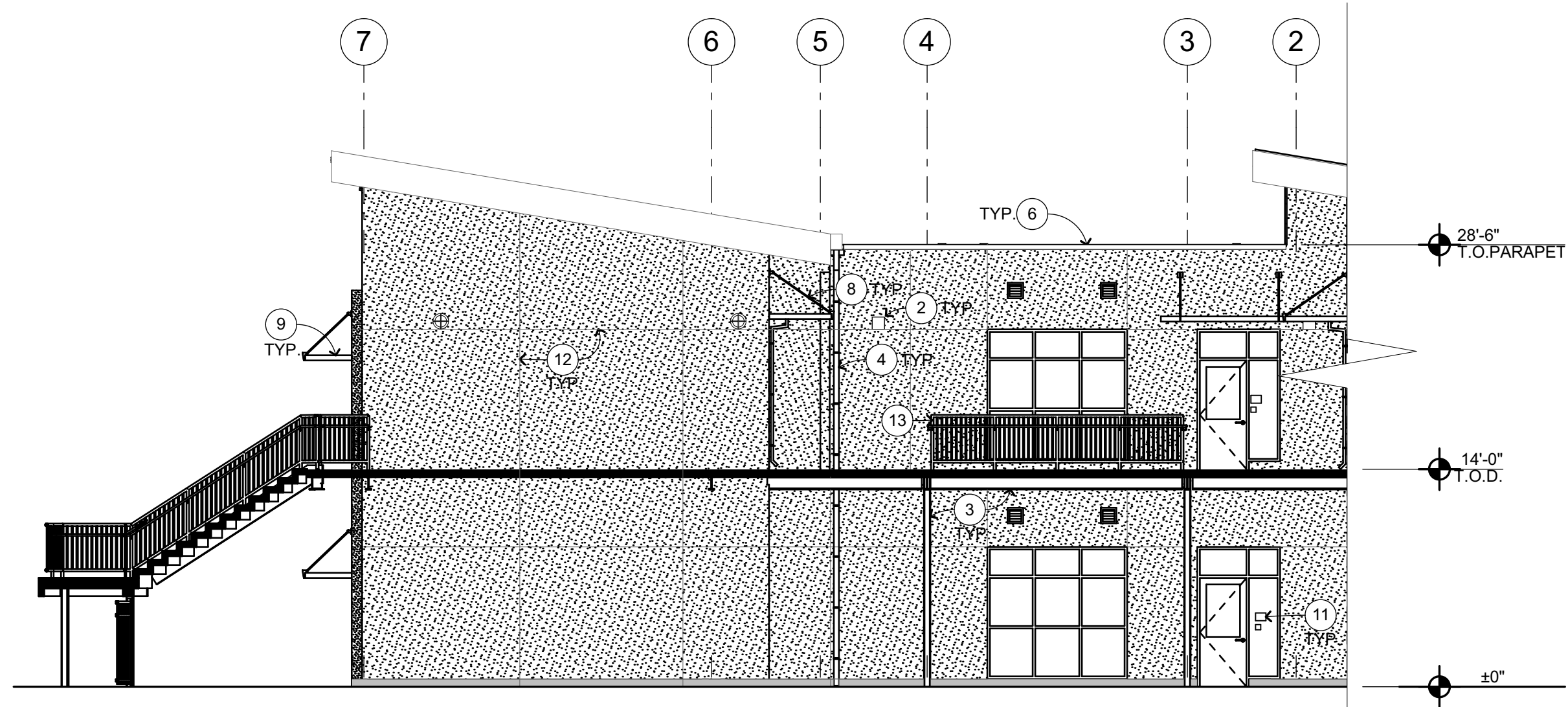
SHEET TITLE

BLDG-B EXTERIOR ELEVATIONS

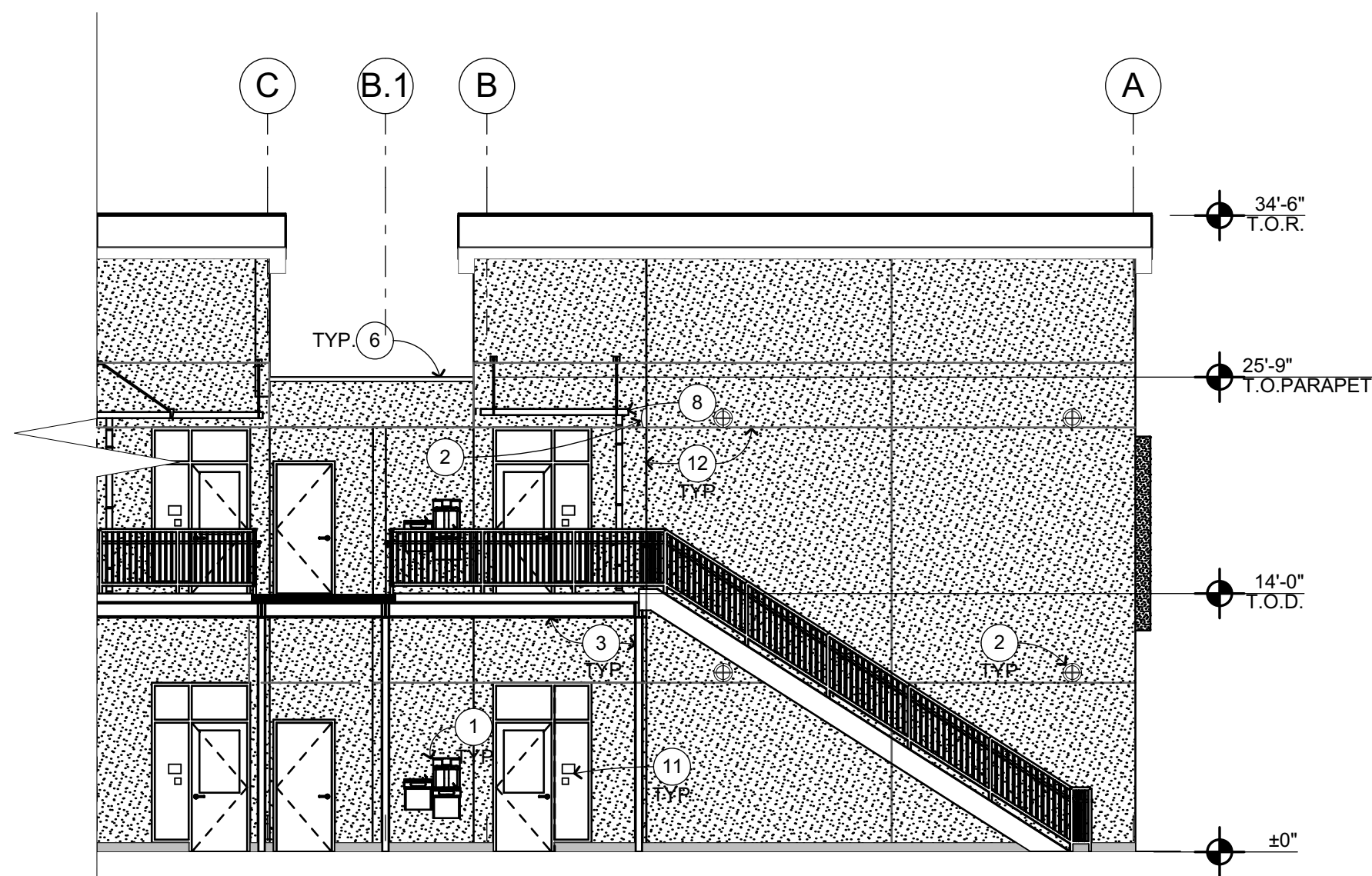
SHEET NUMBER

A-B5.1

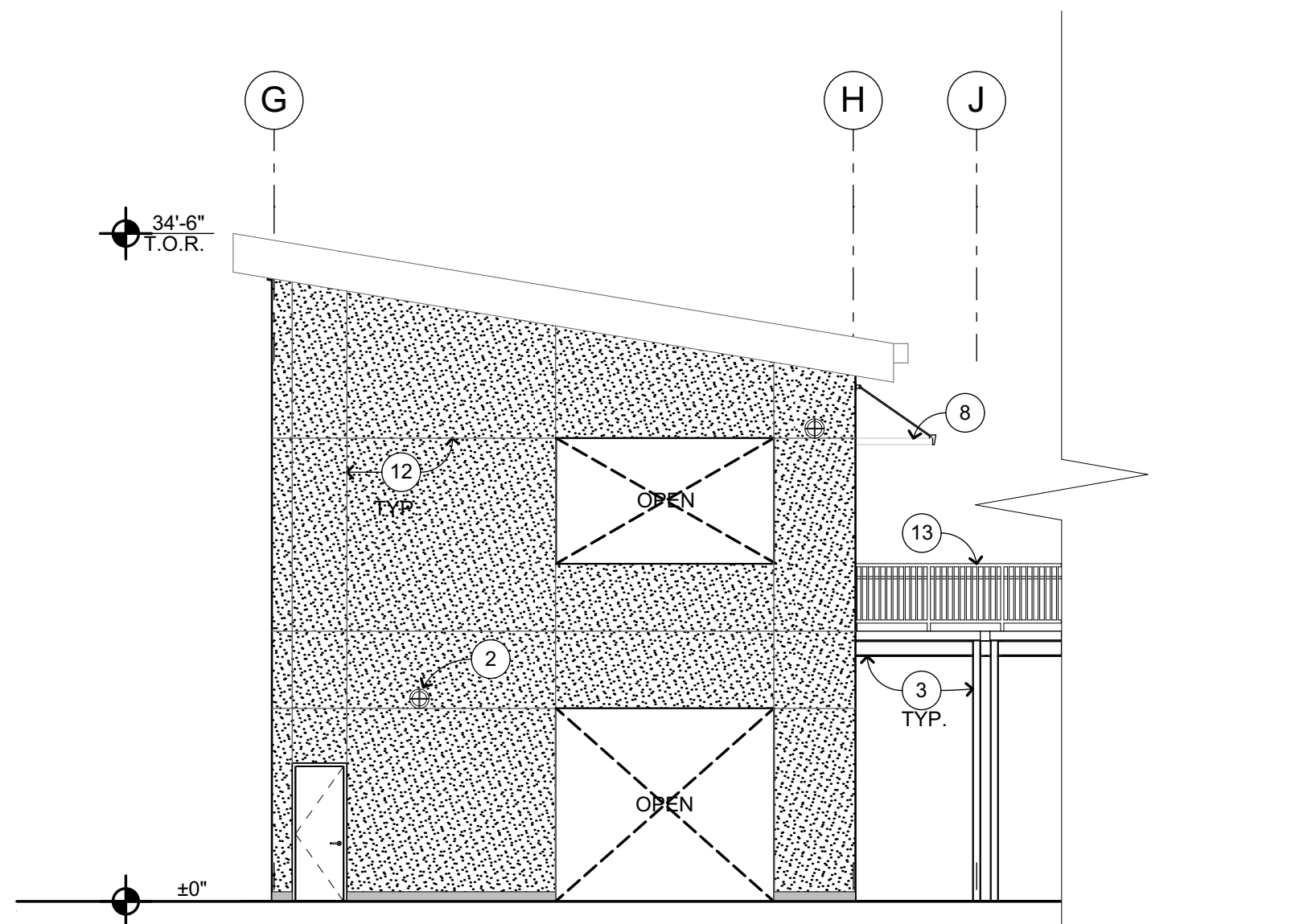
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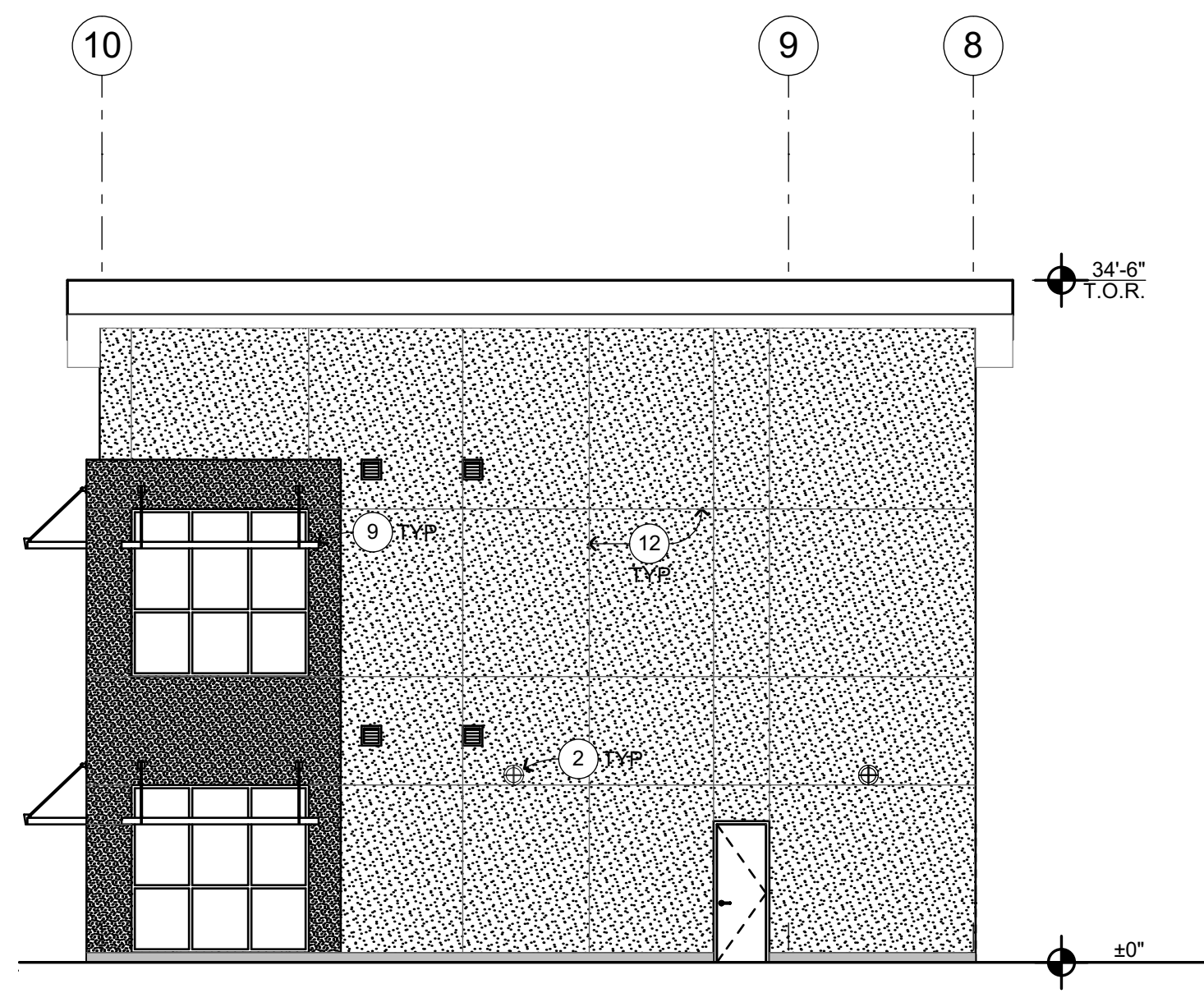
COURTYARD SOUTH ELEVATION 1
1/8" = 1'-0"



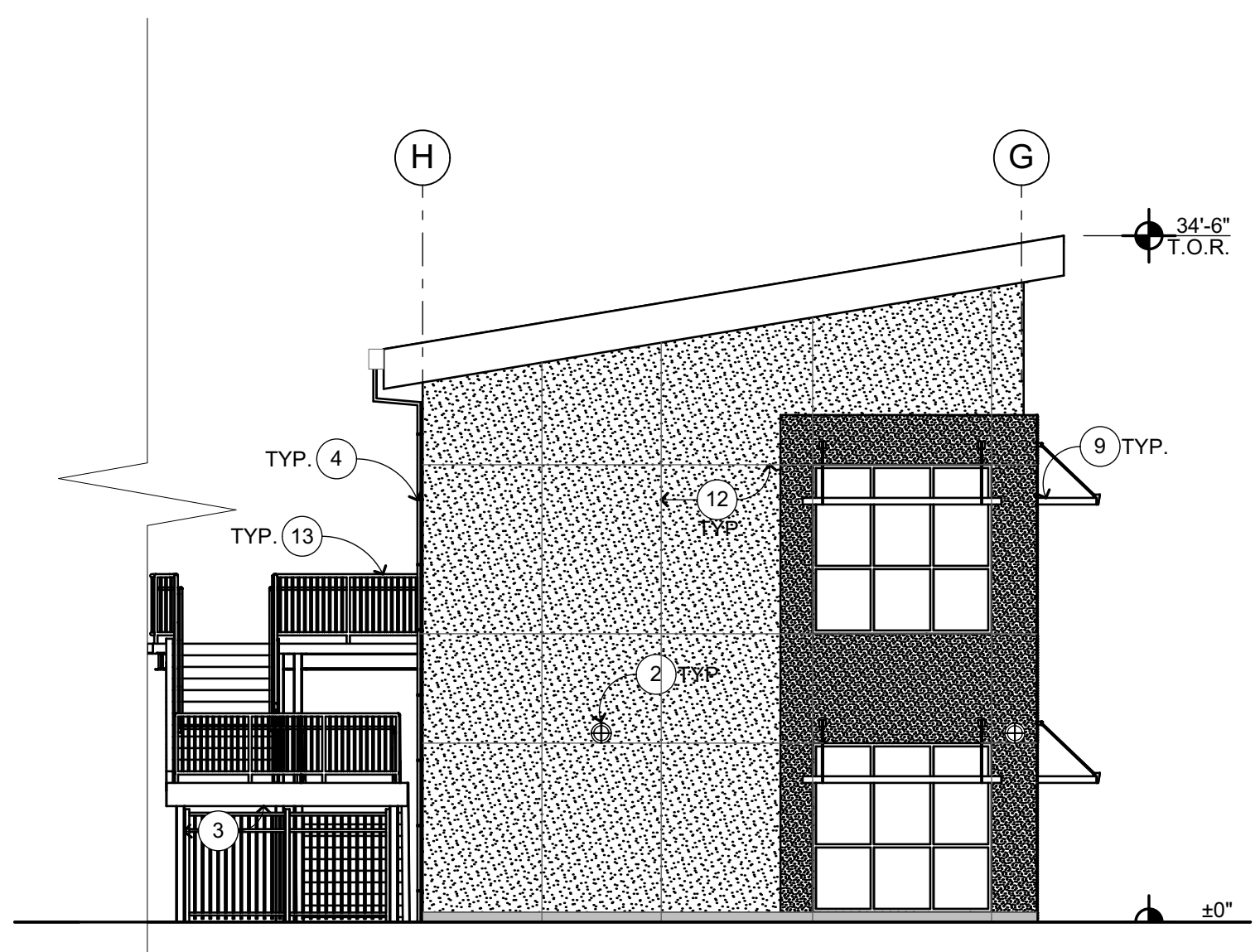
COURTYARD WEST ELEVATION 2
1/8" = 1'-0"



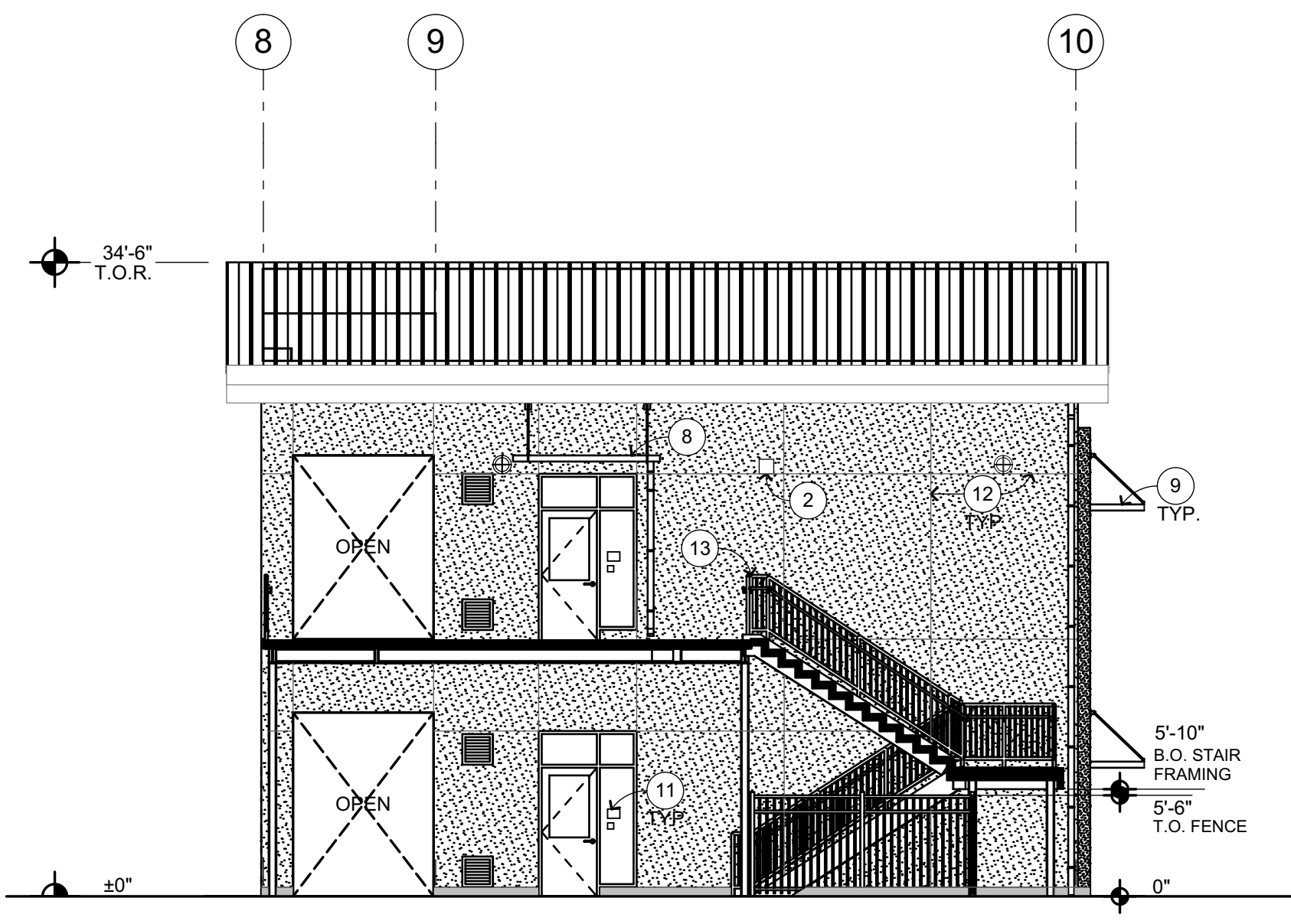
WEST ELEVATION 3
1/8" = 1'-0"



NORTH ELEVATION 4
1/8" = 1'-0"



EAST ELEVATION 5
1/8" = 1'-0"



SOUTH ELEVATION 6
1/8" = 1'-0"

EXTERIOR ELEVATION KEYNOTES

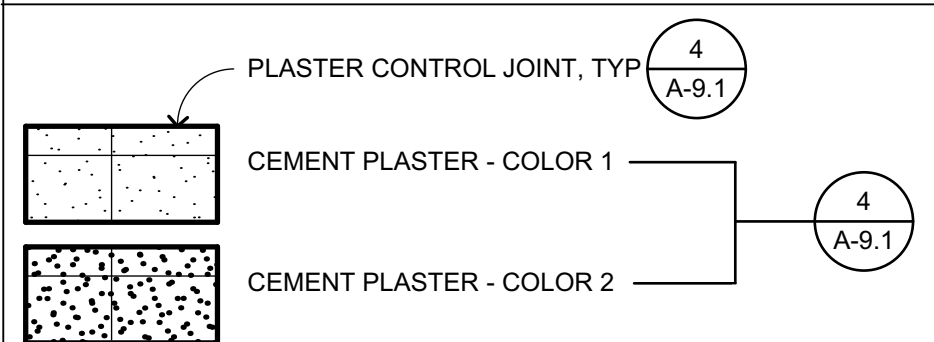
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- 6 ROOF COPING AT PARAPET, SEE ROOF PLAN
- 7 PREFORMED METAL ROOF, SEE ROOF PLAN
- 8 RAIN CANOPY, SEE RCP
- 9 SUNSHADE CANOPY, SEE RCP
- 10 STOREFRONT, SEE FLOOR PLAN
- 11 SIGNAGE, S.A.G.D.
- 12 CONTROL & EXPANSION JOINTS, TYP
- 13 GUARD RAIL AT EXTERIOR WALKWAY, SEE 4/A-9.7
- 14 LOUVER, SEE 11/A-9.5

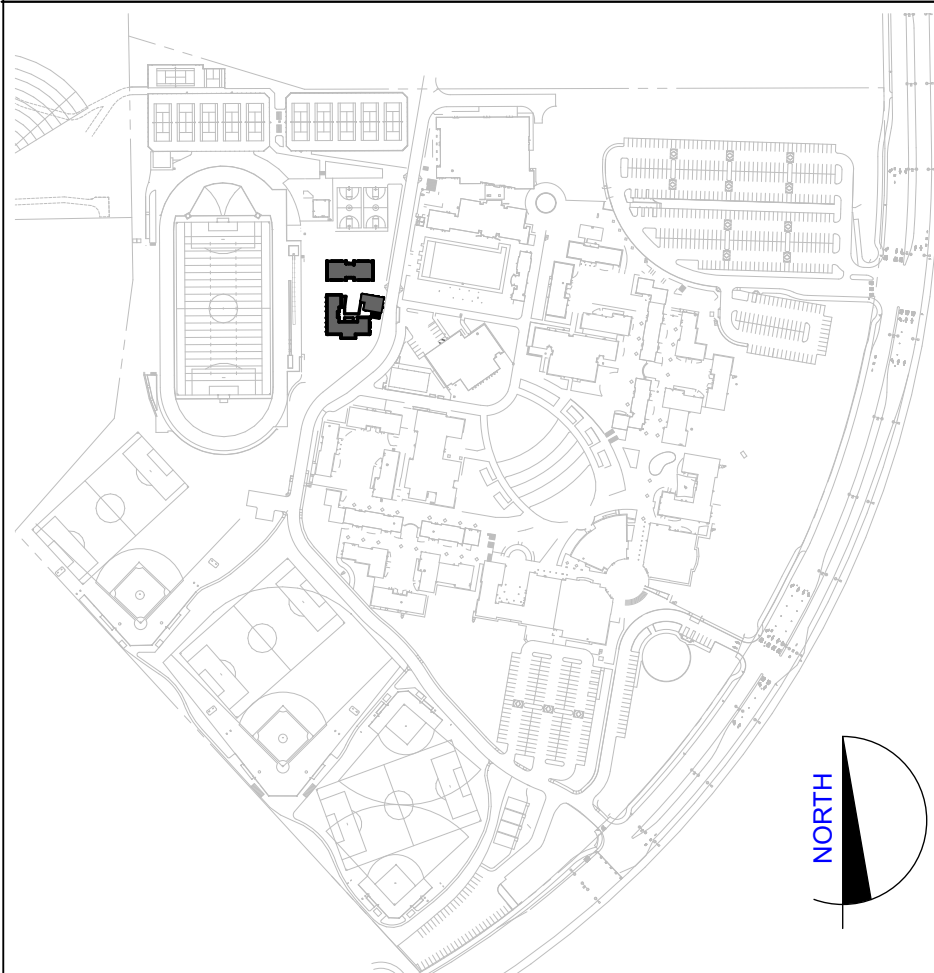
EXTERIOR ELEVATION GENERAL NOTES

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2. ALL PENETRATIONS THROUGH EXTERIOR ROOF AND WALLS, AND FLOORS SHALL BE FLASHED AND SEALED WEATHER TIGHT. ALL PENETRATIONS THROUGH THE BUILDING INSULATION ENVELOPE SHALL BE PACKED WITH INSULATION.
3. PROVIDE OPENING FLASHINGS AT ALL WINDOWS, DOORS, LOUVERS AND SIMILAR WALL OPENINGS PER 10/A-9.5
4. PROVIDE CEMENT PLASTER CONTROL JOINTS AS INDICATED AND AS FOLLOWS: PROVIDE CONTROL JOINTS SO THAT THE MAXIMUM DISTANCE BETWEEN JOINTS, VERTICALLY OR HORIZONTALLY DOES NOT EXCEED 12'-0". ALL CEMENT PLASTER "PANELS" SHALL BE DEFINED BY FOUR STRAIGHT AND UNINTERRUPTED EDGES; PROVIDE JOINTS AS REQUIRED TO AVOID INSIDE CORNERS IN ANY INDIVIDUAL PANEL.
5. REFER TO MECHANICAL DRAWINGS FOR REGISTERS AND VENTS NOT OTHERWISE SHOWN.
6. REFER TO ELECTRICAL DRAWINGS FOR HORNS, SPEAKERS, PULL STATIONS AND OTHER FEATURES NOT OTHERWISE SHOWN.

EXTERIOR ELEVATION LEGEND



KEYPLAN



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LICENSED ARCHITECT
JIM THEISS
LICENSE # C22643
EXP JUNE 30, 2021
STATE OF CALIFORNIA
SIGNED: MAY 10, 2021

HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

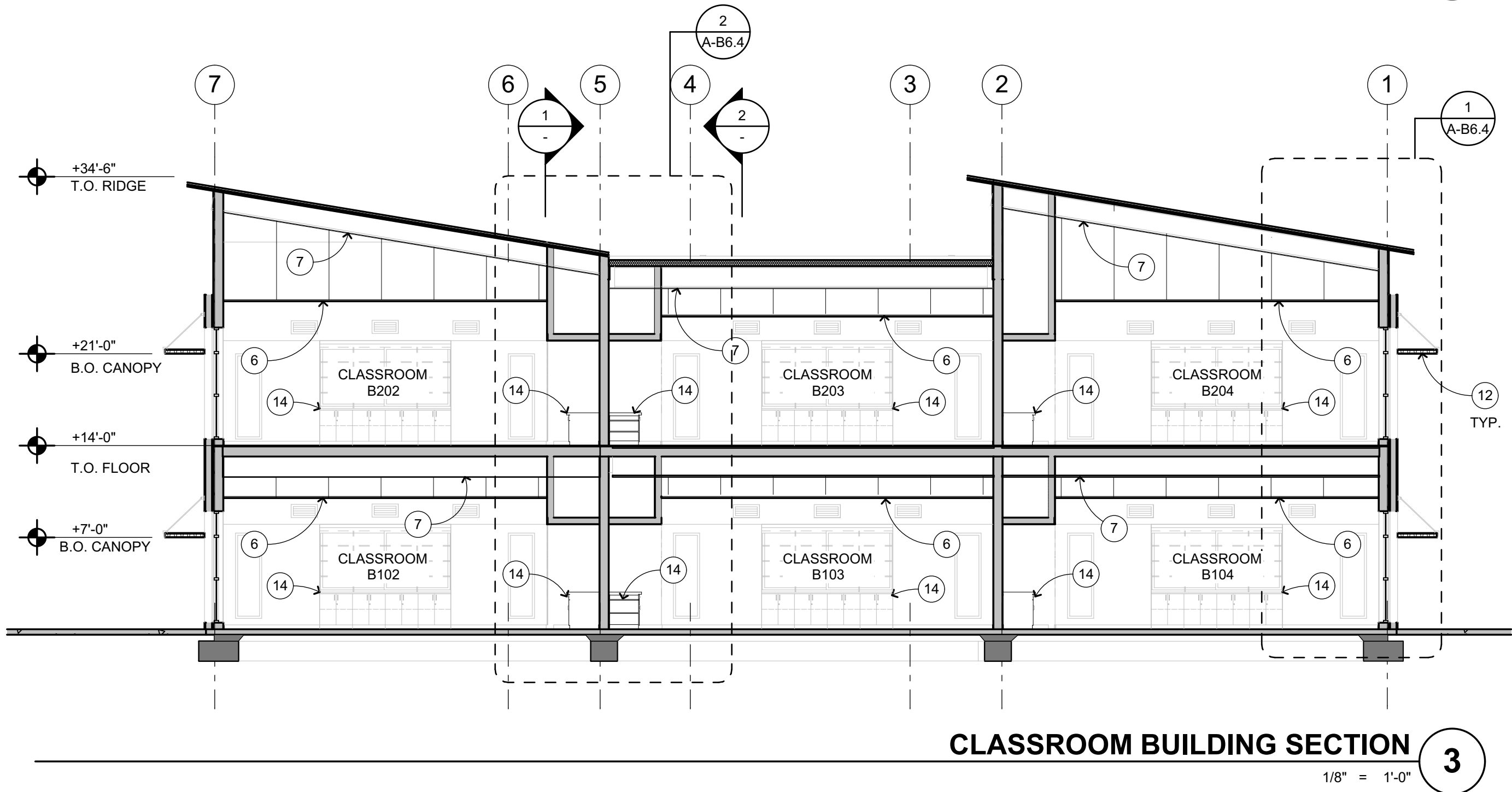
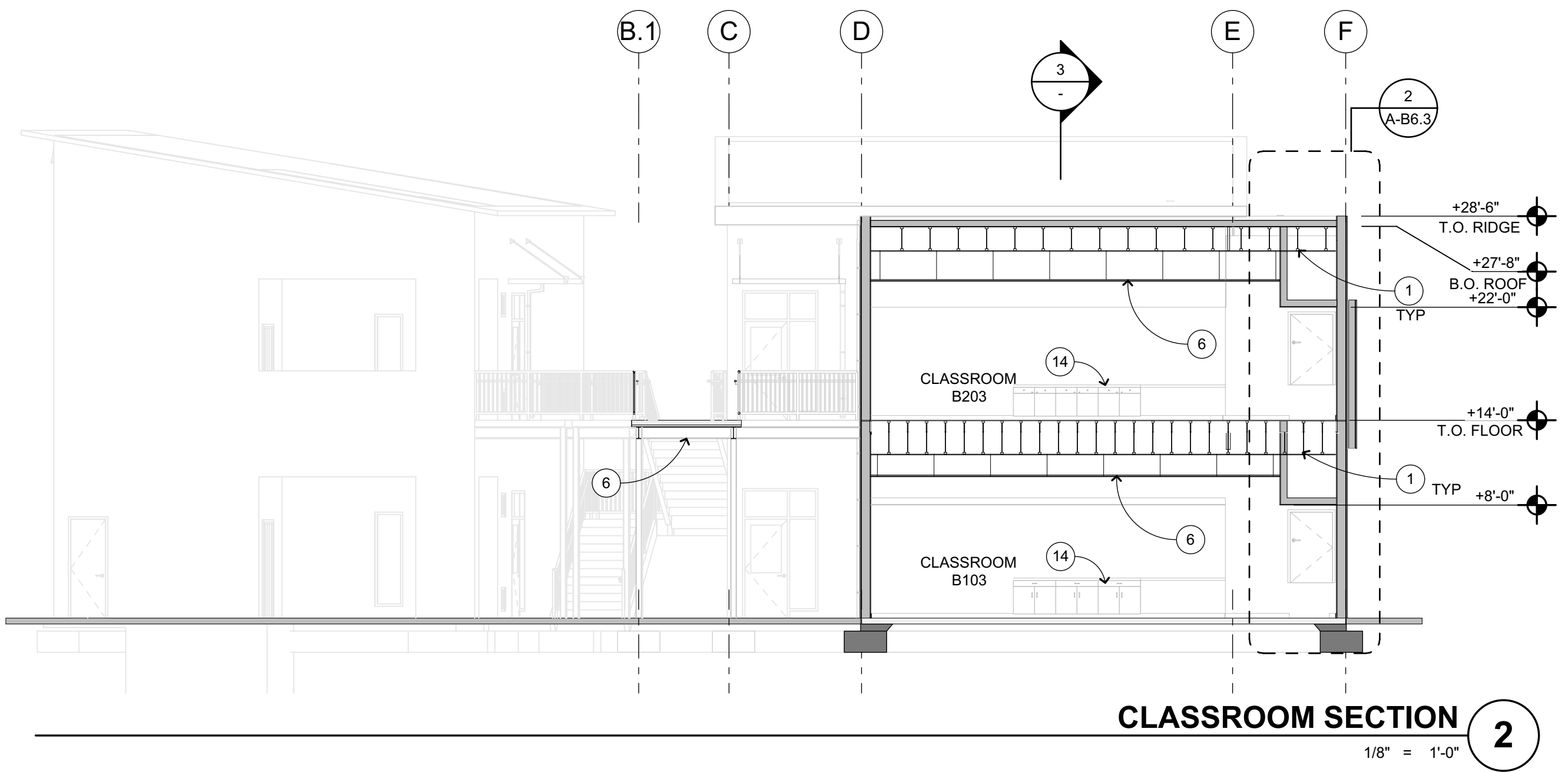
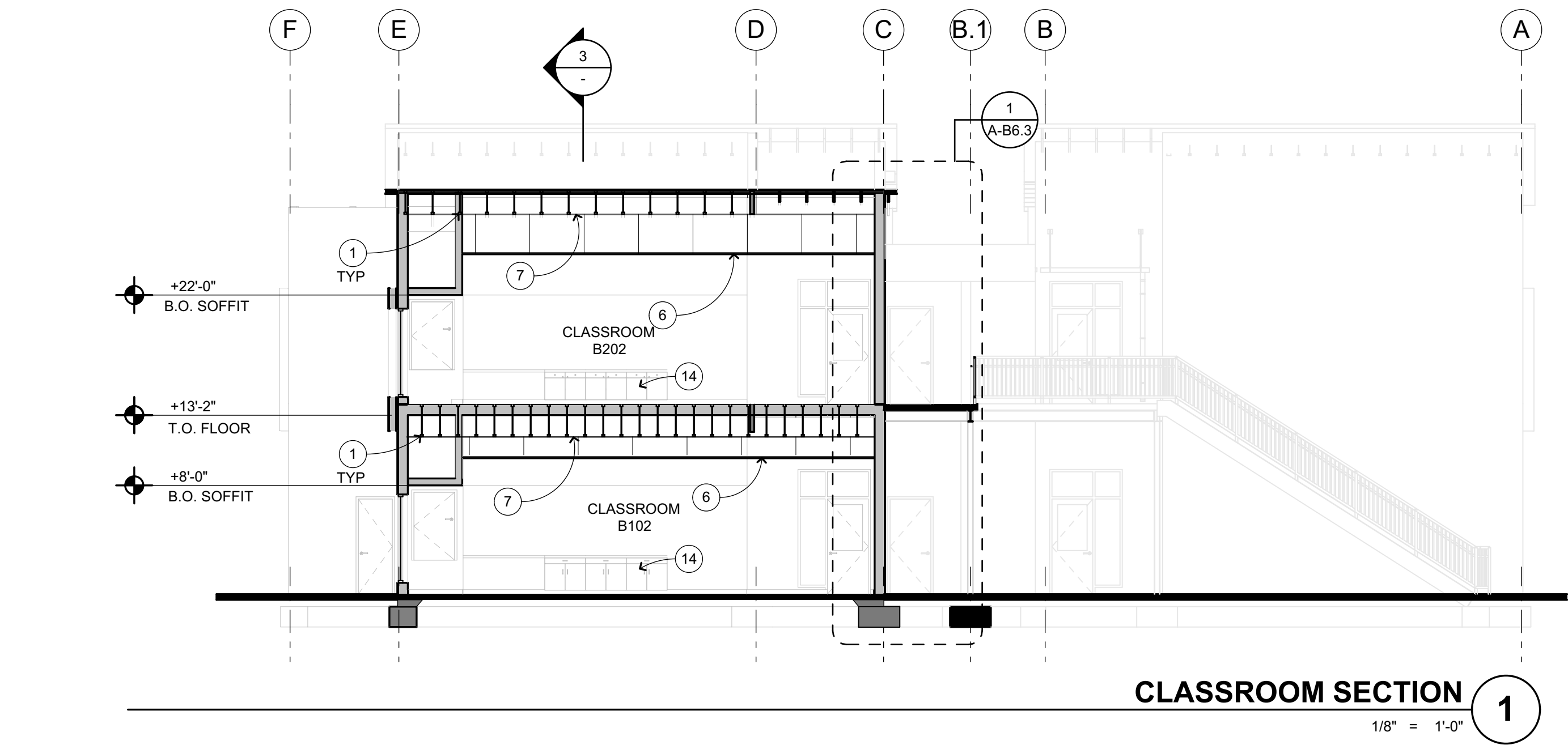
LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119268
ARCH PROJECT NO. 1870.00
DRAWN BY:
DRAWING SCALE:
PTN: 61721-77 FILE NO: 7-H4
BID SET
MAY 10, 2021
SHEET TITLE

BLDG-B EXTERIOR ELEVATIONS

A-B5.2

BIMcloud: archserver - BIMcloud Basic for ARCHICAD 22/1870.00 Heritage HS New Classroom Bldgs/5/11/2021:8:48 AM



SECTION KEYNOTES

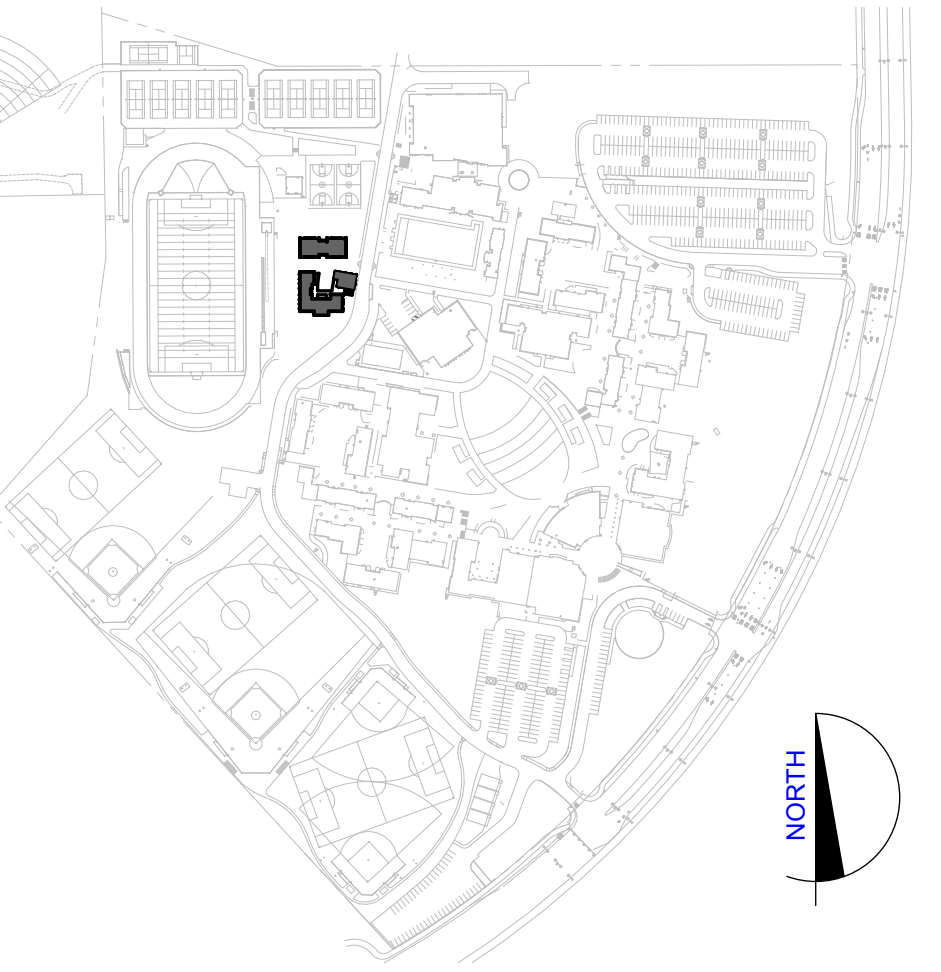
NOT ALL KEYNOTES MAY APPLY TO THIS SHEET

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- 2 MECHANICAL ITEM, S.M.D.
- 3 PLUMBING ITEM / FIXTURE, S.P.D.
- 4 ELECTRICAL ITEM, S.E.D.
- 5 FIRE PROTECTION ITEM, S.F.P.D.
- 6 CEILING SYSTEM. SEE DETAILS, A-10.1
- 7 5/8" GYPSUM BOARD
- 8 SECTIONAL DOORS (MOTORIZED), SEE ELEVATIONS AND DOOR SCHEDULE
- 9 PARAPET & COPING, SEE ROOF PLAN
- 10 ROOF DRAIN & OVERFLOW, IN-WALL, SEE RCP, ROOF PLAN, & S.C.D.
- 11 RAIN WATER LEADER, SEE RCP & A-9.2
- 12 RAIN CANOPY, SEE RCP
- 13 SUNSHADE CANOPY, SEE RCP.
- 14 CASEWORK, SEE INTERIOR ELEVATIONS
- 15 MODIFIED BITUMEN ROOFING O/ TAPERED INSULATION, SEE ROOF PLAN AND DETAIL A-9.2
- 16 SHORT-THROW PROJECTOR, SEE RCP AND S.E.D.

SECTION GENERAL NOTES

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3. PROVIDE OPENING FLASHINGS AT ALL WINDOWS, DOORS, LOUVERS AND SIMILAR WALL OPENINGS PER DETAIL A-9.5
4. PROVIDE FIRESTOPPING AT CONCEALED SPACES, INCLUDING FURRED SPACES, CEILING/FLOOR LEVELS AND 10'-0" INTERVALS ALONG LENGTHS OF WALL, SOFFITS, DROP CEILINGS, AND COVE CEILINGS PER CBC 718.
5. REFER TO INTERIOR ELEVATIONS FOR WALL FINISHES AND INFORMATION NOT SHOWN, TYPICAL.
6. REFER TO FLOOR PLAN FOR FLOOR FINISHES, TYPICAL.
7. REFER TO REFLECTED CEILING PLAN FOR CEILING FINISHES, TYPICAL.
8. REFER TO MECHANICAL DRAWINGS FOR REGISTERS AND VENTS NOT OTHERWISE SHOWN.
9. REFER TO ELECTRICAL DRAWINGS FOR HORNS, SPEAKERS, PULL STATIONS AND OTHER FEATURES NOT OTHERWISE SHOWN.
10. PROVIDE CONTINUOUS R30 BATT INSULATION AT ROOF AND CONTINUOUS R19 BATT INSUL AT ALL EXTERIOR WALLS (INTERIOR WALLS AS OCCURS), SEE BLDG & WALL SECTIONS.

KEYPLAN



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EXP JUNE 30, 2021
STATE OF CALIFORNIA
SIGNED: MAY 10, 2021

HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS

INCREMENT 2 OF 2

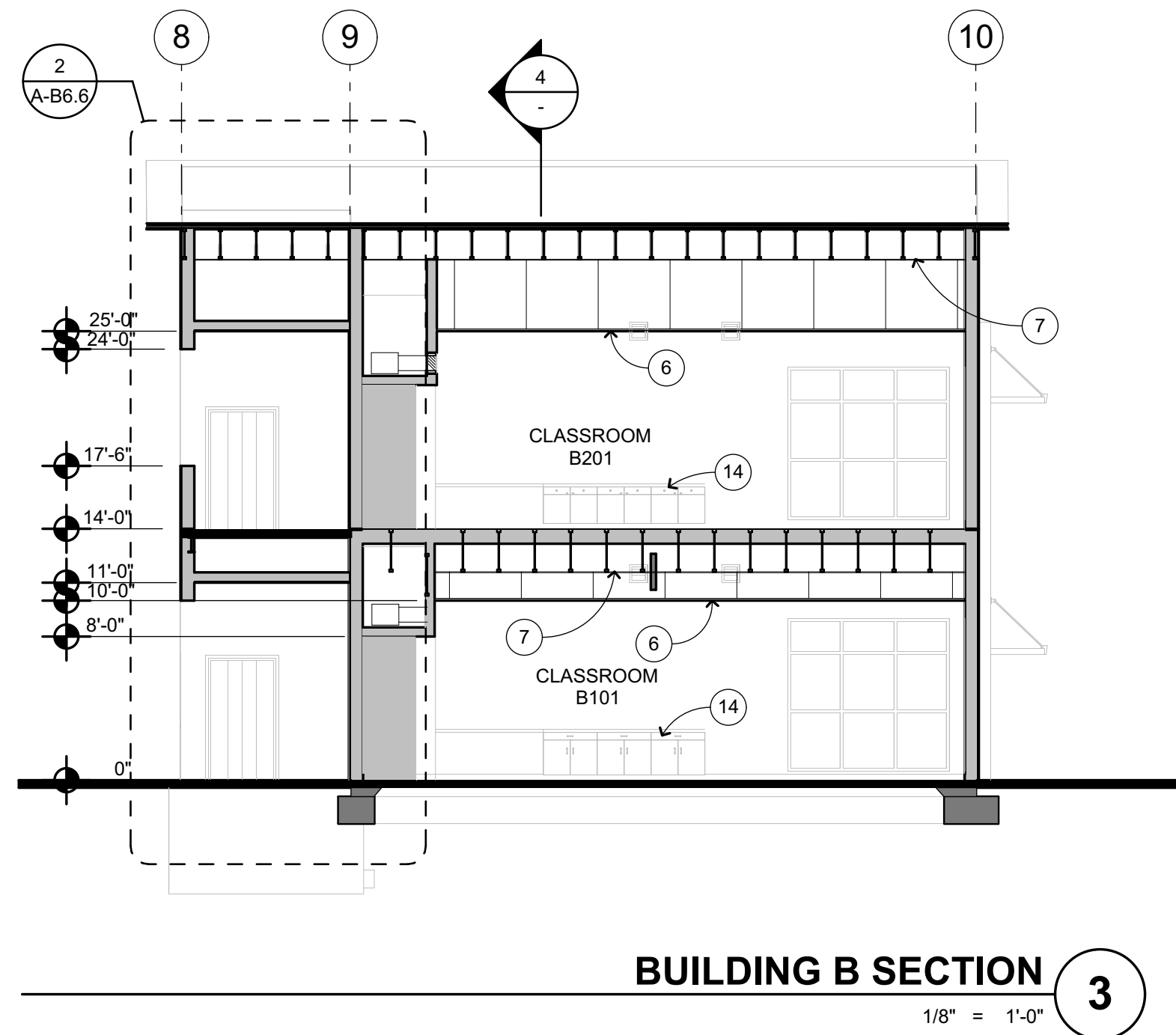
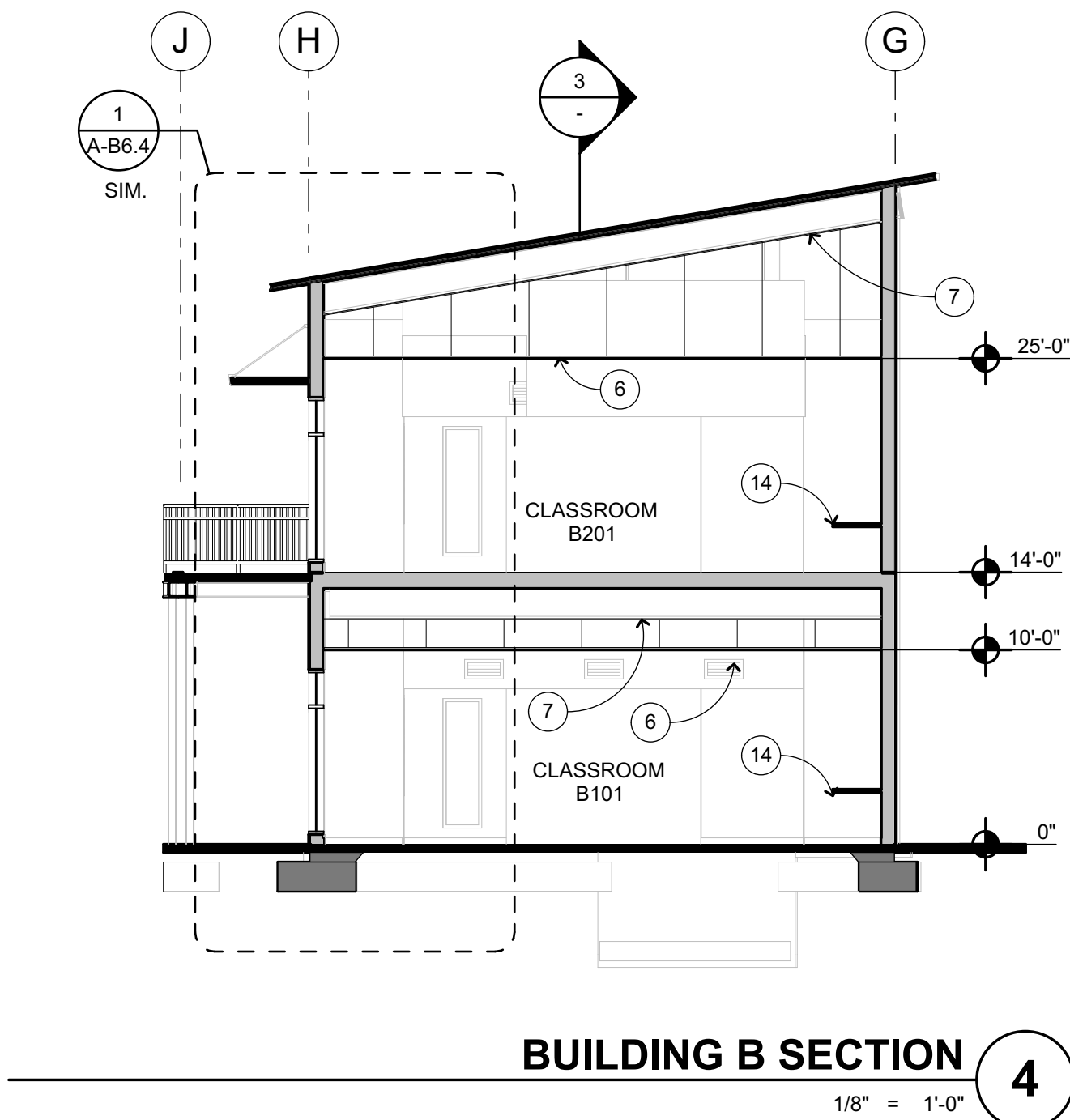
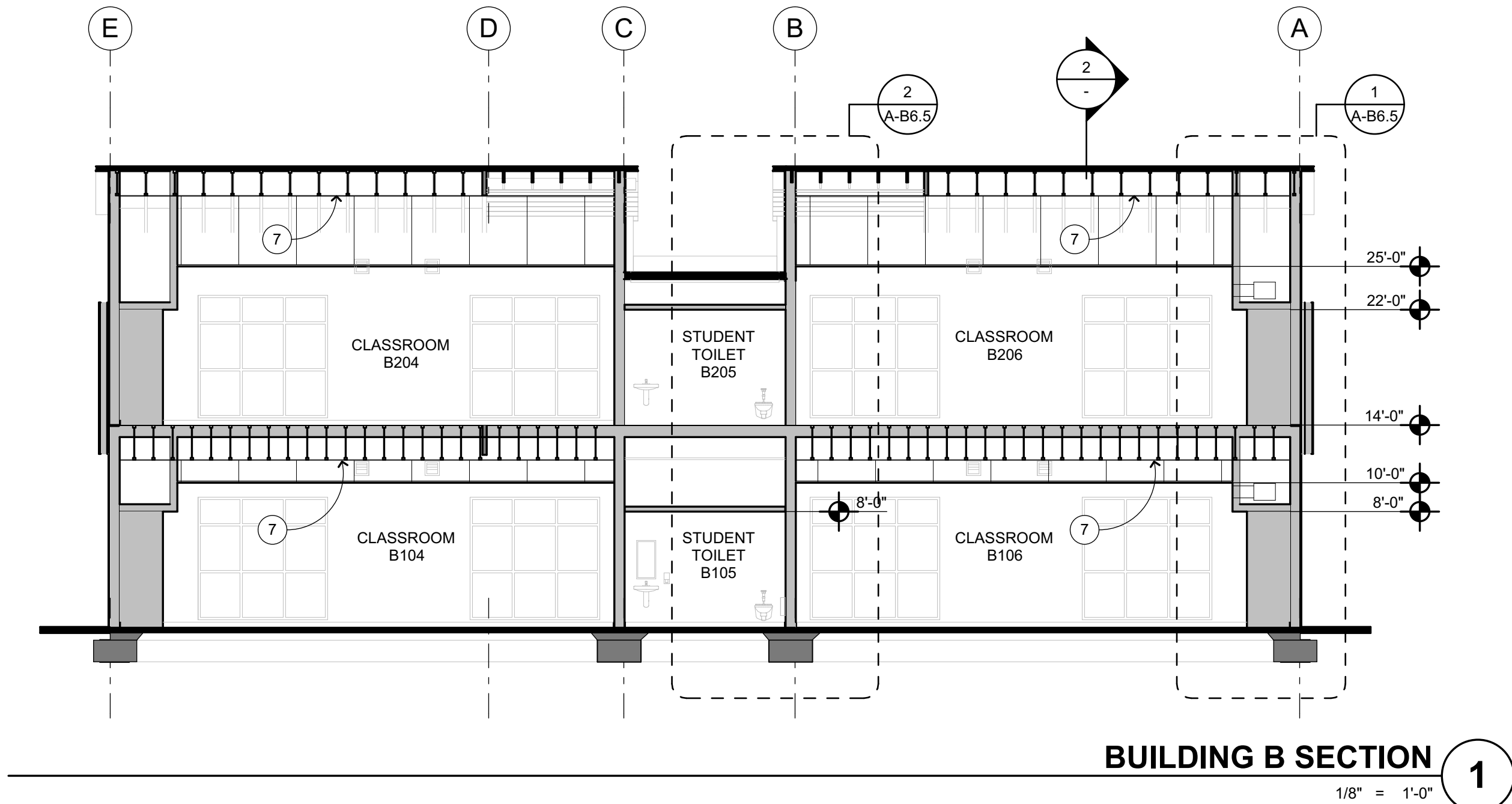
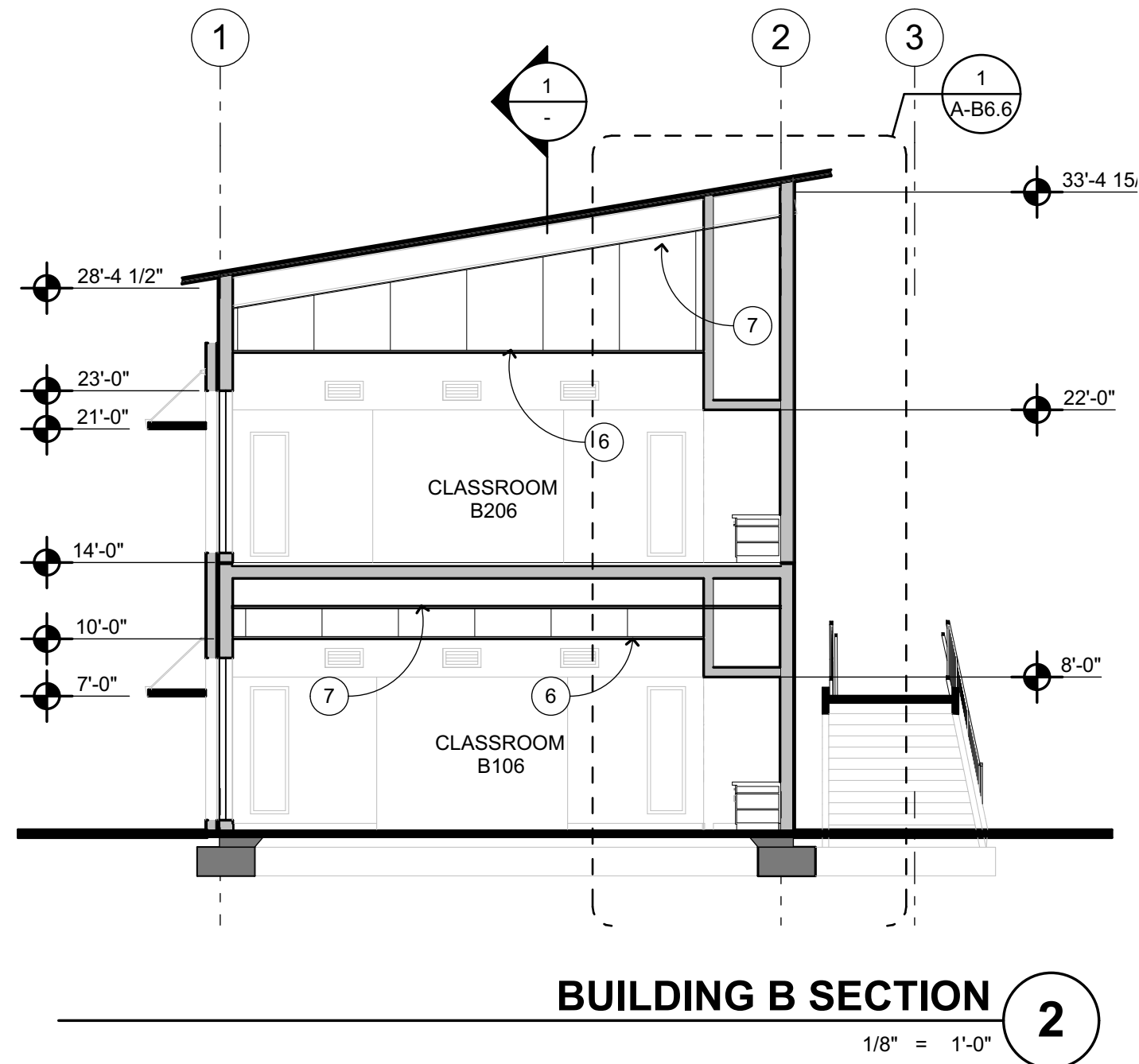
101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO.	01-119268
ARCH PROJECT NO.	1870.00
DRAWN BY:	
DRAWING SCALE:	1/8" = 1'-0"
PTN: 61721-77	FILE NO: 7-H4
BID SET	
MAY 10, 2021	
SHEET TITLE	

BLDG-B BUILDING SECTIONS

SHEET NUMBER
A-B6.1



SECTION KEYNOTES

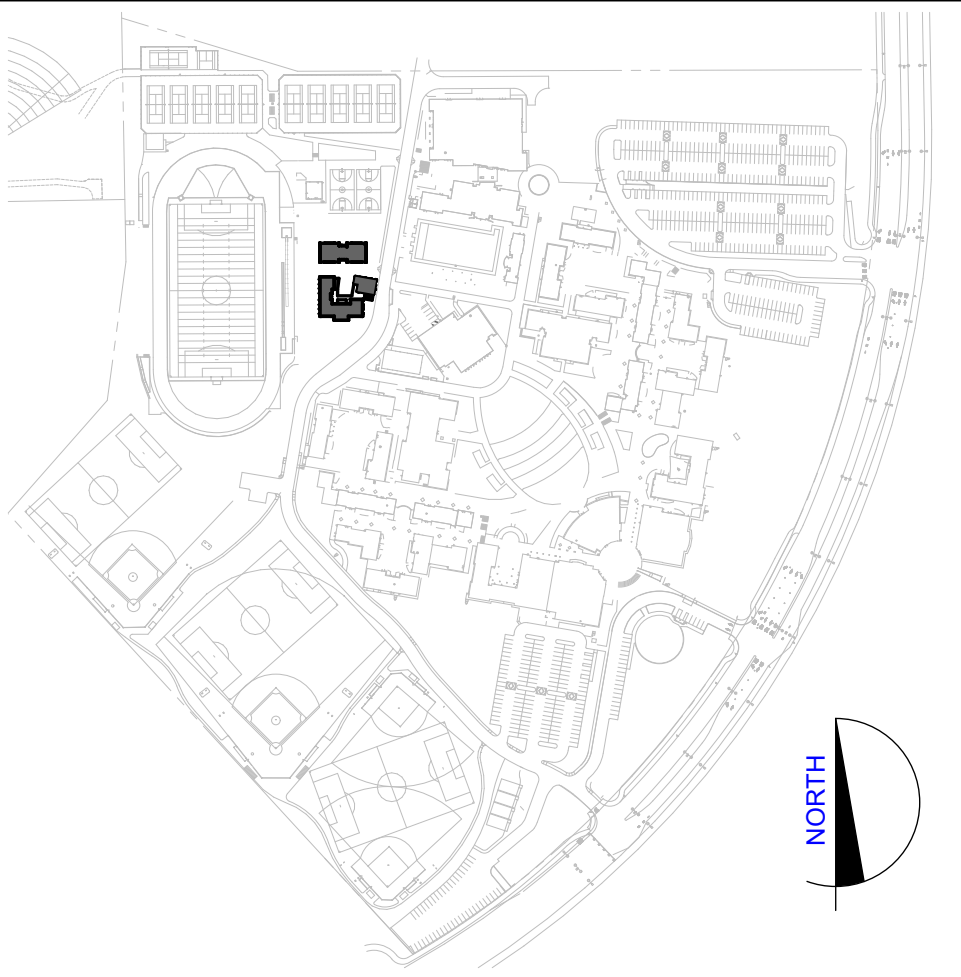
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KEYPLAN



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LICENSED ARCHITECT
JIM THEISS
LICENSE # C22643
EXP JUNE 30, 2021
STATE OF CALIFORNIA
SIGNED: MAY 10, 2021

HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS

INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO.	01-119268
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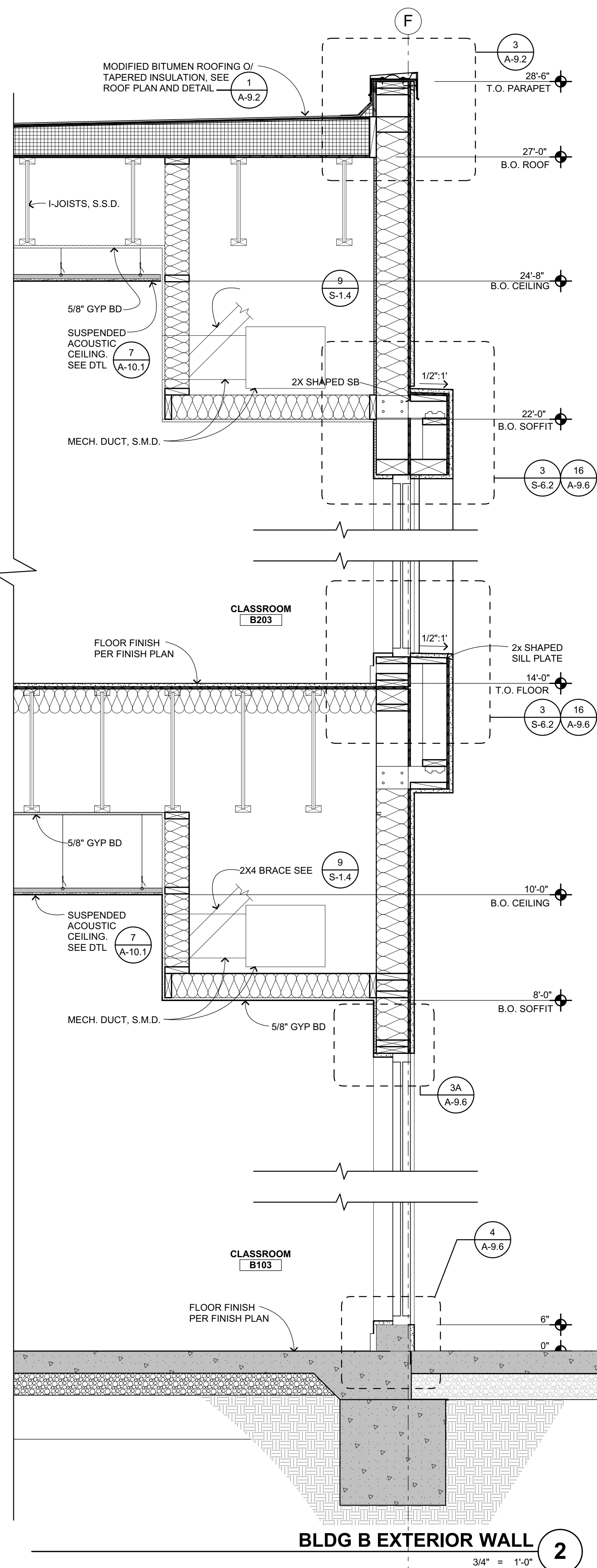
BLDG-B BUILDING SECTIONS

A-B6.2

ENLARGED EXTERIOR WALKWAY SECTION

$$1\frac{1}{2}'' = 1'-0''$$

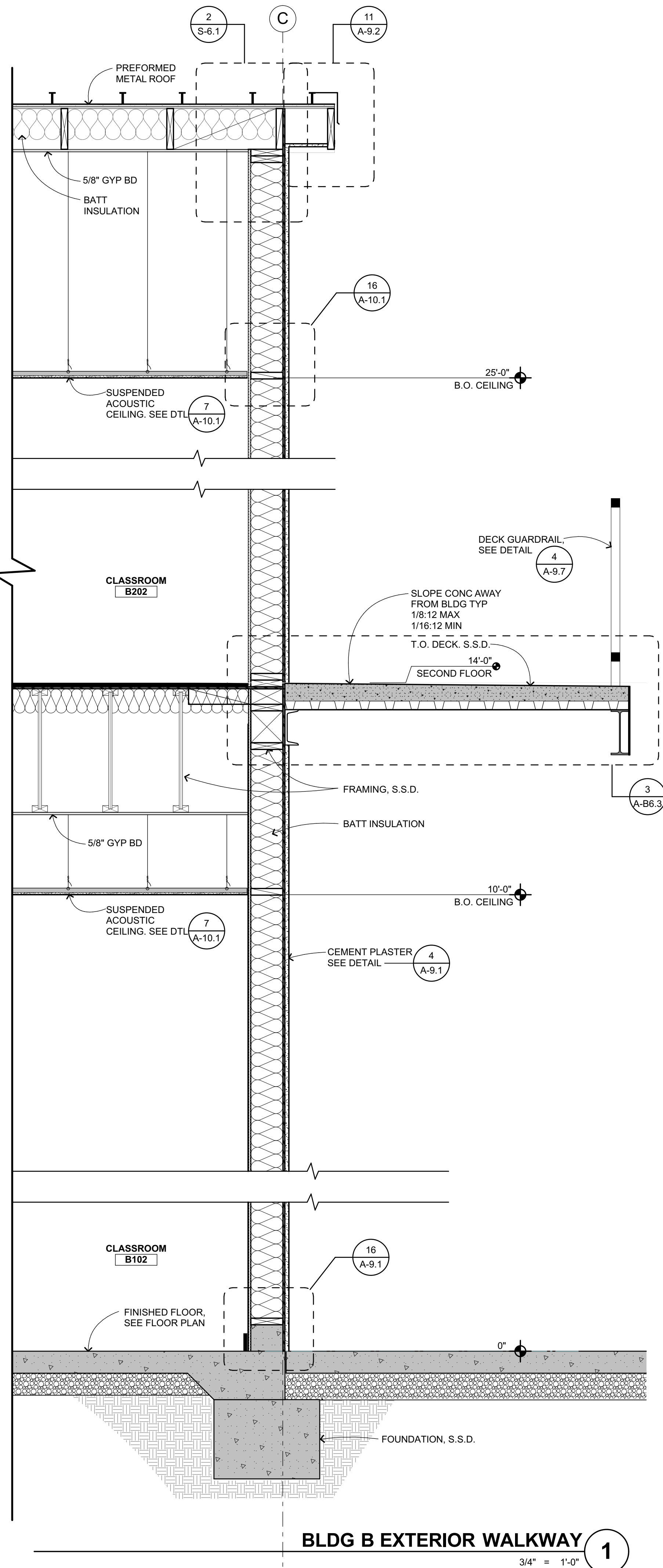
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BLDG B EXTERIOR WALL

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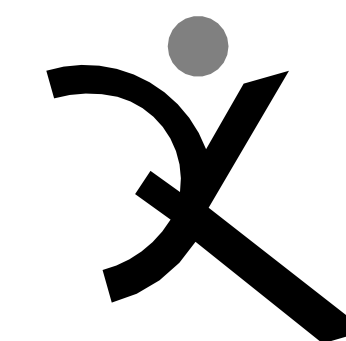
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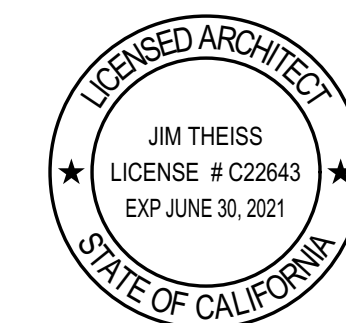
BLDG B EXTERIOR WALKWAY

$$\frac{3}{4}'' = 1'-0''$$

1



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SIGNED: MAY 10, 2021

**HERITAGE HIGH
SCHOOL**

NEW CLASSROOM BUILDINGS

INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH
SCHOOL DISTRICT

DSA APP NO. 01-119268

ARCH PROJECT NO: 1870.00

DRAWN BY: PAC

DRAWING SCALE: $3/4" = 1'-0"$

PTN: 61721-77 FILE NO: 7-H4

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MAY 10, 2021

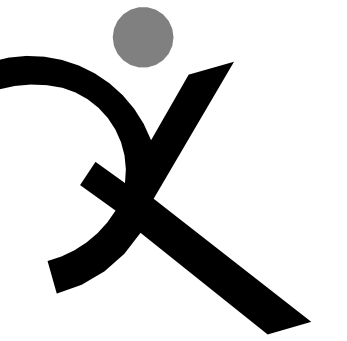
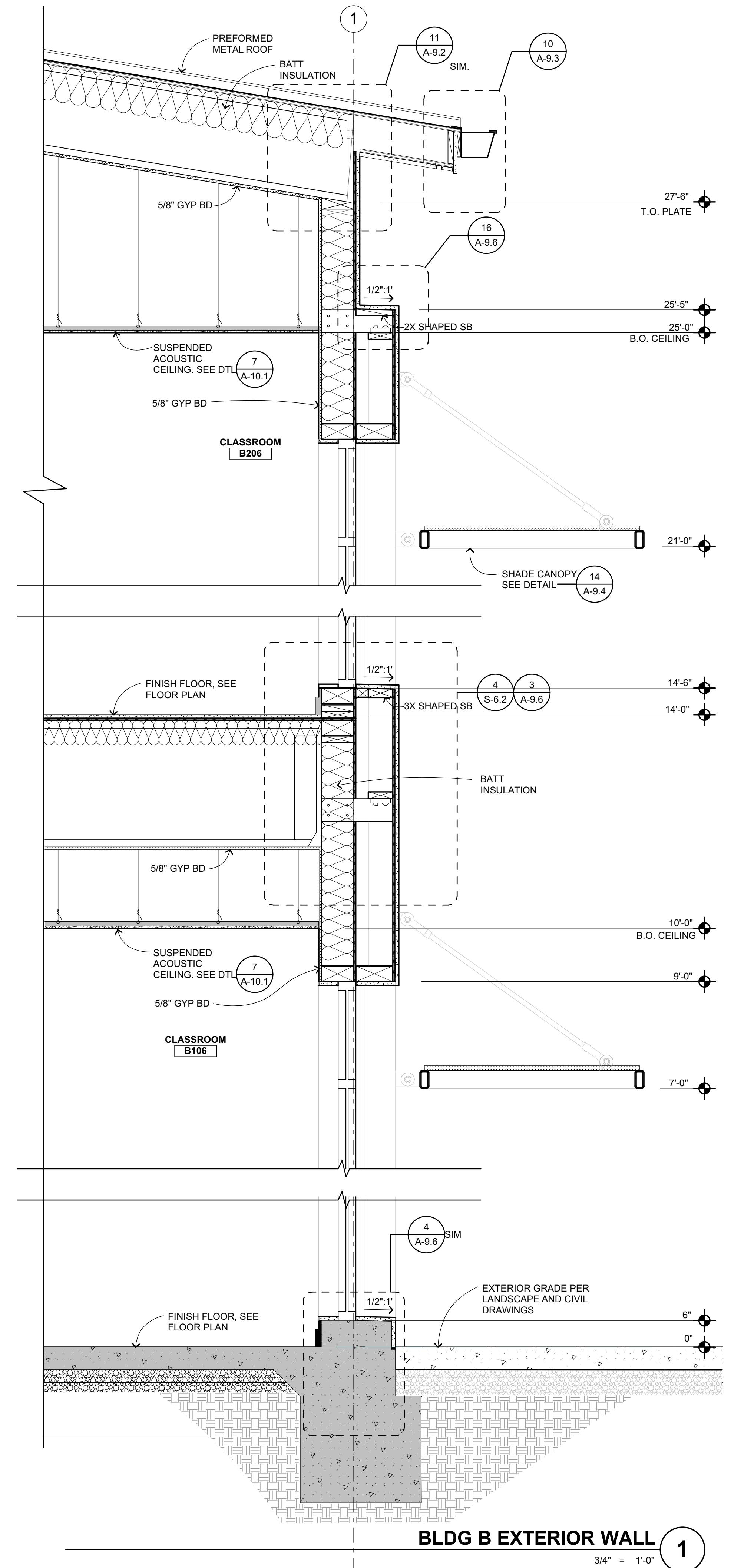
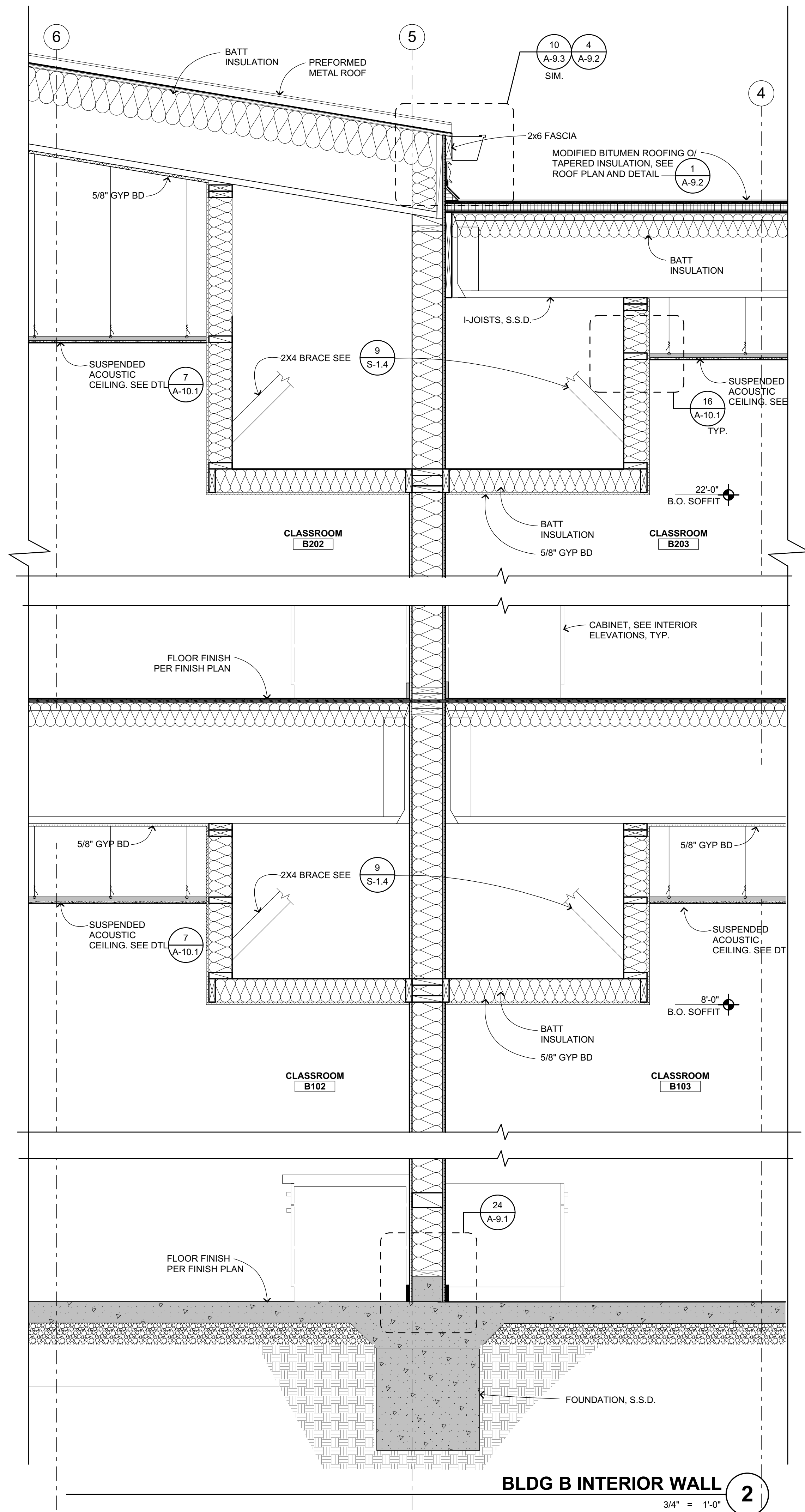
SHEET TITLE

BLDG-B WALL SECTIONS

SHEET NUMBER

A-B6.3

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HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119268

ARCH PROJECT NO: 1870.00
DRAWN BY: PAG
DRAWING SCALE: 3/4" = 1'-0"
PTN: 61721-77 FILE NO: 7-H4

BID SET
MAY 10, 2021
SHEET TITLE

BLDG-B WALL SECTIONS

SHEET NUMBER

A-B6.4

LICENSED ARCHITECT
 JIM THEISS
 LICENSE # C22643
 EXP JUNE 30, 2021
 STATE OF TENNESSEE

HERITAGE HIGH SCHOOL

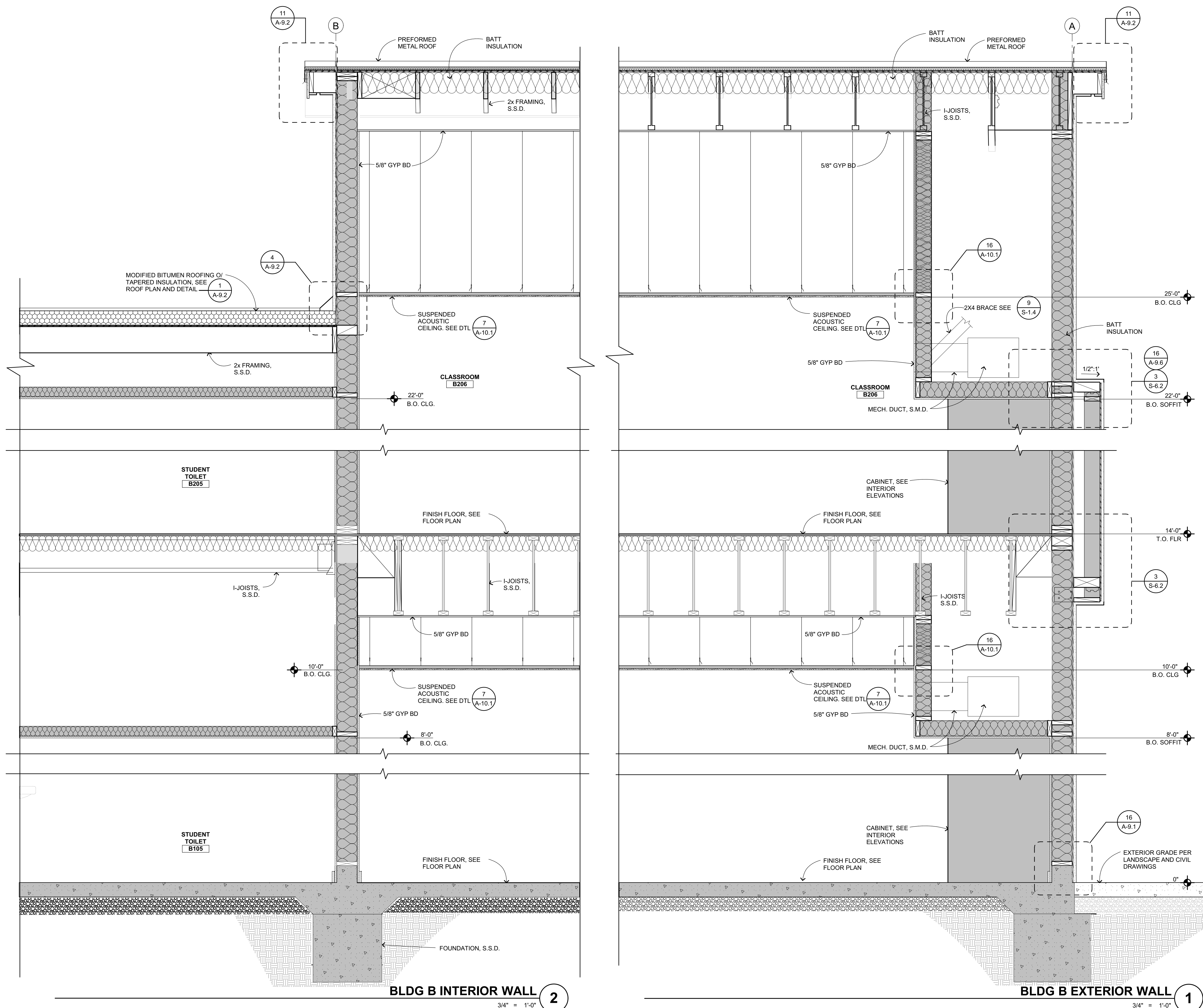
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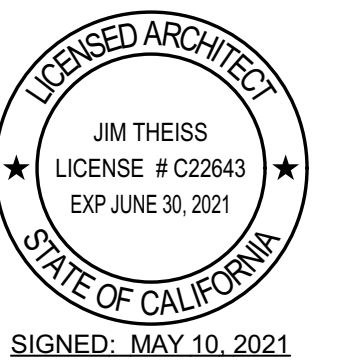
LIBERTY UNION HIGH
SCHOOL DISTRICT[illegible]

MAY 10, 2021

BLDG-B WALL SECTIONS

A-B6.5





HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS

INCREMENT 2 OF 2

01 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH
SCHOOL DISTRICT

DSA APP NO. 01-119268

ARCH PROJECT NO: 1870.00

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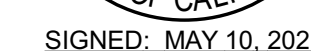
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SHEET TITLE

BLDG-B WALL SECTIONS

SHEET NUMBER

A-B6.6



INCREMENT 2 OF 2

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DSA APP NO. 01-119268

ARCH PROJECT NO: 1870.00

DRAWN BY: WW

DRAWING SCALE: $1/8" = 1'-0"$

PTN: 61721-77	FILE NO: 7-H4
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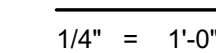
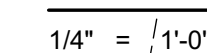
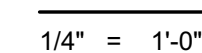
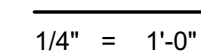
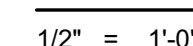
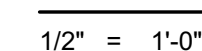
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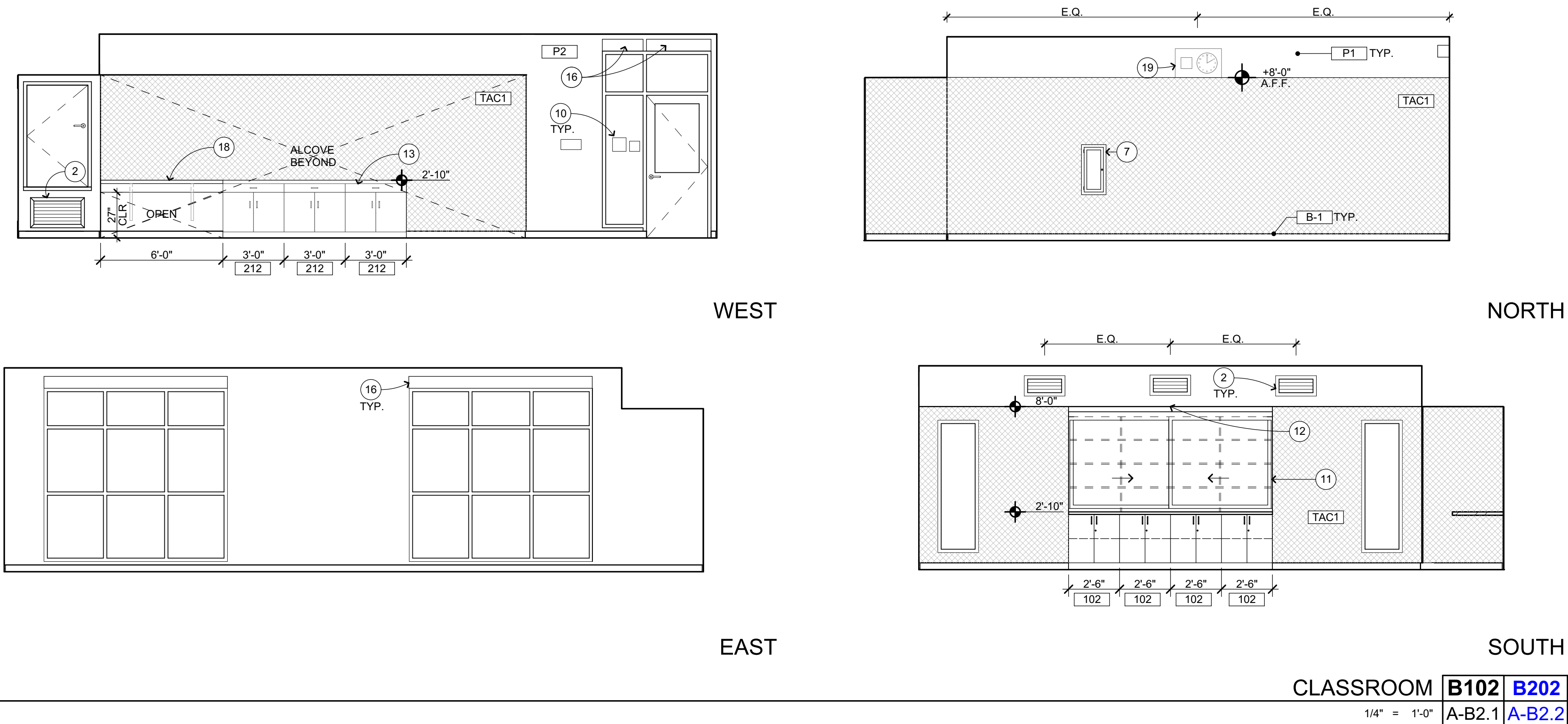
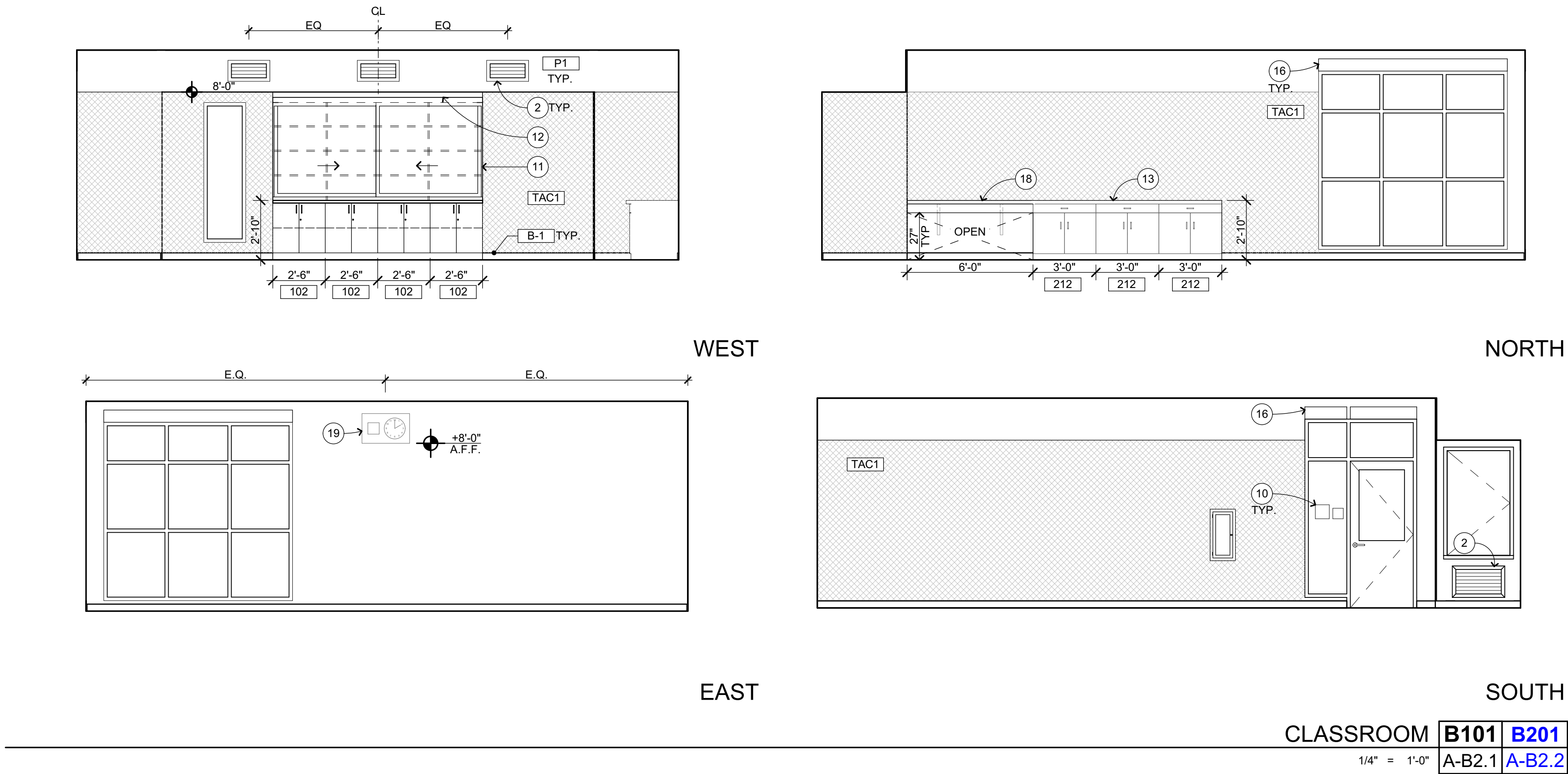
SHEET TITLE

SHEET NUMBER

A-B6.7



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INTERIOR ELEVATION KEYNOTES

NOT ALL KEYNOTES MAY APPLY TO THIS SHEET

- 1 STRUCTURAL ITEM, S.S.D.
- 2 MECHANICAL ITEM, S.M.D.
- 3 PLUMBING FIXTURE, S.P.D.
- 4 ELECTRICAL ITEM, S.E.D.
- 5 ICE MACHINE, S.E.D. AND S.P.D.
- 6 ROOF ACCESS LADDER, SEE DETAIL 12 A-9.3 4 A-10.3 22 A-10.1
- 7 FIRE EXTINGUISHER CABINET, SEMI-RECESSED 21 A-10.3
- 8 ACCESSIBLE WORK STATION, SEE DETAIL 5 A-10.3
- 9 MARKERBOARD, SEE 19 A-10.2
- 10 SIGNAGE, S.A.G.D.
- 11 TEACHING WALL CASEWORK, SEE 19 A-10.2 17 A-10.2
- 12 PROJECTOR SCREEN, SEE 19 A-10.2
- 13 CASEWORK, SEE 7 A-10.2
- 14 MEDICAL BED, N.I.C.
- 15 ACCESSIBLE DEMONSTRATION TABLE
- 16 MANUAL WINDOW SHADE, SEE DETAIL 19 A-10.3 24 A-10.2
- 17 PARTIAL HEIGHT WALL W/ WD CAP, SEE DTL
- 18 CANTILEVER COUNTERTOP 11 A-10.3
- 19 CLOCK SPEAKER SYSTEM, SEE SPEC, S.E.D.
- 20 ELEVATOR, SEE STAIR/ELEVATOR PLANS

TOILET ROOM ACCESSORY SCHEDULE

- | | |
|----|--|
| A | TOILET PAPER DISPENSER, RECESSED (3" MAXIMUM PROJECTION) |
| B | TOILET PAPER DISPENSER, SURFACE MOUNTED |
| C | PAPER TOWEL DISPENSER, SURFACE MOUNTED 4" MAX DEPTH FROM FACE OF WALL |
| D | WASTE RECEPTACLE, N.I.C. |
| E | SANITARY NAPKIN RECEPTACLE, SURFACE MOUNTED |
| F | SOAP DISPENSER, SURFACE MOUNTED |
| G | MIRROR (TYP), FOR ATTACHMENT SEE 4 A-10.3 17 A-9.7 |
| H | TOILET SEAT COVER DISPENSER, SURFACE MOUNTED |
| J | 36" GRAB BAR, FOR ATTACHMENT SEE 4 A-10.3 21 A-9.7 |
| J1 | 42" GRAB BAR, FOR ATTACHMENT SEE 4 A-10.3 21 A-9.7 |

INTERIOR ELEVATION GENERAL NOTES

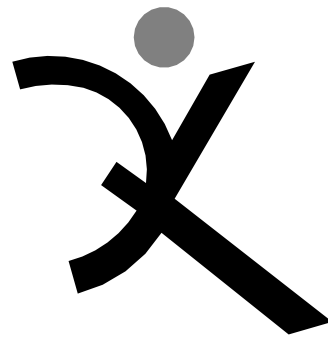
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4. TYPICAL MOUNTING HEIGHTS OF ACCESSIBLE ELEMENTS AT ACCESSIBLE FIXTURES SEE 4 A-10.3
5. PROVIDE SOLID BLOCKING FOR CABINET, ACCESSORY, OR EQUIPMENT MOUNTING 1 A-10.3

WALL AND BASE FINISH CODES

FOR PAINT FINISHES SEE SEC. 09 9113 (EXTERIOR) & 09 9123 (INTERIOR). ALL GYP BD TO BE TYPE 'X'.

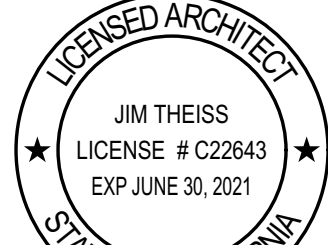
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|------|-----------------------------|-----|----------------------------|
| WT1 | CERAMIC WALL TILE | B-1 | 4" RESILIENT BASE |
| TAC1 | TACKWALL | | (COVERED AT RESILIENT |
| WC1 | WALLCOVERING - DRY ERASE | | TILE FLOORING, TOP |
| WP1 | WALL PROTECTION - FRP PANEL | | SET AT CARPET) |
| P1 | GYP BD - PAINT (COLOR 1) | B-2 | EPOXY COVE |
| P2 | GYP BD - PAINT (COLOR 2) | | BASE 20 A-9.1 |
| P3 | GYP BD - PAINT (COLOR 3) | B-3 | SEALED CONC. CURB |
| GB1 | GYP BD - IMPACT RESISTANT | | |

KEYPLAN



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SIGNED: MAY 10, 2021

HERITAGE HIGH
SCHOOL

NEW CLASSROOM
BUILDINGS

INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH
SCHOOL DISTRICT

DSA APP NO. 01-119268

ARCH PROJECT NO. 1870.00

DRAWN BY:

DRAWING SCALE: 1/4" = 1'-0"

PTN: 61721-77 FILE NO: 7-H4

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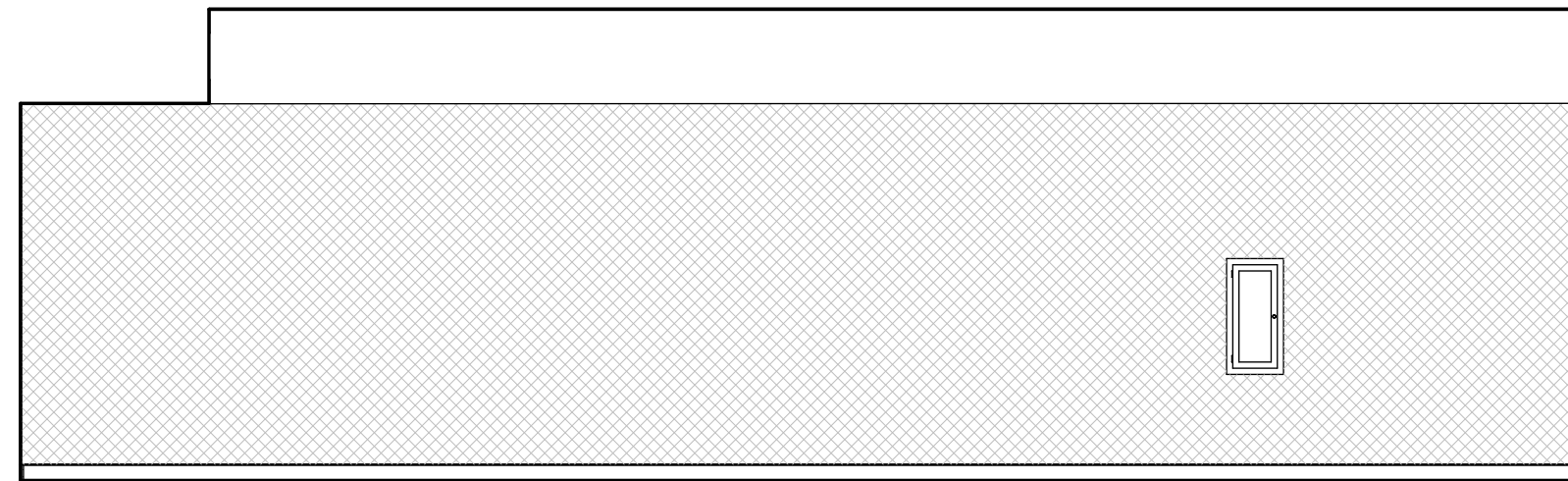
MAY 10, 2021

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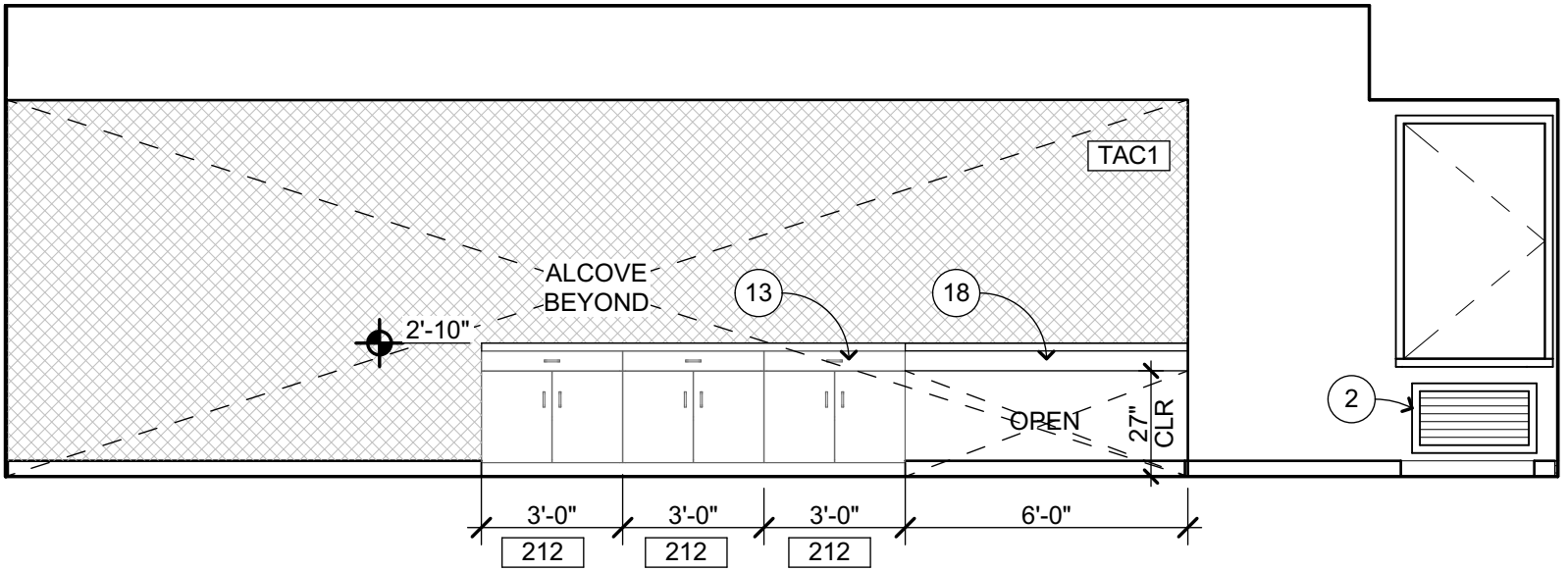
BLDG-B
INTERIOR
ELEVATIONS

SHEET NUMBER

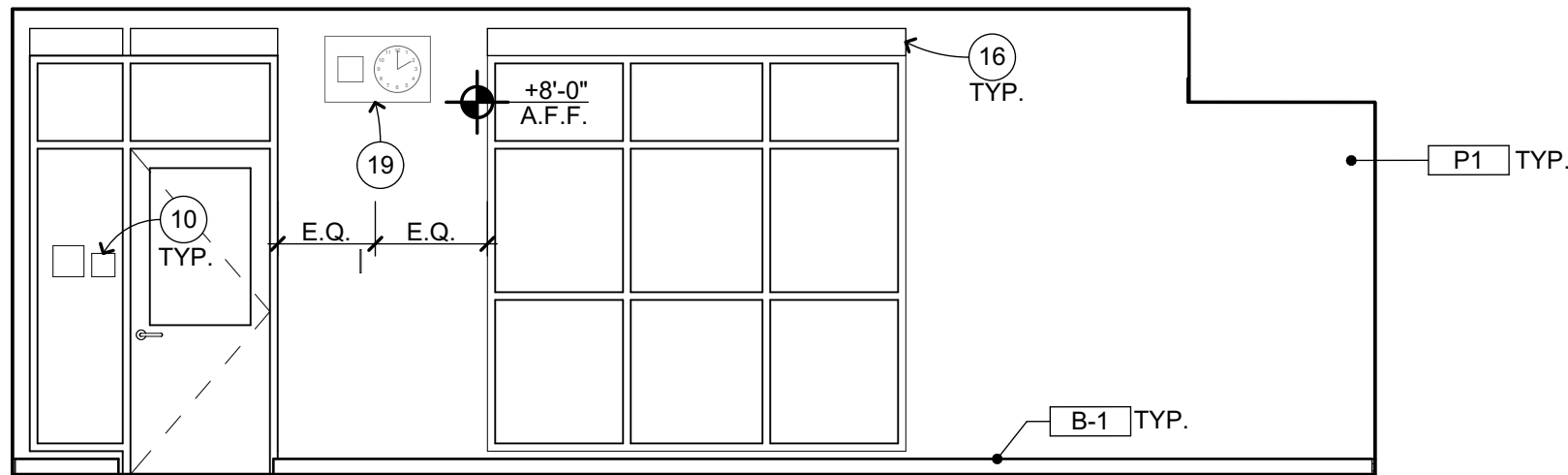
A-B7.1



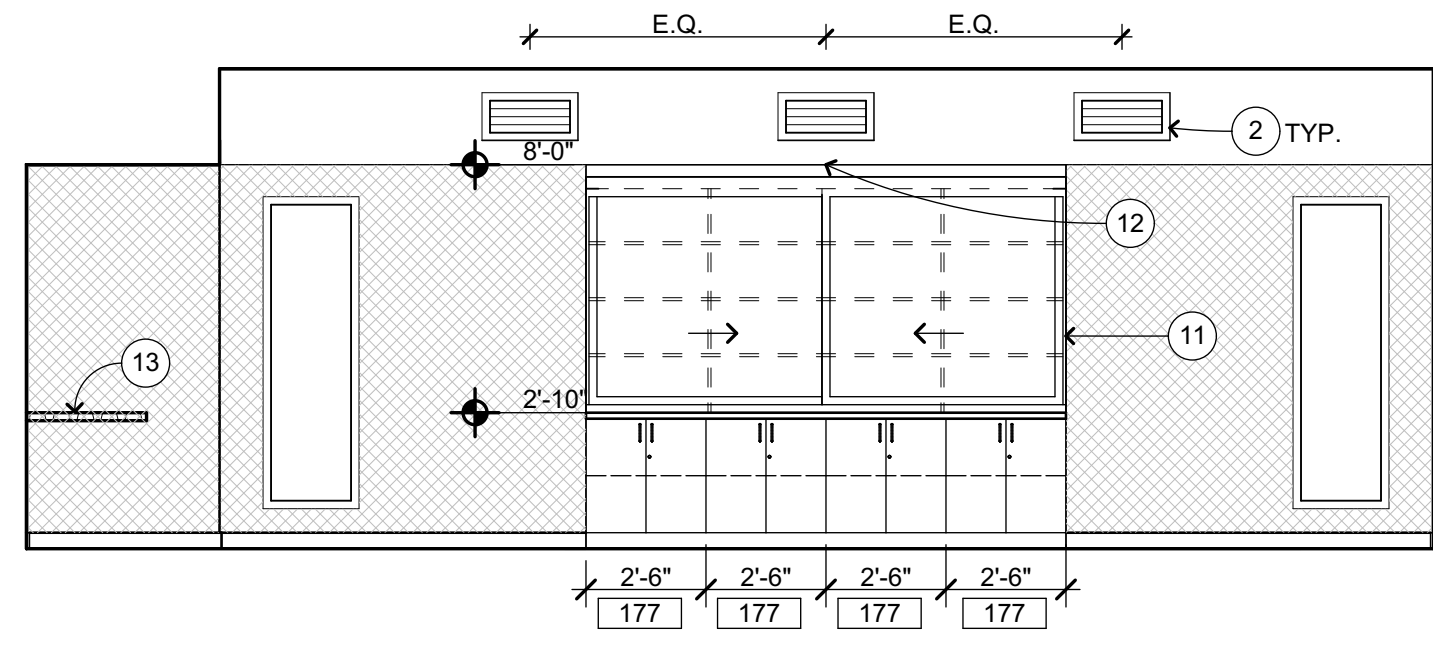
WEST



EAST

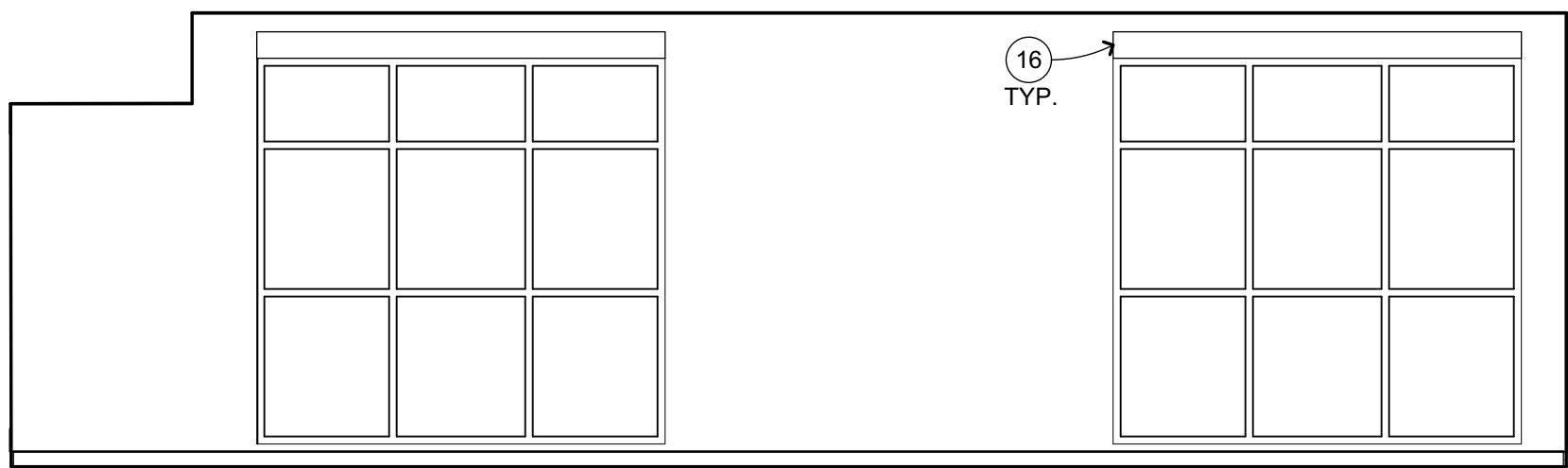


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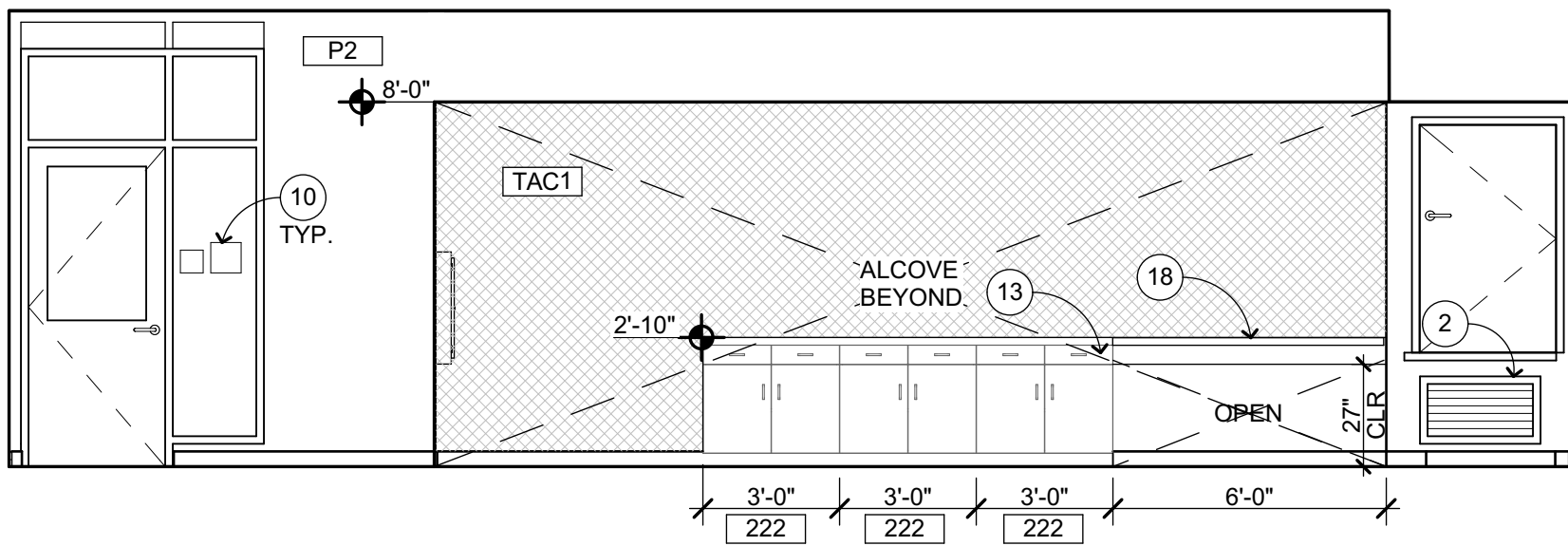


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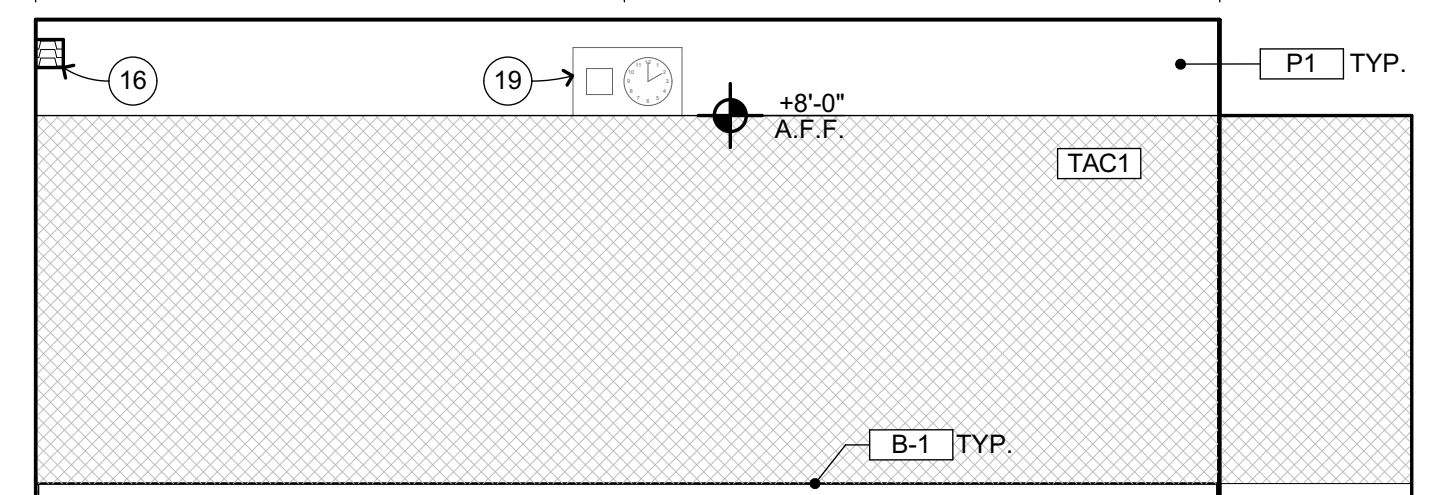
CLASSROOM **B103** **B203**
1/4" = 1'-0" **A-B2.1** **A-B2.2**



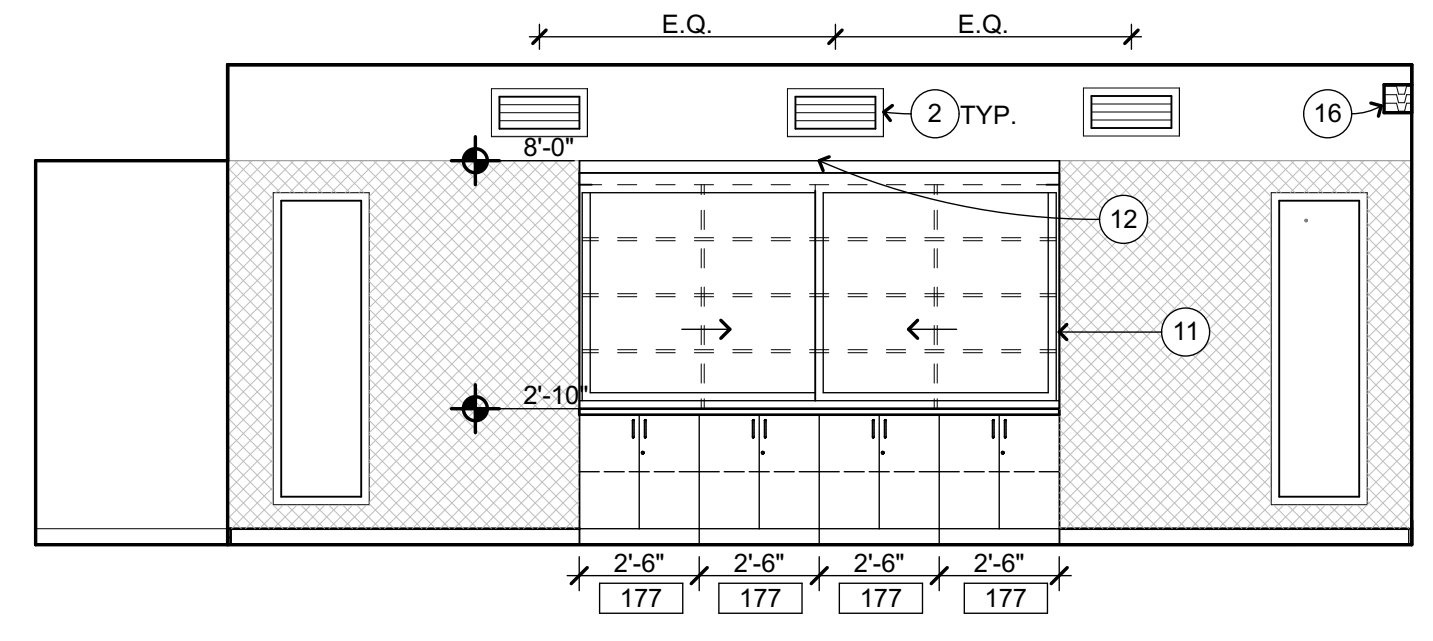
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EAST

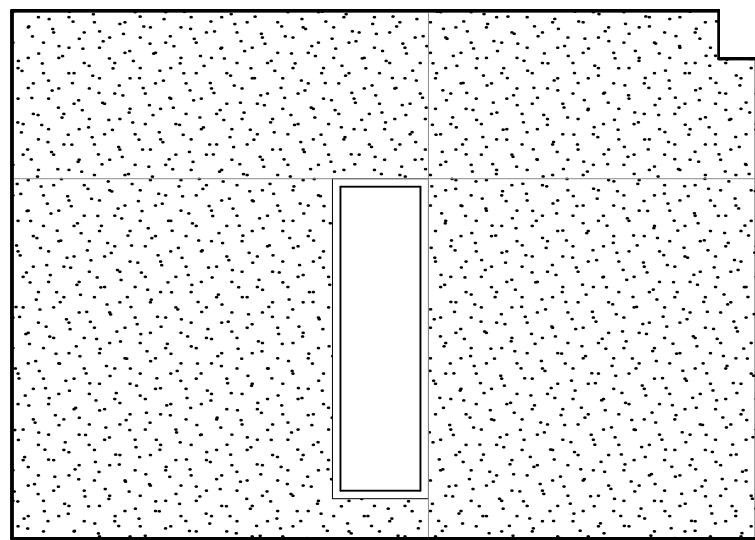


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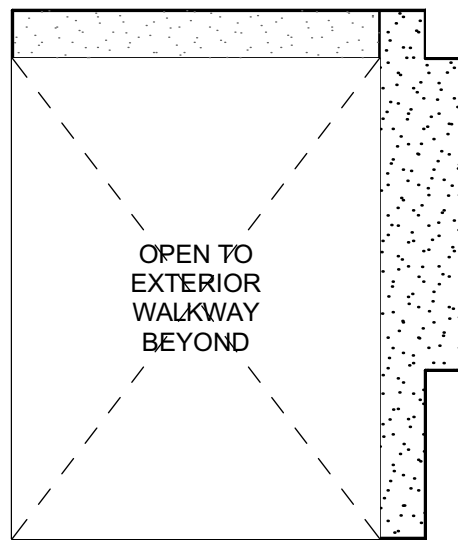


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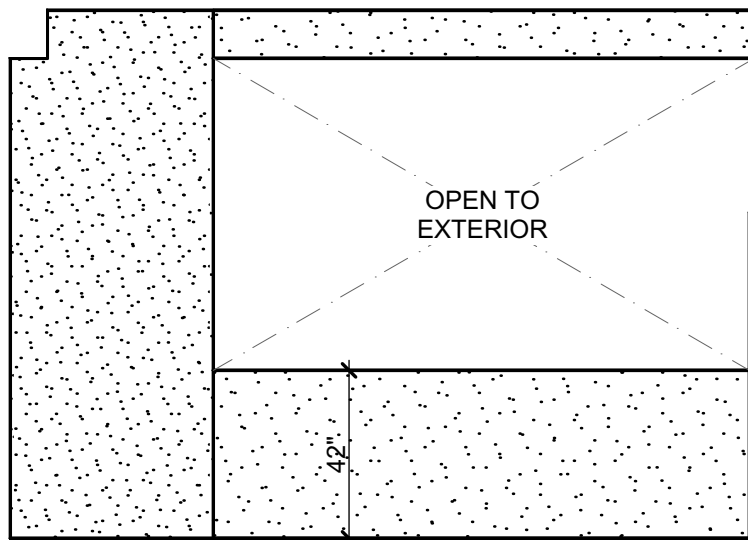
CLASSROOM **B104** **B204**
1/4" = 1'-0" **A-B2.1** **A-B2.2**



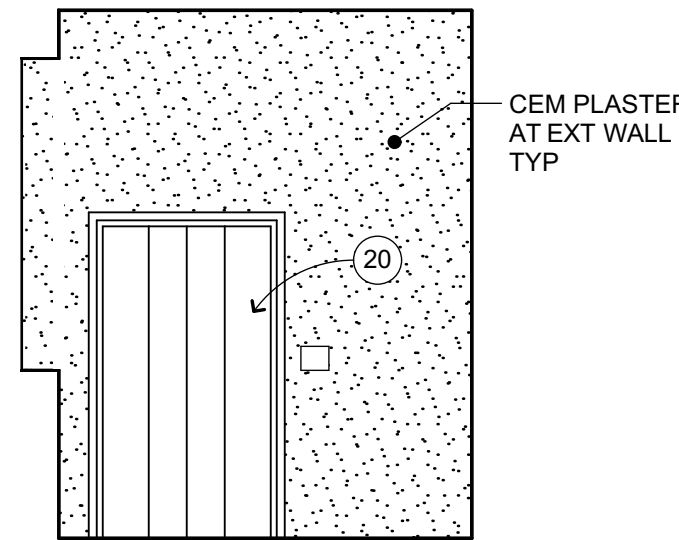
EAST



SOUTH



WEST



NORTH

BREEZEWAY AT ELEVATOR **-**
1/4" = 1'-0" **A-B2.1**

INTERIOR ELEVATION KEYNOTES

NOT ALL KEYNOTES MAY APPLY TO THIS SHEET

- 1 STRUCTURAL ITEM, S.S.D.
- 2 MECHANICAL ITEM, S.M.D.
- 3 PLUMBING FIXTURE, S.P.D.
- 4 ELECTRICAL ITEM, S.E.D.
- 5 ICE MACHINE, S.E.D. AND S.P.D.
- 6 ROOF ACCESS LADDER, SEE DETAIL **12** **A-9.3**
- 7 FIRE EXTINGUISHER CABINET, SEMI-RECESSED **4** **A-10.3** **22** **A-10.1**
- 8 ACCESSIBLE WORK STATION, SEE DETAIL **21** **A-10.3**
- 9 MARKERBOARD, SEE **5** **A-10.3**
- 10 SIGNAGE, S.A.G.D.
- 11 TEACHING WALL CASEWORK, SEE **19** **A-10.2** **17** **A-10.2**
- 12 PROJECTOR SCREEN, SEE **19** **A-10.2**
- 13 CASEWORK, SEE **7** **A-10.2**
- 14 MEDICAL BED, N.I.C.
- 15 ACCESSIBLE DEMONSTRATION TABLE
- 16 MANUAL WINDOW SHADE, SEE DETAIL **19** **A-10.3** **24** **A-10.2**
- 17 PARTIAL HEIGHT WALL W/ WD CAP, SEE DTL **19** **A-10.3**
- 18 CANTILEVER COUNTERTOP **11** **A-10.3**
- 19 CLOCK SPEAKER SYSTEM, SEE SPEC, S.E.D.
- 20 ELEVATOR, SEE STAIR/ELEVATOR PLANS

TOILET ROOM ACCESSORY SCHEDULE

- | | |
|----|---|
| A | TOILET PAPER DISPENSER, RECESSED (3" MAXIMUM PROJECTION) |
| B | TOILET PAPER DISPENSER, SURFACE MOUNTED |
| C | PAPER TOWEL DISPENSER, SURFACE MOUNTED 4" MAX DEPTH FROM FACE OF WALL |
| D | WASTE RECEPTACLE, N.I.C. |
| E | SANITARY NAPKIN RECEPTACLE, SURFACE MOUNTED |
| F | SOAP DISPENSER, SURFACE MOUNTED |
| G | MIRROR (TYP.), FOR ATTACHMENT SEE 4 A-10.3 17 A-9.7 |
| H | TOILET SEAT COVER DISPENSER, SURFACE MOUNTED |
| J | 36" GRAB BAR, FOR ATTACHMENT SEE 4 A-10.3 21 A-9.7 |
| J1 | 42" GRAB BAR, FOR ATTACHMENT SEE 4 A-10.3 21 A-9.7 |

INTERIOR ELEVATION GENERAL NOTES

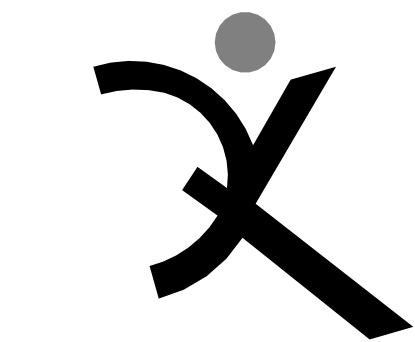
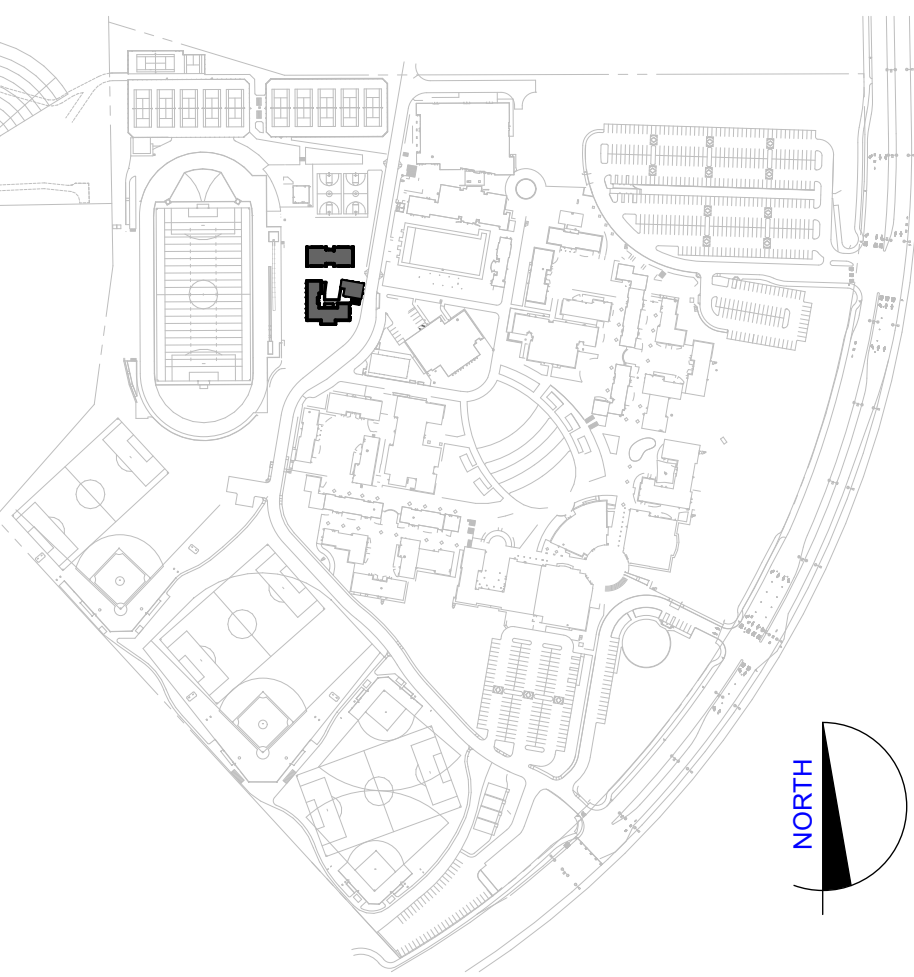
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2. REFER TO MECHANICAL DRAWINGS FOR REGISTERS AND VENTS NOT OTHERWISE SHOWN.
3. REFER TO ELECTRICAL DRAWINGS FOR HORNS, SPEAKERS, PULL STATIONS AND OTHER FEATURES NOT OTHERWISE SHOWN.
4. TYPICAL MOUNTING HEIGHTS OF ACCESSIBLE ELEMENTS AT ACCESSIBLE FIXTURES SEE **4** **A-10.3**
5. PROVIDE SOLID BLOCKING FOR CABINET, ACCESSORY, OR EQUIPMENT MOUNTING **1** **A-10.3**

WALL AND BASE FINISH CODES

FOR PAINT FINISHES SEE SEC. 09 9113 (EXTERIOR) & 09 9123 (INTERIOR). ALL GYP BD TO BE TYPE 'X'.

- | | | | |
|------|-----------------------------|-----|---|
| WT1 | CERAMIC WALL TILE | B-1 | 4" RESILIENT BASE (COVERED AT RESILIENT TILE FLOORING, TOP SET AT CARPET) |
| TAC1 | TACKWALL | | |
| WC1 | WALLCOVERING - DRY ERASE | | |
| WP1 | WALL PROTECTION - FRP PANEL | | |
| P1 | GYP BD - PAINT (COLOR 1) | B-2 | EPOXY COVE 20 A-9.1 |
| P2 | GYP BD - PAINT (COLOR 2) | | |
| P3 | GYP BD - PAINT (COLOR 3) | B-3 | SEALED CONC. CURB |
| GB1 | GYP BD - IMPACT RESISTANT | | |

KEYPLAN



QUATTROCCHI KWOK
ARCHITECTS
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636 Fifth Street, Santa Rosa, CA 95404
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Oakland, CA 94607
(707) 576-0829



SIGNED: MAY 10, 2021

HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS

INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119268

ARCH PROJECT NO. 1870.00

DRAWN BY:

DRAWING SCALE: 1/4" = 1'-0"

PTN: 61721-77 FILE NO: 7-H4

BID SET

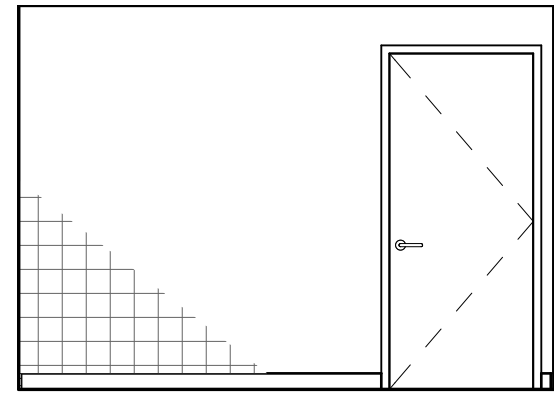
MAY 10, 2021

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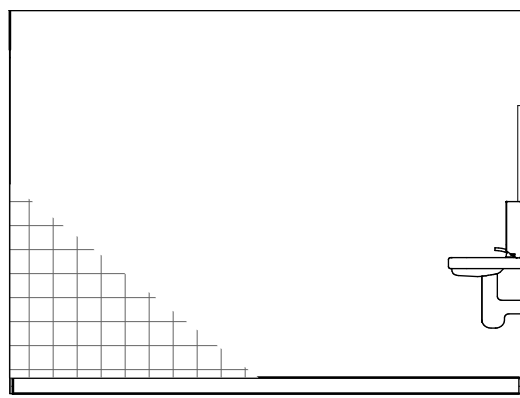
BLDG-B INTERIOR ELEVATIONS

SHEET NUMBER

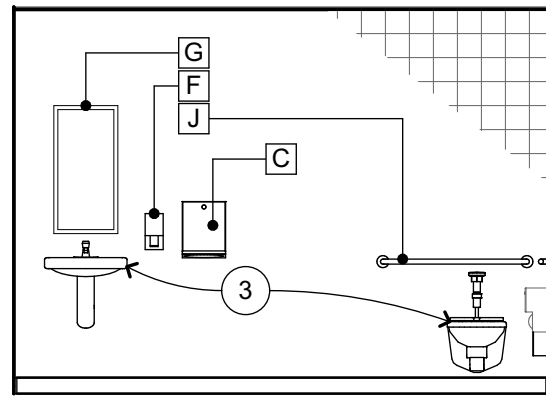
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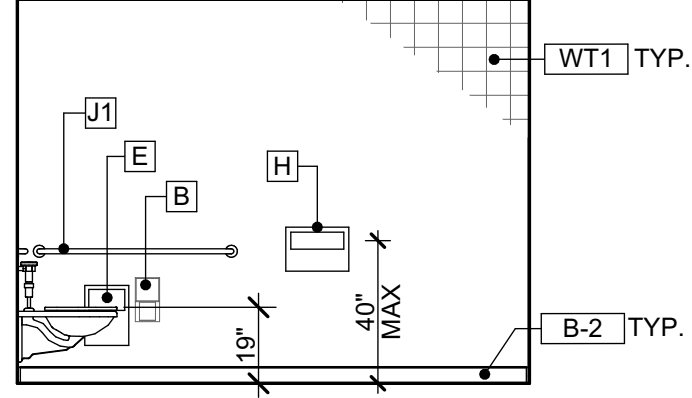
EAST



SOUTH

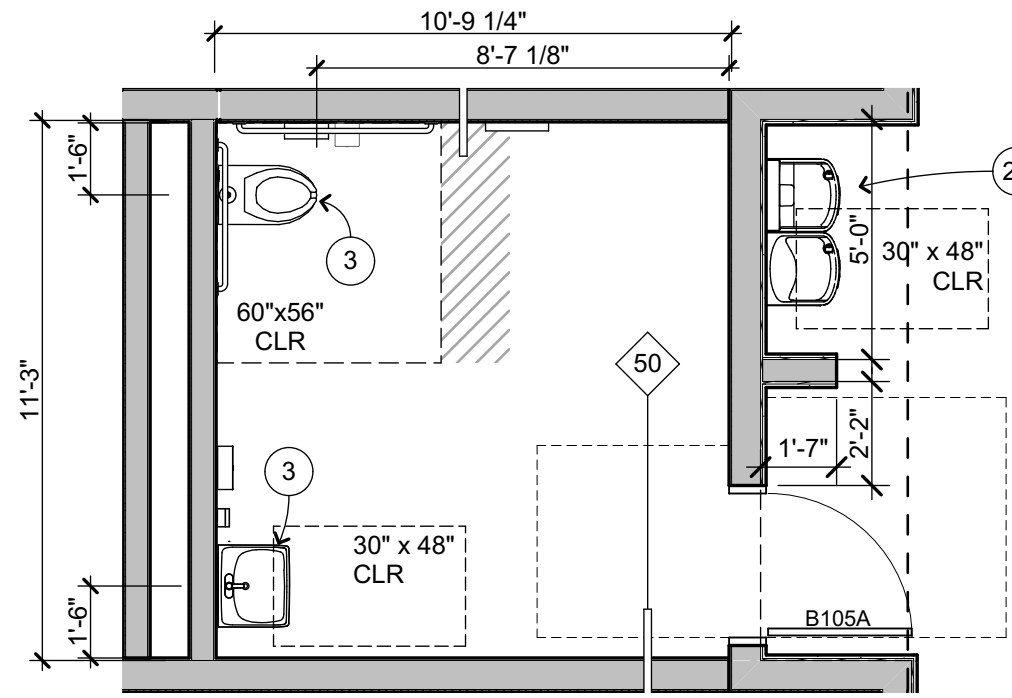


WEST



NORTH

STUDENT TOILET **B105** **B205**
1/4" = 1'-0" **A-B2.1** **A-B2.2**



ENLARGED TOILET PLAN **1**
1/4" = 1'-0"

INTERIOR ELEVATION KEYNOTES

NOT ALL KEYNOTES MAY APPLY TO THIS SHEET

- STRUCTURAL ITEM, S.S.D.
- MECHANICAL ITEM, S.M.D.
- PLUMBING FIXTURE, S.P.D.
- ELECTRICAL ITEM, S.E.D.
- ICE MACHINE, S.E.D. AND S.P.D.
- ROOF ACCESS LADDER, SEE DETAIL **12** **A-9.3**
- FIRE EXTINGUISHER CABINET, SEMI-RECESSED **4** **A-10.3** **22** **A-10.1**
- ACCESSIBLE WORK STATION, SEE DETAIL **21** **A-10.3**
- MARKERBOARD, SEE **5** **A-10.3**
- SIGNAGE, S.A.G.D.
- TEACHING WALL CASEWORK, SEE **19** **A-10.2** **17** **A-10.2**
- PROJECTOR SCREEN, SEE **19** **A-10.2**
- CASEWORK, SEE **7** **A-10.2**
- MEDICAL BED, N.I.C.
- ACCESSIBLE DEMONSTRATION TABLE
- MANUAL WINDOW SHADE, SEE DETAIL **24** **A-10.2**
- PARTIAL HEIGHT WALL W/ WD CAP, SEE DTL **19** **A-10.3**
- CANTILEVER COUNTERTOP **11** **A-10.3**
- CLOCK SPEAKER SYSTEM, SEE SPEC, S.E.D.
- ELEVATOR, SEE STAIR/ELEVATOR PLANS

TOILET ROOM ACCESSORY SCHEDULE

- | | |
|-----------|--|
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| B | TOILET PAPER DISPENSER, SURFACE MOUNTED |
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| D | WASTE RECEPTACLE, N.I.C. |
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| F | SOAP DISPENSER, SURFACE MOUNTED |
| G | MIRROR (TYP), FOR ATTACHMENT SEE 4 A-10.3 17 A-9.7 |
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| J1 | 42" GRAB BAR, FOR ATTACHMENT SEE 4 A-10.3 21 A-9.7 |

INTERIOR ELEVATION GENERAL NOTES

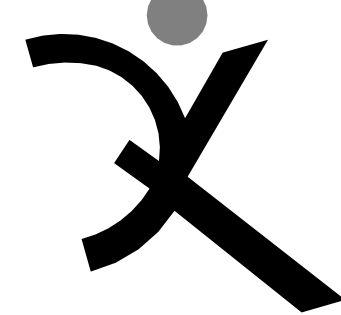
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WALL AND BASE FINISH CODES

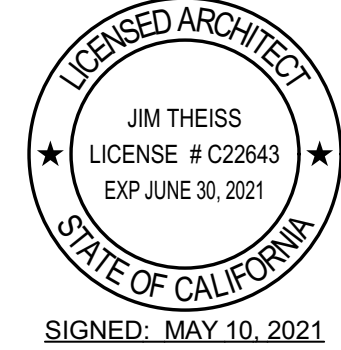
FOR PAINT FINISHES SEE SEC. 09 9113 (EXTERIOR) & 09 9123 (INTERIOR). ALL GYP BD TO BE TYPE 'X'.

WT1	CERAMIC WALL TILE	B-1	4" RESILIENT BASE
TAC1	TACKWALL		(COVED AT RESILIENT
WC1	WALLCOVERING - DRY ERASE		TILE FLOORING, TOP
WP1	WALL PROTECTION - FRP PANEL		SET AT CARPET)
P1	GYP BD - PAINT (COLOR 1)	B-2	EPOXY COVE
P2	GYP BD - PAINT (COLOR 2)		BASE 20 A-9.1
P3	GYP BD - PAINT (COLOR 3)	B-3	SEALED CONC. CURB
GB1	GYP BD - IMPACT RESISTANT		

KEYPLAN



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SIGNED: MAY 10, 2021

HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS

INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119268

ARCH PROJECT NO. 1870.00

DRAWN BY:

DRAWING SCALE: 1/4" = 1'-0"

PTN: 61721-77 FILE NO: 7-H4

BID SET

MAY 10, 2021

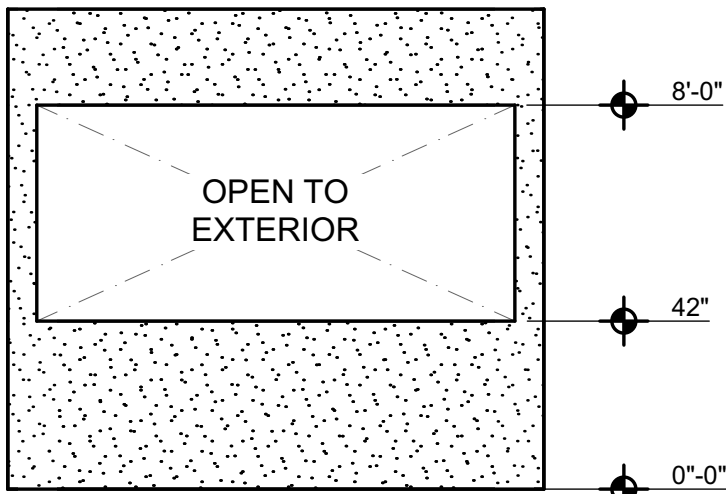
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BLDG-B INTERIOR ELEVATIONS

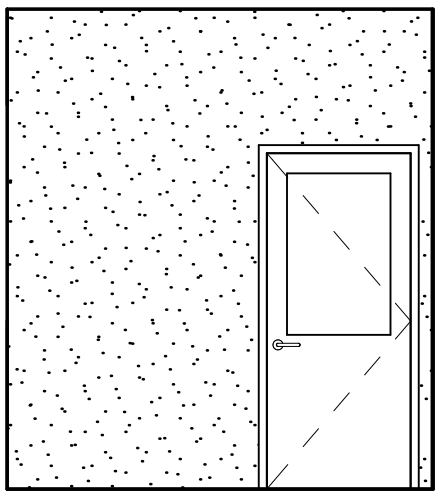
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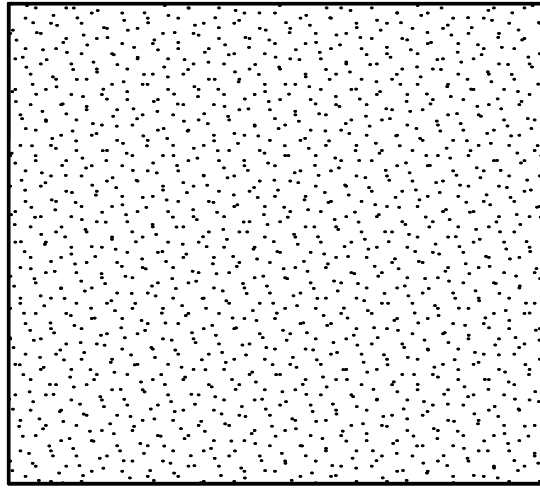
BALCONY **-**
1/4" = 1'-0" **A-B2.2**



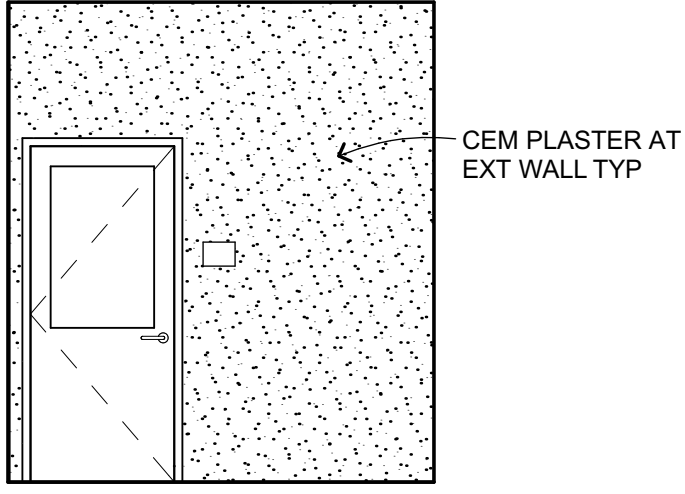
WEST



NORTH



EAST



SOUTH

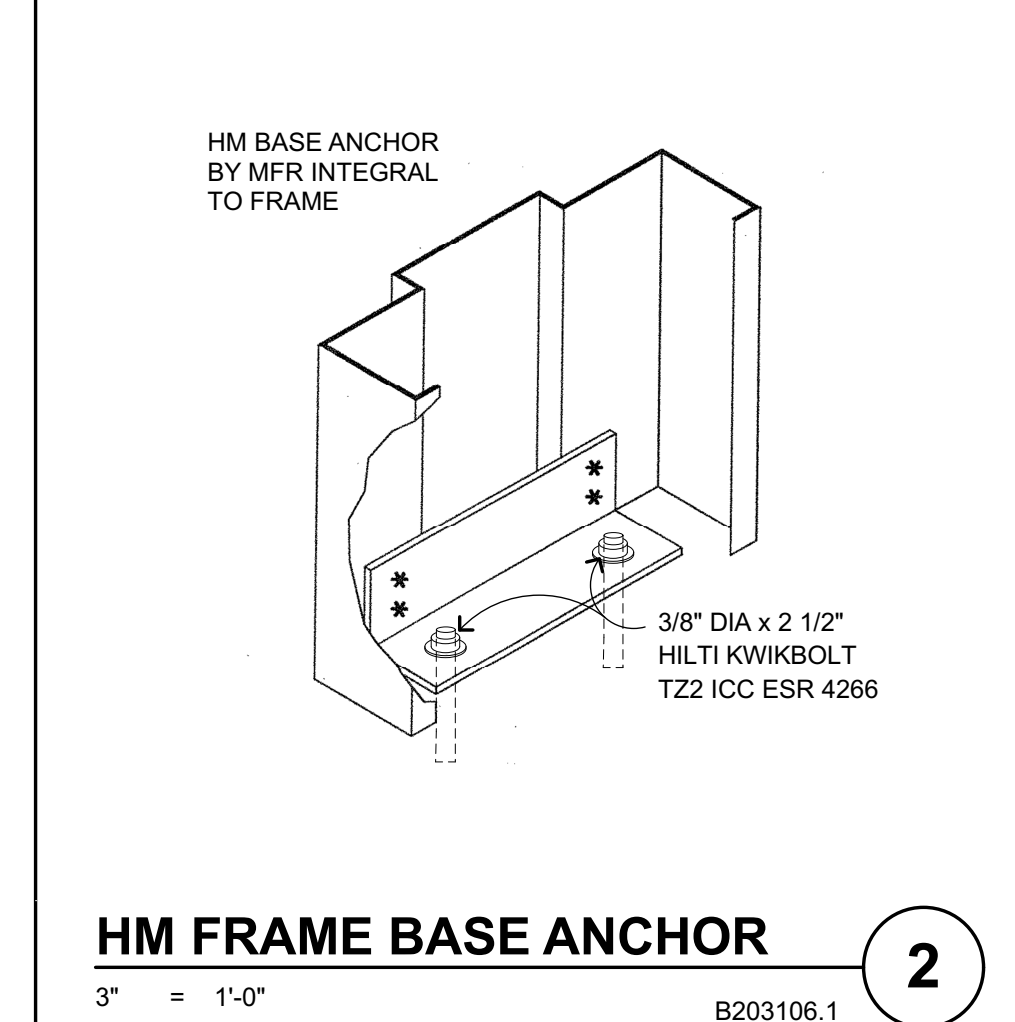
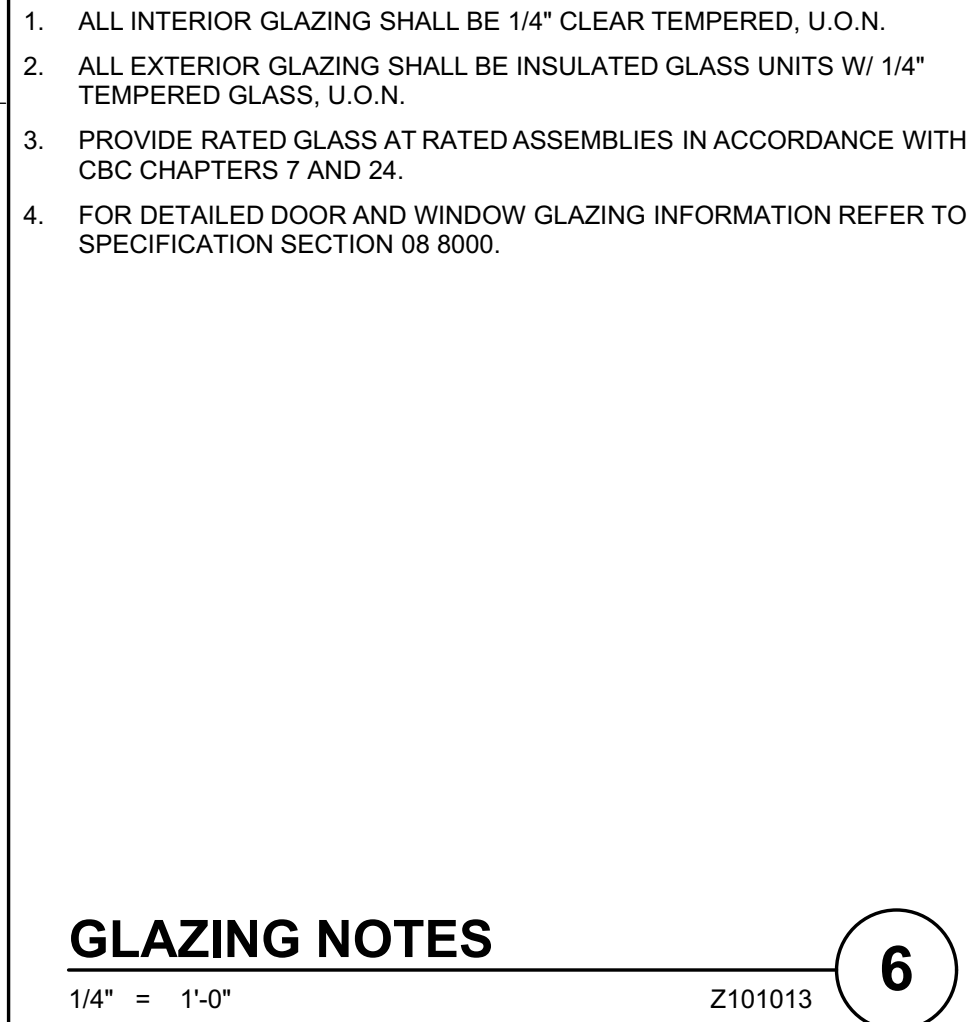
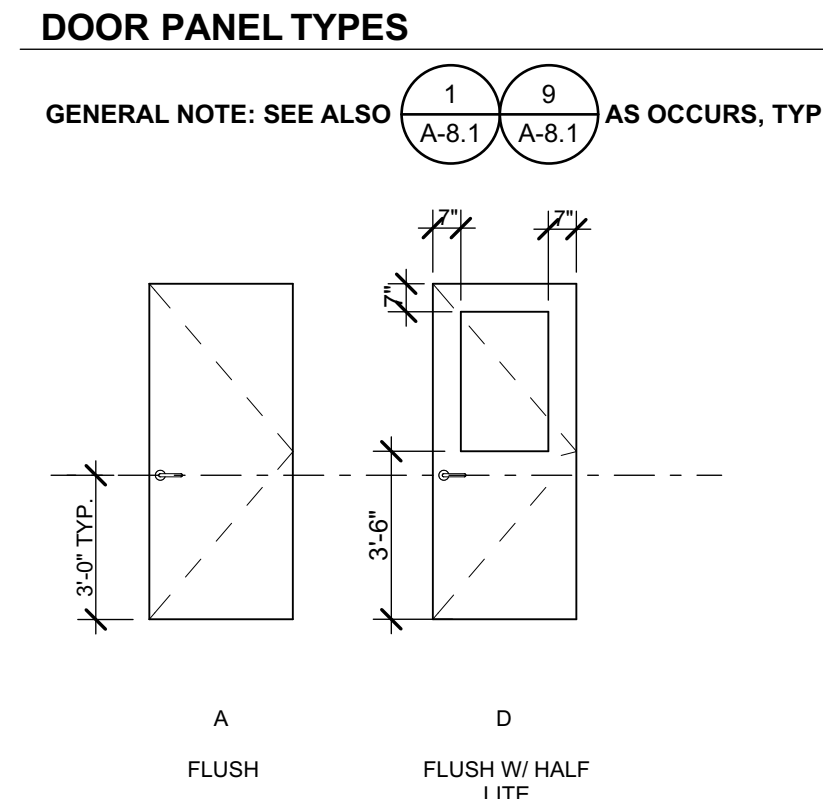
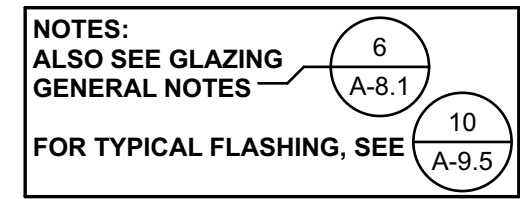


Figure 1 consists of three diagrams illustrating different door frame types:

- 1. HOLLOW METAL FRAME:** This diagram shows a standard door frame. Callouts include: 6 INT HEAD (A-9.5), 1 EXT HEAD (A-9.5), 2 EXT JAMB (A-9.5), 6 INT JAMB (A-9.5), 3 THRESHOLD (A-9.5), and 4 INT SILL (A-9.5). Dimensions shown are 2" for the head and jamb thicknesses.
- 2. HOLLOW METAL FRAME WITH FIXED SIDELIGHT AND TRANSOM:** This diagram shows a door frame with a fixed sidelight and transom. Callouts include: 3A HEAD (A-9.6), 3D JAMB (A-9.6), 4 SILL (A-9.6), and 3 THRESHOLD (A-9.5). Dimensions shown include 2" for head and jamb thicknesses, 1'-10" for the transom height, and 6" for the sill height.
- 3. HOLLOW METAL FRAME WITH FIXED SIDELIGHT AND TRANSOM:** This diagram shows a door frame with a fixed sidelight and transom, similar to diagram 2 but with different dimensions. Callouts include: 3A HEAD (A-9.6), 8 MULLION (A-9.6), 3D JAMB (A-9.6), 4 SILL (A-9.6), and 3 THRESHOLD (A-9.5). Dimensions shown include 2" for head and jamb thicknesses, 3'-0" for the transom height, 7'-0" for the sidelight height, and 6" for the sill height.

	W01	W02	W04	W05
TYPE	ALUMINUM STOREFRONT	ALUMINUM STOREFRONT	ALUMINUM STOREFRONT	HM
GLAZING	SINGLE GLAZED	SINGLE GLAZED	SINGLE GLAZED	SINGLE GLAZED
OPERATION	FIXED	FIXED	FIXED	FIXED
RATING	UNRATED	UNRATED	UNRATED	UNRATED



**HERITAGE HIGH
SCHOOL**

**NEW CLASSROOM
BUILDINGS**

INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119268	
ARCH PROJECT NO:	1870.00
DRAWN BY:	SL & HE
DRAWING SCALE:	AS NOTED
PTN: 61721-77	FILE NO: 7-H4

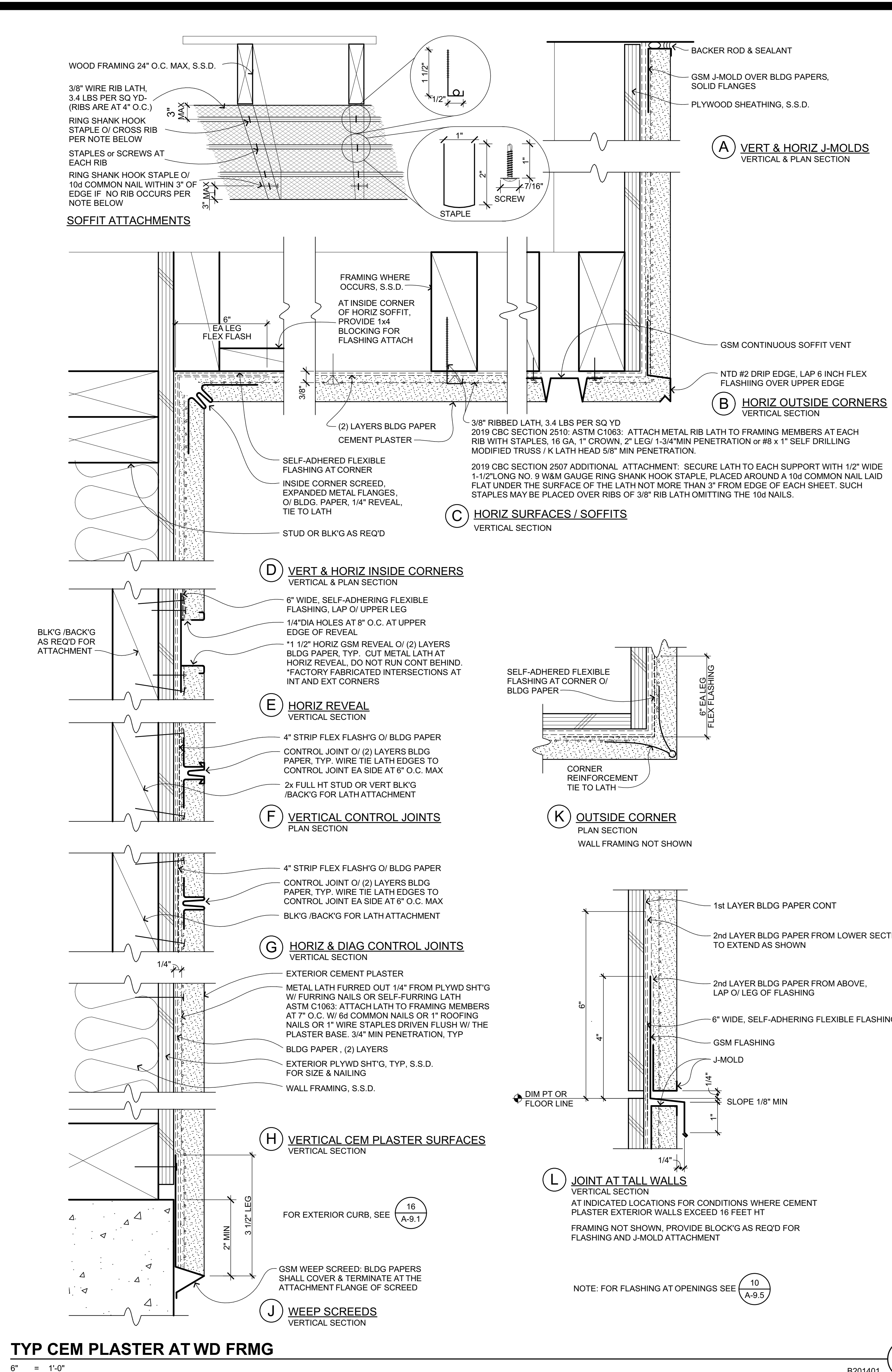
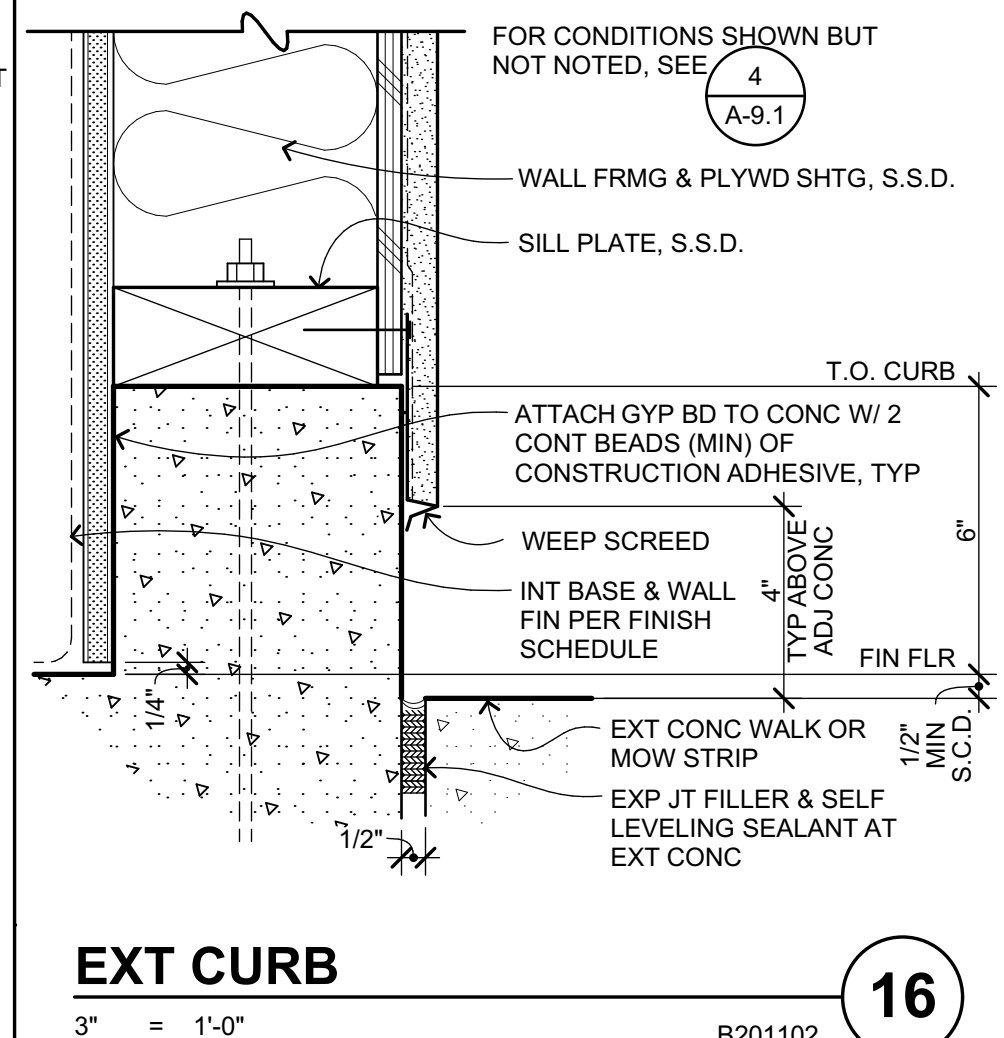
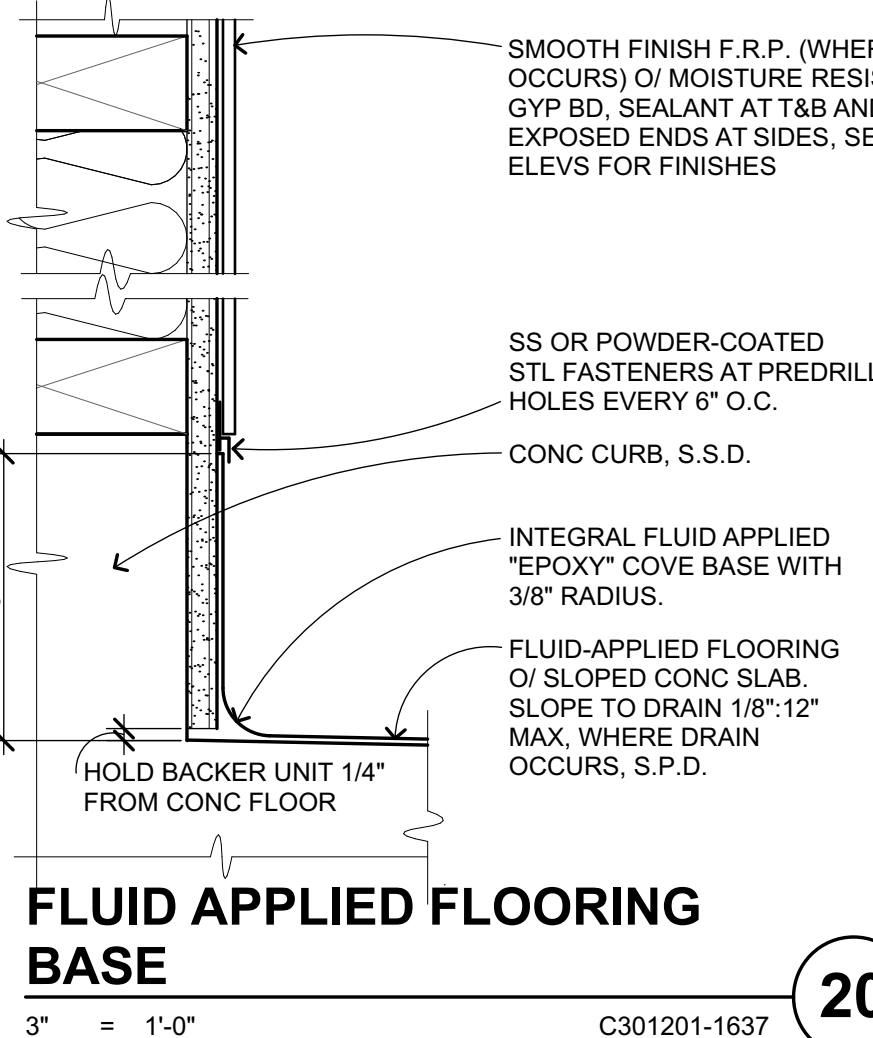
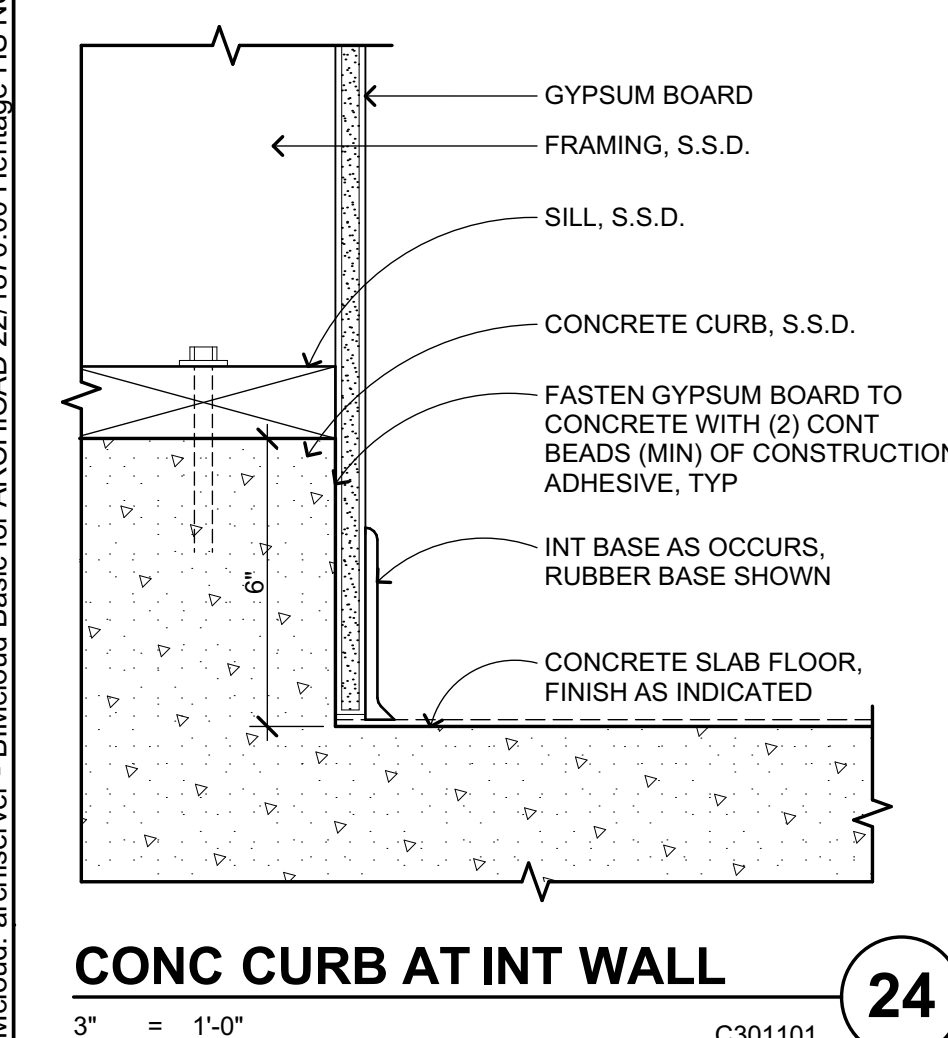
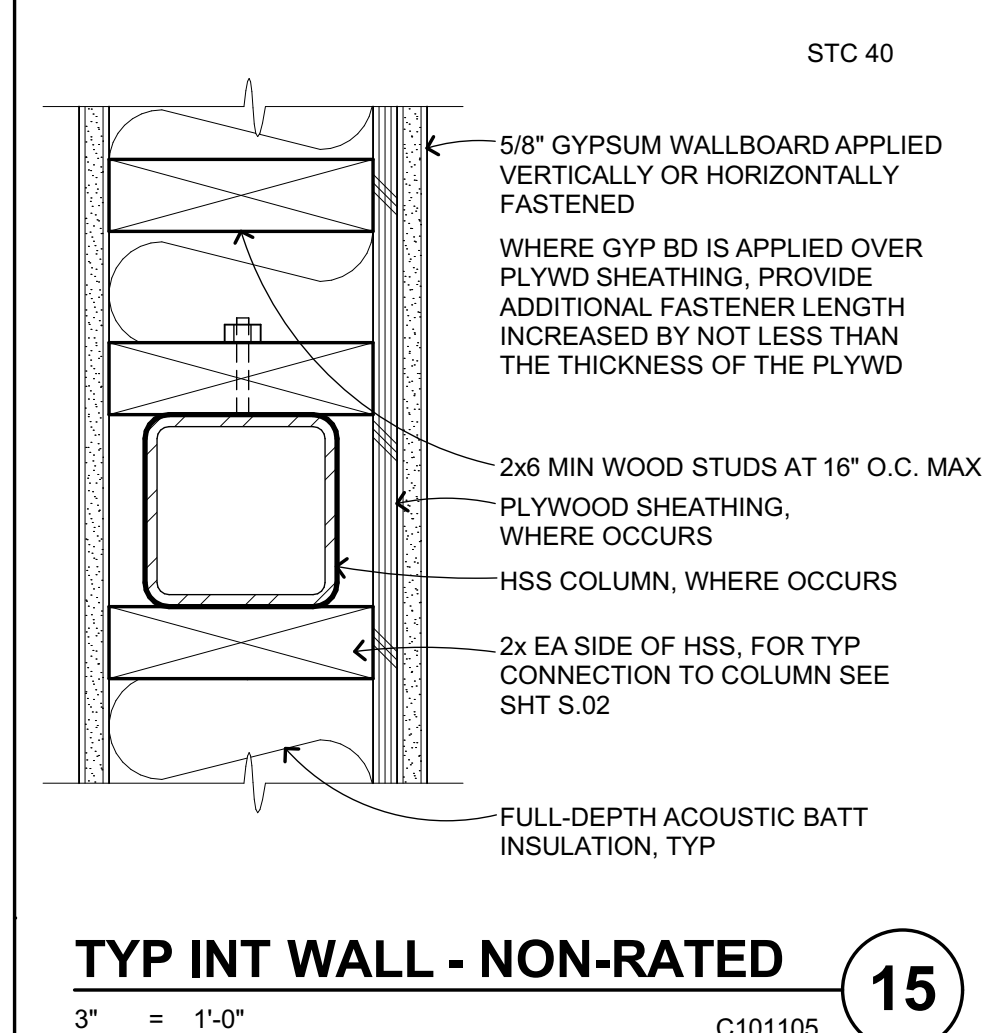
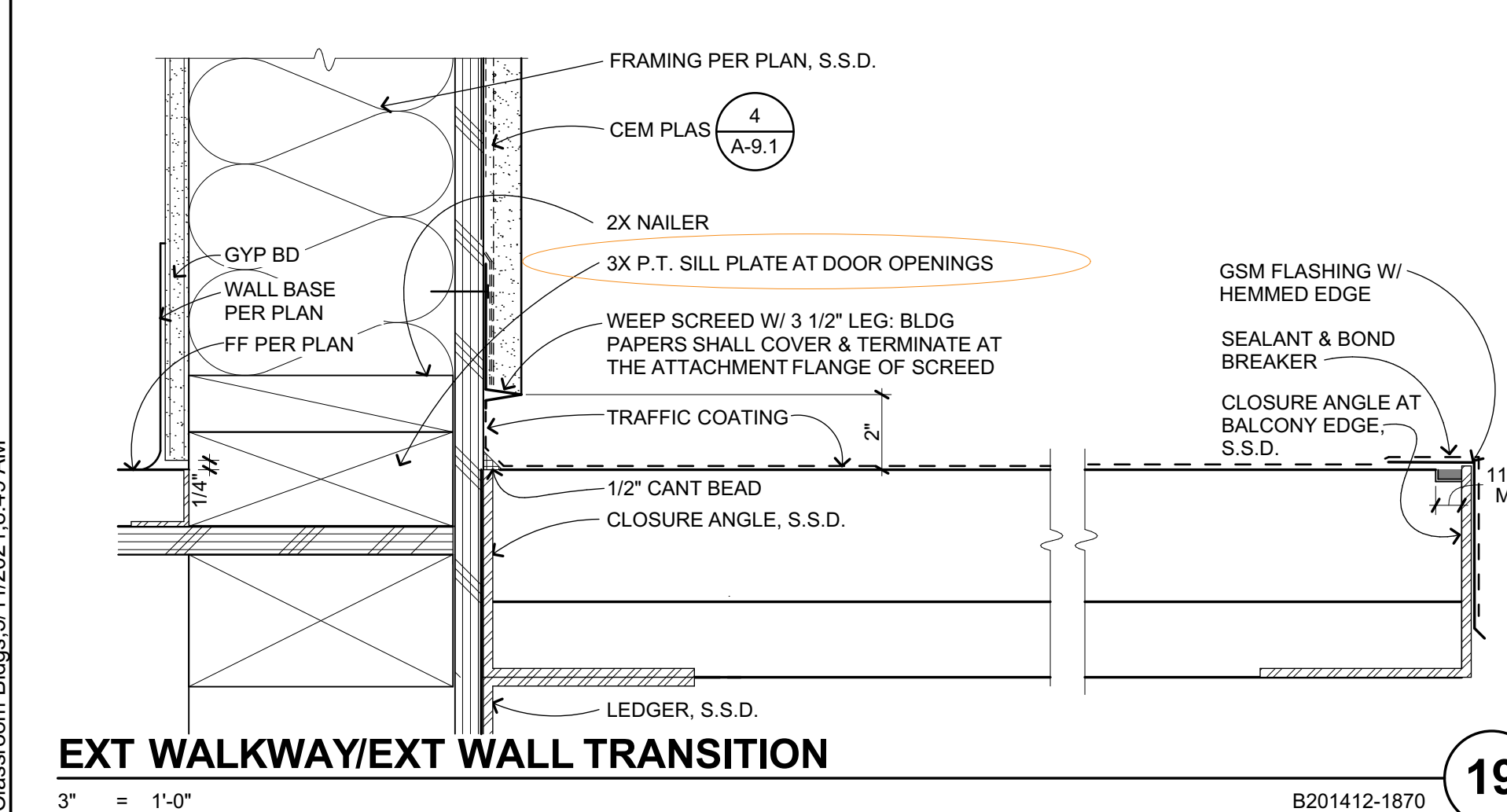
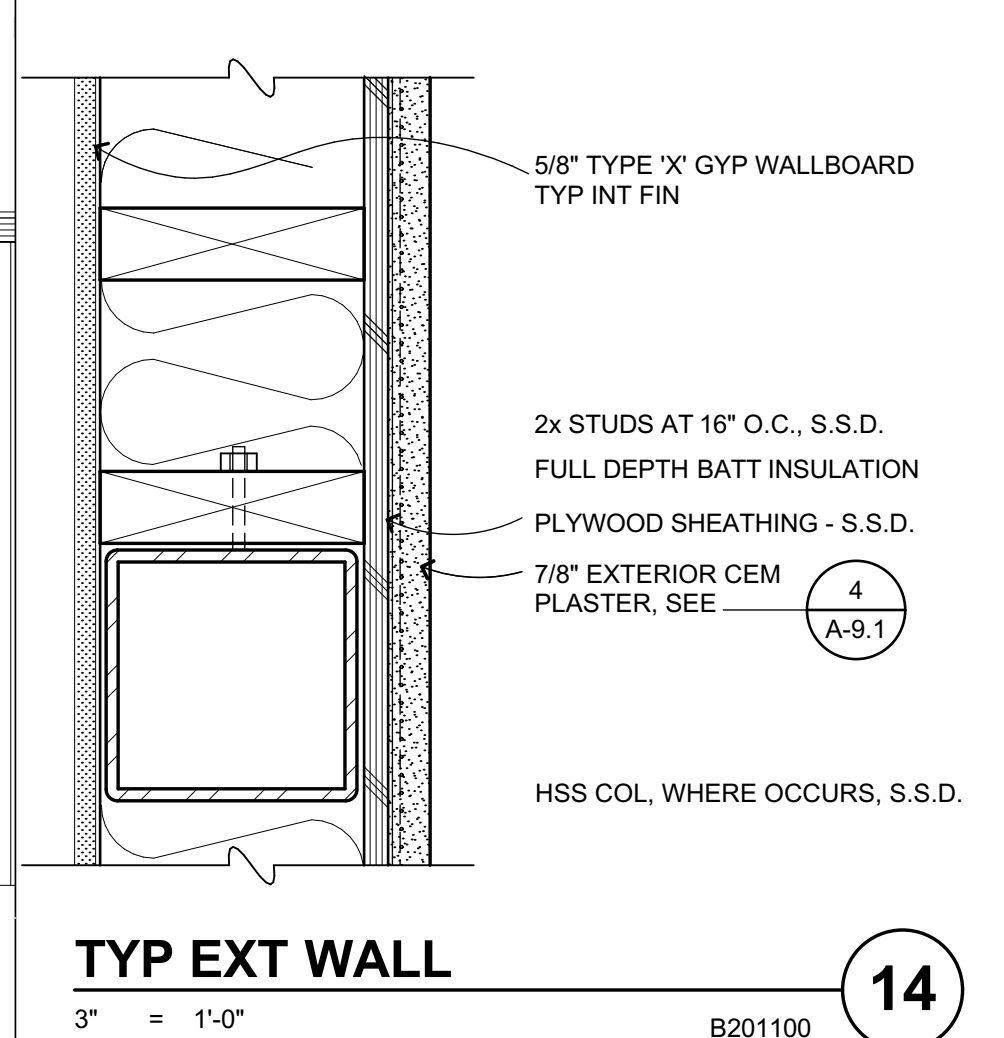
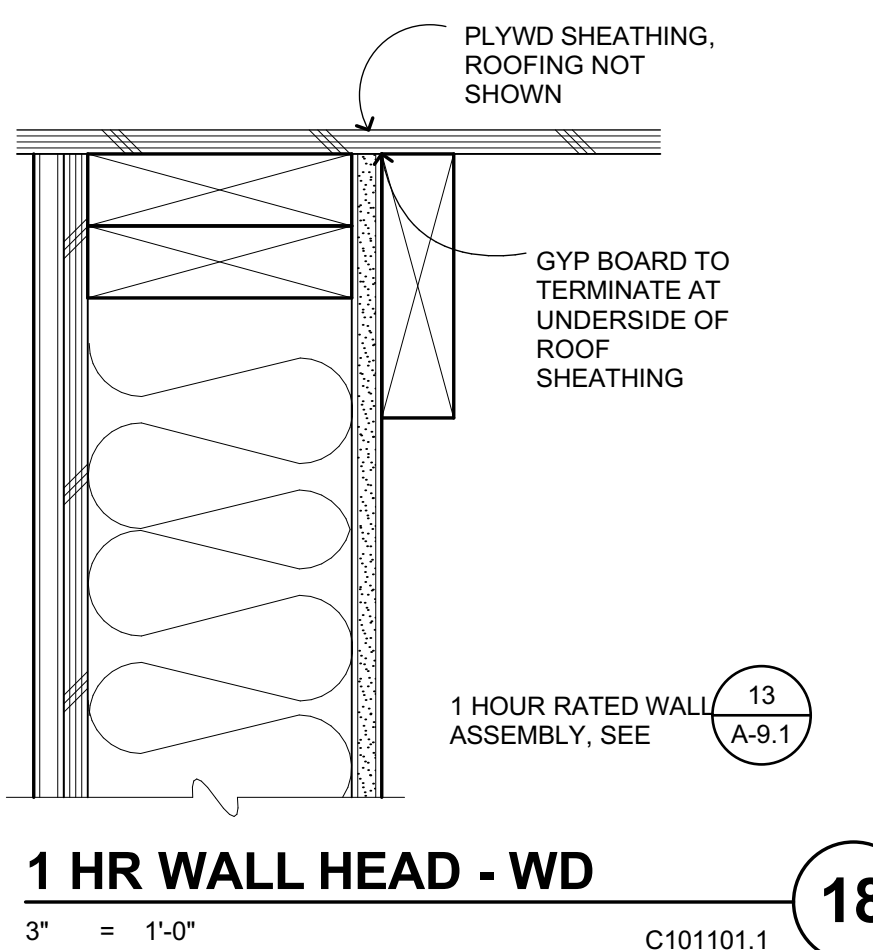
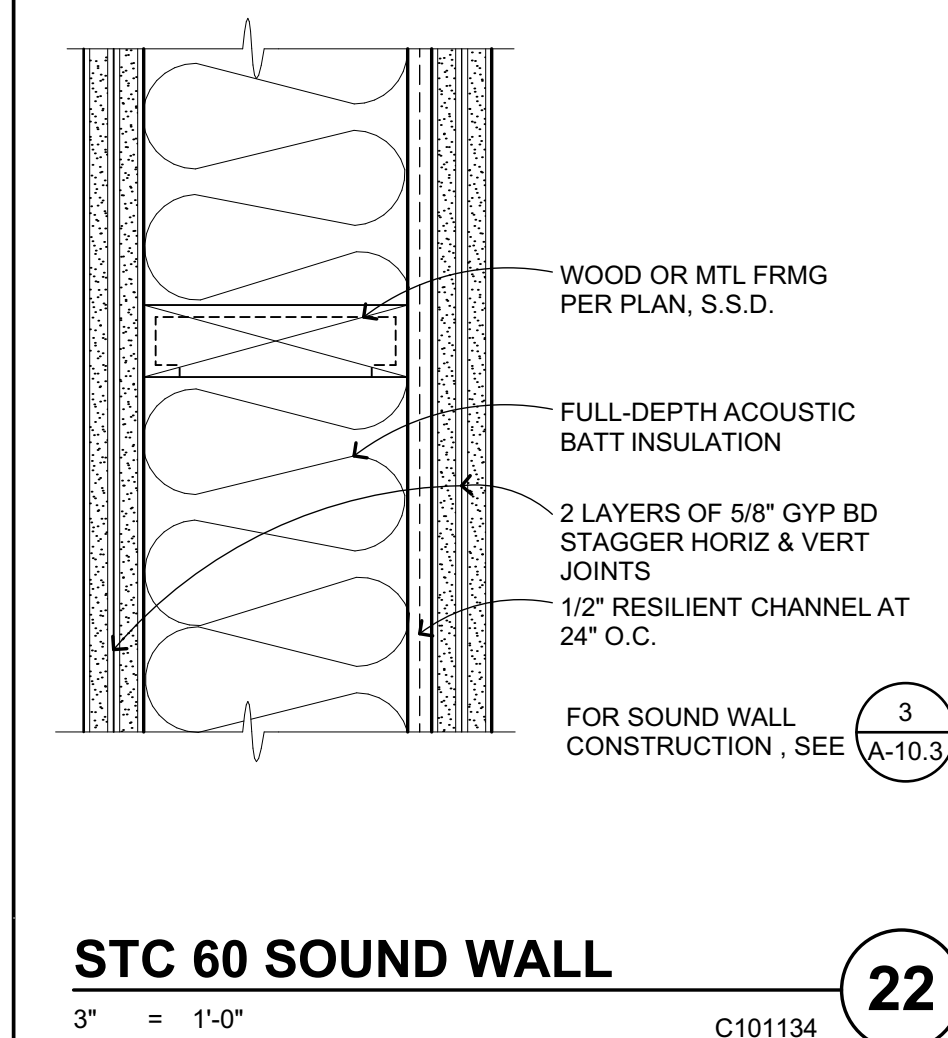
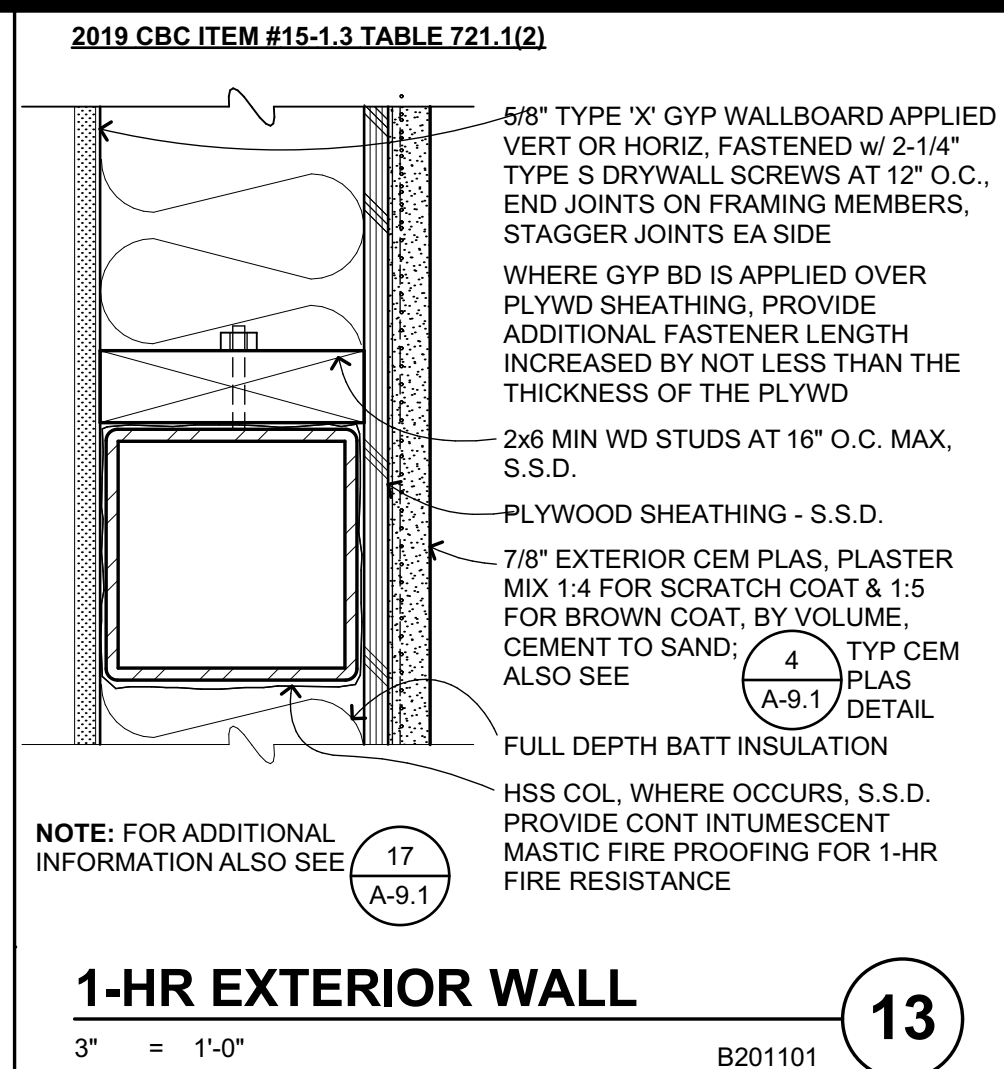
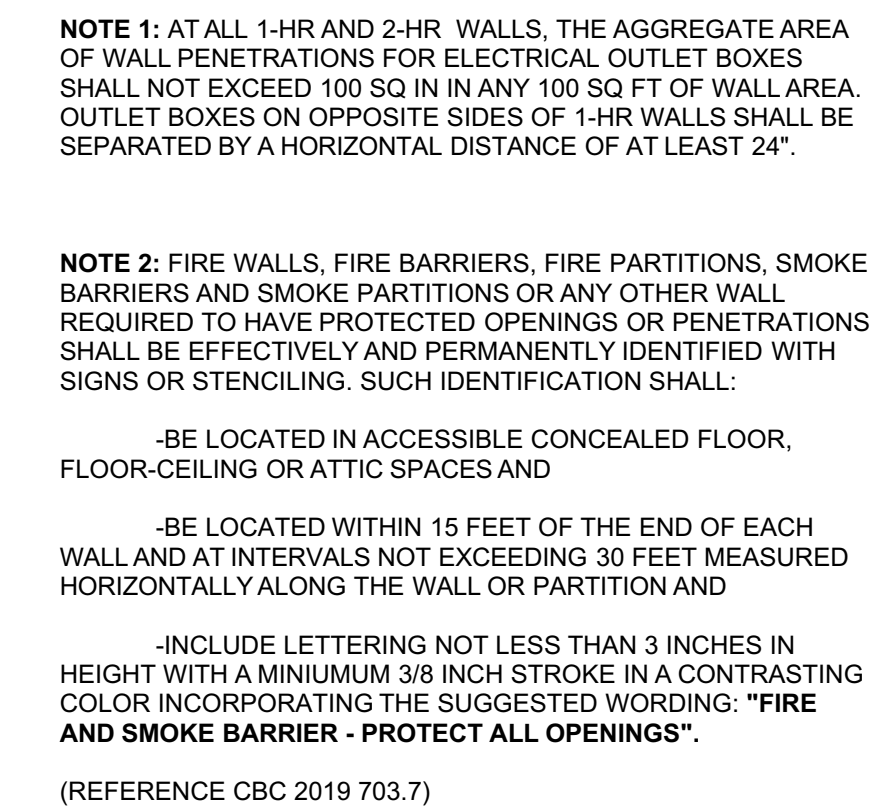
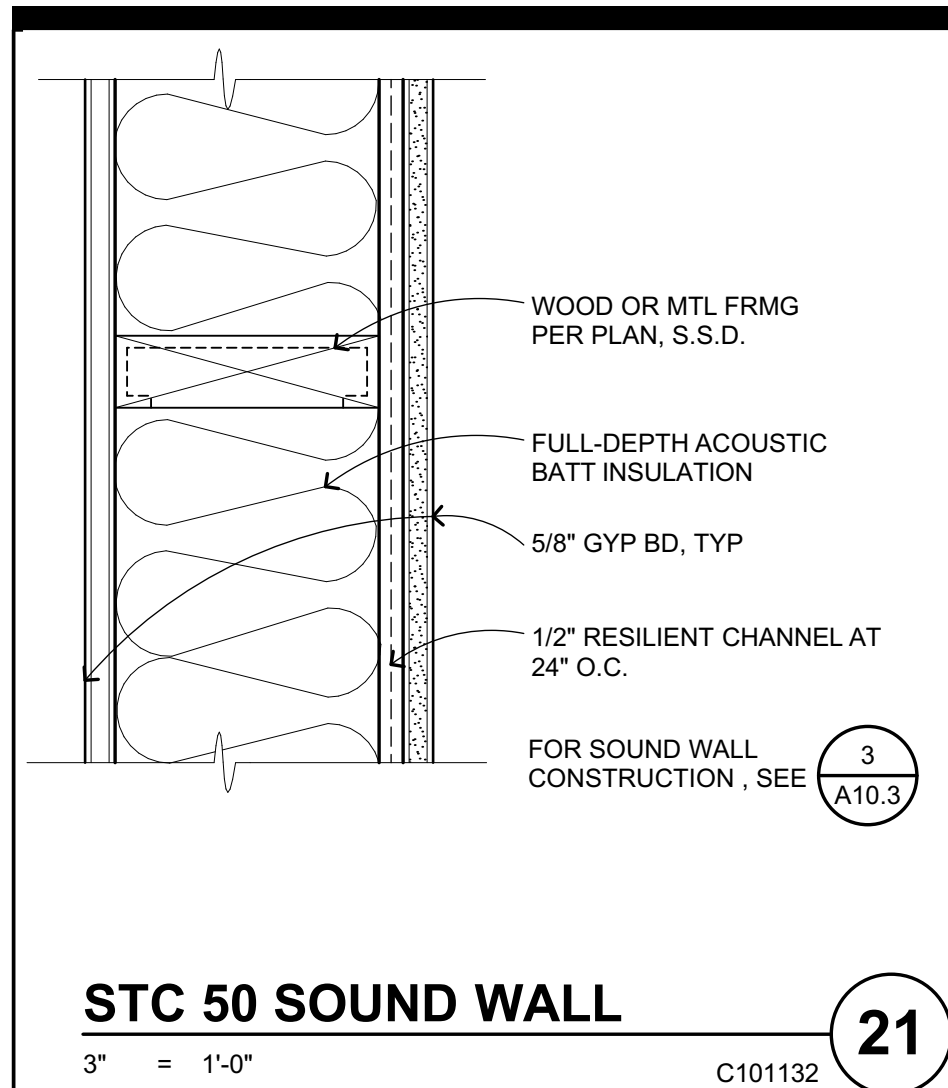
BID SET

MAY 10, 2021

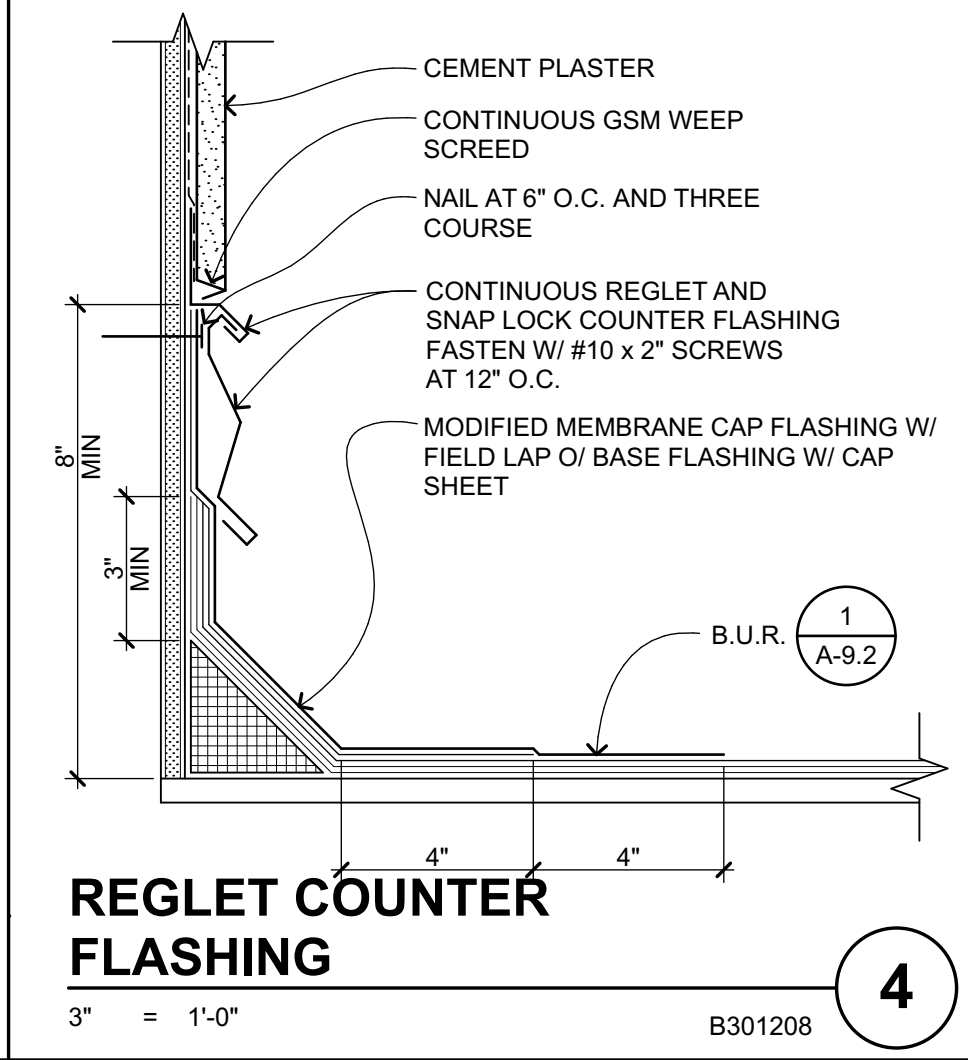
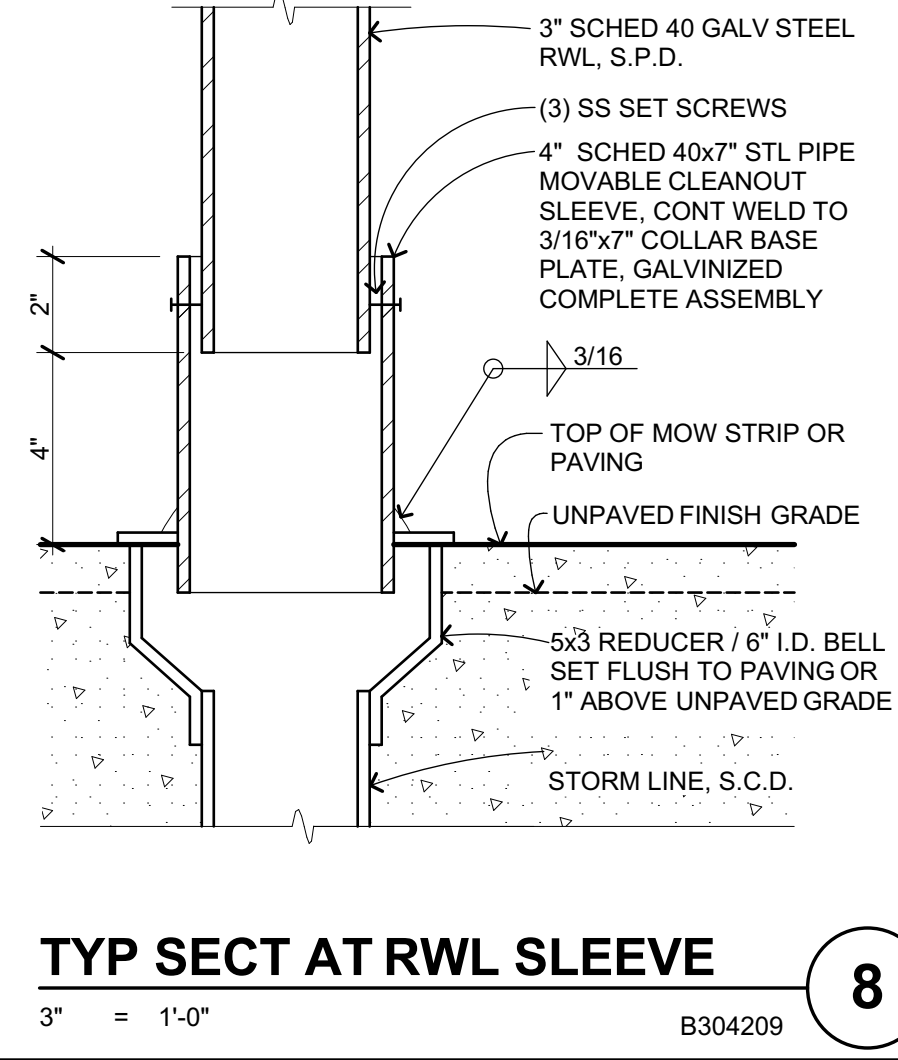
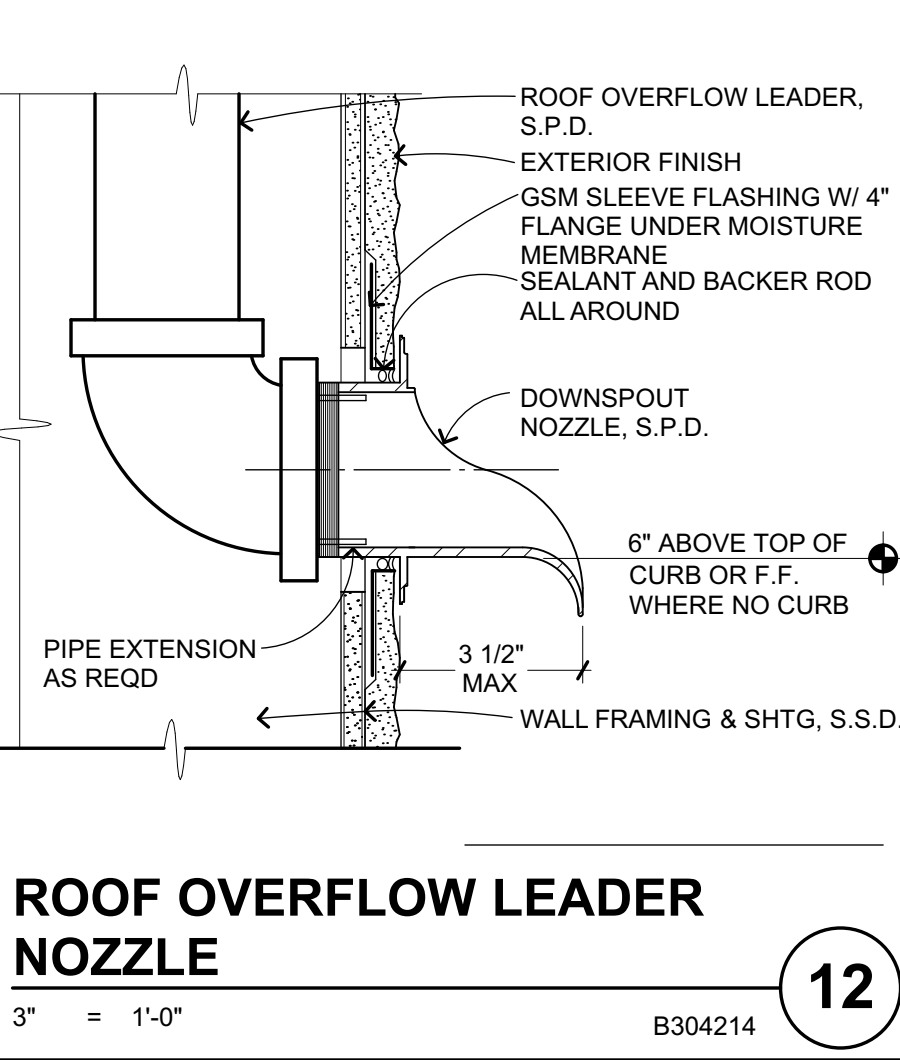
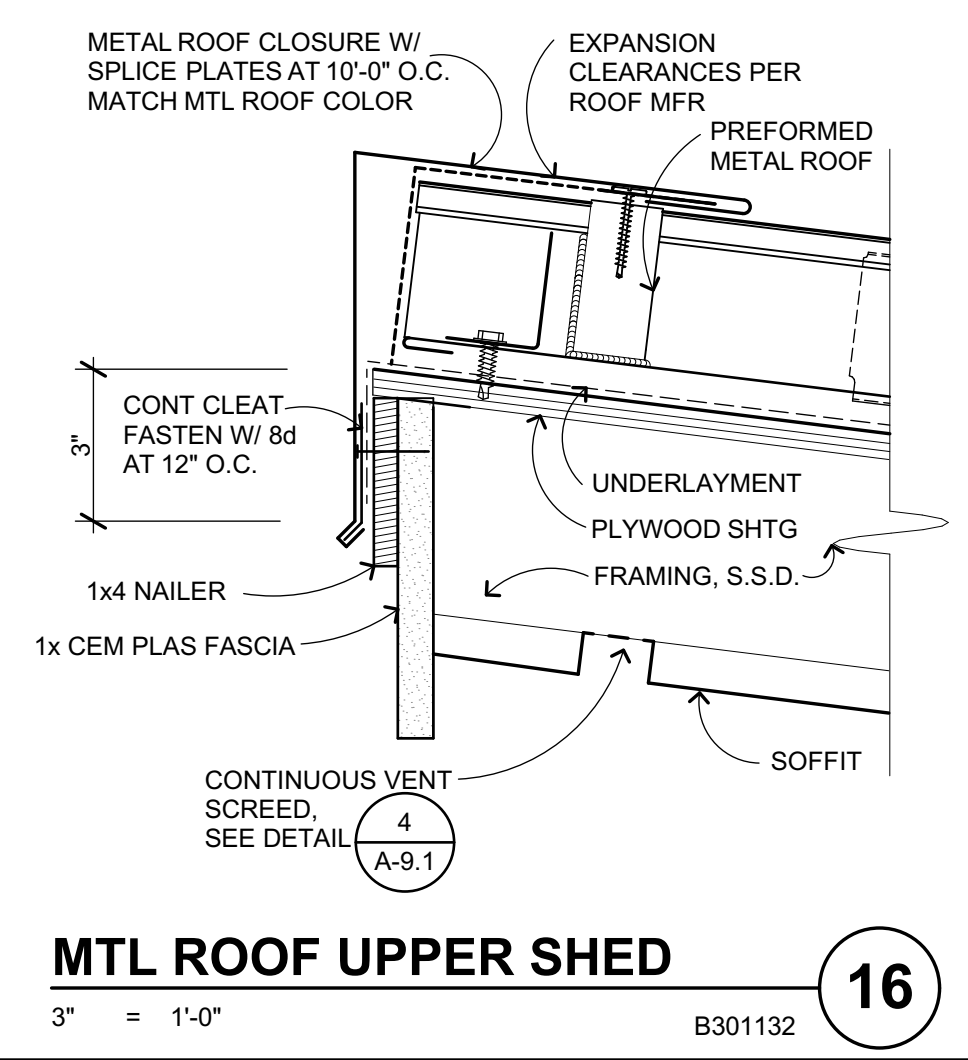
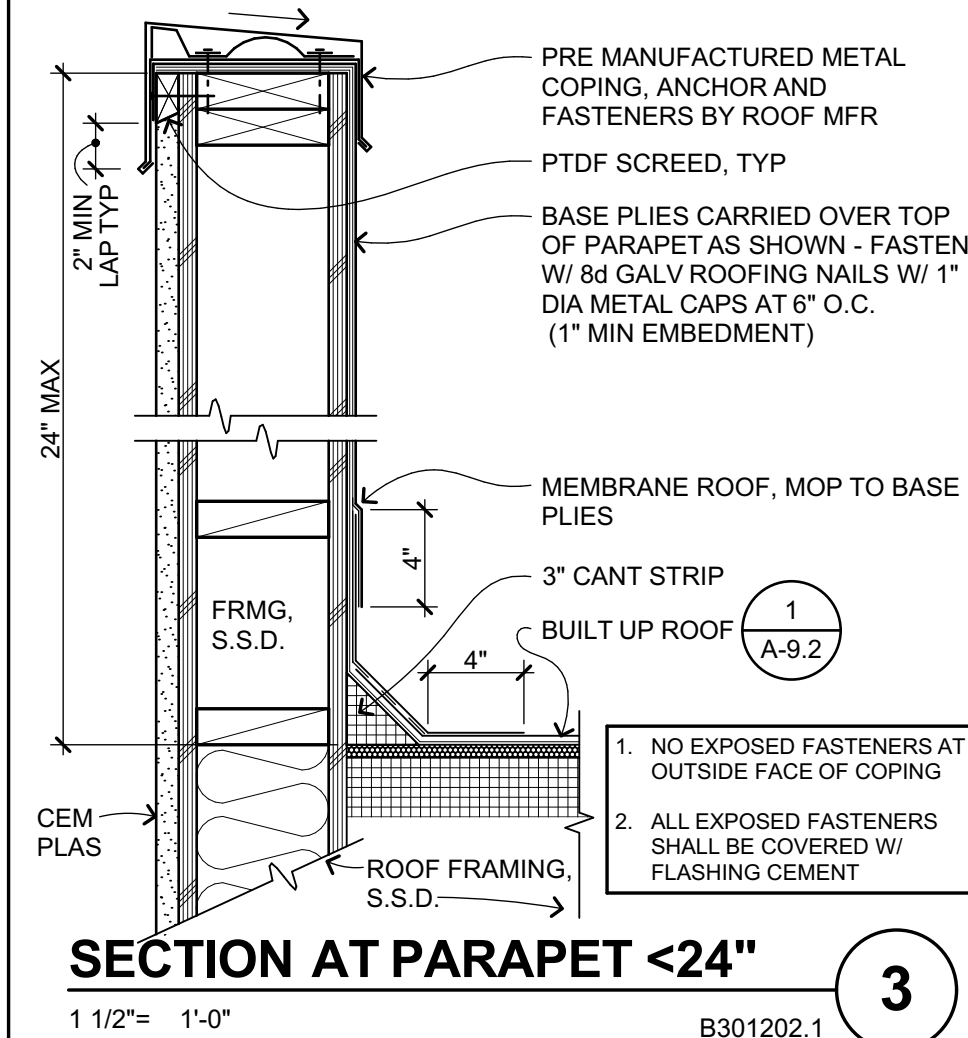
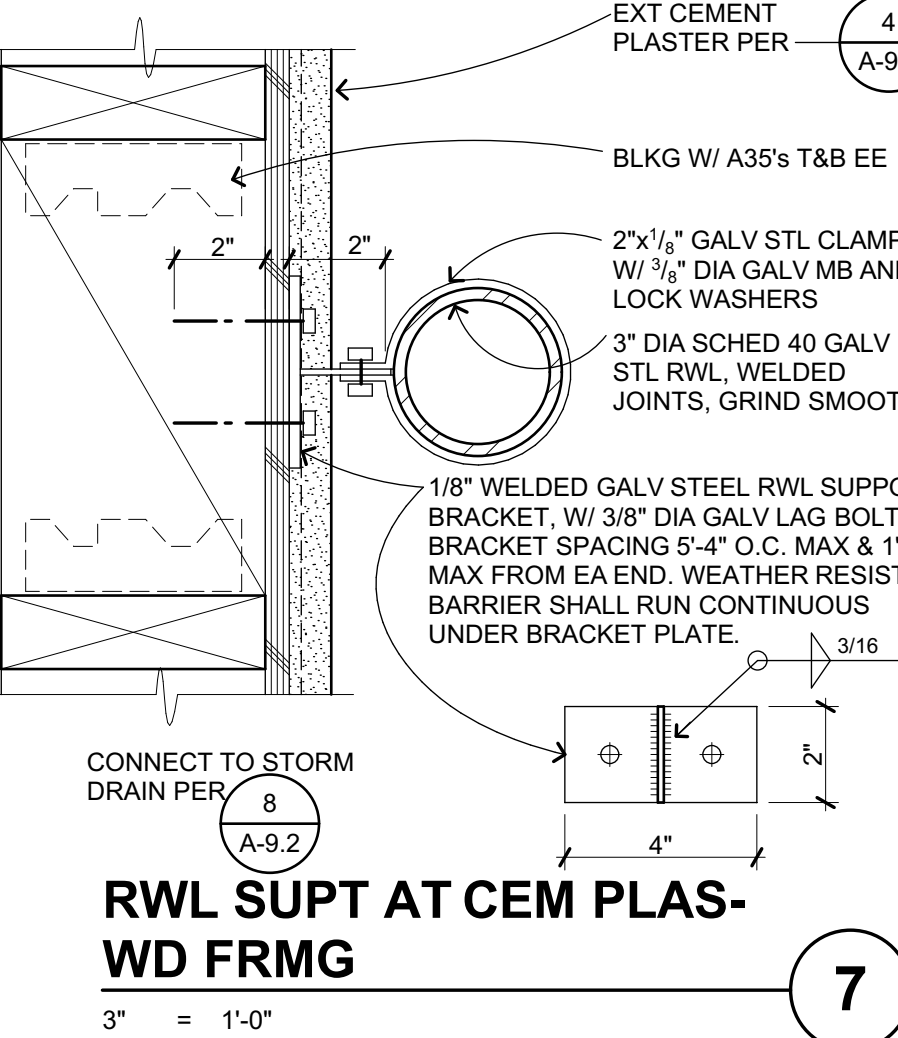
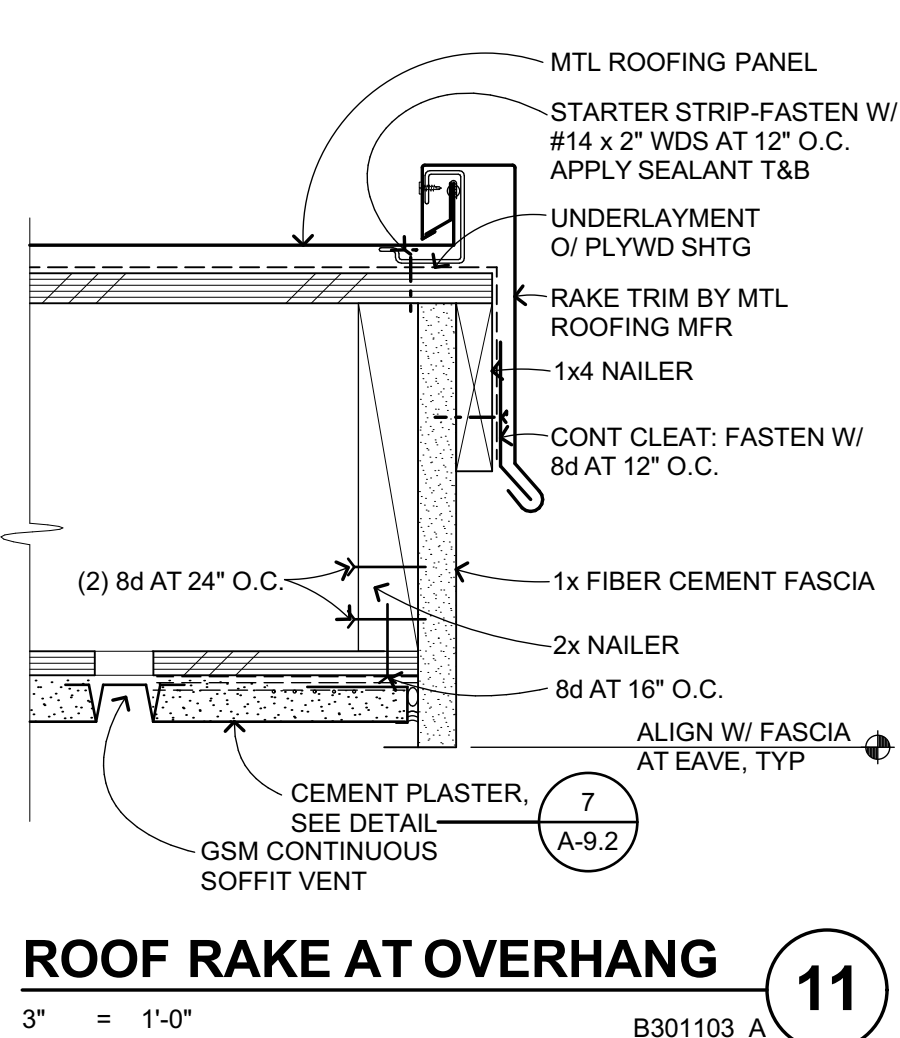
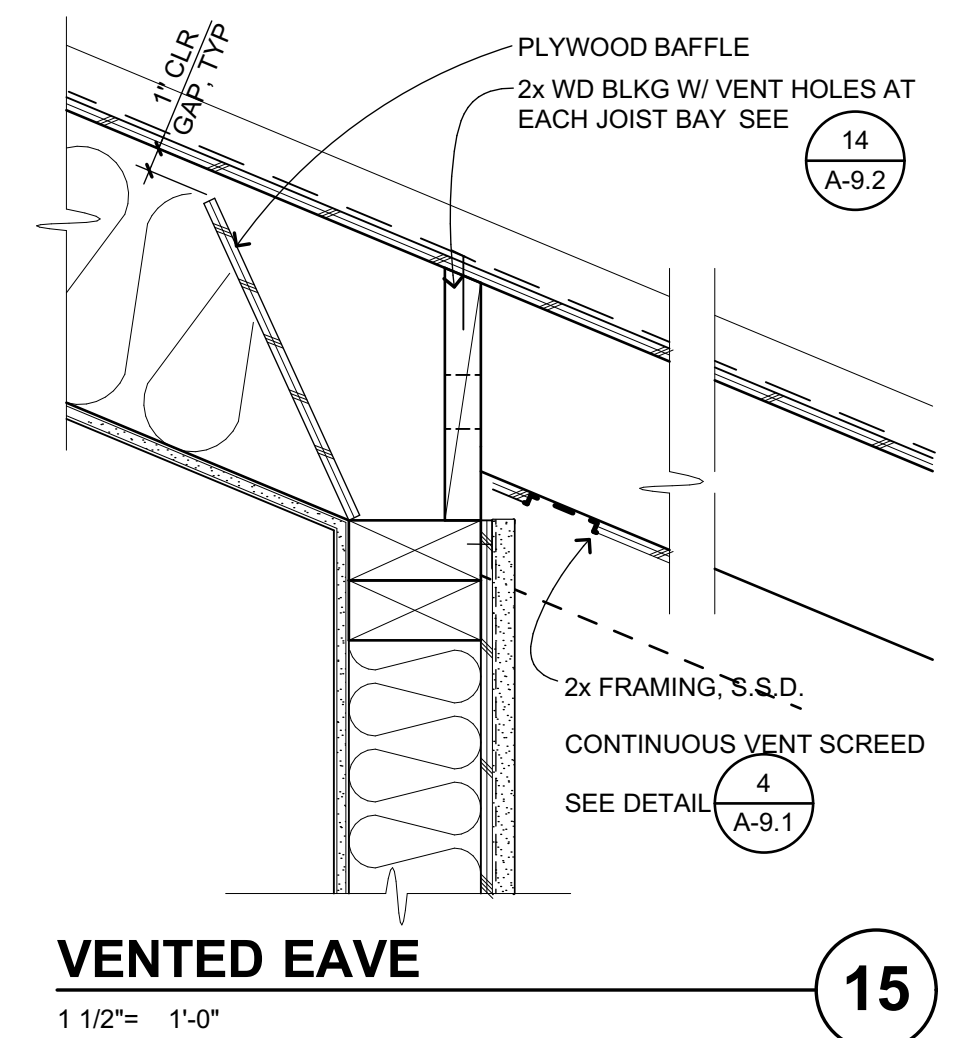
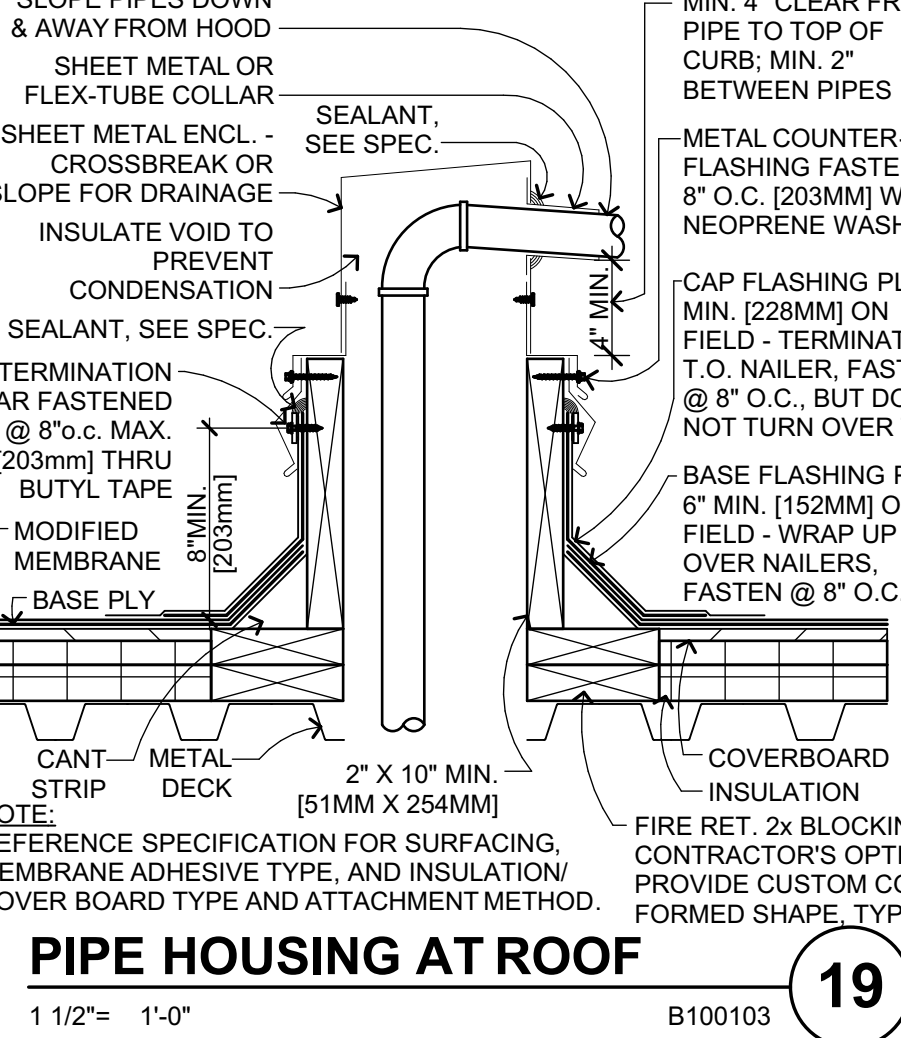
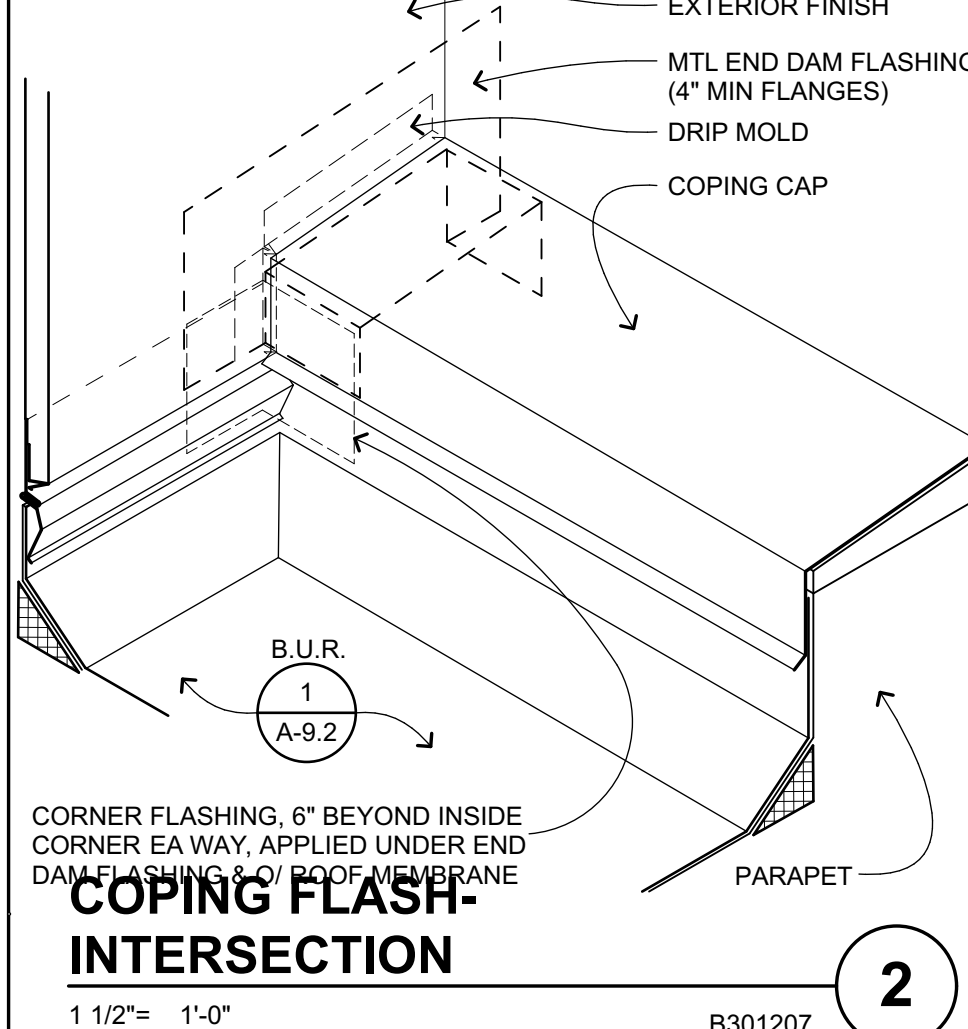
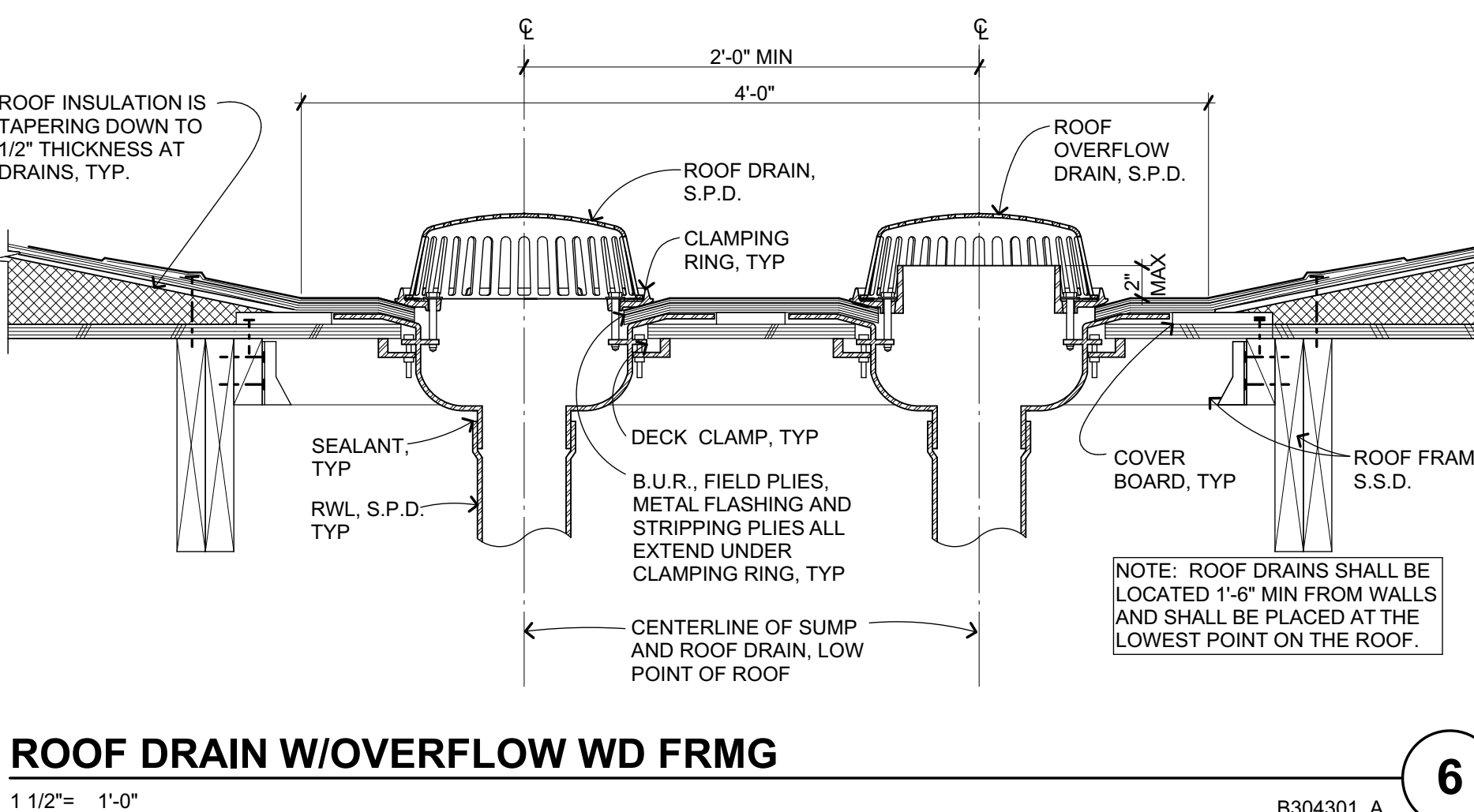
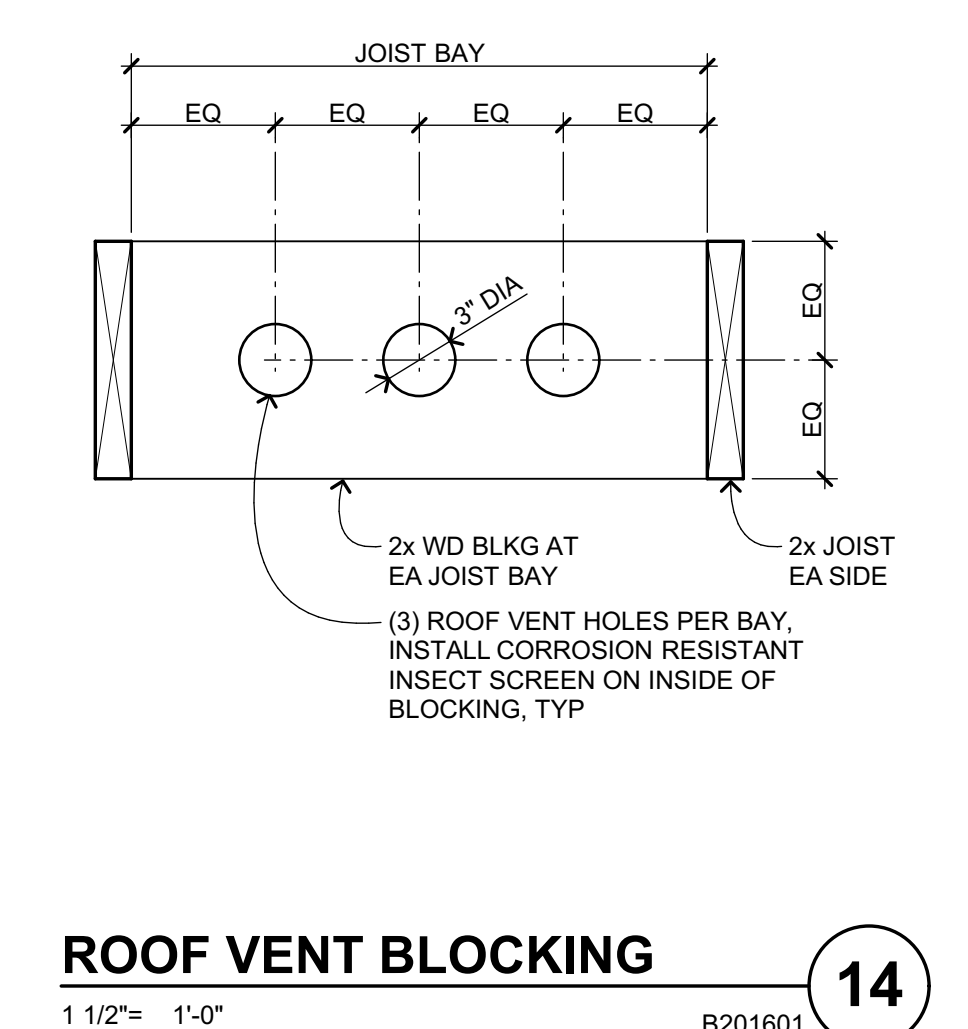
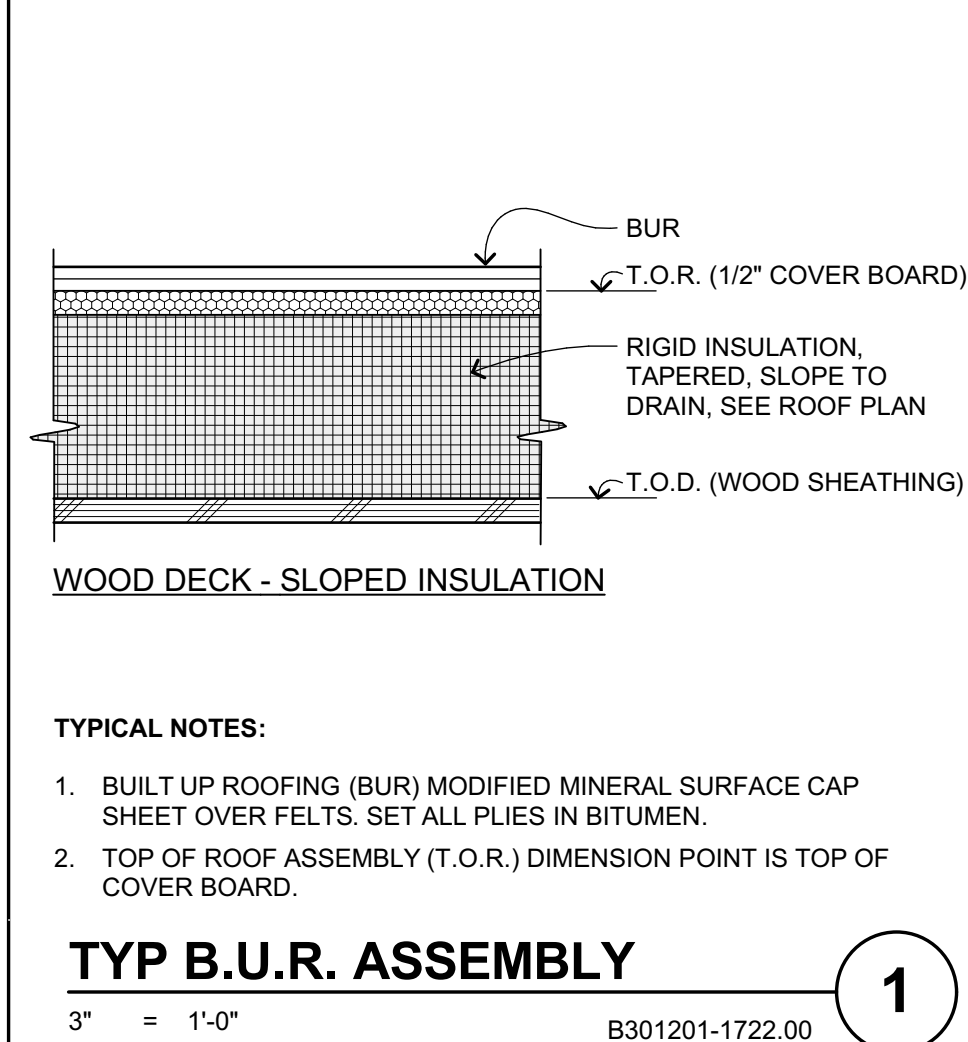
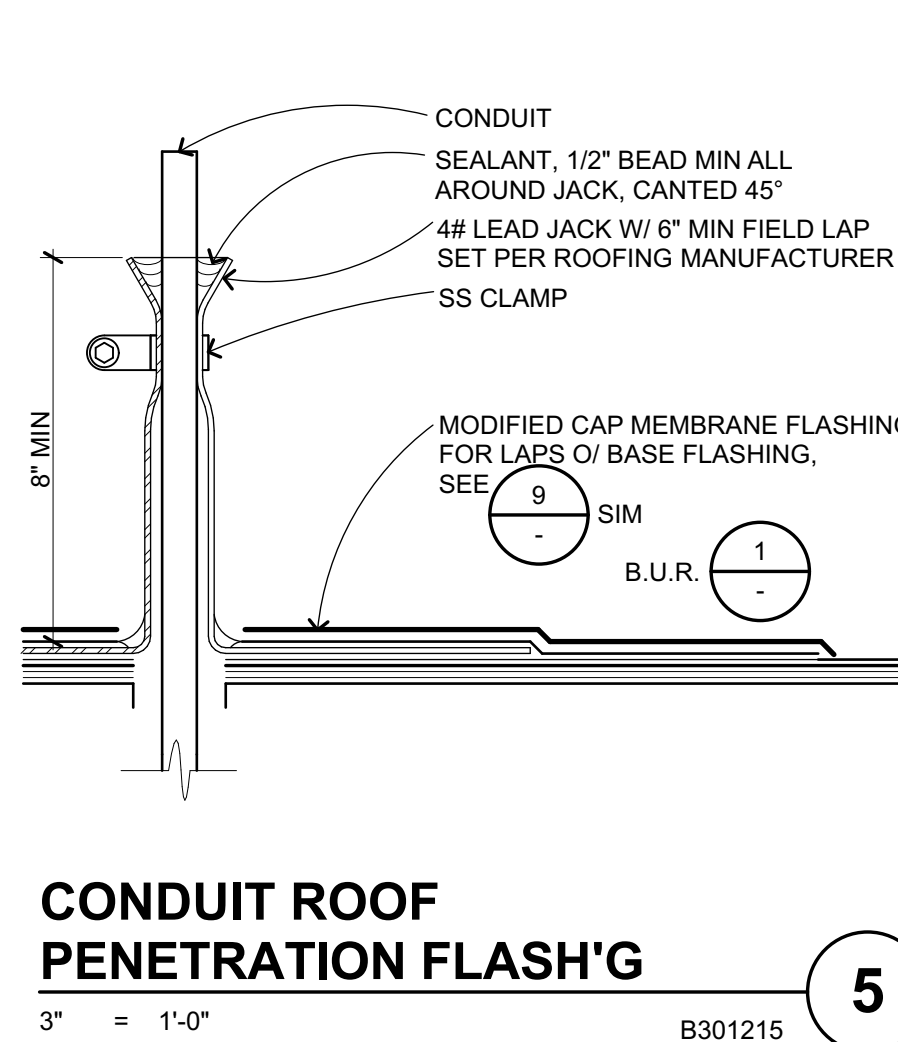
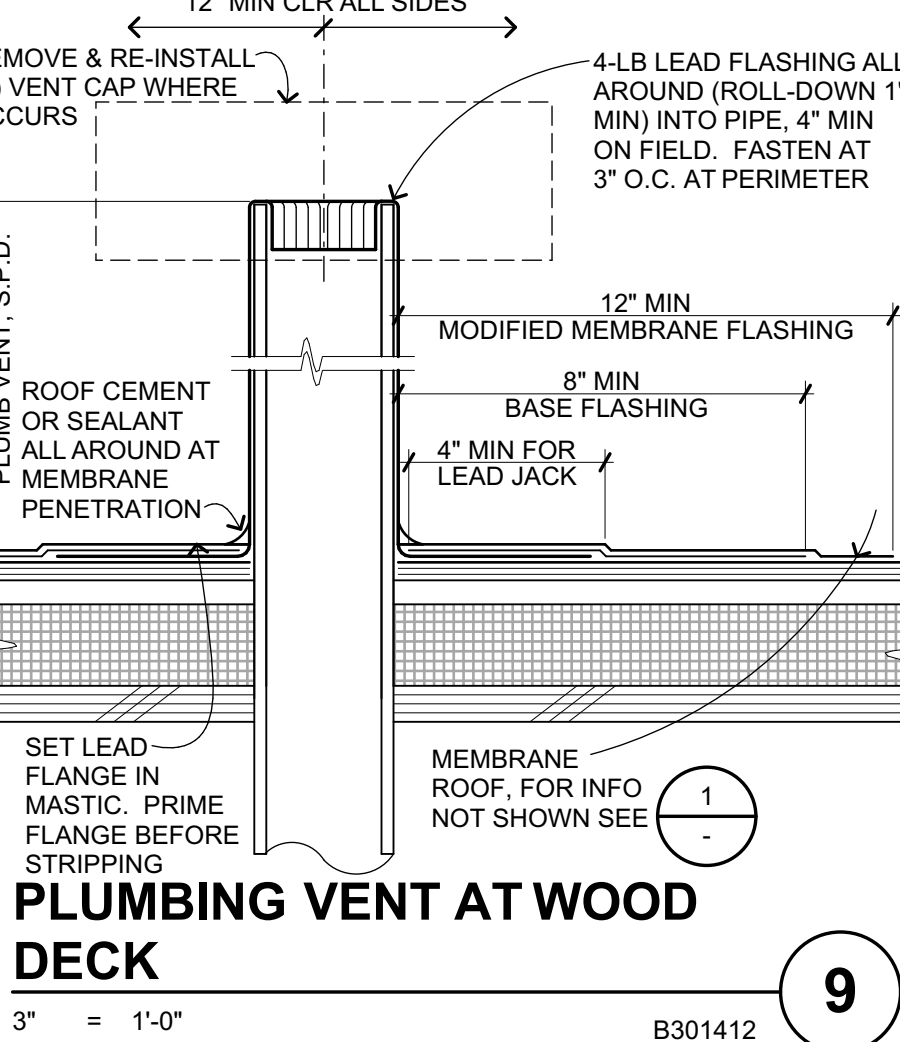
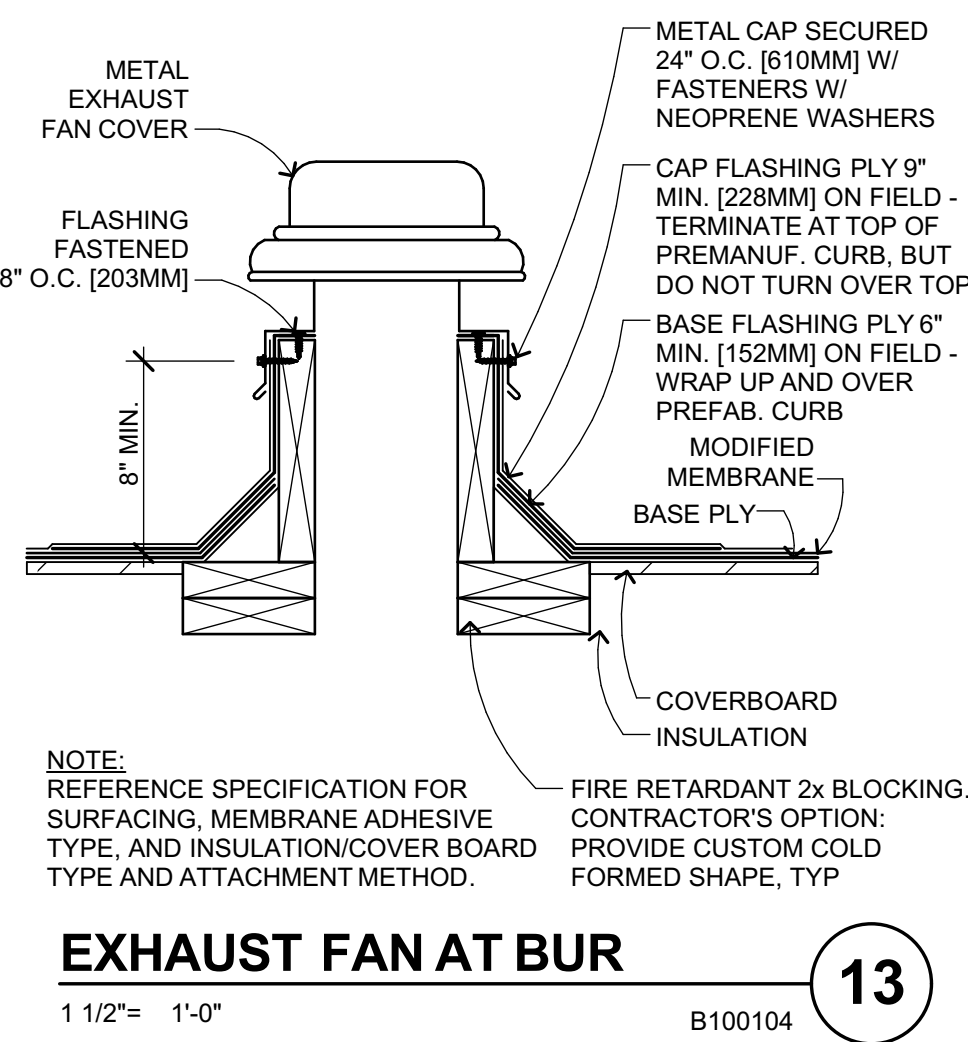
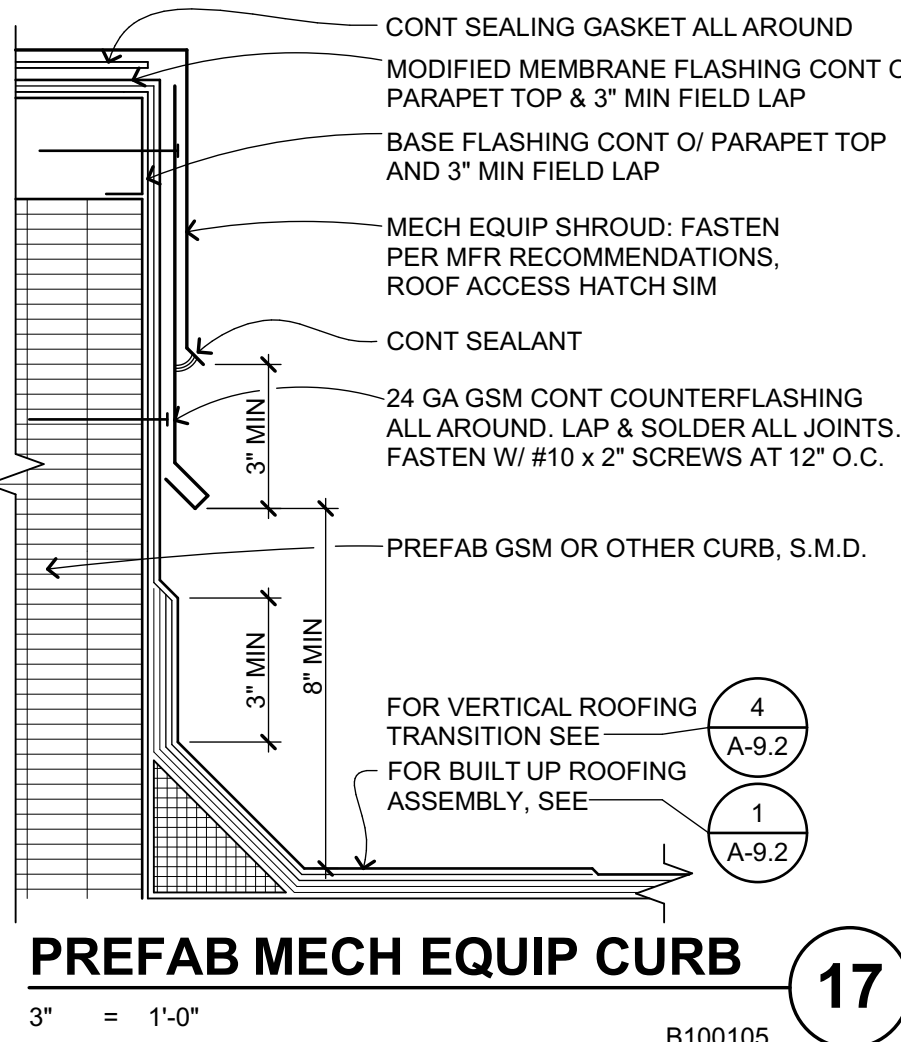
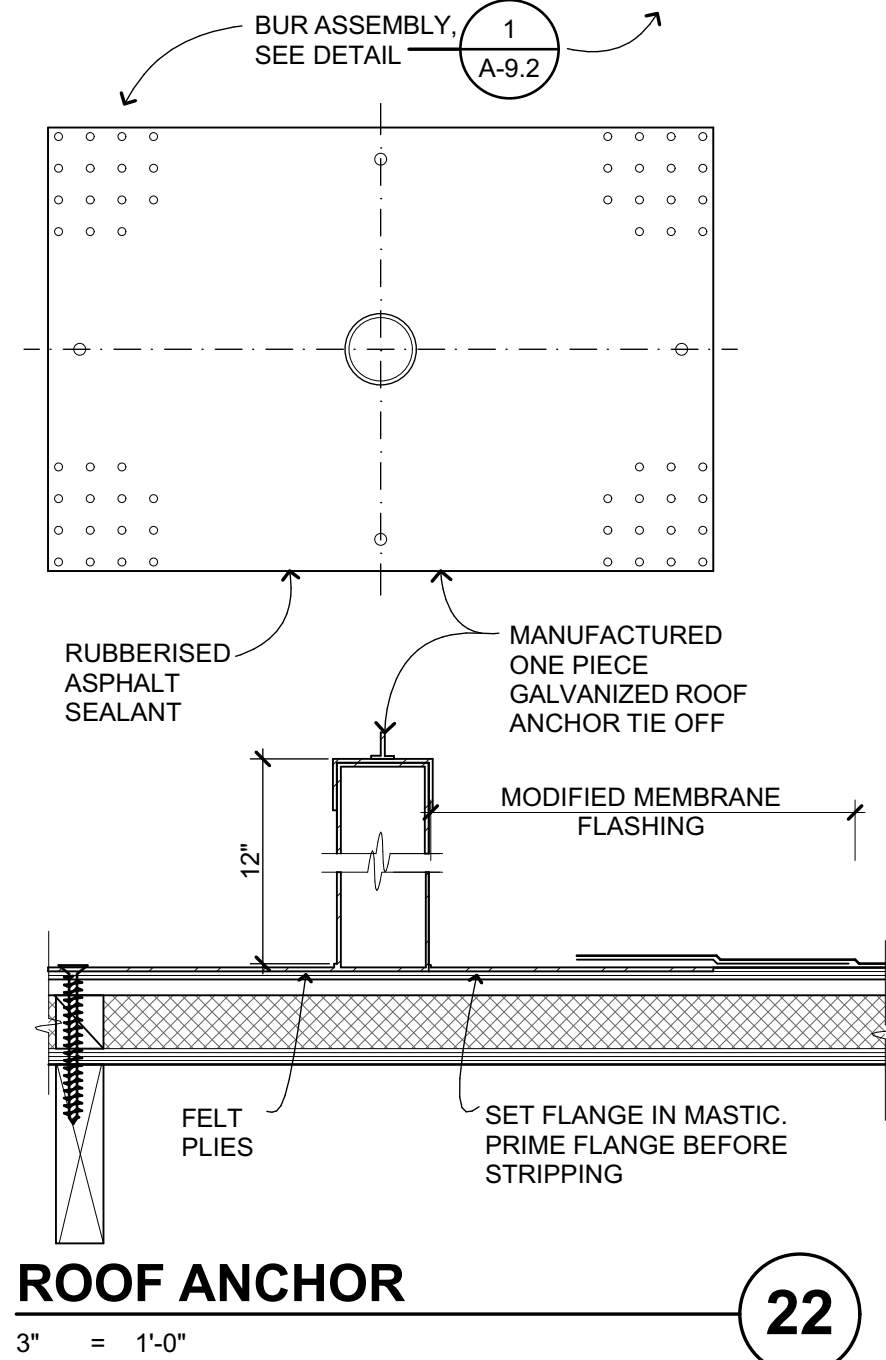
DOOR & WINDOW SCHEDULE

SHEET NUMBER

A-8.1



ANCHORAGE: 3600 LB CAPACITY
AT RIGID INSULATION, PROVIDE FULL DEPTH P.T.D.F. INFILL AND 3/8" DIA LAG BOLT INTO SOLID BLOCKING OR ROOF FRAMING MEMBER BELOW.
WHERE PLATE IS ON PLYWD ROOF SHEATHING, PROVIDE LAG SCREWS



HERITAGE HIGH SCHOOL

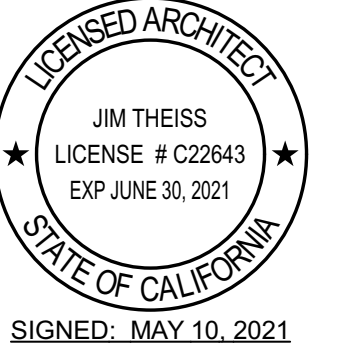
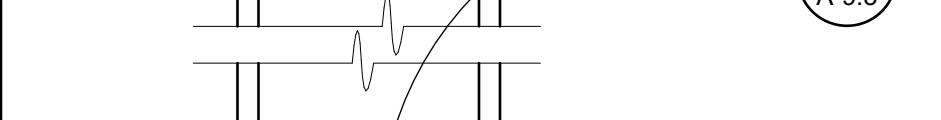
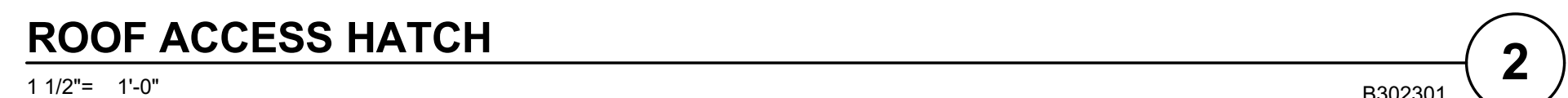
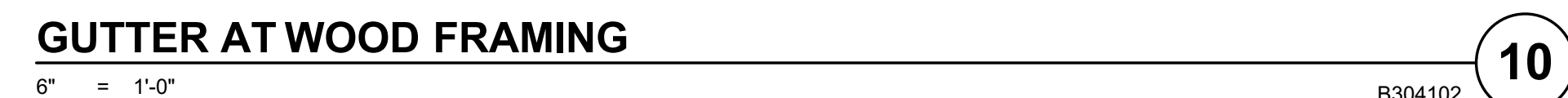
NEW CLASSROOM BUILDINGS
INCREMENT 2 OF 2
101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

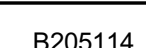
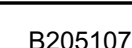
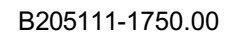
DSA APP NO. 01-119268
ARCH PROJECT NO: 1870.00
DRAWN BY: SL & HE
DRAWING SCALE: AS NOTED
PTN: 61721-77 FILE NO: 7-H4
BID SET
MAY 10, 2021
SHEET TITLE

ROOF DETAILS

SHEET NUMBER
A-9.2



A-9.3



A-9.4

BIMcloud: archserver - BIMcloud Basic for ARCHICAD 22/1870.00 Heritage HS New Classroom Bldgs/5/11/2021:8:49 AM

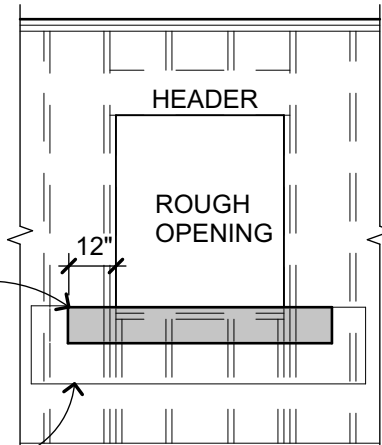
FLEX FLASHING INSTALLED BEFORE BUILDING PAPER, U.O.N.

DETAIL APPLIES TO ALL
FRAMED WALL PENETRATIONS

FLEX FLASH MATERIAL SHALL
BE SELF SEALING, FULLY
ADHERED COMPOSITE FLEX
FLASH, U.O.N.

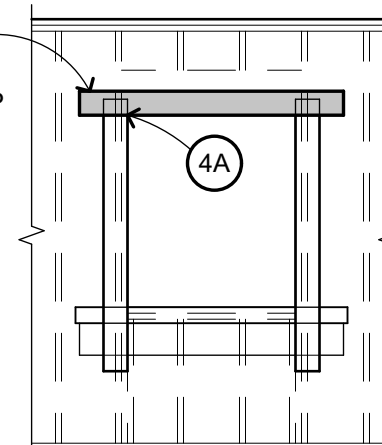
12" WIDE FLEX SILL FLASH:
x LENGTH REQD TO EXTEND
12" BEYOND OPNG AS SHOWN.
ATTACH AT TOP ONLY (SEE
BELOW)

BUILDING PAPER FLAP
BENEATH - DO NOT ATTACH
AT BOTTOM



1 STEP 1 - SILL FLASHING

12" WIDE FLEX FLASH:
WRAP HEAD & EXTEND TO
ADJ STUDS O/ JAMB-WRAP

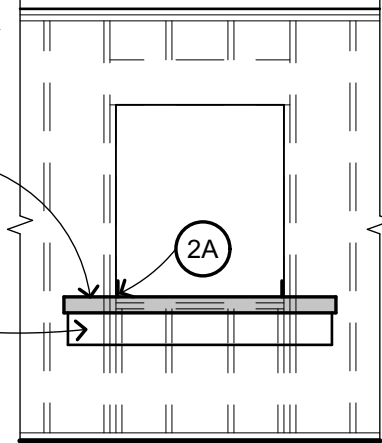


4 STEP 4 - WRAP AT HEAD

4" MIN

4" MIN

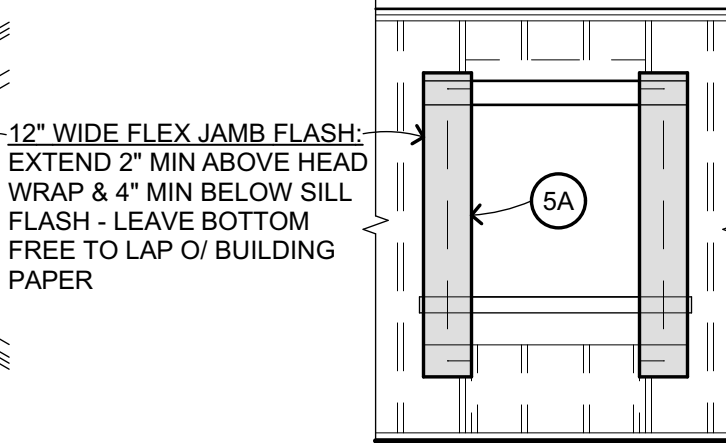
INSTALL PREFORMED CORNER
FLASH AT ALL CORNERS
UNDER FLEX FLASH



2 STEP 2 - WINDOW WRAP AT SILL

2" MIN

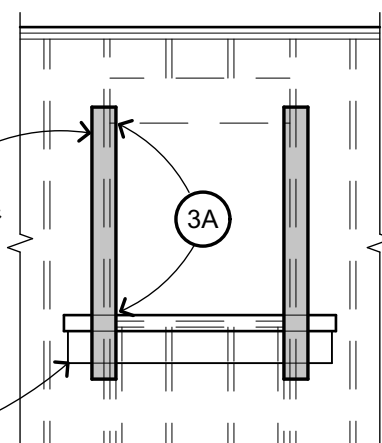
12" WIDE FLEX JAMB FLASH:
EXTEND 2" MIN ABOVE HEAD
WRAP & 4" MIN BELOW SILL
FLASH - LEAVE BOTTOM
FREE TO LAP O/ BUILDING
PAPER



5 STEP 5 - JAMB FLASHING

4" MIN

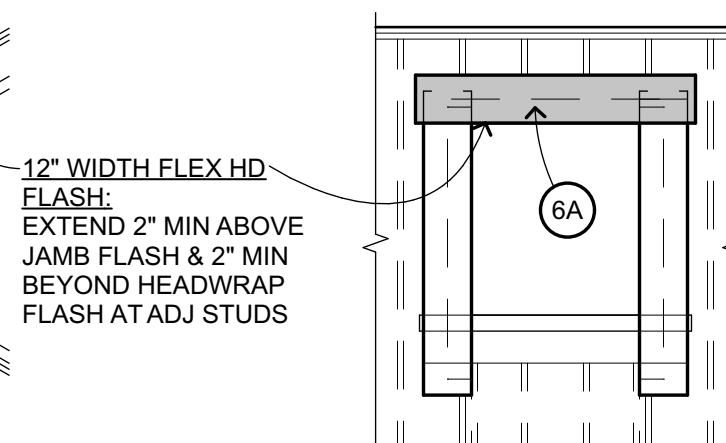
12" WIDE FLEX FLASH: WRAP
JAMB, EXTEND 4" MIN ABOVE
HEAD, EXTEND O/ SILL WRAP &
SILL FLASH & 4" MIN BEYOND -
LEAVE BOTTOM FREE TO LAP
O/ BUILDING PAPER



3 STEP 3 - WRAP AT JAMB

2" MIN

12" WIDE FLEX HD
FLASH:
EXTEND 2" MIN ABOVE
JAMB FLASH & 2" MIN
BEYOND HEADWRAP
FLASH AT ADJ STUDS



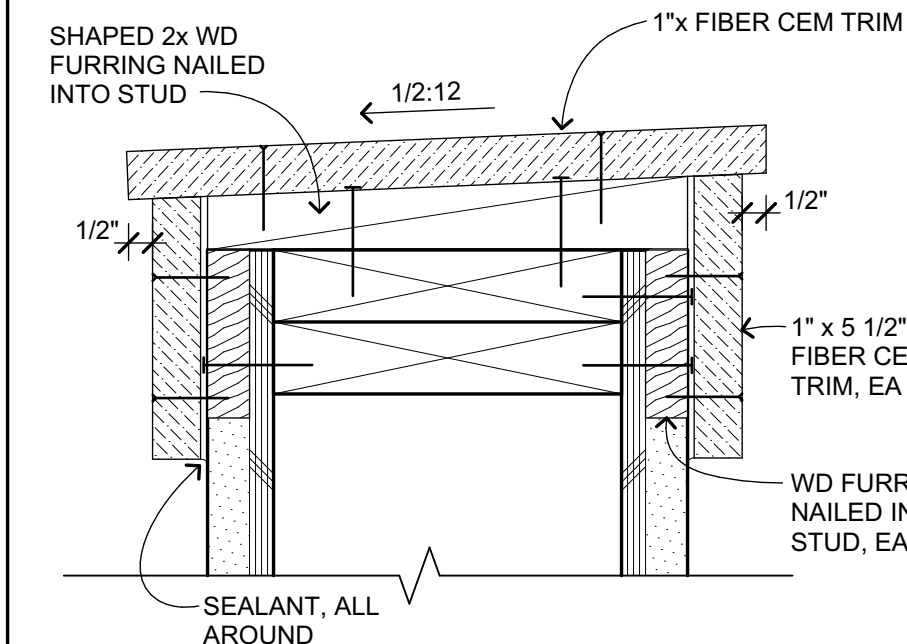
6 STEP 6 - HEAD FLASHING

TYP FLASHING/PAPERING

1/4" = 1'-0"

B201404.2

10

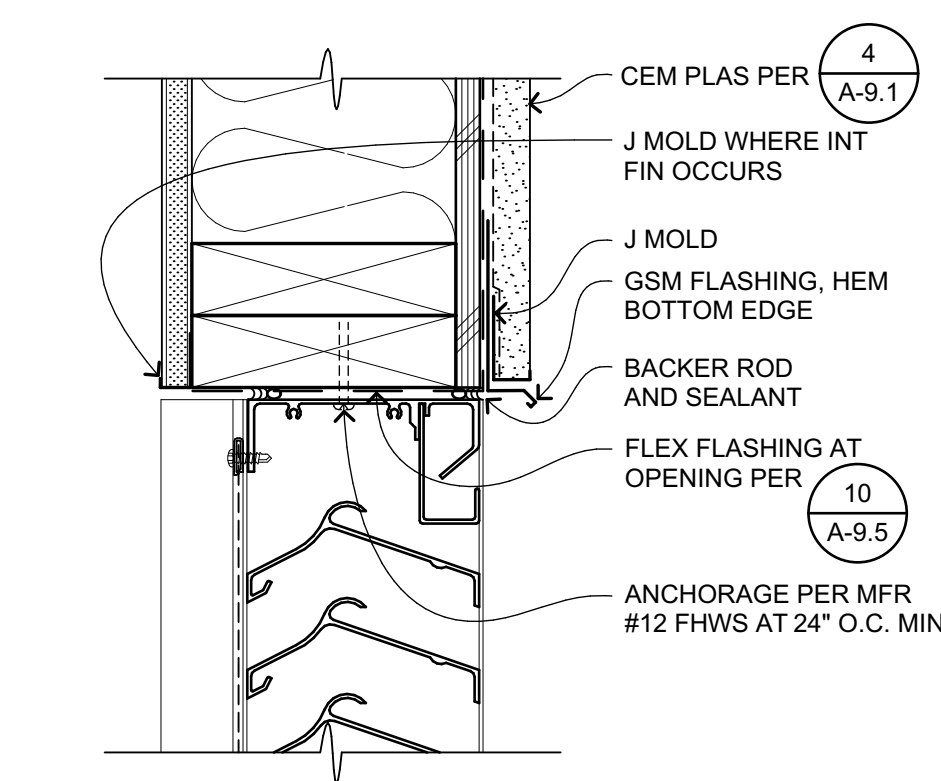


FIBER CEMENT TRIM CAP

3" = 1'-0"

B201303

15

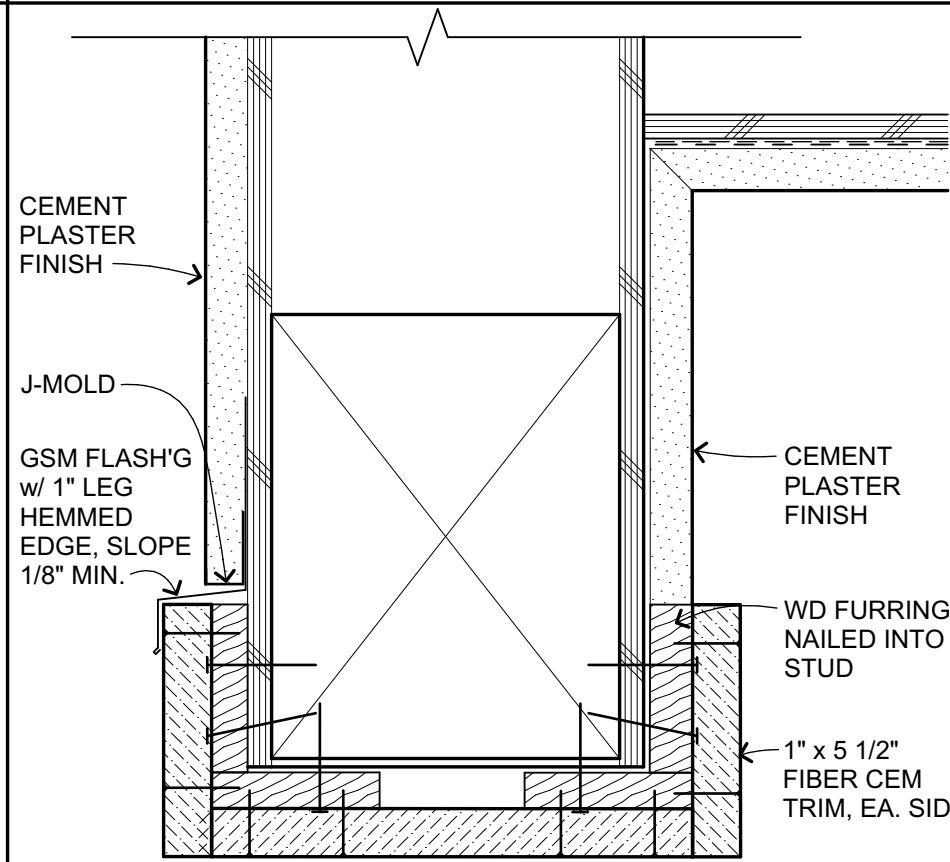


LOUVER HEAD

3" = 1'-0"

B204101

11



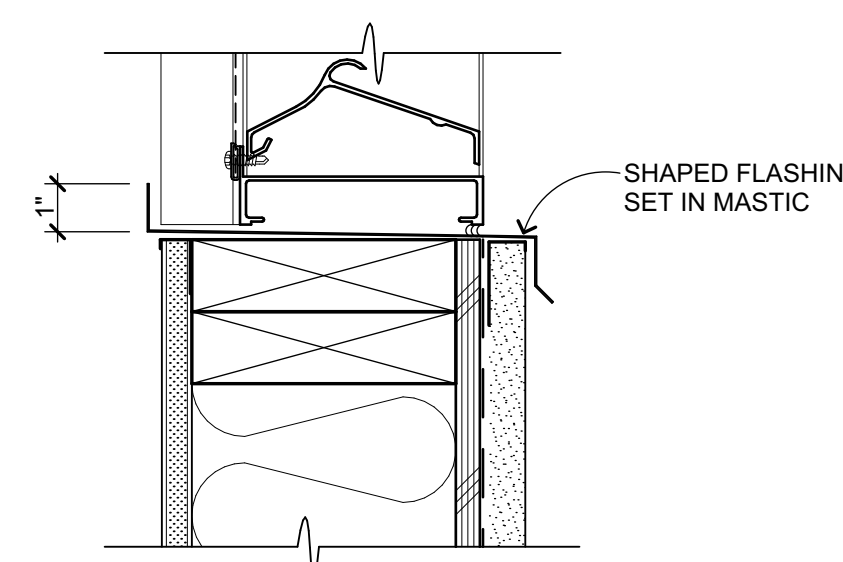
FIBER CEMENT TRIM

3" = 1'-0"

B201301

16

FOR INFORMATION SHOWN BUT NOT NOTED SEE

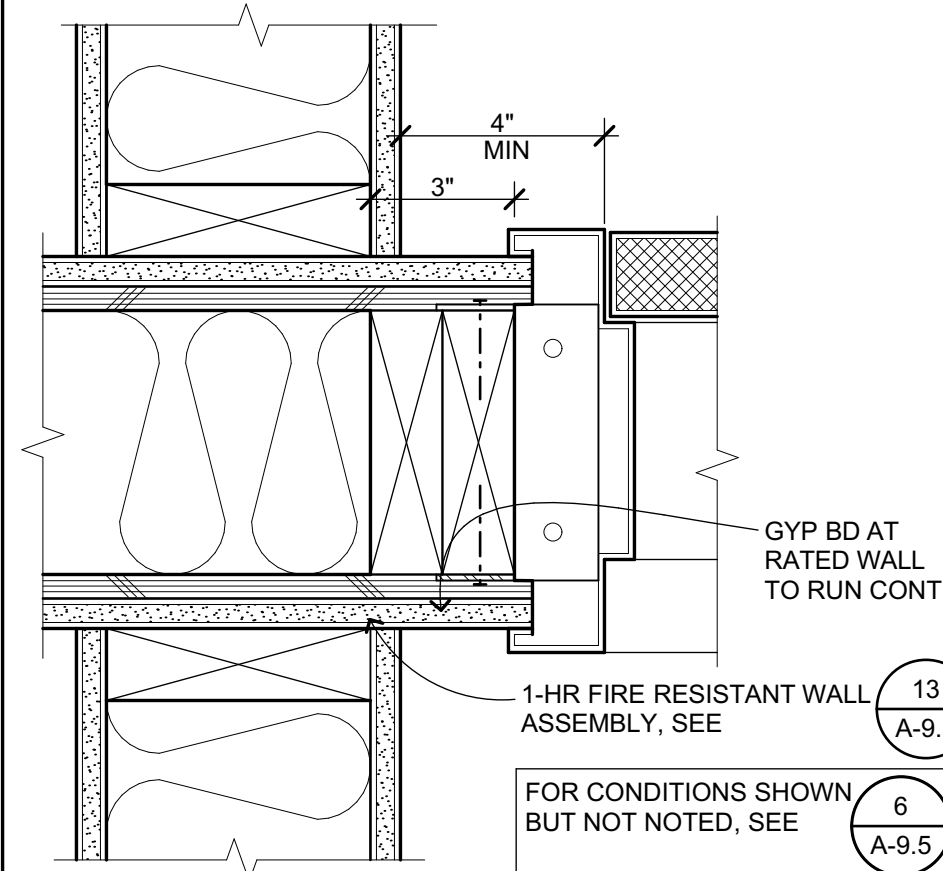


THRU-WALL LOUVER SILL

3" = 1'-0"

B204102

12

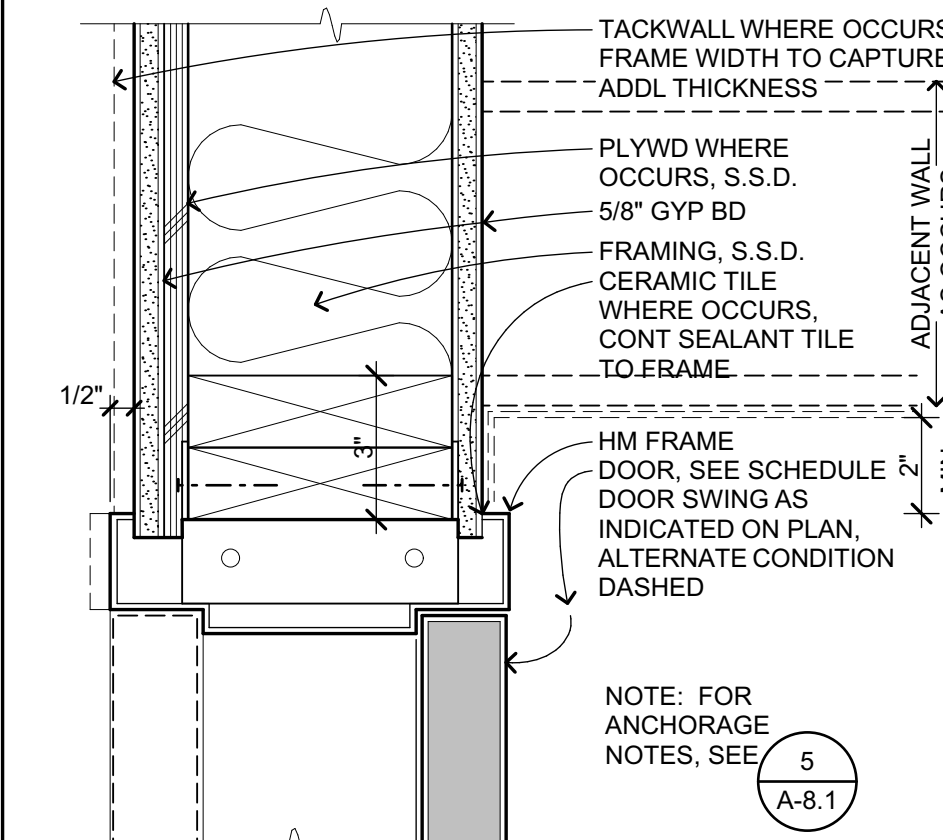


INT HM DOOR JAMB ADJACENCIES

3" = 1'-0"

C102502A

5

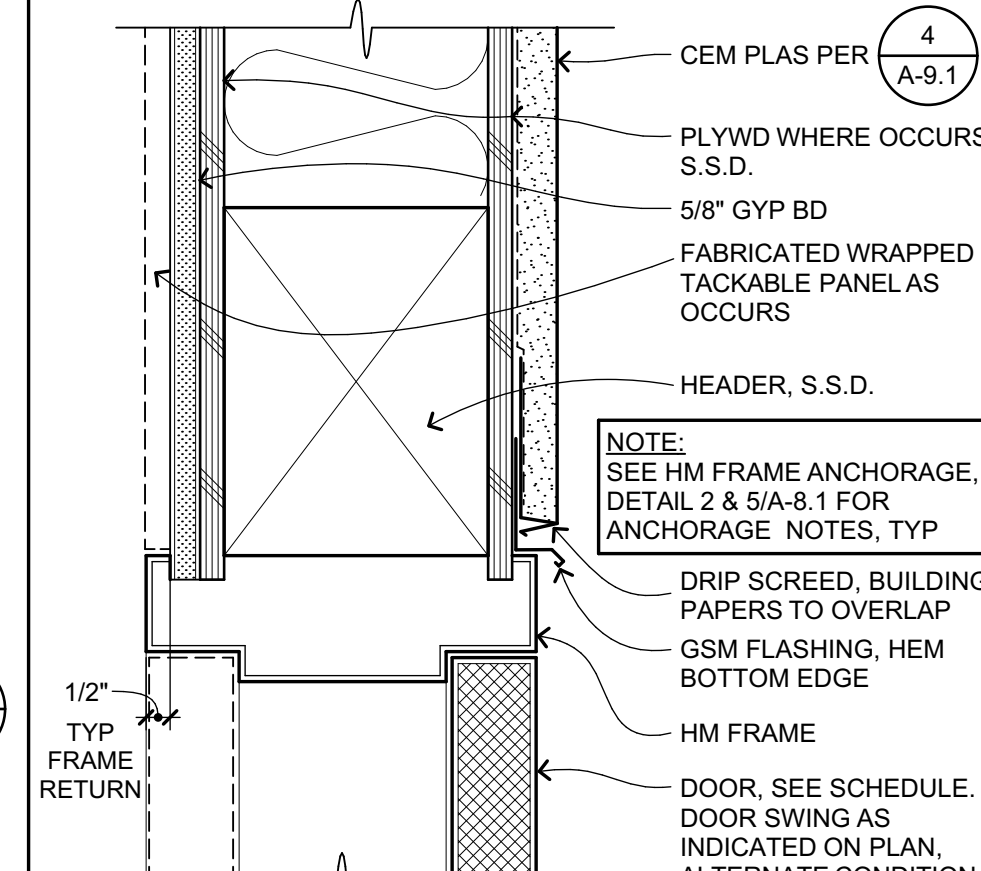


INT HM HEAD/JAMB

3" = 1'-0"

C102501

6

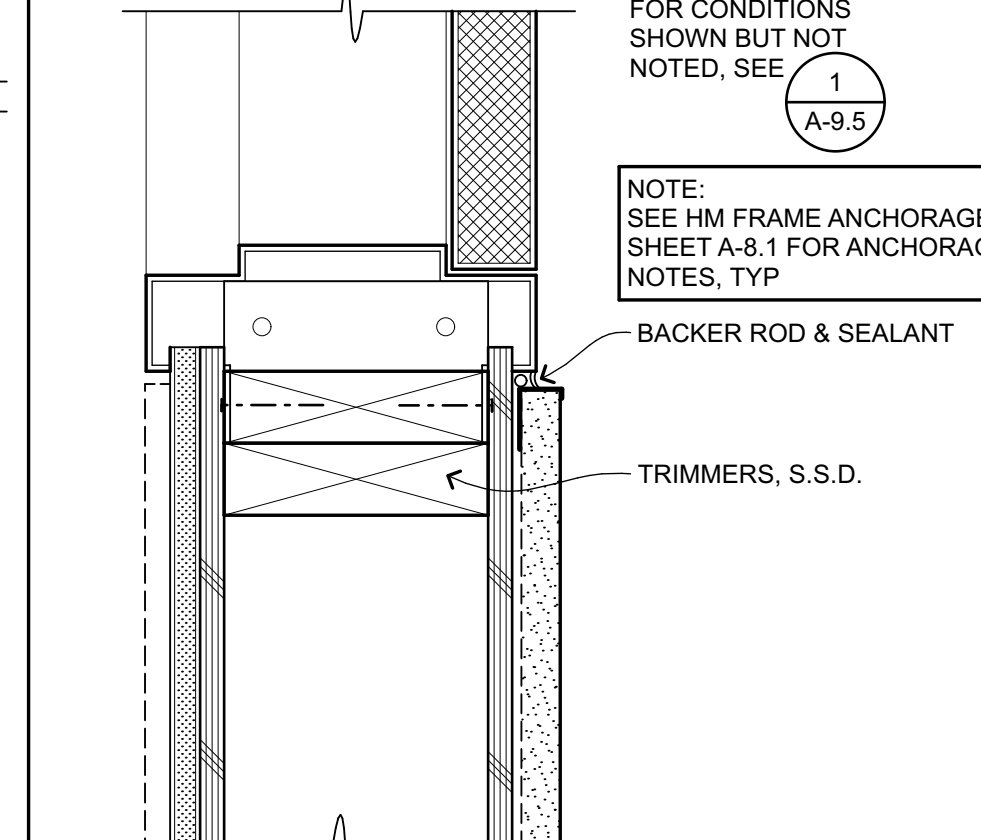


EXT HM DR HEAD

3" = 1'-0"

B203101_A

1

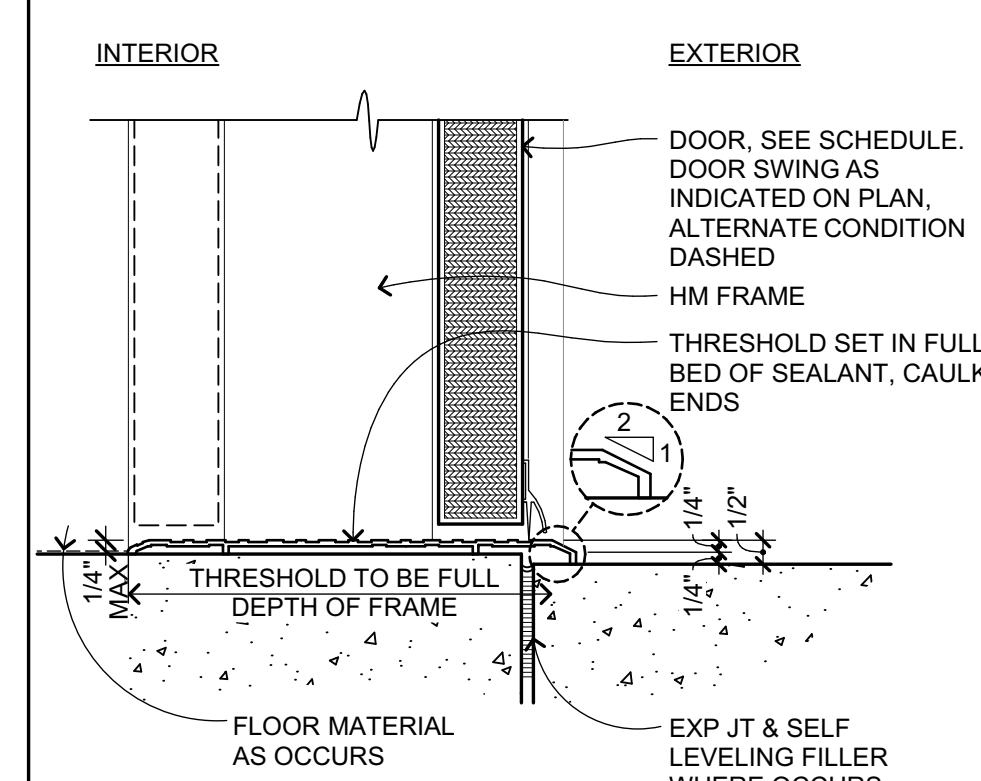


EXT HM JAMB

3" = 1'-0"

B203102_A

2

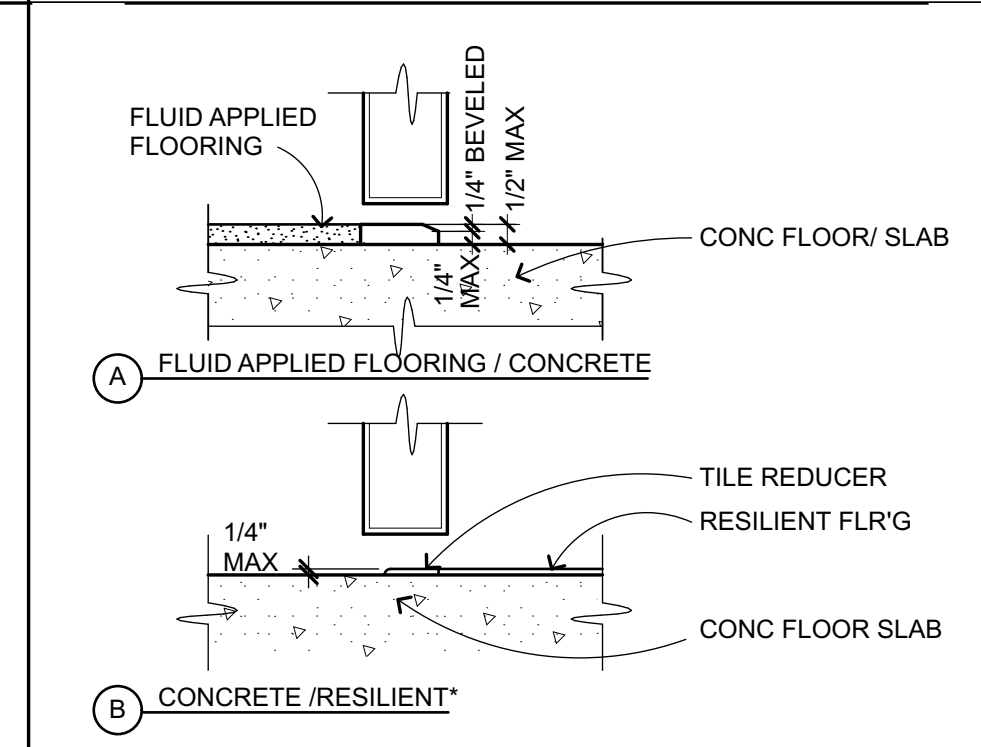


THRESHOLD

3" = 1'-0"

B203103

3



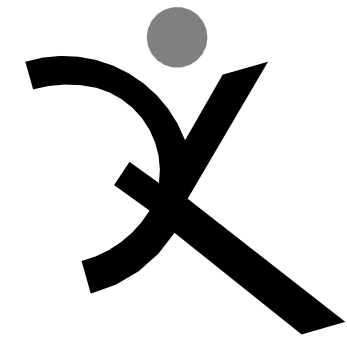
FLOOR TRANSITIONS/SILLS

3" = 1'-0"

C102601

4

NOTES:
1. RESILIENT FLOORING - TILE OR SHEET MATERIAL AS NOTED
OR SPECIFIED ELSEWHERE
2. WHERE TRANSITION STRIP > 1/4" HT SHALL BE BEVELED 1:2
MAX OR EQUIVALENT THERETO.
3. DOOR AS OCCURS, TYP.



QUATTROCCHI KWOK
ARCHITECTS
Main:
636 Fifth Street, Santa Rosa, CA 95404
East Bay:
55 Harrison Street, Suite 525,
Oakland, CA 94607
(707) 576-0829



HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119268

ARCH PROJECT NO: 1870.00
DRAWN BY: SL & HE
DRAWING SCALE: AS NOTED
PTN: 61721-77 FILE NO: 7-H4

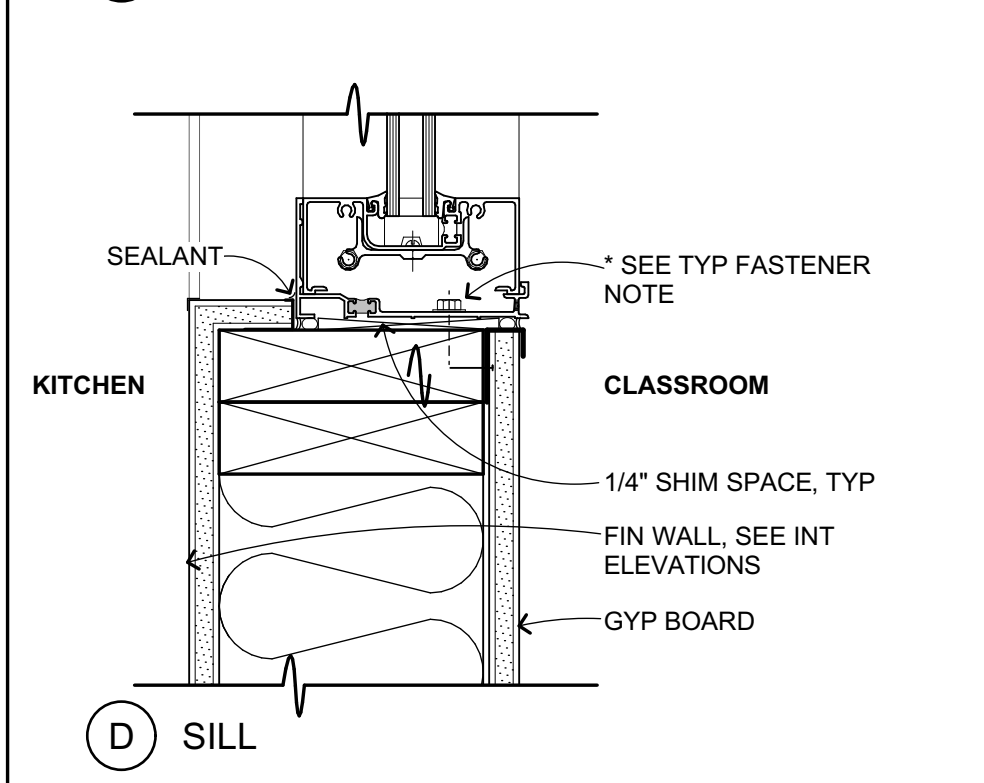
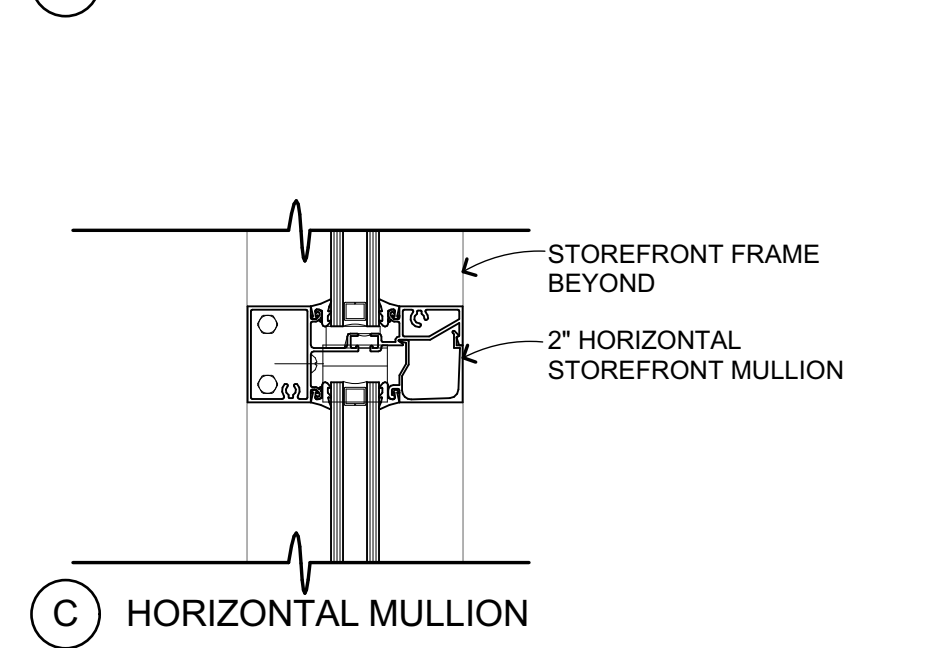
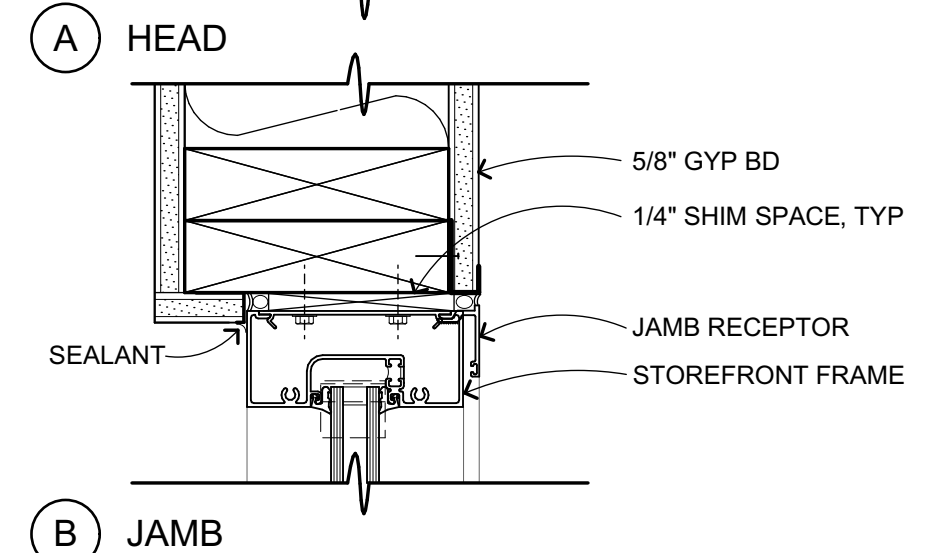
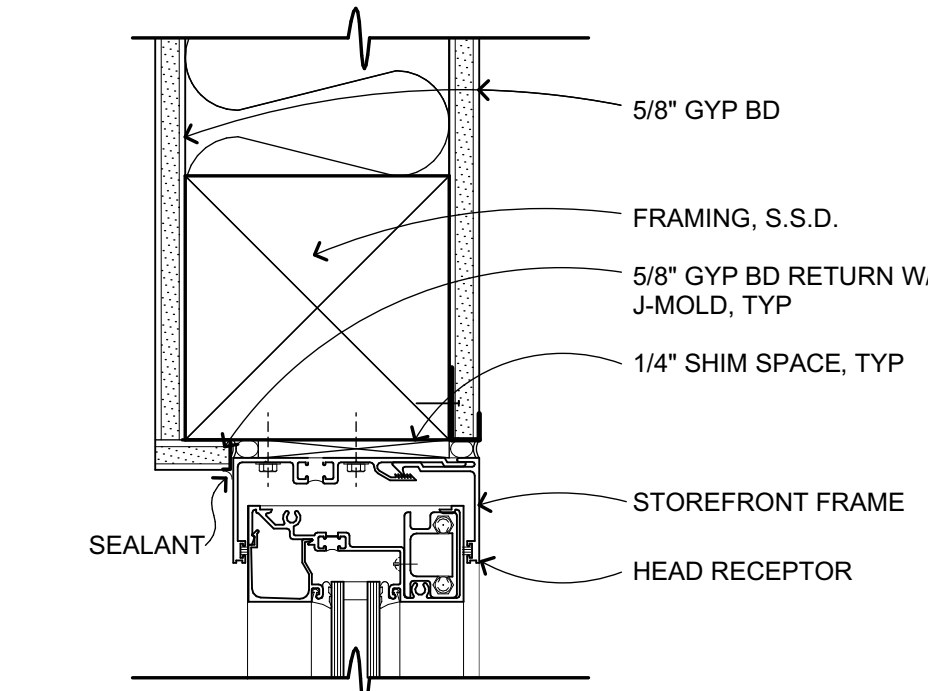
BID SET
MAY 10, 2021
SHEET TITLE

OPENING DETAILS

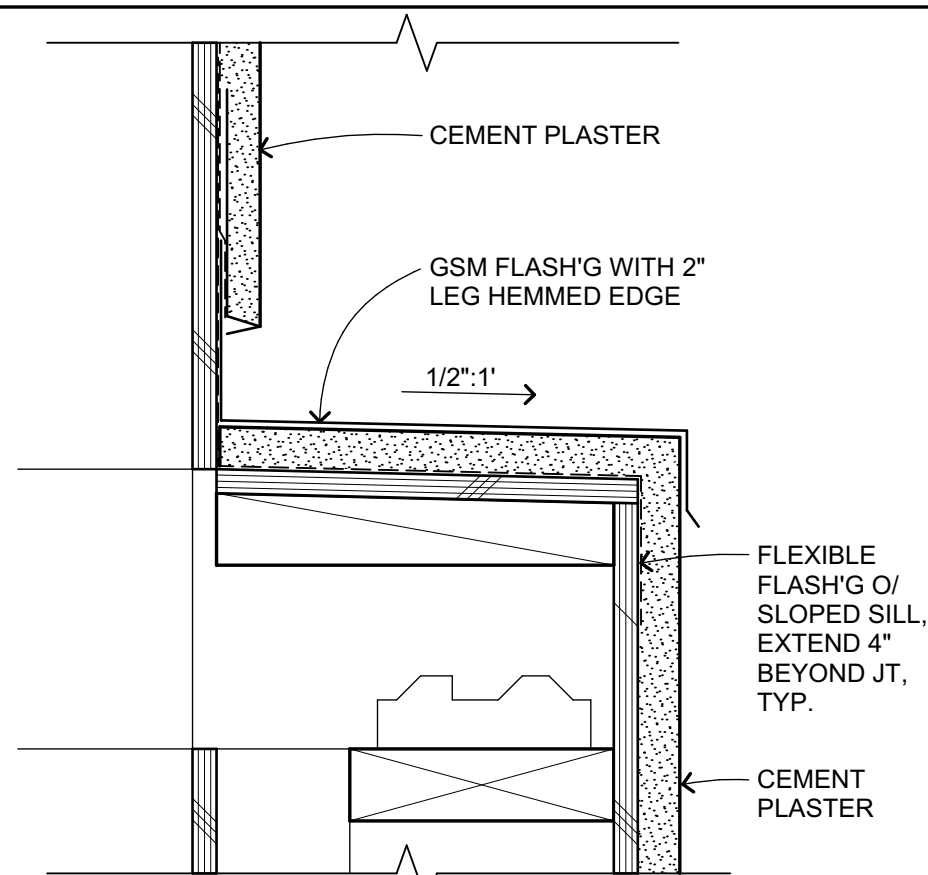
SHEET NUMBER

A-9.5

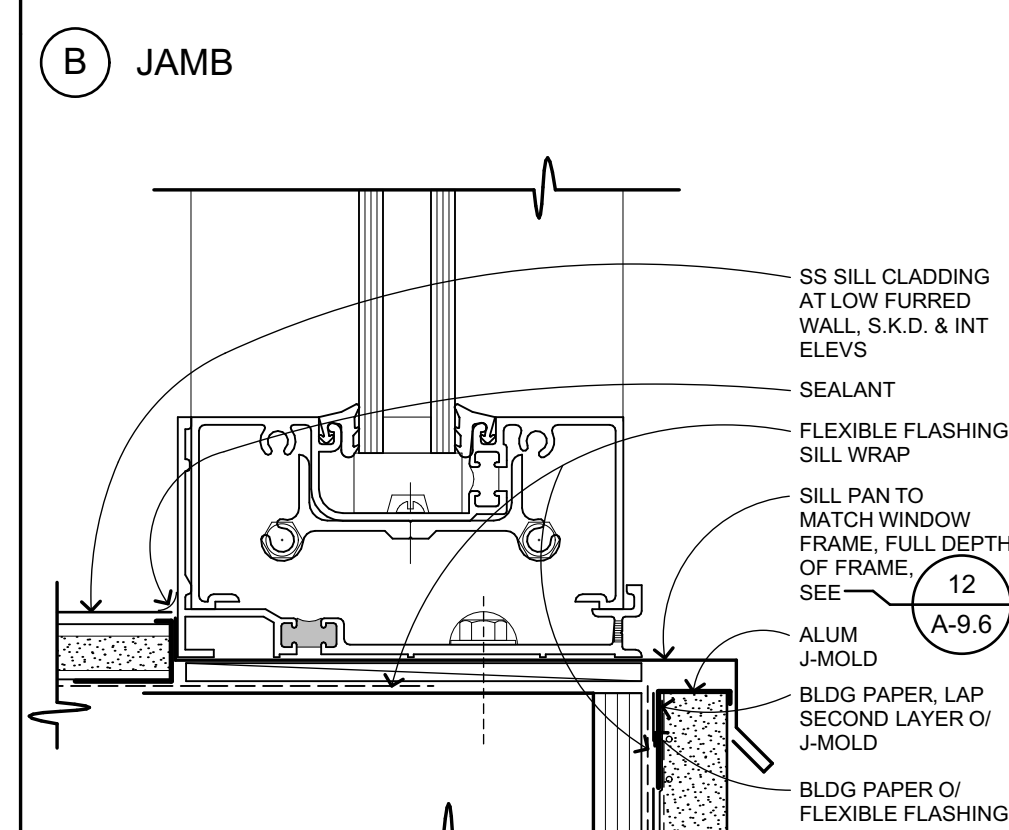
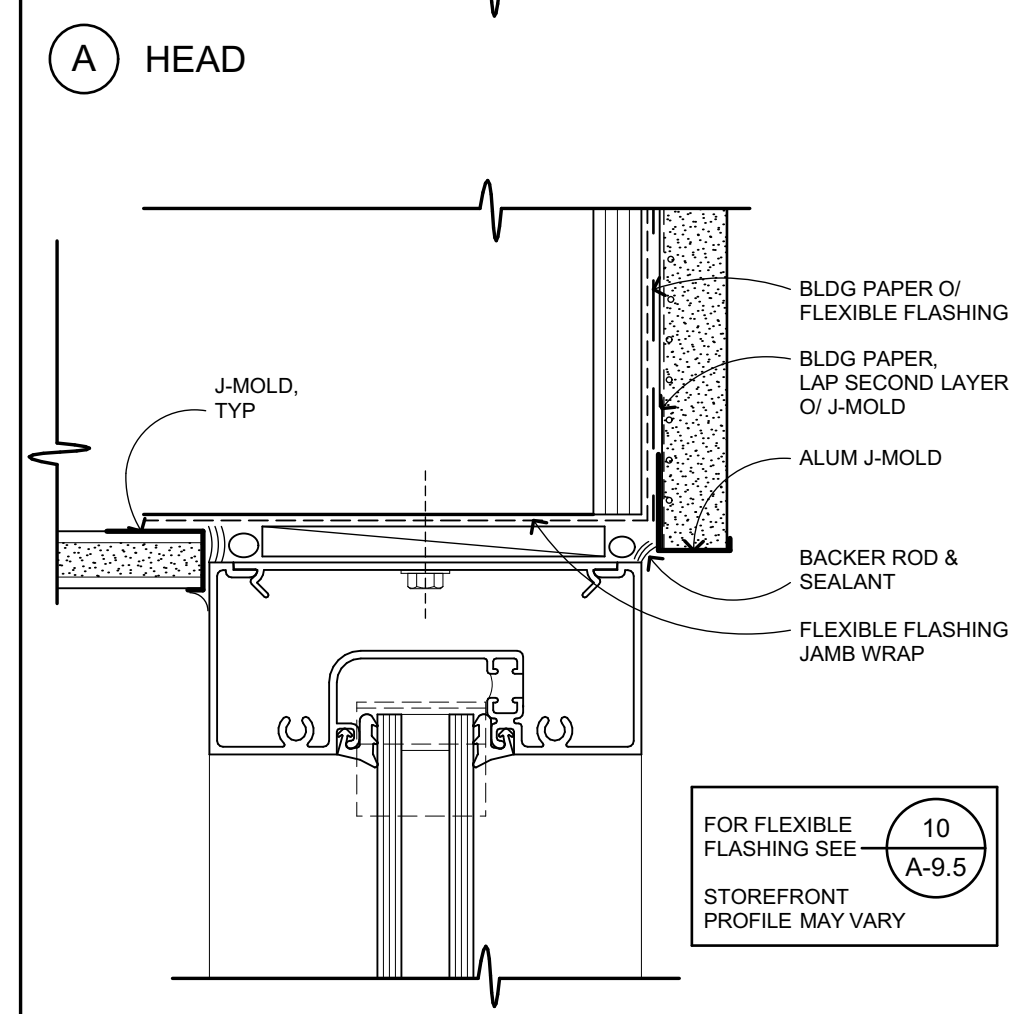
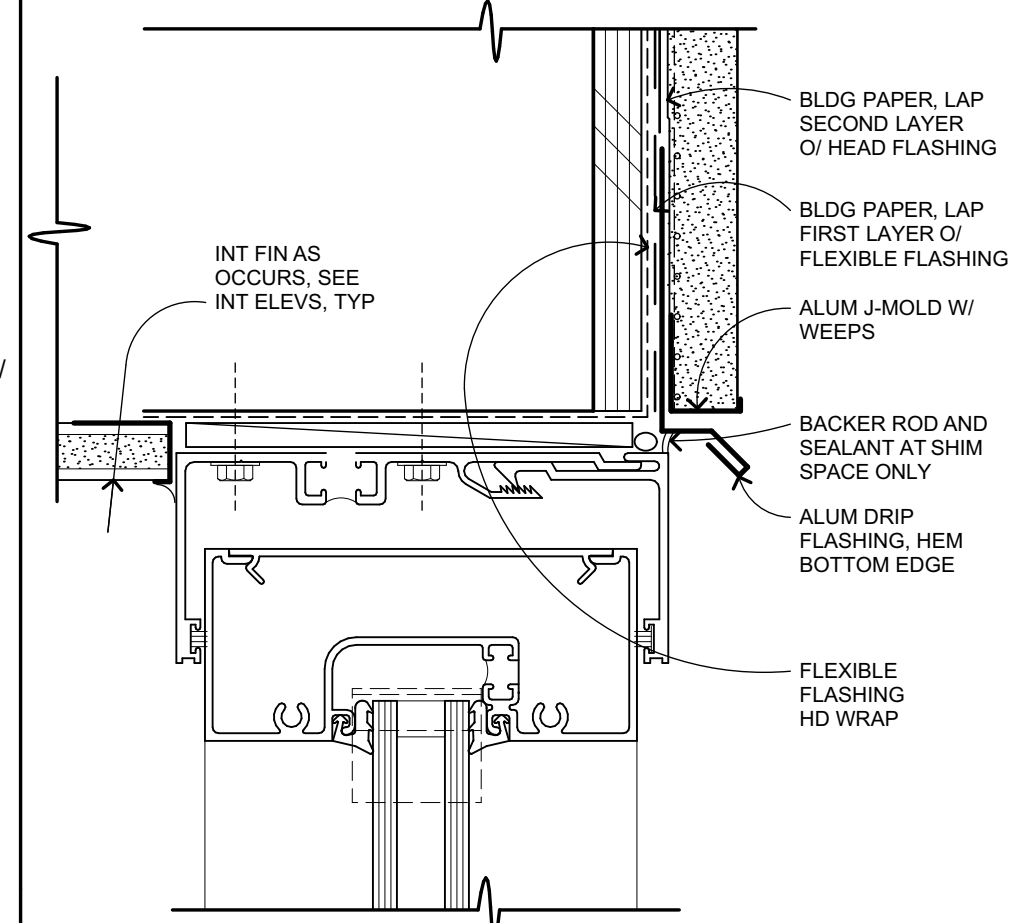
BIMcloud: archserver - BIMcloud Basic for ARCHICAD 22/1870.00 Heritage HS New Classroom Bldgs/5/11/2021:8:49 AM



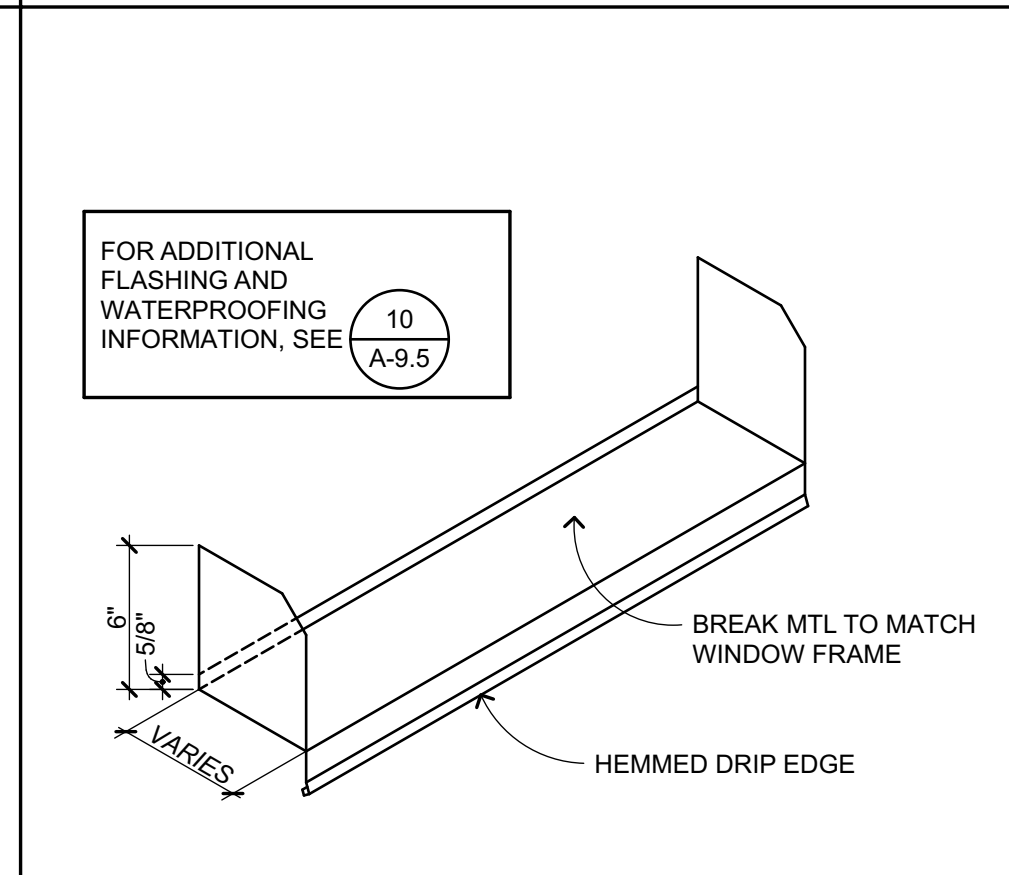
ALUM STOREFRONT
3" = 1'-0" B202101_A **15**



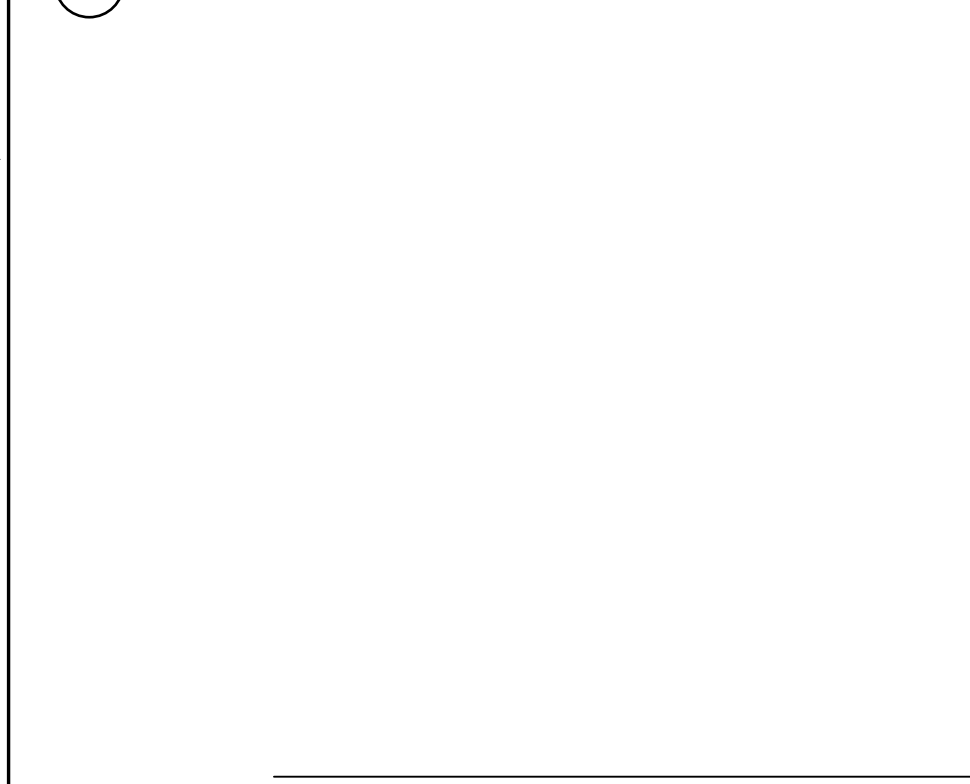
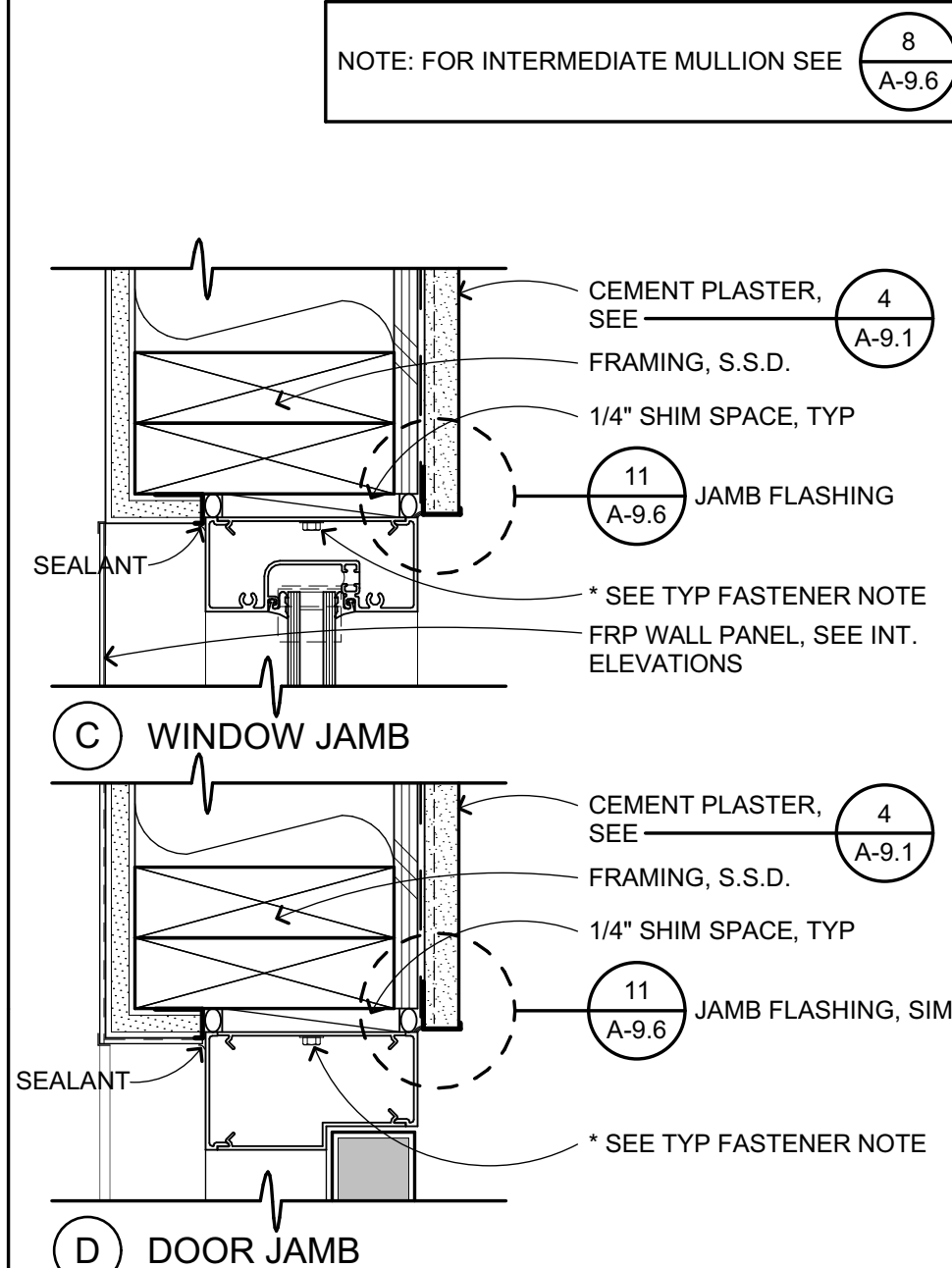
REVEAL AT PILASTER
3" = 1'-0" B201104 **16**



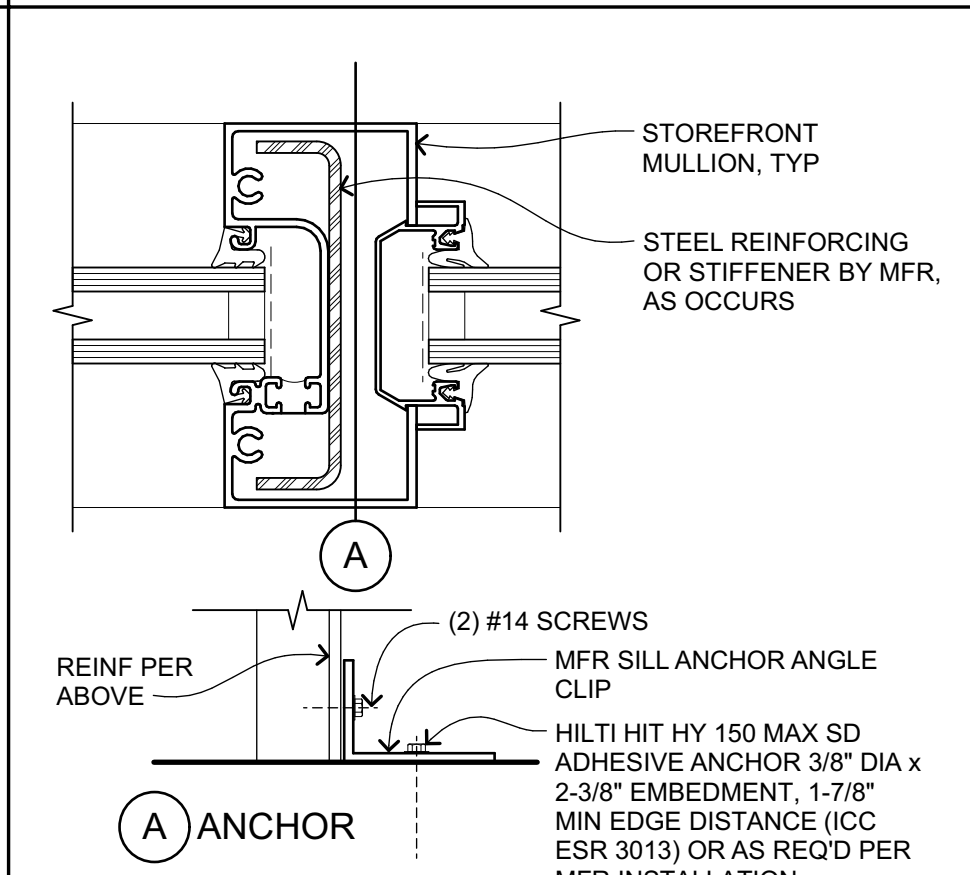
EXT STOREFRONT FLASHING ENLARGED
6" = 1'-0" B202102_A-1750.00 **11**



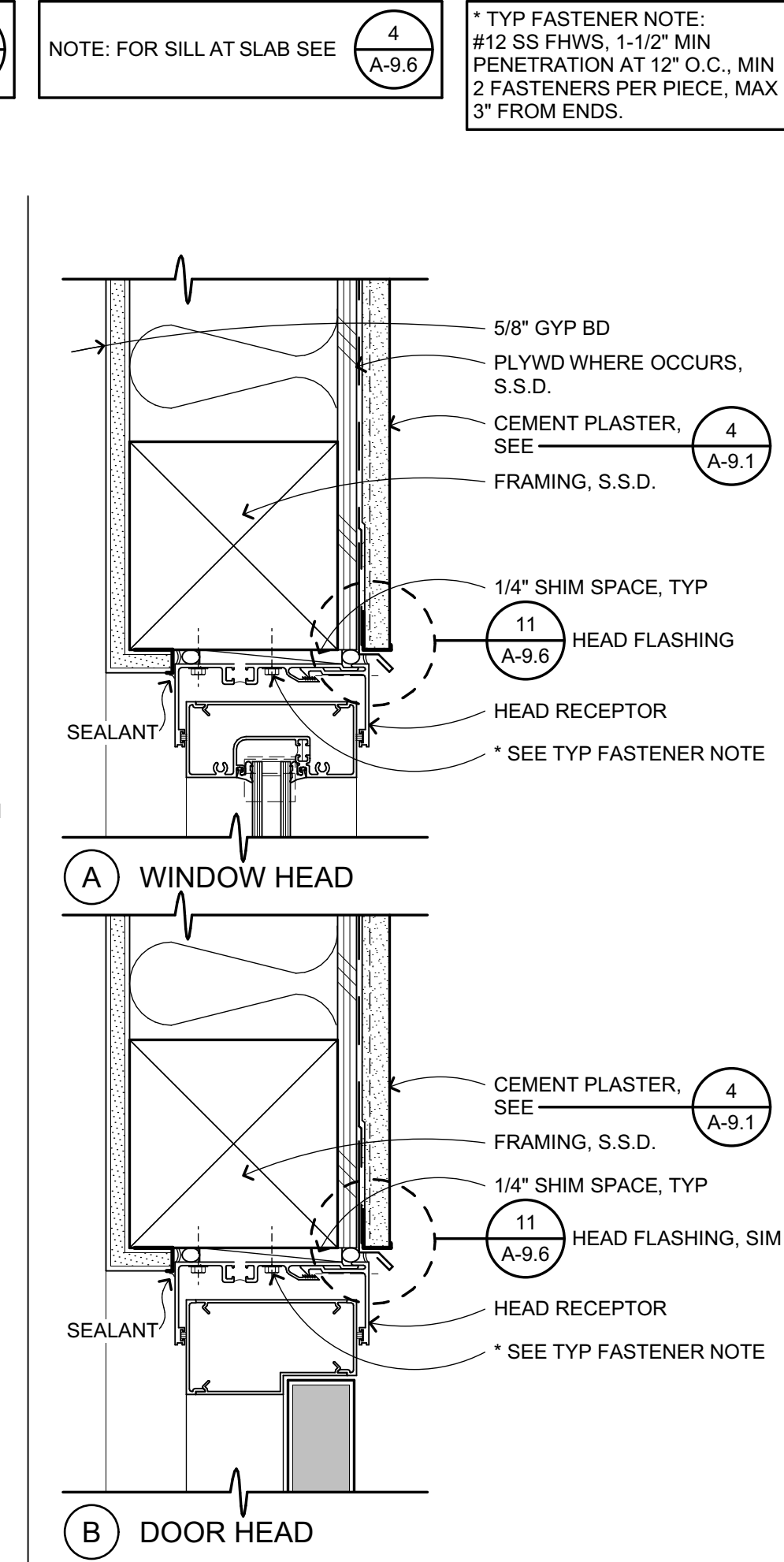
SILL PAN
1 1/2" = 1'-0" B201105 **12**



EXTERIOR STOREFRONT ATTACHMENT
3" = 1'-0" B202101_A. 1600.00-A-1750.00 **3**



STOREFRONT VERT MULLION
6" = 1'-0" B202103 **8**



STOREFRONT SILL AT 6\" CURB
3" = 1'-0" B202103-1268 **4**

QUATTROCCHI KWOK ARCHITECTS
Main:
636 Fifth Street, Santa Rosa, CA 95404
East Bay:
55 Harrison Street, Suite 525,
Oakland, CA 94607
(707) 576-0829

LICENSED ARCHITECT
JIM THEISS
LICENSE # C22643
EXP JUNE 30, 2021
STATE OF CALIFORNIA
SIGNED: MAY 10, 2021

HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS
INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119268

ARCH PROJECT NO: 1870.00

DRAWN BY: SL & HE

DRAWING SCALE: AS NOTED

PTN: 61721-77 FILE NO: 7-H4

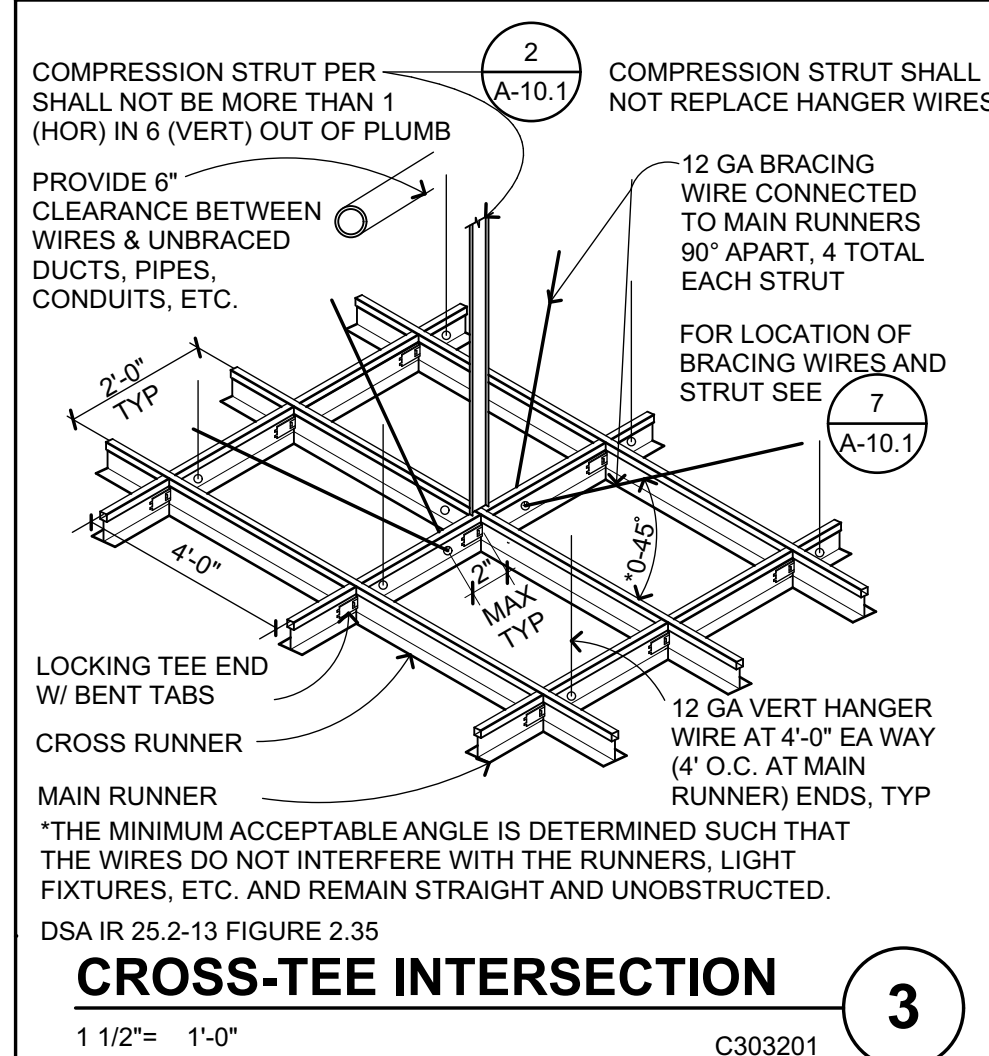
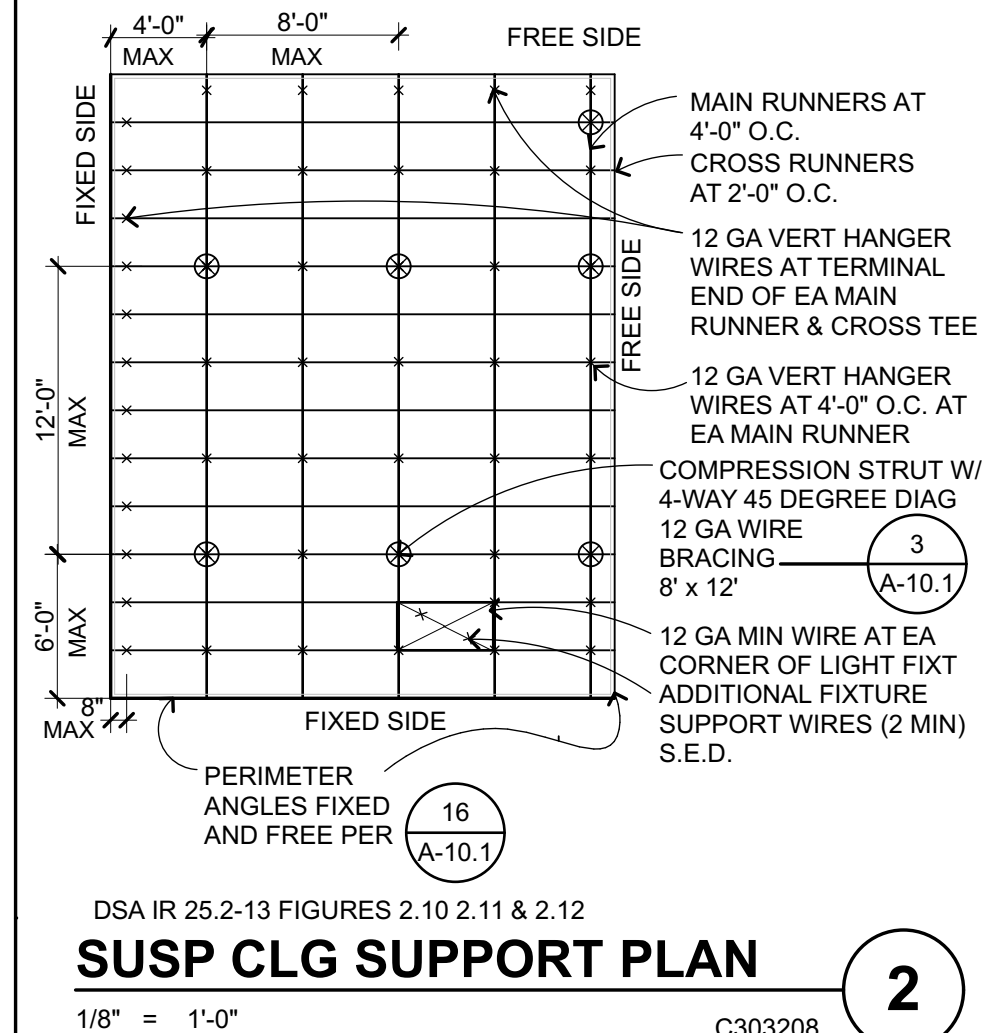
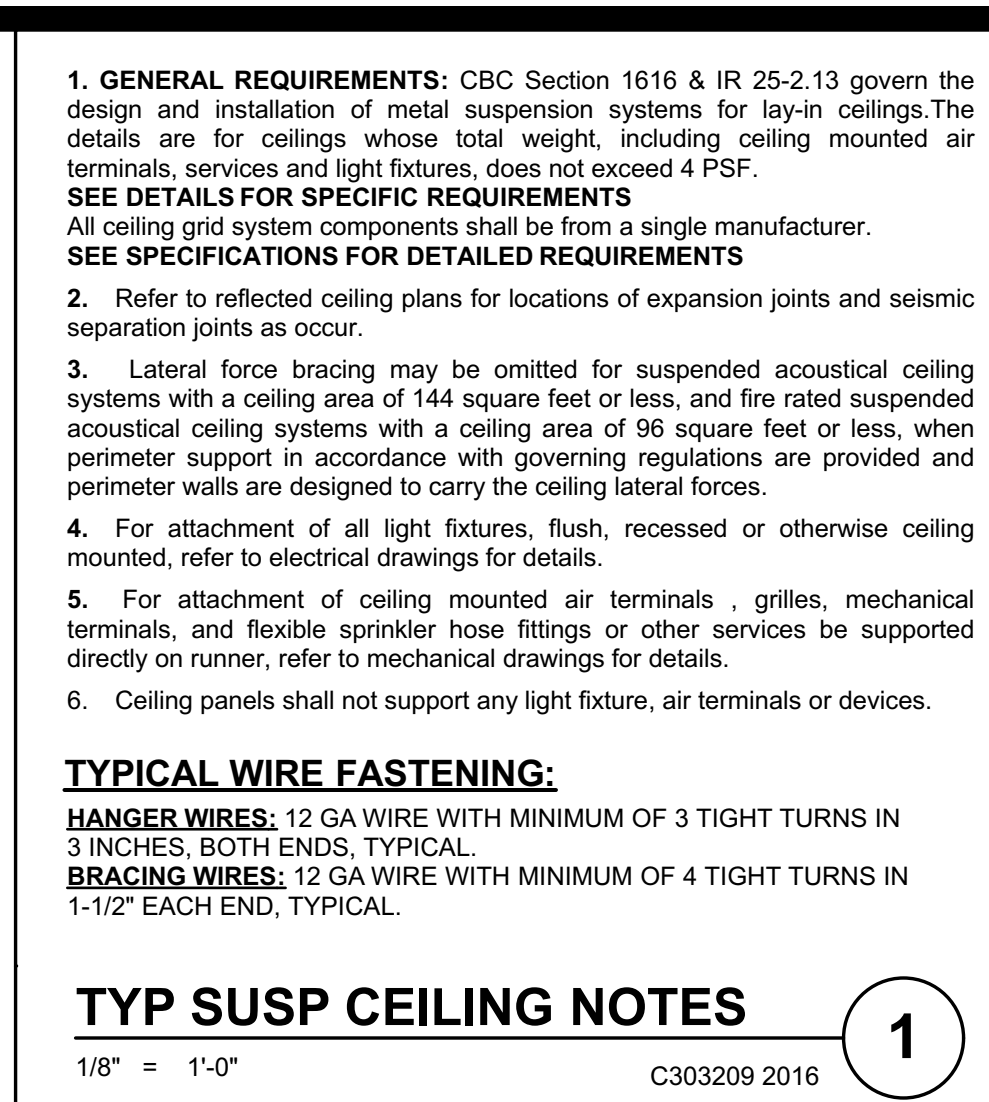
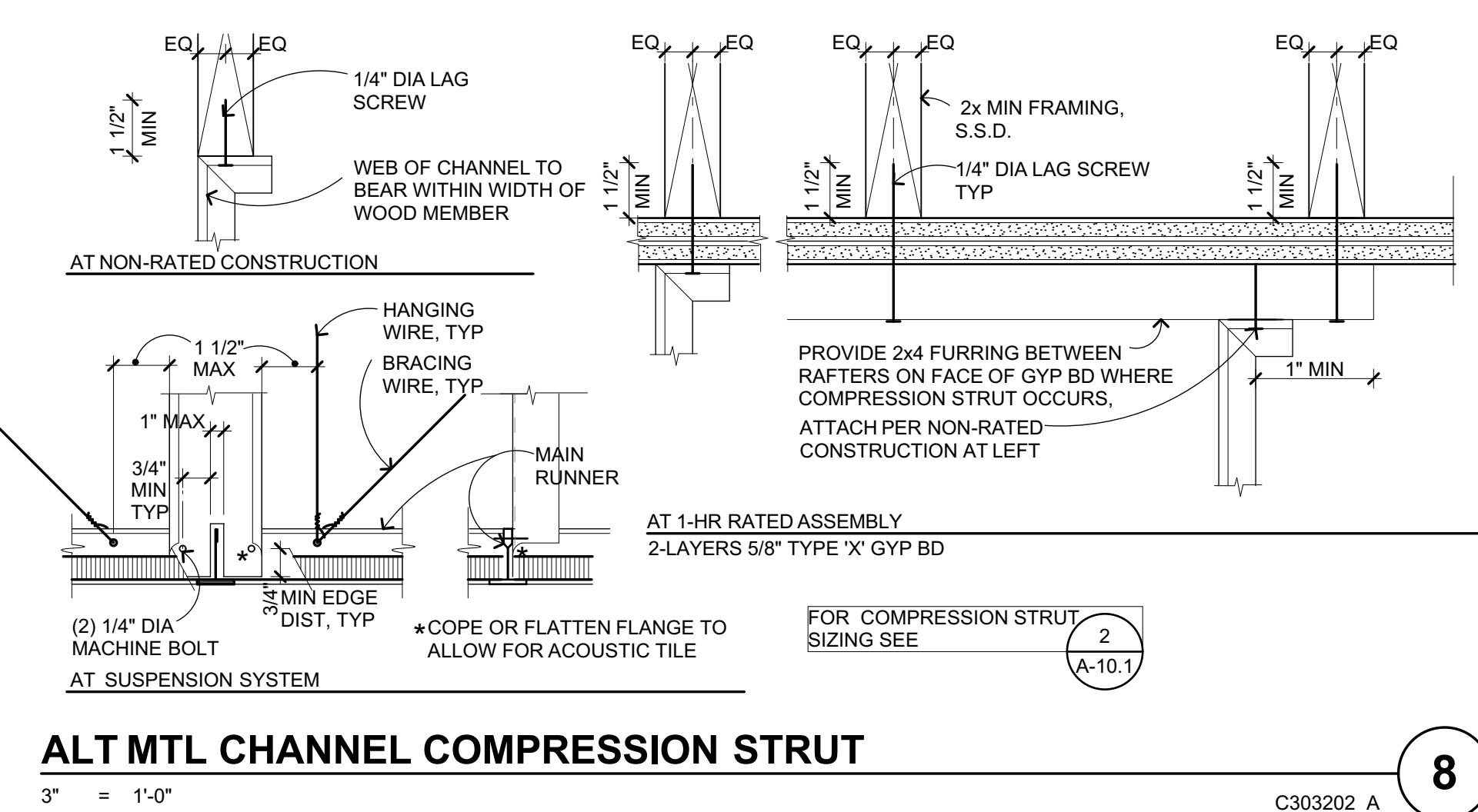
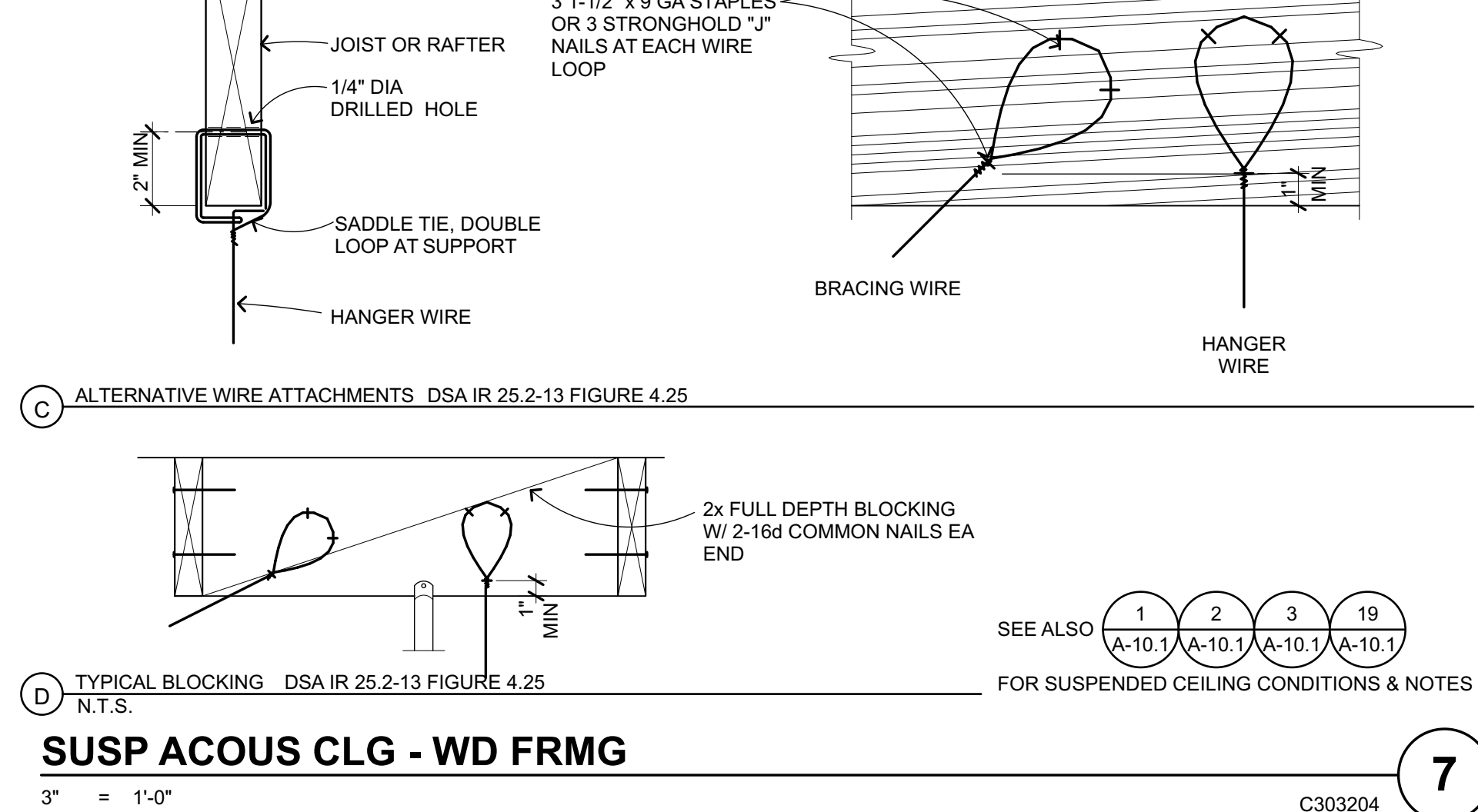
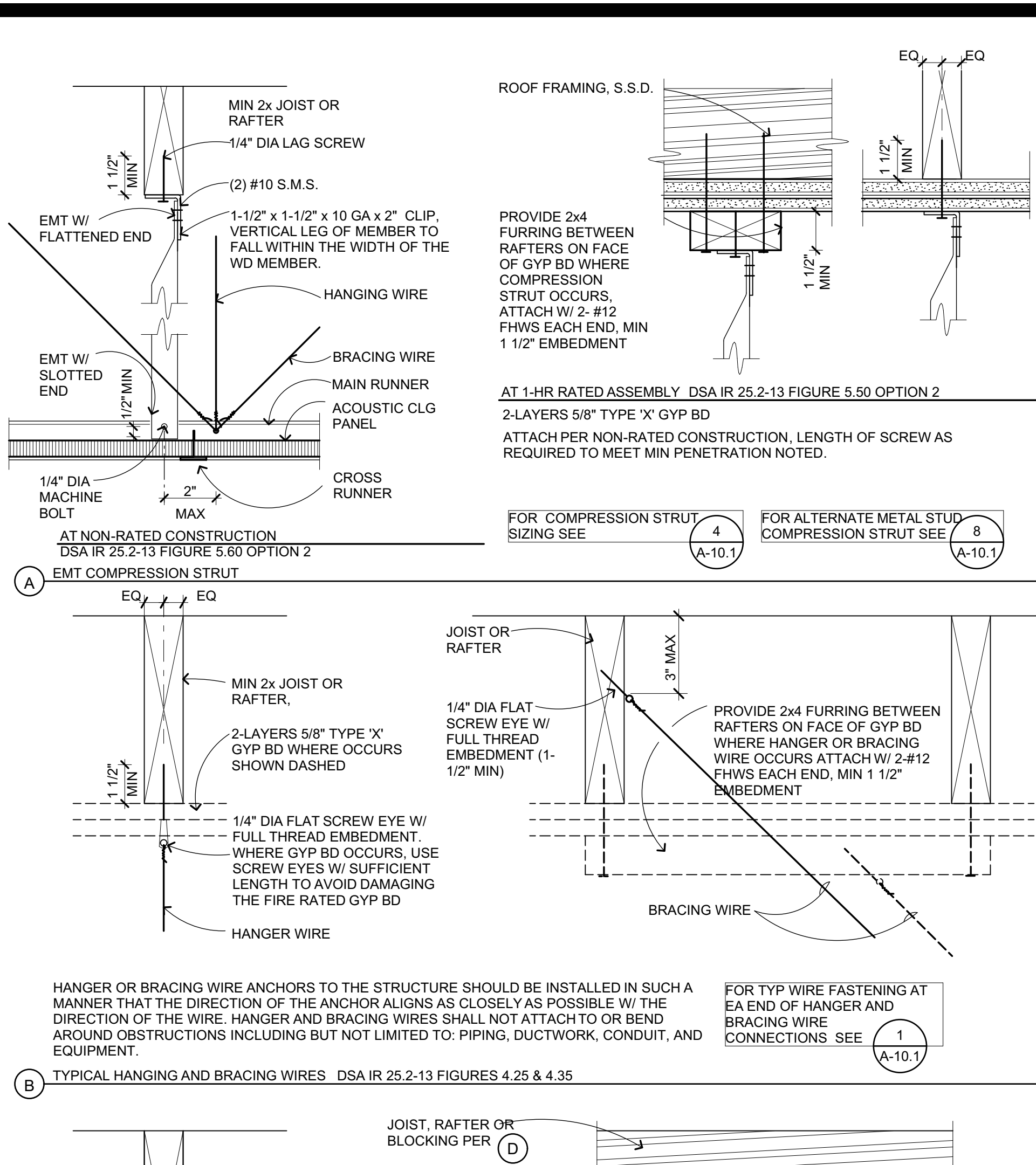
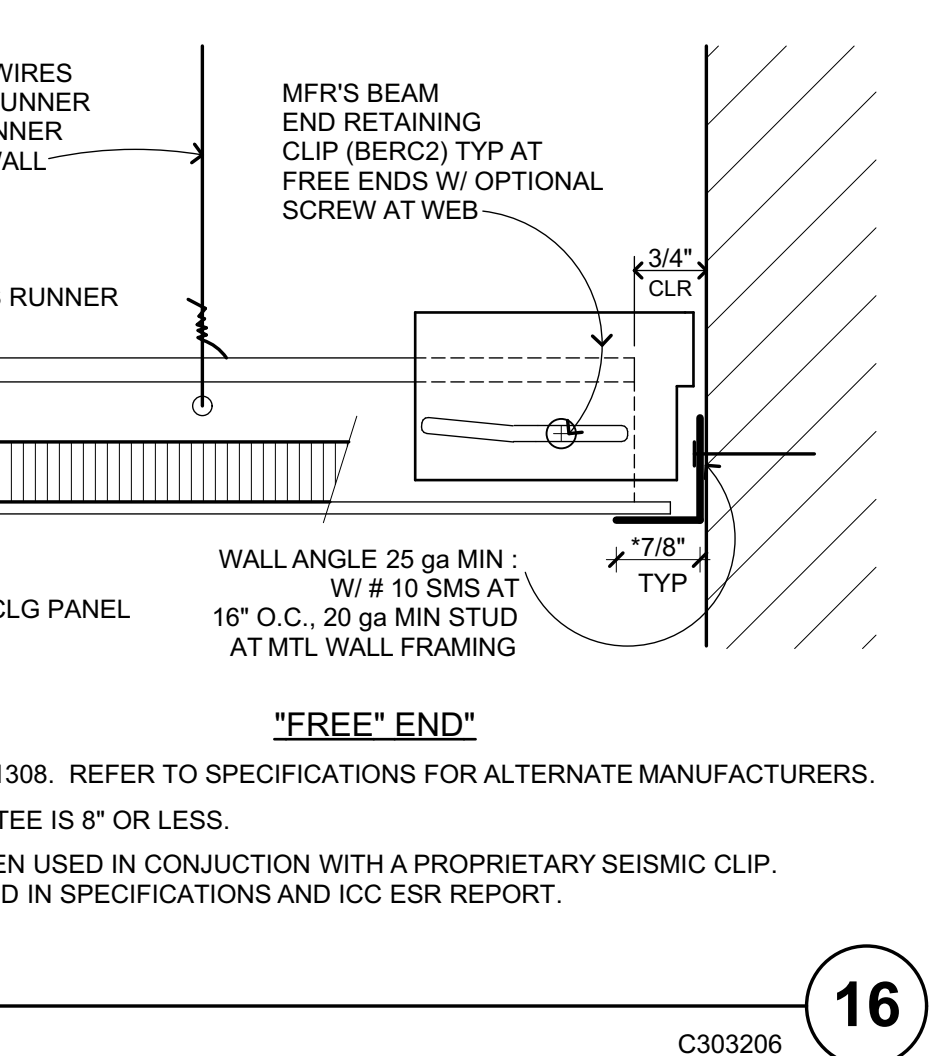
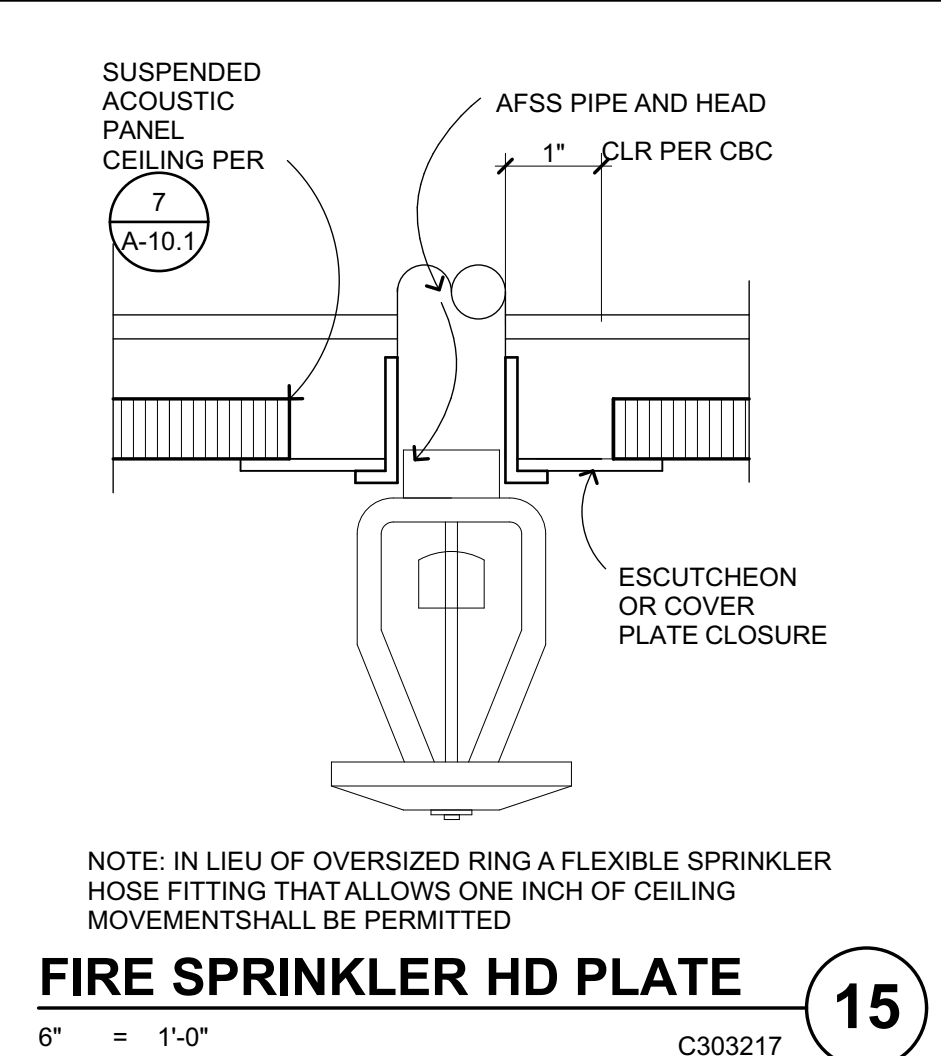
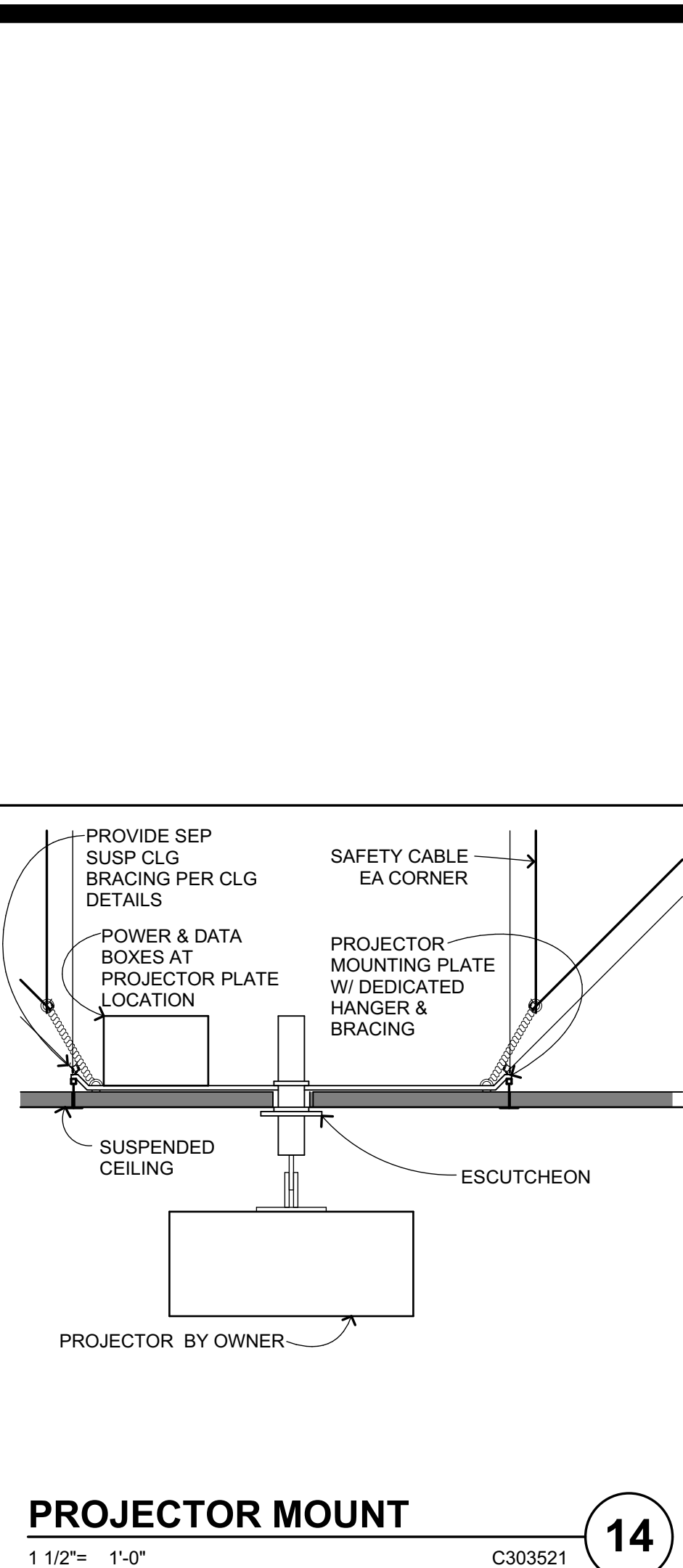
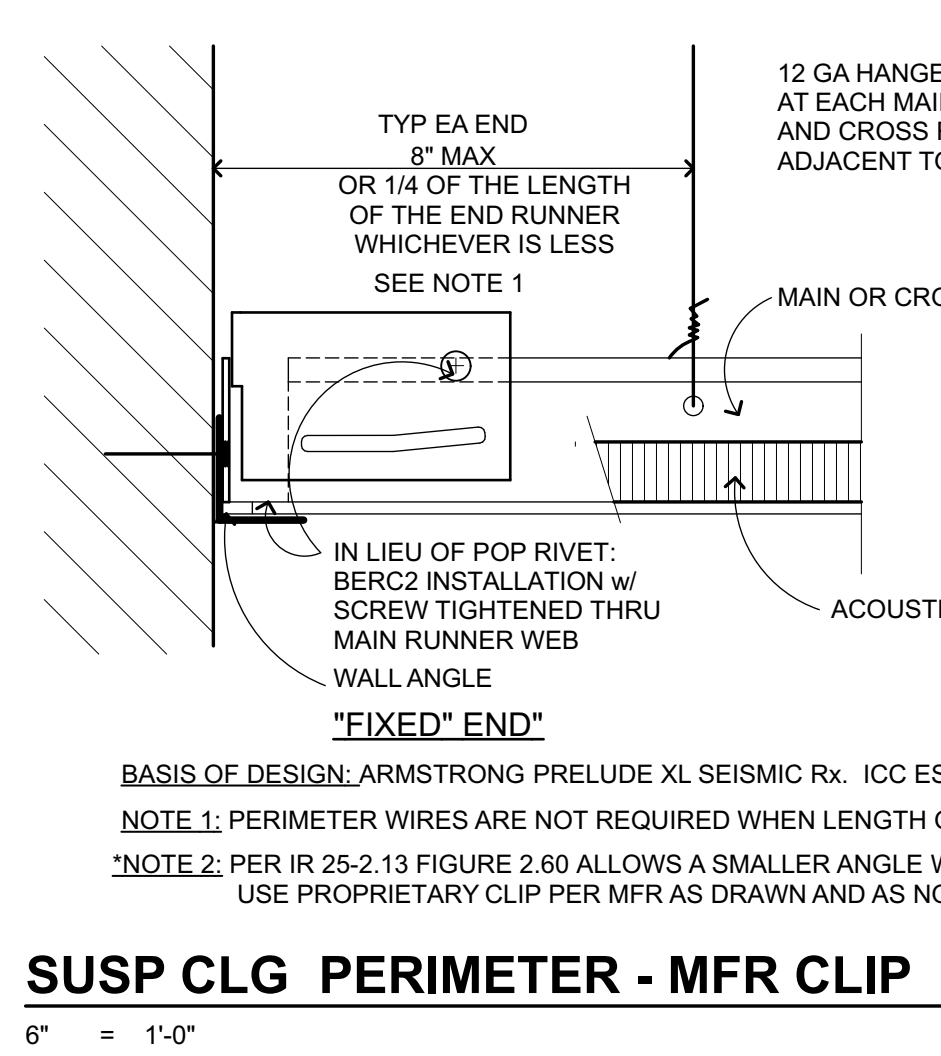
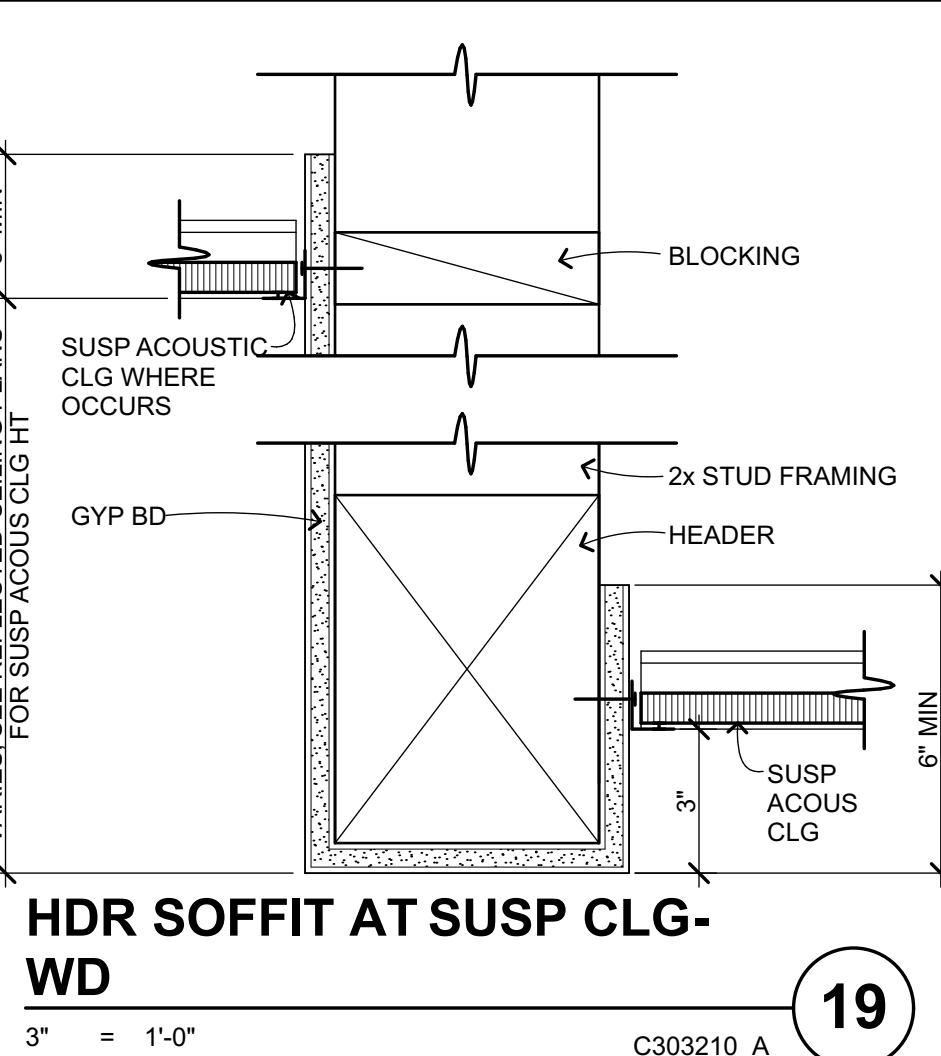
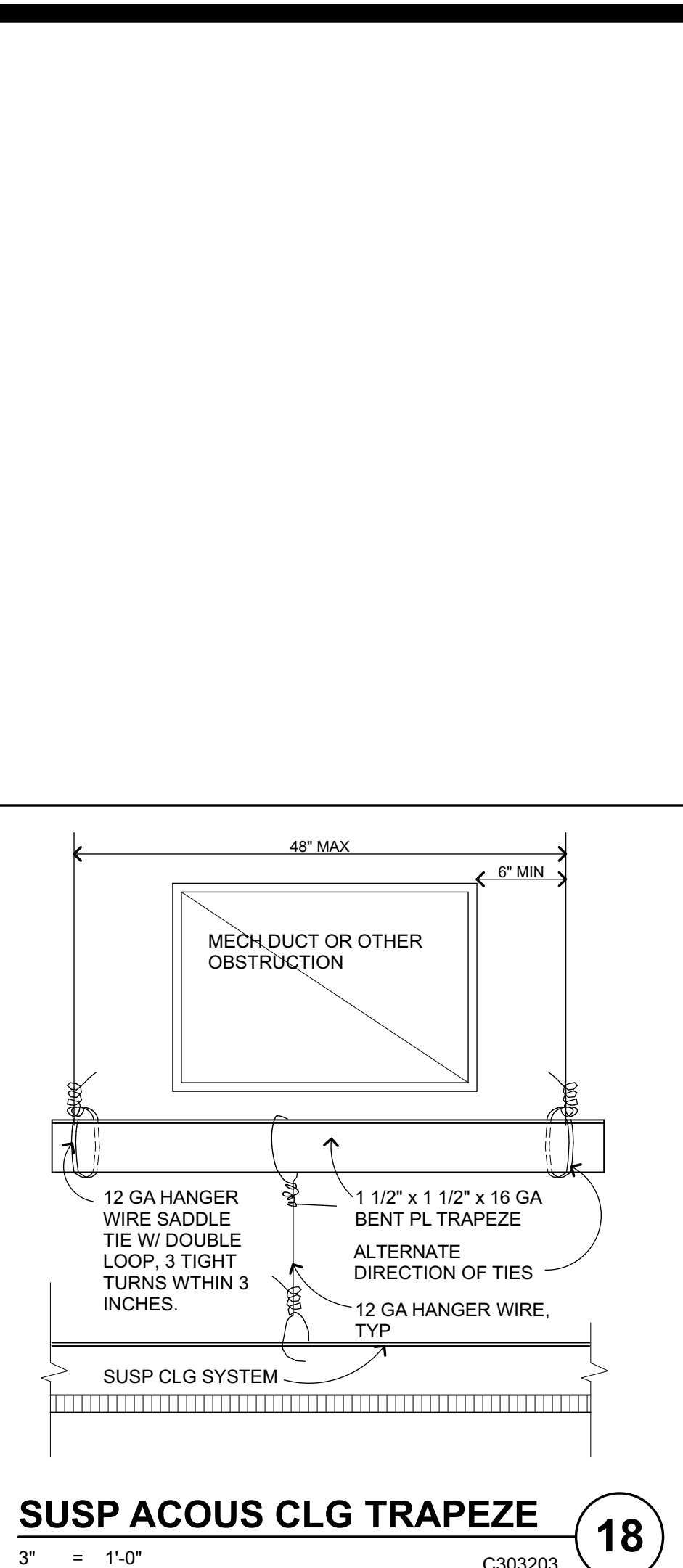
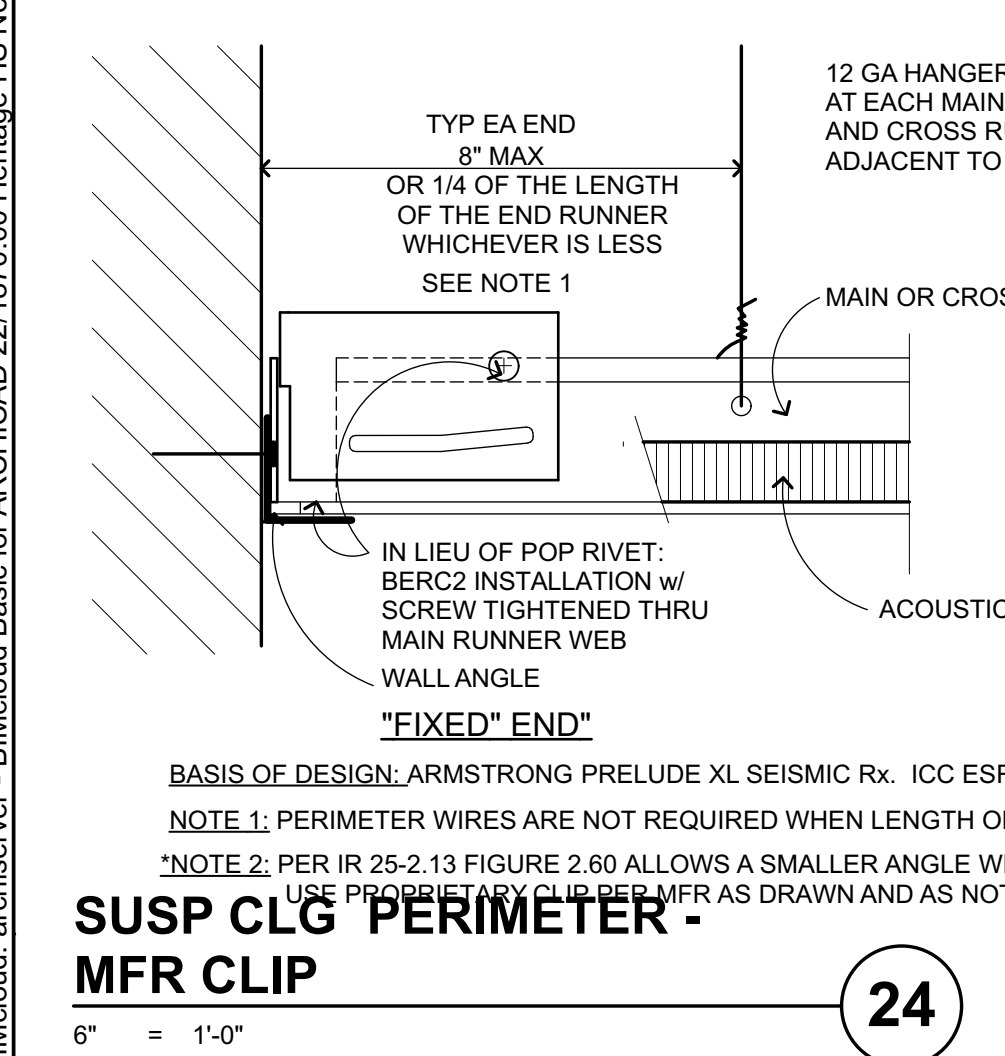
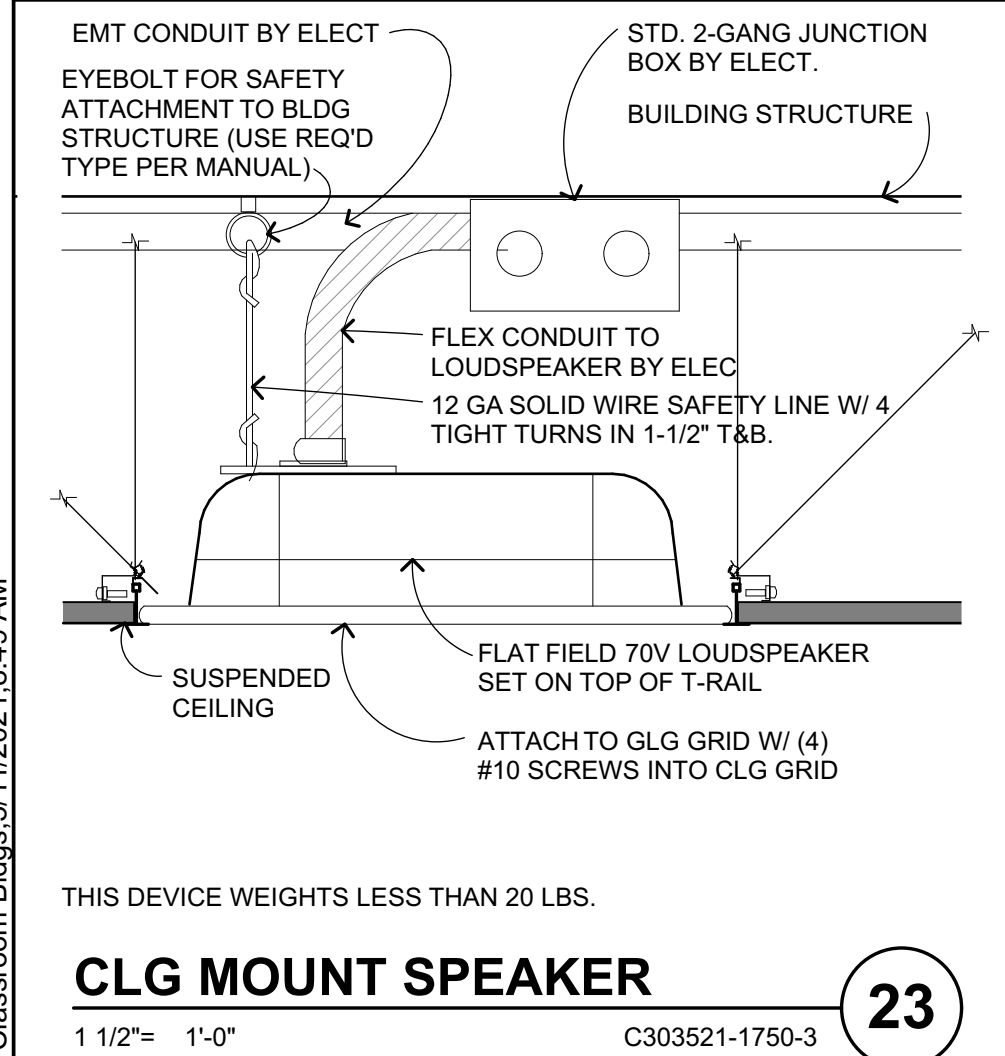
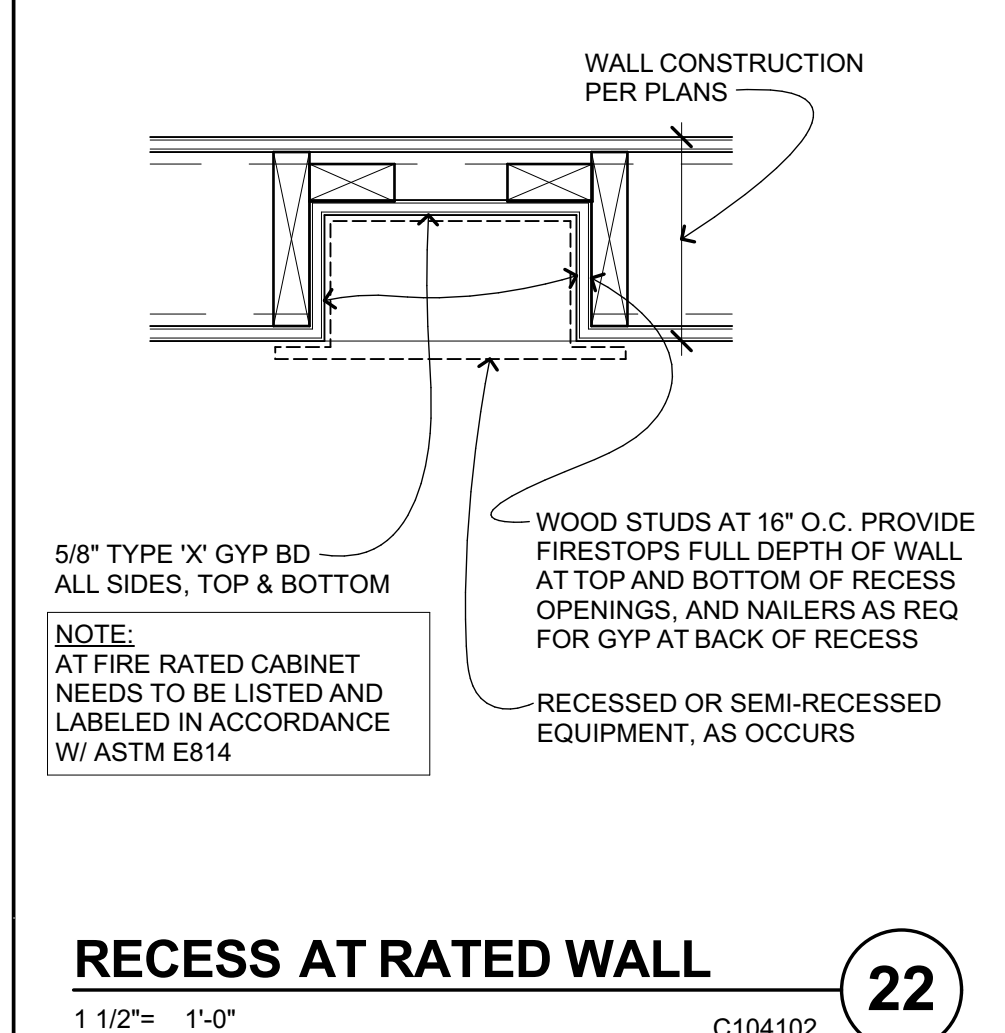
BID SET
MAY 10, 2021

SHEET TITLE

OPENING DETAILS

SHEET NUMBER

A-9.6



PER DSA IR 25-2.13 FIGURE 3.21



**HERITAGE HIGH
SCHOOL**

**NEW CLASSROOM
BUILDINGS**

INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

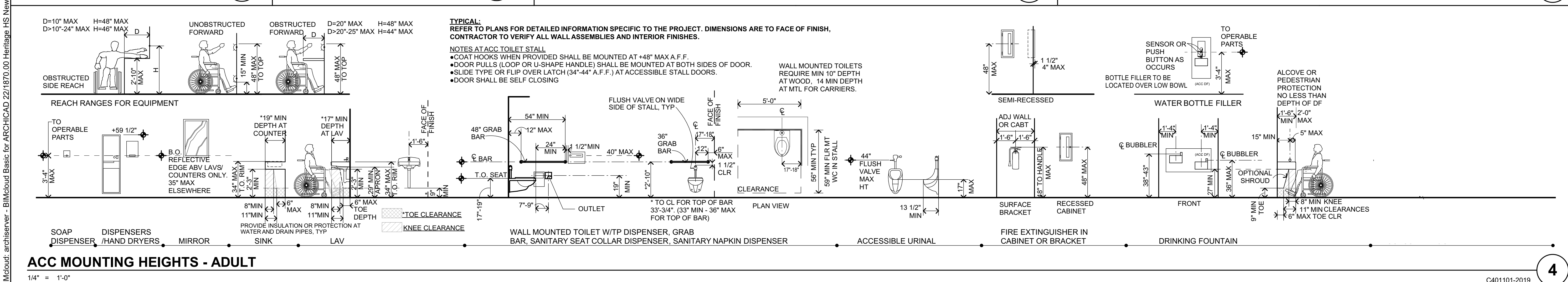
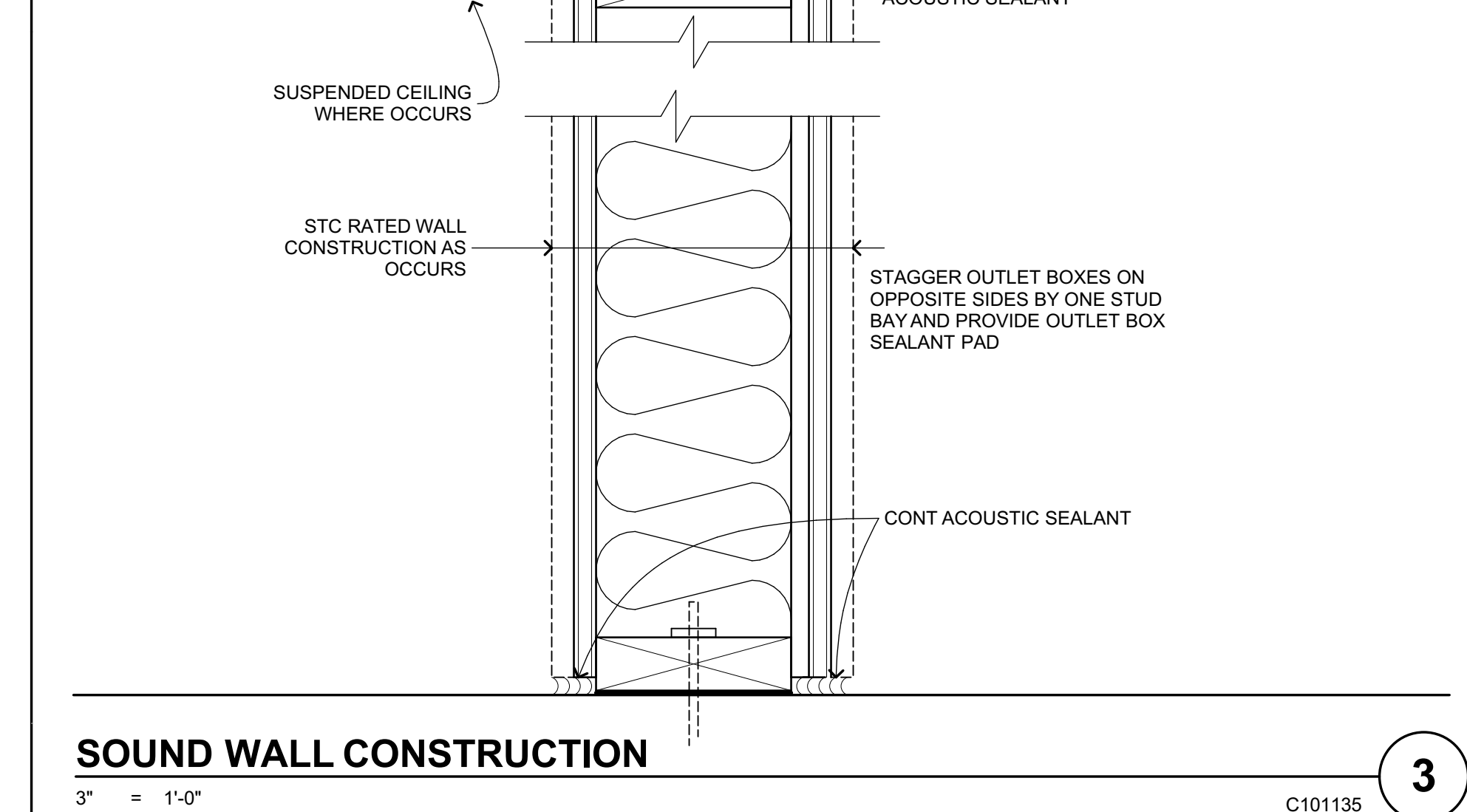
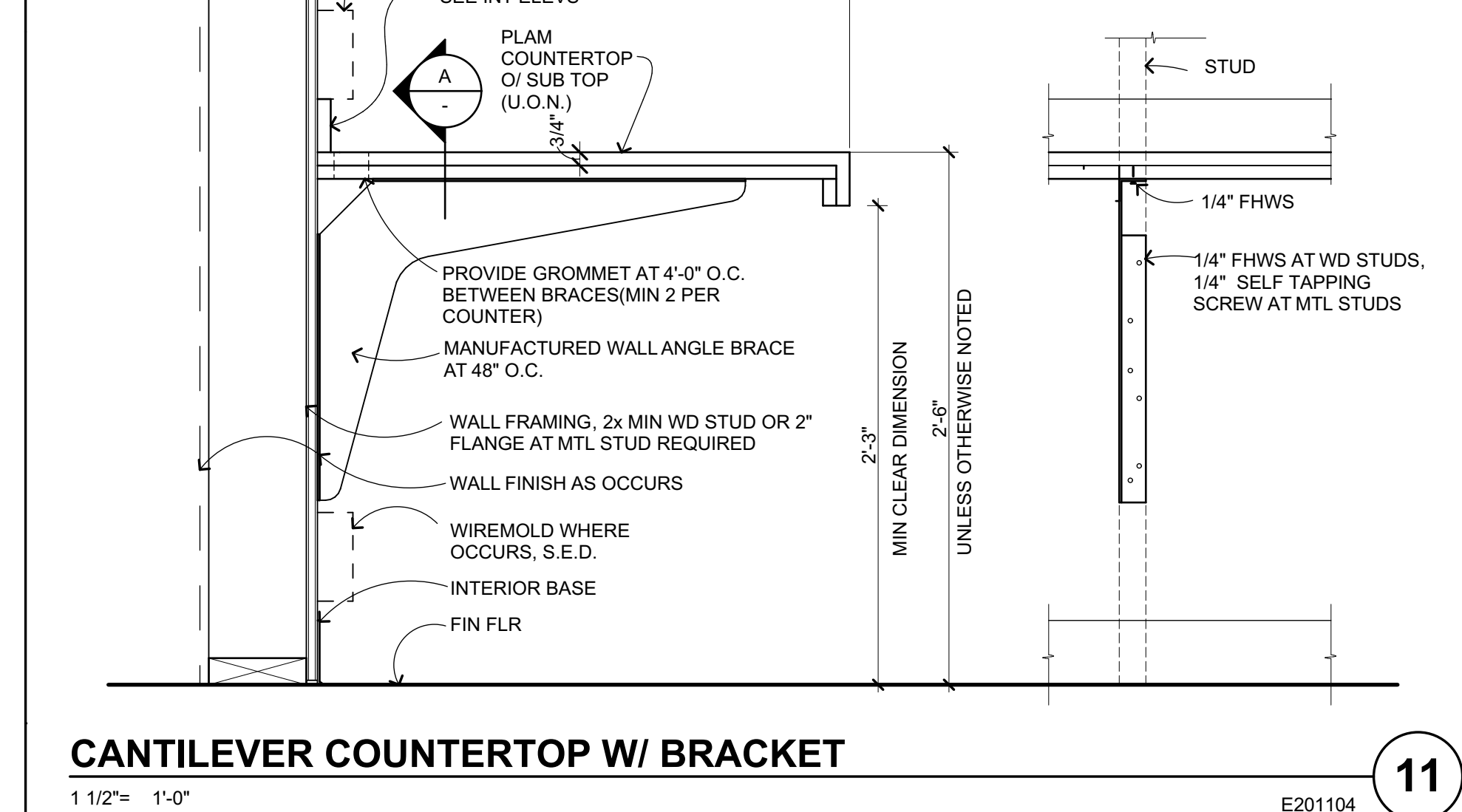
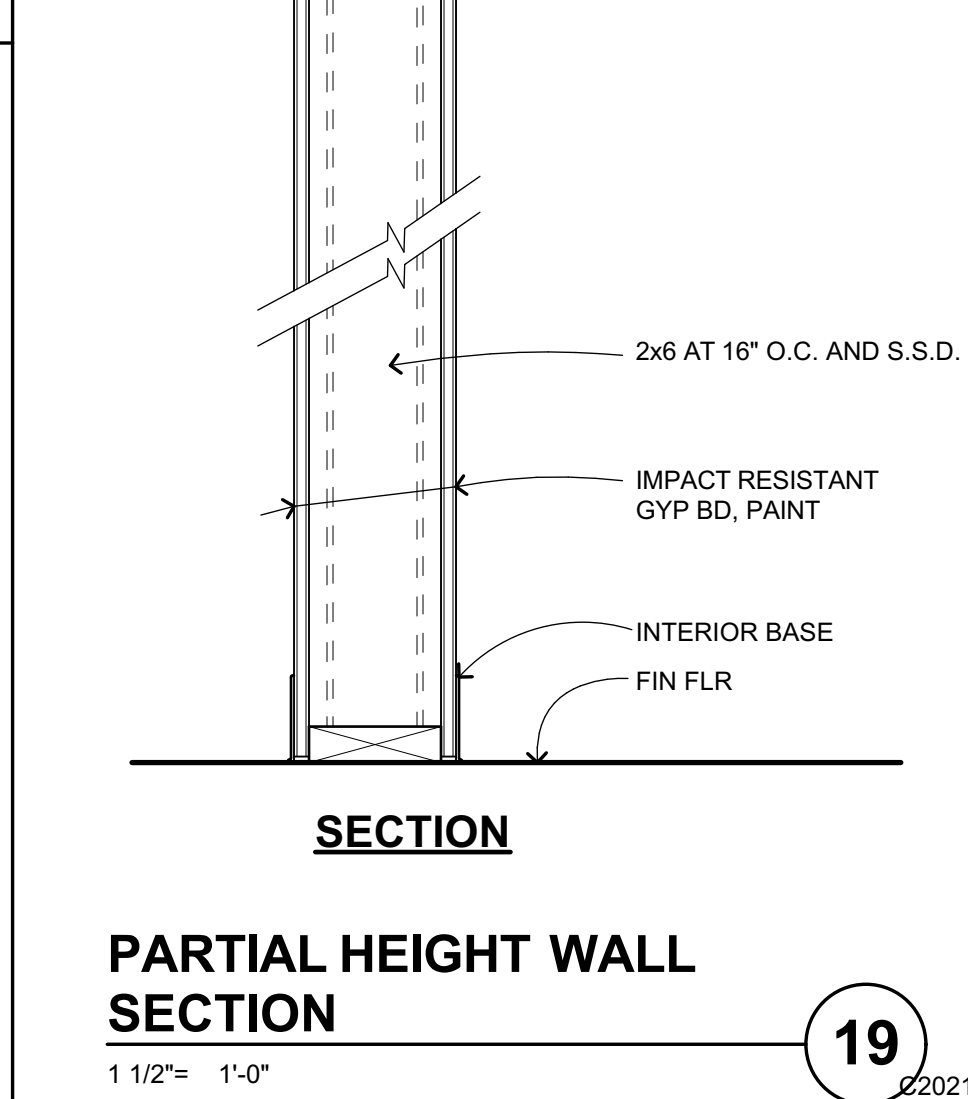
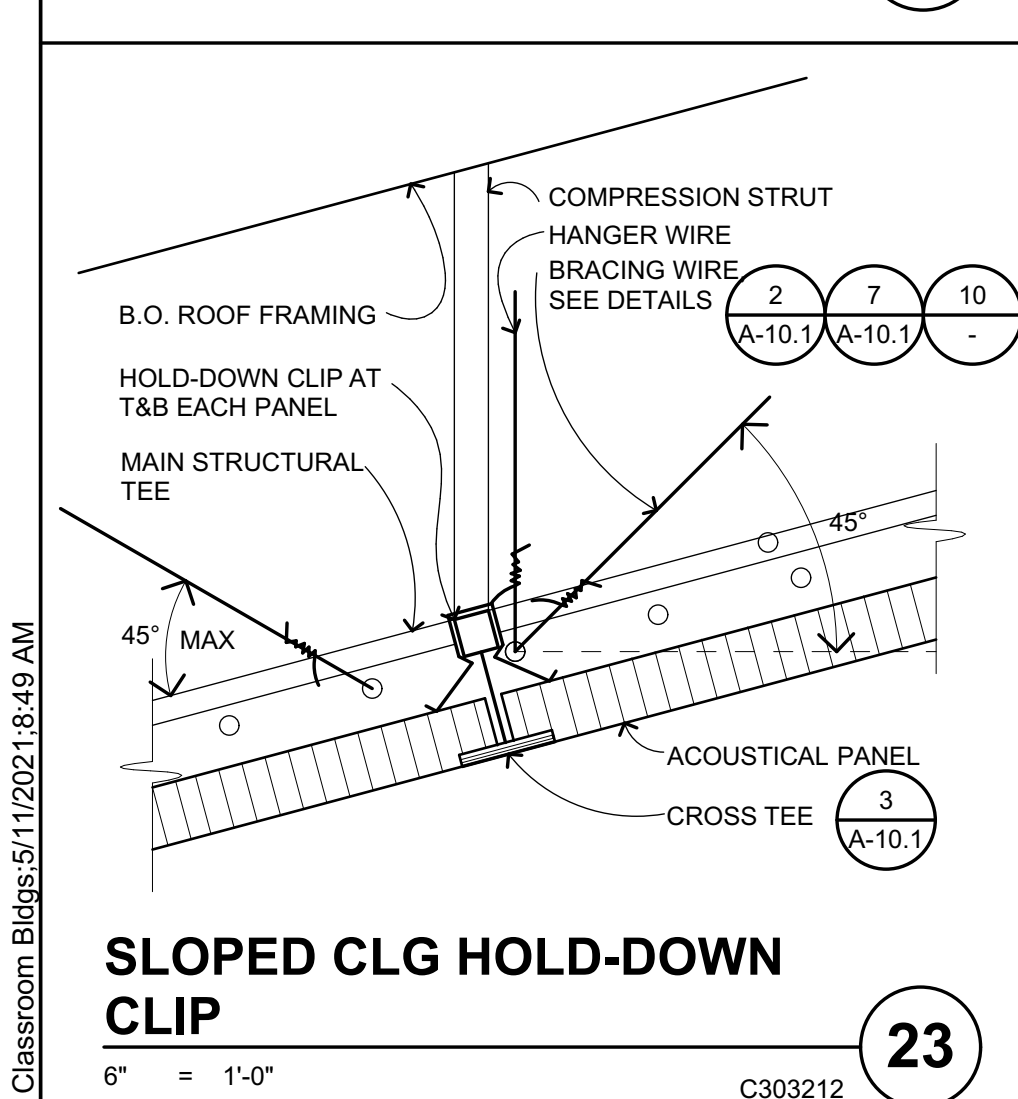
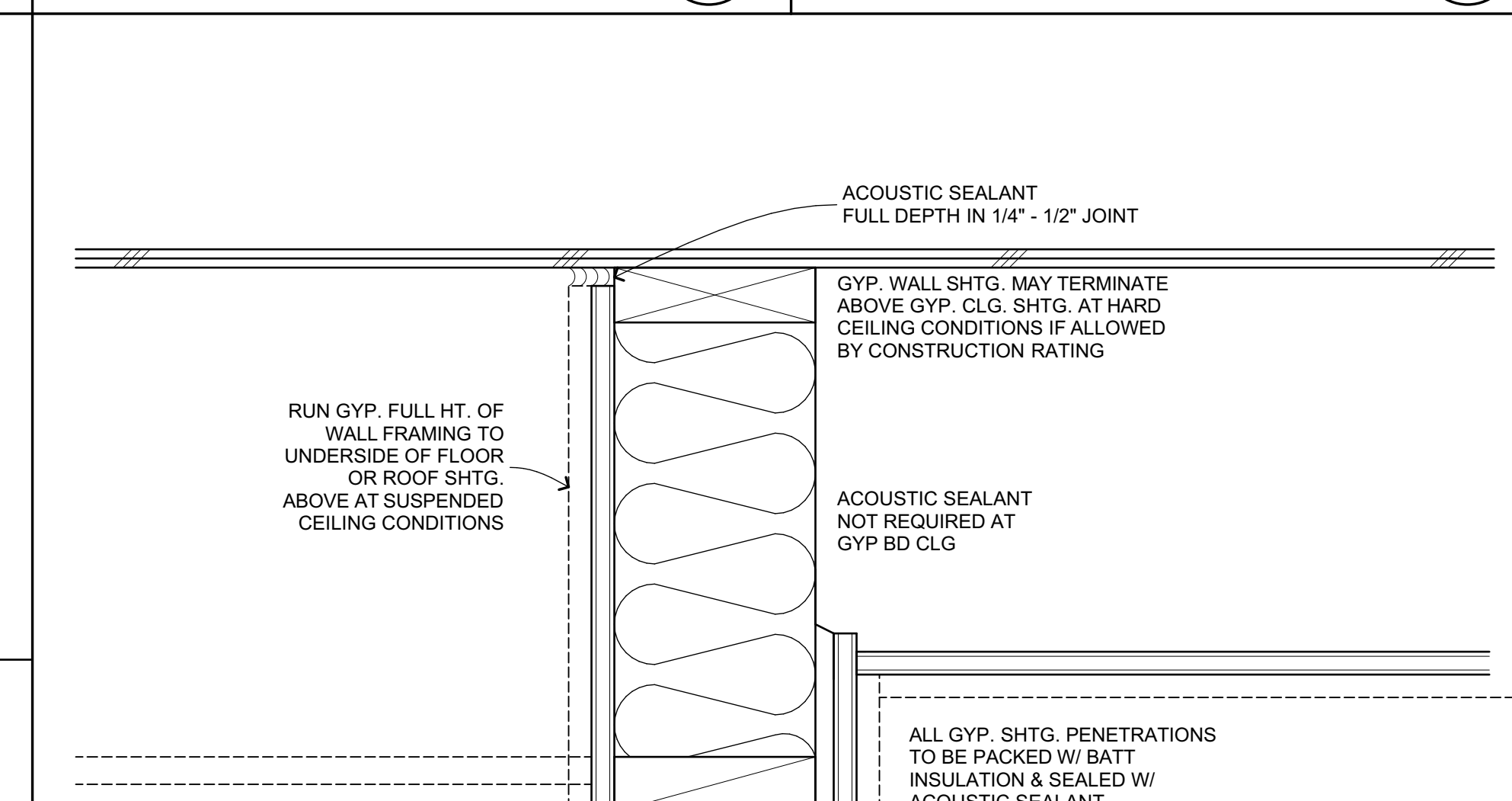
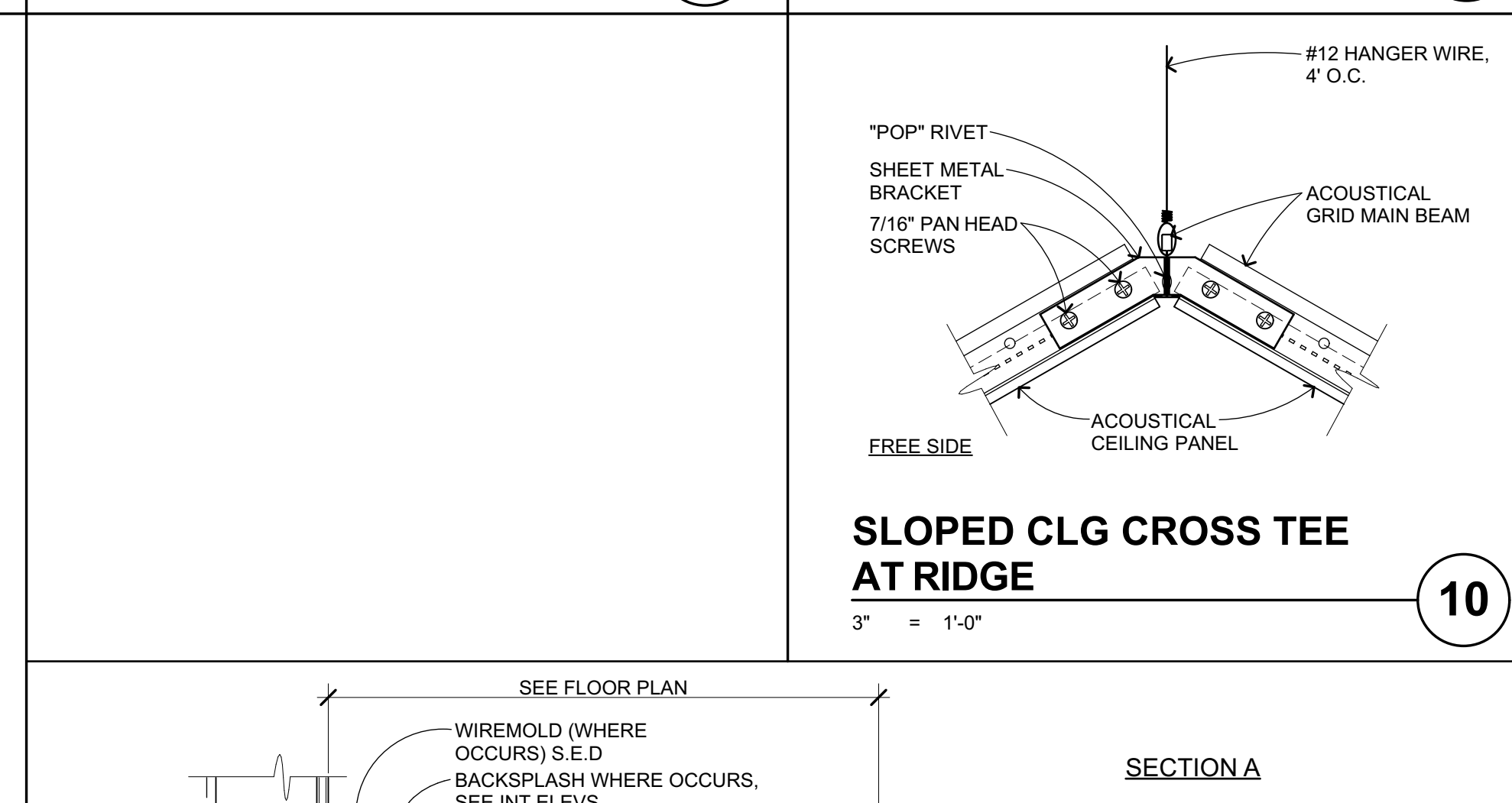
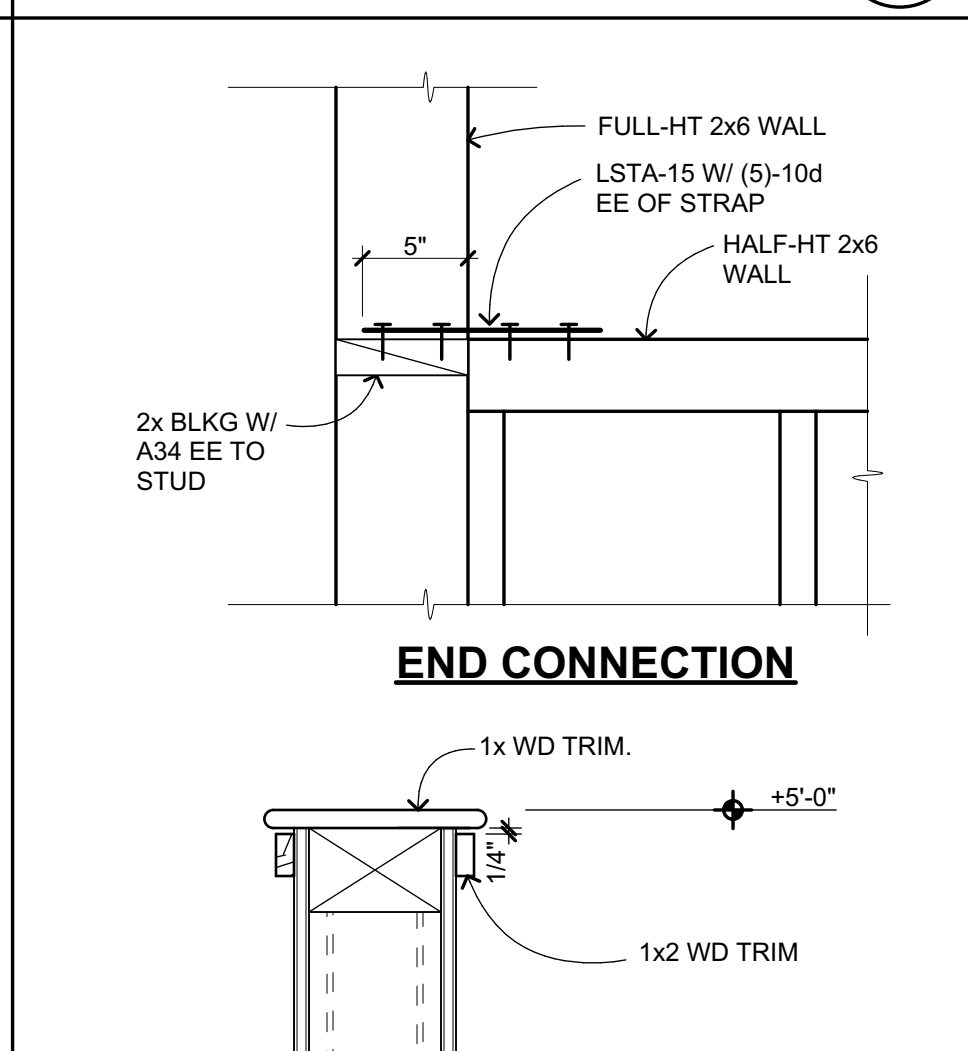
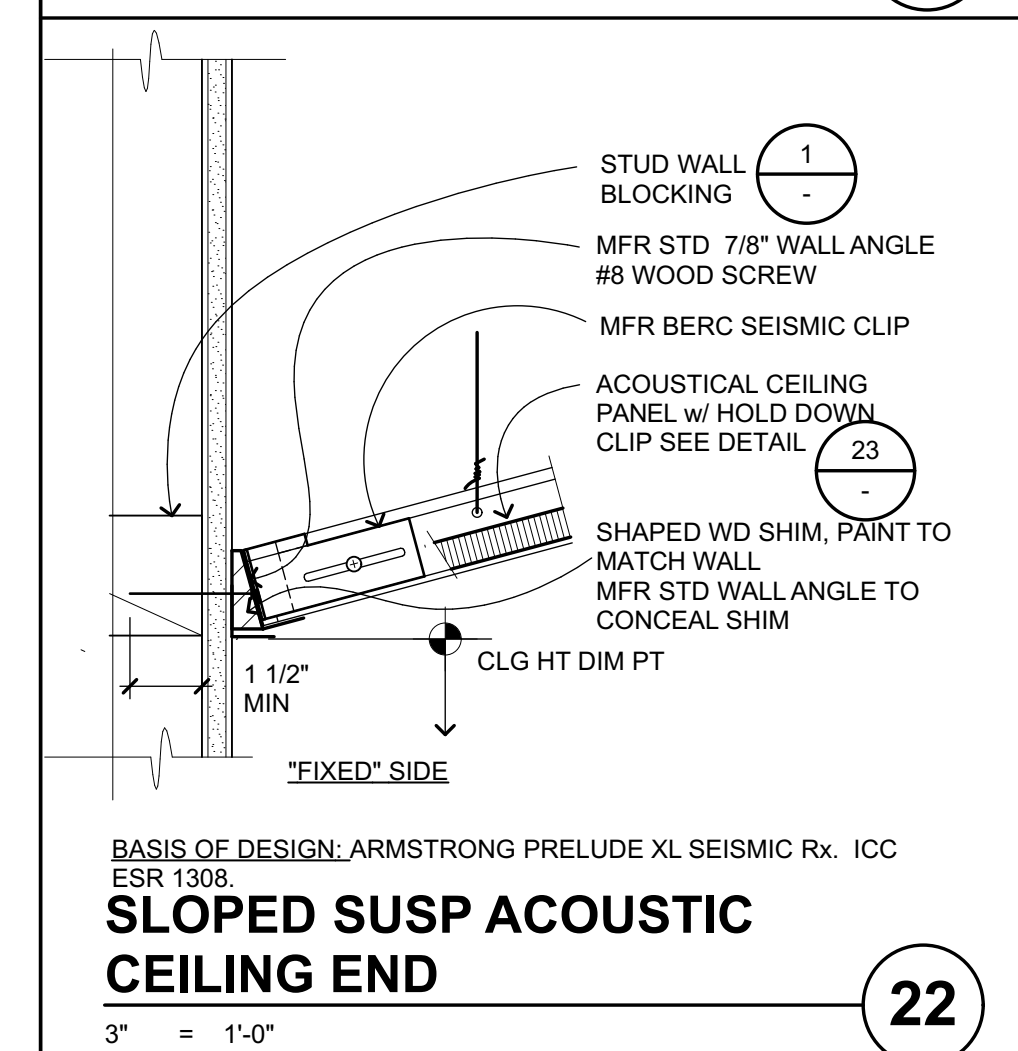
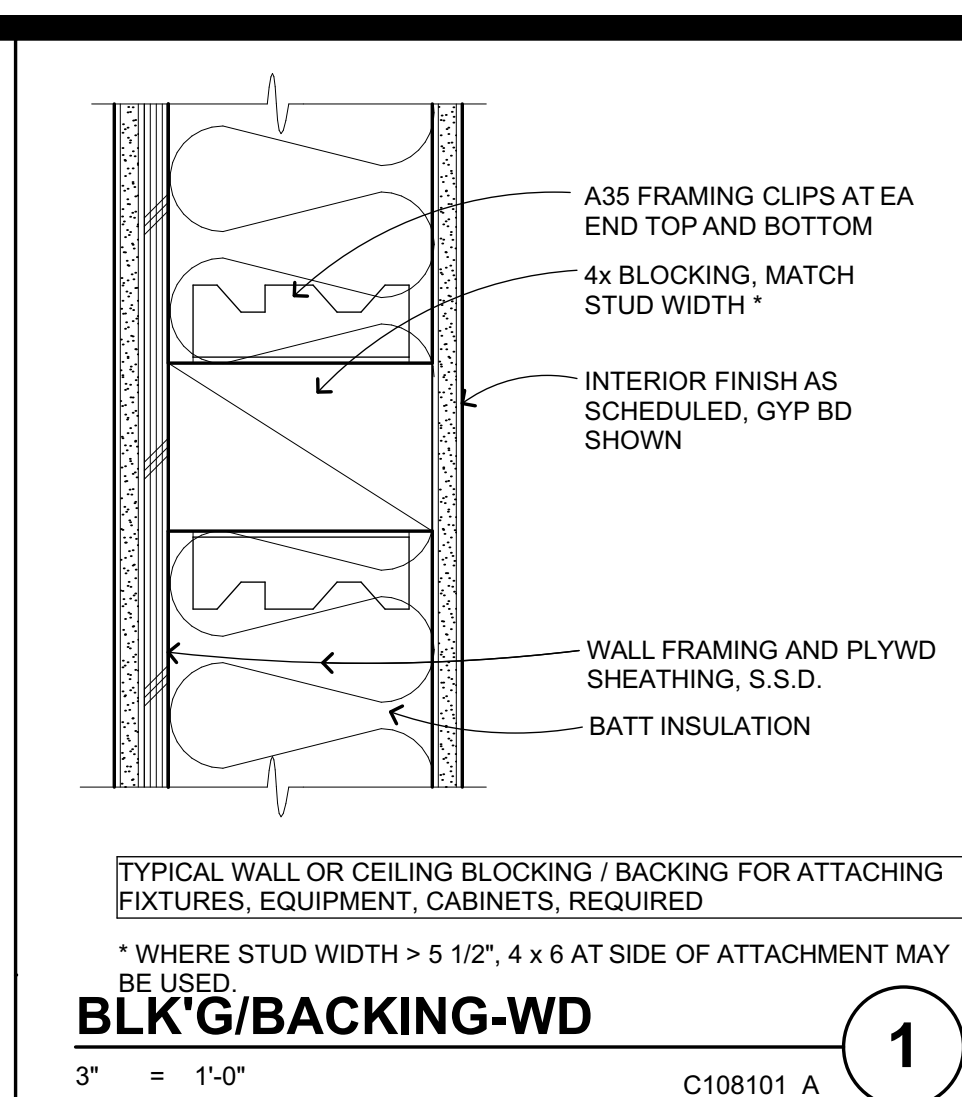
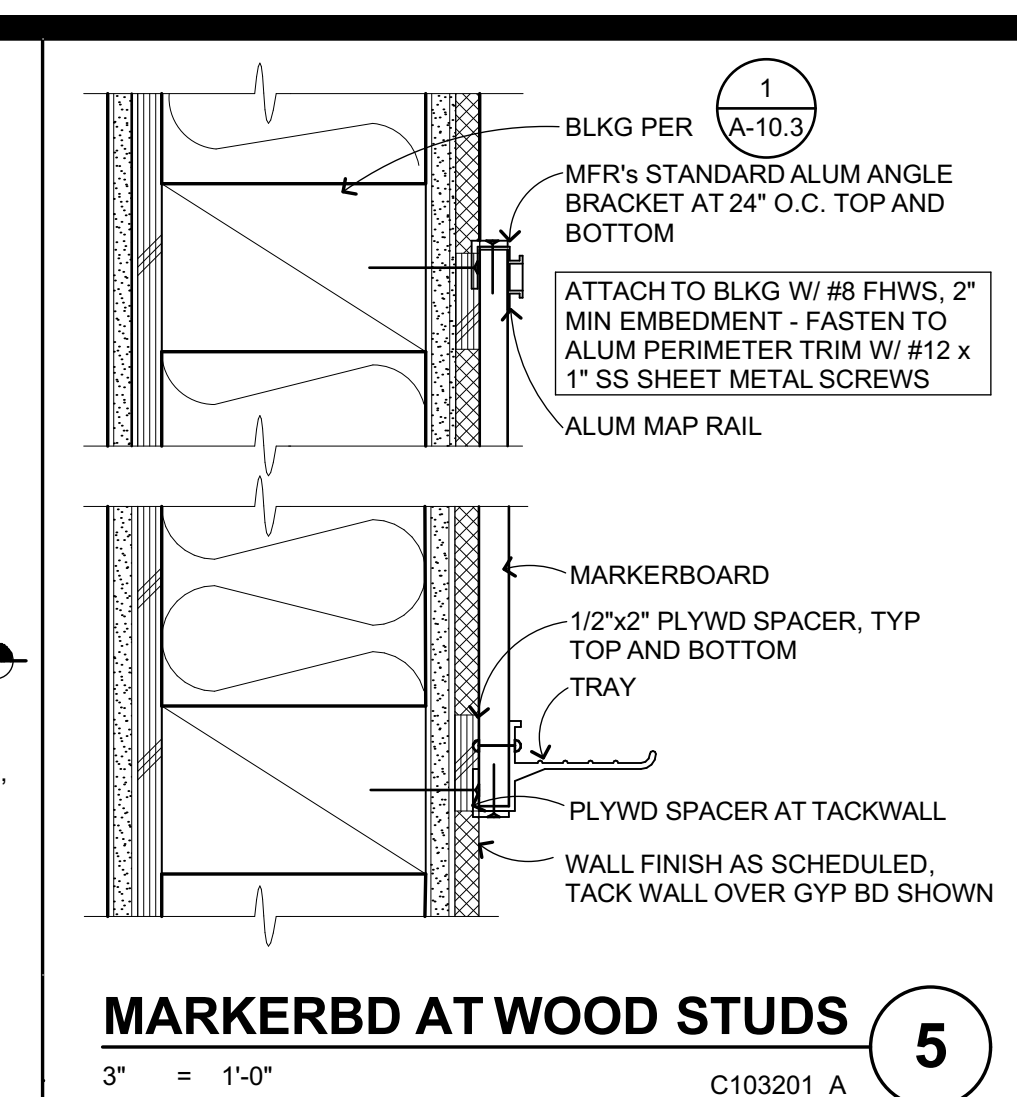
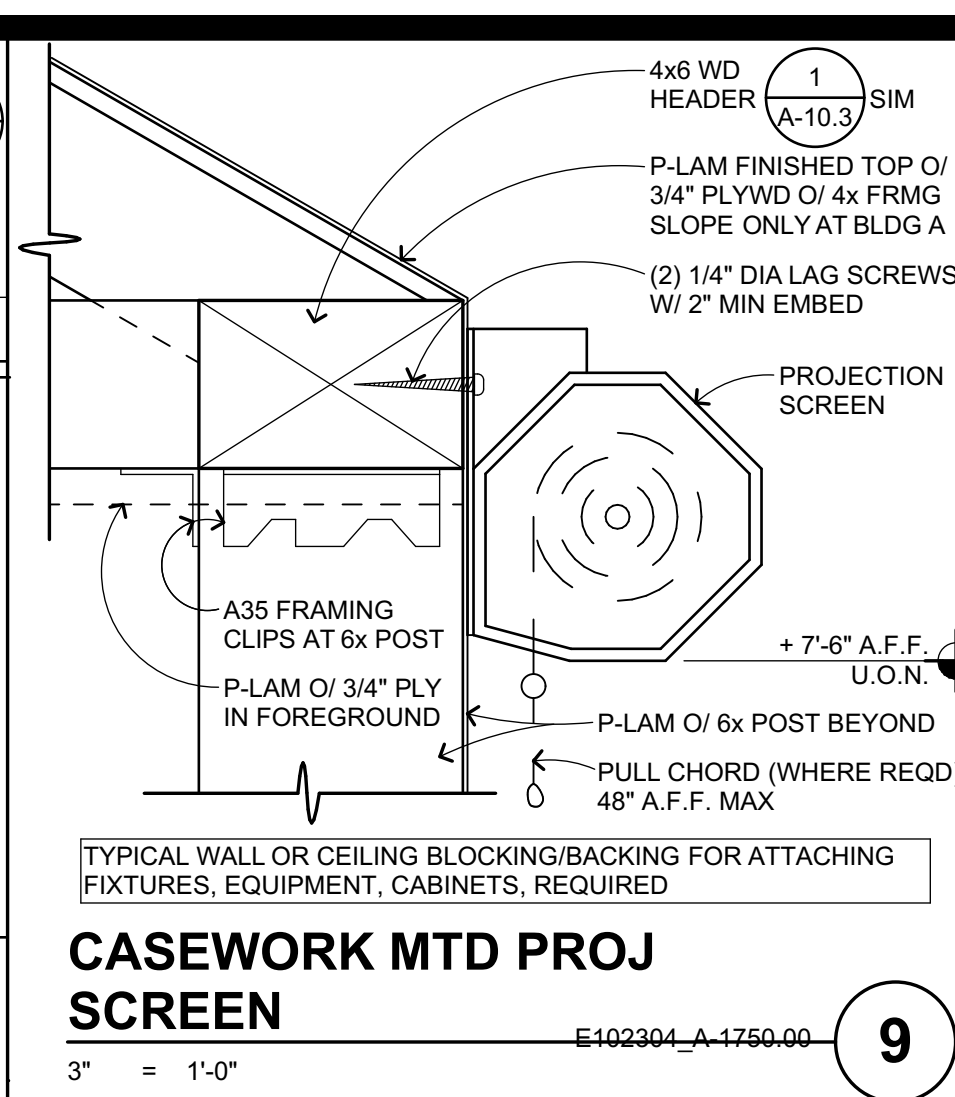
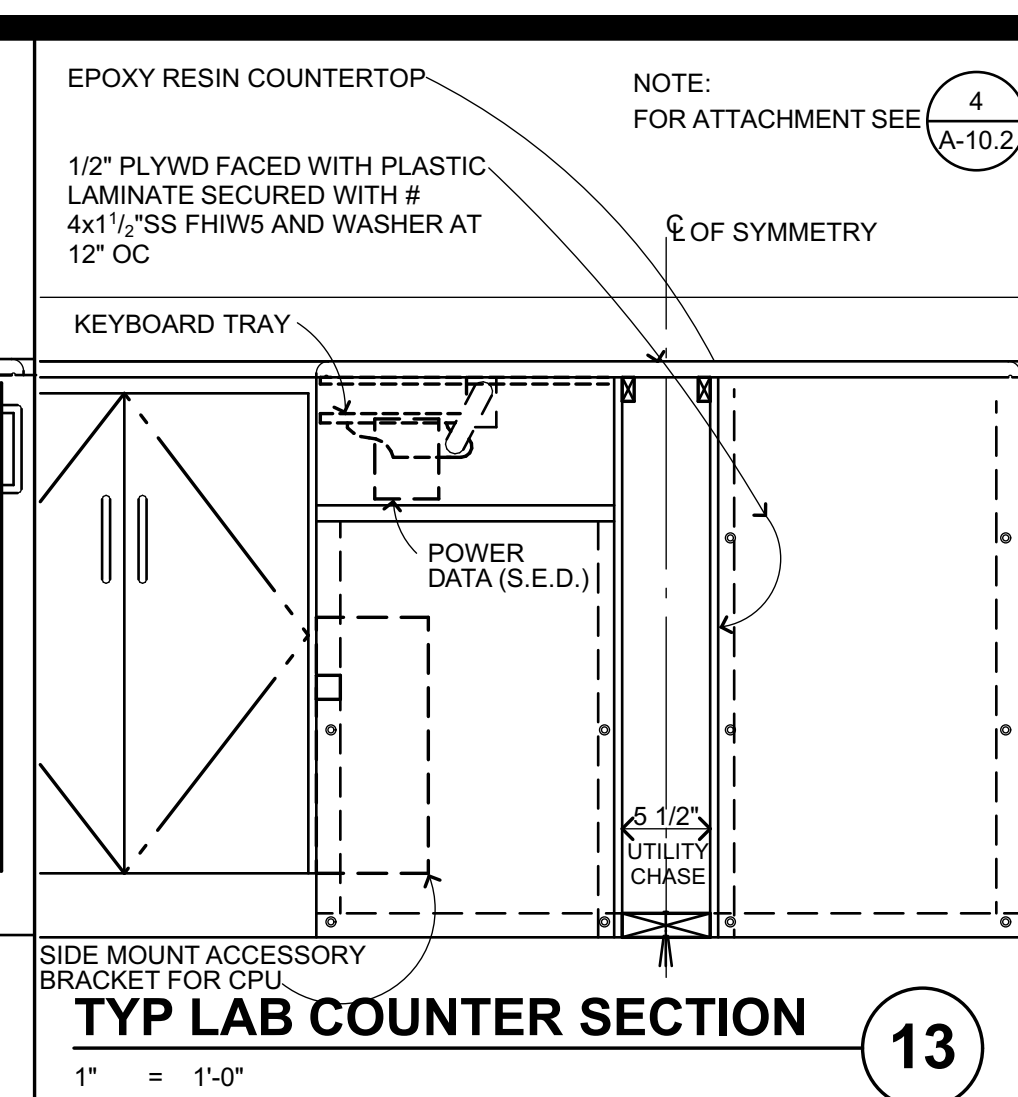
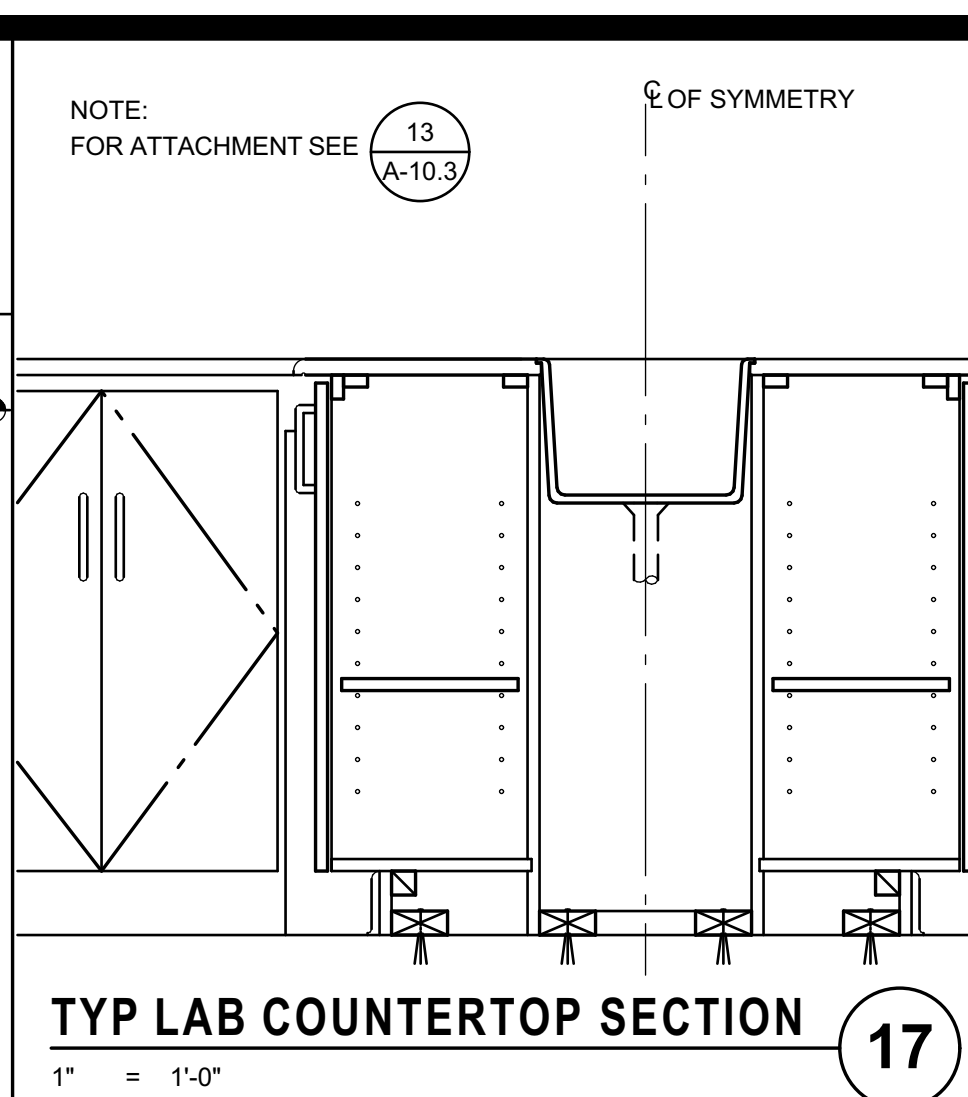
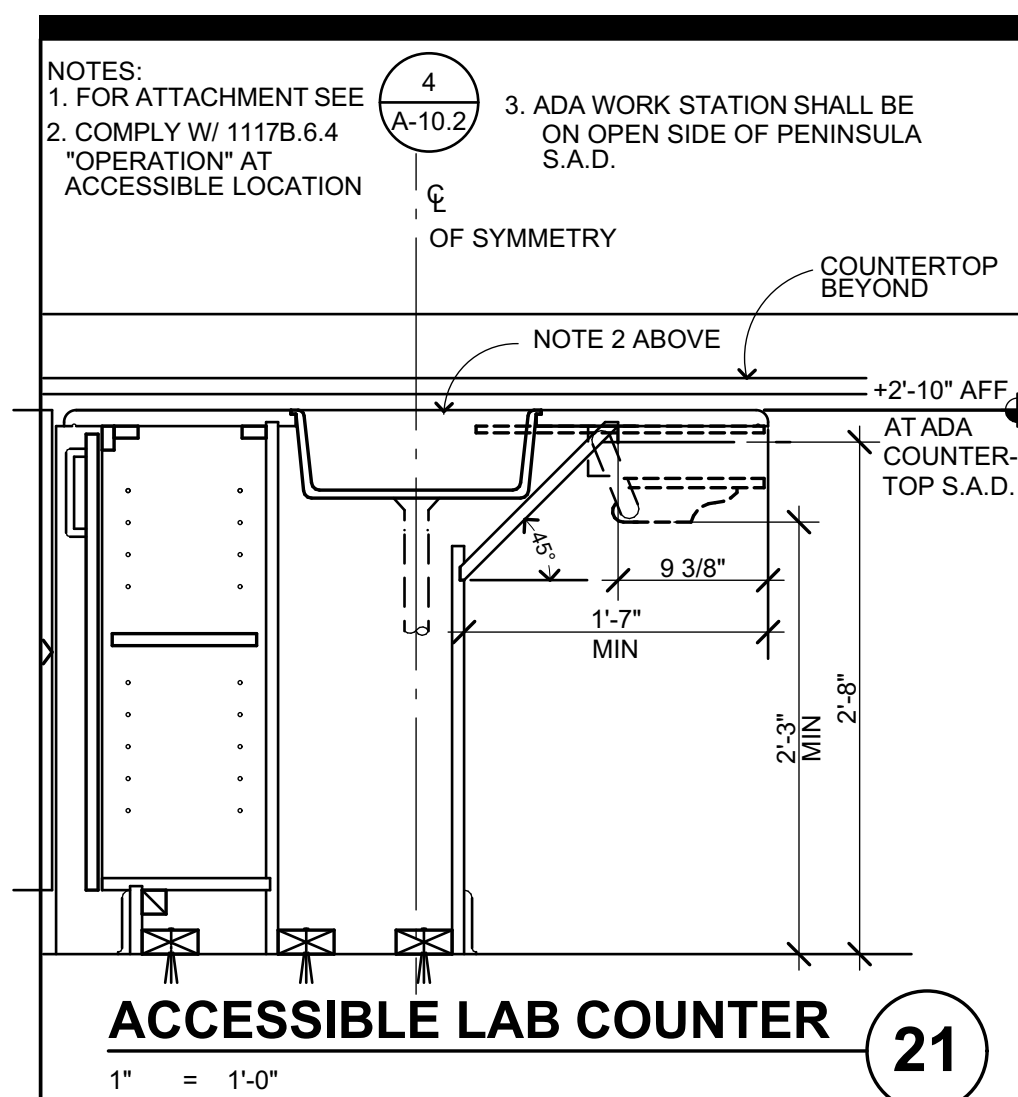
LIBERTY UNION HIGH
SCHOOL DISTRICT

DSA APP NO. 01-119268	
ARCH PROJECT NO:	1870.00
DRAWN BY:	SL & HE
DRAWING SCALE:	AS NOTED
PTN: 61721-77	FILE NO: 7-H4
BID SET	
MAY 10, 2021	
SHEET TITLE	

**CEILING /
INTERIOR
DETAILS**

SHEET NUMBER

A-10.1



BIMcloud: archserver - BIMcloud Basic for ARCHICAD 22/1870.00 Heritage HS New Classroom Bldgs/5/11/2021:8:49 AM

MINIMUM CBC REQUIREMENTS.

TYPICAL PLAQUE NOTES U.O.N.

PLAQUES WITH TACTILE LETTERING AND SYMBOLS (RAISED 1/32") INCLUDES CALIFORNIA CONTRACTED GRADE 2 BRAILLE RAISED 1/40" PER CBC REQUIREMENTS. SAN SERIF FONT SELECTION SHALL HAVE THE WIDTH OF THE UPPERCASE LETTER "O" IS 60% MIN AND 110% MAX OF THE HEIGHT OF THE UPPERCASE LETTER "I". A STROKE WIDTH TO HEIGHT OF THE UPPERCASE LETTER "I" SHALL BE 10% MAX OF HT OF CHARACTER.

CUSTOM COLORS, LAYOUT & LETTER STYLES TO BE SELECTED & APPROVED BY ARCHITECT, SIGNAGE SYMBOLS, BACKGROUND, MOUNTING SURFACE TO CONTRAST, 70% MINIMUM CONTRAST.

WHERE SIGN PLAQUES ARE PLACED ON GLASS, ANY BACKING PLAQUE OR SIGN IS TO BE THE SAME SIZE.

TEXT

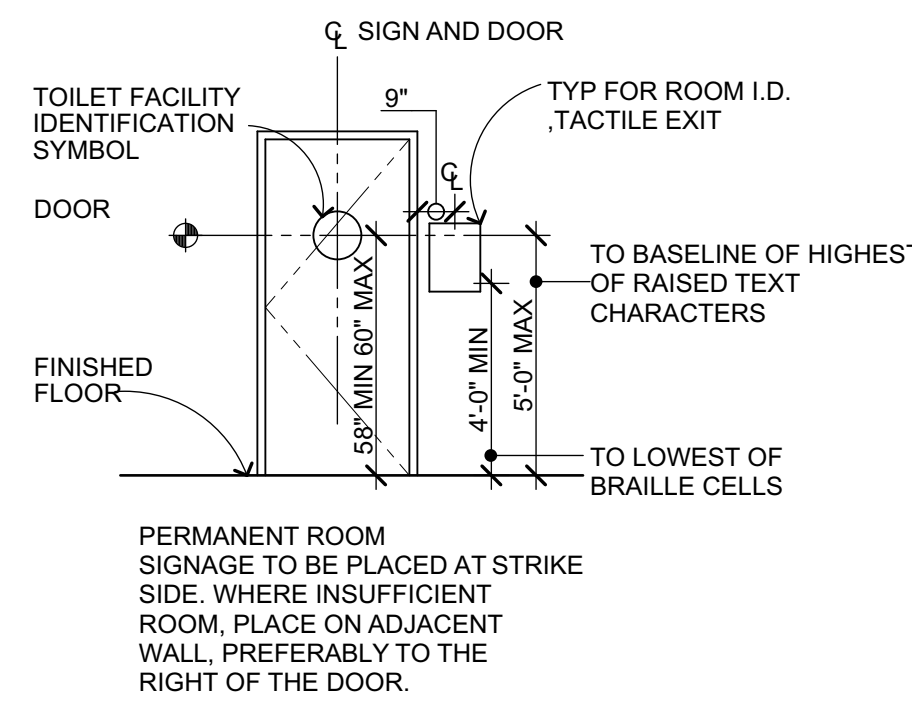
TEXT SIZE*
5/8" MIN. TEXT (48 PT.)
2" MAX.

TYP DIM TEXT & BRAILLE

RAISED TEXT
5/8" MIN. TEXT (48 PT.)
2" MAX.

* FOR WALL MOUNTED SIGNS WHICH MAY BE VIEWED W/O OBSTRUCTION. BASED ON HT OF UPPERCASE LETTER "I")

MOUNTING OF SIGNS



ACCESSIBLE SIGNAGE

1/4" = 1'-0"

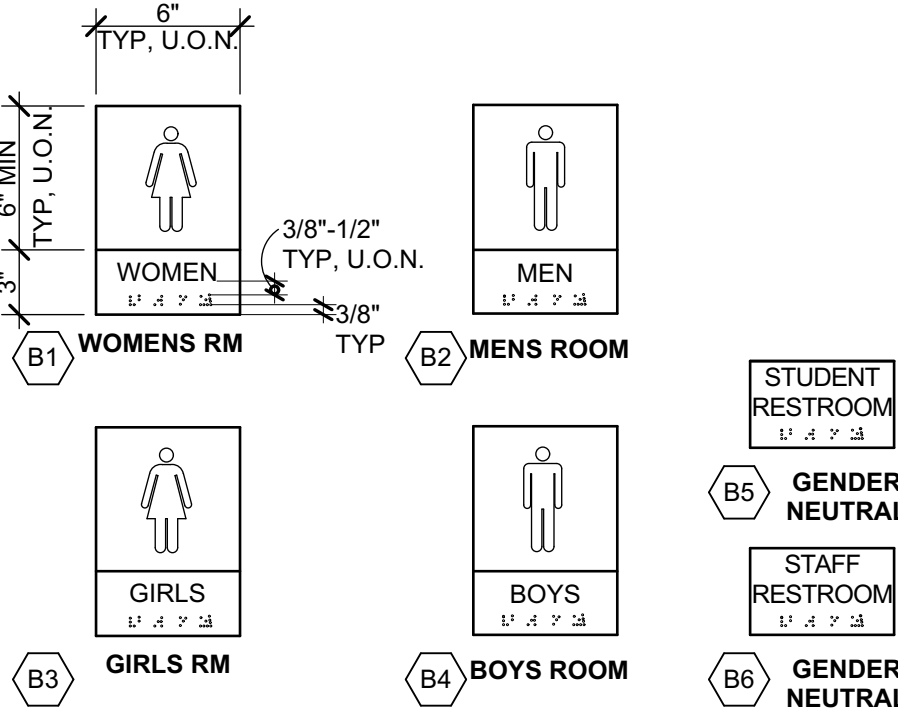


A1 ACCESSIBLE ENTRANCE SIGN

VINYL 4"x4" BACKING WITH VINYL SYMBOL. 3M REFLECTIVE BLUE BACKGROUND WITH 3M REFLECTIVE WHITE SYMBOL. PROVIDE AT MAIN ENTRANCE AND AS NOTED.

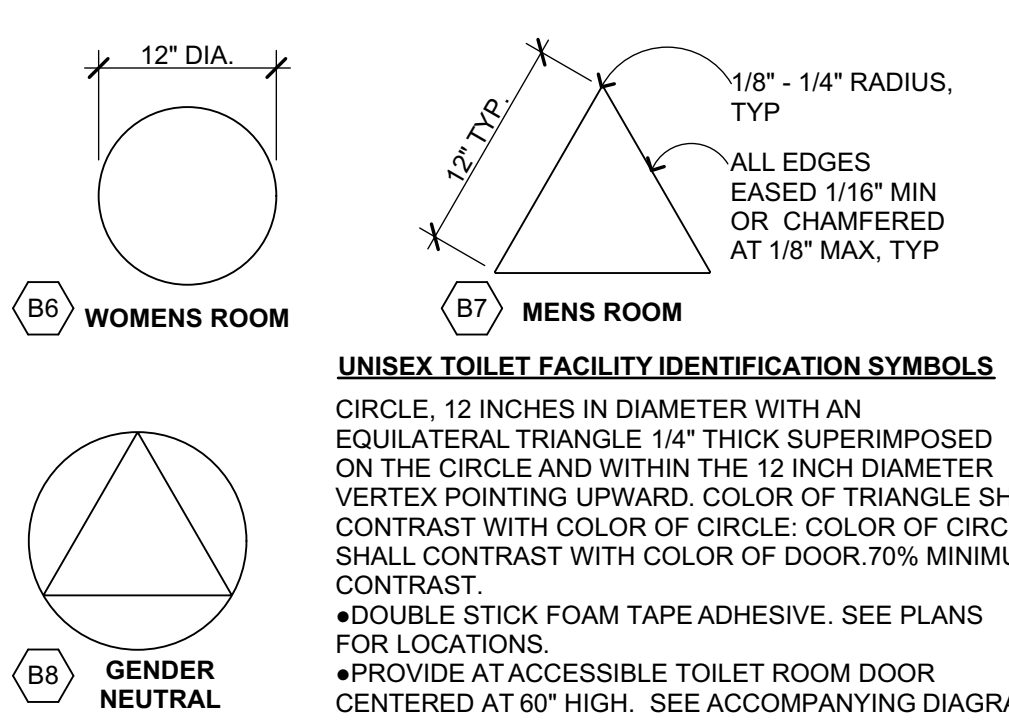
STRIKE SIDE TOILET ROOM SIGNAGE (PLAQUE NOTES TYP FOR EACH SIGN)

PROVIDE AT ACCESSIBLE TOILET ROOMS. USE "GIRLS" & BOYS" WHERE TOILET ROOMS ARE PRIMARILY USED BY CHILDREN.



TOILET ROOM DOOR SIGNAGE (NOTES TYP FOR EACH SIGN)

PROVIDE AT ACCESSIBLE TOILET ROOMS.



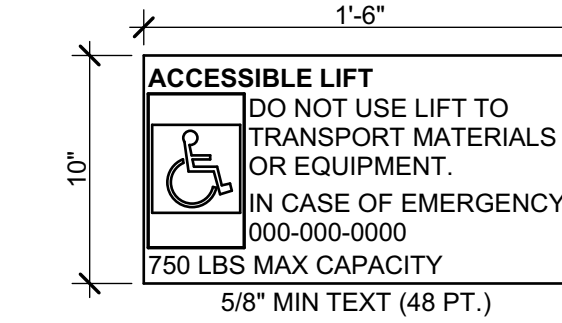
UNISEX TOILET FACILITY IDENTIFICATION SYMBOLS

CIRCLE, 12 INCHES IN DIAMETER WITH AN EQUILATERAL TRIANGLE 1/4" THICK SUPERIMPOSED ON THE CIRCLE AND WITHIN THE 12 INCH DIAMETER VERTEX POINTING UPWARD. COLOR OF TRIANGLE SHALL CONTRAST WITH COLOR OF CIRCLE. COLOR OF CIRCLE SHALL CONTRAST WITH COLOR OF DOOR. 70% MINIMUM CONTRAST.

• DOUBLE STICK FOAM TAPE ADHESIVE. SEE PLANS FOR LOCATIONS.
• PROVIDE AT ACCESSIBLE TOILET ROOM DOOR CENTERED AT 60" HIGH. SEE ACCOMPANYING DIAGRAM.

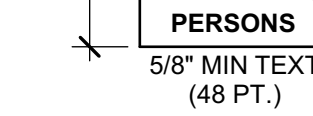
A2 LIFT SIGNAGE

LAYOUT AND LETTER STYLE TO BE SELECTED & APPROVED BY ARCHITECT.



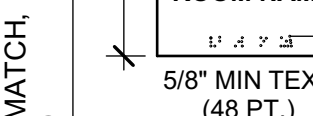
C1 ROOM OCCUPANCY SIGNAGE

INSTALLATION LOCATION PER PLANS AND CBC REQUIREMENTS. PROVIDE AT ALL ROOMS W/ OCCUPANT LOADS GREATER THAN 50. VERIFY ACTUAL # W/ ARCHITECT



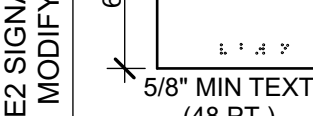
D1 PERMANENT ROOM I.D. SIGNAGE

INSTALL NEXT TO ENTRANCE DOORS, PER CBC REQUIREMENTS.



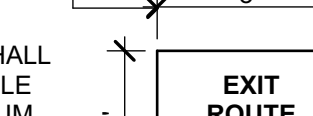
E1 TACTILE EXIT SIGN AT ALL EXIT DOORS

RAISED LETTERS "EXIT", BRAILLE "EXIT", CONTRACTED GRADE 2 BRAILLE. LOCATED AT ALL EXIT DOORS IN ADDITION TO OVERHEAD, ILLUMINATED EXIT SIGNS.



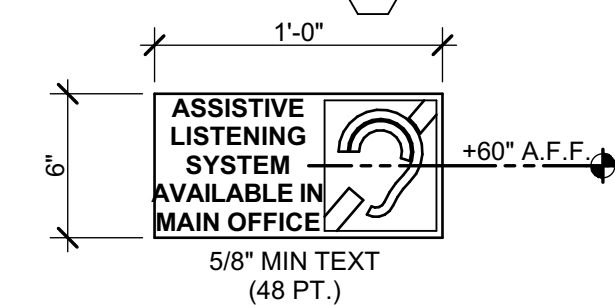
E2 TACTILE EXIT ROUTE SIGN

POST AS INDICATED AT DOORS TO EXIT ROUTE THAT DO NOT LEAD DIRECTLY TO THE EXTERIOR.

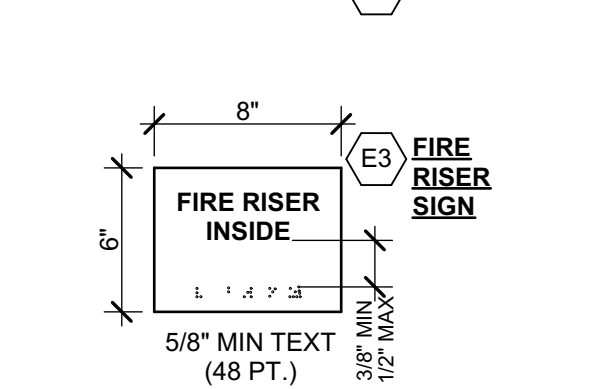


*MIN DIMENSIONS SHOWN, WHERE BACK TO BACK SIGNS ARE APPLIED OVER GLASS, WIDTHS TO MATCH.

C2 ASSISTIVE LISTENING SIGN



D2 PROJECT SPECIFIC DOOR SIGNS

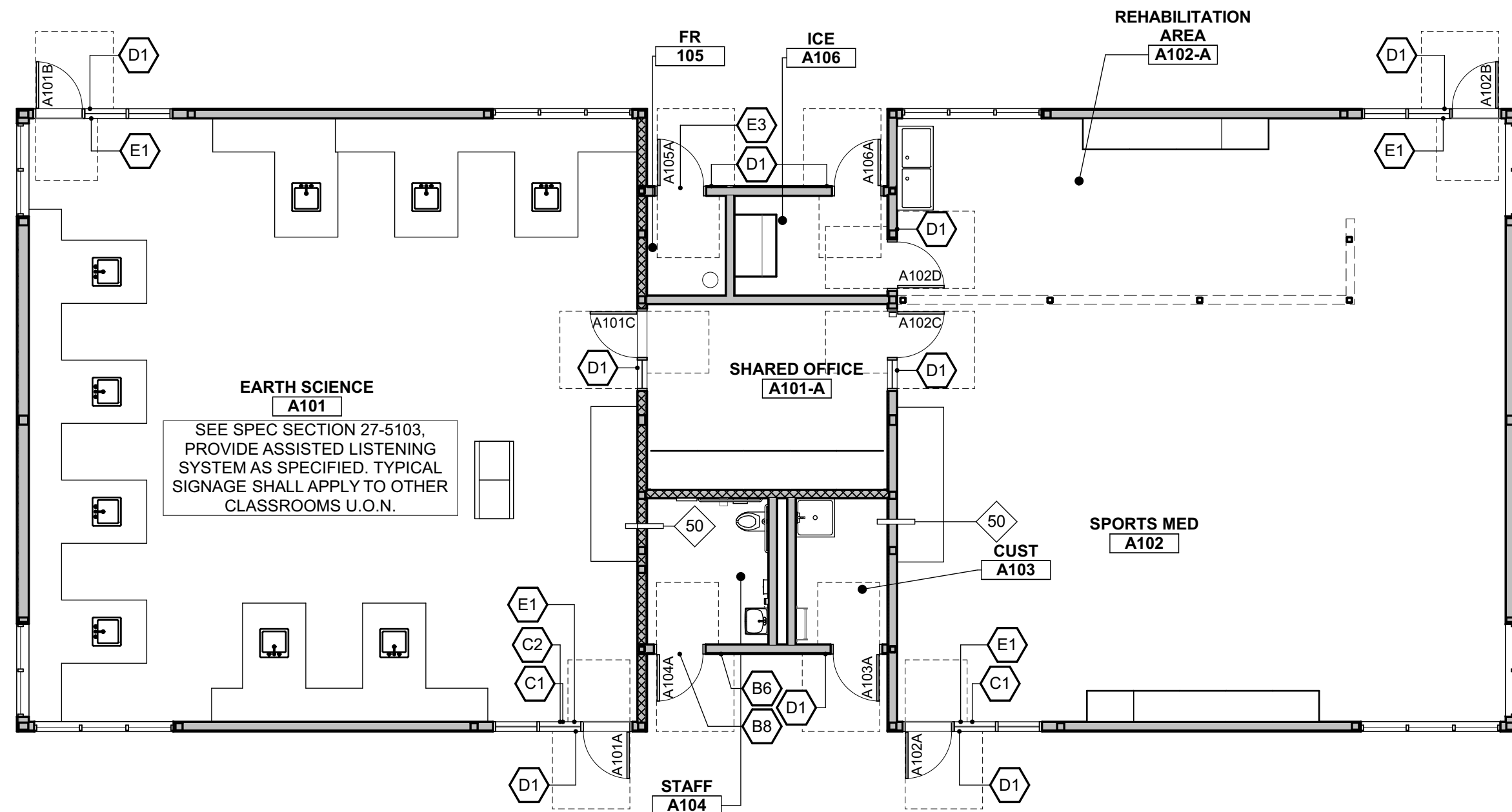


E3 FIRE RISER SIGN



C103332-2019

2



FIRST FLOOR GRAPHICS PLAN

1/8" = 1'-0"

12

SIGNAGE GENERAL NOTES

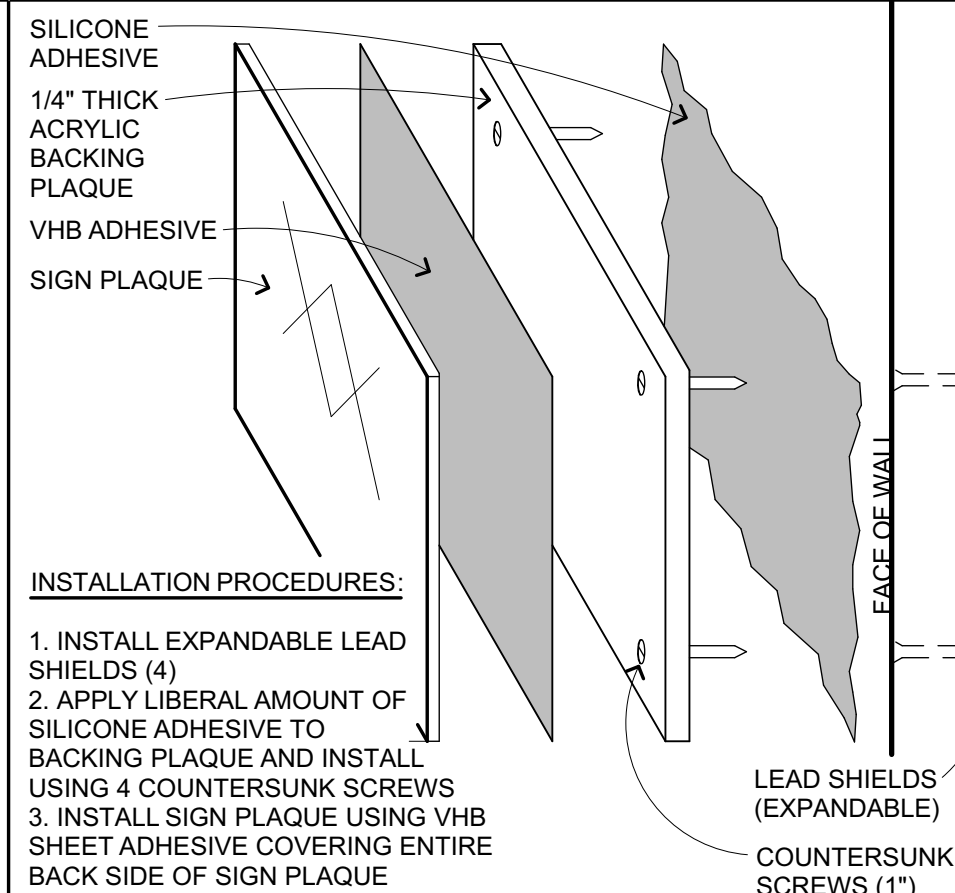
- ALL SIGNAGE AT MAIN ENTRANCES, TOILETS, PERMANENT ROOMS, ASSISTIVE LISTENING SYSTEMS SHALL COMPLY WITH TITLE 24 CBC AND CBC 11B-703
- RAISED CHARACTERS SHALL CONFORM TO CBC 11B-703.2 BRAILLE SHALL CONFORM TO 11B-703.3 PICTORIAL SIGNAGE SHALL CONFORM TO 11B-703.6
- MOUNTING LOCATION AND HEIGHT: (WHERE PERMANENT IDENTIFICATION IS PROVIDED OR WHERE SIGNAGE IS REQUIRED FOR ROOMS AND SPACES): CBC 11B-703.4
- INTERNATIONAL SYMBOL OF ACCESSIBILITY DESIGN AND COLOR SHALL CONFORM TO CBC 11B-703.7.1 & 11B-703.7.2.1.
- DOORS TO TOILET ROOMS: PROVIDE SIGNAGE CONFORMING TO CBC 11B-703.7.2.6
- CONTRAST AND FINISH OF SYMBOLS SHALL CONFORM TO CBC 11B-703.7.1.

SIGNAGE GENERAL NOTES

1/4" = 1'-0"

Z101006

8

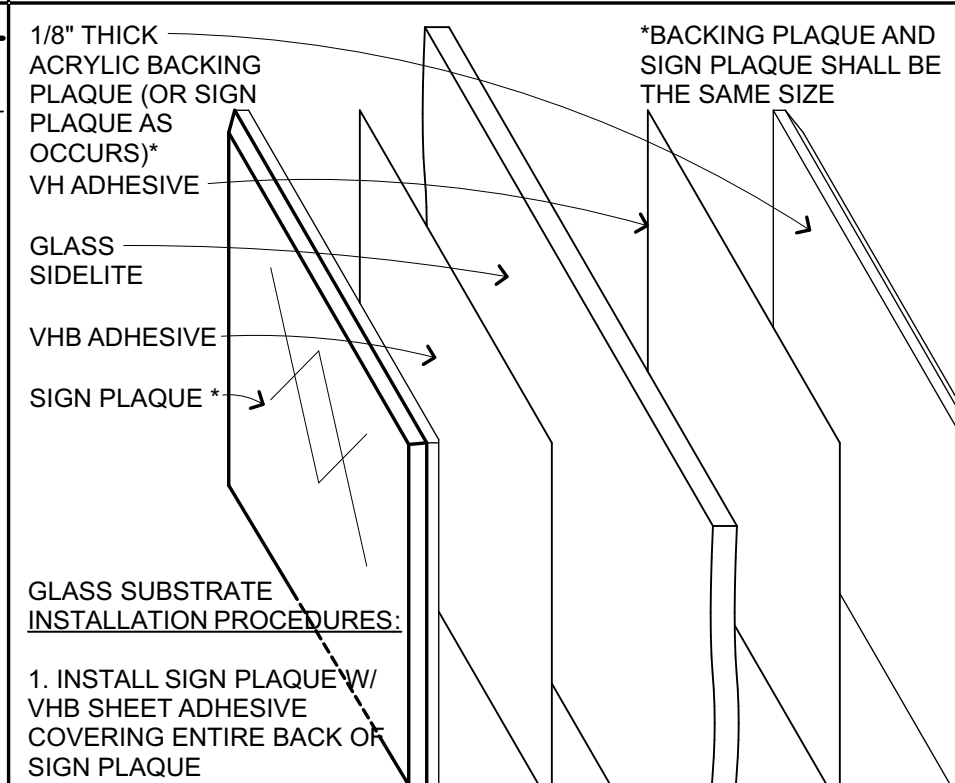


SIGN INSTALLATION

6" = 1'-0"

C103301

3



SIGN INSTALLATION AT GLASS

6" = 1'-0"

C103304

4

QUATTROCCHI KWOK ARCHITECTS
Main:
636 Fifth Street, Santa Rosa, CA 95404
East Bay:
55 Harrison Street, Suite 525,
Oakland, CA 94607
(707) 576-0829

LICENSED ARCHITECT
JIM THEISS
LICENSE # C22643
EXP JUNE 30, 2021
STATE OF CALIFORNIA
SIGNED: MAY 10, 2021

HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

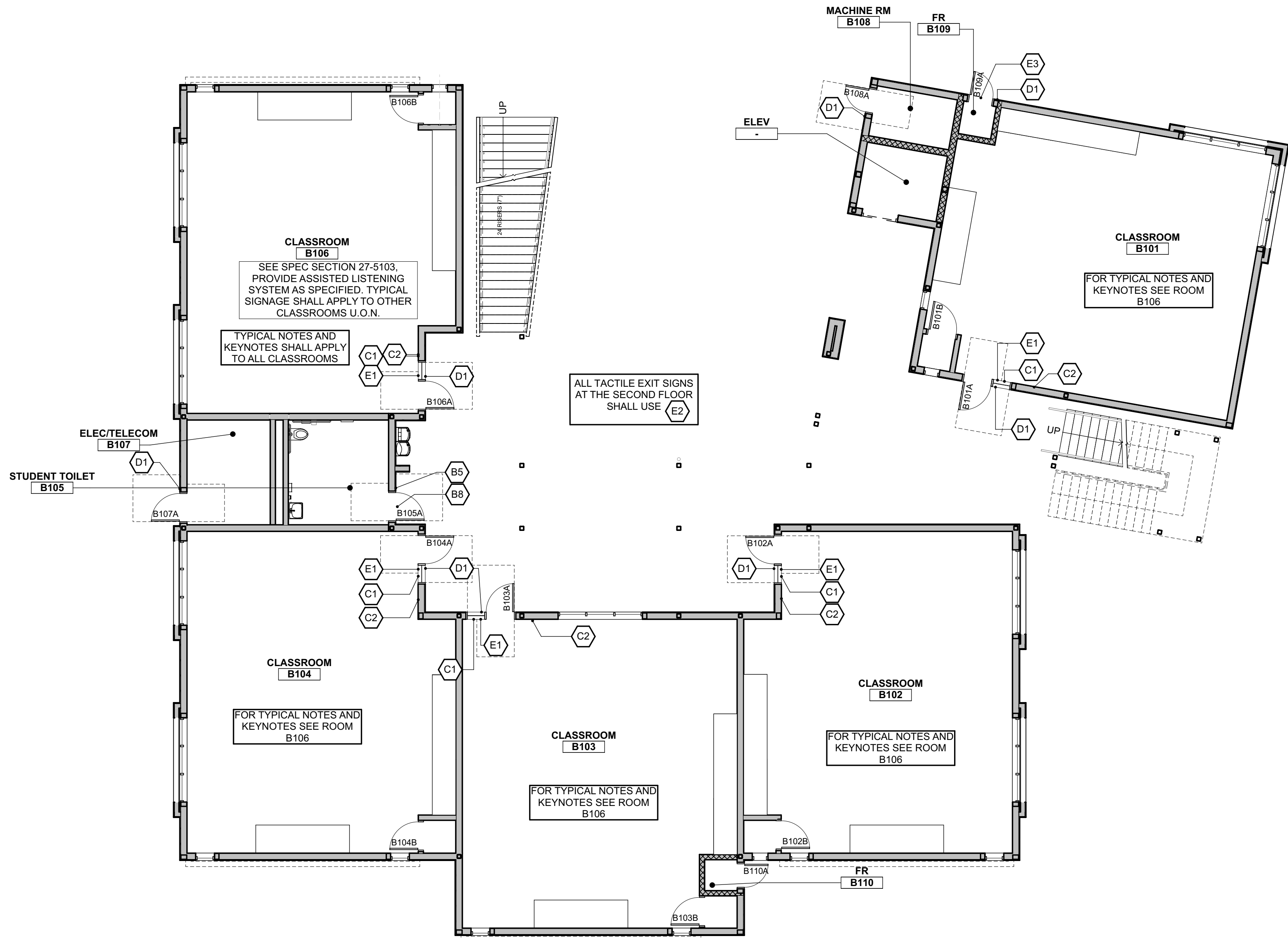
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ARCH PROJECT NO.	1870.00
DRAWN BY:	
DRAWING SCALE:	
PTN: 61721-77	FILE NO: 7-H4
BID SET	
MAY 10, 2021	
SHEET TITLE	

BLDG-A SIGNAGE PLAN

SHEET NUMBER

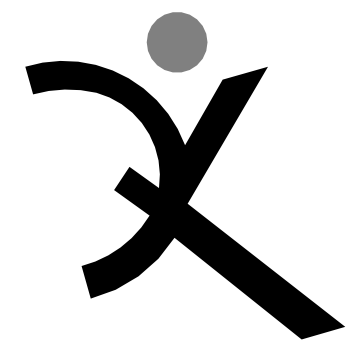
AG-2.1

BIMcloud: archserver - BIMcloud Basic for ARCHICAD 22/1870.00 Heritage HS New Classroom Bldgs/5/11/2021:8:49 AM

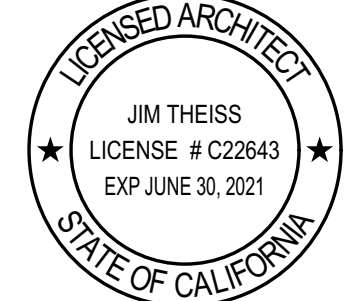


BUILDING B FIRST FLOOR SIGNAGE
PLAN, SIM FOR SECOND FLOOR

1



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HERITAGE HIGH
SCHOOL

NEW CLASSROOM
BUILDINGS
INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH
SCHOOL DISTRICT

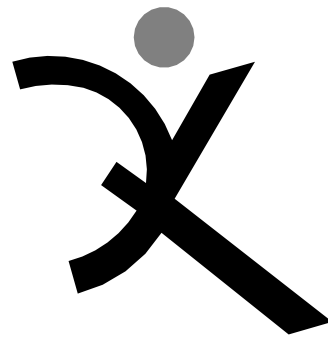
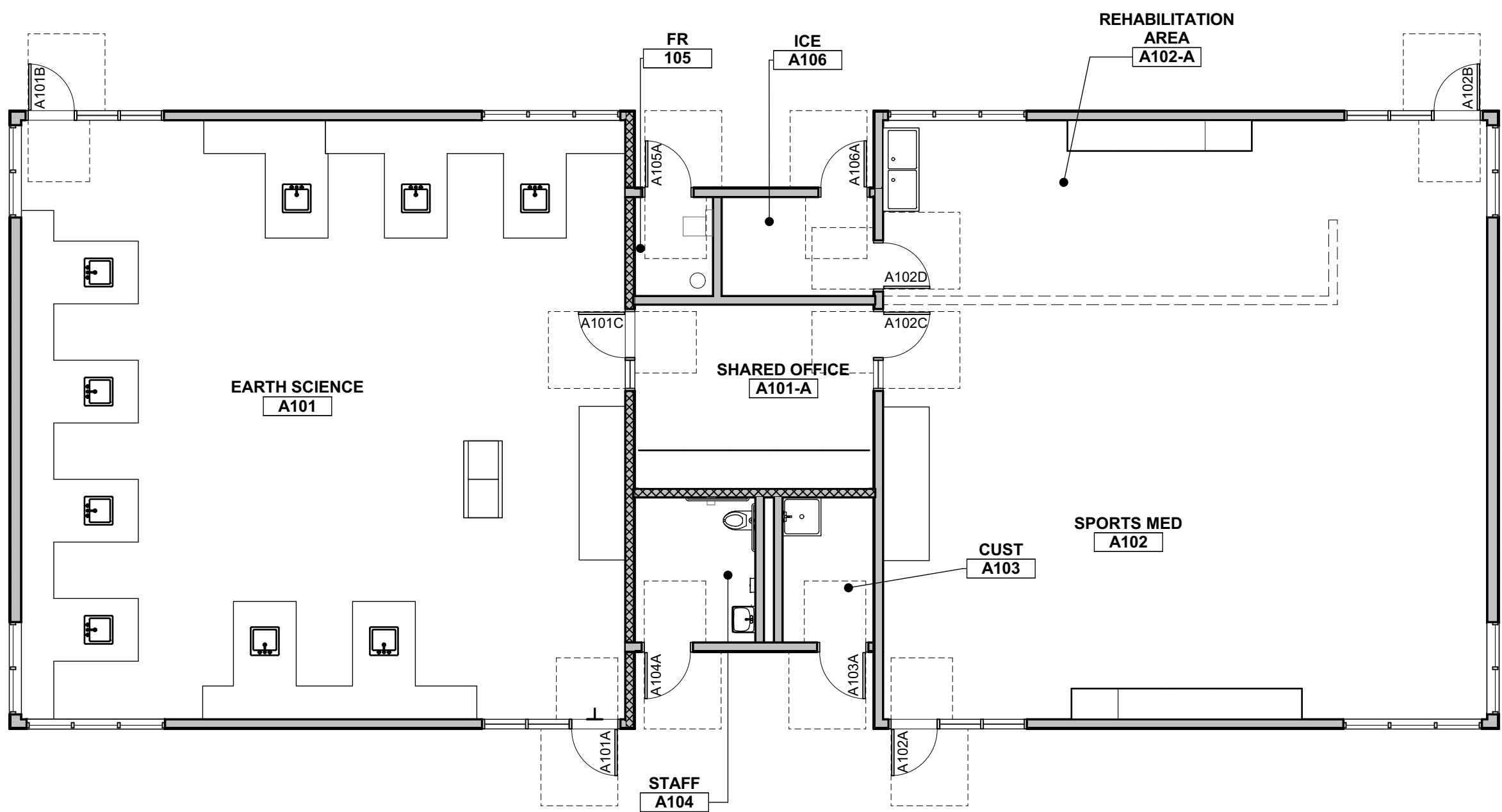
DSA APP NO.	01-119268
ARCH PROJECT NO.	1870.00
DRAWN BY:	
DRAWING SCALE:	
PTN: 61721-77	FILE NO: 7-H4
BID SET	
MAY 10, 2021	
SHEET TITLE	

BLDG-B
SIGNAGE PLAN

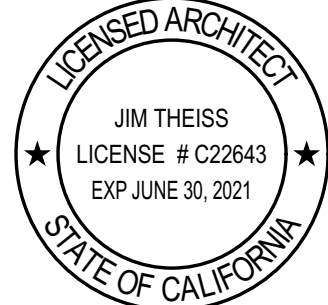
SHEET NUMBER

AG-2.2

BIMcloud: archserver - BIMcloud Basic for ARCHICAD 22/1870.00 Heritage HS New Classroom Bldgs.5/11/2021:8:49 AM



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SIGNED: MAY 10, 2021

HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS

INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119268

ARCH PROJECT NO: 1870.00

DRAWN BY:

DRAWING SCALE:

PTN: 61721-77 FILE NO: 7-H4

BID SET

MAY 10, 2021

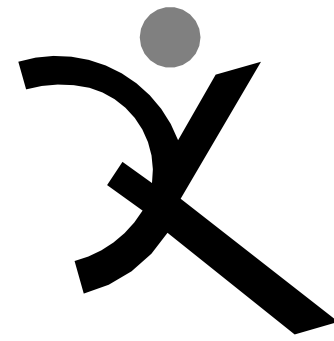
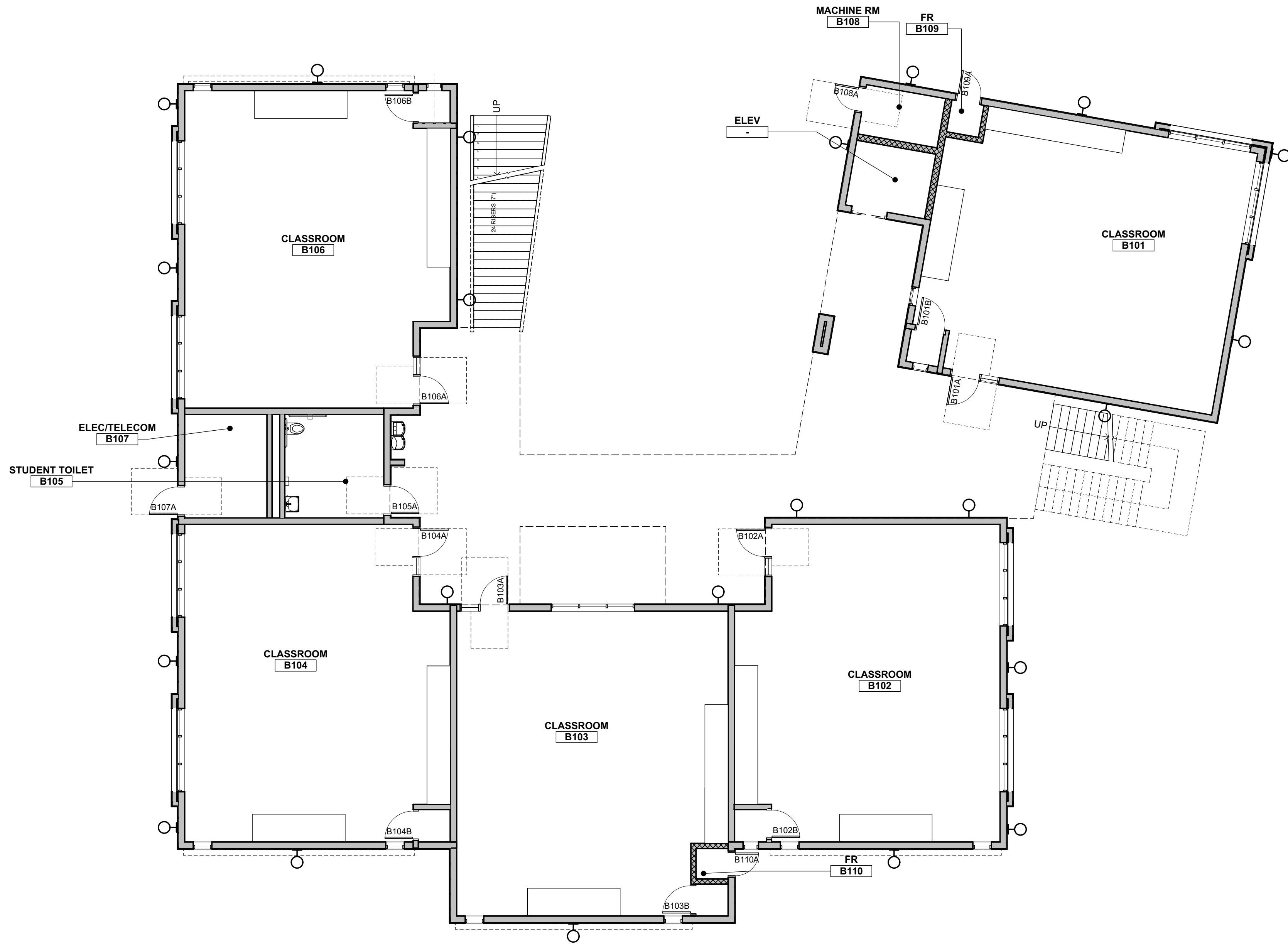
SHEET TITLE

BLDG-A FINISH
PLAN

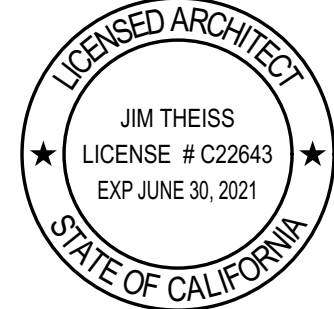
SHEET NUMBER

AG-2.3

BIMcloud: archserver - BIMcloud Basic for ARCHICAD 22/1870.00 Heritage HS New Classroom Bldgs.5/11/2021:8:49 AM



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SIGNED: MAY 10, 2021

HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS

INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH
SCHOOL DISTRICT

DSA APP NO. 01-119268

ARCH PROJECT NO: 1870.00

DRAWN BY:

DRAWING SCALE:

PTN: 61721-77 FILE NO: 7-H4

BID SET

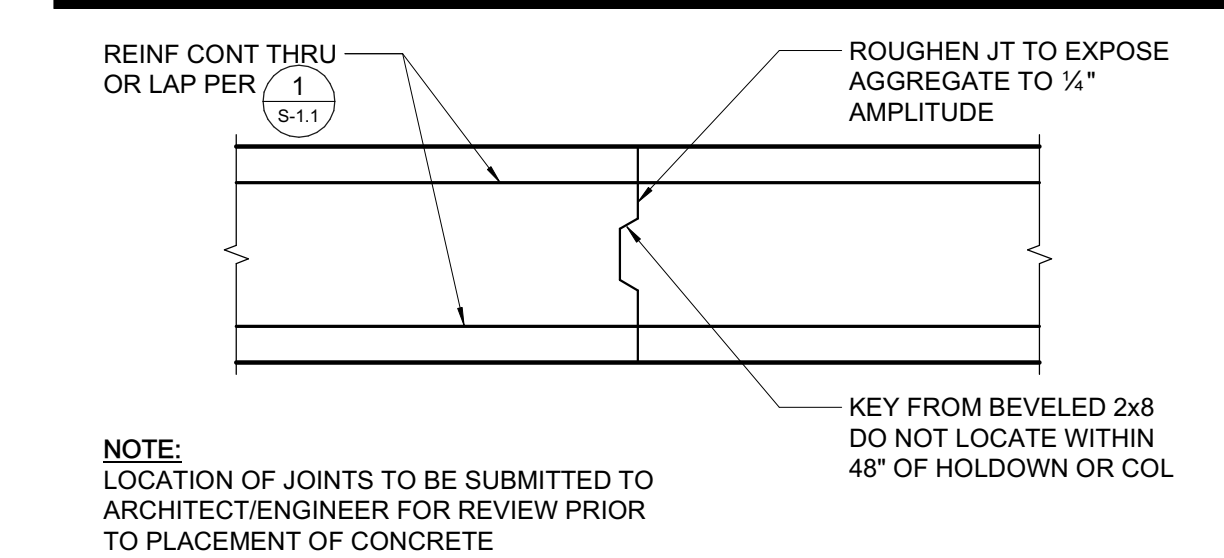
MAY 10, 2021

SHEET TITLE

BLDG-B FINISH
PLAN

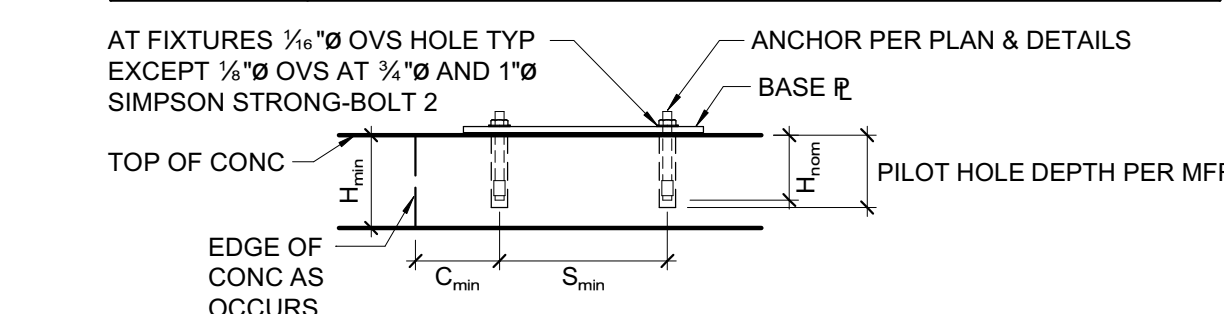
SHEET NUMBER

AG-2.4



14 FOOTING CONSTRUCTION JOINT
3/4" = 1'-0"

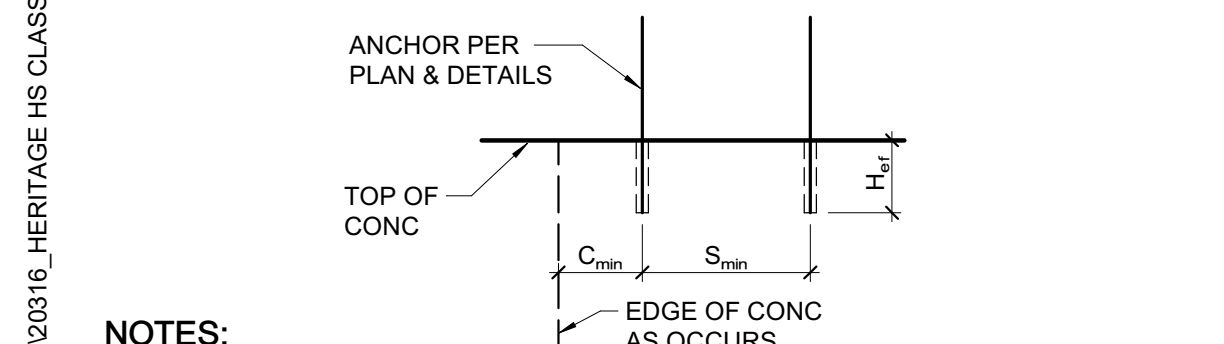
STAINLESS STL EXPANSION ANCHORS IN 2500 PSI MIN CONC							
ANCHOR TYPE	ANCHOR AND PILOT HOLE DIA	MIN NOMINAL EMBED H_{nom}	MIN EDGE DISTANCE C_{min}	MIN SPACING S_{min}	MIN CONC THICKNESS H_{min}	INSTALL TORQUE (FT-LB)	
SIMPSON STRONG-BOLT 2 (ICC-ESR 3037)	3/8"	1 1/4"	6"	10"	3 1/4"	30	
	1/2"	2 1/4"	6 1/2"	8"	4 1/2"	65	
	3/4"	3 3/4"	4"	8"	5 1/2"	80	
HILTI KWIK BOLT TZ (ICC-ESR 1917)	3/8"	4 1/4"	6"	6 1/2"	6 3/4"	150	
	1/2"	2 3/8"	2 1/2"	5"	4"	25	
	3/4"	2 3/4"	2 1/2"	5 3/4"	4"	40	
HILTI KH-EZ (ICC-ESR 3027)	3/8"	3 3/8"	3 1/4"	5 1/2"	4"	60	
	1/2"	4 3/8"	4 1/4"	10"	6"	110	



- NOTES:**
- INSTALL EXPANSION ANCHORS PER MANUFACTURER'S INFORMATION AND ICC REPORT INSTRUCTIONS. SPECIAL INSPECTION IS REQUIRED PER SECTION 1705A AND THE REQUIREMENTS OF THE ICC REPORTS.
 - CONTRACTOR TO VERIFY MINIMUM EDGE DISTANCES, SPACING AND THICKNESS ARE IN ACCORDANCE W/ SCHEDULE PRIOR TO INSTALLING ANCHOR.
 - WHEN INSTALLING DRILLED-IN ANCHORS IN EXISTING REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN A REASONABLE CLEARANCE BETWEEN REINFORCEMENT AND THE DRILLED-IN ANCHOR. FILL ABANDONED HOLES W/ HIGH STRENGTH GROUT.
 - THE SPECIAL INSPECTOR SHALL PERFORM PERIODIC/CONTINUOUS INSPECTION IN ACCORDANCE WITH TABLE 1705.3. THE SPECIAL INSPECTOR SHALL INSPECT ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANLINESS, EMBEDMENT DEPTH, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, DRILL BIT DIAMETER, HOLE DEPTH, EDGE DISTANCE(S), ANCHOR SPACING(S), CONCRETE THICKNESS, AND TIGHTENING TORQUE.
 - TEST ANCHORS IN ACCORDANCE W/ CBC SECTION 1910A.5.

15 STAINLESS STEEL EXPANSION ANCHOR IN CONCRETE

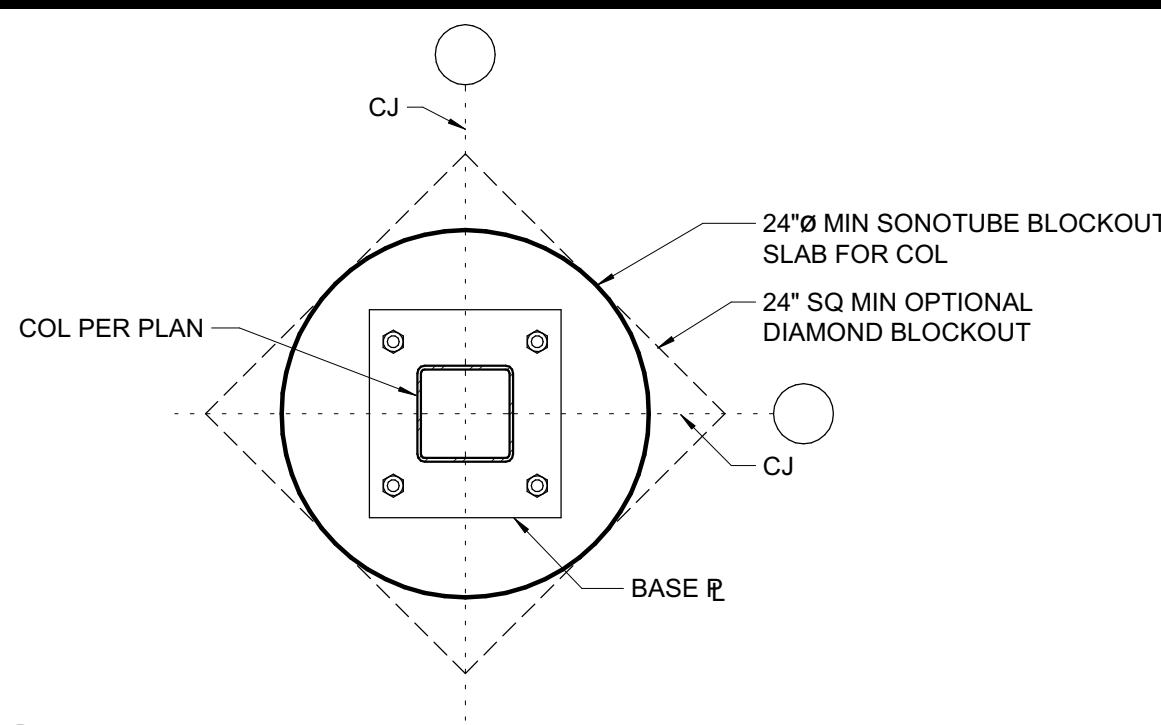
ADHESIVE ANCHOR IN 2500 PSI MIN CONCRETE							
ADHESIVE TYPE	THRD ROD	REBAR	PILOT HOLE	MIN EMBED UNO H_{un}	MIN EDGE DISTANCE C_{min}	MIN SPCG S_{min}	MIN CONC DEPTH H_{min}
SIMPSON SET-XP (ICC-ESR 2508)	3/8"	#3	1/2"	3"	1 1/2"	3"	$H_{ad} + 2 1/2"$
	1/2"	#4	3/4"	4"	1 1/2"	3"	$H_{ad} + 3 1/2"$
	3/4"	#5	5/8"	5"	1 1/2"	3"	$H_{ad} + 3 3/4"$
	1/2"	#6	1/2"	6"	1 1/2"	3"	$H_{ad} + 4 3/4"$
	3/4"	#7	1"	7"	1 1/2"	3"	$H_{ad} + 4"$
	1"	#8	1 1/4"	8"	1 1/2"	3"	$H_{ad} + 5 1/4"$
HILTI HIT-HY 200R (ICC-ESR 3187)	1 1/4"	#10	1 3/4"	10"	2 1/2"	6"	$H_{ad} + 6 1/4"$
	3/8"	N/A	3/8"	3"	1 1/2"	1 1/2"	$H_{ad} + 1 1/4"$
	N/A	#3	1/2"	3"	1 1/2"	1 1/2"	$H_{ad} + 1 1/4"$
	1/2"	N/A	3/8"	4"	1 1/2"	2 1/2"	$H_{ad} + 1 1/2"$
	N/A	#4	3/4"	4"	1 1/2"	2 1/2"	$H_{ad} + 1 1/2"$
	3/4"	#5	5/8"	5"	1 1/2"	3 3/4"	$H_{ad} + 1 1/2"$
HILTI KWIK BOLT TZ (ICC-ESR 1917)	3/4"	#6	5/8"	6"	1 1/2"	3 3/4"	$H_{ad} + 1 1/2"$
	1/2"	#7	1"	7"	1 1/2"	4 3/4"	$H_{ad} + 2"$
	1"	#8	1 1/4"	8"	1 1/2"	5"	$H_{ad} + 2 1/4"$
	N/A	#9	1 3/8"	9"	1 1/2"	5 3/4"	$H_{ad} + 2 3/4"$
	1 1/4"	N/A	1 3/4"	10"	1 1/2"	6 1/4"	$H_{ad} + 2 3/4"$
	N/A	#10	1 1/2"	10"	1 1/2"	6 3/4"	$H_{ad} + 3"$



- NOTES:**
- INSTALL ADHESIVE ANCHORS PER MANUFACTURER'S INFORMATION AND ICC REPORT.
 - CONTRACTOR TO VERIFY MINIMUM EDGE DISTANCES, SPACING, AND THICKNESS ARE IN ACCORDANCE W/ SCHEDULE PRIOR TO INSTALLING ANCHOR.
 - HOLES TO BE DRILLED W/ ROTARY DRILL ONLY. WHEN DRILLING HOLES IN EXISTING CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN A REASONABLE CLEARANCE BETWEEN REINFORCEMENT AND THE DRILLED-IN ANCHOR. FILL ABANDONED HOLES W/ HIGH STRENGTH GROUT.
 - SPECIAL INSPECTION IS REQUIRED PER SECTION 1705A AND THE REQUIREMENTS OF THE ICC REPORTS. THE SPECIAL INSPECTOR SHALL PERFORM PERIODIC/CONTINUOUS INSPECTION IN ACCORDANCE WITH TABLE 1705A.3. THE SPECIAL INSPECTOR SHALL INSPECT ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANLINESS, EMBEDMENT DEPTH, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, DRILL BIT DIAMETER, HOLE DEPTH, EDGE DISTANCE(S), ANCHOR SPACING(S), CONCRETE THICKNESS, AND ADHESIVE INJECTION. TEST ANCHORS IN ACCORDANCE W/ CBC SECTION 1910A.5. SEE DRAWINGS FOR SPECIFIC TENSION TEST LOADS FOR ANCHORS.

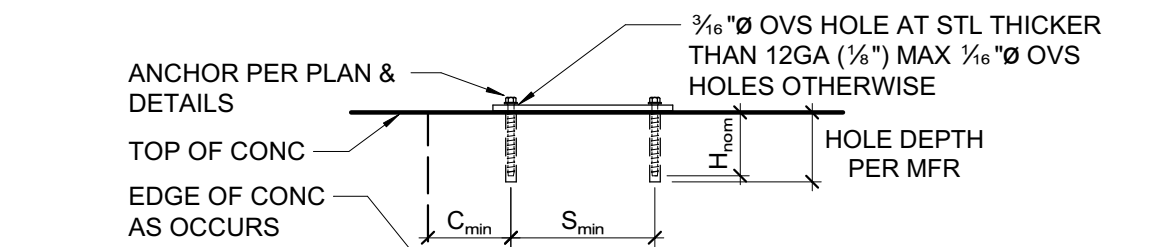
16 ADHESIVE ANCHOR IN CONCRETE

3/4" = 1'-0"



11 SLAB BLOCKOUT

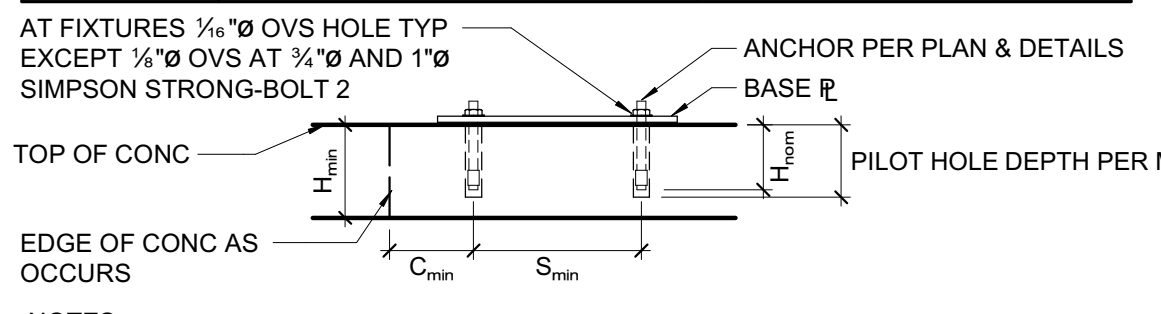
SCREW ANCHOR IN 2500 PSI MIN CONCRETE							
ANCHOR TYPE	ANCHOR AND PILOT HOLE DIA	MINIMUM EMBEDMENT H_{em}	MINIMUM EDGE DIST C_{min}	MINIMUM SPCG S_{min}	MINIMUM CONCRETE THICKNESS H_{min}	MINIMUM INSTALL TORQUE (FT-LB)	MAXIMUM INSTALL TORQUE (FT-LB)
SIMPSON TITEN HD (ICC-ESR 2713)	1/2"	1 1/2"	1 1/2"	1 1/2"	3 1/2"	10	24
	3/8"	2 1/2"	1 1/2"	3"	4"	10	50
	1/2"	3 1/4"	1 1/2"	3"	5"	10	65
HILTI KH-EZ (ICC-ESR 3027)	3/8"	4"	1 1/2"	3"	6"	10	100
	1/2"	5 1/2"	1 1/2"	3"	8 3/4"	20	150
	3/4"	6 1/2"	1 1/2"	3 1/4"	10	18	
HILTI KH-EZ (ICC-ESR 3027)	3/8"	2 1/2"	1 1/2"	3"	4"	10	40
	1/2"	3"	1 1/2"	3"	4 3/4"	10	45
	3/4"	3 3/4"	1 1/2"	4"	5"	10	85
	1/2"	4"	1 1/2"	4"	6"	20	95



- NOTES:**
- INSTALL SCREW ANCHORS PER MANUFACTURER'S INFORMATION AND ICC REPORT INSTRUCTIONS. SPECIAL INSPECTION IS REQUIRED PER SECTION 1705A OF THE CBC AND THE REQUIREMENTS OF THE ICC REPORTS. INSTALLED ANCHORS SHALL BRING CONNECTED PLIES INTO FIRM CONTACT, MEETING THE INSTALL TORQUE BUT NOT EXCEEDING THE MAXIMUM INSTALL TORQUE.
 - CONTRACTOR TO VERIFY MINIMUM EDGE DISTANCES, SPACING AND THICKNESS ARE IN ACCORDANCE W/ SCHEDULE PRIOR TO INSTALLING ANCHOR.
 - HOLES TO BE DRILLED W/ ROTARY DRILL ONLY. WHEN INSTALLING DRILLED-IN ANCHORS IN EXISTING REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN A REASONABLE CLEARANCE BETWEEN REINFORCEMENT AND THE DRILLED-IN ANCHOR. FILL ABANDONED HOLES W/ HIGH STRENGTH GROUT.
 - THE SPECIAL INSPECTOR SHALL PERFORM PERIODIC/CONTINUOUS INSPECTION IN ACCORDANCE WITH TABLE 1705A.3. THE SPECIAL INSPECTOR SHALL INSPECT ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANLINESS, EMBEDMENT DEPTH, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, DRILL BIT DIAMETER, HOLE DEPTH, EDGE DISTANCE(S), ANCHOR SPACING(S), CONCRETE THICKNESS, AND TIGHTENING TORQUE.
 - TEST ANCHORS IN ACCORDANCE W/ CBC SECTION 1910A.5.

12 SCREW ANCHOR IN CONCRETE

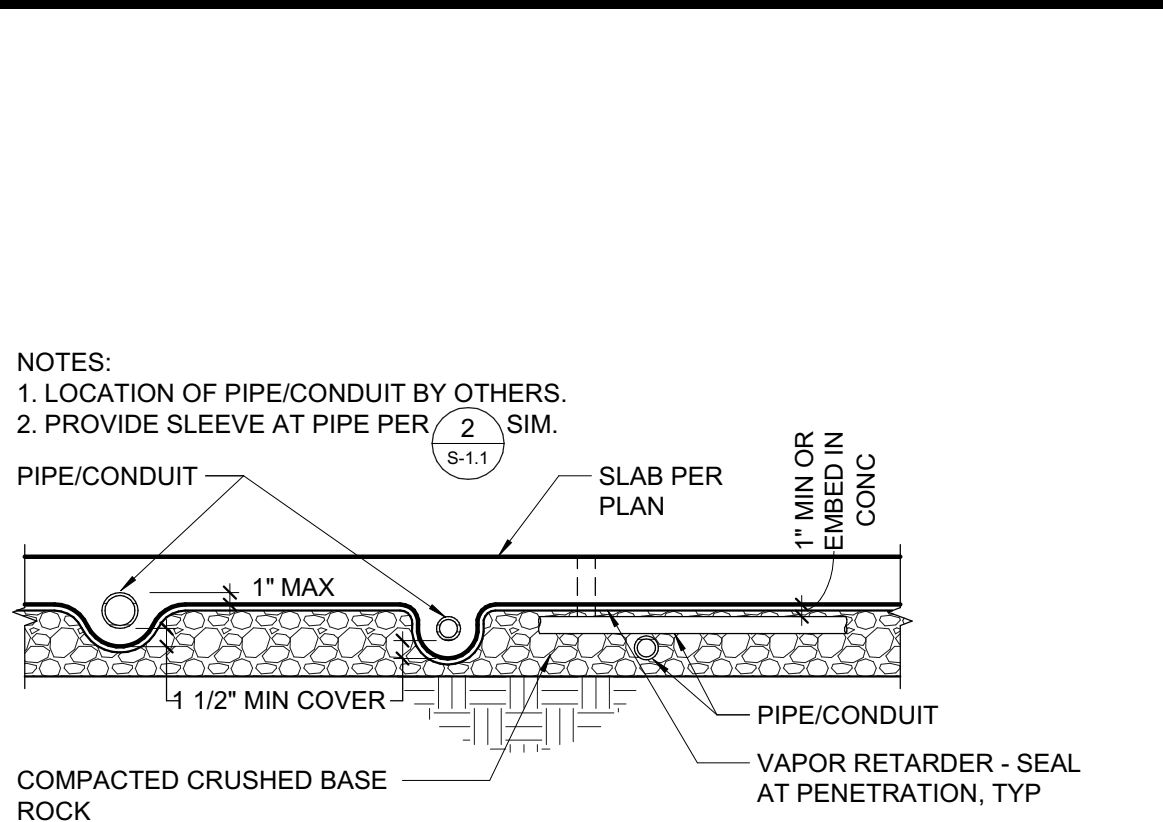
CARBON STL EXPANSION ANCHORS IN 2500 PSI MIN CONC							
ANCHOR TYPE	ANCHOR AND PILOT HOLE DIA	MIN NOMINAL EMBED H_{nom}	MIN EDGE DISTANCE C_{min}	MIN SPCG S_{min}	MIN CONC THICKNESS H_{min}	INSTALL TORQUE (FT-LB)	
SIMPSON STRONG-BOLT 2 (ICC-ESR 3037)	3/8"	1 1/4"	6"	3"	3 1/4"	30	
	1/2"	2 1/4"	6"	6"	4"	60	
	3/4"	3 3/4"	6 1/2"	5"	5 1/2"	90	
HILTI KWIK BOLT TZ (ICC-ESR 1917)	3/8"	4 1/4"	6 1/2"	8"	6 3/4"	150	
	1"	5 1/4"	8"	8"	9"	230	
	3/8"	2 1/8"	2 1/2"	5"	4"	25	
HILTI KWIK BOLT TZ (ICC-ESR 1917)	1/2"	2 3/4"	2 3/4"	5 1/4"	4"	40	
	3/4"	3 3/4"	3 3/4"	6 1/4"	5"	60	
	1"	4 3/4"	4 3/4"	10 1/4"	6"	110	



- NOTES:**
- INSTALL EXPANSION ANCHORS PER MANUFACTURER'S INFORMATION AND ICC REPORT INSTRUCTIONS. SPECIAL INSPECTION IS REQUIRED PER SECTION 1705A AND THE REQUIREMENTS OF THE ICC REPORTS.
 - CONTRACTOR TO VERIFY MINIMUM EDGE DISTANCES, SPACING AND THICKNESS ARE IN ACCORDANCE W/ SCHEDULE PRIOR TO INSTALLING ANCHOR.
 - WHEN INSTALLING DRILLED-IN ANCHORS IN EXISTING REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN A REASONABLE CLEARANCE BETWEEN REINFORCEMENT AND THE DRILLED-IN ANCHOR. FILL ABANDONED HOLES W/ HIGH STRENGTH GROUT.
 - THE SPECIAL INSPECTOR SHALL PERFORM PERIODIC/CONTINUOUS INSPECTION IN ACCORDANCE WITH TABLE 1705.3. THE SPECIAL INSPECTOR SHALL INSPECT ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANLINESS, EMBEDMENT DEPTH, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, DRILL BIT DIAMETER, HOLE DEPTH, EDGE DISTANCE(S), ANCHOR SPACING(S), CONCRETE THICKNESS, AND TIGHTENING TORQUE.
 - TEST ANCHORS IN ACCORDANCE W/ CBC SECTION 1910A.5.

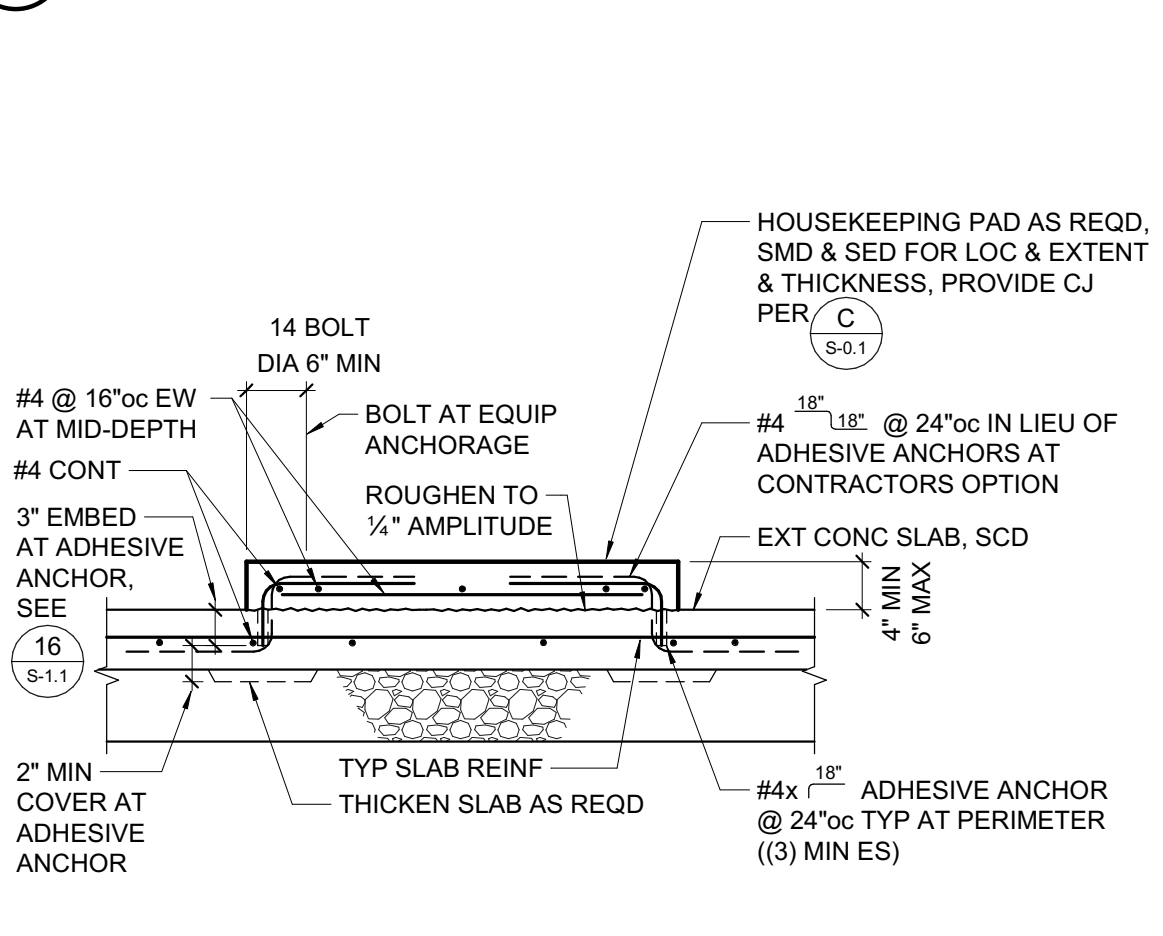
13 CARBON STEEL EXPANSION ANCHOR IN CONCRETE

3/4" = 1'-0"

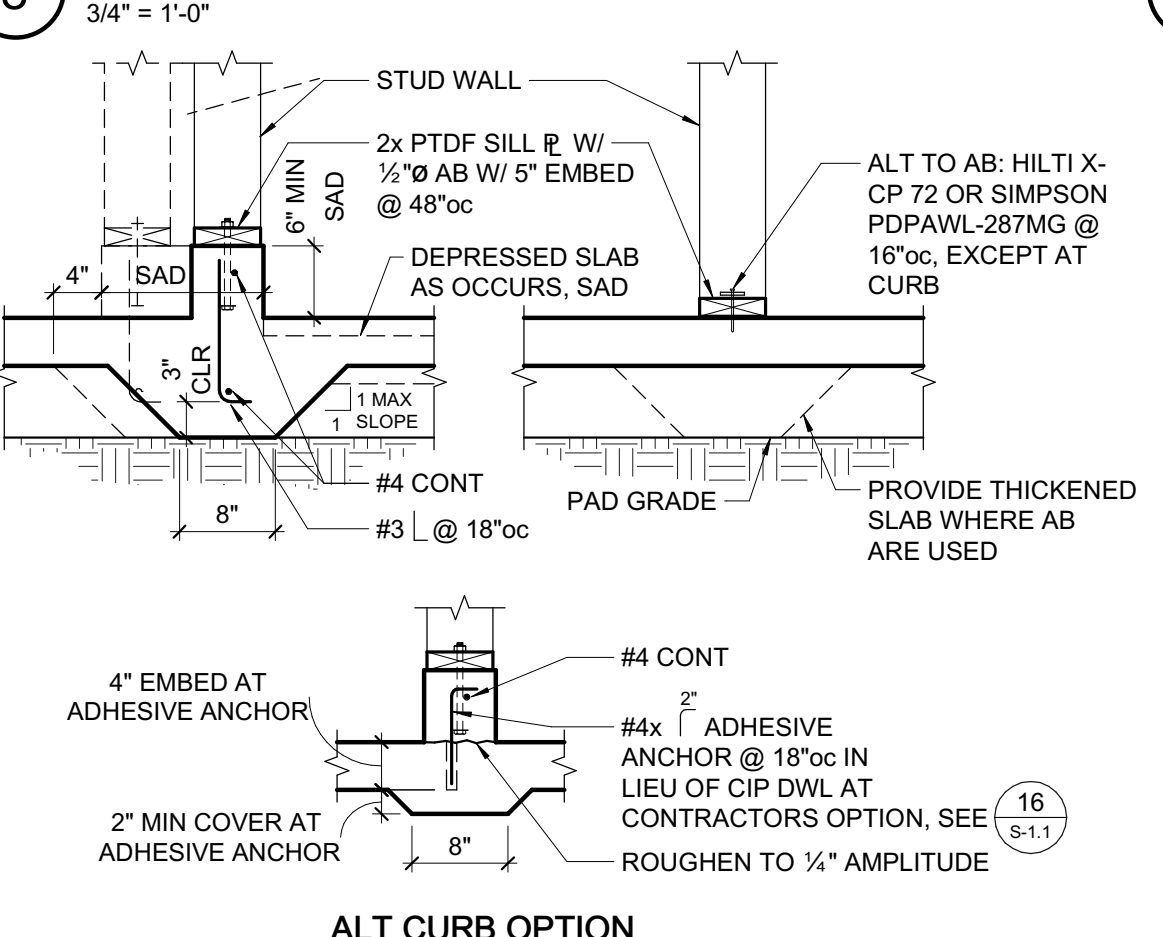


PIPE/CONDUIT REQUIRING EMBEDMENT IN CONCRETE

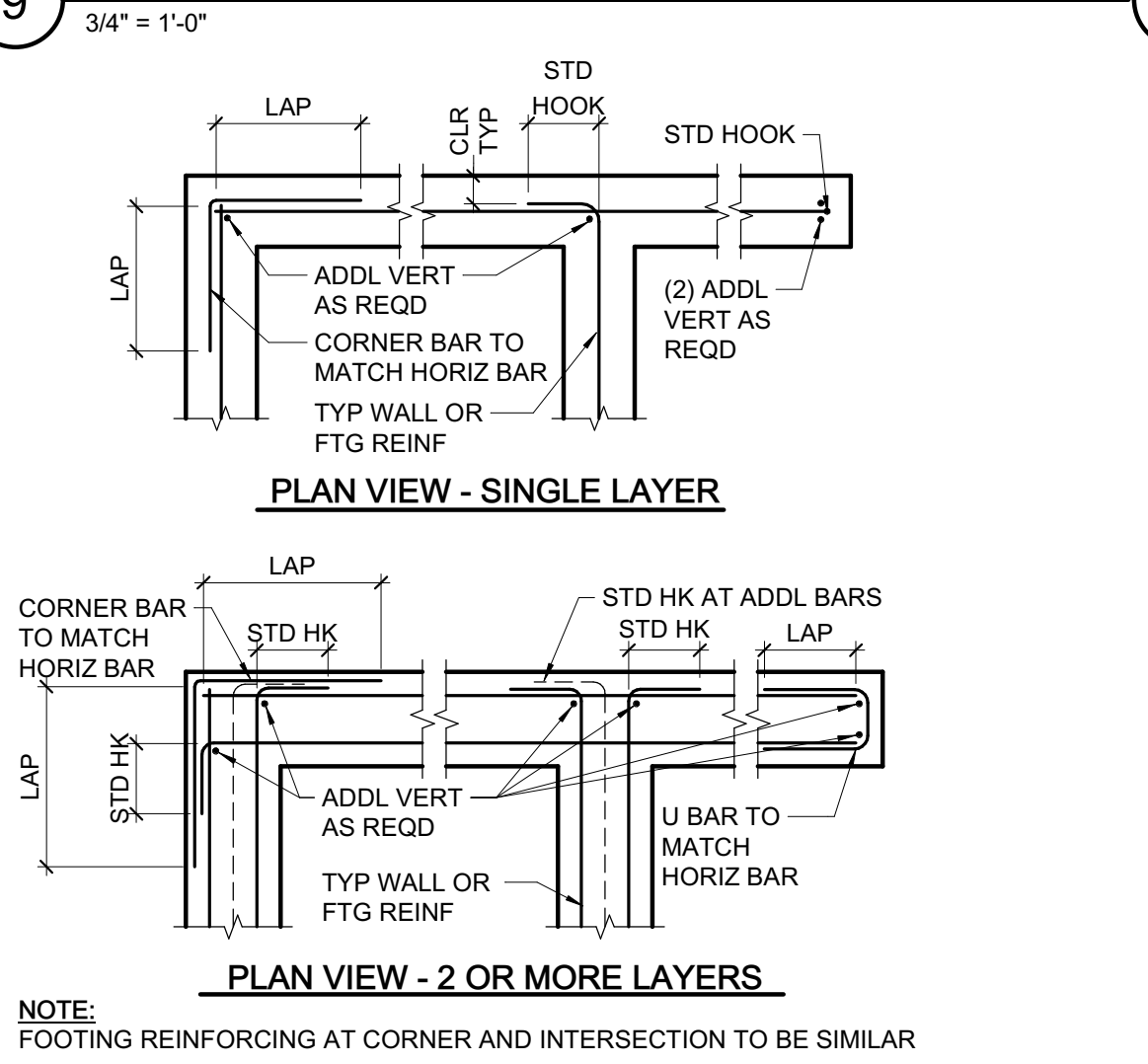
7 CONDUIT & PIPE AT SLAB ON GRADE



8 TYPICAL HOUSEKEEPING PAD AT SLAB ON GRADE

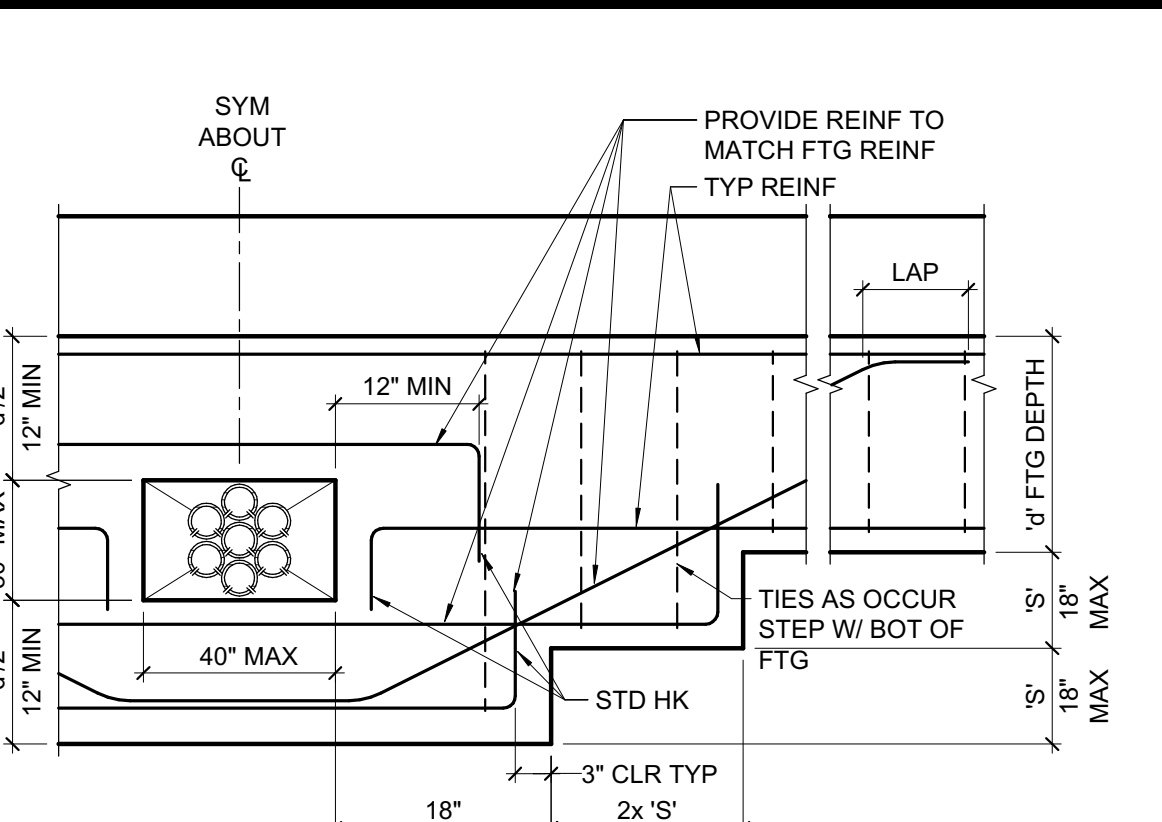


9 NON-BEARING STUD WALL AT SLAB



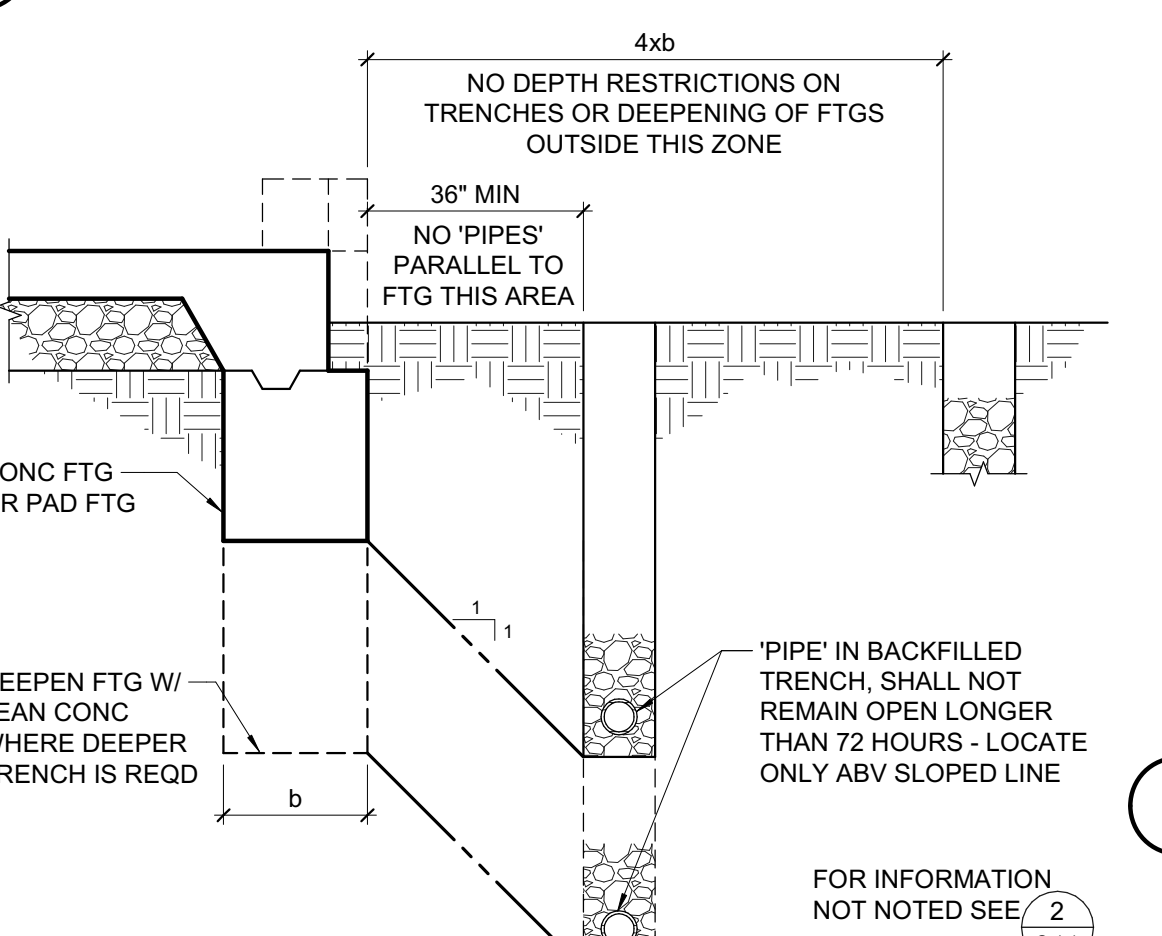
10 TYPICAL CORNER, INTERSECTION AND END REINFORCING

3/4" = 1'-0"

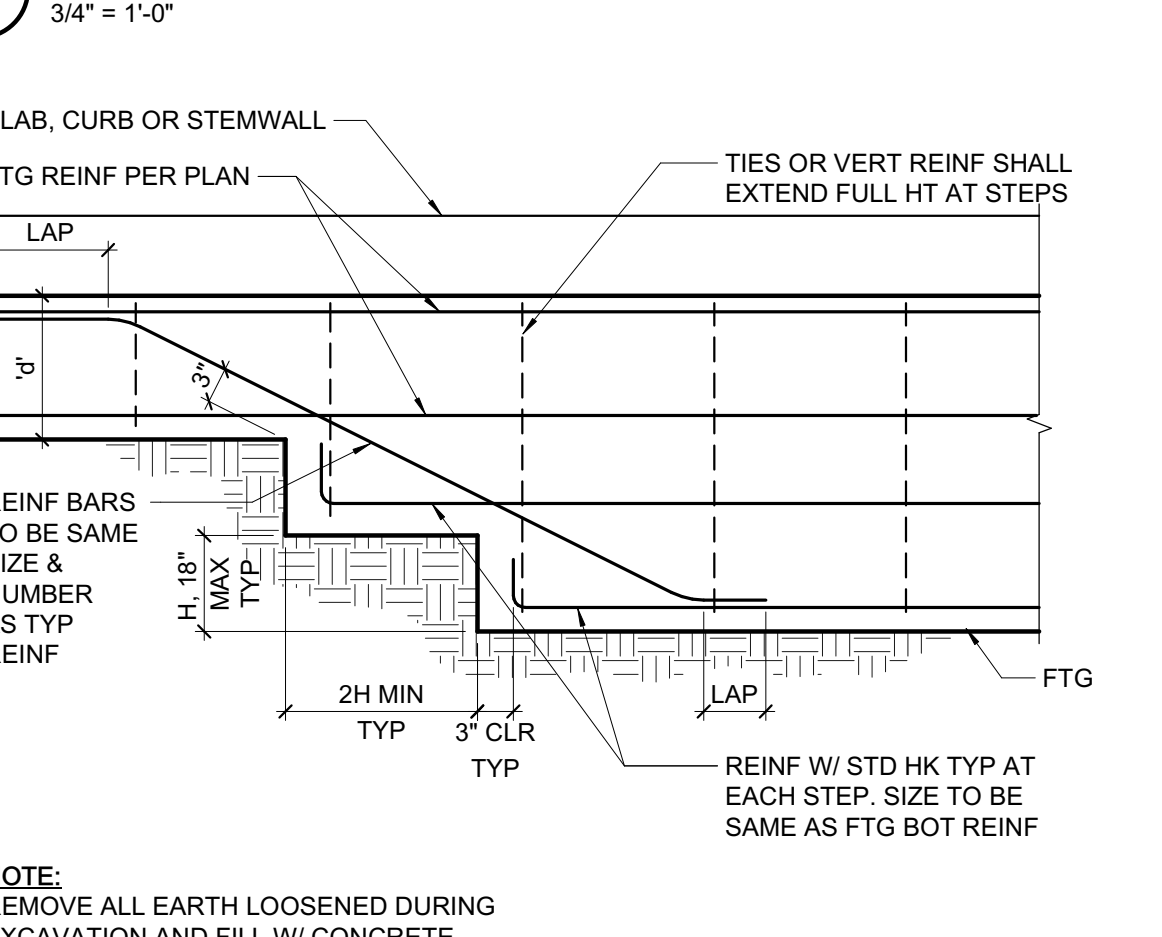


FOUNDATION BLOCKOUT

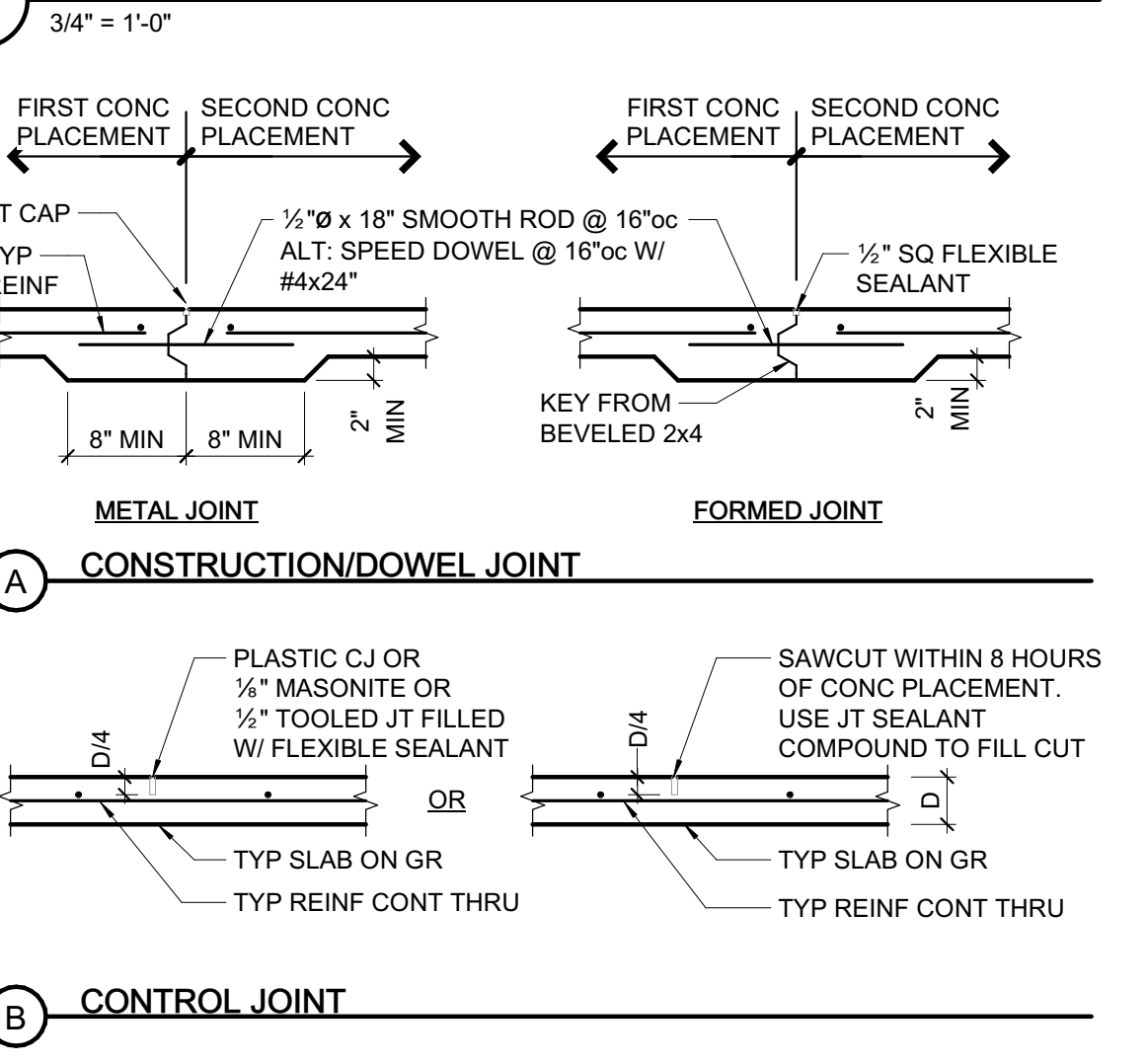
3 FOUNDATION BLOCKOUT



4 TRENCHING ADJACENT TO FOOTING



5 STEPPED FOOTING



6 SLAB ON GRADE JOINTS

3/4" = 1'-0"

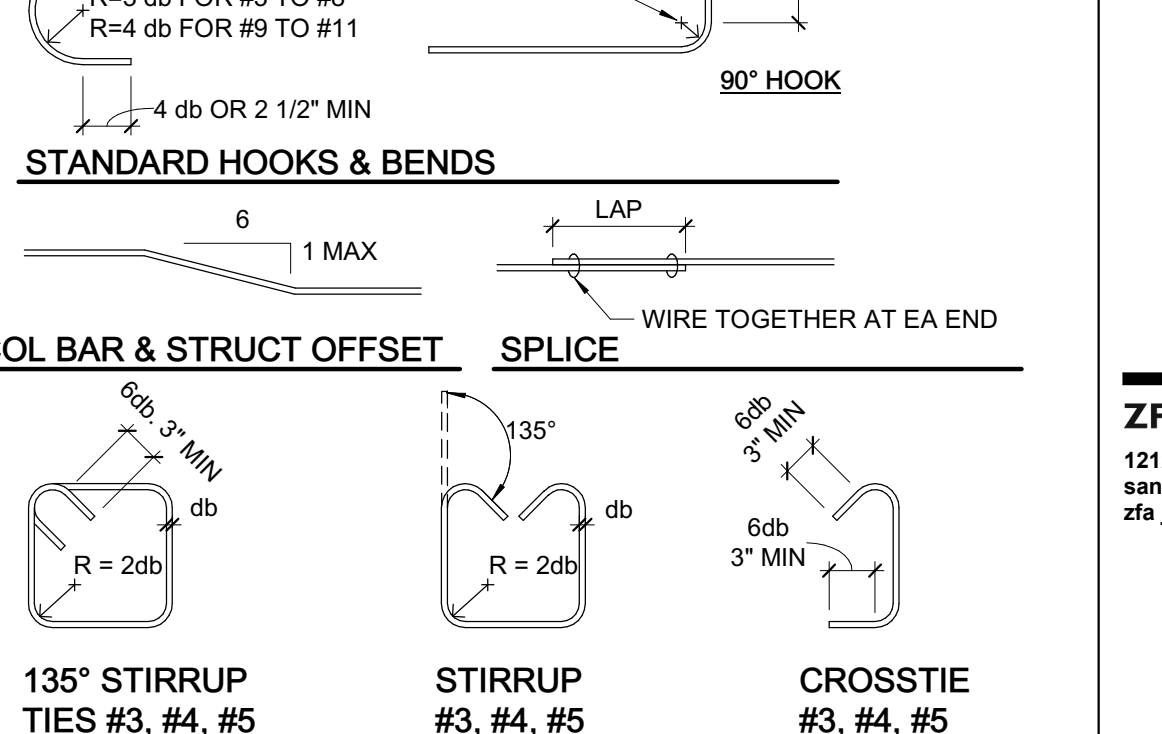
MINIMUM BAR LAPS FOR REINFORCING STEEL CONCRETE STRENGTH: 3000 PSI OR GREATER - (STAGGER SPICES)					
SIZE	LAP LENGTH	SIZE	LAP LENGTH	SIZE	LAP LENGTH
#3	17"	#6	34"	#9	86"
#4	24"	#7	56"	#10	105"
#5	34"*	#8	70"	#11	126"

(CLASS B TOP BAR)
BAR SPCG SHALL NOT BE LESS THAN 4x BAR DIA OR 4".
* WHERE COVER NOT LESS THAN 1 1/2", #5 LAP LENGTH = 28"

CONC COVER FOR REINF STL

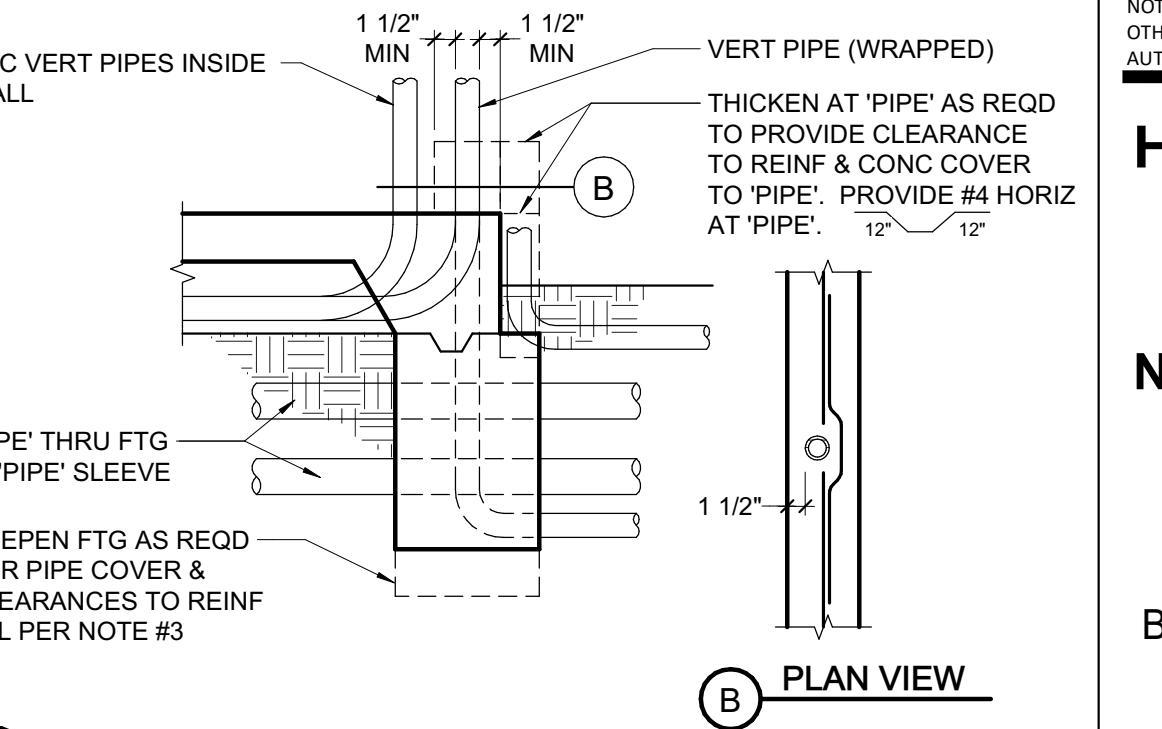
- CAST AGAINST EARTH OR GR 3"
EXPOSED TO EARTH (FORMED) OR WEATHER
#5 & SMALLER 1 1/2"
#6 & LARGER 2"
NOT EXPOSED TO EARTH OR WEATHER
#5 & SMALLER 1"
#6 & LARGER, & ALL BM STIRRUPS, COL TIES & SPIRALS 1 1/2"

ALL REINF BARS SHALL EXTEND AS FAR AS POSSIBLE & END IN A STD 90° OR 180° HK UNLESS DETAILED OTHERWISE



1 TYPICAL REINFORCING DETAILS (f'c = 3000psi MIN)

3/4" = 1'-0"



HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS

INCREMENT 2 OF 2

101 AMERICAN AVE,
BRENTWOOD CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

NO.	DESCRIPTION	DATE
1	ISSUED FOR PERMIT	01/11/2024
2	REVISIONS	
3		
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BID SET

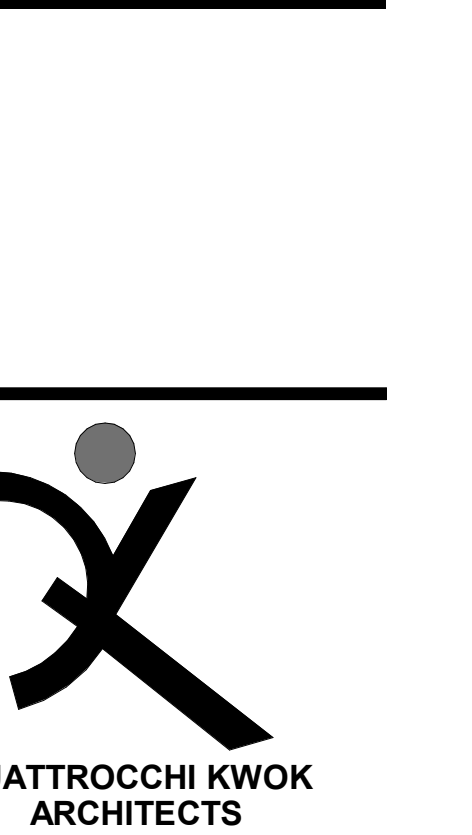
MAY 10, 2021

TYPICAL CONCRETE DETAILS

- NOTES:**
- 'PIPE' = ANY PENETRATION THRU OR EMBEDDED IN FOUNDATION.
 - ALL PIPES THROUGH FOOTINGS TO BE WRAPPED OR SLEEVED AS FOLLOWS:
 - SLEEVES: PROVIDE 1" MIN CLEAR ALL AROUND O.D. PIPE TO I.D. SLEEVE, UNO. SEAL SLEEVE ENDS W/ MASTIC OR PLASTIC BITUMINOUS CEMENT.
 - WRAPPED VERTICAL PIPES: PROVIDE 1/4" NOMINAL SHEET FOAM W/ (3) WRAPS MINIMUM, UNO.
 - WRAPPED HORIZONTAL PIPES: PROVIDE 1/4" NOMINAL SHEET FOAM W/ (8) WRAPS MINIMUM, UNO.
 - UNDERGROUND FIRE LINES 4" AND LARGER:
 - SLEEVES: PROVIDE 2" MIN CLEAR ALL AROUND O.D. PIPE TO I.D. SLEEVE SEAL ENDS PER ABOVE.
 - WRAPPED: PROVIDE 1/4" NOMINAL SHEET FOAM W/ (16) WRAPS MINIMUM. MINIMUM CONCRETE COVER AT PIPES TO BE 3".
 - WRAPPED AND SLEEVED PIPES SHALL HAVE 1 1/2" MIN CLEAR TO REINF STEEL.
 - CLEARANCE BETWEEN 'PIPES' TO BE 3d MIN TYP W/ A MAXIMUM OF (8) PIPES PER 48". GROUPS OF PIPES MAY BE BUNDLED AS SHOWN, EXCEPT IN PAD FOOTINGS.
 - NO 'PIPE' TO RUN PARALLEL IN FOOTINGS, STEM OR CURB.
 - PVC CONDUIT ('PIPE') EMBEDDED IN CURB/STEM MAY BE WIRE TIED TO HORIZONTAL REINF.
 - NO HORIZONTAL PIPES ALLOWED THROUGH FOOTING WITHIN 2'-0" EACH SIDE OF HOLDOWNS OR STEEL COLUMNS. NO VERTICAL PIPES ALLOWED IN FOOTINGS AT BRACED FRAMES.
 - PROVIDE 18" MIN OF COMPACTED FILL ABOVE PIPES UP TO 12". FOR LARGER PIPES INCREASE COMPACTED FILL DEPTH 1'-0" FOR EACH 6" INCREASE IN PIPE DIAMETER. OTHERWISE DEEPEN FOOTING AS SHOWN.

2 PIPES THRU FOOTING

3/4" = 1'-0"



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HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS

INCREMENT 2 OF 2

101 AMERICAN AVE,
BRENTWOOD CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-119268

ARCH PROJECT NO. 1870.00
ENGR / PM: KPB / DM / SCH
DRAWING SCALE: As indicated
PTN: 61721-77 FILE NO: 7-44

BID SET

MAY 10, 2021

TYPICAL CONCRETE DETAILS

SHEET NUMBER

SHEET TITLE

SHEET NUMBER

SHEET TITLE

SHEET NUMBER

SHEET TITLE

SHEET NUMBER

SHEET TITLE

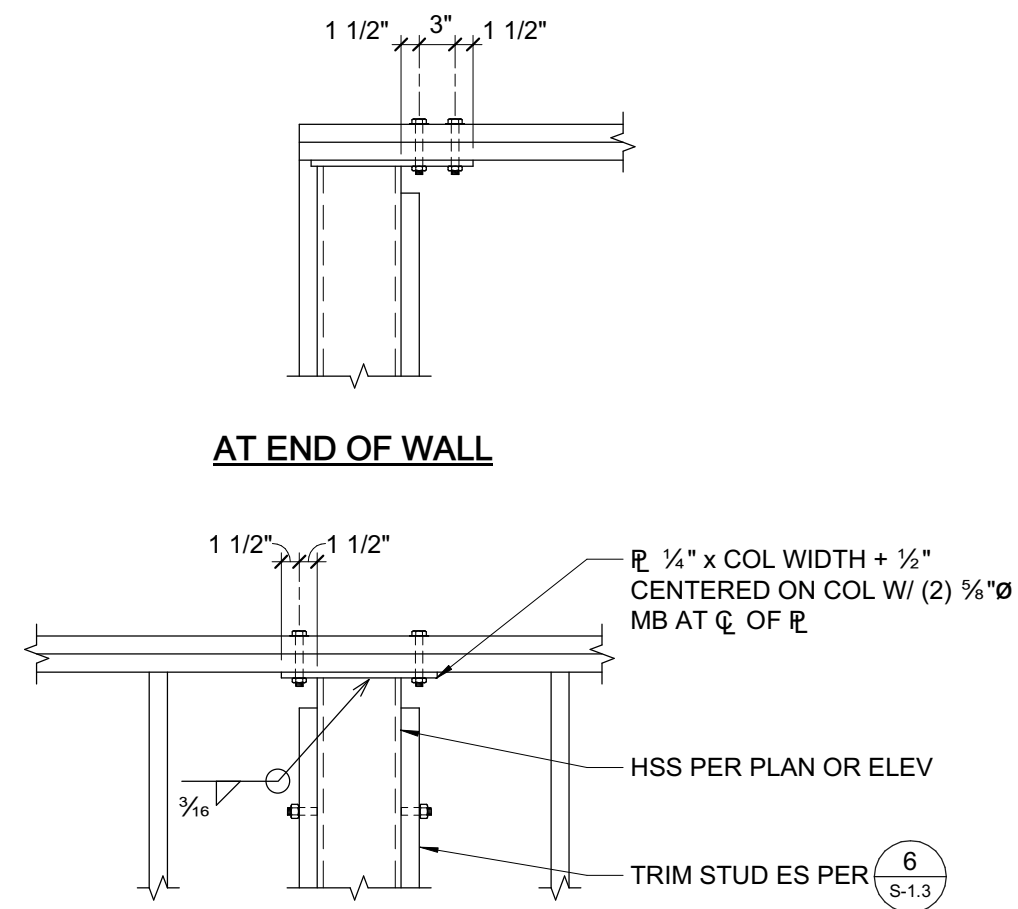
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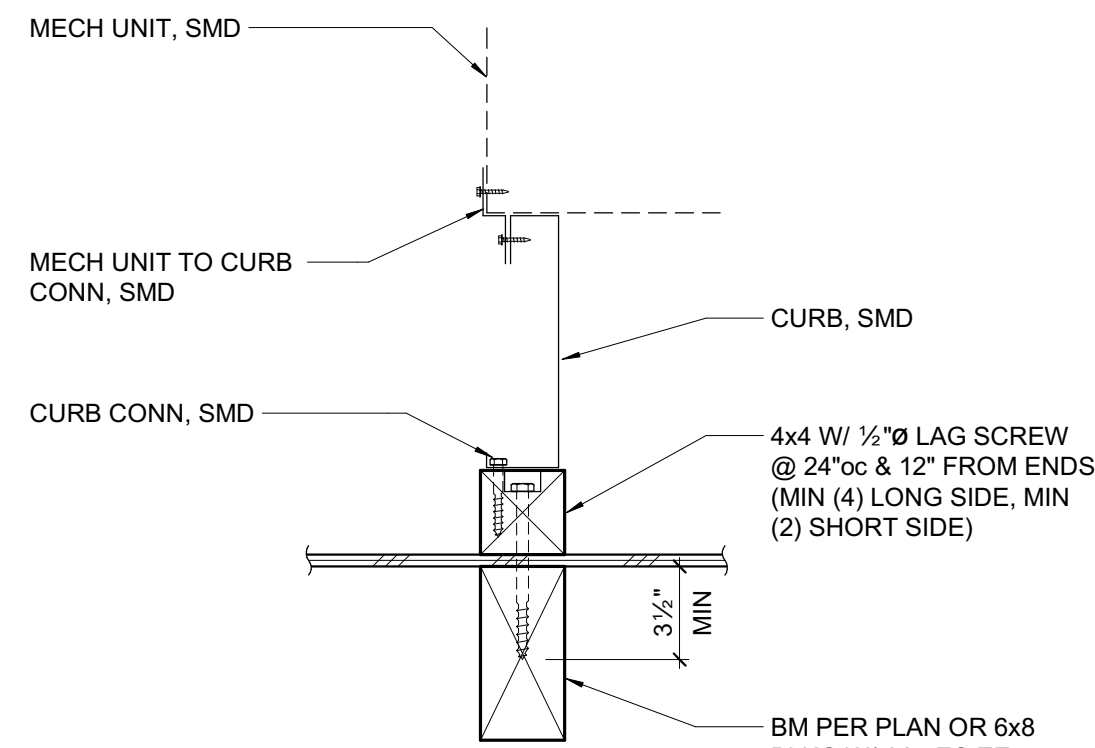
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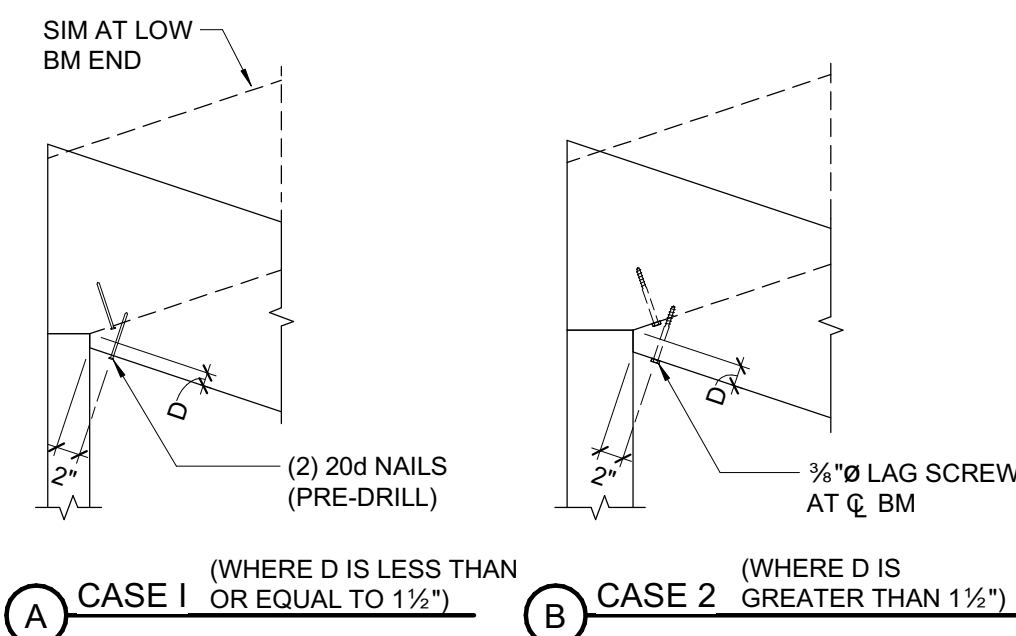
SHEET NUMBER



11 HSS COLUMN AT TOP PLATE
3/4" = 1'-0"

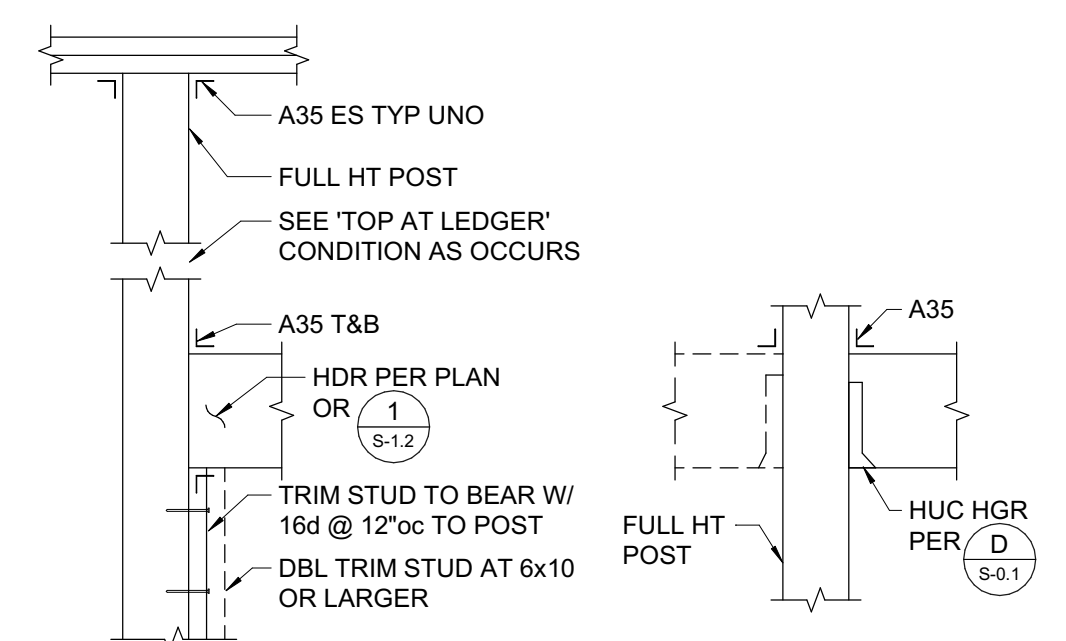


7 MECHANICAL CURB DETAIL ABOVE BEAM
1 1/2" = 1'-0"



- NOTES:**
- DO NOT OVERCUT NOTCHES OR SEAT CUTS.
 - D MAX = BEAM DEPTH/4 SEE OTHER DETAILS FOR ADDITIONAL NOTCH OR SEAT CUT SIZE INFORMATION.

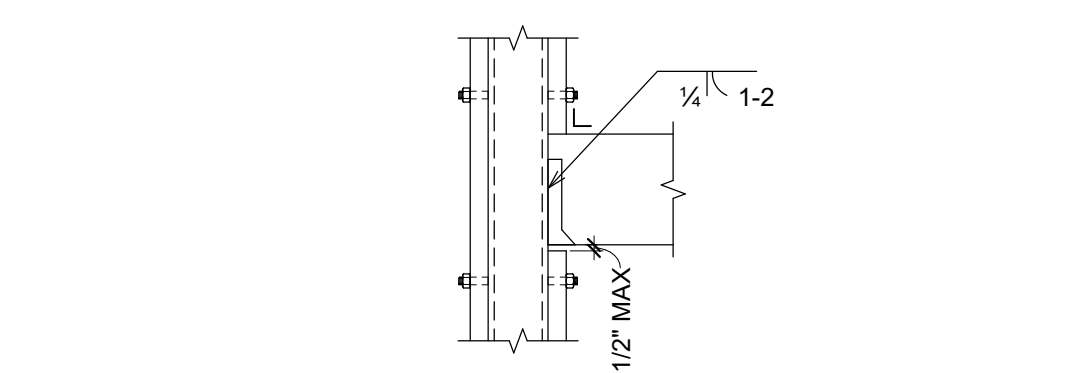
8 BEAM SEAT CUT/NOTCH REINFORCEMENT
3/4" = 1'-0"



TYP HDR TO POST UNO **TYP HDR TO POST W/ HGR**

TYP POST BASE ANCHORAGE UNO

10 TYPICAL POST AND HEADER CONNECTIONS
3/4" = 1'-0"

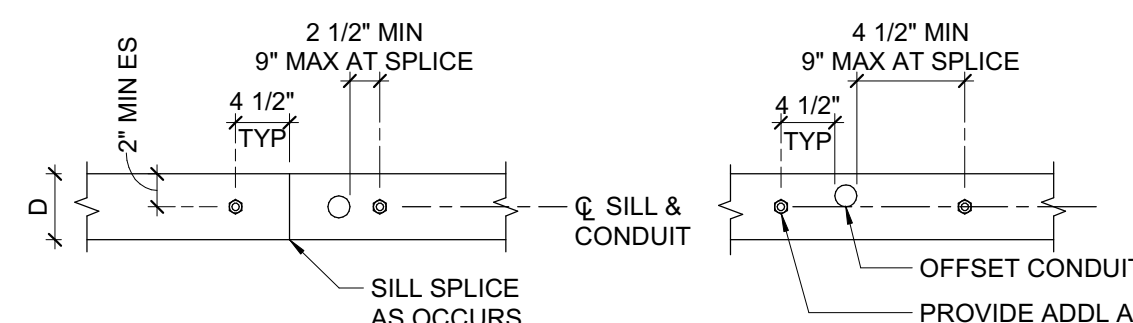


9 HEADER CONNECTIONS AT HSS COLUMNS
3/4" = 1'-0"

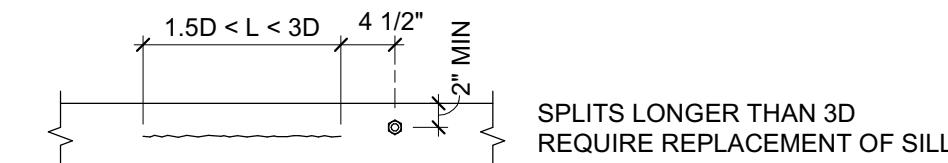
CEILING JOIST SCHEDULE				
MAX SPAN	JOIST SIZE	HANGER IF REQUIRED	LEDGER IF REQUIRED	
9'-0"	2x4 @ 16"oc	LU24	2x4 W/ (2) 16d @ 16"oc	
12'-6"	2x6 @ 16"oc	LU26	2x6 W/ (3) 16d @ 16"oc	
14'-0"	2x8 @ 16"oc	LU28	2x8 W/ (4) 16d @ 16"oc	
19'-0"	2x10 @ 16"oc	LU210	2x10 W/ (5) 16d @ 16"oc	

- NOTES:**
- CEILING JOIST SCHEDULE IS BASED ON LL = 10 psf.
 - WHERE LEDGERS ARE NAILED THROUGH WALL SHTG, USE 20d NAILS IN LIEU OF 16d NAILS.
 - PROVIDE MIDSPAN BLOCKING AT 2x10 JOISTS.

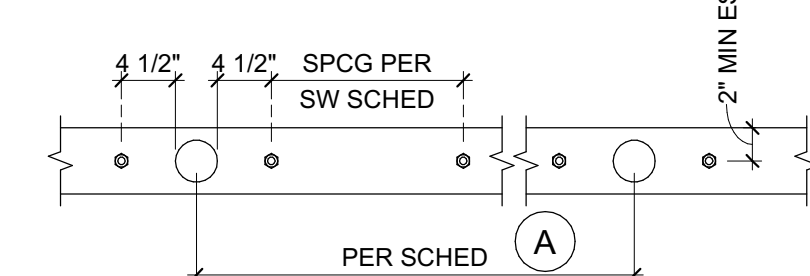
4 CEILING JOIST SCHEDULE
3/4" = 1'-0"



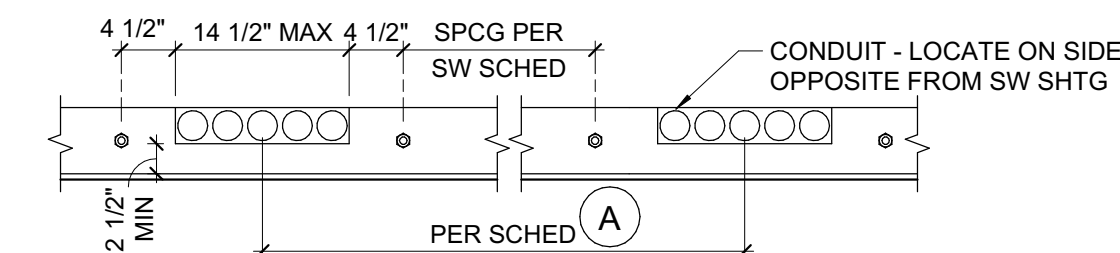
CASE 1 - SINGLE CONDUIT DIAMETER ≤ D/3. MIN SPCG = 16"oc



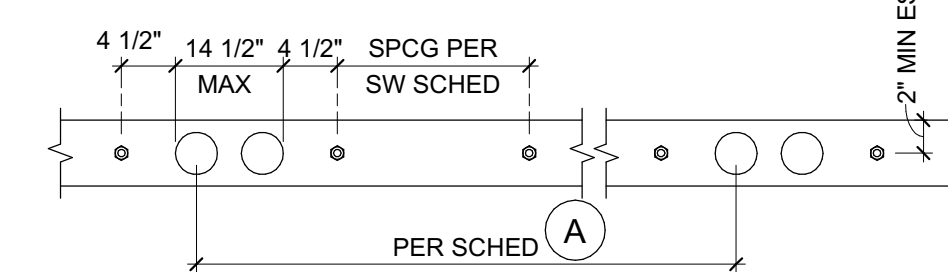
CASE 2 - SPLIT IN SILL



CASE 3 - SINGLE CONDUIT DIAMETER > D/3



CASE 4 - NOTCH FOR CONDUIT

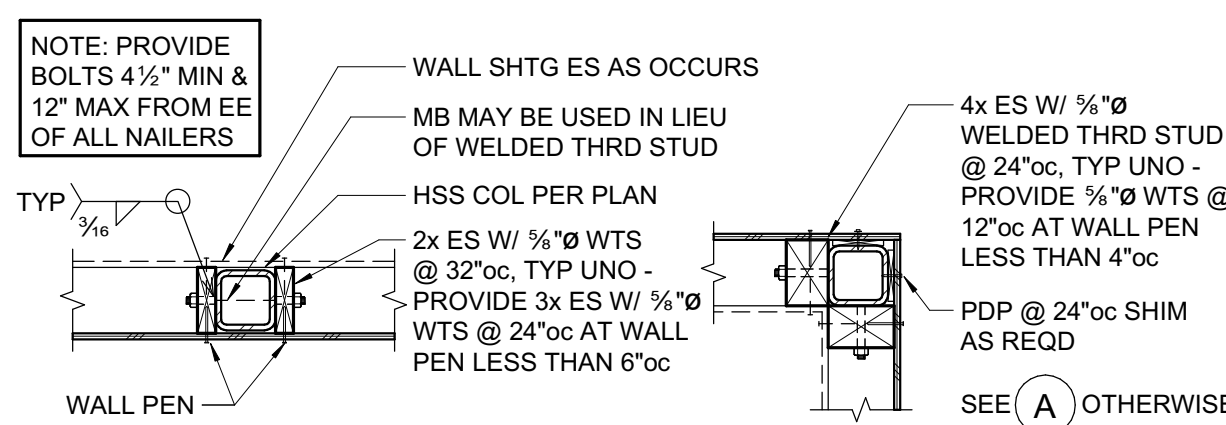


CASE 5 - MULTI CONDUIT DIAMETER > D/3

SCHEDULE A			
	CASE 3	CASE 4	CASE 5
SW (A)	48"	32"	48"
SW (B)	64"	48"	64"
SW (C)	80"	64"	N/A
SW (D)	N/A	N/A	N/A

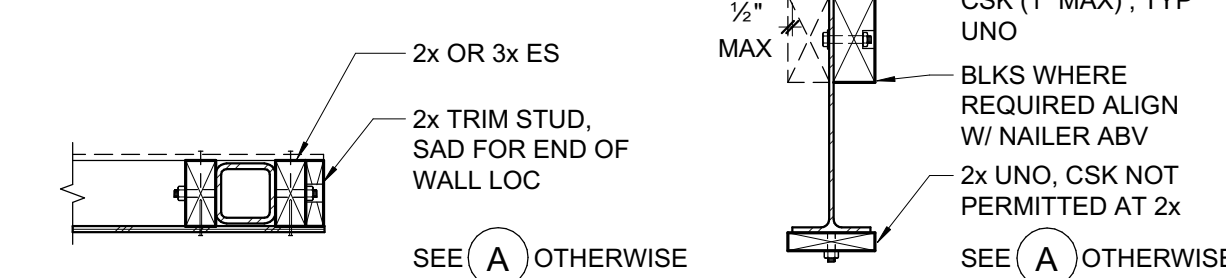
- NOTE:**
- ALL PENETRATIONS THROUGH SHEAR WALL SILL PLATE SHALL CONFORM TO THE REQUIREMENTS OF THIS DETAIL OR BE REROUTED PRIOR TO INSTALLATION OF SILL.
 - ADDITIONAL ANCHOR BOLTS TO BE INSTALLED PER 12S-1.1 WHERE NECESSARY. AB DIA AS REQD BY SW SCHED.

5 HOLES IN PLATES AT SHEAR WALLS
3/4" = 1'-0"



A HSS COLUMN WITHIN WALL

C HSS COLUMN AT CORNER

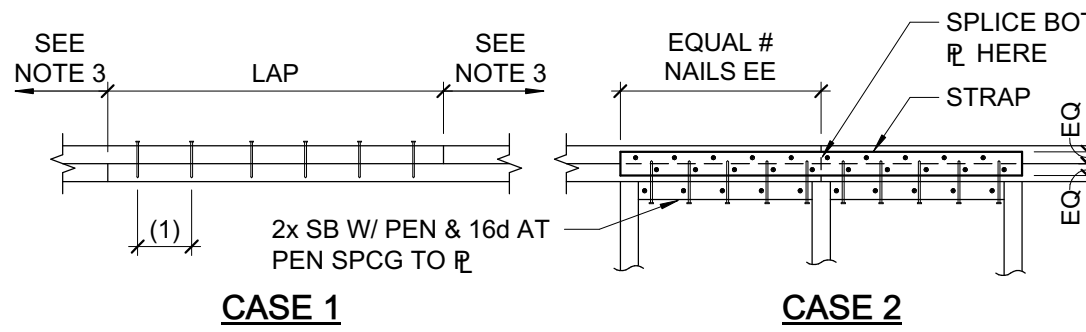


B HSS COLUMN AT END OF WALL (EDGE OF OPNG SIM) **D WIDE FLANGE NAILER (CHANNEL & HSS SIM)**

6 TYPICAL STEEL BEAM/COLUMN NAILERS
3/4" = 1'-0"

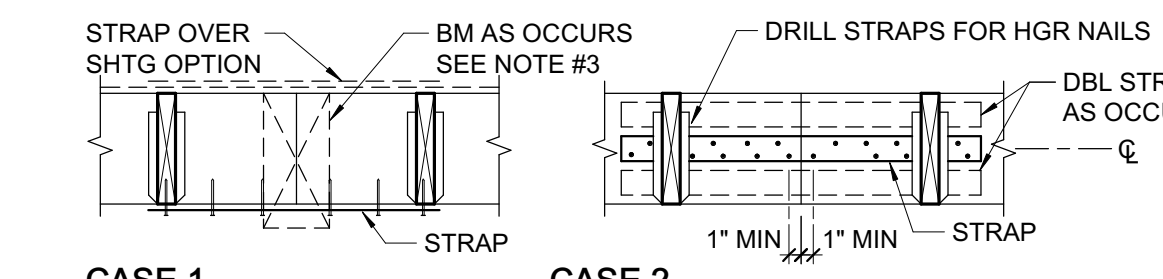
TOP PLATE SPLICE SCHEDULE		
MARK	LAP SPLICE (CASE 1)	STRAP SPLICE (CASE 2)
A	(12) 16d PER 4'-0" MIN LAP	MSTC28
B	(22) 16d PER 4'-0" MIN LAP	MSTC40
C	(26) 16d PER 6'-0" MIN LAP	MSTC52
D	(32) 16d PER 6'-0" MIN LAP	MSTC66
E	(36) 16d PER 8'-0" MIN LAP	MSTC28 EA SIDE
F	-	1/4"x4x2'-6" W/ MB10 EE

- NOTES:**
- AT LAP SPLICES, SPACE NAILS @ 3"oc MIN (MAX 12"oc). STAGGER AT 2 1/2" GAGE.
 - USE STRAP SPLICE WHERE BM INTERSECTS TOP PL.
 - NAILS TO MATCH LAP SPLICE ES OF SPLICE (16d @ 12"oc MIN).
 - USE SPLICE TYPE A UNO.

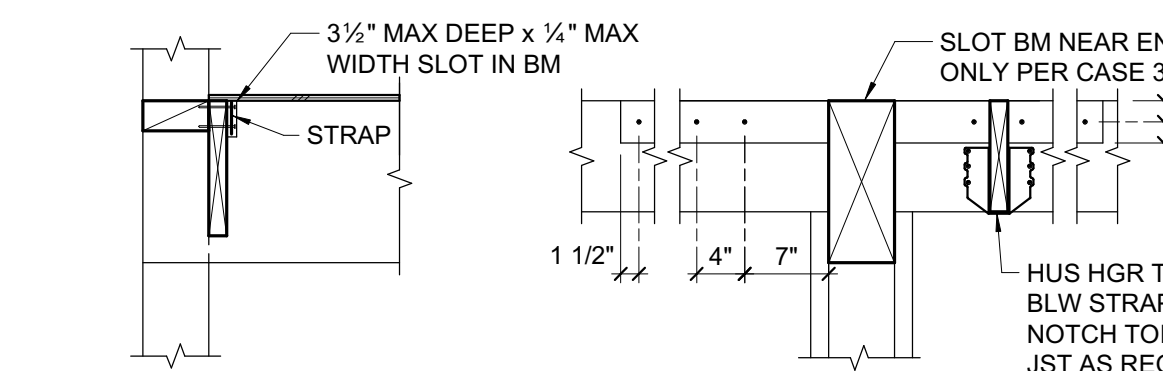


1 TOP PLATE SPLICE SCHEDULE AND DETAILS
3/4" = 1'-0"

LEDGER SPLICE SCHEDULE				
MARK	CASE	STRAP/PLATE	CASE	STRAP/PLATE
A	1	MSTA24	-	MSTA24
B	1	MSTA30	-	MSTA30
C	2	MST148	3	MST160



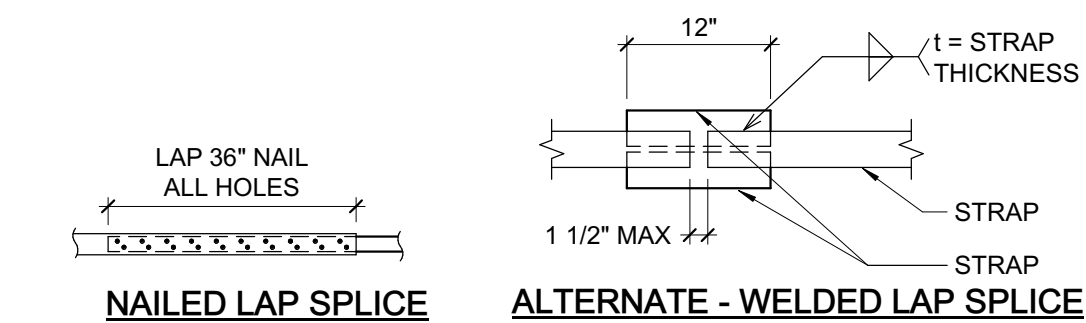
CASE 1 **CASE 2**



CASE 3 **CASE 4**

- NOTES:**
- PROVIDE 3x OR (2) 2x STUDS AT SPLICE
 - ALL NAILS TO BE 10d NAIL ALL HOLES
 - FOR CASE 1, SPLICE W/ MSTA36 AT BM
 - USE SPLICE TYPE 'A' UNO

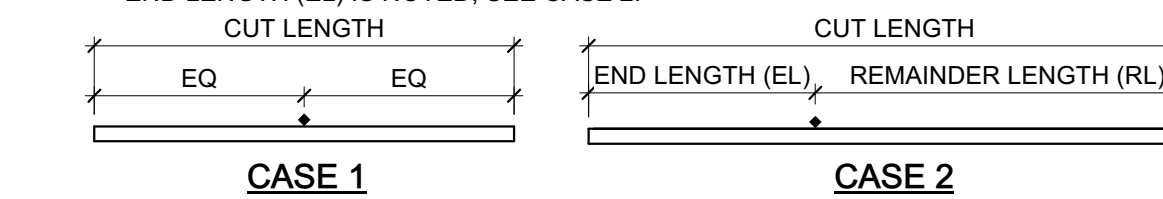
2 LEDGER OR RIM SPLICE SCHEDULE
3/4" = 1'-0"



NAILED LAP SPLICE **ALTERNATE - WELDED LAP SPLICE**

TIE STRAP SCHEDULE						
MARK	STRAP	MIN. NAILING ES OF *	MAX. NAIL SPACING (SEE NOTES #1 & #2)		MIN. END LENGTH (EL)	
			CASE 1	CASE 2		
				EL RL		
A	CS16	(10) 10d	10d @ 4"oc STGR	FILL ALL NAIL HOLES	10d @ 4"oc STGR	12"
B	CS14	(13) 10d	10d @ 4"oc STGR	FILL ALL NAIL HOLES	10d @ 4"oc STGR	16"
C	CMSTC16	(25) 10d	10d @ 3"oc STGR	FILL ALL NAIL HOLES	10d @ 3"oc STGR	24"
D	CMST14	(33) 10d	10d @ 3 1/2"oc STGR	FILL ALL NAIL HOLES	10d @ 3 1/2"oc STGR	32"
E	CMST12	(43) 10d	10d @ 3 1/2"oc STGR	FILL ALL NAIL HOLES	10d @ 3 1/2"oc STGR	48"

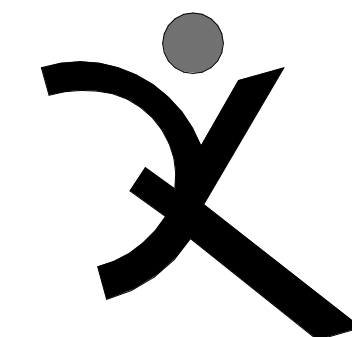
1. CASE 1 APPLIES UNLESS END LENGTH (EL) IS NOTED ON PLANS. WHERE END LENGTH (EL) IS NOTED, SEE CASE 2.



CASE 1 **CASE 2**

2. AS REQUIRED, PROVIDE CLOSER NAIL SPACING TO MEET MINIMUM NAILING EACH SIDE OF •.
3. LOCATE STRAPS OVER SHEATHING AND BLOCK UNDER STRAP W/ FLAT 2x6 (2x4 AT CS16/CS14) WHERE NO FRAMING OCCURS. UNO.
4. SEE PLANS FOR STRAP LENGTHS, LOCATIONS AND DETAILS. UNO.
5. SPLICE STRAPS AS SHOWN WHERE LENGTH PER PLAN EXCEEDS AVAILABLE PRODUCT LENGTH.

3 TIE STRAP SCHEDULE
3/4" = 1'-0"



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HERITAGE HIGH SCHOOL

**NEW CLASSROOM BUILDINGS
INCREMENT 2 OF 2**

101 AMERICAN AVE,
BRENTWOOD CA 94513

LIBERTY UNION
HIGH SCHOOL
DISTRICT

REVISIONS

NO.	DESCRIPTION	DATE

DSA APP NO. 01-119268

ARCH PROJECT NO. 1870.00

ENGR / PM: KPB / DM / SCH

DRAWING SCALE: As indicated

PTN: 61721-77 FILE NO: 7-H4

BID SET

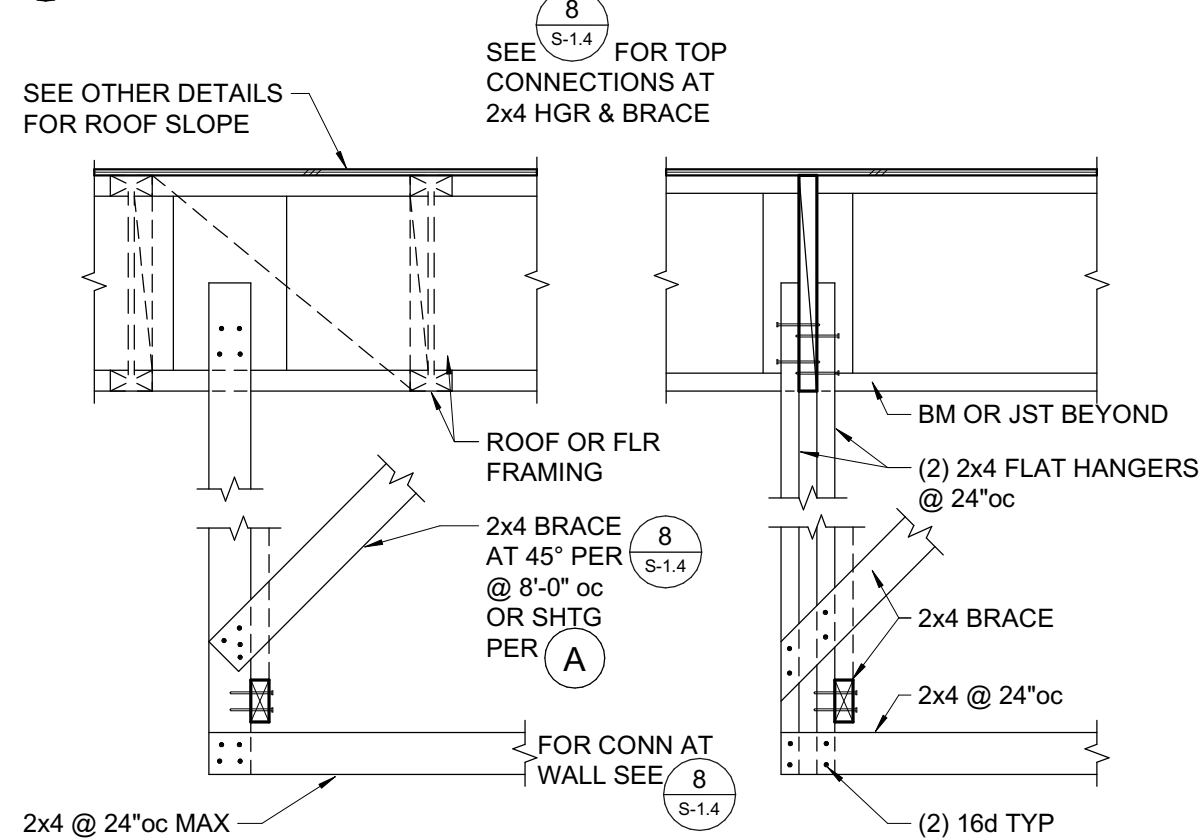
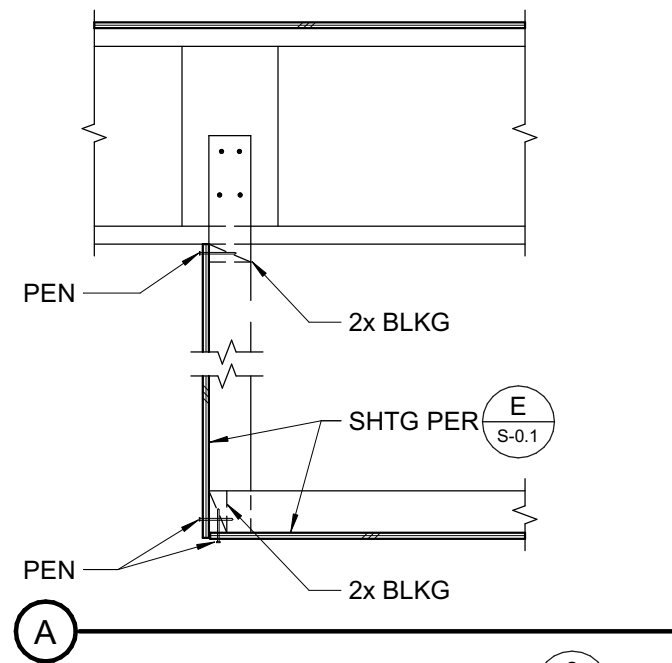
MAY 10, 2021

SHEET TITLE

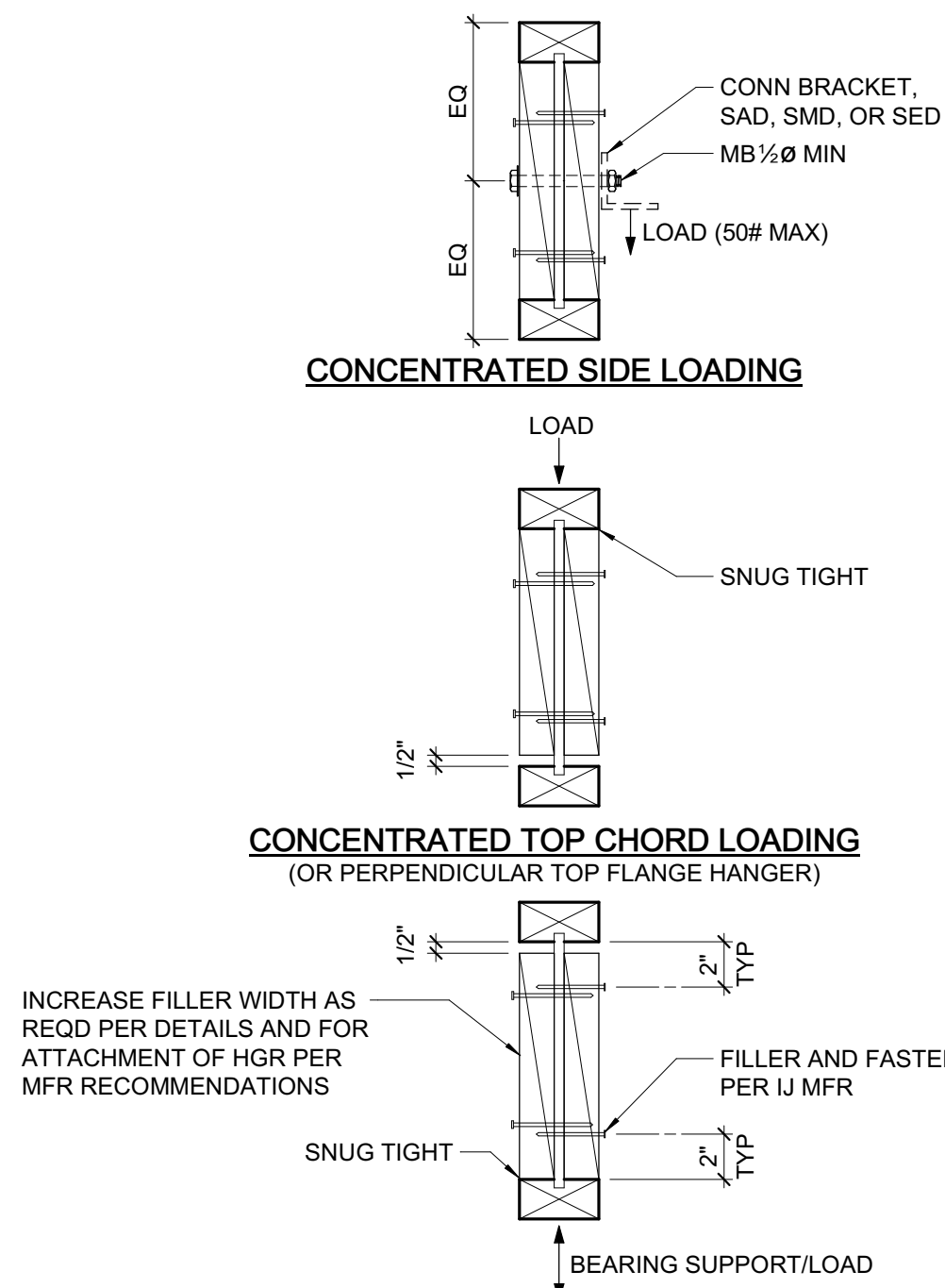
TYPICAL WOOD DETAILS

SHEET NUMBER

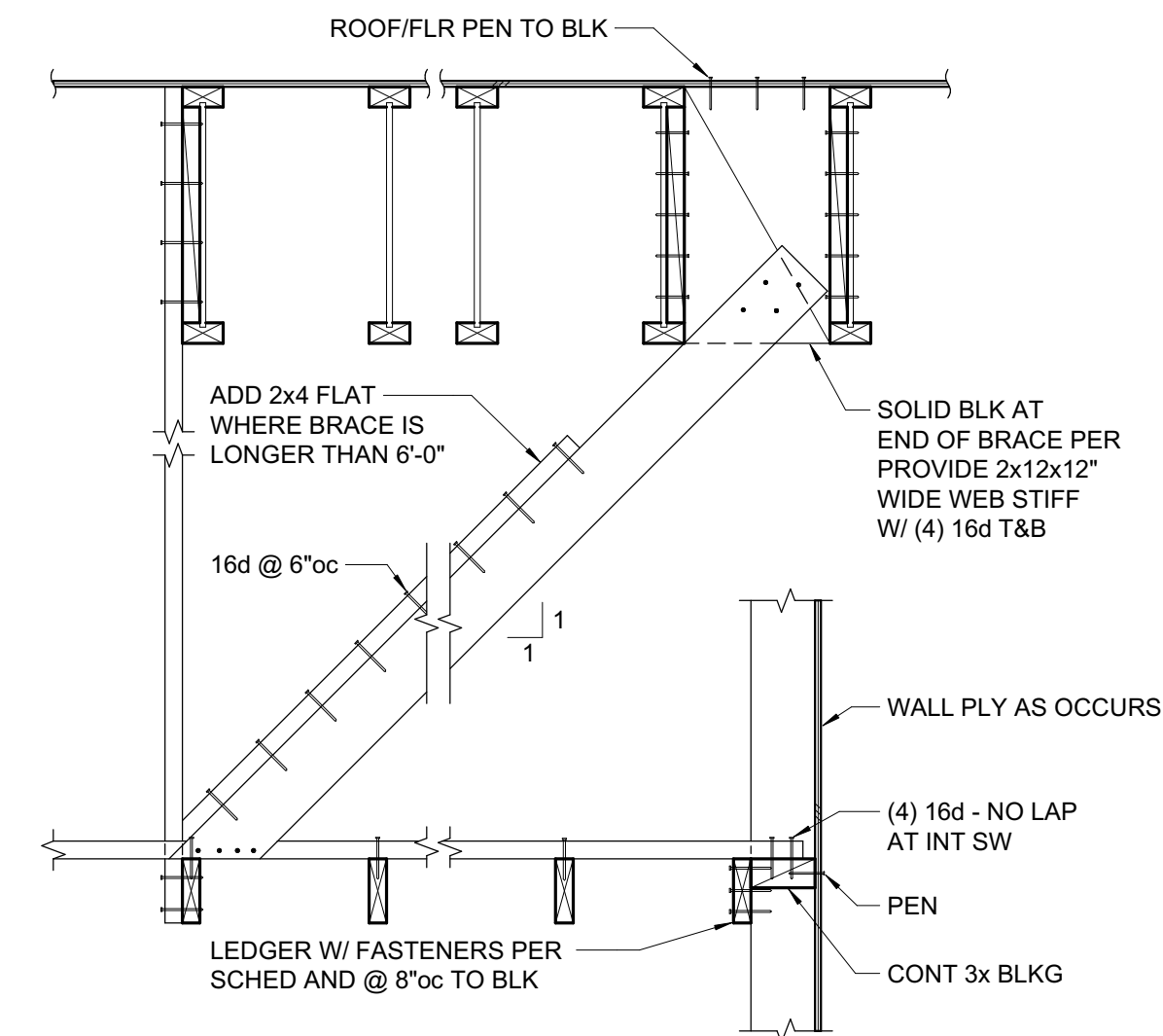
S-1.3



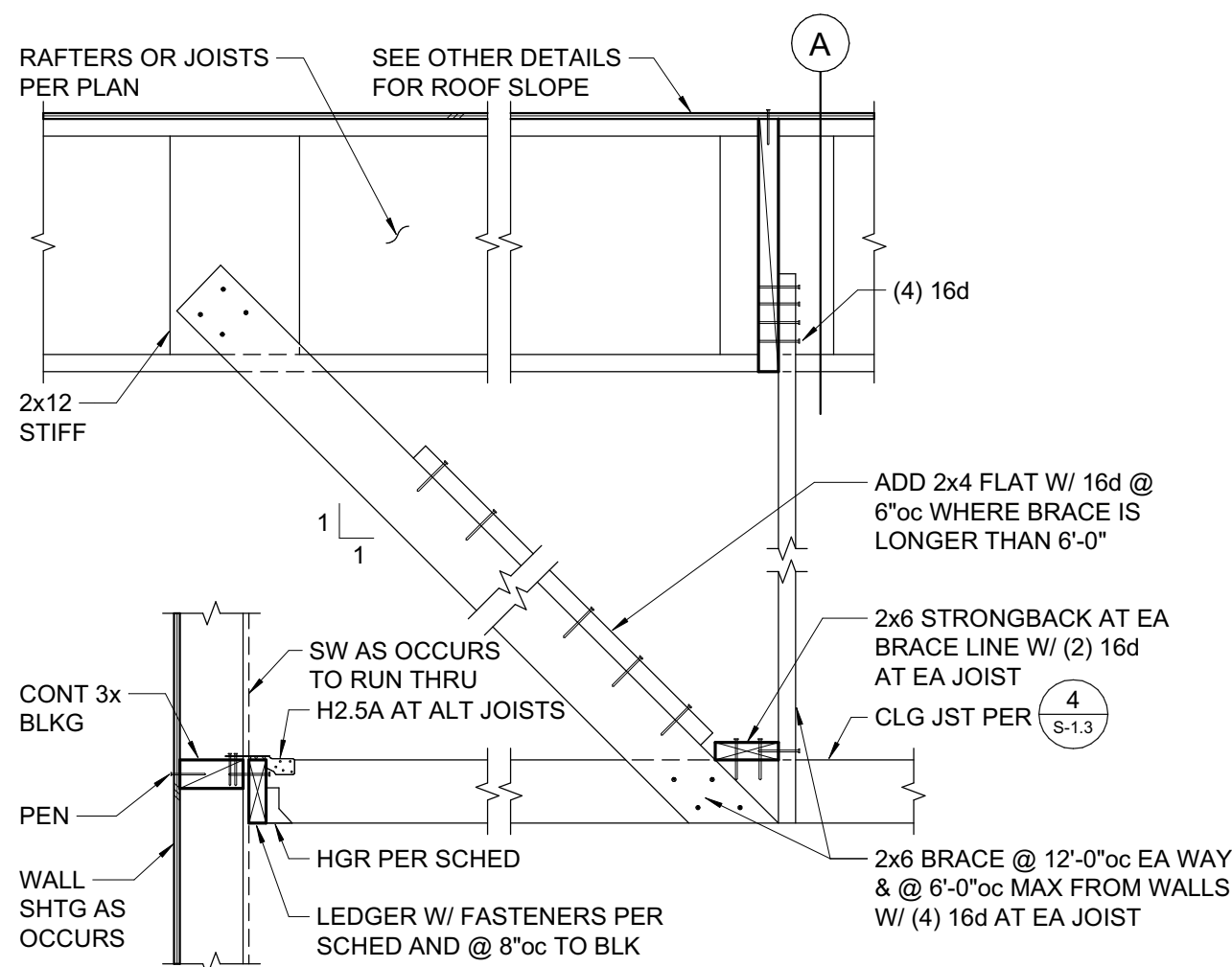
9 TYPICAL SOFFIT FRAMING
3/4" = 1'-0"



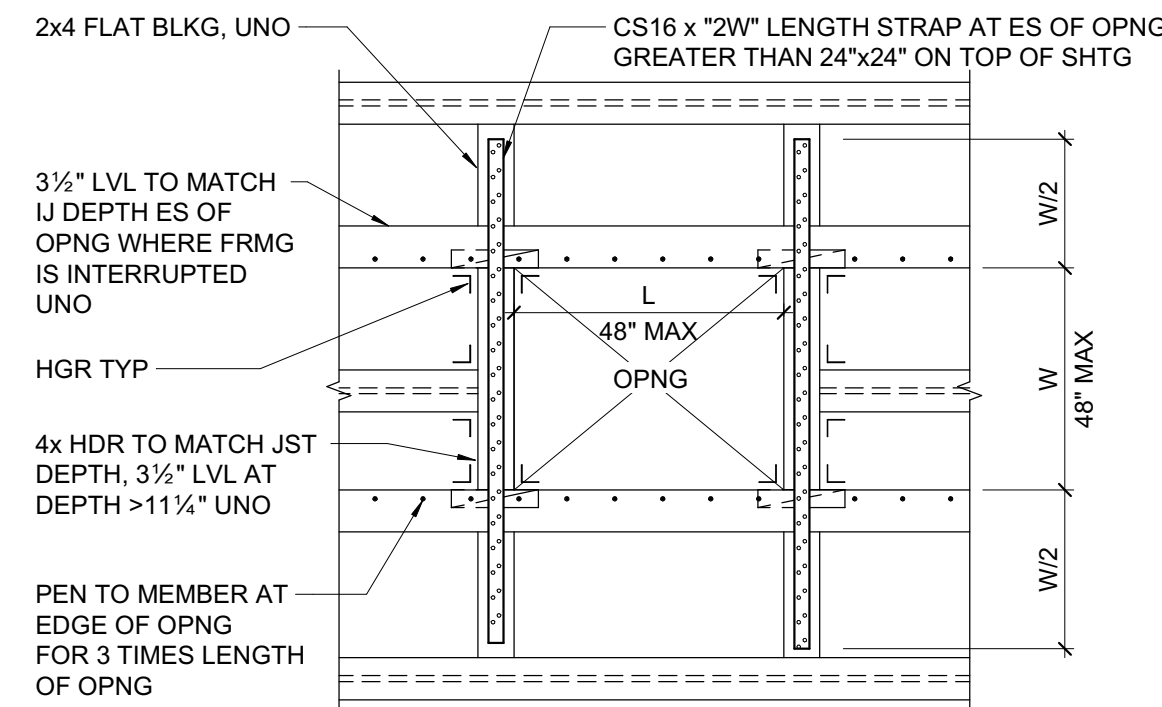
7 I-JOIST WEB FILLER
1 1/2" = 1'-0"



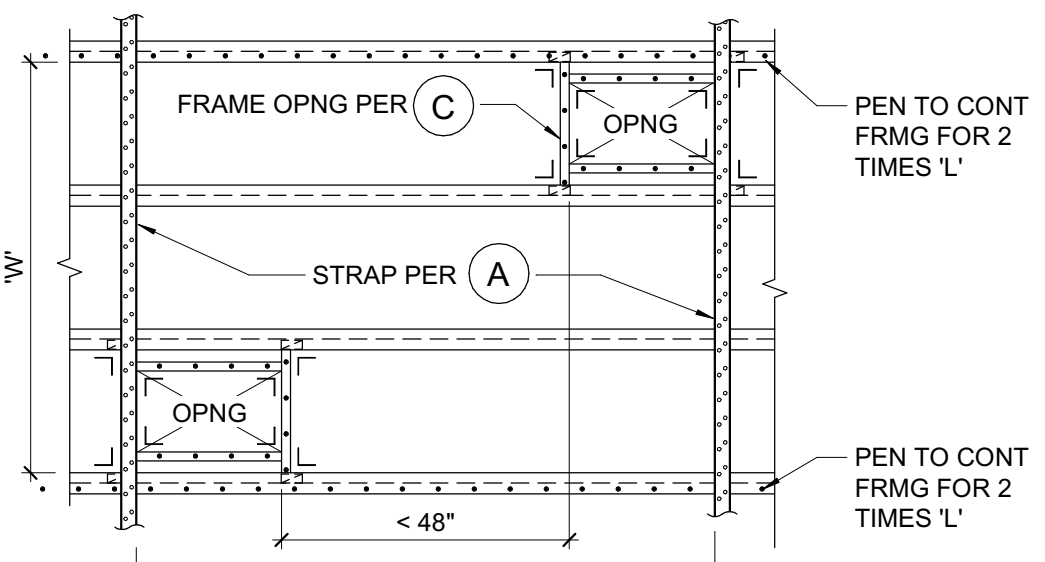
8 AT END WALL OR FULL HEIGHT PARTITION



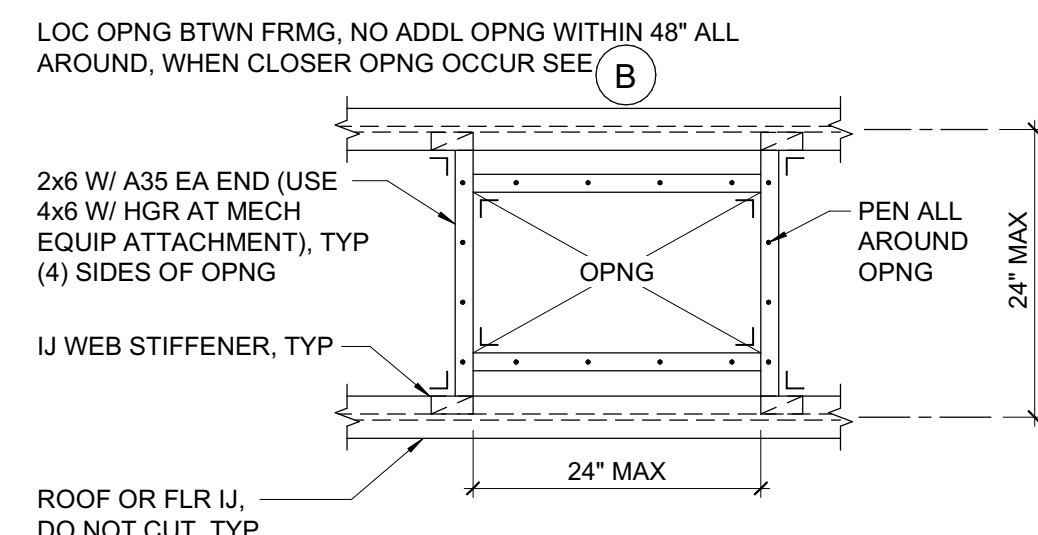
8 CEILING JOISTS (SPAN TO WALLS) AT EXTERIOR WALLS
3/4" = 1'-0"



1 OPENING ≤ 48" SQ

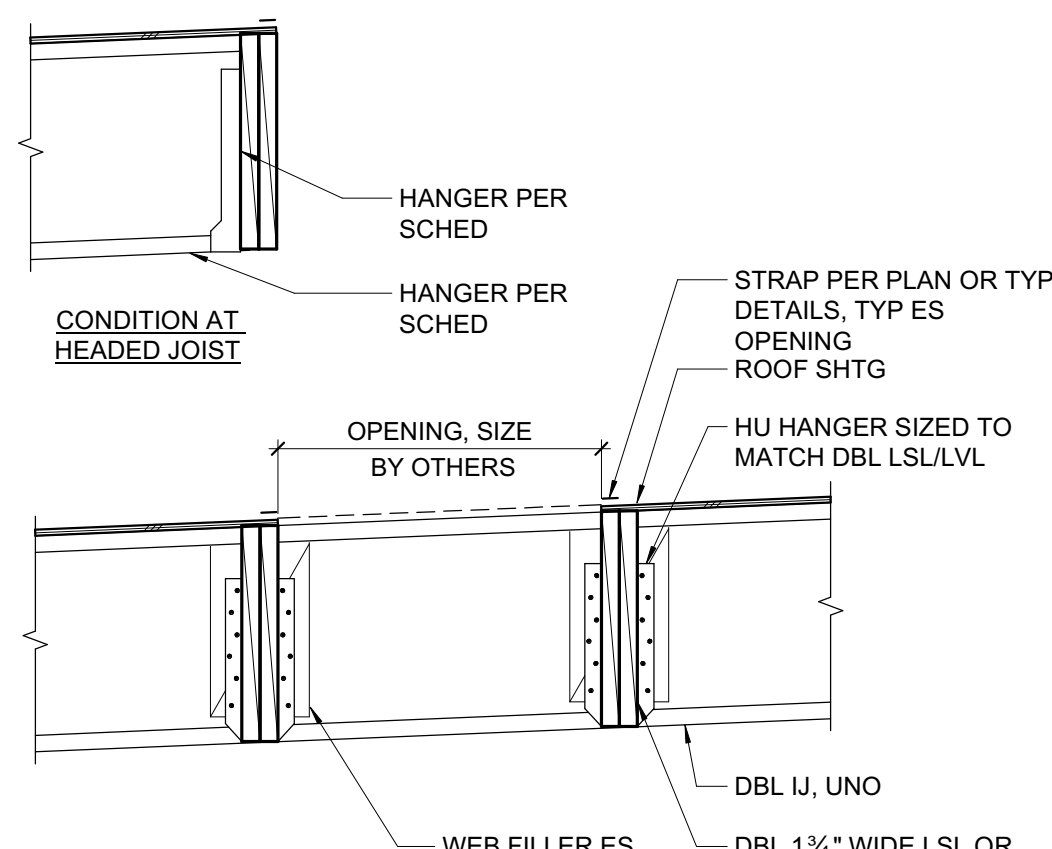


2 CLOSELY SPACED OPENINGS BETWEEN FRAMING ≤ 24"

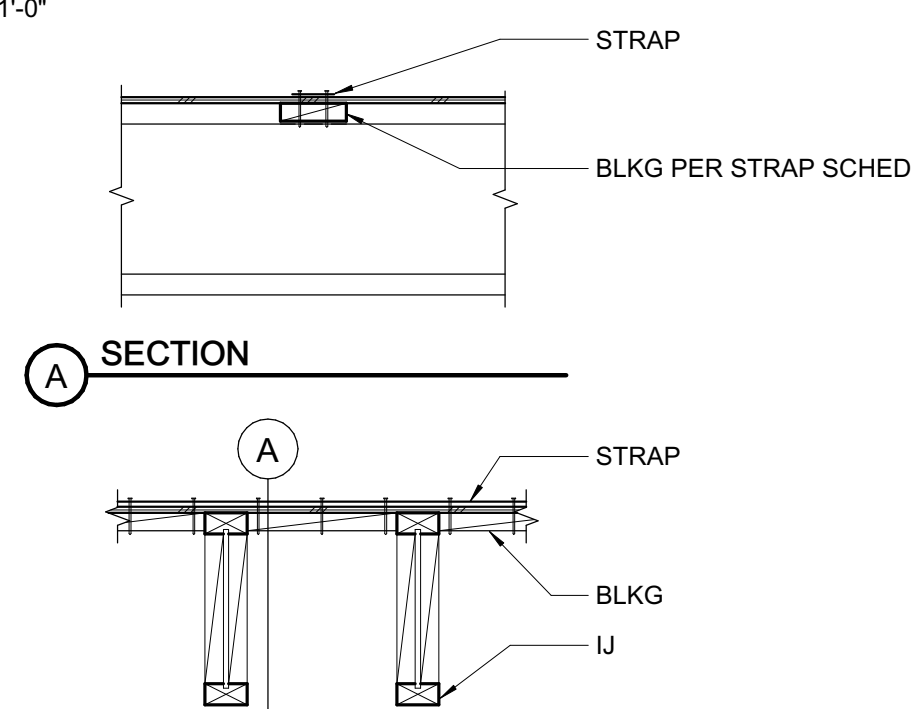


3 ISOLATED OPENING BETWEEN FRAMING ≤ 24"

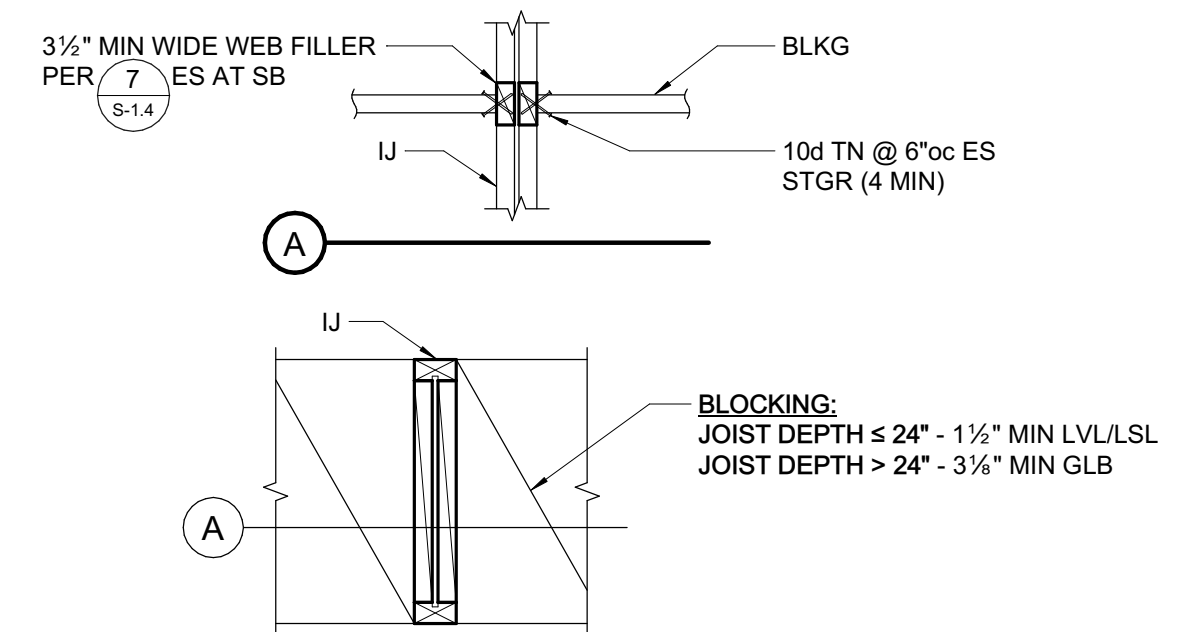
4 OPENING IN DIAPHRAGM
3/4" = 1'-0"



5 TYPICAL I-JOIST FRAMING AT ROOF OPENING (OPENINGS GREATER THAN TYPICAL JOIST SPACING)
3/4" = 1'-0"

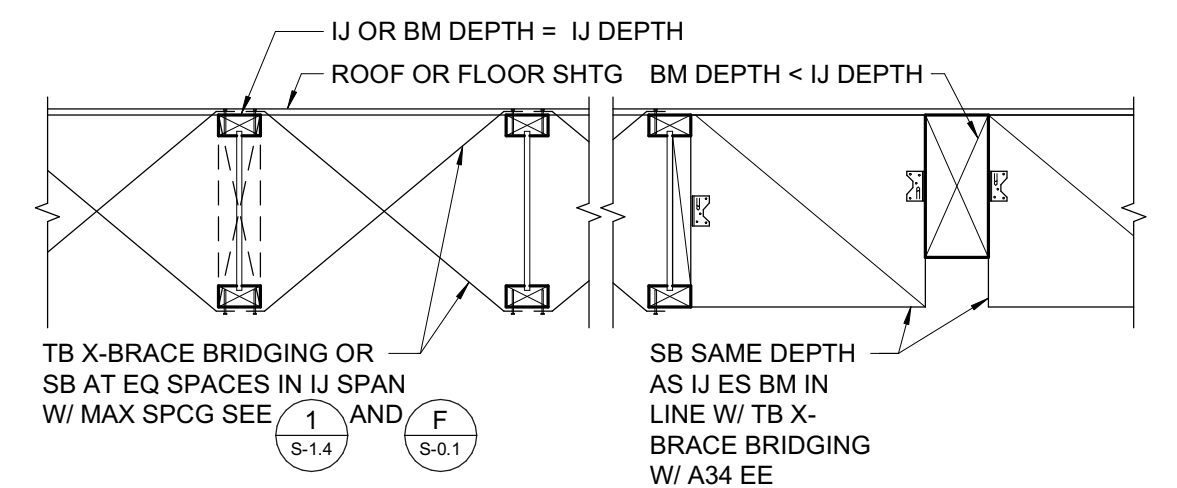


6 STRAP AT I-JOIST FRAMING
3/4" = 1'-0"

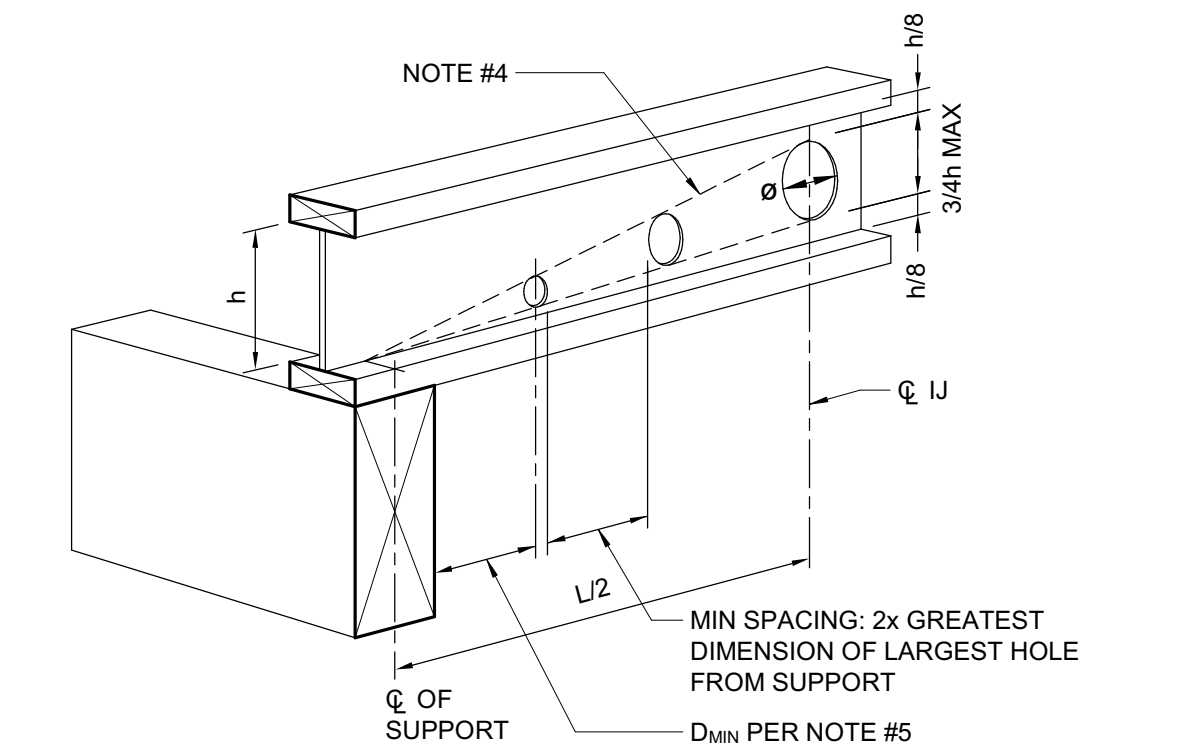


1 I-JOIST BLOCKING
3/4" = 1'-0"

BRIDGING

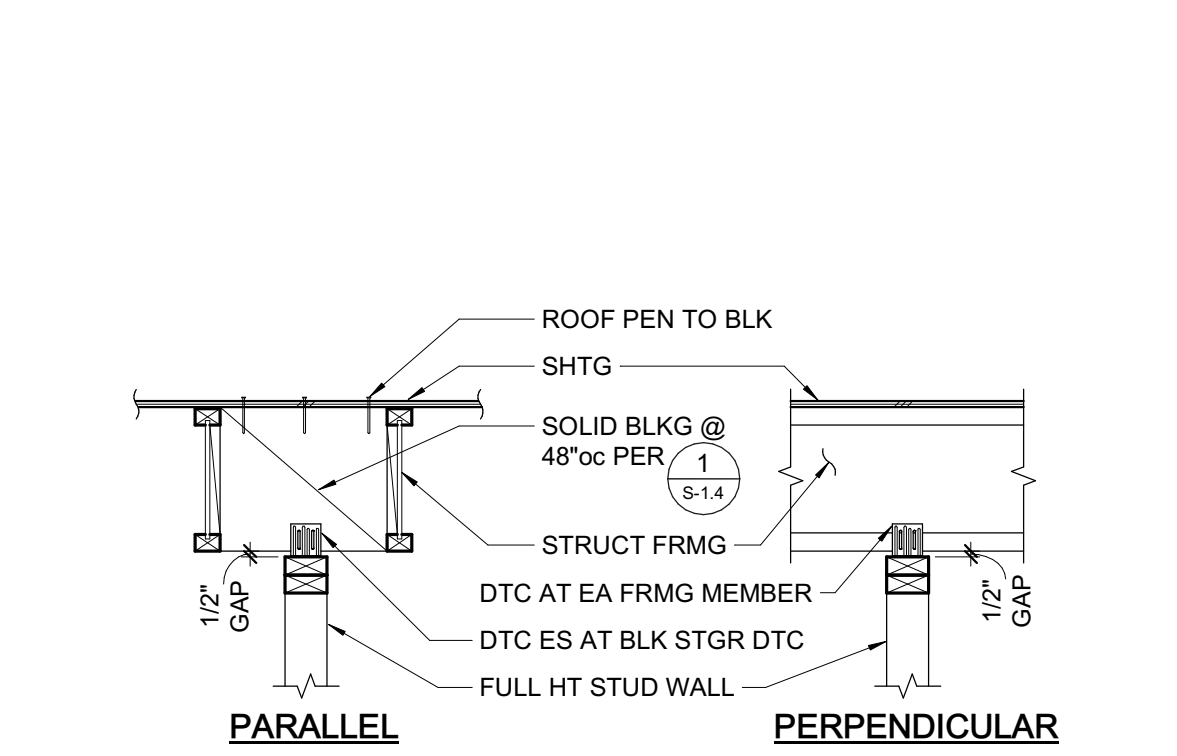


HOLE GUIDELINES



- NOTES:
1. **DO NOT** CUT OR NOTCH FLANGES.
 2. **DO NOT** CUT HOLES LARGER THAN 1 1/2" ROUND IN CANTILEVERS.
 3. HOLE SIZES AND LOCATIONS NOT MEETING THE HOLE GUIDELINES TO BE VERIFIED BY MANUFACTURER.
 4. FOR SIMPLE SPANS AND UNIFORM LOADS A CHALK LINE CAN BE USED TO SHOW THE LIMITS WHEREIN HOLES ARE ACCEPTABLE. ONCE DISTANCE (D) HAS BEEN DETERMINED, THAT DIAMETER HOLE CAN BE PLACED ANYWHERE WITHIN THE WEB DEPTH (h).
 5. D = DISTANCE IN FEET FROM CENTERLINE SUPPORT TO CENTER LINE OF HOLE. L = BEAM SPAN IN FEET, FROM CENTER LINE SUPPORT TO CENTER LINE SUPPORT. Ø = HOLE DIAMETER IN INCHES. h = WEB DEPTH IN INCHES. D_{MIN} = (3LØ)/(6h) OR 12", WHICHEVER IS GREATER

2 I-JOIST HOLES & BRIDGING
3/4" = 1'-0"



3 TYPICAL NON-STRUCTURAL STUD WALL DETAILS
3/4" = 1'-0"



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HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS INCREMENT 2 OF 2

101 AMERICAN AVE,
BRENTWOOD CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

NO.	DESCRIPTION	DATE

DSA APP NO. 01-119268

ARCH PROJECT NO. 1870.00
ENGR / PM: KPB / DM / SCH
DRAWING SCALE: As indicated
PTN: 61721-77 FILE NO: 7-H4

BID SET

MAY 10, 2021

SHEET TITLE

TYPICAL I-JOIST DETAILS

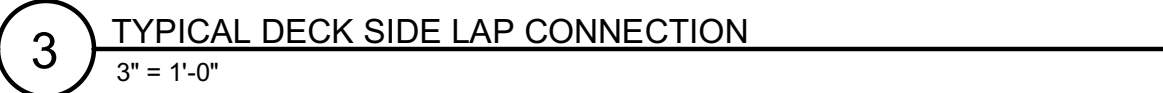
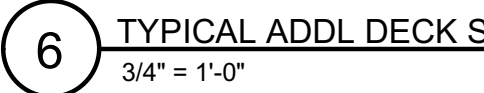
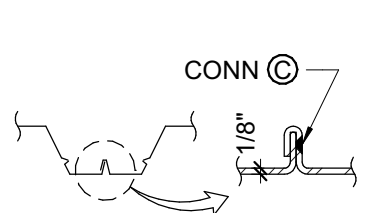
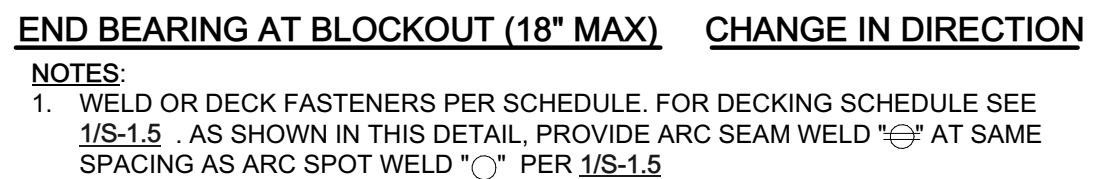
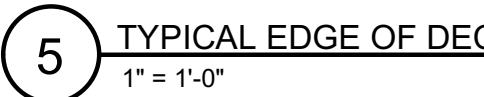
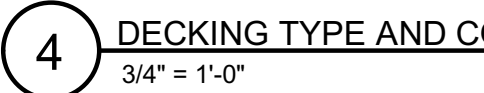
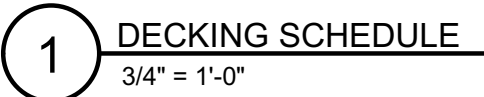
SHEET NUMBER

S-1.4



NOTES:

- ATTACH DECK TO ALL STEEL SUPPORT FRAMING AS OCCURS.
- ALL DECK TYPES TO RECEIVE CONCRETE FILL TO HAVE FACTORY PUNCHED VENT TABS.
- CONNECTIONS
 - VSC2 = VRCO SIDE LAP CONNECTION.
 - PINS = HILTI X-VERO-19 L15 PER ICC ESR-2197 AND ESR-2776.
 - SCREWS = HILTI S-SLOC1, HILTI S-SLOC2, OR #12 SELF-DRILLING OR SELF-PIERCING SCREWS PER ASTM C1513. PROVIDE NEOPRENE WASHERS AT DECK EXPOSED TO RAIN.
- ABOVE REFERENCED DECKS AND COMPOSITE DEPTHS ARE BASED ON ALLOWABLE DESIGN LOADS PER IAPMO ER-0217 VRCO MANUFACTURING - EQUIVALENT DECK MUST HAVE EQUIVALENT ALLOWABLE VERTICAL LOADS, DIAPHRAGM SHEAR VALUES, AND FLEXIBILITY FACTORS.
- PROHIBIT ANY EXTRA CONCRETE OR SHORING LEVEL OR SHORING SURFACE PER ARCHITECT DRAWINGS.
- SHORING OF DECK REQUIRED AT SINGLE SPAN CONDITIONS. NOT REQUIRED AT 2 & 3 SPAN CONDITIONS. AT CONTRACTOR'S OPTION, HEAVIER DECK MAY BE USED TO AVOID SHORING PER SEOR WRITTEN APPROVAL.



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**HERITAGE HIGH
SCHOOL**

NEW CLASSROOM BUILDINGS

INCREMENT 2 OF 2

101 AMERICAN AVE,
BRENTWOOD CA 94513

LIBERTY UNION
HIGH SCHOOL
DISTRICT

REVISIONS

[illegible]

DSA APP NO. 01-119268

ARCH PROJECT NO. 1870.00

ENGR / PM: KP8 / DM / SCH

DRAWING SCALE: As indicated

PTN: 61721-77 FILE NO: 7-H4

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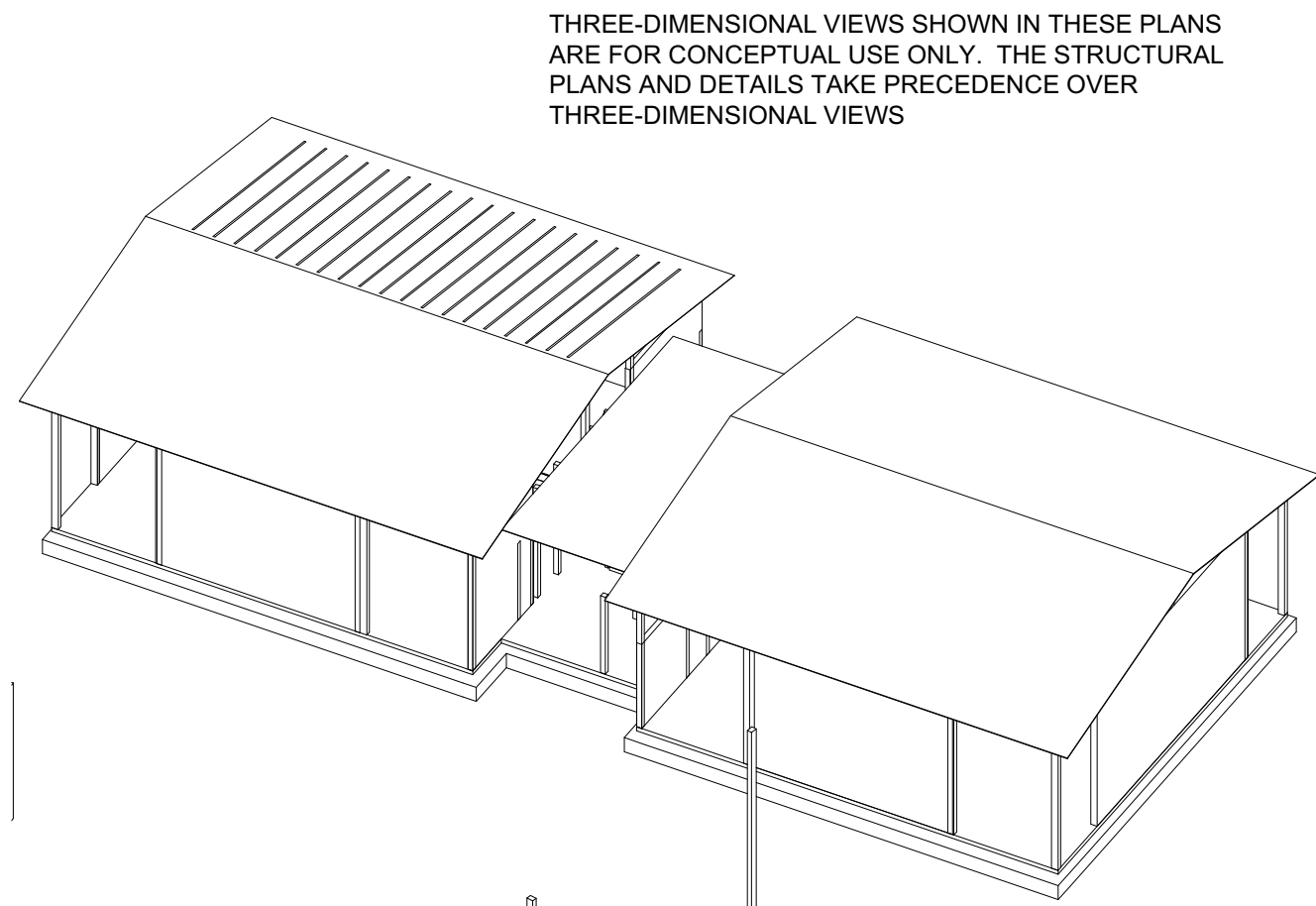
MAY 10, 2021

SHEET TITLE

TYPICAL METAL DECKING DETAILS

SHEET NUMBER

S-1.5



SCHEMATIC 3D - ISOMETRIC

- FOUNDATION PLAN NOTES:**
- REFER TO SHEETS **S-0.1** THROUGH **S-1.5** FOR GENERAL NOTES AND TYPICAL DETAILS. THE FOLLOWING DETAIL REFERENCES ARE PROVIDED FOR THE CONTRACTOR'S CONVENIENCE ONLY. ALL GENERAL NOTES AND TYPICAL DETAIL SHEETS NOTED ABOVE ARE APPLICABLE AND SHALL BE FOLLOWED.
 - DIMENSIONS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE. COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
 - SEE DETAILS OR CURB PLAN FOR CURB LOCATIONS. COORDINATE WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES. PROVIDE LONGER ANCHOR BOLTS AT CURBS PER **C/S-0.1**.
 - ALL EXTERIOR WALLS NOT DESIGNATED AS SHEAR WALLS ON PLANS (INCLUDING WALLS ADJACENT TO SEISMIC GAPS) SHALL BE SHEATHED AS SHEAR WALL TYPE 'A' PER SHEAR WALL SCHEDULE, UNO.
 - PLUMBING AND ELECTRICAL CONDUIT AND GROUND STRAP SHALL NOT BE LAID WITHIN FOUNDATIONS. NO UTILITY PIPES OR CONDUITS SHALL BE LOCATED THRU COLUMN FOOTINGS OR FRAME FOOTINGS. NO PIPES OR CONDUITS THRU SILL PLATES SHALL BE WITHIN 12" OF HOLDOWN BOLTS. NO MECHANICAL, ELECTRICAL, OR PLUMBING OPENINGS SHALL BE LOCATED IN SHEAR WALLS UNLESS SHOWN AND DETAILED ON THE STRUCTURAL DRAWINGS. NO VERTICAL OR HORIZONTAL PIPES OR CONDUITS SHALL BE LOCATED THROUGH STEEL FRAMES, STEEL COLUMNS, OR STEEL BASE PLATES. PROVIDE FURRING AND/OR THICKENED CONCRETE WHERE REQUIRED TO CLEAR UTILITY SYSTEMS. NOTIFY STRUCTURAL ENGINEER/ARCHITECT PRIOR TO ANY INSTALLATION NOT CONFORMING TO THESE DETAILS.
- PIPES THROUGH FOOTINGS SHALL BE PER **2/S-1.1** AND **3/S-1.1**.
- PIPES PARALLEL TO FOOTINGS SHALL BE PER **4/S-1.1**.
- PIPES AT SLAB ON GRADE SHALL BE PER **7/S-1.1**.
- PIPES THROUGH WOOD FRAMING SHALL BE PER **2/S-1.2** AND **5/S-1.3**.
- CONTRACTOR SHALL DETERMINE FOUNDATION STEP LOCATIONS BASED ON GEOTECHNICAL REPORT, CIVIL, ARCHITECTURAL AND LANDSCAPE DRAWINGS. STEP FOOTING PER **5/S-1.1**.
 - SEISMIC GAPS WHERE NOTED ARE DIMENSIONED CLEAR BETWEEN WALL FINISHES. THIS GAP TO BE MAINTAINED ENTIRELY CLEAR TO ALLOW FOR DIFFERENTIAL BUILDING MOVEMENT. NO PIPES, CONDUITS, ETCETERA SHALL BE LOCATED WITHIN THE GAP. PROVIDE FLEXIBLE COUPLINGS AT ALL UTILITIES CROSSING SEISMIC GAPS.

PLAN LEGEND		
SYMBOL	REFERENCE DETAIL	DESCRIPTION
	88	INDICATES GRIDLINE.
	1 S-3.1	INDICATES ELEVATION.
		INDICATES FOUNDATION.
CF24		INDICATES CONTINUOUS FOOTING SIZE AND REINFORCING PER SCHEDULE.
F2.0		INDICATES PAD FOOTING SIZE AND REINFORCING PER SCHEDULE.
	1/S-1.2	INDICATES STRUCTURAL WALL.
	7/S-1.2 E/S-0.1	INDICATES SHEAR WALL TYPE. SYMBOL LOCATION INDICATES SHEATHED FACE OF WALL UNLESS NOTED OTHERWISE. SEE ELEVATIONS FOR SHEAR WALL LENGTH.
	7/S-1.2 E/S-0.1	INDICATES SHEAR WALL TYPE AND MINIMUM WALL LENGTH. SYMBOL LOCATION INDICATES SHEATHED FACE OF WALL UNLESS NOTED OTHERWISE.
	D/S-0.1	INDICATES WOOD POST.
	8/S-1.2	INDICATES POST WITH HOLDOWN. SEE ELEVATIONS FOR HOLDOWN SIZES. POSTS WITH HOLDOWN ARE FULL HEIGHT FROM SILL TO TOP PLATE.
	6/S-1.3	INDICATES STEEL COLUMN.

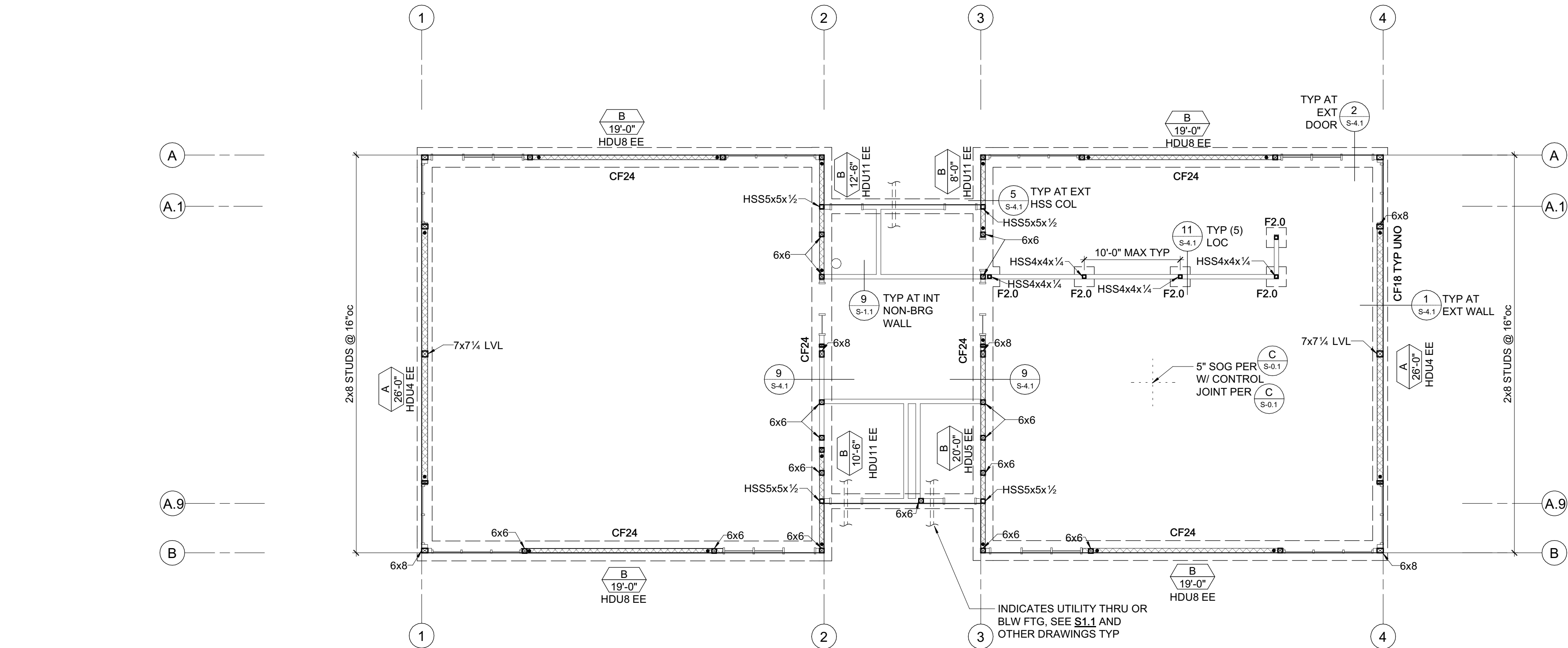
CONTINUOUS FOOTING SCHEDULE				
MARK	'b'	'd'	REINF	TIES
CF18	18"	18"	(2) #6 T&B	#3 @ 32"oc
CF24	24"	18"	(3) #6 T&B	#3 @ 32"oc
CF36	36"	18"	(4) #6 T&B	#3 @ 32"oc
CF48	48"	18"	(5) #6 T&B	#3 @ 32"oc

PAD FOOTING SCHEDULE		
MARK	SIZE	REINF
F2.0	2'-0" SQ x 18" DEPTH	(3) #5 T&B EW
F3.0	3'-0" SQ x 18" DEPTH	(4) #5 T&B EW

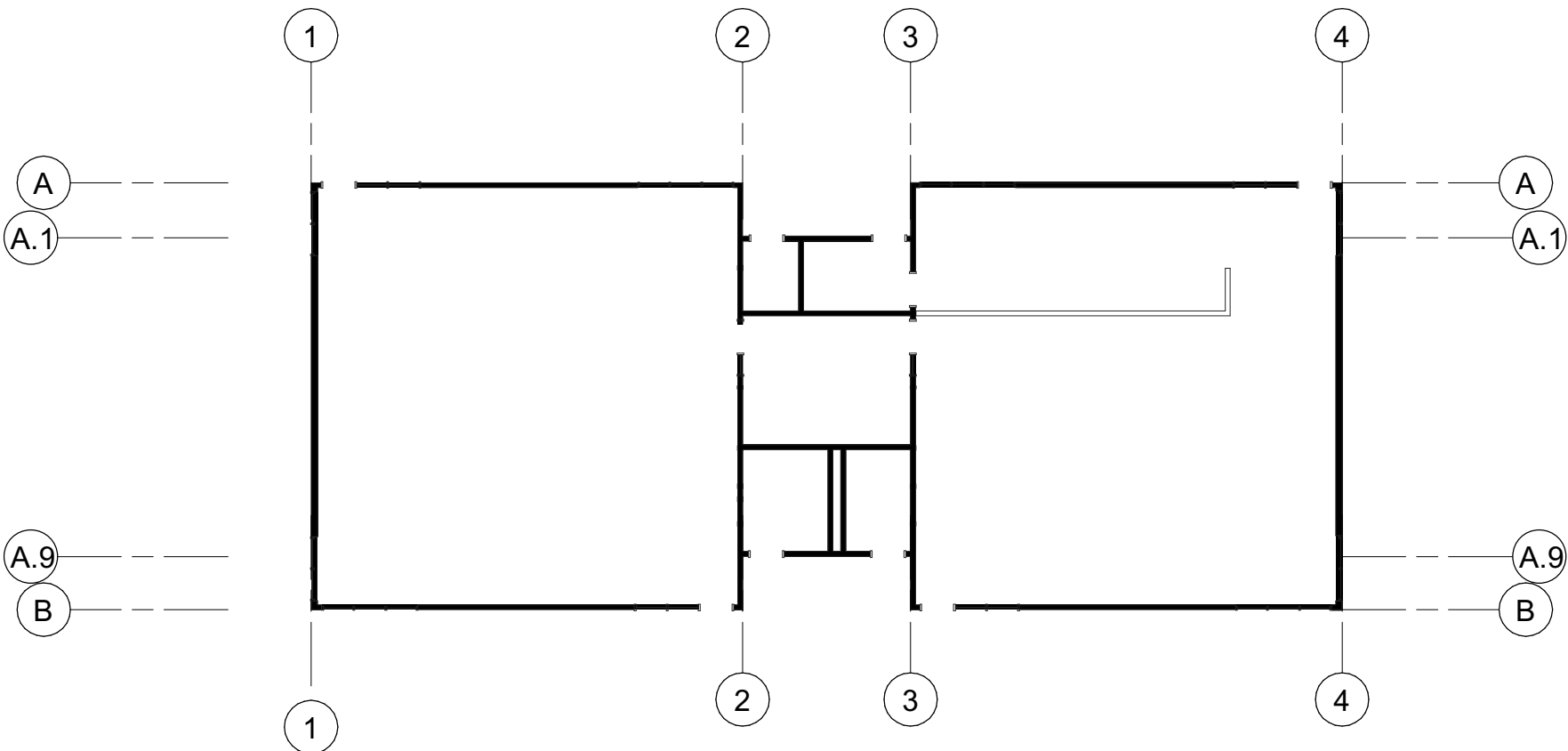
SHEAR WALL SCHEDULE									
SW	APA RATED SHEATHING	NAILING (PEN)	ANCHORAGE						REMARKS
			2x 10" BOLT FDN			AT FRAMING			
			2x SILL	3x SILL	16d	A35	SDS *		
(A)	1/2" (32/16) STR 1	10d @ 6"oc	32"oc	48"oc	6"oc	24"oc	16"oc		
(B)	1/2" (32/16) STR 1	10d @ 4"oc	24"oc	32"oc	4"oc	16"oc	10"oc	3x MIN AT ALL ADJOINING PANEL EDGES	
(C)	1/2" (32/16) STR 1	10d @ 3"oc	16"oc	24"oc	3"oc	8"oc	8"oc		
(D)	1/2" (32/16) STR 1	10d @ 2"oc	-	16"oc	(2) ROWS @ 4"oc	8"oc	6"oc		

* 2x SILL: SDS ¼x4½". 3x SILL: SDS ½x6". FOR SDS @ 6"oc OR LESS, PROVIDE 4x BLK BLW.

* 2x SILL: SDS 1/4"x4 1/2". 3x SILL: SDS 1/4"x6". FOR SDS @ 6"oc OR LESS, PROVIDE 4x BLKG BLW.



FOUNDATION PLAN
1/8" = 1'-0"



CURB PLAN
1/16" = 1'-0"

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HERITAGE HIGH SCHOOL

**NEW CLASSROOM BUILDINGS
INCREMENT 2 OF 2**

101 AMERICAN AVE,
BRENTWOOD CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS		

DSA APP NO. 01-119268
ARCH PROJECT NO. 1870.00
ENGR / PM: KPB / DM / SCH
DRAWING SCALE: As indicated
PTN: 61721-77 FILE NO: 7-H4

**BID SET
MAY 10, 2021**

SHEET TITLE

**BUILDING A
FOUNDATION PLAN**

SHEET NUMBER

S-A2.1

I - JOIST SCHEDULE			
DEPTH	MANUFACTURER	MODEL	CODE REPORT
11 1/4	REDBUILT	RED-I65	ICC ESR - 2994
20	REDBUILT	RED-I65	ICC ESR - 2994
28	REDBUILT	RED-I90H	ICC ESR - 2994

TOP PLATE SPLICE SCHEDULE		
MARK	LAP SPLICE (CASE 1)	STRAP SPLICE (CASE 2)
A	(12) 16d PER 4'-0" MIN LAP	MSTC28
B	(22) 16d PER 4'-0" MIN LAP	MSTC40
C	(26) 16d PER 6'-0" MIN LAP	MSTC52
D	(32) 16d PER 6'-0" MIN LAP	MSTC66
E	(36) 16d PER 8'-0" MIN LAP	MSTC28 EA SIDE
F	-	1/4"x4x2'-6" W/ MB10 EE

TIE STRAP SCHEDULE						
MARK	STRAP	MIN. NAILING ES OF ♦	MAX. NAIL SPACING (SEE NOTES #1 & #2)		MIN. END LENGTH (EL)	
			CASE 1	CASE 2		
				EL		RL
(A)	CS16	(10) 10d	10d @ 4"oc STGR	FILL ALL NAIL HOLES	10d @ 4"oc STGR	12"
(B)	CS14	(13) 10d	10d @ 4"oc STGR	FILL ALL NAIL HOLES	10d @ 4"oc STGR	16"
(C)	CMSTC16	(25) 10d	10d @ 3"oc STGR	FILL ALL NAIL HOLES	10d @ 3"oc STGR	24"
(D)	CMST14	(33) 10d	10d @ 3 1/2"oc STGR	FILL ALL NAIL HOLES	10d @ 3 1/2"oc STGR	32"
(E)	CMST12	(43) 10d	10d @ 3 1/2"oc STGR	FILL ALL NAIL HOLES	10d @ 3 1/2"oc STGR	48"

LEDGER SPLICE SCHEDULE				
MARK	CASE	STRAP/PLATE	CASE	STRAP/PLATE
A	1	MSTA24	-	MSTA24
B	1	MSTA30	-	MSTA30
C	2	MSTI48	3	MSTI60

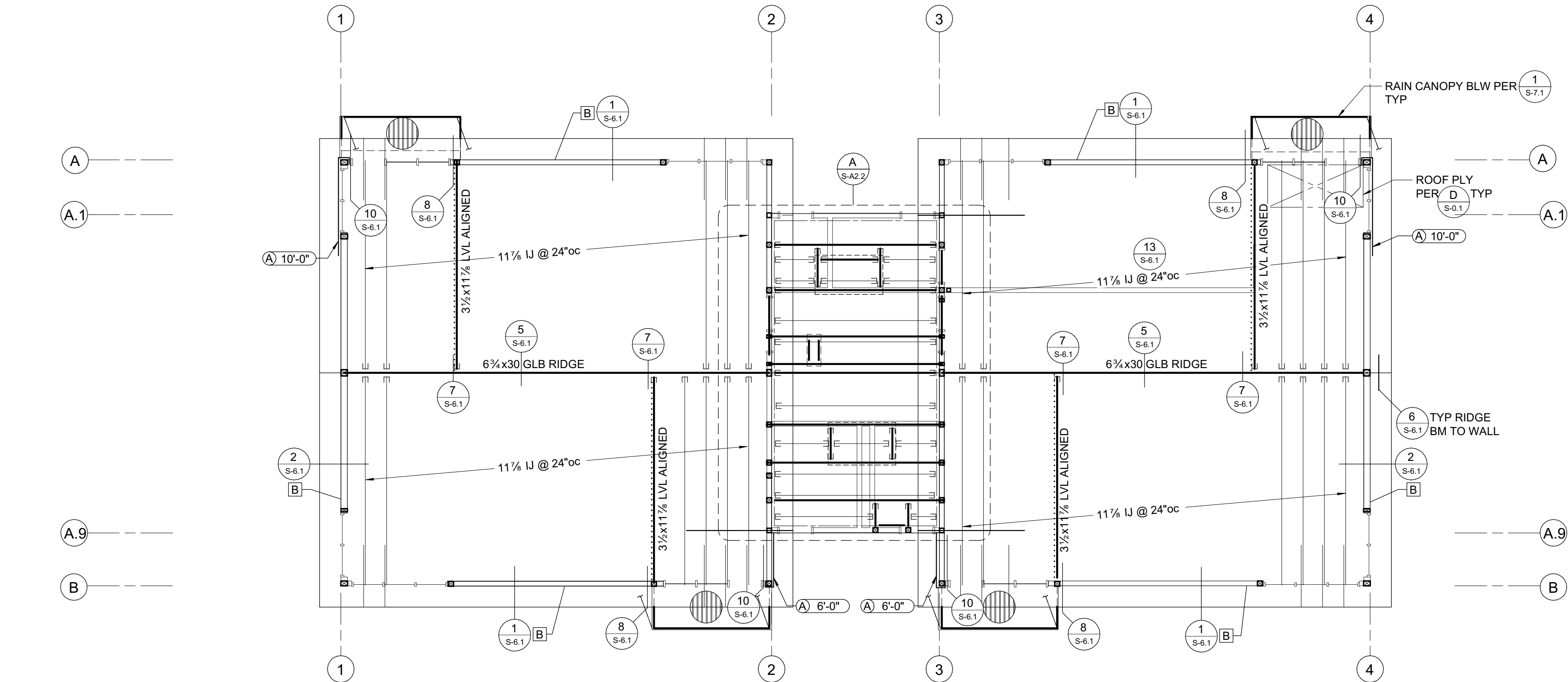
FRAMING PLAN NOTES:

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- MECHANICAL, ELECTRICAL AND PLUMBING PENETRATIONS THROUGH WALLS, ROOFS OR FLOORS SHALL BE PER REFERENCES BELOW UNLESS SHOWN AND DETAILED OTHERWISE ON THE STRUCTURAL PLANS. NOTIFY ARCHITECT/ENGINEER PRIOR TO ANY INSTALLATION NOT CONFORMING TO THESE DETAILS.

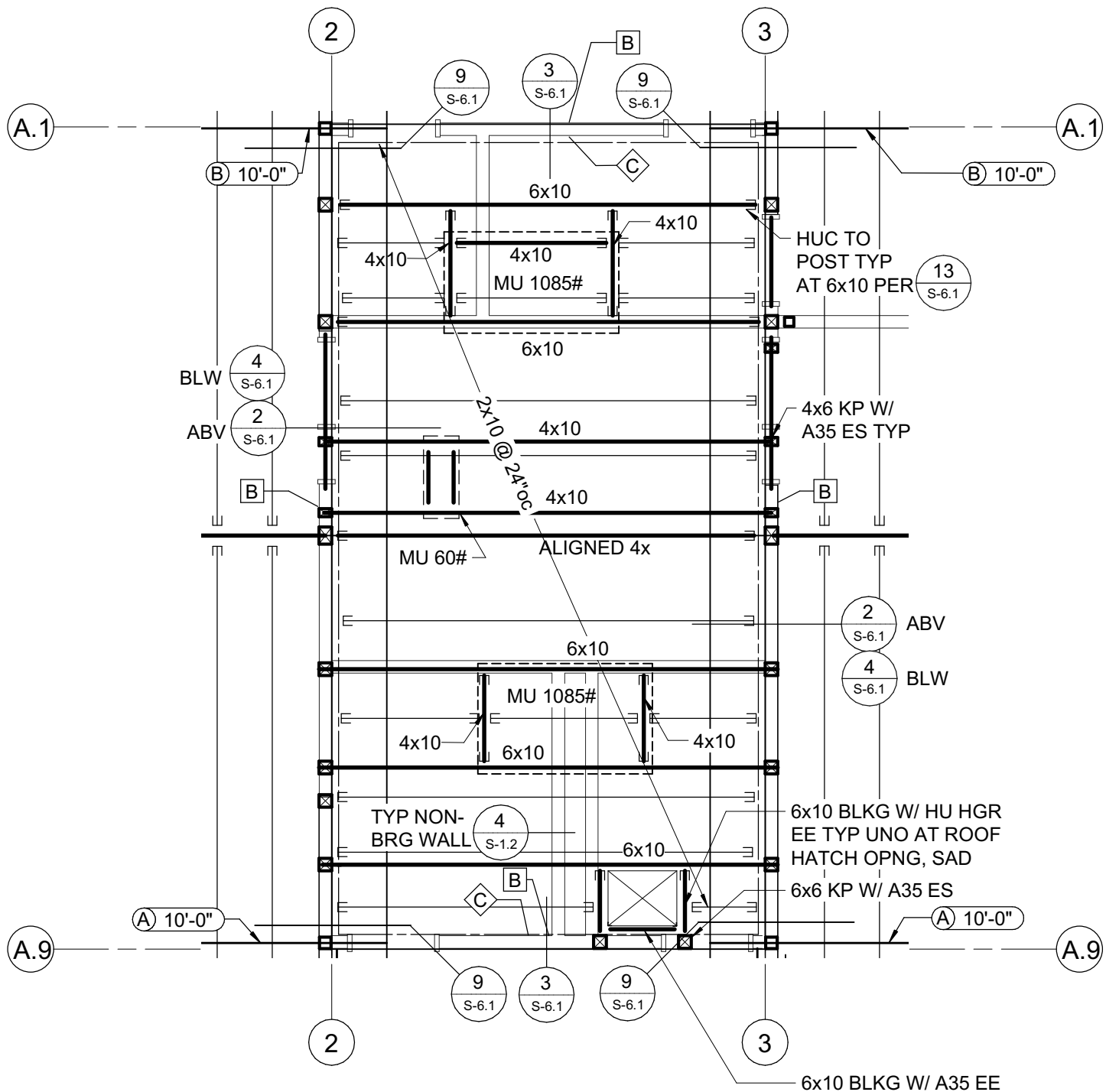
PENETRATIONS THROUGH SHEAR WALLS SHALL BE PER 6/S-1.2.

PENETRATIONS THROUGH ROOFS SHALL BE PER 5/S-1.2.
- ALL EXTERIOR WALLS NOT DESIGNATED AS SHEAR WALLS ON PLANS SHALL BE SHEATHED AS SHEAR WALL TYPE 'A' PER SHEAR WALL SCHEDULE, UNLESS NOTED OTHERWISE.
- COORDINATE TOP OF FRAMING AND LEDGER HEIGHTS AS REQUIRED TO PROVIDE ROOF SLOPES AS SHOWN ON ARCHITECTURAL AND STRUCTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
- SEISMIC GAPS WHERE NOTED ARE DIMENSIONED CLEAR BETWEEN WALL FINISHES. THIS GAP TO BE MAINTAINED ENTIRELY CLEAR TO ALLOW FOR DIFFERENTIAL BUILDING MOVEMENT. NO PIPES, CONDUITS, ETCETERA SHALL BE LOCATED WITHIN THE GAP. PROVIDE FLEXIBLE COUPLINGS AT ALL UTILITIES CROSSING SEISMIC GAPS.

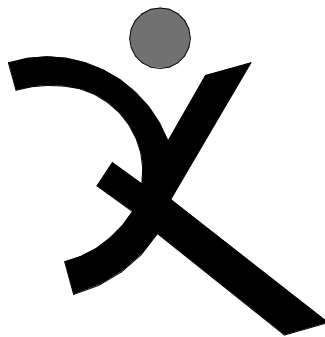
PLAN LEGEND		
SYMBOL	REFERENCE DETAIL	DESCRIPTION
88		INDICATES GRIDLINE
1 S-3.1		INDICATES ELEVATION.
1/S-1.2		INDICATES STRUCTURAL WALL.
D/S-0.1		INDICATES WOOD POST.
6/S-1.3		INDICATES STEEL COLUMN.
3/4x12 GLB C11		INDICATES BEAM SIZE AND CAMBER. WHERE NO CAMBER IS SPECIFIED SEE WOOD FRAMING NOTES FOR TYPICAL GLULAM BEAM CAMBER.
12/S-1.2		INDICATES PANEL EDGE NAILING ALONG FULL LENGTH OF MEMBER.
D/S-0.1		INDICATES HANGER.
		INDICATES LEDGER. SEE PLAN FOR SIZE AND ANCHORAGE.
MU 1,000#	7/S-1.3	INDICATES APPROXIMATE LOCATION, SIZE AND MAXIMUM WEIGHT OF MECHANICAL UNIT. SEE MECHANICAL DRAWINGS FOR ANCHORAGE AND ADDITIONAL INFORMATION.
A	1/S-1.3	INDICATES TOP PLATE SPLICE. SPLICE TYPE SHALL OCCUR ALONG THE ENTIRE LENGTH OF THE WALL, UNO. PROVIDE SPLICE TYPE 'A' IF NOT NOTED ON PLANS.
A	2/S-1.3	INDICATES LEDGER/RIM SPLICE. SPLICE TYPE SHALL OCCUR ALONG THE ENTIRE LENGTH OF THE WALL, UNO. PROVIDE SPLICE TYPE 'A' IF NOT NOTED ON PLANS.
A 4'-0"	3/S-1.3	INDICATES TIE STRAP. SEE SCHEDULE FOR STRAP, NAILING AND LENGTH.
12/S-7.1		INDICATES RAIN CANOPY METAL DECK



ROOF FRAMING PLAN
1/8" = 1'-0"



A PARTIAL LOW ROOF FRAMING PLAN
3/16" = 1'-0"



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HERITAGE HIGH SCHOOL

**NEW CLASSROOM BUILDINGS
INCREMENT 2 OF 2**

101 AMERICAN AVE,
BRENTWOOD CA 94513

**LIBERTY UNION
HIGH SCHOOL
DISTRICT**

REVISIONS

NO.	DESCRIPTION	DATE

DSA APP NO. 01-119268

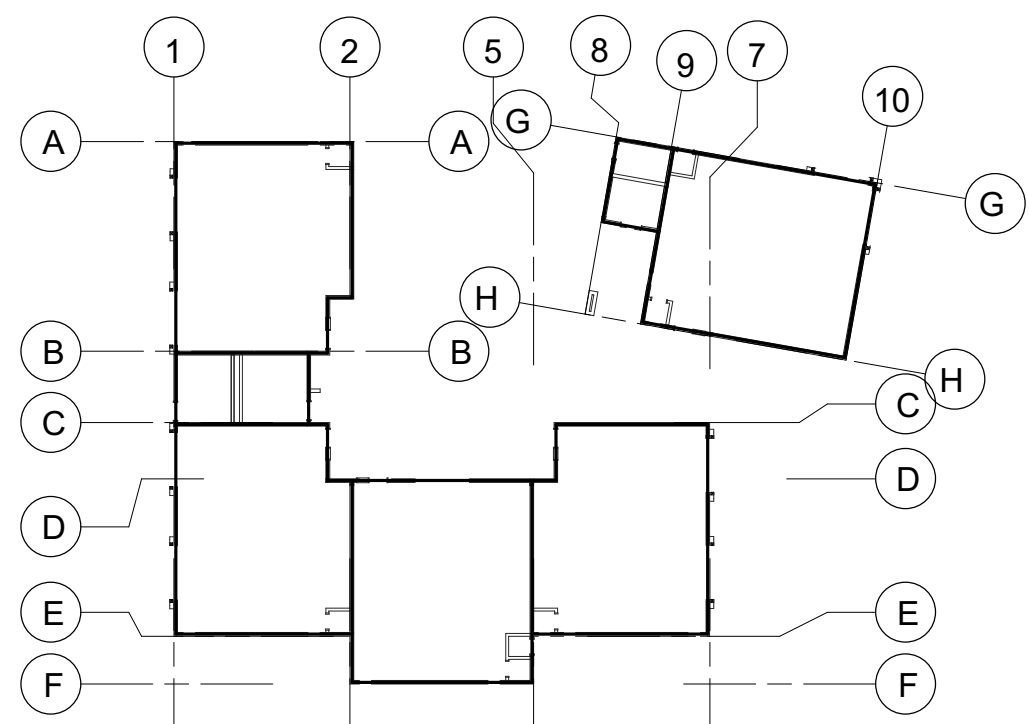
ARCH PROJECT NO. 1870.00
ENGR / PM: KPB / DM / SCH
DRAWING SCALE: As indicated
PTN: 61721-77 FILE NO: 7-H4

BID SET
MAY 10, 2021
SHEET TITLE

**BUILDING A
ROOF FRAMING
PLAN**

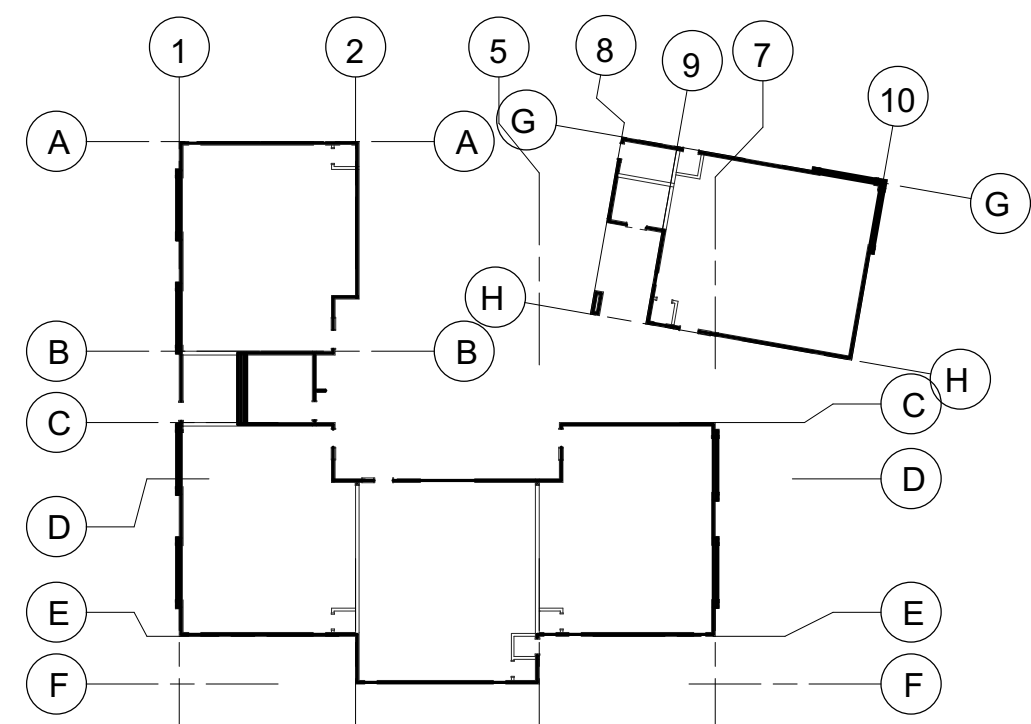
SHEET NUMBER

S-A2.2



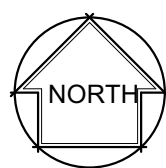
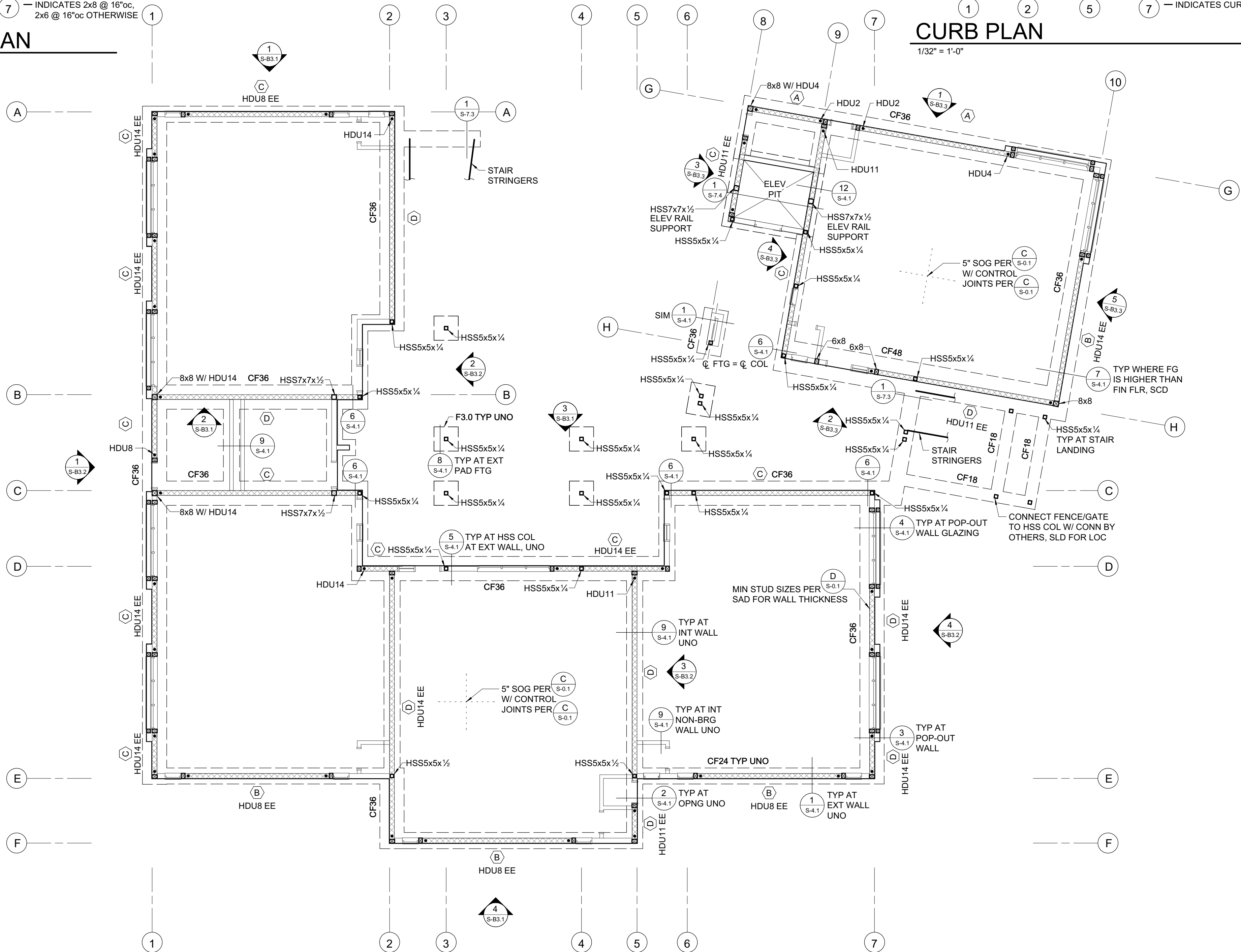
1ST FLOOR STUD PLAN

1/32" = 1'-0"



CURB PLAN

1/32" = 1'-0"



FOUNDATION PLAN

1/8" = 1'-0"

FOUNDATION PLAN NOTES:

- REFER TO SHEETS S-0.1 THROUGH S-1.5 FOR GENERAL NOTES AND TYPICAL DETAILS. THE FOLLOWING DETAIL REFERENCES ARE PROVIDED FOR THE CONTRACTOR'S CONVENIENCE ONLY. ALL GENERAL NOTES AND TYPICAL DETAIL SHEETS NOTED ABOVE ARE APPLICABLE AND SHALL BE FOLLOWED.
 - DIMENSIONS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE. COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
 - SEE DETAILS OR CURB PLAN FOR CURB LOCATIONS. COORDINATE WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES. PROVIDE LONGER ANCHOR BOLTS AT CURBS PER C/S-0.1.
 - ALL EXTERIOR WALLS NOT DESIGNATED AS SHEAR WALLS ON PLANS (INCLUDING WALLS ADJACENT TO SEISMIC GAPS) SHALL BE SHEATHED AS SHEAR WALL TYPE 'A' PER SHEAR WALL SCHEDULE, UNO.
 - PLUMBING AND ELECTRICAL CONDUIT AND GROUND STRAP SHALL NOT BE LAID WITHIN FOUNDATIONS. NO UTILITY PIPES OR CONDUITS SHALL BE LOCATED THRU COLUMN FOOTINGS OR FRAME FOOTINGS. NO PIPES OR CONDUITS THRU SILL PLATES SHALL BE WITHIN 12" OF HOLDOWN BOLTS. NO MECHANICAL, ELECTRICAL, OR PLUMBING OPENINGS SHALL BE LOCATED IN SHEAR WALLS UNLESS SHOWN AND DETAILED ON THE STRUCTURAL DRAWINGS. NO VERTICAL OR HORIZONTAL PIPES OR CONDUITS SHALL BE LOCATED THROUGH STEEL FRAMES, STEEL COLUMNS, OR STEEL BASE PLATES. PROVIDE FURRING AND/OR THICKENED CONCRETE WHERE REQUIRED TO CLEAR UTILITY SYSTEMS. NOTIFY STRUCTURAL ENGINEER/ARCHITECT PRIOR TO ANY INSTALLATION NOT CONFORMING TO THESE DETAILS.
- PIPES THROUGH FOOTINGS SHALL BE PER 2/S-1.1 AND 3/S-1.1.
- PIPES PARALLEL TO FOOTINGS SHALL BE PER 4/S-1.1.
- PIPES AT SLAB ON GRADE SHALL BE PER 7/S-1.1.
- PIPES THROUGH WOOD FRAMING SHALL BE PER 2/S-1.2 AND 5/S-1.3.
- CONTRACTOR SHALL DETERMINE FOUNDATION STEP LOCATIONS BASED ON GEOTECHNICAL REPORT, CIVIL, ARCHITECTURAL AND LANDSCAPE DRAWINGS. STEP FOOTING PER S/S-1.1.
 - SEISMIC GAPS WHERE NOTED ARE DIMENSIONED CLEAR BETWEEN WALL FINISHES. THIS GAP TO BE MAINTAINED ENTIRELY CLEAR TO ALLOW FOR DIFFERENTIAL BUILDING MOVEMENT. NO PIPES, CONDUITS, ETCETERA SHALL BE LOCATED WITHIN THE GAP. PROVIDE FLEXIBLE COUPLINGS AT ALL UTILITIES CROSSING SEISMIC GAPS.

PLAN LEGEND		
SYMBOL	REFERENCE DETAIL	DESCRIPTION
	88	INDICATES GRIDLINE.
	1 S-3.1	INDICATES ELEVATION.
		INDICATES FOUNDATION.
	CF24	INDICATES CONTINUOUS FOOTING SIZE AND REINFORCING PER SCHEDULE.
	F2.0	INDICATES PAD FOOTING SIZE AND REINFORCING PER SCHEDULE.
	1/S-1.2	INDICATES STRUCTURAL WALL.
	7/S-1.2 E/S-0.1	INDICATES SHEAR WALL TYPE. SYMBOL LOCATION INDICATES SHEATHED FACE OF WALL UNLESS NOTED OTHERWISE. SEE ELEVATIONS FOR SHEAR WALL LENGTH.
	7/S-1.2 E/S-0.1	INDICATES SHEAR WALL TYPE AND MINIMUM WALL LENGTH. SYMBOL LOCATION INDICATES SHEATHED FACE OF WALL UNLESS NOTED OTHERWISE.
	D/S-0.1	INDICATES WOOD POST.
	8/S-1.2	INDICATES POST WITH HOLDOWN. SEE ELEVATIONS FOR HOLDOWN SIZES. POSTS WITH HOLDOWN ARE FULL HEIGHT FROM SILL TO TOP PLATE.
	6/S-1.3	INDICATES STEEL COLUMN.

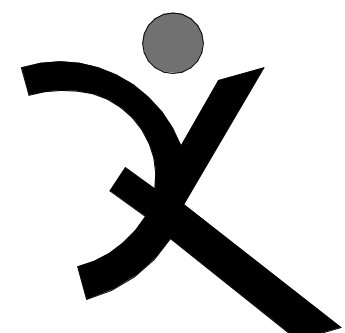
CONTINUOUS FOOTING SCHEDULE				
MARK	'b'	'd'	REINF	TIES
CF18	18"	18"	(2) #6 T&B	#3 @ 32"oc
CF24	24"	18"	(3) #6 T&B	#3 @ 32"oc
CF36	36"	18"	(4) #6 T&B	#3 @ 32"oc
CF48	48"	18"	(5) #6 T&B	#3 @ 32"oc

PAD FOOTING SCHEDULE		
MARK	SIZE	REINF
F2.0	2'-0" SQ x 18" DEPTH	(3) #5 T&B EW
F3.0	3'-0" SQ x 18" DEPTH	(4) #5 T&B EW

SHEAR WALL SCHEDULE								
SW	APA RATED SHEATHING	NAILING (PEN)	ANCHORAGE					REMARKS
			1/4" BOLT FDN		AT FRAMING			
			2x SILL	3x SILL	16d	A35	SDS *	
(A)	1/2" * (32/16) STR 1	10d @ 6"oc	32"oc	48"oc	6"oc	24"oc	16"oc	3x MIN AT ALL ADJOINING PANEL EDGES
(B)	1/2" * (32/16) STR 1	10d @ 4"oc	24"oc	32"oc	4"oc	16"oc	10"oc	
(C)	1/2" * (32/16) STR 1	10d @ 3"oc	16"oc	24"oc	3"oc	8"oc	8"oc	
(D)	1/2" * (32/16) STR 1	10d @ 2"oc	-	16"oc	(2) ROWS @ 4"oc	8"oc	6"oc	

* 2x SILL: SDS/4x4 1/2". 3x SILL: SDS/4x6". FOR SDS @ 6"oc OR LESS, PROVIDE 4x BLKG BL/W.

* 2x SILL: SDS 1/4"x6". 3x SILL: SDS 1/2"x6". FOR SDS @ 6"oc OR LESS, PROVIDE 4x BLKG BLW.



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HERITAGE HIGH
SCHOOL

NEW CLASSROOM
BUILDINGS
INCREMENT 2 OF 2

101 AMERICAN AVE,
BRENTWOOD CA 94513

LIBERTY UNION
HIGH SCHOOL
DISTRICT

REVISIONS

NO.	DESCRIPTION	DATE

DSA APP NO. 01-119268

ARCH PROJECT NO. 1870.00

ENGR / PM: KPB / DM / SCH

DRAWING SCALE: As indicated

PTN: 61721-77 FILE NO: 7-H4

BID SET

MAY 10, 2021

SHEET TITLE

BUILDING B
FOUNDATION
PLAN

SHEET NUMBER

S-B2.1

C:\revit_local\2016\HERITAGE HS CLASSROOM_R20C.kyleb@zfa.com.v4

5/10/2021 11:42:05 AM

TIE STRAP SCHEDULE					
MARK	STRAP	MIN. NAILING ES OF *	MAX. NAIL SPACING (SEE NOTES #1 & #2)		MIN. END LENGTH (EL)
			CASE 1	CASE 2	
				EL RL	
(A)	CS16	(10) 10d	10d @ 4"oc STGR	FILL ALL NAIL HOLES	12"
(B)	CS14	(13) 10d	10d @ 4"oc STGR	FILL ALL NAIL HOLES	16"
(C)	CMSTC16	(25) 10d	10d @ 3"oc STGR	FILL ALL NAIL HOLES	24"
(D)	CMST14	(33) 10d	10d @ 3 1/2"oc STGR	FILL ALL NAIL HOLES	32"
(E)	CMST12	(43) 10d	10d @ 3 1/2"oc STGR	FILL ALL NAIL HOLES	48"

1. CASE 1 APPLIES UNLESS END LENGTH (EL) IS NOTED ON PLANS. WHERE END LENGTH (EL) IS NOTED, SEE CASE 2.

TOP PLATE SPLICE SCHEDULE		
MARK	LAP SPLICE (CASE 1)	STRAP SPLICE (CASE 2)
(A)	(12) 16d PER 4'-0" MIN LAP	MSTC28
(B)	(22) 16d PER 4'-0" MIN LAP	MSTC40
(C)	(26) 16d PER 6'-0" MIN LAP	MSTC52
(D)	(32) 16d PER 6'-0" MIN LAP	MSTC66
(E)	(36) 16d PER 8'-0" MIN LAP	MSTC28 EA SIDE
(F)	-	2 1/4"x4"x2'-6" W/ MB10 EE

LEDGER SPLICE SCHEDULE				
MARK	CASE	STRAP/PLATE	CASE	STRAP/PLATE
(A)	1	MSTA24	-	MSTA24
(B)	1	MSTA30	-	MSTA30
(C)	2	MST148	3	MST160

FRAMING PLAN NOTES:

- REFER TO SHEETS S-0.1 THROUGH S-1.5 FOR GENERAL NOTES AND TYPICAL DETAILS. THE FOLLOWING DETAIL REFERENCES ARE PROVIDED FOR THE CONTRACTOR'S CONVENIENCE ONLY. ALL GENERAL NOTES AND TYPICAL DETAIL SHEETS NOTED ABOVE ARE APPLICABLE AND SHALL BE FOLLOWED.
- DIMENSIONS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE. COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
- MECHANICAL, ELECTRICAL AND PLUMBING PENETRATIONS THROUGH WALLS, ROOFS OR FLOORS SHALL BE PER REFERENCES BELOW UNLESS SHOWN AND DETAILED OTHERWISE ON THE STRUCTURAL PLANS. NOTIFY ARCHITECT/ENGINEER PRIOR TO ANY INSTALLATION NOT CONFORMING TO THESE DETAILS.

PENETRATIONS THROUGH SHEAR WALLS SHALL BE PER 6/S-1.2.

PENETRATIONS THROUGH FLOORS SHALL BE PER 5/S-1.2.
- ALL EXTERIOR WALLS NOT DESIGNATED AS SHEAR WALLS ON PLANS SHALL BE SHEATHED AS SHEAR WALL TYPE 'A' PER SHEAR WALL SCHEDULE, UNLESS NOTED OTHERWISE.
- COORDINATE TOP OF FRAMING AND LEDGER HEIGHTS AS REQUIRED TO PROVIDE ROOF SLOPES AS SHOWN ON ARCHITECTURAL AND STRUCTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
- SEISMIC GAPS WHERE NOTED ARE DIMENSIONED CLEAR BETWEEN WALL FINISHES. THIS GAP TO BE MAINTAINED ENTIRELY CLEAR TO ALLOW FOR DIFFERENTIAL BUILDING MOVEMENT. NO PIPES, CONDUITS, ETCETERA SHALL BE LOCATED WITHIN THE GAP. PROVIDE FLEXIBLE COUPLINGS AT ALL UTILITIES CROSSING SEISMIC GAPS.

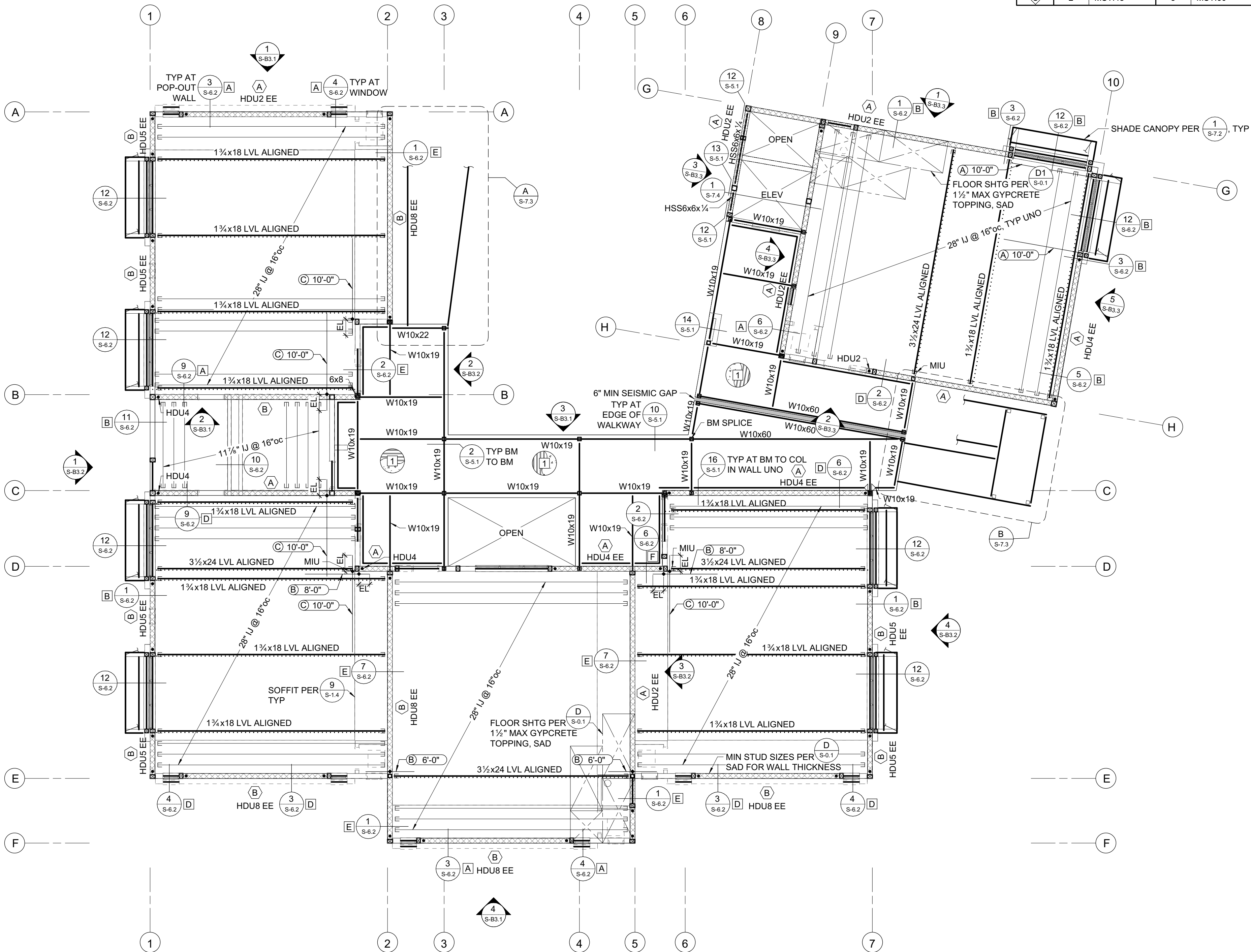
PLAN LEGEND		
SYMBOL	REFERENCE DETAIL	DESCRIPTION
(88)		INDICATES GRIDLINE
1 S-3.7		INDICATES ELEVATION.
1/S-1.2		INDICATES STRUCTURAL WALL.
1/S-1.2		INDICATES STRUCTURAL WALL ABOVE.
(A) 7/S-1.2 E/S-0.1		INDICATES SHEAR WALL TYPE. SYMBOL LOCATION INDICATES SHEATHED FACE OF WALL UNLESS NOTED OTHERWISE. SEE ELEVATIONS FOR SHEAR WALL LENGTH.
(X)	D/S-0.1	INDICATES WOOD POST.
(X) *	8/S-1.2	INDICATES POST WITH HOLDOWN. POSTS WITH HOLDOWN ARE FULL HEIGHT FROM SILL TO TOP PLATE.
(□)	6/S-1.3	INDICATES STEEL COLUMN.
3 1/2"x12 GLB C-11"	D/S-0.1	INDICATES BEAM SIZE AND CAMBER. WHERE NO CAMBER IS SPECIFIED SEE WOOD FRAMING NOTES FOR TYPICAL GLULAM BEAM CAMBER.
12/S-1.2		INDICATES PANEL EDGE NAILING ALONG FULL LENGTH OF MEMBER.
E	D/S-0.1	INDICATES HANGER.
(A)	1/S-1.3	INDICATES TOP PLATE SPLICE. SPLICE TYPE SHALL OCCUR ALONG THE ENTIRE LENGTH OF THE WALL, UNO. PROVIDE SPLICE TYPE 'A' IF NOT NOTED ON PLANS.
(A)	2/S-1.3	INDICATES LEDGER/RIM SPLICE. SPLICE TYPE SHALL OCCUR ALONG THE ENTIRE LENGTH OF THE WALL, UNO. PROVIDE SPLICE TYPE 'A' IF NOT NOTED ON PLANS.
(A) 4'-0"	3/S-1.3	INDICATES TIE STRAP. SEE SCHEDULE FOR STRAP, NAILING AND LENGTH.
(1)	1/S-1.5	INDICATES CONCRETE OVER METAL DECK
(1)	12/S-7.1	INDICATES RAIN CANOPY METAL DECK
(MU) 1,000#	7/S-1.3	INDICATES APPROXIMATE LOCATION, SIZE AND MAXIMUM WEIGHT OF MECHANICAL UNIT. SEE MECHANICAL DRAWINGS FOR ANCHORAGE AND ADDITIONAL INFORMATION.
(17/S-5.1)		INDICATES NON-FRAME MOMENT RESISTING CONNECTION.

I - JOIST SCHEDULE

DEPTH	MANUFACTURER	MODEL	CODE REPORT
11 1/2	REDBUILT	RED-I65	ICC ESR - 2994
20	REDBUILT	RED-I65	ICC ESR - 2994
28	REDBUILT	RED-I90H	ICC ESR - 2994

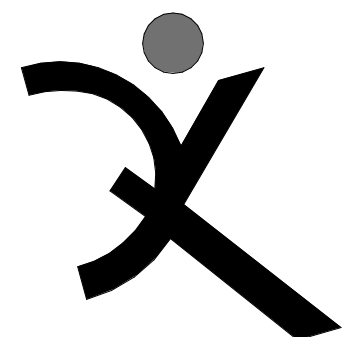
SHEAR WALL SCHEDULE						
SW	APA RATED SHEATHING	NAILING (PEN)	ANCHORAGE			
			1/2" BOLT FOR 2x SILL	3x SILL	16d AT FRAMING	REMARKS
(A)	1 1/2" * (32/16) STR 1	10d @ 6"oc	32"oc	48"oc	6"oc	24"oc 16"oc
(B)	1 1/2" * (32/16) STR 1	10d @ 4"oc	24"oc	32"oc	4"oc	16"oc 10"oc
(C)	1 1/2" * (32/16) STR 1	10d @ 3"oc	16"oc	24"oc	3"oc	8"oc 8"oc
(D)	1 1/2" * (32/16) STR 1	10d @ 2"oc	-	16"oc	(2) ROWS @ 4"oc	8"oc 6"oc

* 2x SILL: SDS 1/4"x4 1/4". 3x SILL: SDS 1/2"x6". FOR SDS @ 6"oc OR LESS, PROVIDE 4x BLKG BLW.



SECOND FLOOR FRAMING PLAN

1/8" = 1'-0"



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HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS INCREMENT 2 OF 2

101 AMERICAN AVE,
BRENTWOOD CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

NO.	DESCRIPTION	DATE

DSA APP NO. 01-119268

ARCH PROJECT NO. 1870.00
ENGR / PM: KPB / DM / SCH
DRAWING SCALE: As indicated
PTN: 61721-77 FILE NO: 7-H4

BID SET

MAY 10, 2021

SHEET TITLE

BUILDING B SECOND FLOOR FRAMING PLAN

SHEET NUMBER

S-B2.2

TIE STRAP SCHEDULE					
MARK	STRAP	MIN. NAILING ES OF *	MAX. NAIL SPACING (SEE NOTES #1 & #2)		
			CASE 1	CASE 2	
				EL	RL
(A)	CS16	(10) 10d	10d @ 4"oc STGR	FILL ALL NAIL HOLES	10d @ 4"oc STGR
(B)	CS14	(13) 10d	10d @ 4"oc STGR	FILL ALL NAIL HOLES	10d @ 4"oc STGR
(C)	CMSTC16	(25) 10d	10d @ 3"oc STGR	FILL ALL NAIL HOLES	10d @ 3"oc STGR
(D)	CMST14	(33) 10d	10d @ 3 1/2"oc STGR	FILL ALL NAIL HOLES	10d @ 3 1/2"oc STGR
(E)	CMST12	(43) 10d	10d @ 3 1/2"oc STGR	FILL ALL NAIL HOLES	10d @ 3 1/2"oc STGR

1. CASE 1 APPLIES UNLESS END LENGTH (EL) IS NOTED ON PLANS. WHERE END LENGTH (EL) IS NOTED, SEE CASE 2.

TOP PLATE SPLICE SCHEDULE			
MARK	LAP SPLICE (CASE 1)	STRAP SPLICE (CASE 2)	
(A)	(12) 16d PER 4'-0" MIN LAP	MSTC28	
(B)	(22) 16d PER 4'-0" MIN LAP	MSTC40	
(C)	(26) 16d PER 6'-0" MIN LAP	MSTC52	
(D)	(32) 16d PER 6'-0" MIN LAP	MSTC66	
(E)	(36) 16d PER 8'-0" MIN LAP	MSTC28 EA SIDE	
(F)	-	P 1/4"x4x2'-6" W/ MB10 EE	

LEDGER SPLICE SCHEDULE				
MARK	CASE	STRAP/PLATE	CASE	STRAP/PLATE
(A)	1	MSTA24	-	MSTA24
(B)	1	MSTA30	-	MSTA30
(C)	2	MSTI48	3	MSTI60

FRAMING PLAN NOTES:

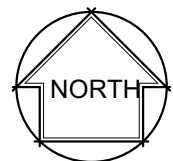
- REFER TO SHEETS S-0.1 THROUGH S-1.6 FOR GENERAL NOTES AND TYPICAL DETAILS. THE FOLLOWING DETAIL REFERENCES ARE PROVIDED FOR THE CONTRACTOR'S CONVENIENCE ONLY. ALL GENERAL NOTES AND TYPICAL DETAIL SHEETS NOTED ABOVE ARE APPLICABLE AND SHALL BE FOLLOWED.
- DIMENSIONS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE. COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
- MECHANICAL, ELECTRICAL AND PLUMBING PENETRATIONS THROUGH WALLS, ROOFS OR FLOORS SHALL BE PER REFERENCES BELOW UNLESS SHOWN AND DETAILED OTHERWISE ON THE STRUCTURAL PLANS. NOTIFY ARCHITECT/ENGINEER PRIOR TO ANY INSTALLATION NOT CONFORMING TO THESE DETAILS.

PENETRATIONS THROUGH SHEAR WALLS SHALL BE PER 6/S-1.2.

PENETRATIONS THROUGH ROOFS SHALL BE PER 5/S-1.2.
- ALL EXTERIOR WALLS NOT DESIGNATED AS SHEAR WALLS ON PLANS SHALL BE SHEATHED AS SHEAR WALL TYPE 'A' PER SHEAR WALL SCHEDULE, UNLESS NOTED OTHERWISE.
- COORDINATE TOP OF FRAMING AND LEDGER HEIGHTS AS REQUIRED TO PROVIDE ROOF SLOPES AS SHOWN ON ARCHITECTURAL AND STRUCTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
- SEISMIC GAPS WHERE NOTED ARE DIMENSIONED CLEAR BETWEEN WALL FINISHES. THIS GAP TO BE MAINTAINED ENTIRELY CLEAR TO ALLOW FOR DIFFERENTIAL BUILDING MOVEMENT. NO PIPES, CONDUITS, ETCETERA SHALL BE LOCATED WITHIN THE GAP. PROVIDE FLEXIBLE COUPLINGS AT ALL UTILITIES CROSSING SEISMIC GAPS.

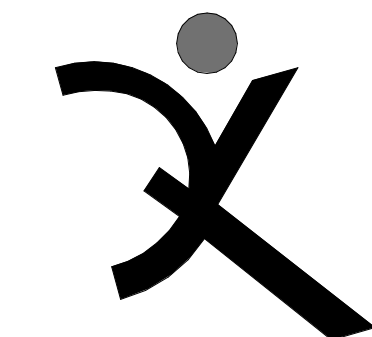
PLAN LEGEND		
SYMBOL	REFERENCE DETAIL	DESCRIPTION
(88)		INDICATES GRIDLINE
(1 S-3.1)		INDICATES ELEVATION.
=====	1/S-1.2	INDICATES STRUCTURAL WALL.
☐	D/S-0.1	INDICATES WOOD POST.
□	6/S-1.3	INDICATES STEEL COLUMN.
3/4x12 GLB C+1"	D/S-0.1	INDICATES BEAM SIZE AND CAMBER. WHERE NO CAMBER IS SPECIFIED SEE WOOD FRAMING NOTES FOR TYPICAL GLULAM BEAM CAMBER.
.....	12/S-1.2	INDICATES PANEL EDGE NAILING ALONG FULL LENGTH OF MEMBER.
=====	D/S-0.1	INDICATES HANGER.
----		INDICATES LEDGER. SEE PLAN FOR SIZE AND ANCHORAGE.
[MU] [1,000#]	7/S-1.3	INDICATES APPROXIMATE LOCATION, SIZE AND MAXIMUM WEIGHT OF MECHANICAL UNIT. SEE MECHANICAL DRAWINGS FOR ANCHORAGE AND ADDITIONAL INFORMATION.
↗ [A]	1/S-1.3	INDICATES TOP PLATE SPLICE. SPLICE TYPE SHALL OCCUR ALONG THE ENTIRE LENGTH OF THE WALL, UNO. PROVIDE SPLICE TYPE 'A' IF NOT NOTED ON PLANS.
↖ [A]	2/S-1.3	INDICATES LEDGER/RIM SPLICE. SPLICE TYPE SHALL OCCUR ALONG THE ENTIRE LENGTH OF THE WALL, UNO. PROVIDE SPLICE TYPE 'A' IF NOT NOTED ON PLANS.
↗ (A) 4'-0"	3/S-1.3	INDICATES TIE STRAP. SEE SCHEDULE FOR STRAP, NAILING AND LENGTH.
⊘	12/S-7.1	INDICATES RAIN CANOPY METAL DECK

I - JOIST SCHEDULE			
DEPTH	MANUFACTURER	MODEL	CODE REPORT
11 1/2"	REDBUILT	RED-i65	ICC ESR - 2994
20	REDBUILT	RED-i65	ICC ESR - 2994
28	REDBUILT	RED-i90H	ICC ESR - 2994



ROOF FRAMING PLAN

1/8" = 1'-0"



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HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS INCREMENT 2 OF 2

101 AMERICAN AVE,
BRENTWOOD CA 94513

LIBERTY UNION
HIGH SCHOOL
DISTRICT

REVISIONS

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DSA APP NO. 01-119268

ARCH PROJECT NO. 1870.00
ENGR / PM: KPB / DM / SCH
DRAWING SCALE: As indicated
PTN: 61721-77 FILE NO: 7-H4

BID SET

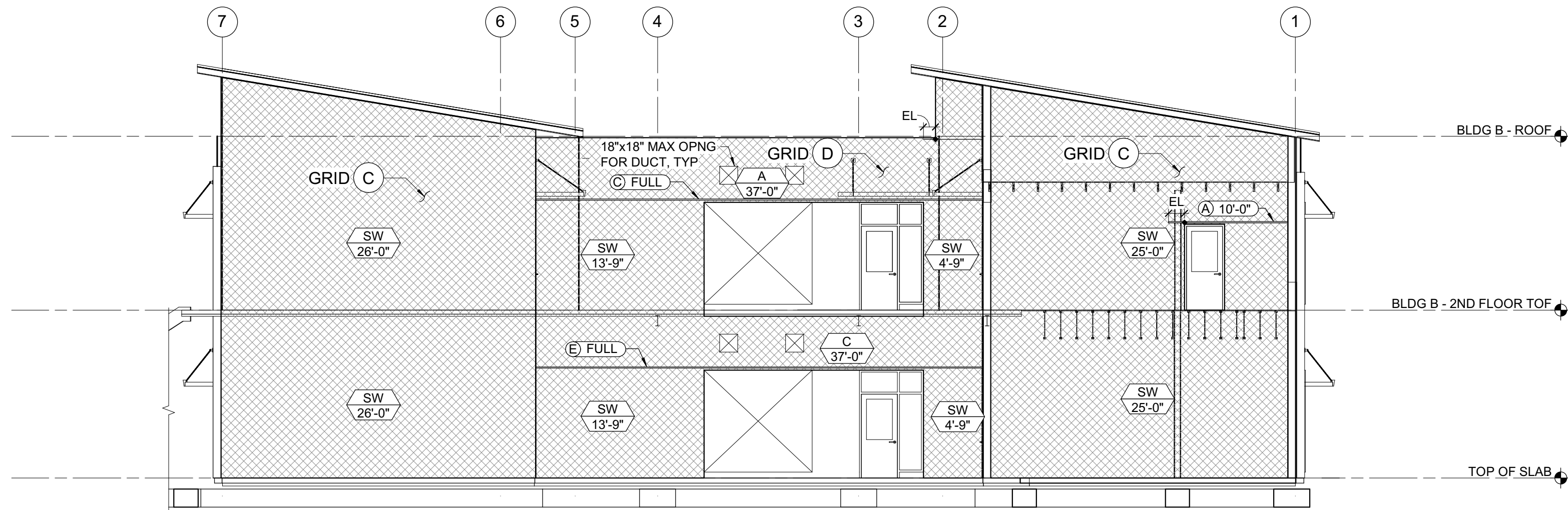
MAY 10, 2021

SHEET TITLE

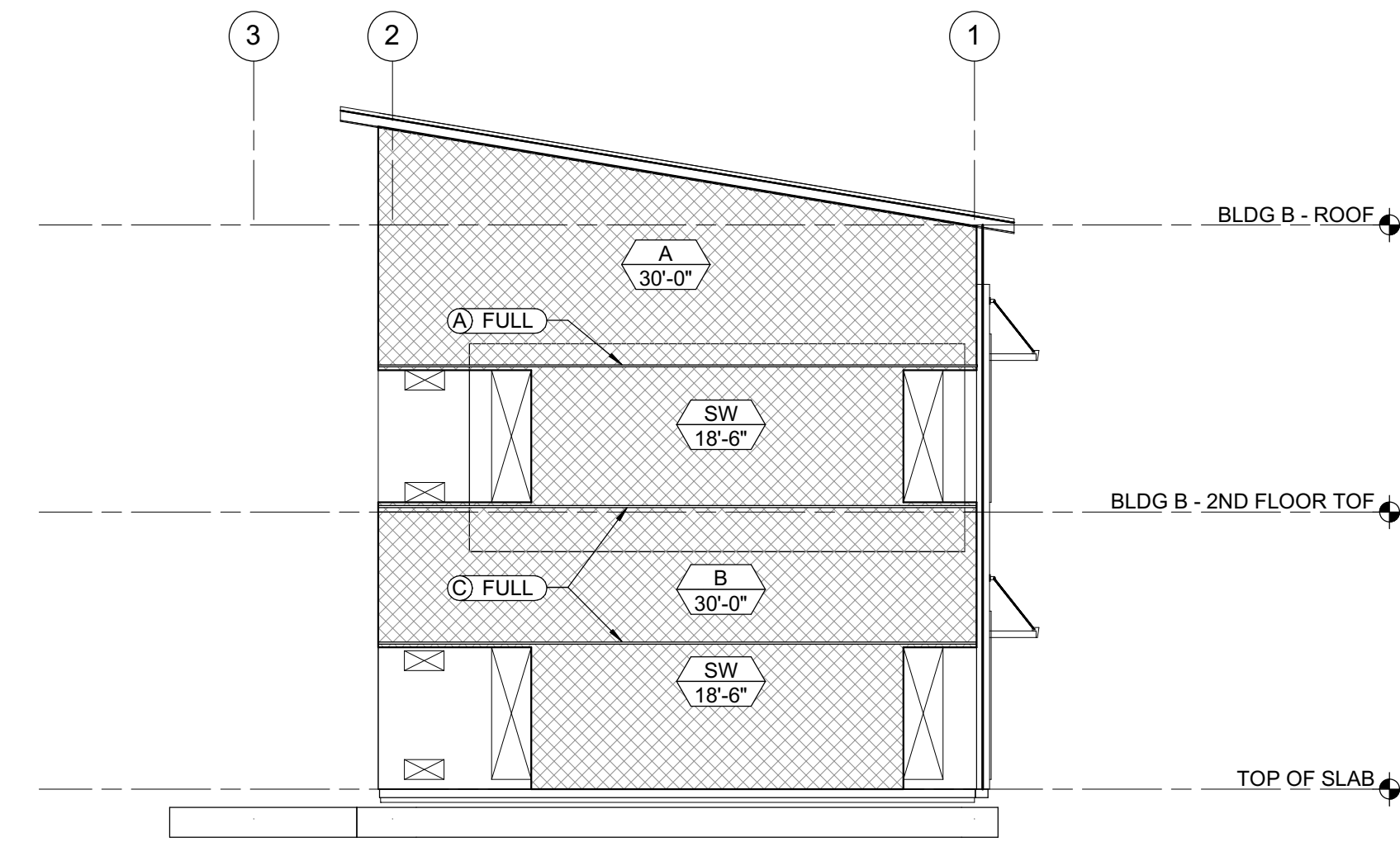
BUILDING B ROOF FRAMING PLAN

SHEET NUMBER

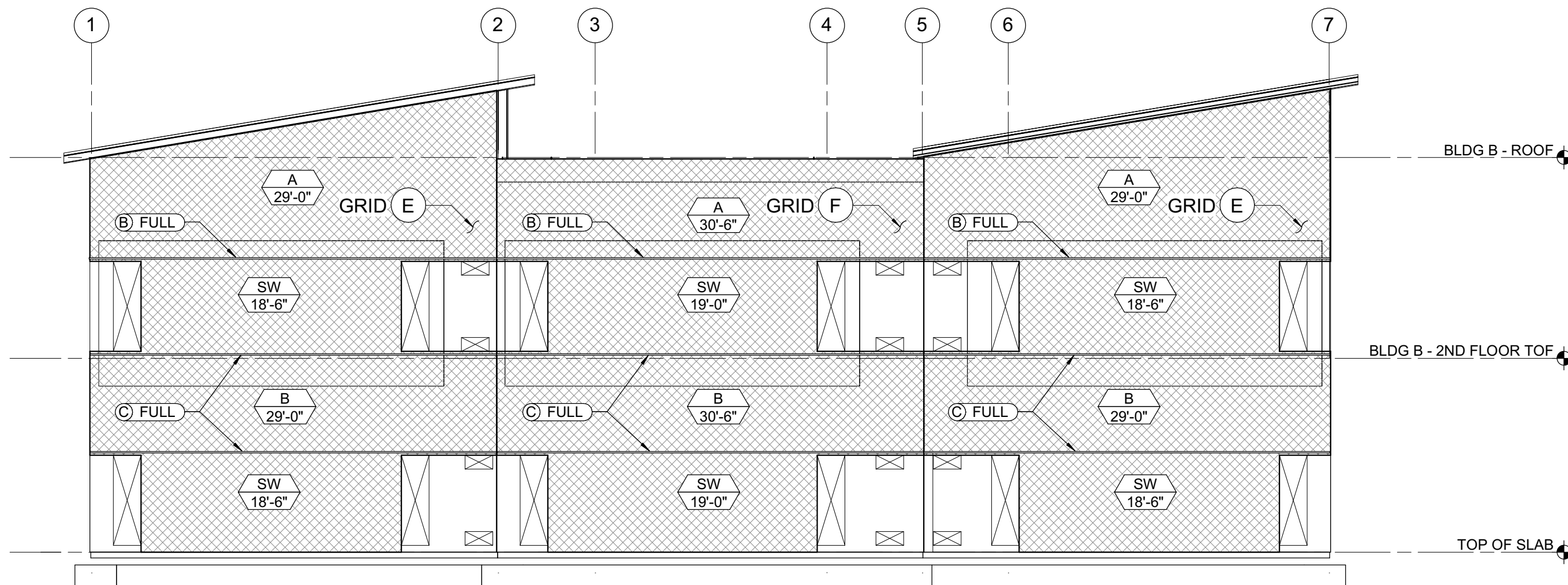
S-B2.3



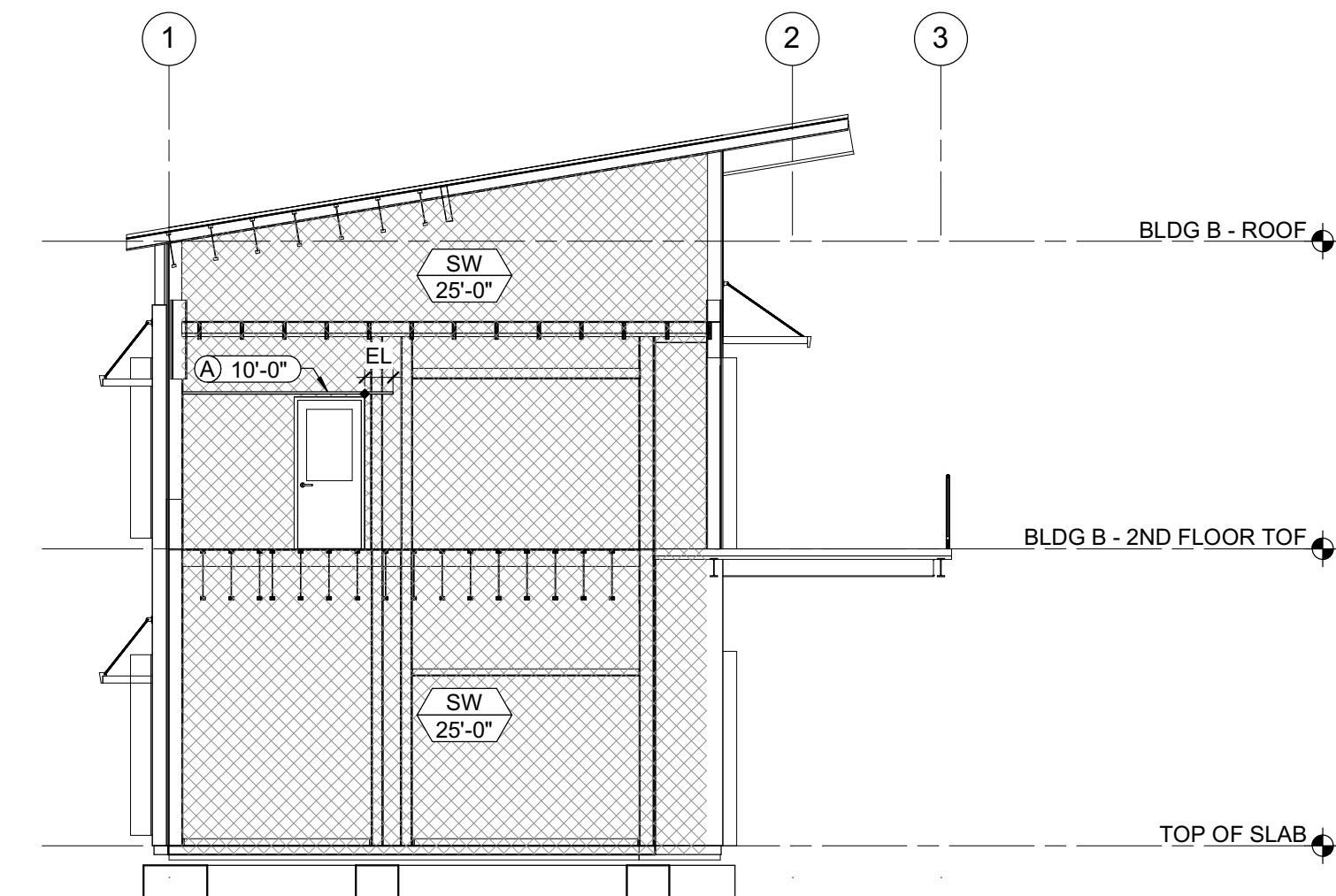
3 GRIDS C & D - SHEAR WALL ELEVATION
1/8" = 1'-0"



1 GRID A - SHEAR WALL ELEVATION
1/8" = 1'-0"

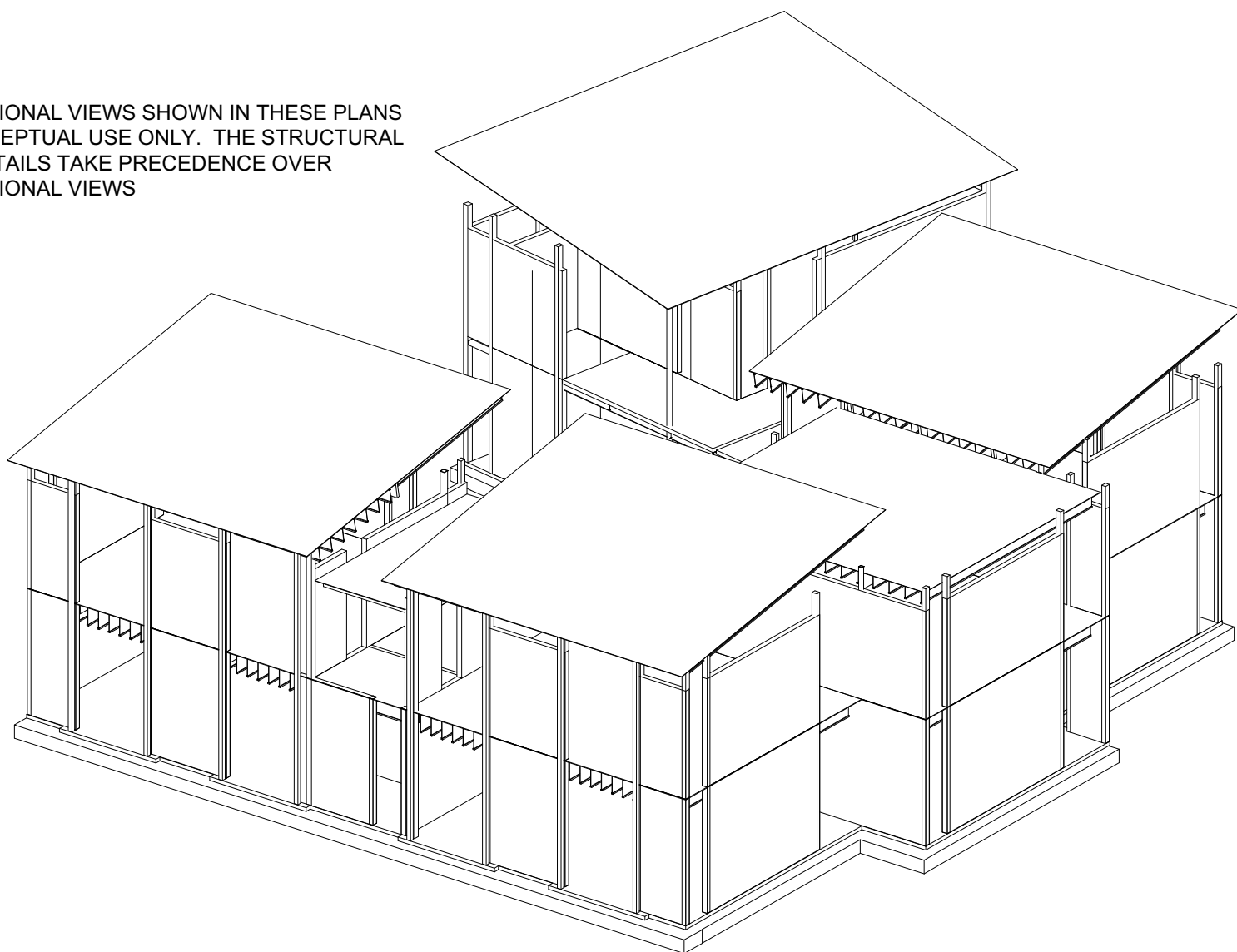


4 GRIDS E & F - SHEAR WALL ELEVATION
1/8" = 1'-0"



2 GRID B - SHEAR WALL ELEVATION
1/8" = 1'-0"

THREE-DIMENSIONAL VIEWS SHOWN IN THESE PLANS ARE FOR CONCEPTUAL USE ONLY. THE STRUCTURAL PLANS AND DETAILS TAKE PRECEDENCE OVER THREE-DIMENSIONAL VIEWS



3D SCHEMATIC STRUCTURE
NOT TO SCALE

SHEAR WALL SCHEDULE								
SW	APA RATED SHEATHING	NAILING (PEN)	ANCHORAGE					REMARKS
			1/4" BOLT FDN		AT FRAMING			
			2x SILL	3x SILL	16d	A35	SDS *	
(A)	1/2" * (32/16) STR 1	10d @ 6"oc	32"oc	48"oc	6"oc	24"oc	16"oc	3x MIN AT ALL ADJOINING PANEL EDGES
(B)	1/2" * (32/16) STR 1	10d @ 4"oc	24"oc	32"oc	4"oc	16"oc	10"oc	
(C)	1/2" * (32/16) STR 1	10d @ 3"oc	16"oc	24"oc	3"oc	8"oc	8"oc	
(D)	1/2" * (32/16) STR 1	10d @ 2"oc	-	16"oc	(2) ROWS @ 4"oc	8"oc	6"oc	

* 2x SILL: SDS 1/4"x4 1/2". 3x SILL: SDS 1/4"x6". FOR SDS @ 6"oc OR LESS, PROVIDE 4x BLKG BLW.

TIE STRAP SCHEDULE						
MARK	STRAP	MIN. NAILING ES OF *	MAX. NAIL SPACING (SEE NOTES #1 & #2)			
			CASE 1	CASE 2		MIN. END LENGTH (EL)
				EL	RL	
(A)	CS16	(10) 10d	10d @ 4"oc STGR	FILL ALL NAIL HOLES	10d @ 4"oc STGR	12"
(B)	CS14	(13) 10d	10d @ 4"oc STGR	FILL ALL NAIL HOLES	10d @ 4"oc STGR	16"
(C)	CMSTC16	(25) 10d	10d @ 3"oc STGR	FILL ALL NAIL HOLES	10d @ 3"oc STGR	24"
(D)	CMST14	(33) 10d	10d @ 3 1/2"oc STGR	FILL ALL NAIL HOLES	10d @ 3 1/2"oc STGR	32"
(E)	CMST12	(43) 10d	10d @ 3 1/2"oc STGR	FILL ALL NAIL HOLES	10d @ 3 1/2"oc STGR	48"

1. CASE 1 APPLIES UNLESS END LENGTH (EL) IS NOTED ON PLANS. WHERE END LENGTH (EL) IS NOTED, SEE CASE 2.

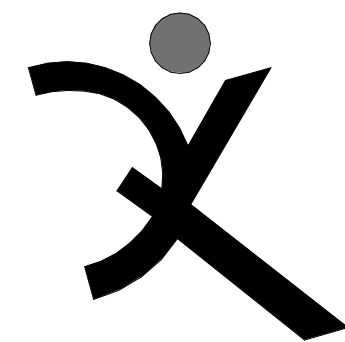
ELEVATION NOTES:

- ELEVATIONS ARE SCHEMATIC. SEE PLANS FOR ADDITIONAL INFORMATION.
- REFER TO SHEETS S-0.1 THROUGH S-1.5 FOR GENERAL NOTES AND TYPICAL DETAILS. THE FOLLOWING DETAIL REFERENCES ARE PROVIDED FOR THE CONTRACTOR'S CONVENIENCE ONLY. ALL GENERAL NOTES AND TYPICAL DETAIL SHEETS NOTED ABOVE ARE APPLICABLE AND SHALL BE FOLLOWED.
- DIMENSIONS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE. COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
- MECHANICAL, ELECTRICAL AND PLUMBING PENETRATIONS THROUGH WALLS, SHALL BE PER REFERENCES BELOW UNLESS SHOWN AND DETAILED OTHERWISE ON THE STRUCTURAL PLANS. NOTIFY ARCHITECT/ENGINEER PRIOR TO ANY INSTALLATION NOT CONFORMING TO THESE DETAILS.

PENETRATIONS THROUGH SHEAR WALLS SHALL BE PER 8/S-1.2.

PENETRATIONS THROUGH FLOORS SHALL BE PER 8/S-1.2.
- ALL EXTERIOR WALLS NOT DESIGNATED AS SHEAR WALLS ON PLANS SHALL BE SHEATHED AS SHEAR WALL TYPE 'A' PER SHEAR WALL SCHEDULE, UNLESS NOTED OTHERWISE.
- COORDINATE TOP OF FRAMING AND LEDGER HEIGHTS AS REQUIRED TO PROVIDE ROOF SLOPES AS SHOWN ON ARCHITECTURAL AND STRUCTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.

ELEVATION LEGEND		
SYMBOL	REFERENCE DETAIL	DESCRIPTION
(88)		INDICATES GRIDLINE
(A 10'-0")	7/S-1.2 E/S-0.1	INDICATES SHEAR WALL TYPE AND MINIMUM WALL LENGTH. SYMBOL LOCATION INDICATES SHEATHED FACE OF WALL UNLESS NOTED OTHERWISE. SEE PLANS FOR SHEAR WALL TYPES NOTED AS 'SW'.
(A 10'-0")	8/S-1.2 9/S-1.2	INDICATES HOLDOWN. POSTS WITH HOLDOWN ARE FULL HEIGHT FROM SILL TO TOP PLATE.
(A 10'-0")	D/S-0.1	INDICATES WOOD POST. SEE PLANS FOR SIZE UNLESS NOTED OTHERWISE.
(A 10'-0")	6/S-1.3	INDICATES STEEL COLUMN. SEE PLANS FOR SIZE UNLESS NOTED OTHERWISE.
(A 10'-0")	3/S-1.3	INDICATES TIE STRAP. SEE SCHEDULE FOR STRAP, NAILING AND LENGTH.
(A 10'-0")	1/S-1.3	INDICATES TOP PLATE SPLICE. SPLICE TYPE SHALL OCCUR ALONG THE ENTIRE LENGTH OF THE WALL, UNO. PROVIDE SPLICE TYPE 'A' IF NOT NOTED ON PLANS.
(A 10'-0")	2/S-1.3	INDICATES LEDGER/RIM SPLICE. SPLICE TYPE SHALL OCCUR ALONG THE ENTIRE LENGTH OF THE WALL, UNO. PROVIDE SPLICE TYPE 'A' IF NOT NOTED ON PLANS.
(MO 18"x24")	7/S-1.3	INDICATES APPROXIMATE LOCATION AND SIZE OF MECHANICAL OPENING. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.



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HERITAGE HIGH
SCHOOL

NEW CLASSROOM
BUILDINGS
INCREMENT 2 OF 2

101 AMERICAN AVE,
BRENTWOOD CA 94513

LIBERTY UNION
HIGH SCHOOL
DISTRICT

REVISIONS

NO.	DESCRIPTION	DATE

DSA APP NO. 01-119268

ARCH PROJECT NO. 1870.00
ENGR / PM: KPB / DM / SCH
DRAWING SCALE: As indicated
PTN: 61721-77 FILE NO: 7-H4

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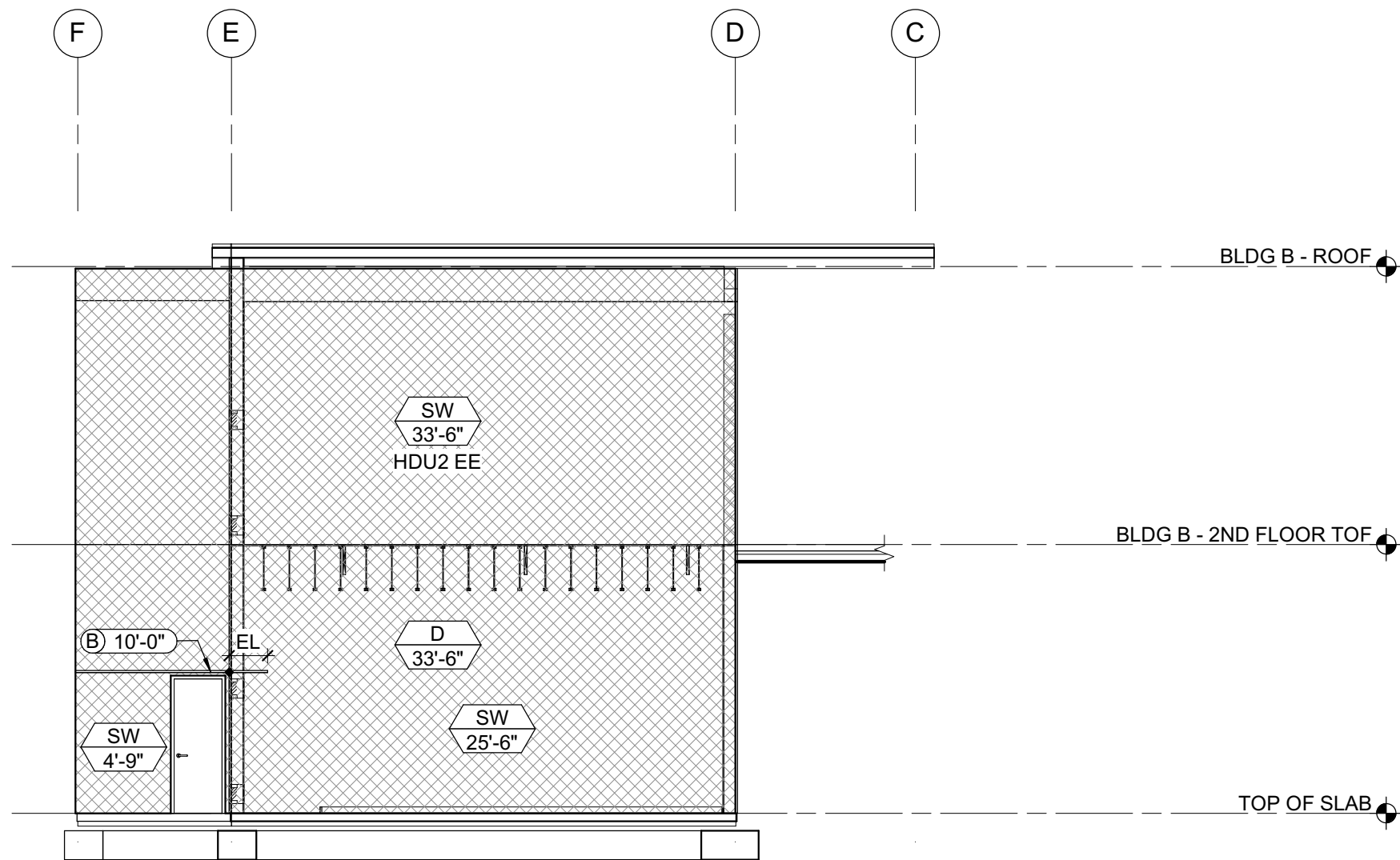
MAY 10, 2021

SHEET TITLE

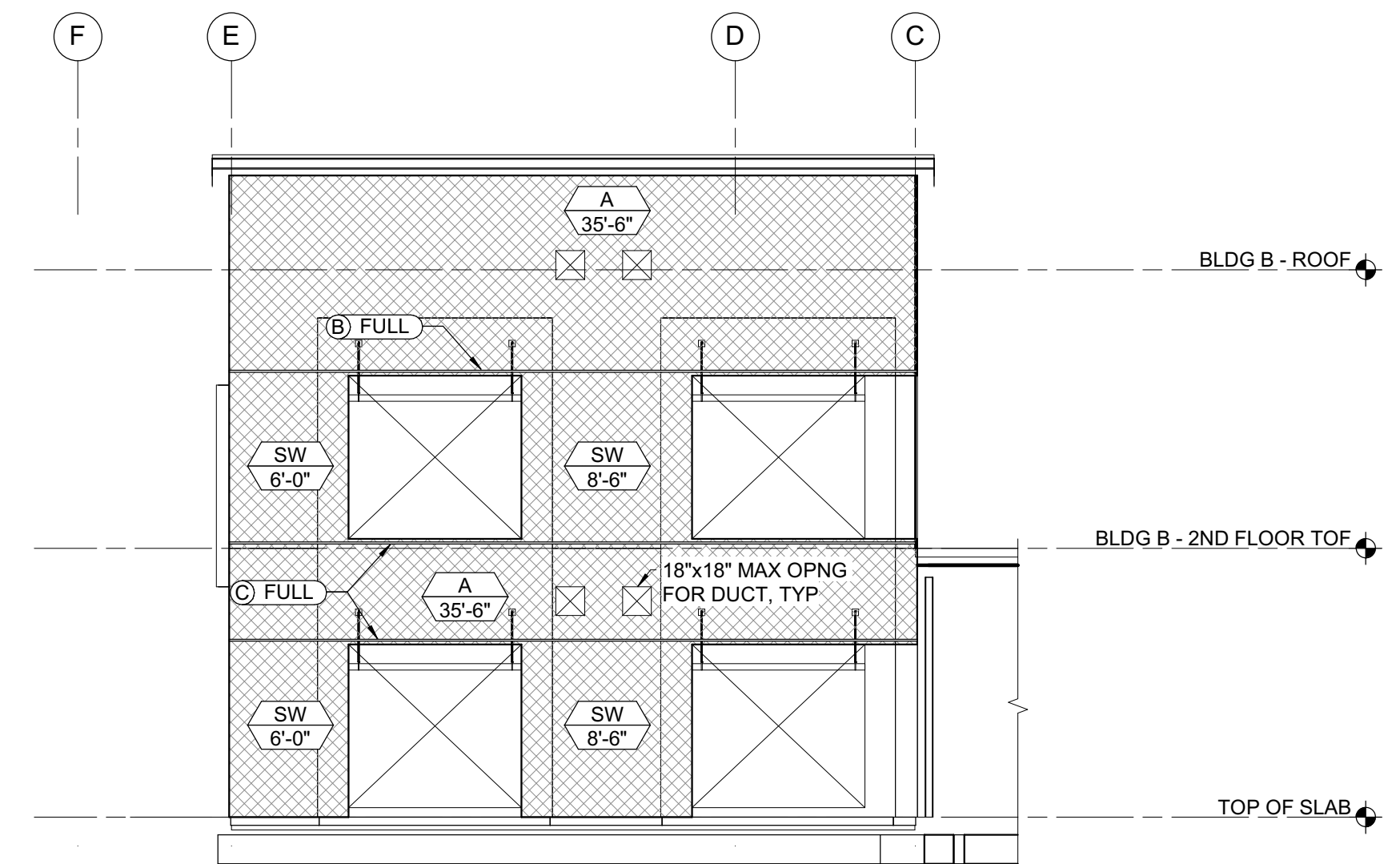
EAST/WEST
SHEAR WALL
ELEVATIONS

SHEET NUMBER

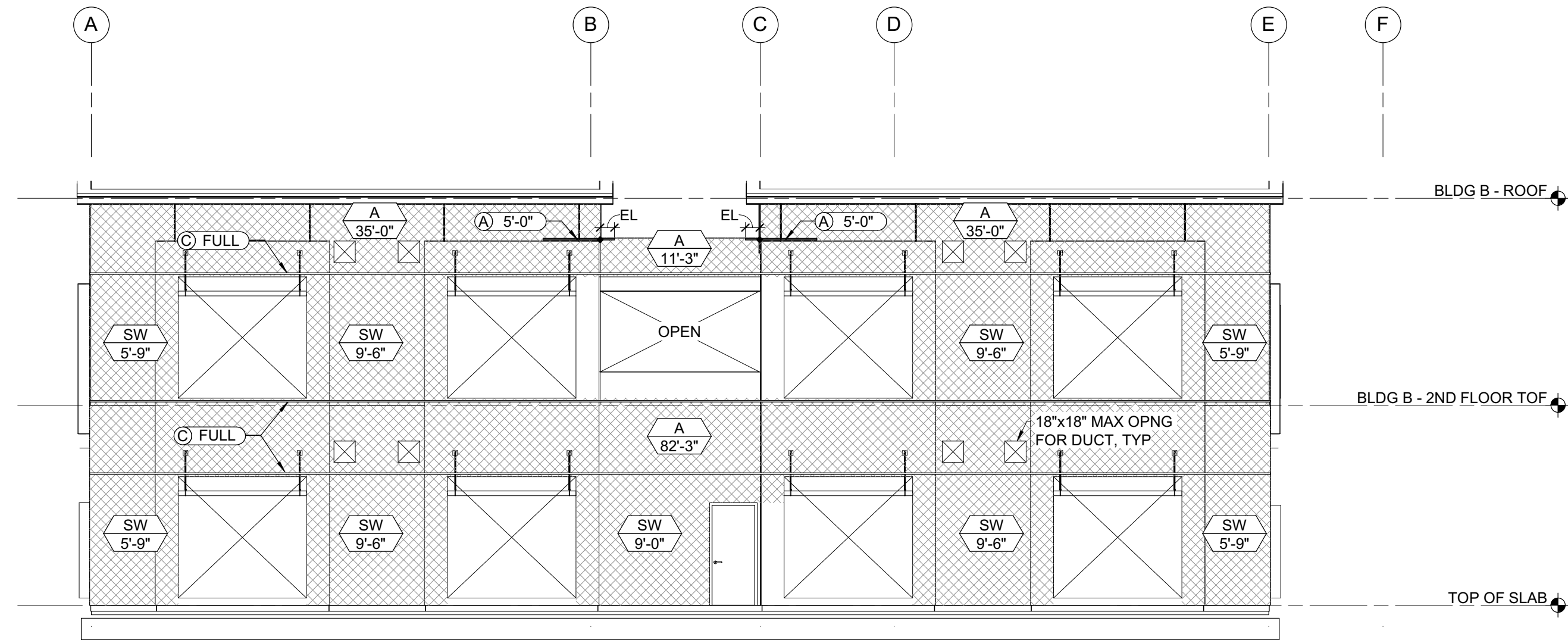
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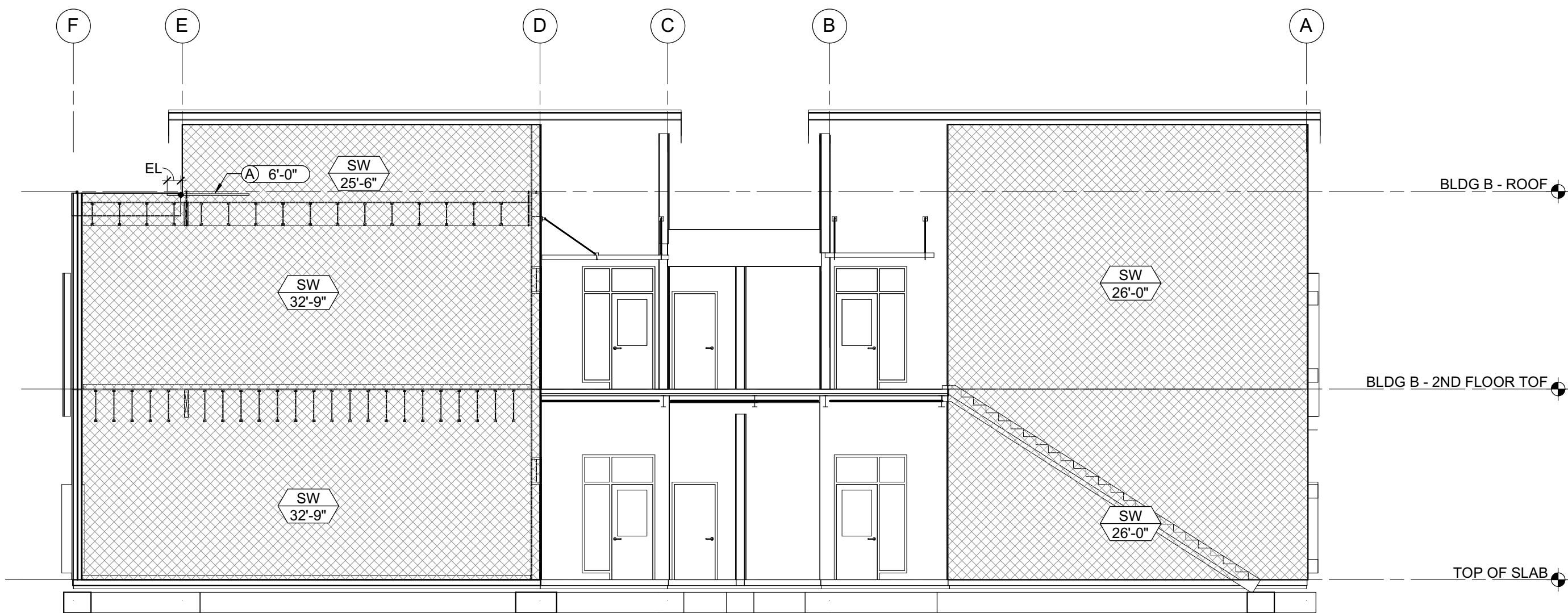
3 GRID 5 - SHEAR WALL ELEVATION
1/8" = 1'-0"



4 GRID 7 - SHEAR WALL ELEVATION
1/8" = 1'-0"



1 GRID 1 - SHEAR WALL ELEVATION
1/8" = 1'-0"



2 GRID 2 - SHEAR WALL ELEVATION
1/8" = 1'-0"

SHEAR WALL SCHEDULE									
SW	APA RATED SHEATHING	NAILING (PEN)	ANCHORAGE					REMARKS	
			1/2" BOLT FDN		AT FRAMING				
			2x SILL	3x SILL	16d	A35	SDS *		
(A)	5/8" * (32/16) STR 1	10d @ 6"oc	32"oc	48"oc	6"oc	24"oc	16"oc		3x MIN AT ALL ADJOINING PANEL EDGES
(B)	5/8" * (32/16) STR 1	10d @ 4"oc	24"oc	32"oc	4"oc	16"oc	10"oc		
(C)	5/8" * (32/16) STR 1	10d @ 3"oc	16"oc	24"oc	3"oc	8"oc	8"oc		
(D)	5/8" * (32/16) STR 1	10d @ 2"oc	-	16"oc	(2) ROWS @ 4"oc	8"oc	6"oc		

* 2x SILL: SDS 1/4"x4 1/2". 3x SILL: SDS 1/4"x6". FOR SDS @ 6"oc OR LESS, PROVIDE 4x BLKG BLW.

TIE STRAP SCHEDULE						
MARK	STRAP	MIN. NAILING ES OF ♦	MAX. NAIL SPACING (SEE NOTES #1 & #2)		MIN. END LENGTH (EL)	
			CASE 1	CASE 2		
				EL		RL
(A)	CS16	(10) 10d	10d @ 4"oc STGR	FILL ALL NAIL HOLES	10d @ 4"oc STGR	12"
(B)	CS14	(13) 10d	10d @ 4"oc STGR	FILL ALL NAIL HOLES	10d @ 4"oc STGR	16"
(C)	CMSTC16	(25) 10d	10d @ 3"oc STGR	FILL ALL NAIL HOLES	10d @ 3"oc STGR	24"
(D)	CMST14	(33) 10d	10d @ 3½"oc STGR	FILL ALL NAIL HOLES	10d @ 3½"oc STGR	32"
(E)	CMST12	(43) 10d	10d @ 3½"oc STGR	FILL ALL NAIL HOLES	10d @ 3½"oc STGR	48"

- CASE 1 APPLIES UNLESS END LENGTH (EL) IS NOTED ON PLANS. WHERE END LENGTH (EL) IS NOTED, SEE CASE 2.

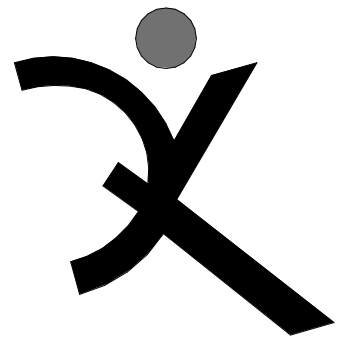
ELEVATION NOTES:

- ELEVATIONS ARE SCHEMATIC. SEE PLANS FOR ADDITIONAL INFORMATION.
- REFER TO SHEETS **S-0.1** THROUGH **S-1.5** FOR GENERAL NOTES AND TYPICAL DETAILS. THE FOLLOWING DETAIL REFERENCES ARE PROVIDED FOR THE CONTRACTOR'S CONVENIENCE ONLY. ALL GENERAL NOTES AND TYPICAL DETAIL SHEETS NOTED ABOVE ARE APPLICABLE AND SHALL BE FOLLOWED.
- DIMENSIONS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE. COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
- MECHANICAL, ELECTRICAL AND PLUMBING PENETRATIONS THROUGH WALLS, SHALL BE PER REFERENCES BELOW UNLESS SHOWN AND DETAILED OTHERWISE ON THE STRUCTURAL PLANS. NOTIFY ARCHITECT/ENGINEER PRIOR TO ANY INSTALLATION NOT CONFORMING TO THESE DETAILS.

PENETRATIONS THROUGH SHEAR WALLS SHALL BE PER **S-1.2**.

PENETRATIONS THROUGH FLOORS SHALL BE PER **S-1.2**.
- ALL EXTERIOR WALLS NOT DESIGNATED AS SHEAR WALLS ON PLANS SHALL BE SHEATHED AS SHEAR WALL TYPE 'A' PER SHEAR WALL SCHEDULE, UNLESS NOTED OTHERWISE.
- COORDINATE TOP OF FRAMING AND LEDGER HEIGHTS AS REQUIRED TO PROVIDE ROOF SLOPES AS SHOWN ON ARCHITECTURAL AND STRUCTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.

ELEVATION LEGEND		
SYMBOL	REFERENCE DETAIL	DESCRIPTION
(88)		INDICATES GRIDLINE
	7/S-1.2 E/S-0.1	INDICATES SHEAR WALL TYPE AND MINIMUM WALL LENGTH. SYMBOL LOCATION INDICATES SHEATHED FACE OF WALL UNLESS NOTED OTHERWISE. SEE PLANS FOR SHEAR WALL TYPES NOTED AS 'SW'.
	8/S-1.2 9/S-1.2	INDICATES HOLDOWN. POSTS WITH HOLDOWN ARE FULL HEIGHT FROM SILL TO TOP PLATE.
	D/S-0.1	INDICATES WOOD POST. SEE PLANS FOR SIZE UNLESS NOTED OTHERWISE.
	6/S-1.3	INDICATES STEEL COLUMN. SEE PLANS FOR SIZE UNLESS NOTED OTHERWISE.
	3/S-1.3	INDICATES TIE STRAP. SEE SCHEDULE FOR STRAP, NAILING AND LENGTH.
	1/S-1.3	INDICATES TOP PLATE SPLICE. SPLICE TYPE SHALL OCCUR ALONG THE ENTIRE LENGTH OF THE WALL, UNO. PROVIDE SPLICE TYPE 'A' IF NOT NOTED ON PLANS.
	2/S-1.3	INDICATES LEDGER/RIM SPLICE. SPLICE TYPE SHALL OCCUR ALONG THE ENTIRE LENGTH OF THE WALL, UNO. PROVIDE SPLICE TYPE 'A' IF NOT NOTED ON PLANS.
	7/S-1.3	INDICATES APPROXIMATE LOCATION AND SIZE OF MECHANICAL OPENING. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.



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**HERITAGE HIGH
SCHOOL**

**NEW CLASSROOM
BUILDINGS
INCREMENT 2 OF 2**

101 AMERICAN AVE,
BRENTWOOD CA 94513

LIBERTY UNION
HIGH SCHOOL
DISTRICT

REVISIONS

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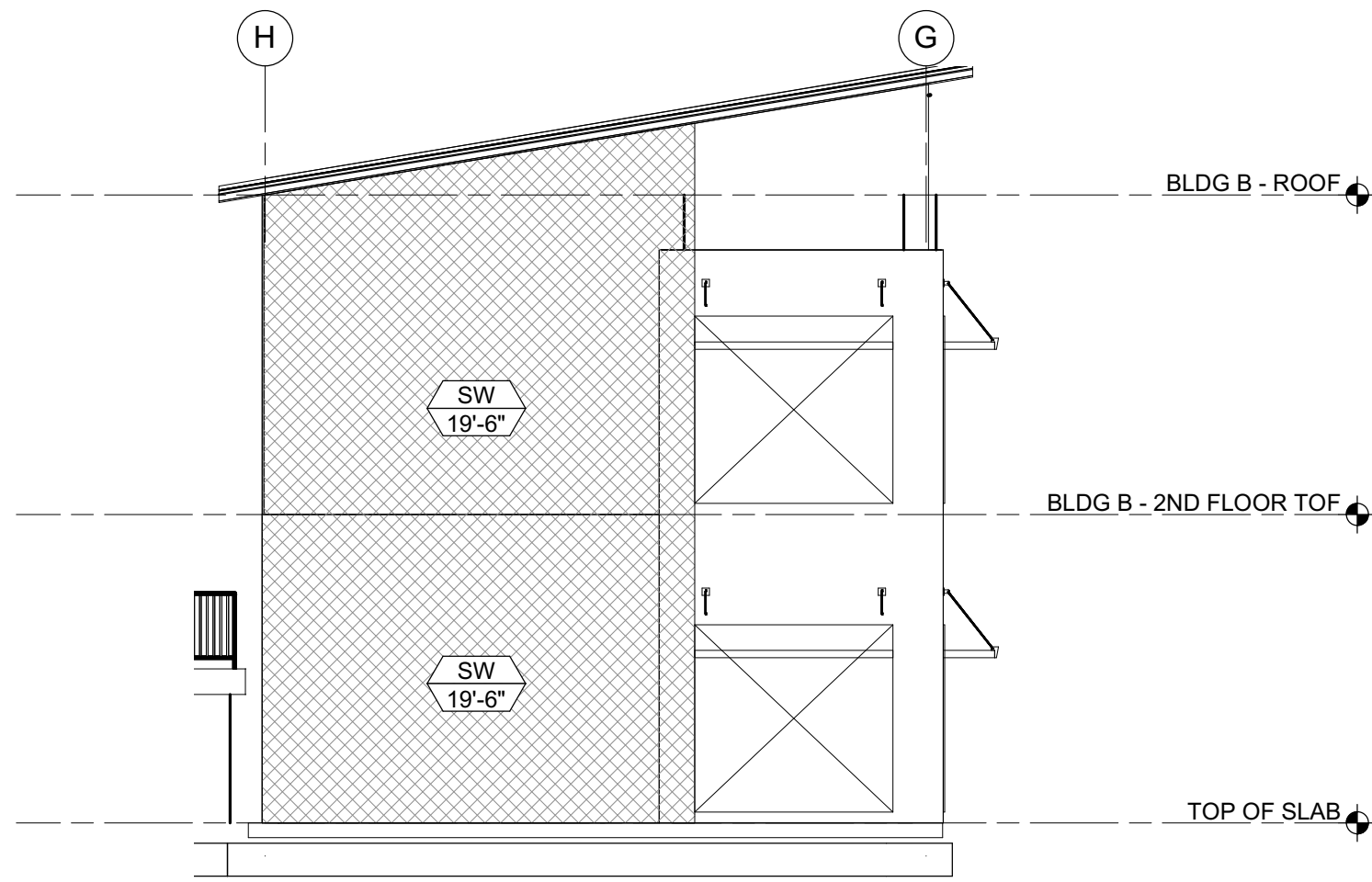
MAY 10, 2021

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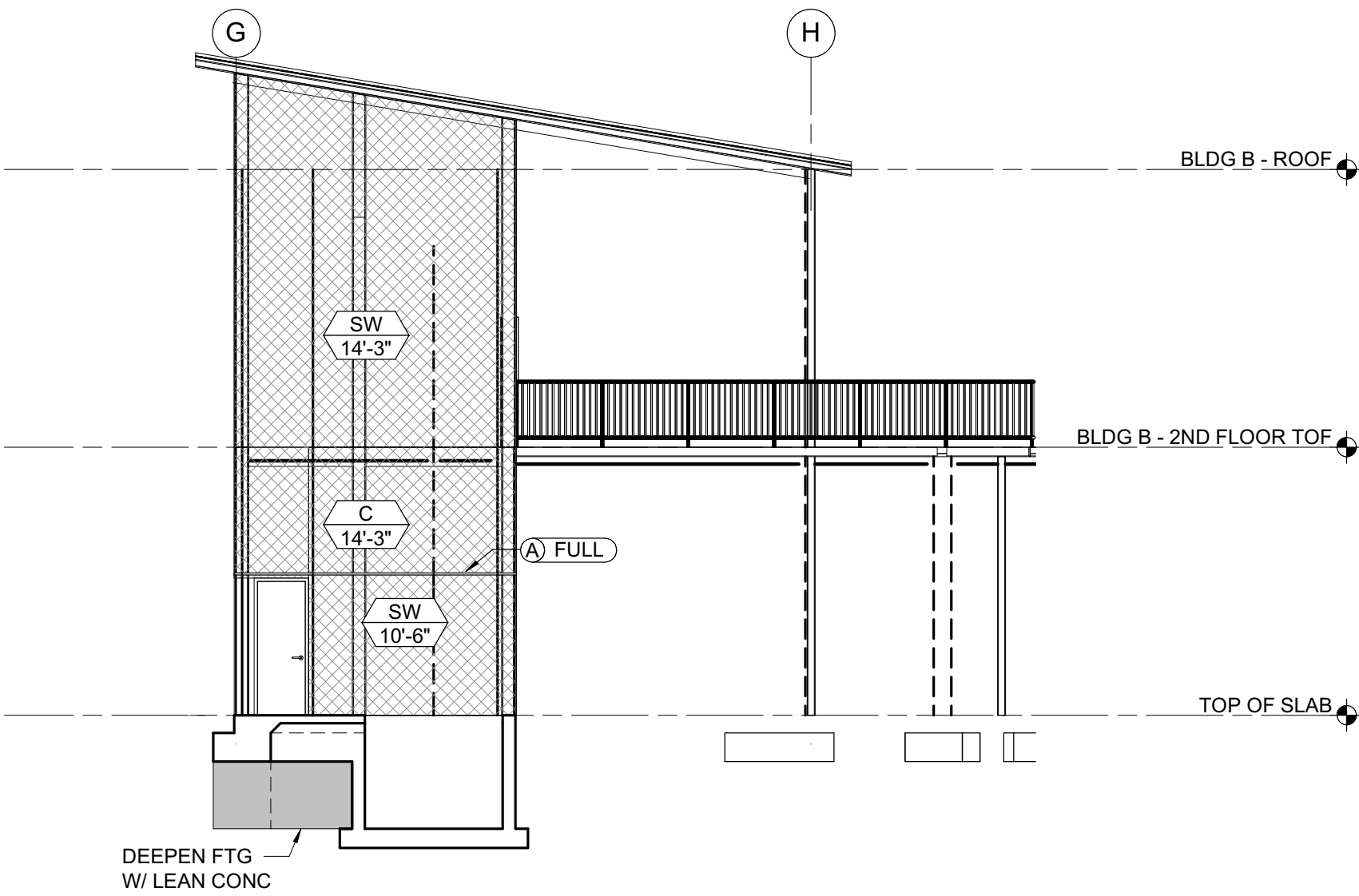
**NORTH/SOUTH
SHEAR WALL
ELEVATIONS**

SHEET NUMBER

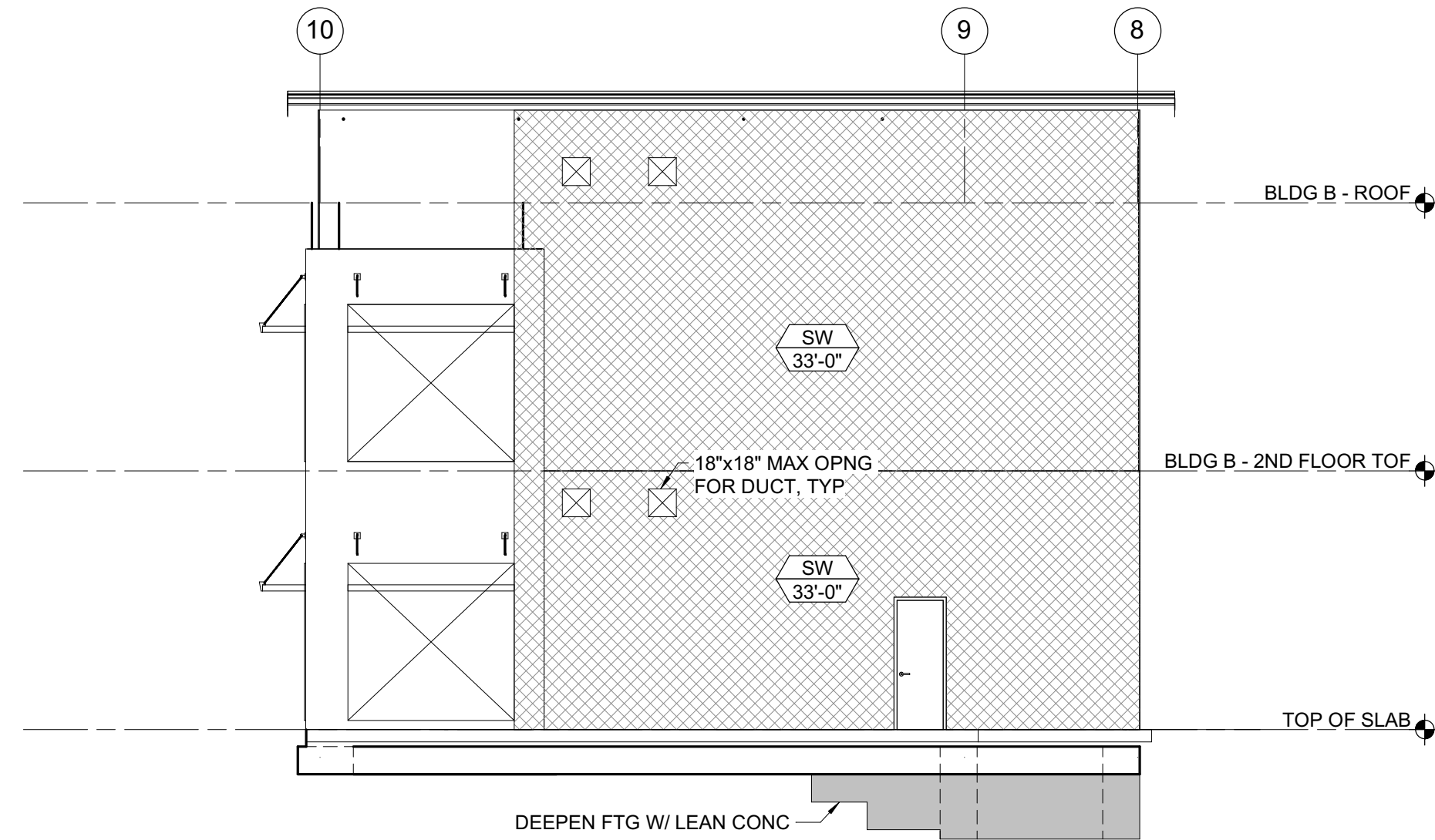
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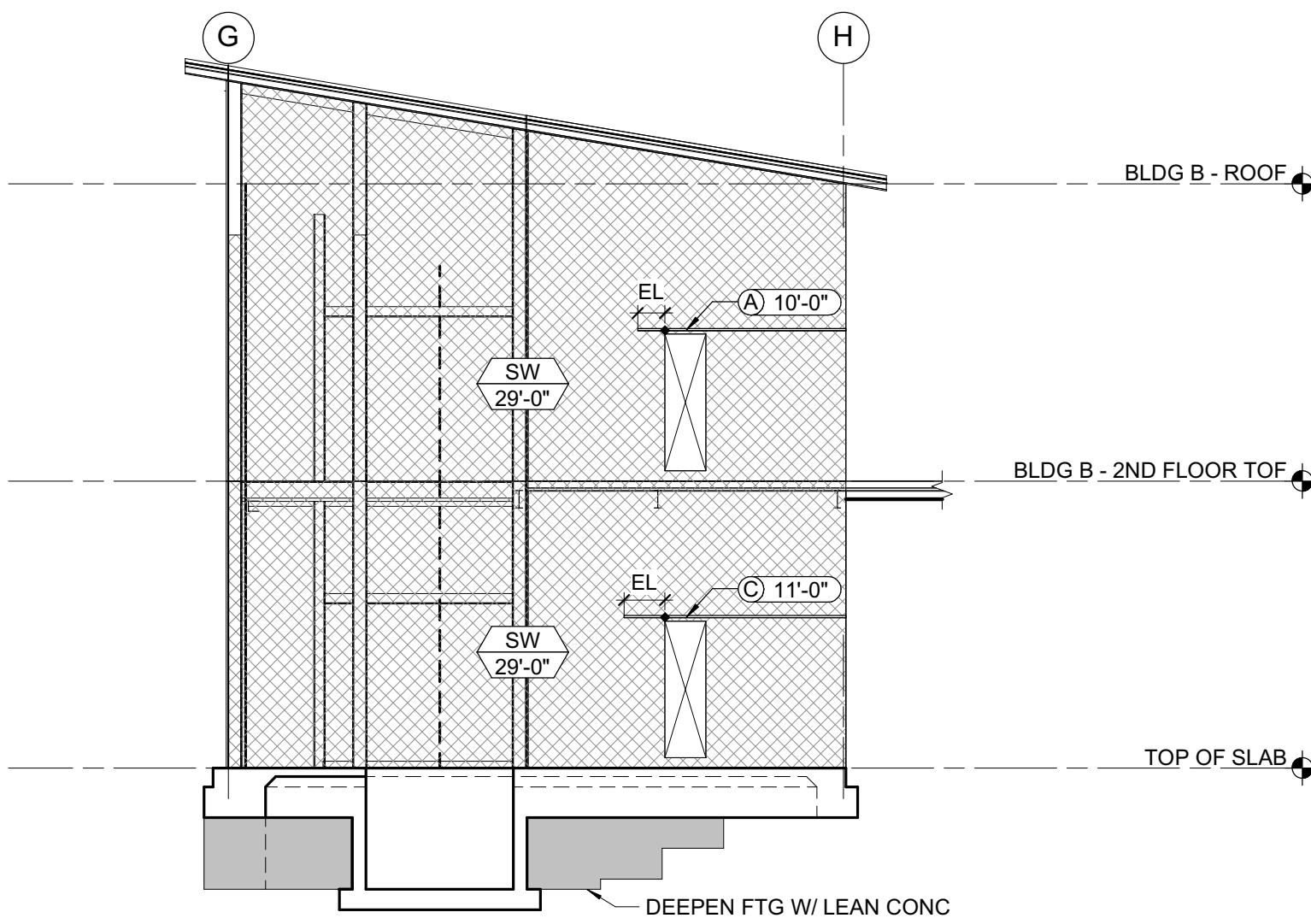
5 GRID 10 - SHEAR WALL ELEVATION
1/8" = 1'-0"



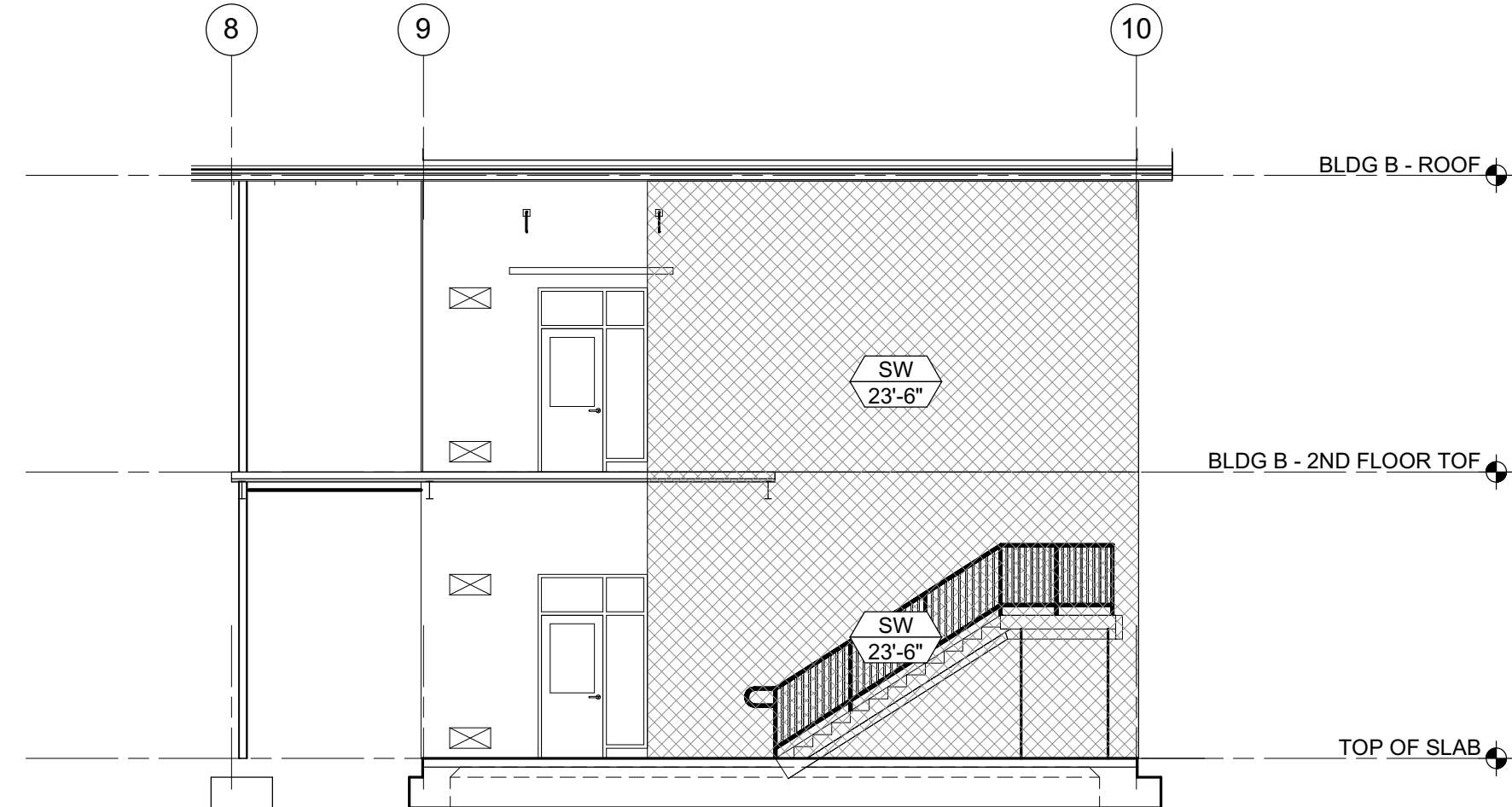
3 GRID 8 - SHEAR WALL ELEVATION
1/8" = 1'-0"



1 GRID G - SHEAR WALL ELEVATION
1/8" = 1'-0"



4 GRID 9 - SHEAR WALL ELEVATION
1/8" = 1'-0"



2 GRID H - SHEAR WALL ELEVATION
1/8" = 1'-0"

SHEAR WALL SCHEDULE									
SW	APA RATED SHEATHING	NAILING (PEN)	ANCHORAGE					REMARKS	
			1/2" BOLT FDN		AT FRAMING				
			2x SILL	3x SILL	16d	A35	SDS *		
(A)	1/2" (32/16) STR 1	10d @ 6"oc	32"oc	48"oc	6"oc	24"oc	16"oc	3x MIN AT ALL ADJOINING PANEL EDGES	
(B)	1/2" (32/16) STR 1	10d @ 4"oc	24"oc	32"oc	4"oc	16"oc	10"oc		
(C)	1/2" (32/16) STR 1	10d @ 3"oc	16"oc	24"oc	3"oc	8"oc	8"oc		
(D)	1/2" (32/16) STR 1	10d @ 2"oc	-	16"oc	(2) ROWS @ 4"oc	8"oc	6"oc		

* 2x SILL: SDS 1/4"x4 1/2". 3x SILL: SDS 1/4"x6". FOR SDS @ 6"oc OR LESS, PROVIDE 4x BLKG BLW.

TIE STRAP SCHEDULE						
MARK	STRAP	MIN. NAILING ES OF ♦	MAX. NAIL SPACING (SEE NOTES #1 & #2)			MIN. END LENGTH (EL)
			CASE 1	CASE 2		
				EL	RL	
(A)	CS16	(10) 10d	10d @ 4"oc STGR	FILL ALL NAIL HOLES	10d @ 4"oc STGR	12"
(B)	CS14	(13) 10d	10d @ 4"oc STGR	FILL ALL NAIL HOLES	10d @ 4"oc STGR	16"
(C)	CMSTC16	(25) 10d	10d @ 3"oc STGR	FILL ALL NAIL HOLES	10d @ 3"oc STGR	24"
(D)	CMST14	(33) 10d	10d @ 3½"oc STGR	FILL ALL NAIL HOLES	10d @ 3½"oc STGR	32"
(E)	CMST12	(43) 10d	10d @ 3½"oc STGR	FILL ALL NAIL HOLES	10d @ 3½"oc STGR	48"

1. CASE 1 APPLIES UNLESS END LENGTH (EL) IS NOTED ON PLANS. WHERE END LENGTH (EL) IS NOTED, SEE CASE 2.

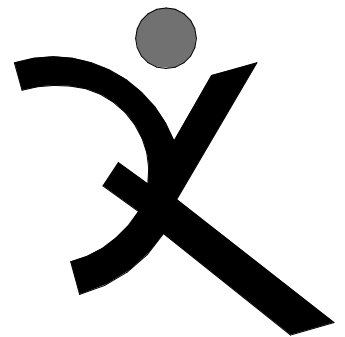
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PENETRATIONS THROUGH SHEAR WALLS SHALL BE PER **6/S-1.2**.

PENETRATIONS THROUGH FLOORS SHALL BE PER **5/S-1.2**.
- ALL EXTERIOR WALLS NOT DESIGNATED AS SHEAR WALLS ON PLANS SHALL BE SHEATHED AS SHEAR WALL TYPE 'A' PER SHEAR WALL SCHEDULE, UNLESS NOTED OTHERWISE.
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ELEVATION LEGEND		
SYMBOL	REFERENCE DETAIL	DESCRIPTION
(88)		INDICATES GRIDLINE
	7/S-1.2 E/S-0.1	INDICATES SHEAR WALL TYPE AND MINIMUM WALL LENGTH. SYMBOL LOCATION INDICATES SHEATHED FACE OF WALL UNLESS NOTED OTHERWISE. SEE PLANS FOR SHEAR WALL TYPES NOTED AS 'SW'.
	8/S-1.2 9/S-1.2	INDICATES HOLDOWN. POSTS WITH HOLDOWN ARE FULL HEIGHT FROM SILL TO TOP PLATE.
	D/S-0.1	INDICATES WOOD POST. SEE PLANS FOR SIZE UNLESS NOTED OTHERWISE.
	6/S-1.3	INDICATES STEEL COLUMN. SEE PLANS FOR SIZE UNLESS NOTED OTHERWISE.
	A 4'-0" 3/S-1.3	INDICATES TIE STRAP. SEE SCHEDULE FOR STRAP, NAILING AND LENGTH.
	1/S-1.3	INDICATES TOP PLATE SPLICE. SPLICE TYPE SHALL OCCUR ALONG THE ENTIRE LENGTH OF THE WALL, UNO. PROVIDE SPLICE TYPE 'A' IF NOT NOTED ON PLANS.
	2/S-1.3	INDICATES LEDGER/RIM SPLICE. SPLICE TYPE SHALL OCCUR ALONG THE ENTIRE LENGTH OF THE WALL, UNO. PROVIDE SPLICE TYPE 'A' IF NOT NOTED ON PLANS.
	MO 2 18"x24" 7/S-1.3	INDICATES APPROXIMATE LOCATION AND SIZE OF MECHANICAL OPENING. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.



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**HERITAGE HIGH
SCHOOL**

**NEW CLASSROOM
BUILDINGS
INCREMENT 2 OF 2**

101 AMERICAN AVE,
BRENTWOOD CA 94513

**LIBERTY UNION
HIGH SCHOOL
DISTRICT**

REVISIONS

NO.	DESCRIPTION	DATE

DSA APP NO. 01-119268

ARCH PROJECT NO. 1870.00
ENGR / PM: KPB / DM / SCH
DRAWING SCALE: As indicated
PTN: 61721-77 FILE NO: 7-H4

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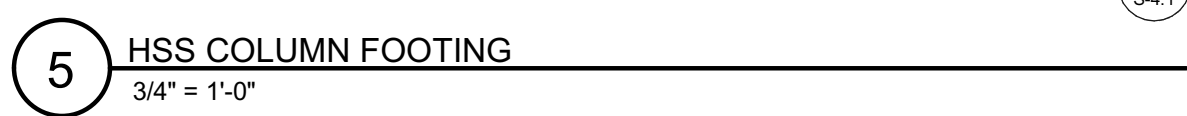
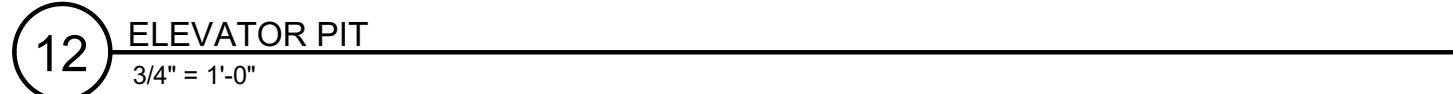
MAY 10, 2021

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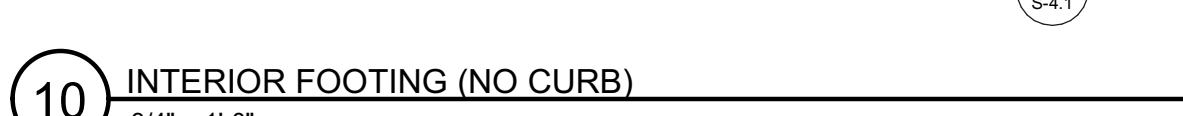
**SEISMICALLY
SEPARATE
BUILDING
SHEAR WALL
ELEVATIONS**

SHEET NUMBER

S-B3.3



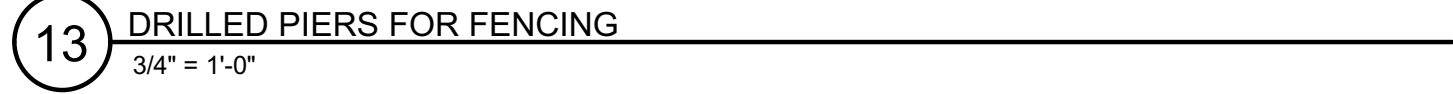
1 TYPICAL EXTERIOR FOOTING
3/4" = 1'-0"



8 HSS COLUMN AT EXTERIOR PAD FOOTING
3/4" = 1'-0"

NOTES:

1. IF GROUND WATER IS ENCOUNTERED AT PIERS CONSULT GEOTECHNICAL ENGINEER FOR PIER CASTING REQUIREMENTS.
2. WINDSCREENS, PRIVACY NETTINGS, SLATS, ETC. ARE NOT PERMITTED FOR THE LIFETIME OF THE FENCE/GATE, UNLESS NOTED OTHERWISE.
3. PERFORATED METAL PANEL PERMITTED ON GATE PANEL AND FOR 4'-0" MAX ON FENCE PANEL.
4. ORNAMENTAL FENCE & GATE PIER DESIGN IS BASED ON AEGIS II INDUSTRIAL ORNAMENTAL STEEL FENCE BY AMERISTAR. ORNAMENTAL FENCE & GATE POSTS ARE PER THE MANUFACTURER. IF AN ALTERNATIVE IS USED, CONTACT ZFA IMMEDIATELY.
5. $F_y = 30\text{KSI}$ MIN UNO OR AS SPECIFIED BY MANUFACTURER.



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**HERITAGE HIGH
SCHOOL**

NEW CLASSROOM BUILDINGS

INCREMENT 2 OF 2

101 AMERICAN AVE,
BRENTWOOD CA 94513

LIBERTY UNION
HIGH SCHOOL
DISTRICT

REVISIONS

[illegible]

DSA APP NO. 01-119268

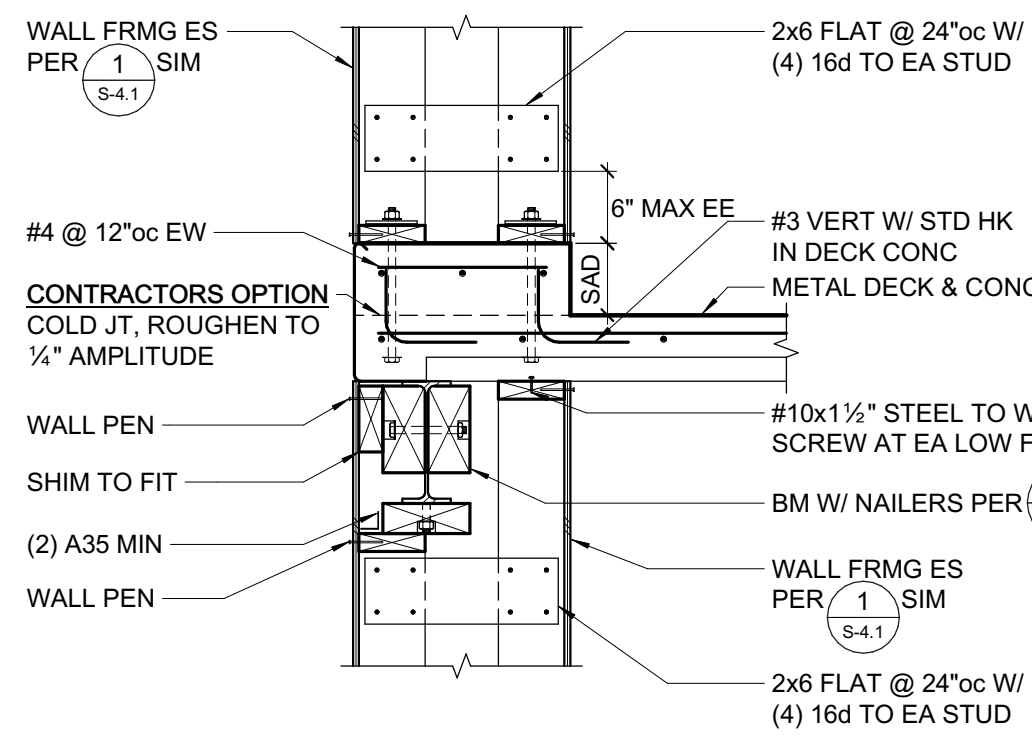
ARCH PROJECT NO.	1870.00
OWNER / PM:	KPB / DM / SCH
DRAWING SCALE:	As indicated
PROJECT NO: 61721-77	FILE NO: 7-H4

BID SET
MAY 10, 2021

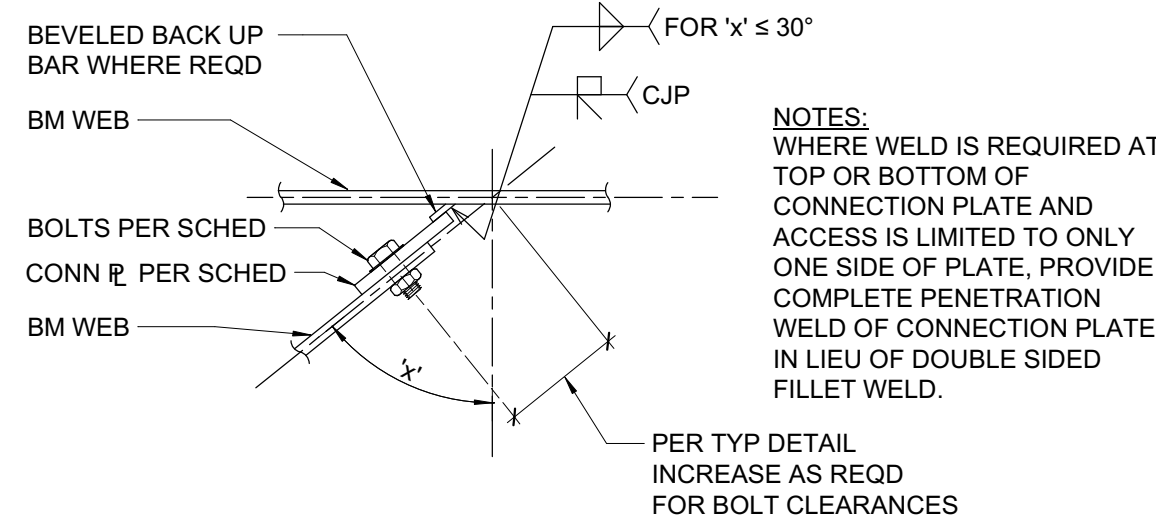
FOUNDATION DETAILS

SHEET NUMBER _____

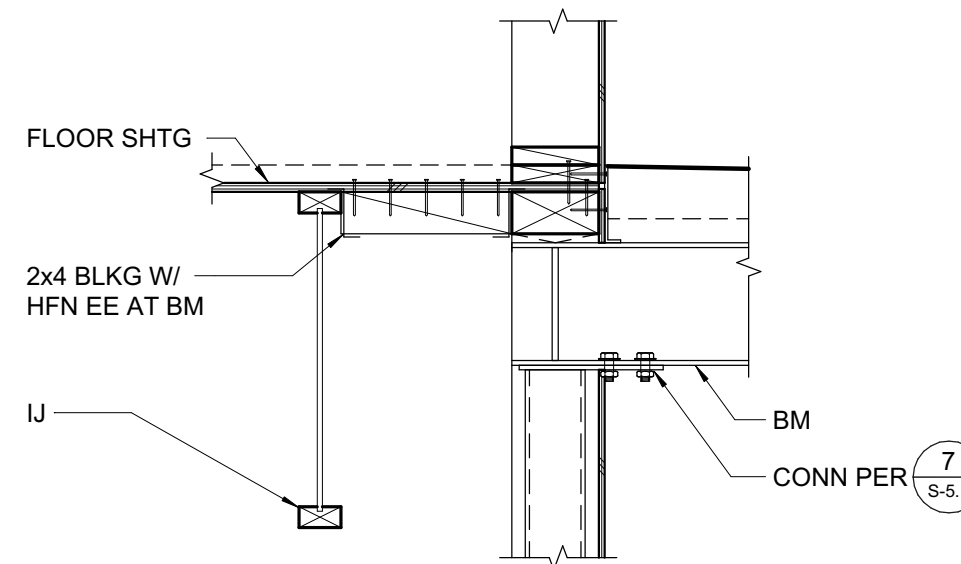
S-4.1



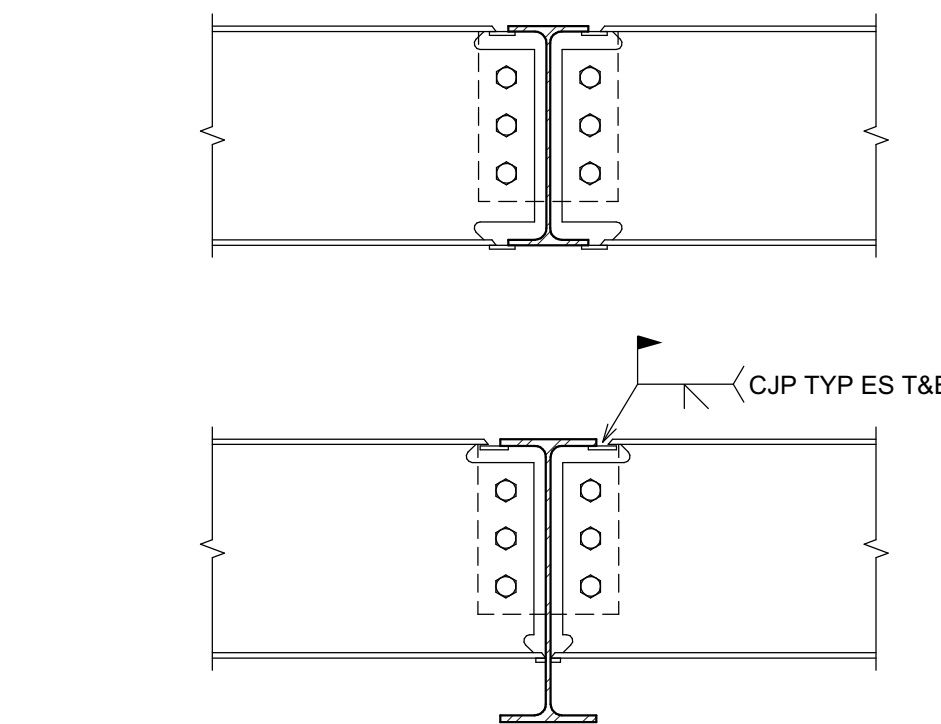
14 CURB AND WALLS AT CONCRETE OVER METAL DECK
3/4" = 1'-0"



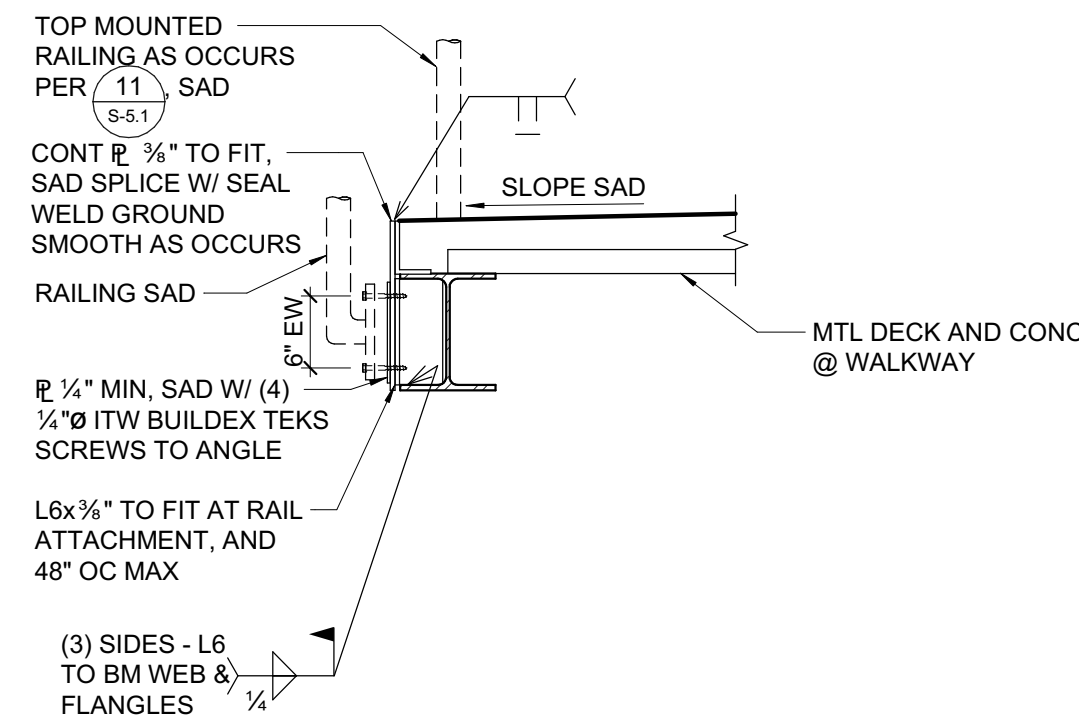
15 SKEWED BEAM CONNECTION - AT WEB
1 1/2" = 1'-0"



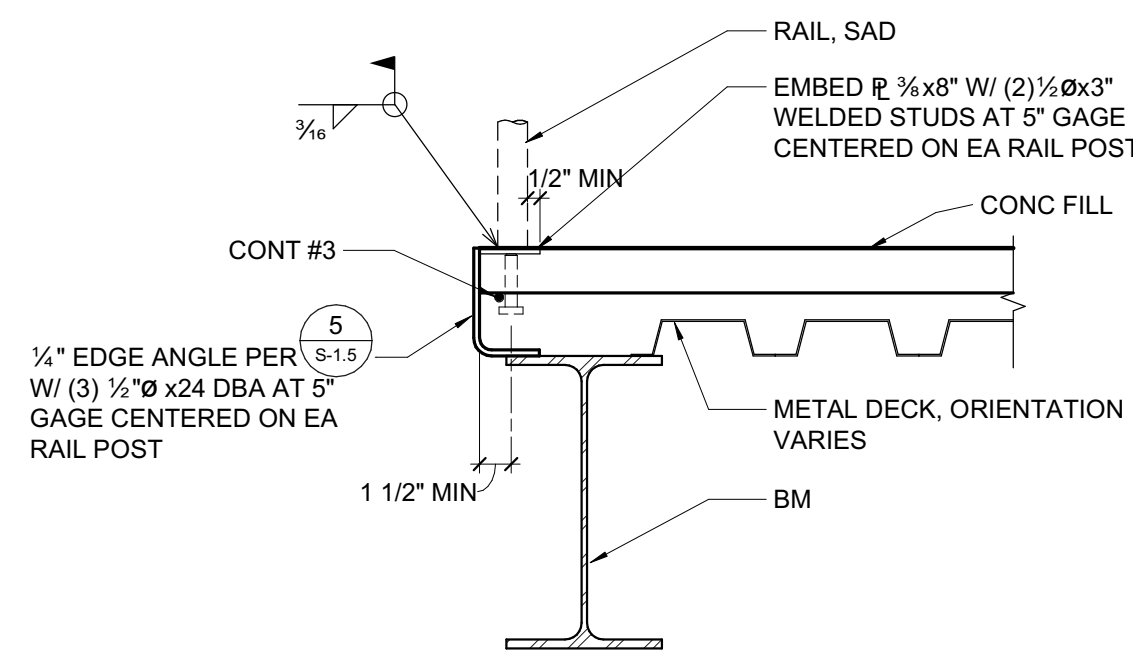
16 WALKWAY CONNECTION AT PARALLEL FLOOR FRAMING
3/4" = 1'-0"



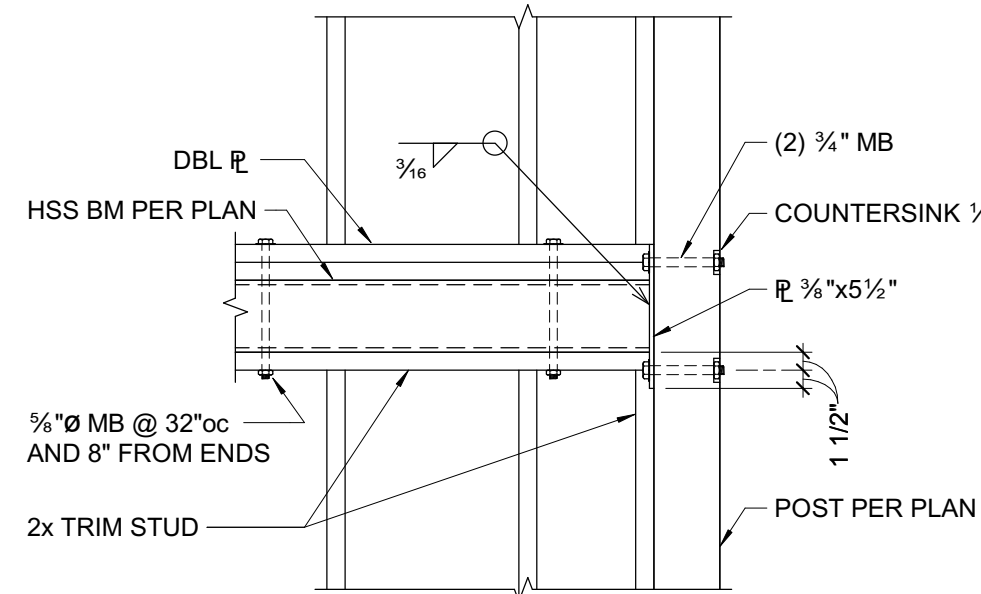
17 BEAM TO BEAM MOMENT CONNECTION
1" = 1'-0"



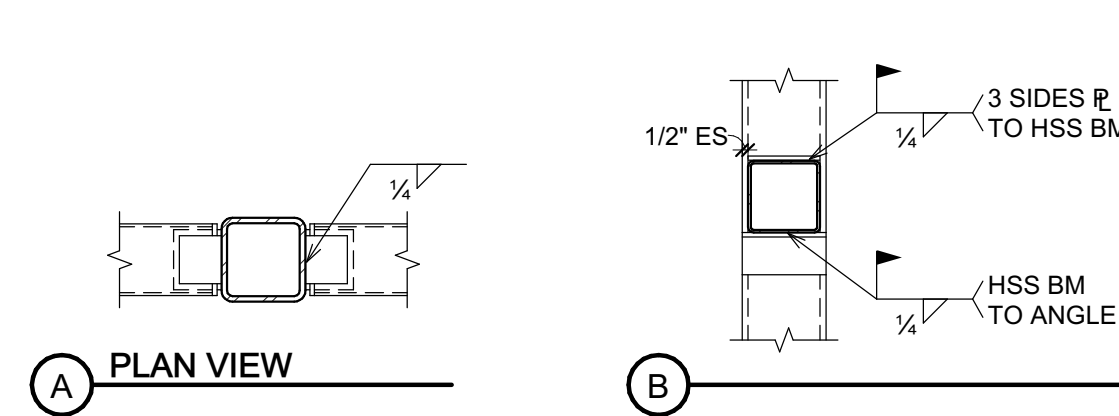
18 EDGE OF EXTERIOR WALKWAY
3/4" = 1'-0"



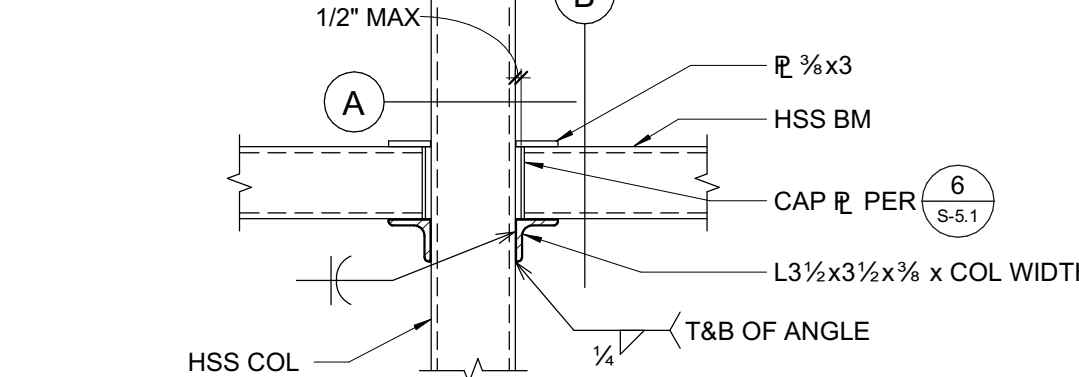
19 TOP MOUNTED RAIL
1 1/2" = 1'-0"



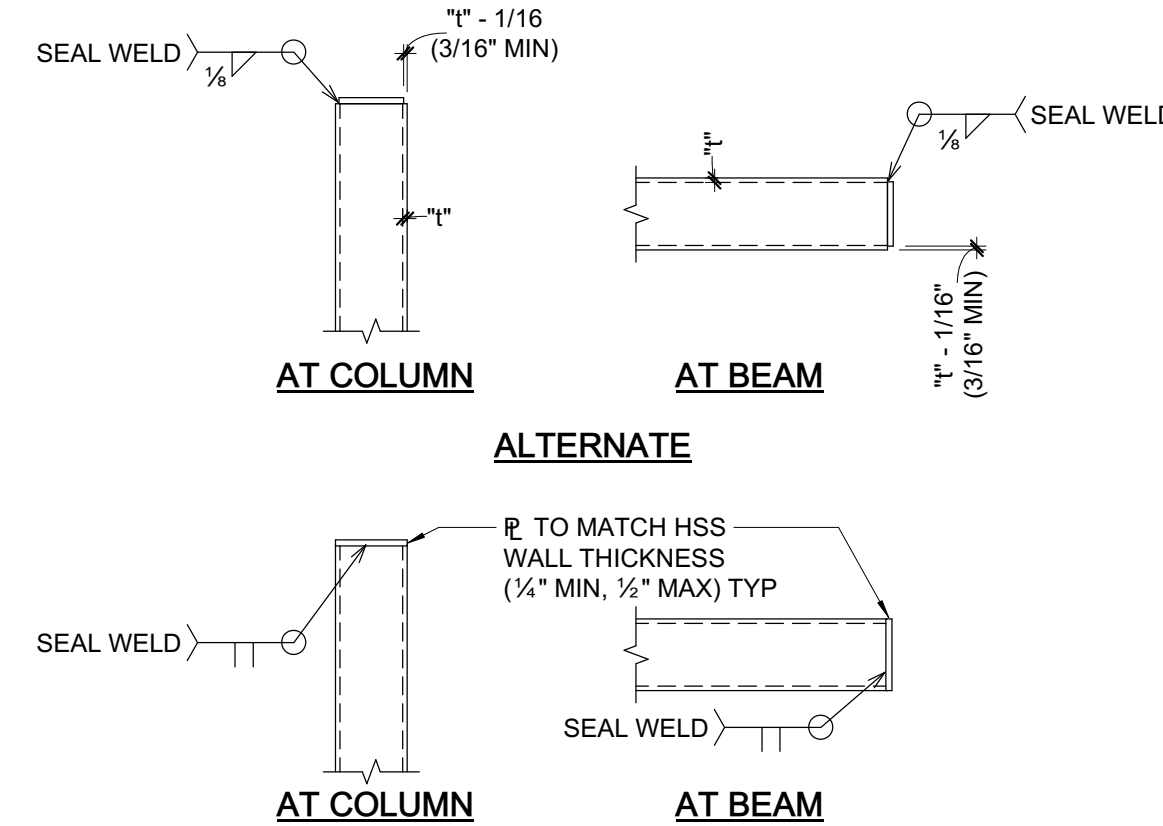
20 HSS BEAM TO WOOD POST
3/4" = 1'-0"



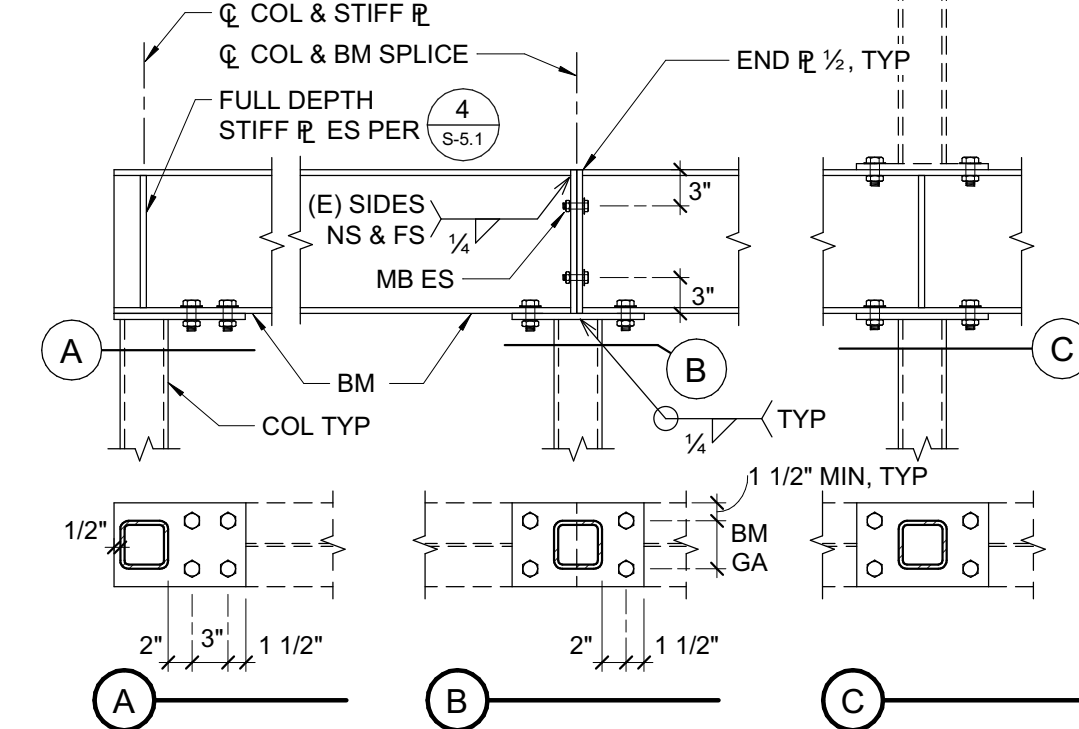
21 HSS BEAM TO HSS COLUMN (2-WAY)
3/4" = 1'-0"



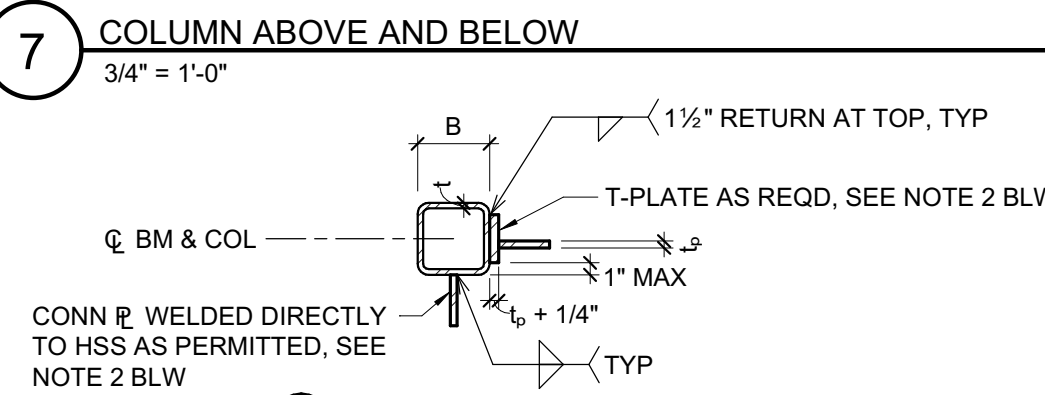
22 HSS BEAM TO HSS COLUMN (2-WAY)
3/4" = 1'-0"



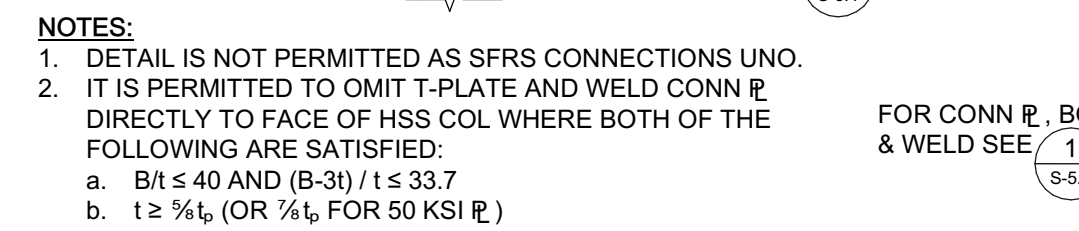
23 TYPICAL COLUMN CAP PLATE
3/4" = 1'-0"



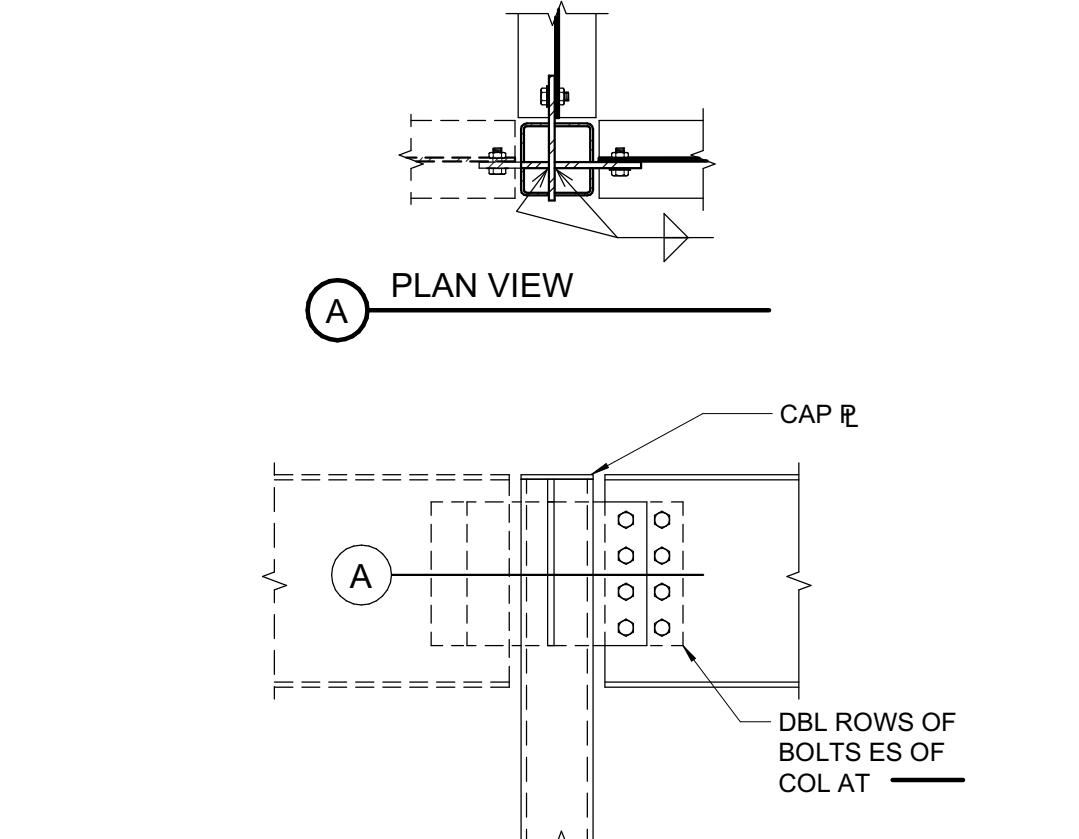
24 COLUMN ABOVE AND BELOW
3/4" = 1'-0"



25 BEAM TO HSS COLUMN (T' PLATE)
3/4" = 1'-0"



26 BEAM TO HSS COLUMN (T' PLATE)
3/4" = 1'-0"

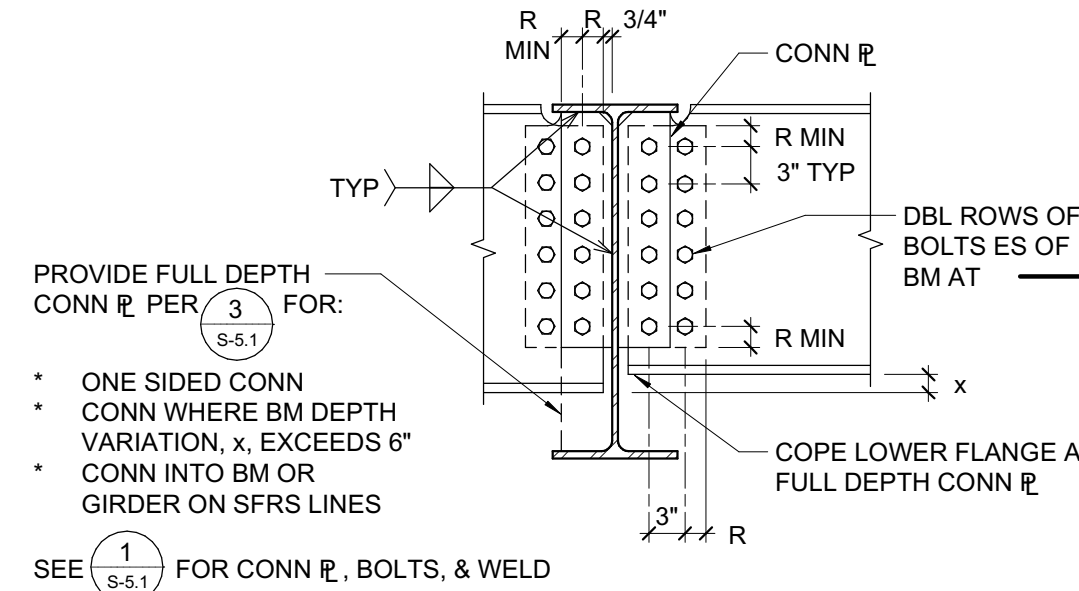


27 BEAM TO HSS COLUMN (2-WAY)
3/4" = 1'-0"

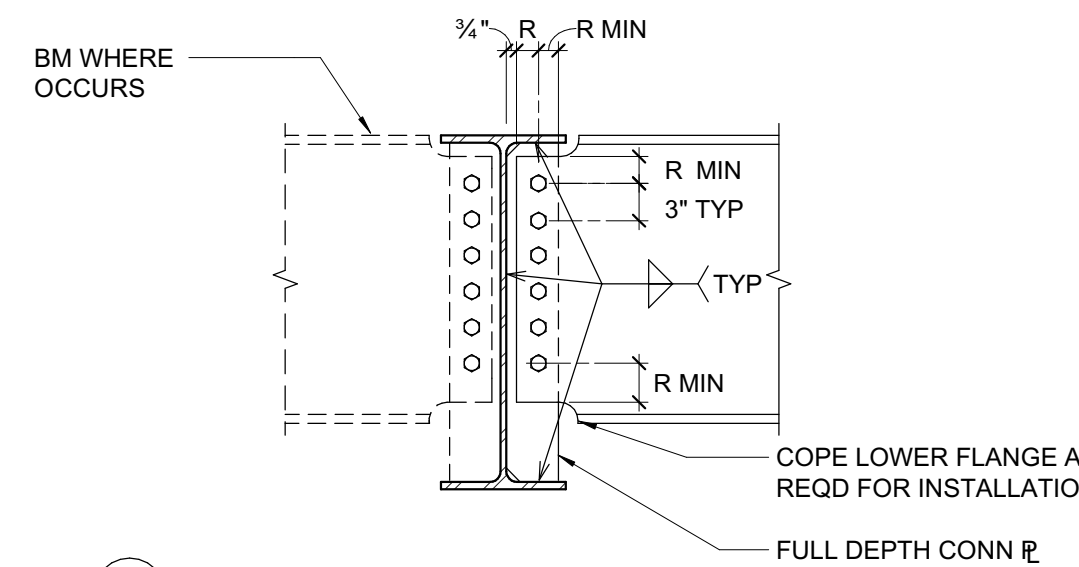
BEAM DEPTH	NO. BOLTS PER ROW	CONN. PLATE	WELD SIZE
W8, W10	2	PL 3/4	3/8"
W12, W14	3	PL 3/4	3/8"

- NOTES:**
- R = 1 1/2" SEE TYP CONNECTION DETAILS. BOLT SPACING AND EDGE DISTANCE SHALL CONFORM TO AISC SPECIFICATIONS.
 - A COMPLETE PENETRATION BEVEL WELD MAY BE SUBSTITUTED FOR THE FILLET WELDS SPECIFIED.
 - USE ASTM A36 CONNECTION PLATES, UNO.
 - HOLE SIZE = BOLT SIZE + 1/16". SHORT SLOTTED HOLES (+ 1/16" VERT, + 1/4" HORIZ) MAY BE SUBSTITUTED (EXCEPT AS NOTED).

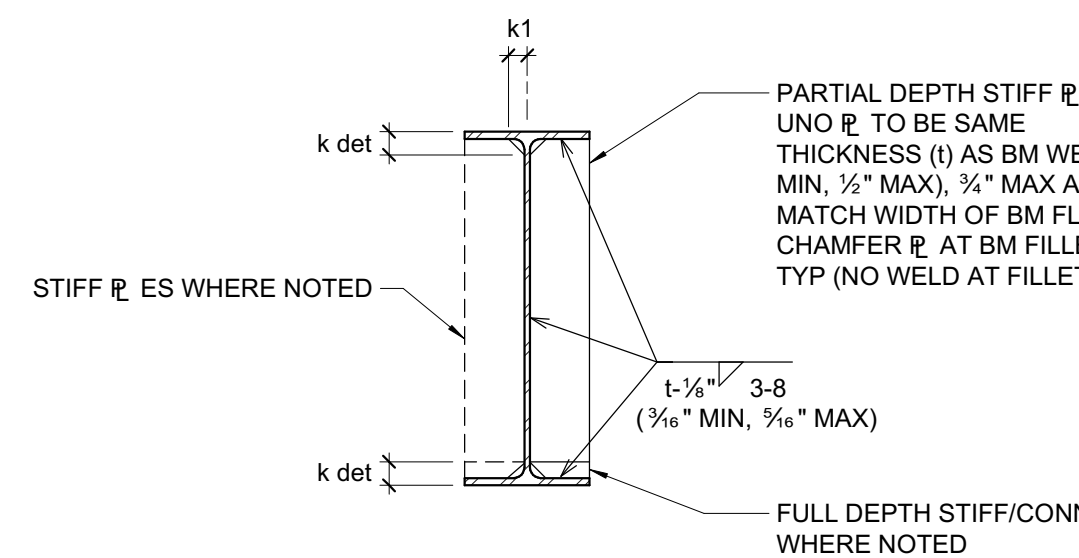
1 3/4" Ø MACHINE BOLT (MB) CONNECTION SCHEDULE
3/4" = 1'-0"



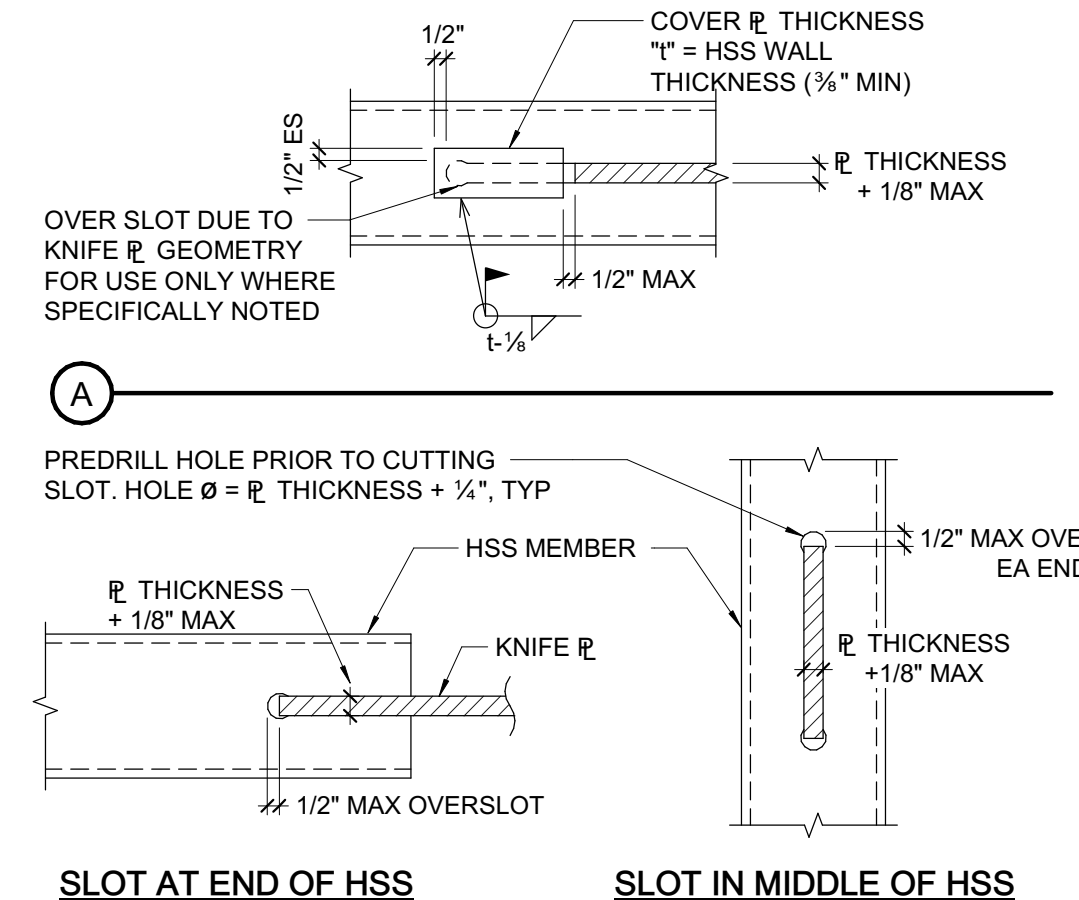
28 TYPICAL BEAM TO BEAM CONNECTION
3/4" = 1'-0"



29 TYPICAL FULL DEPTH BEAM TO BEAM CONNECTION
3/4" = 1'-0"



30 TYPICAL BEAM WEB STIFFENER PLATE DETAIL
3/4" = 1'-0"



31 TYPICAL SLOTTED HSS FOR GUSSET CONNECTION
1 1/2" = 1'-0"



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NEW CLASSROOM BUILDINGS
INCREMENT 2 OF 2

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LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS	

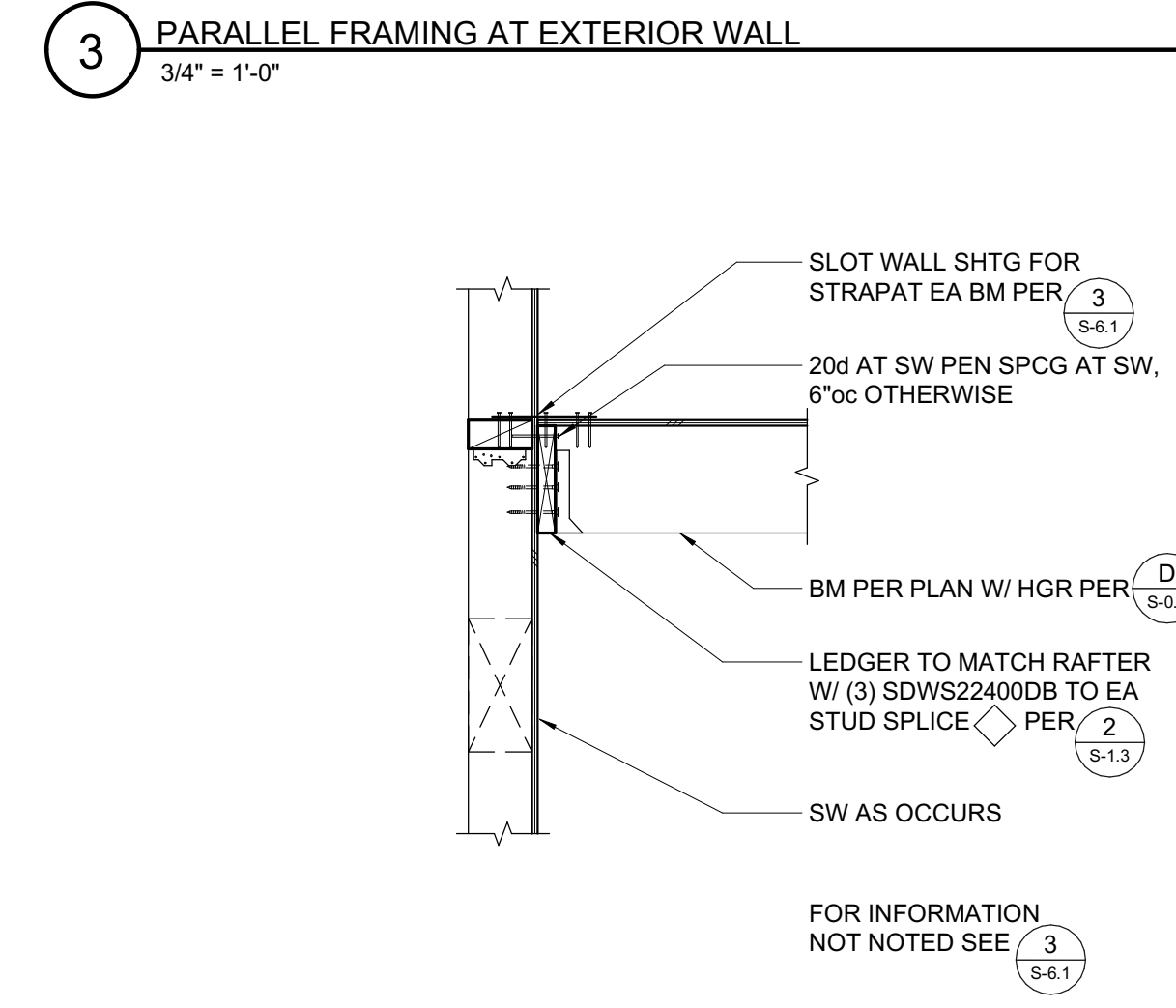
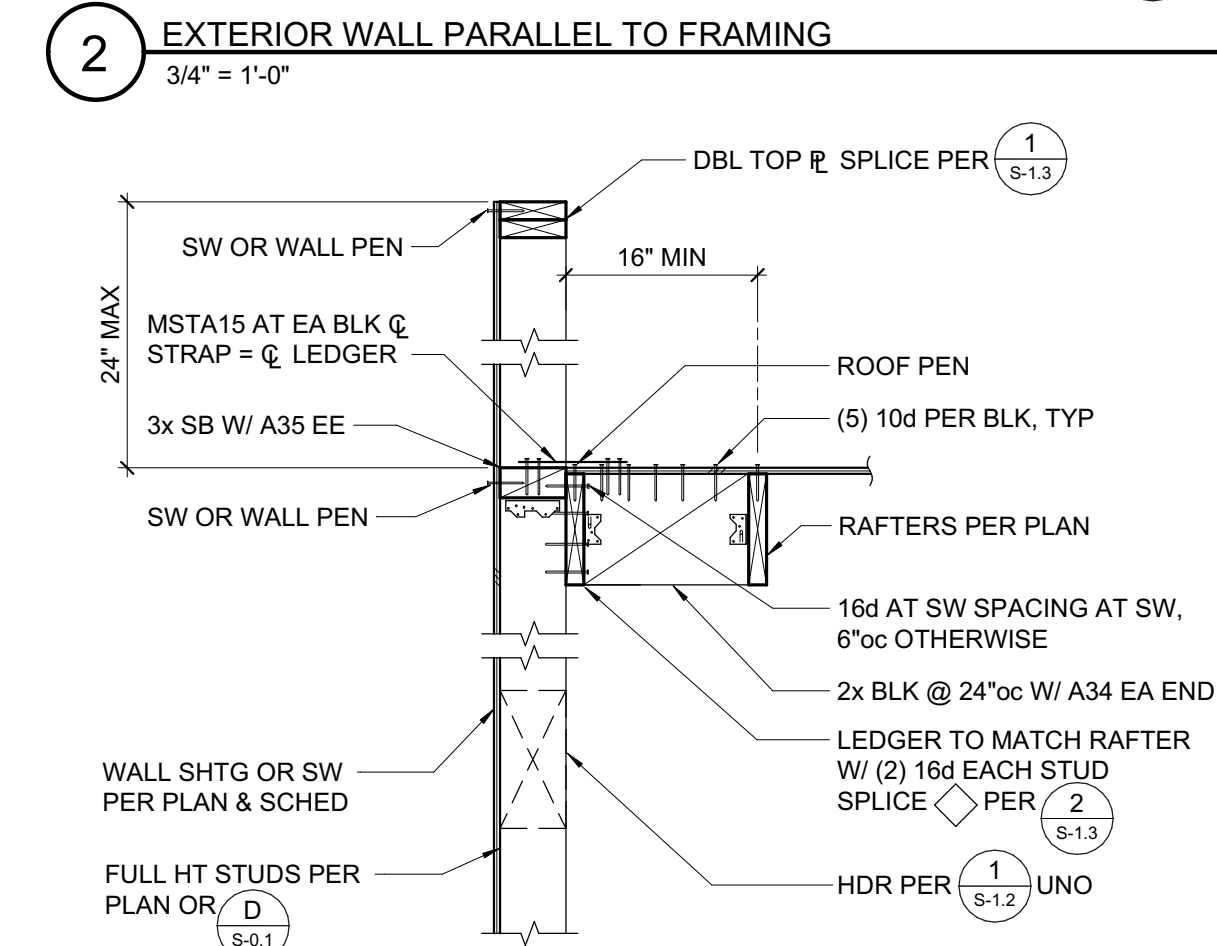
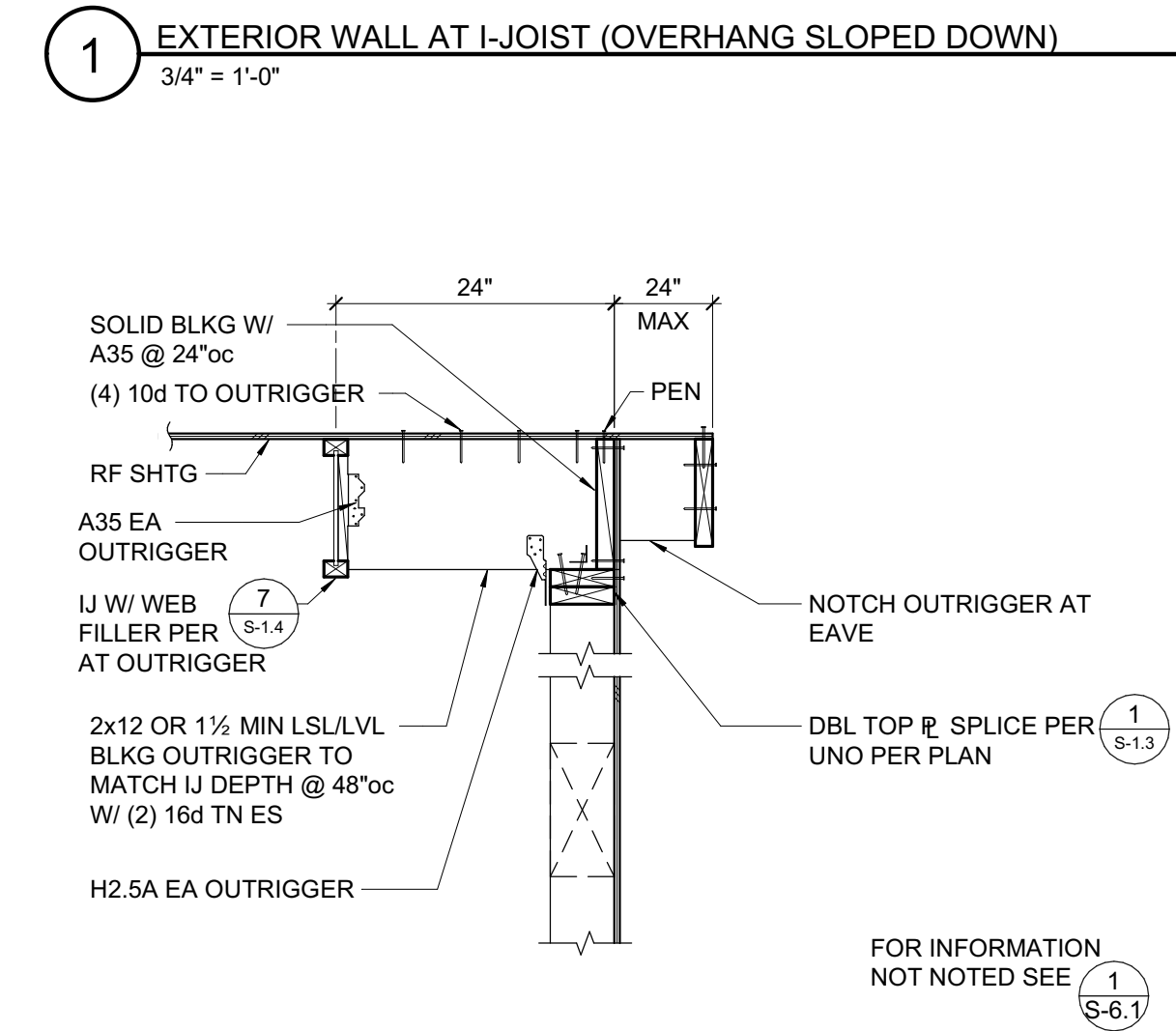
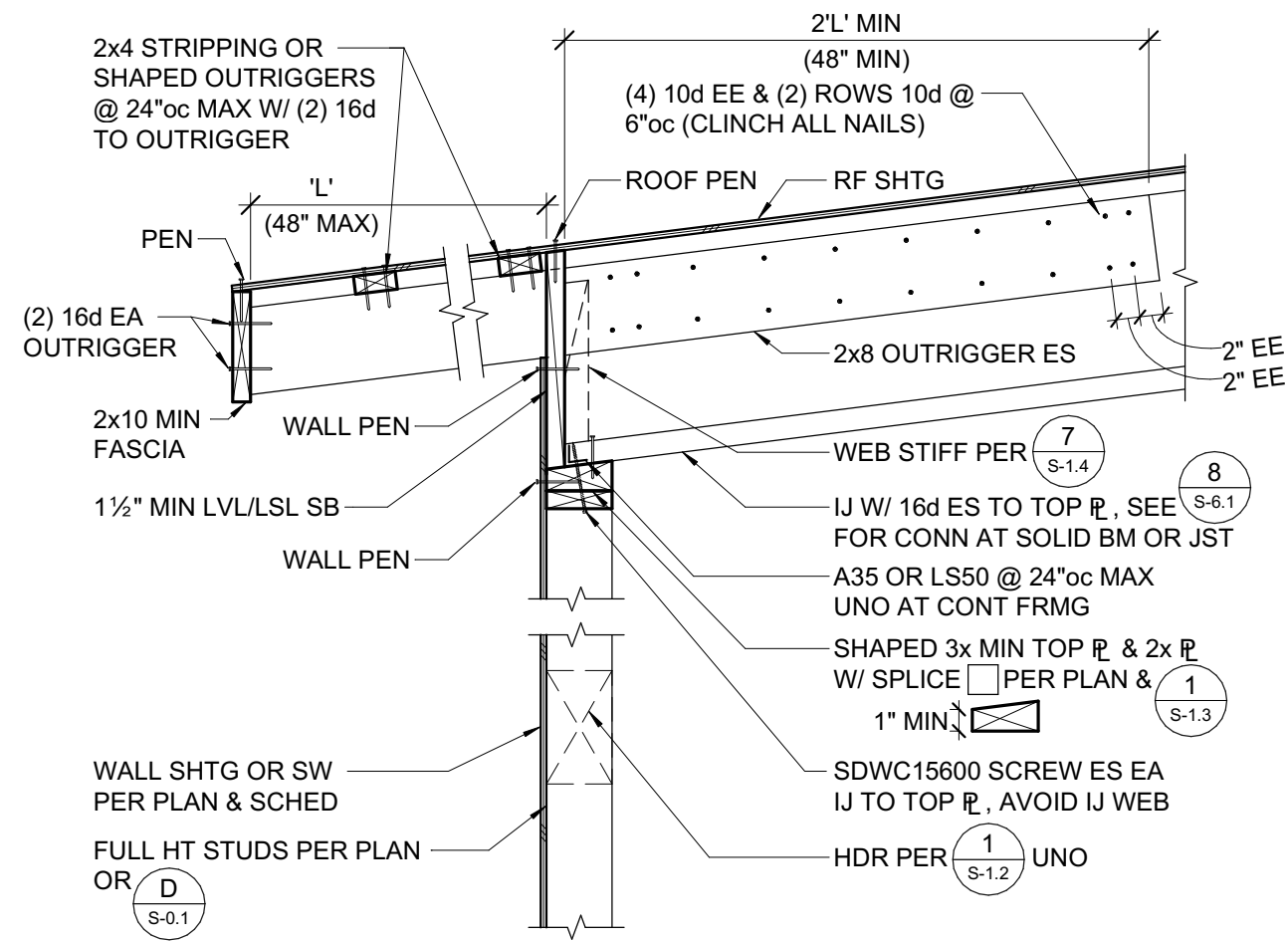
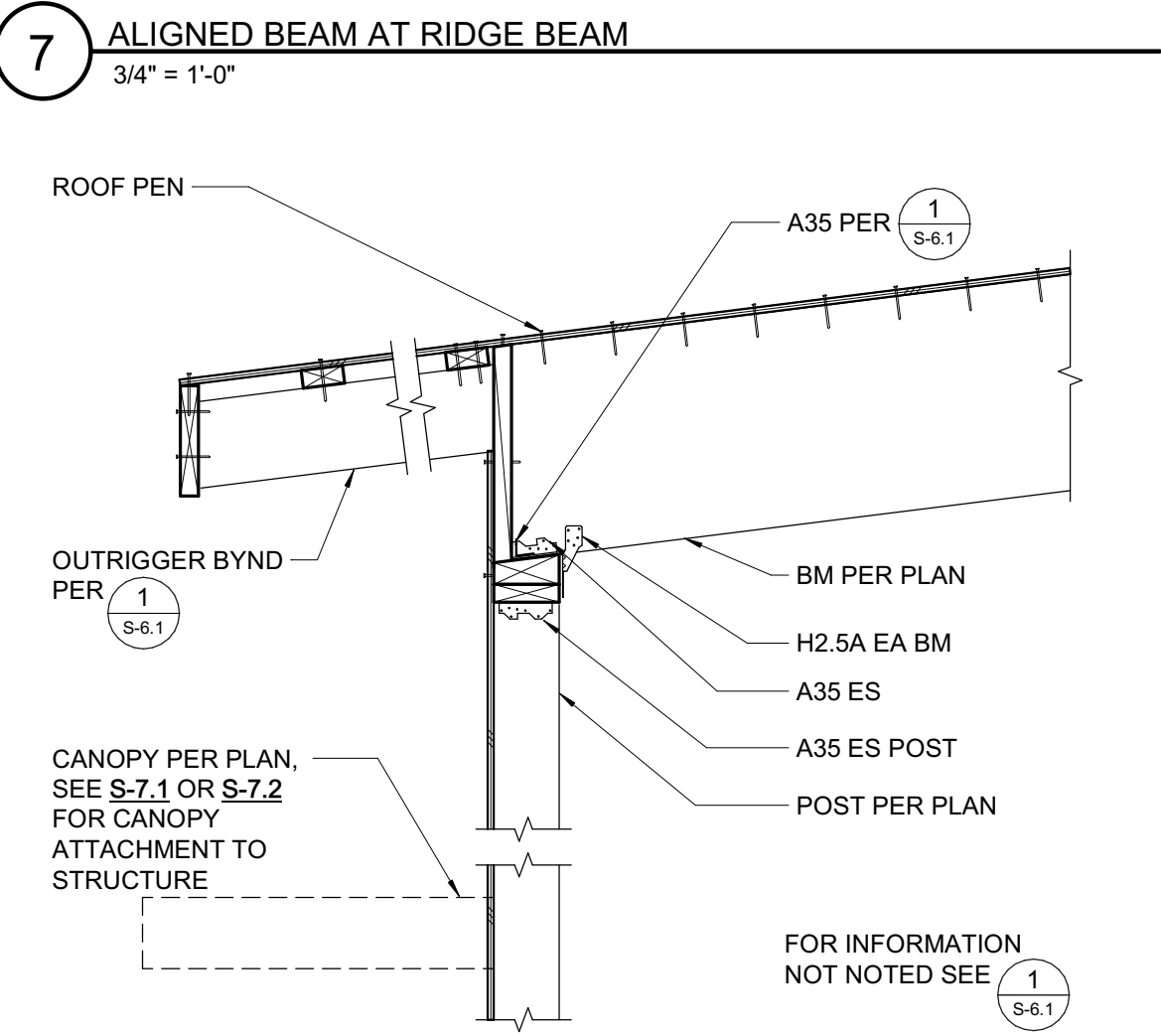
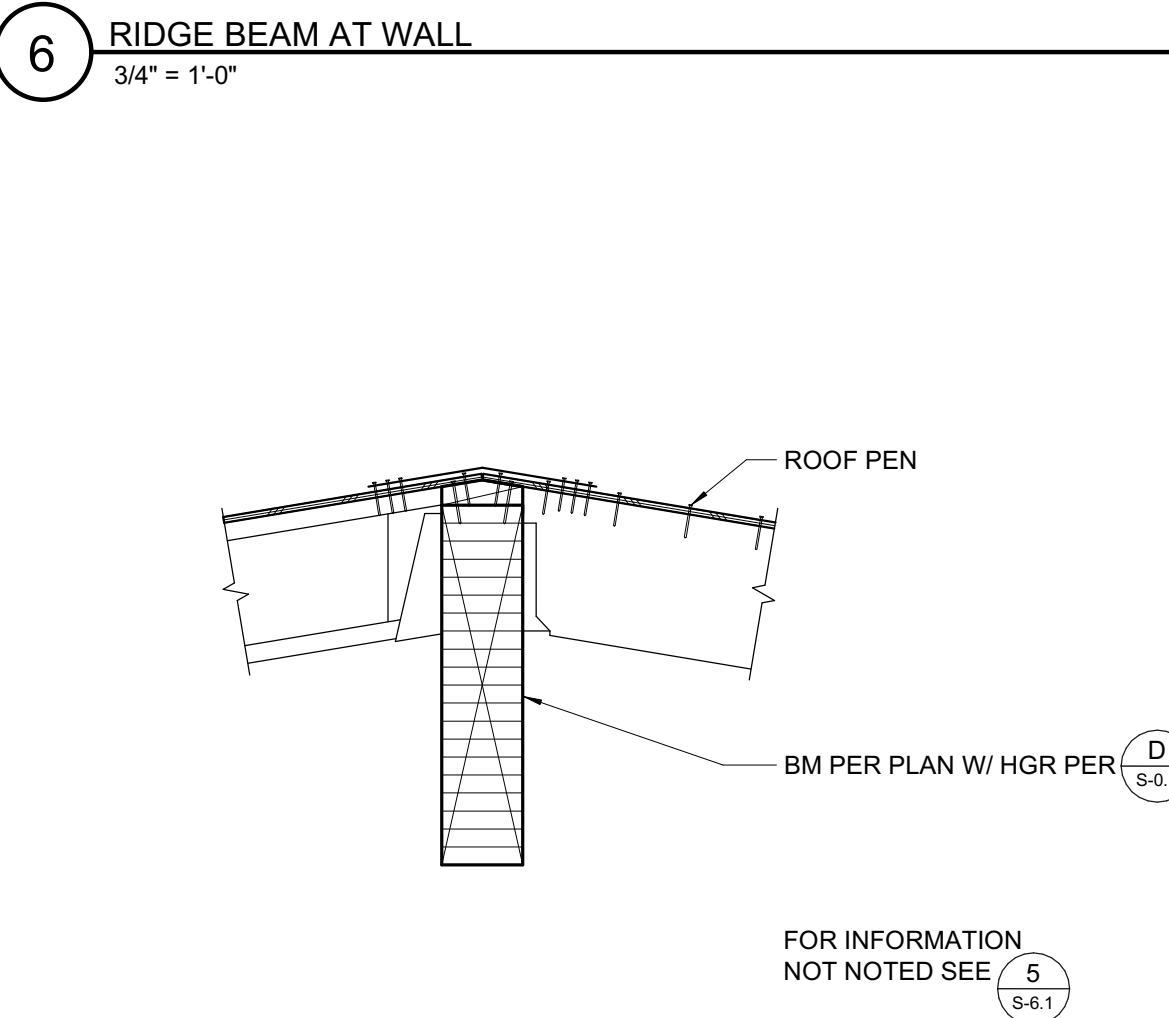
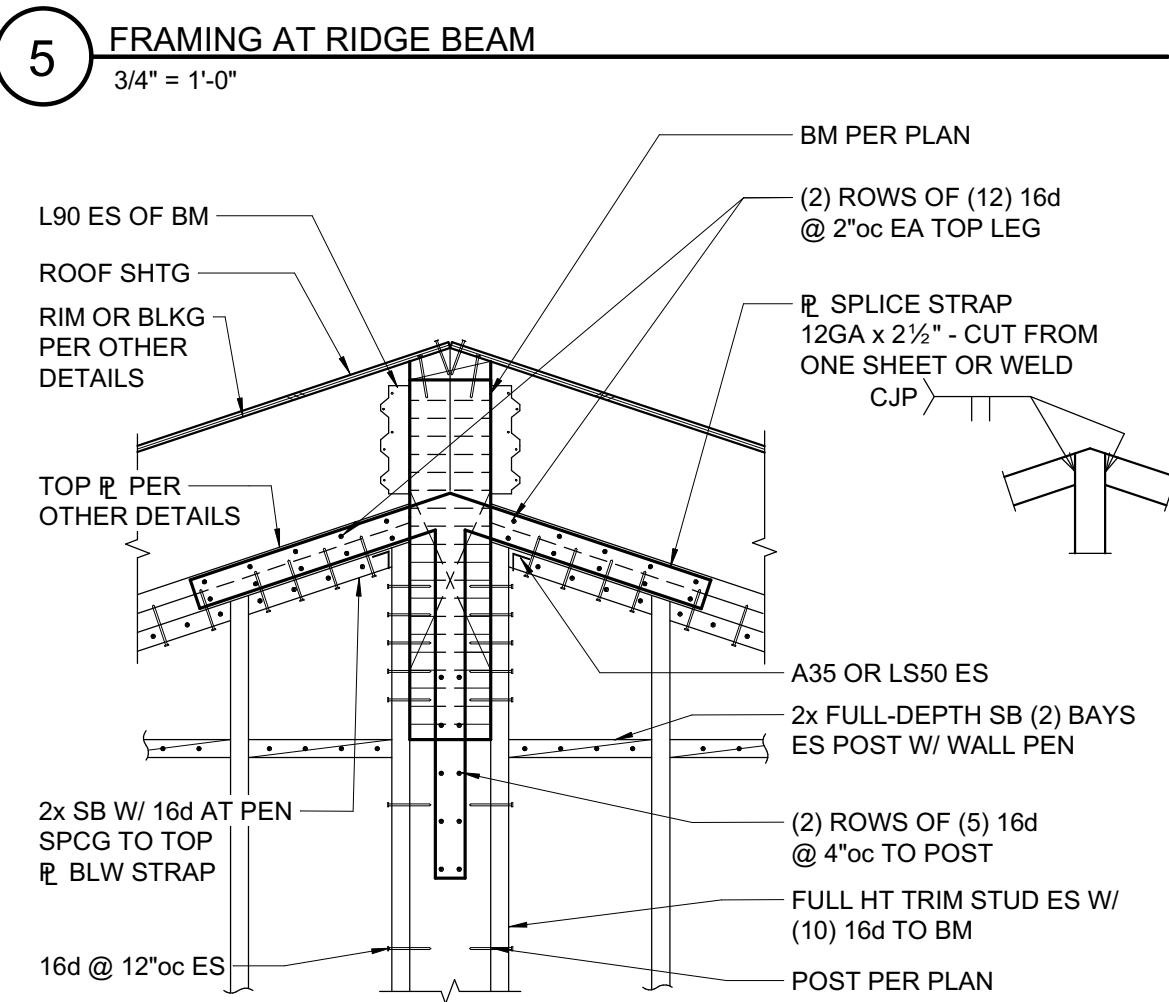
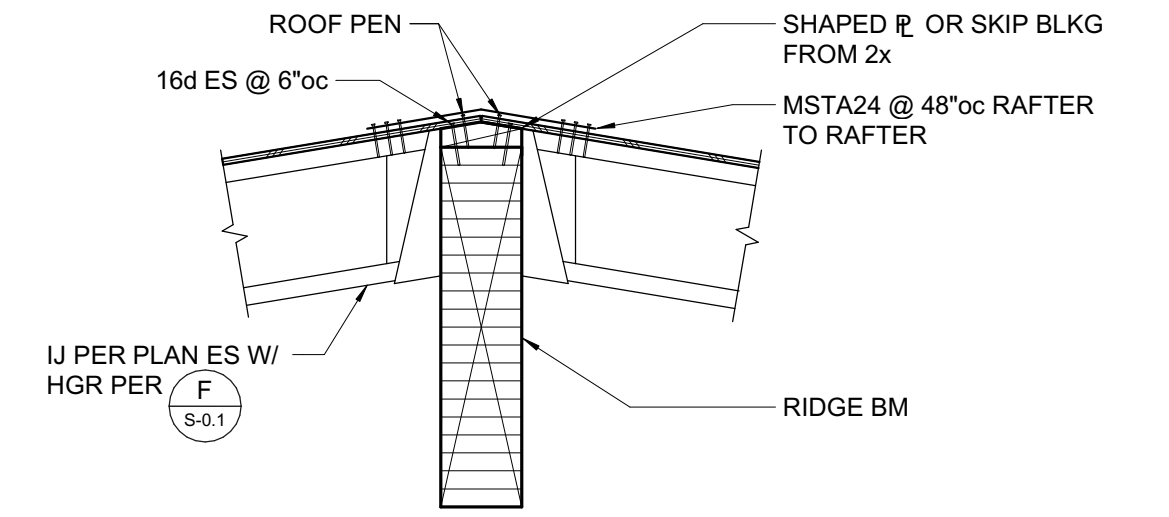
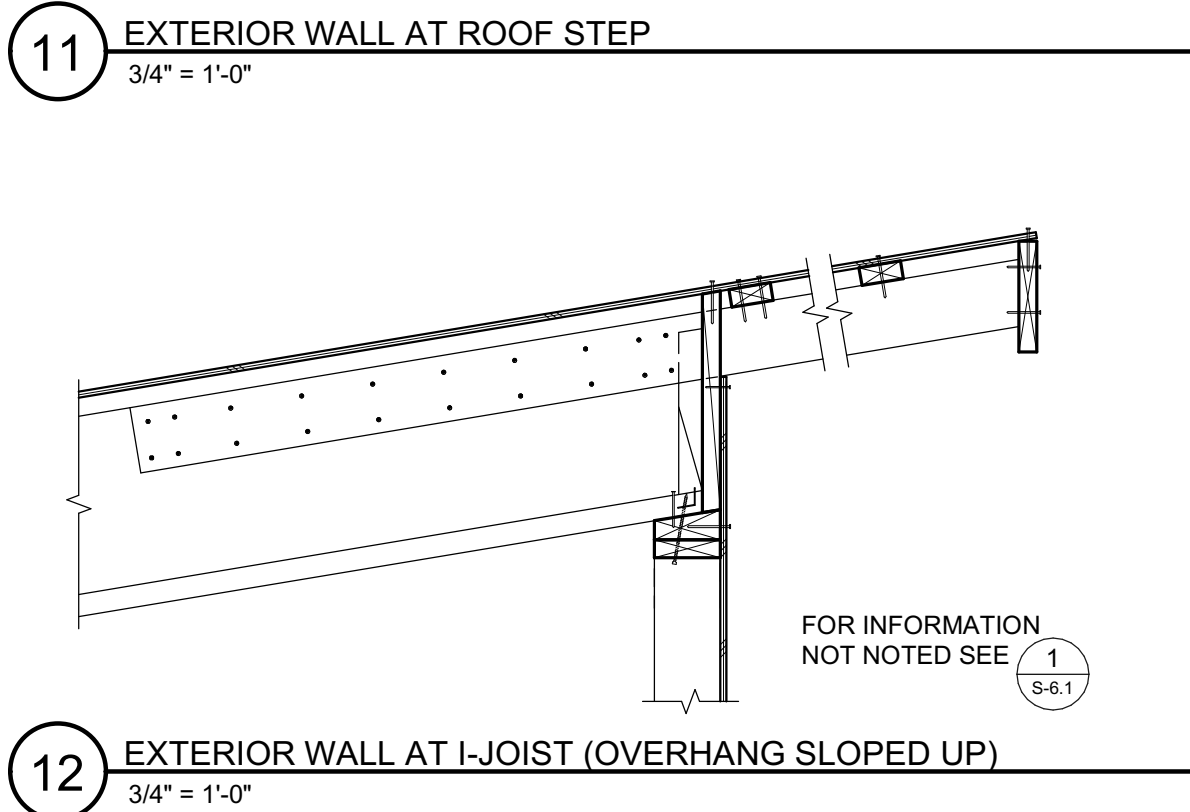
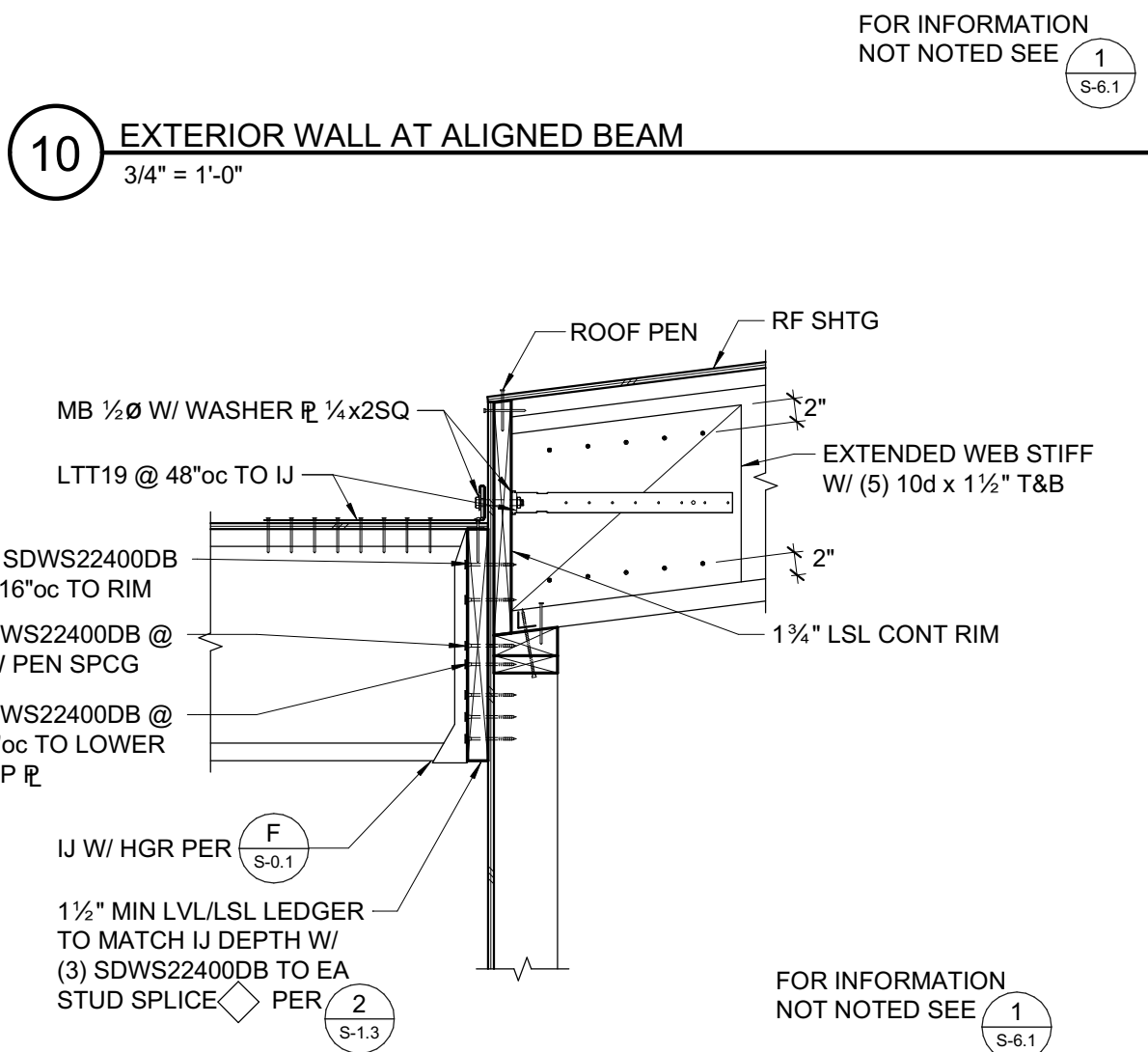
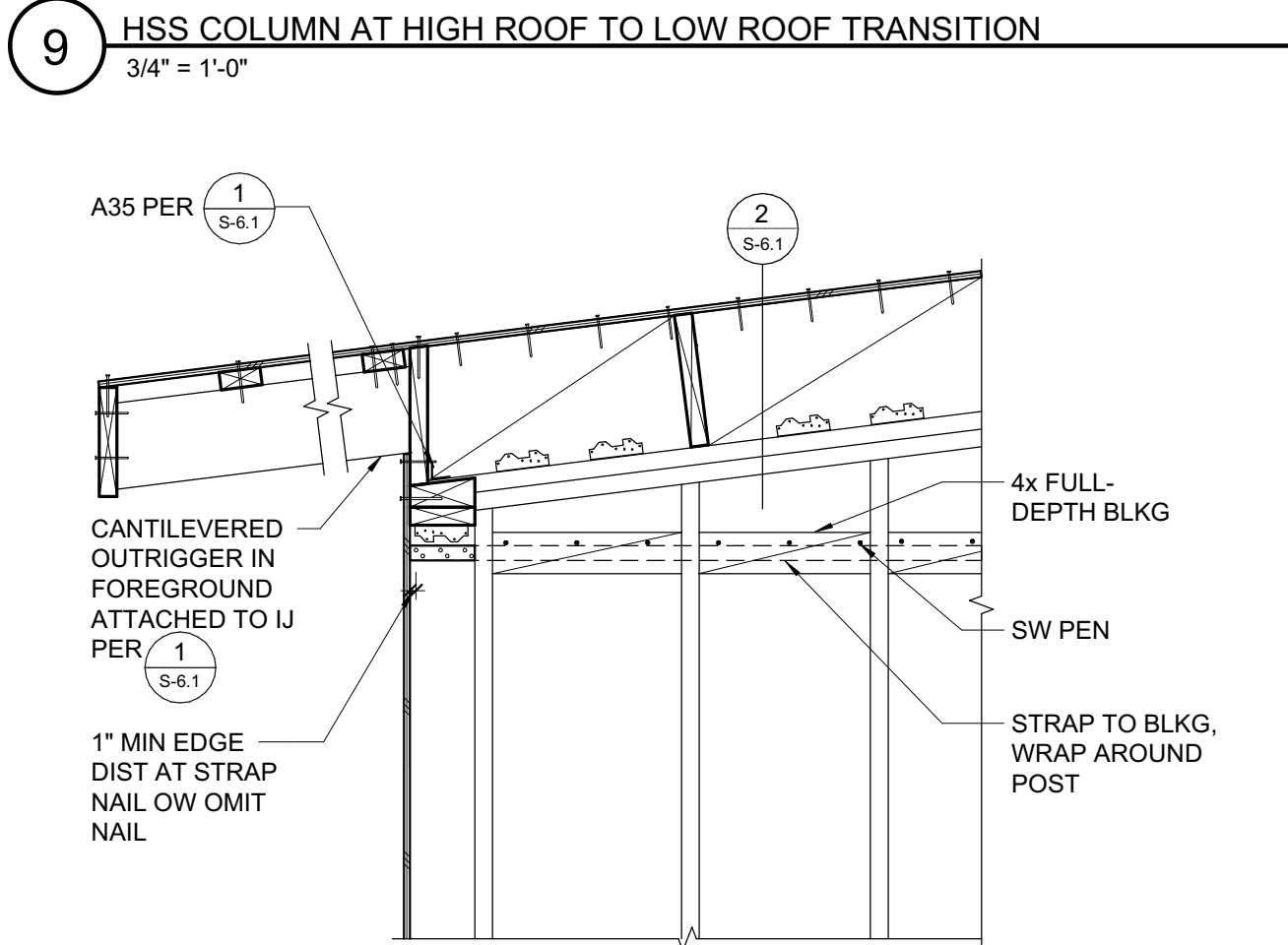
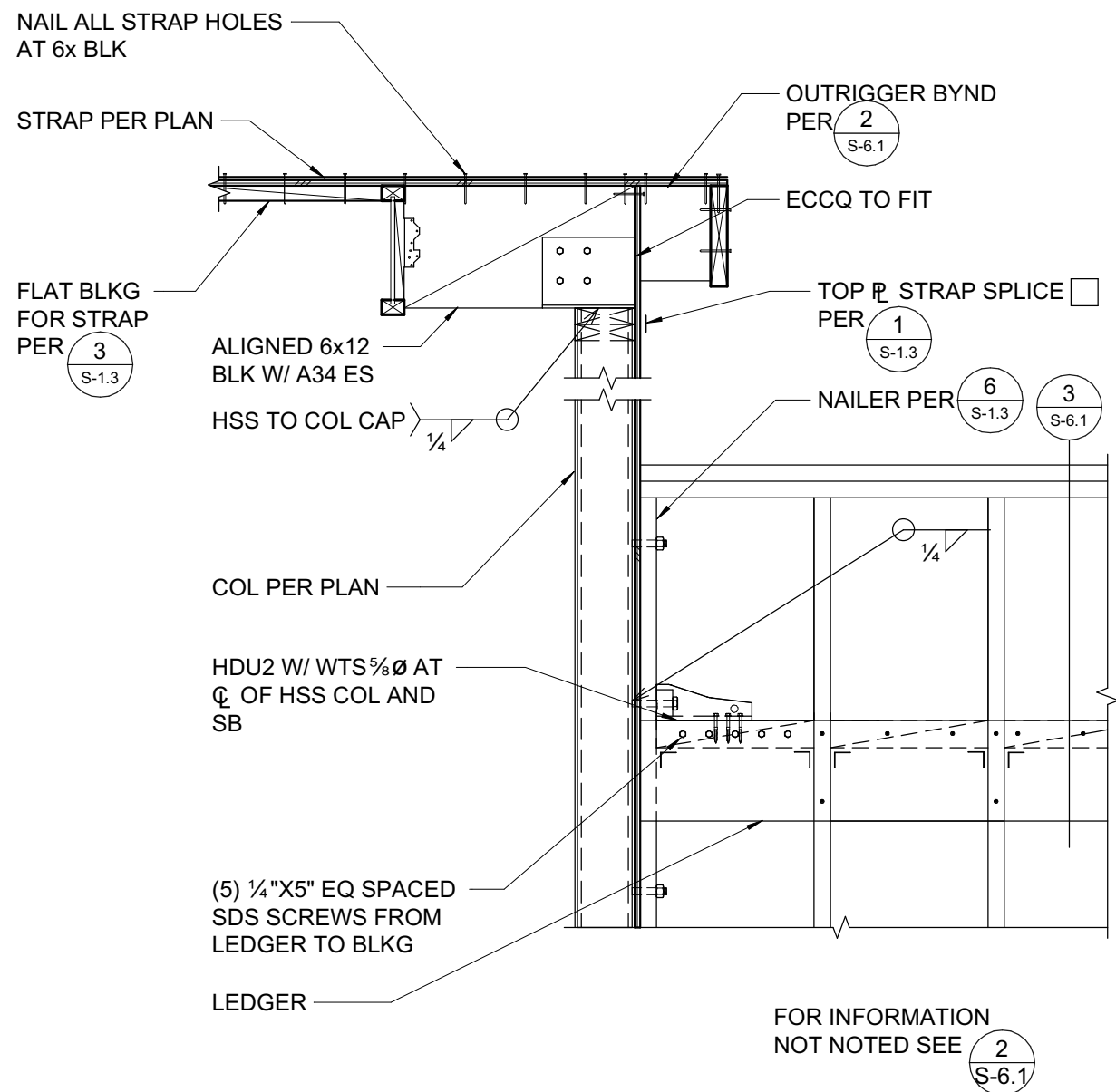
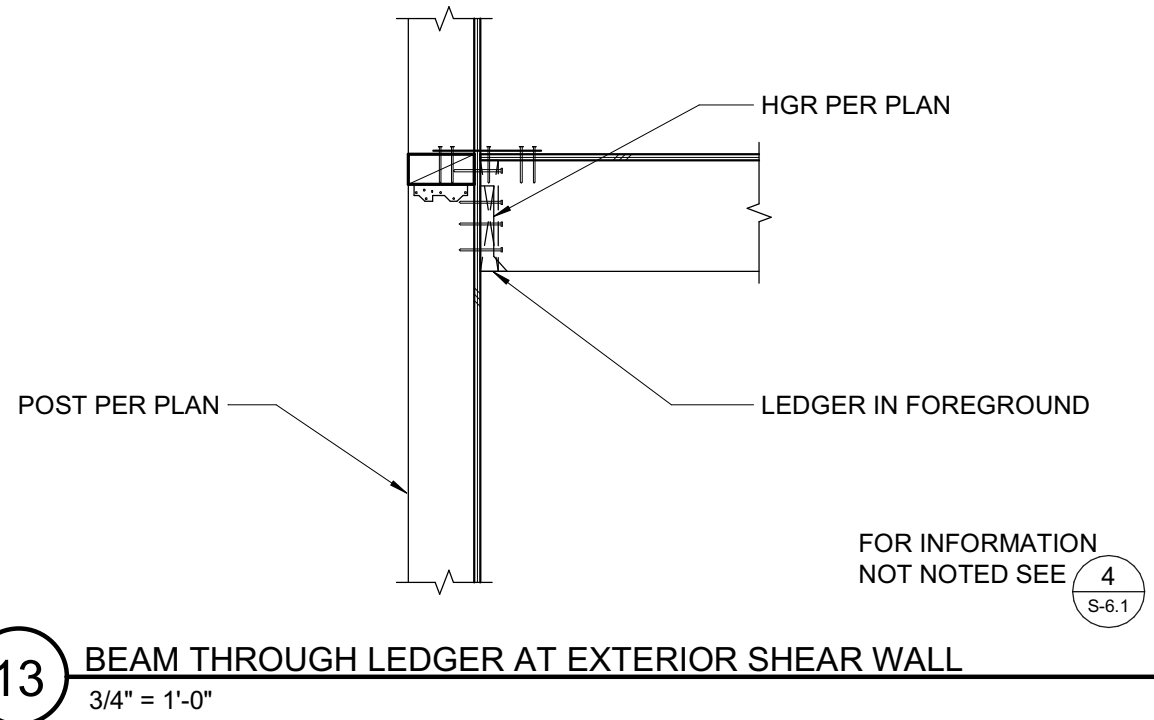
DSA APP NO.	01-119268
ARCH PROJECT NO.	1870.00
ENGR / PM:	KPB / DM / SCH
DRAWING SCALE:	As indicated
PTN: 61721-77	FILE NO: 7-H4

BID SET
MAY 10, 2021
SHEET TITLE

STEEL FRAMING DETAILS

SHEET NUMBER

S-5.1



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DSA APP NO. 01-119268
ARCH PROJECT NO. 1870.00
ENGR / PM: KPB / DM / SCH
DRAWING SCALE: 3/4\"/>

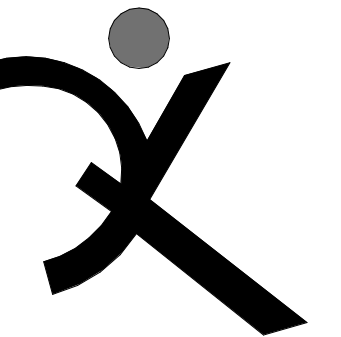
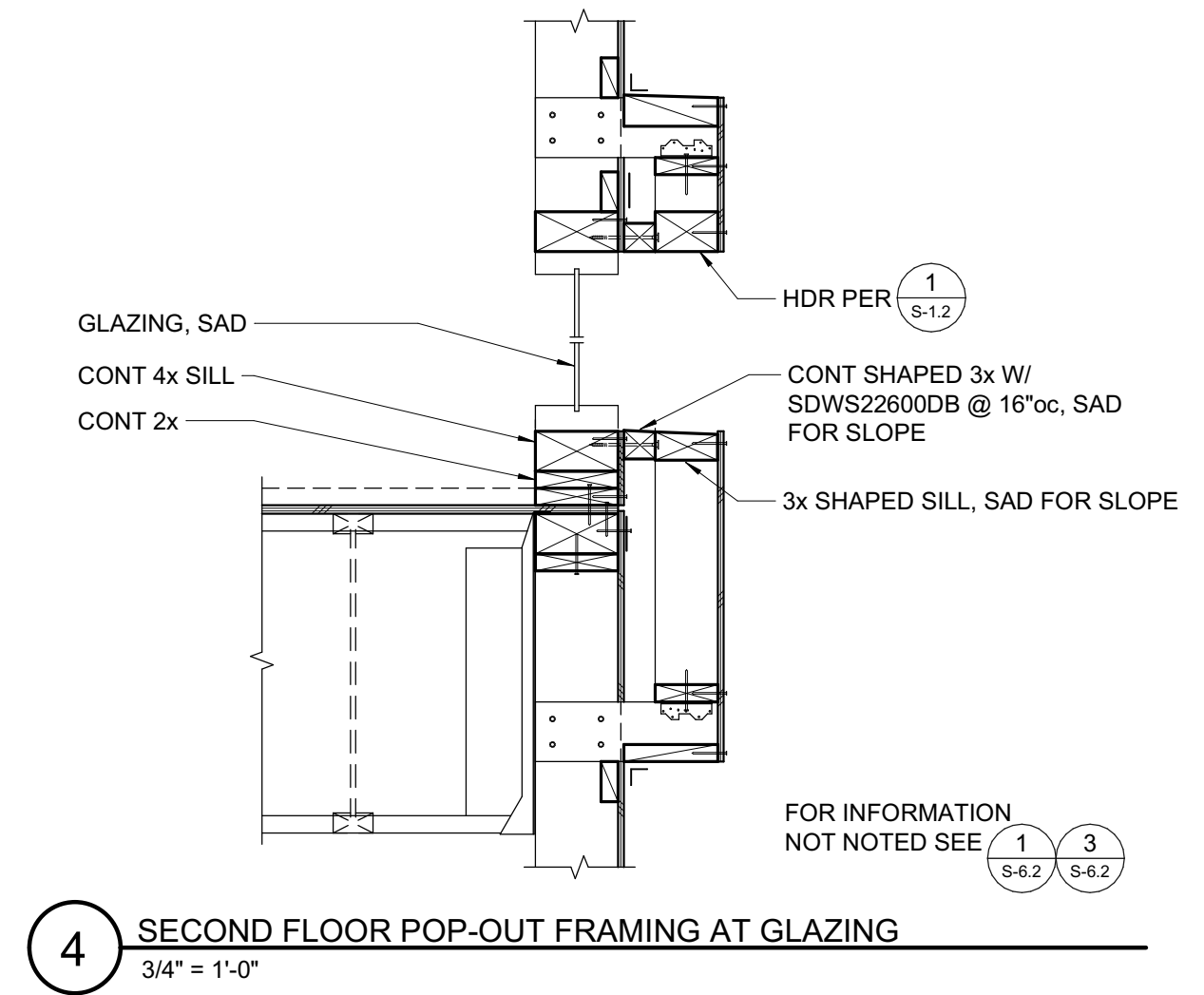
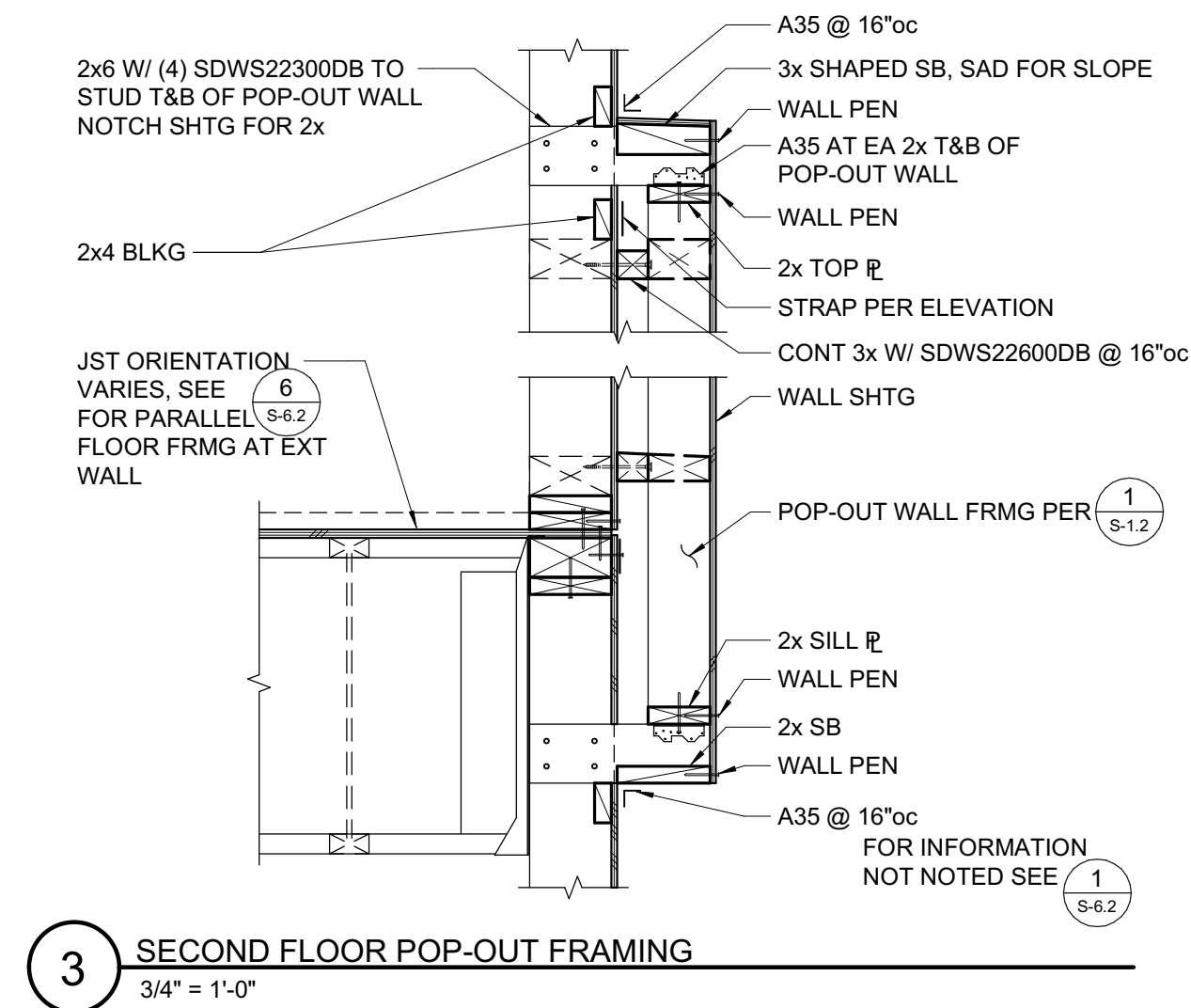
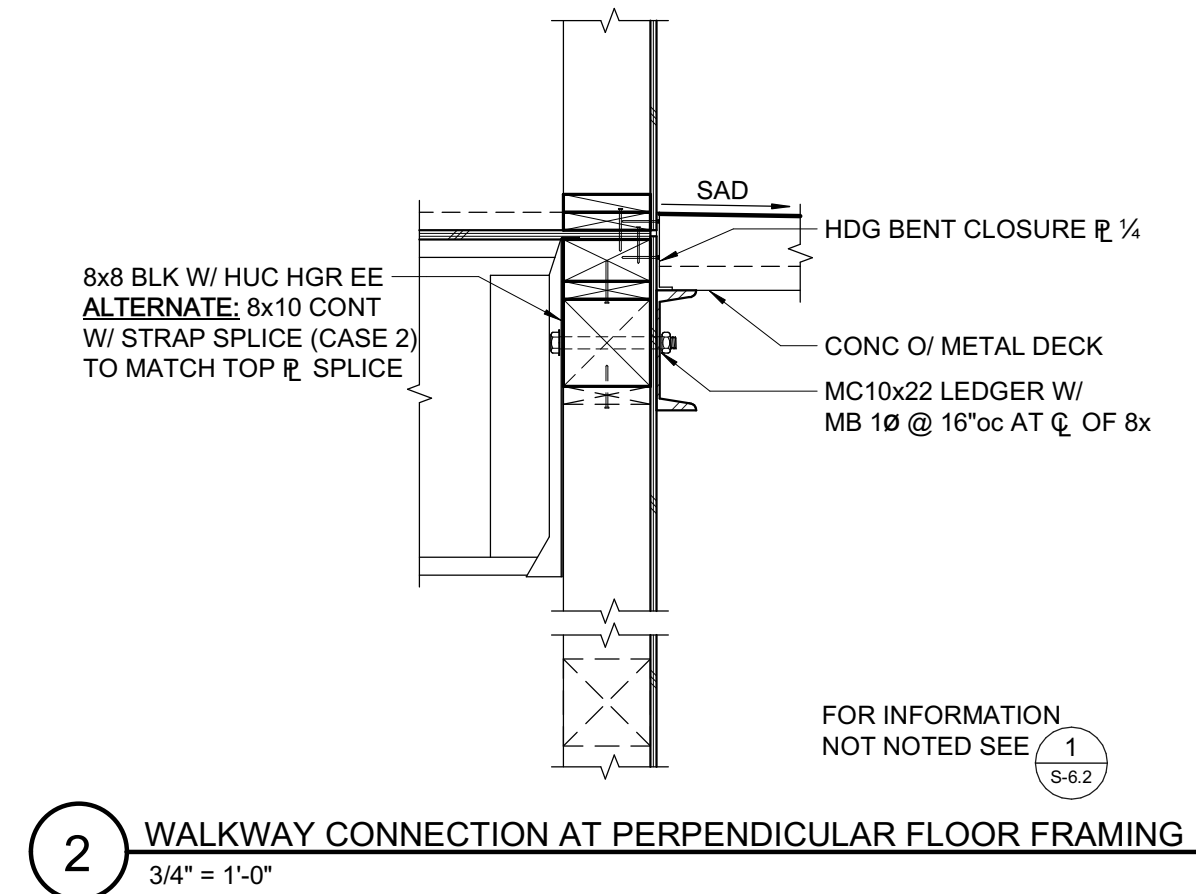
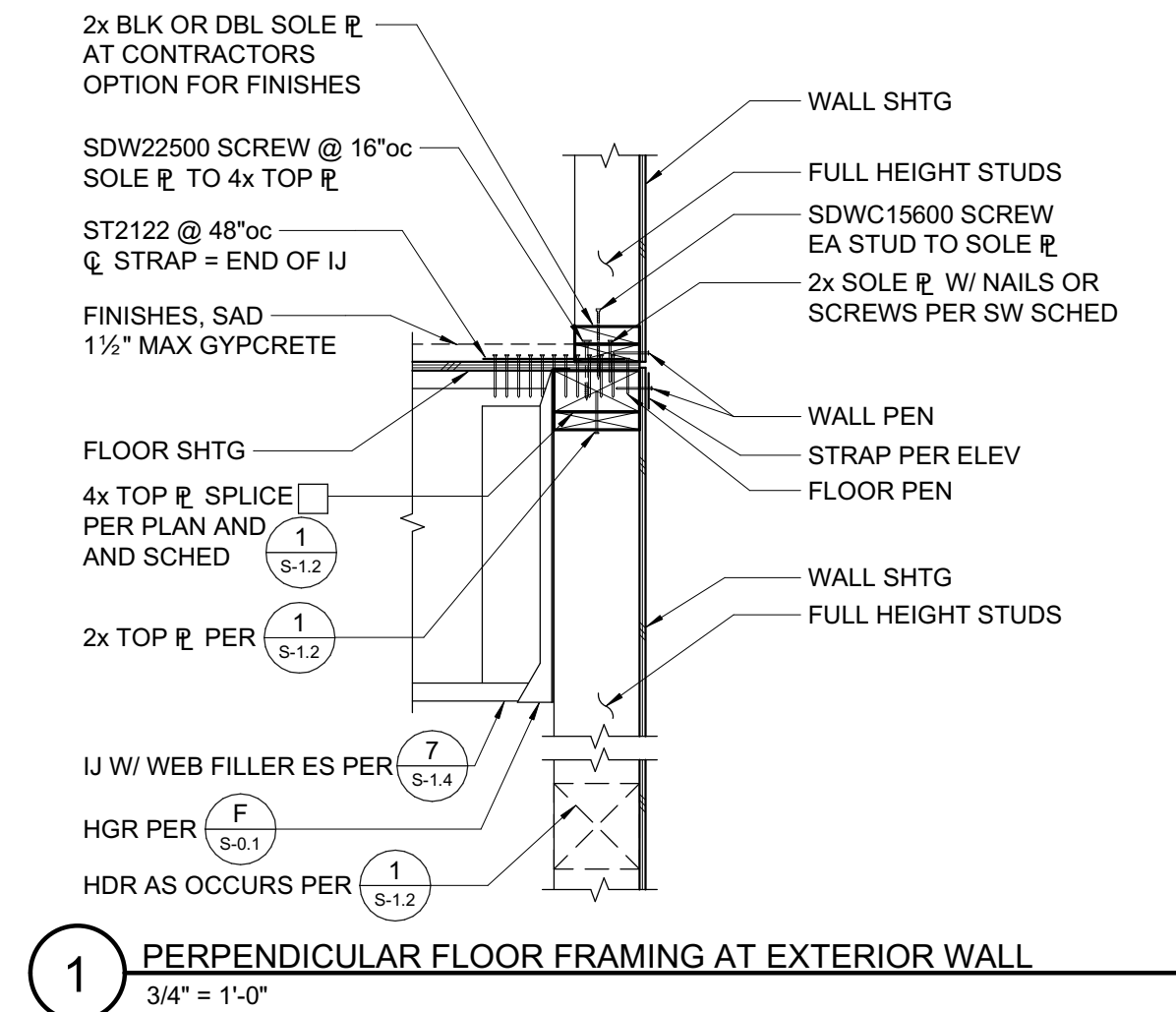
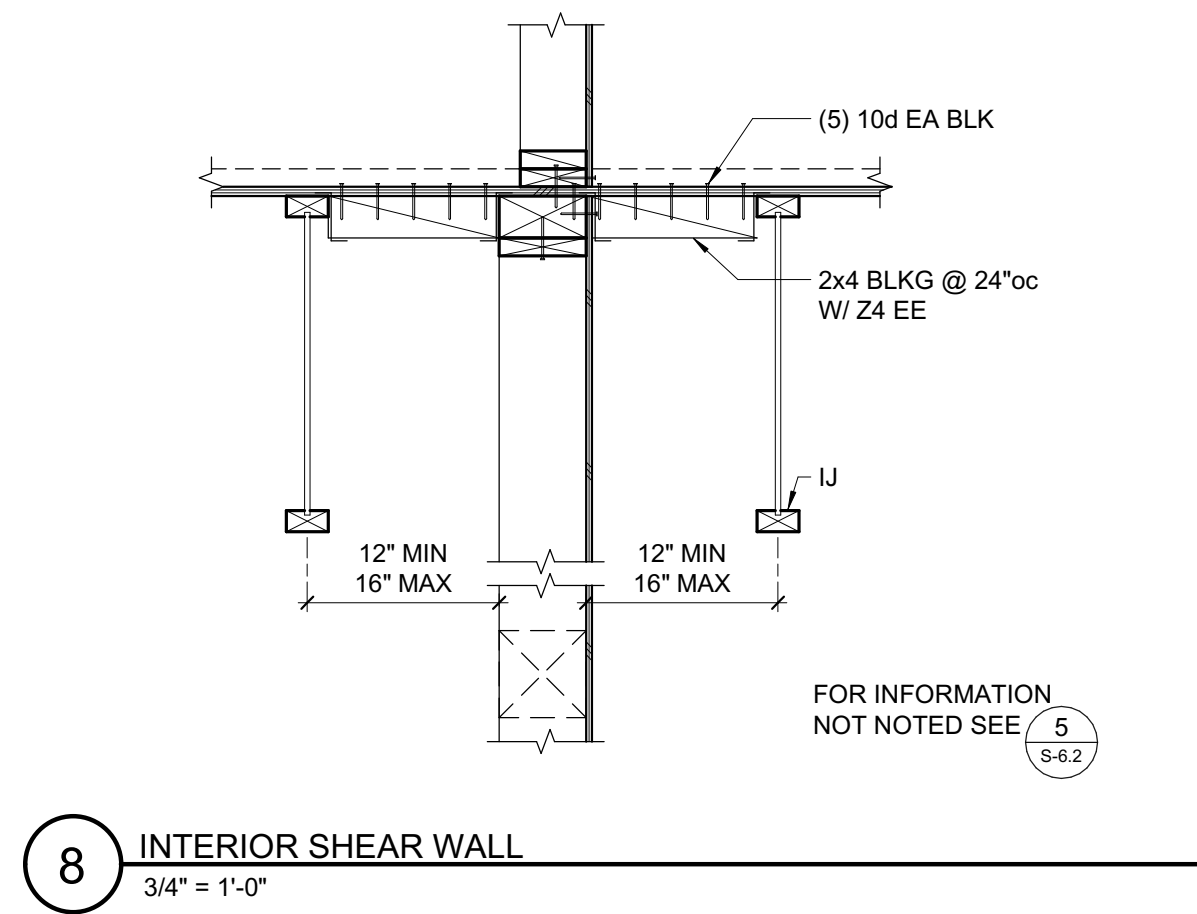
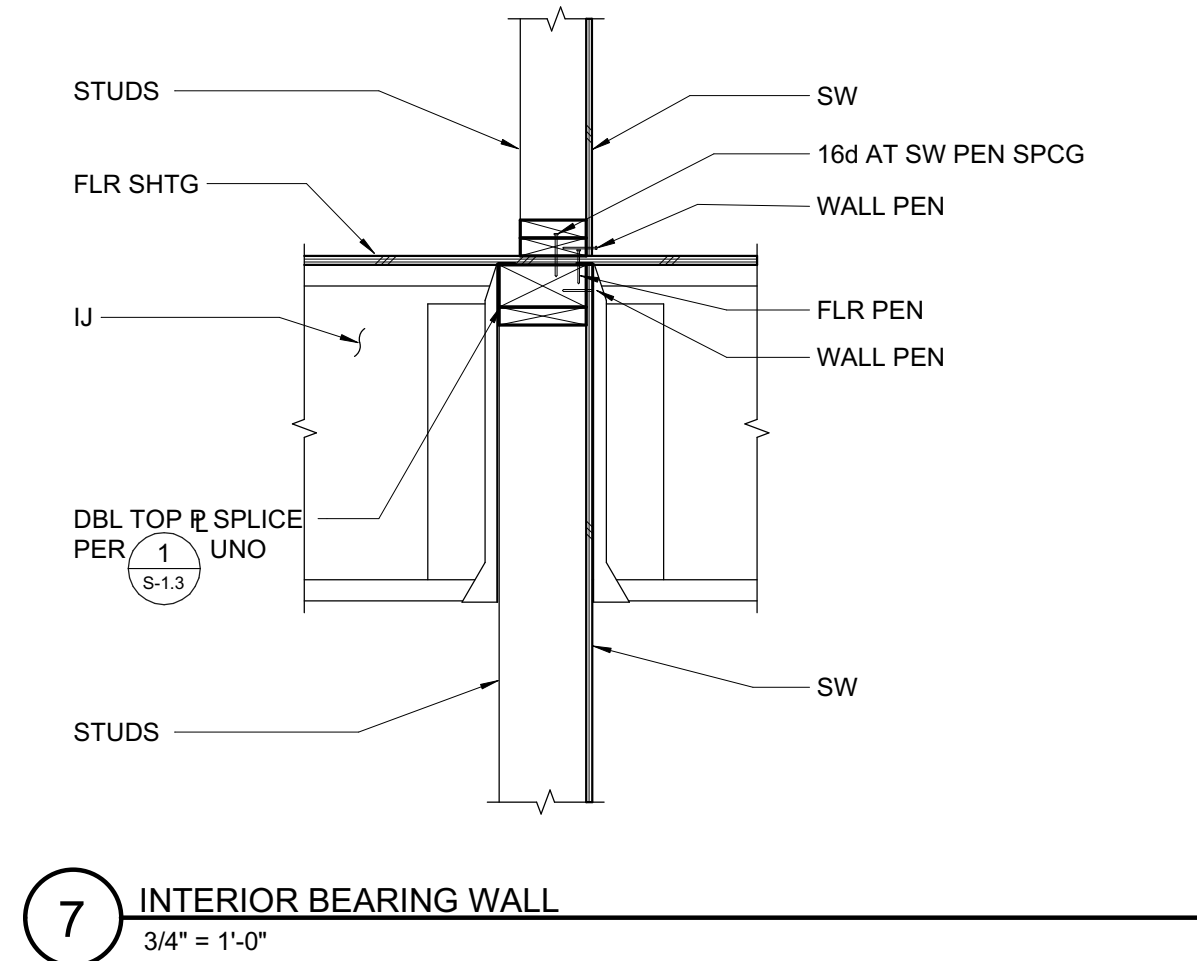
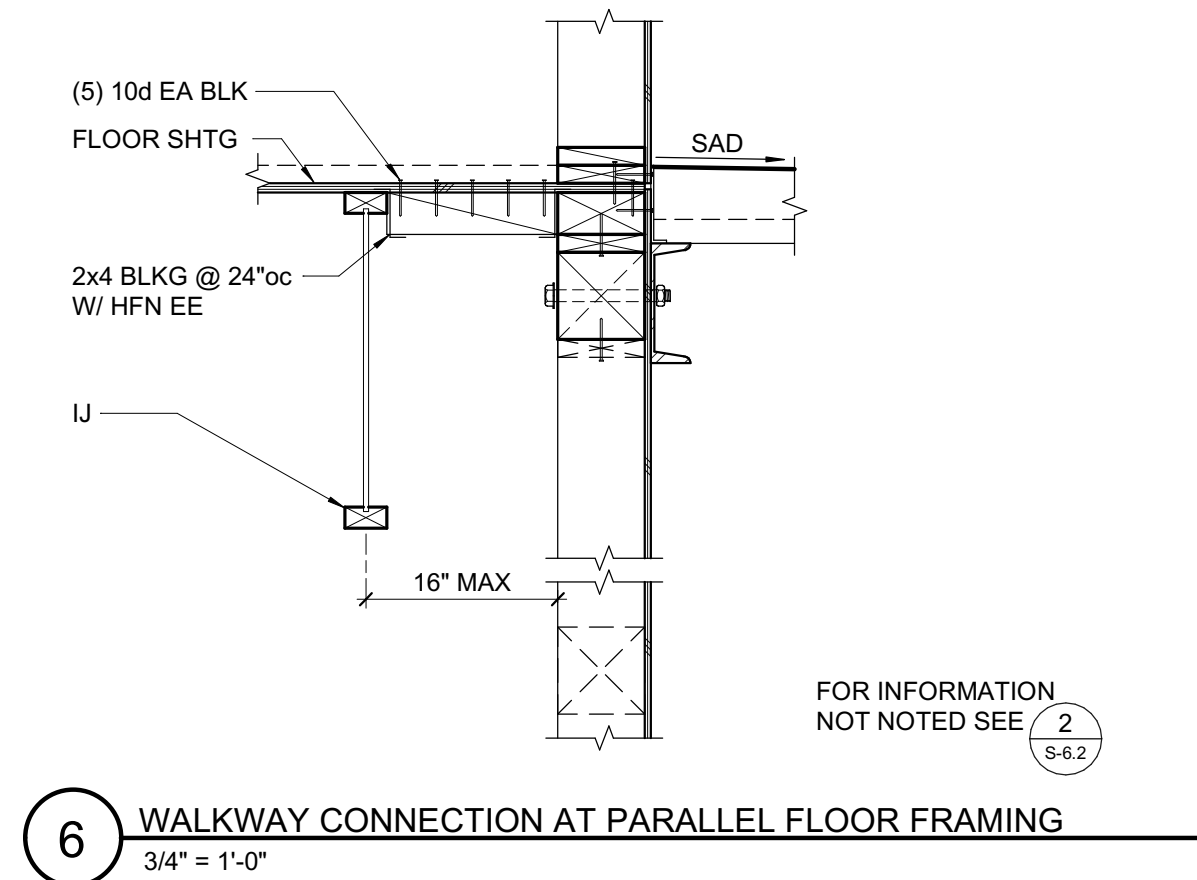
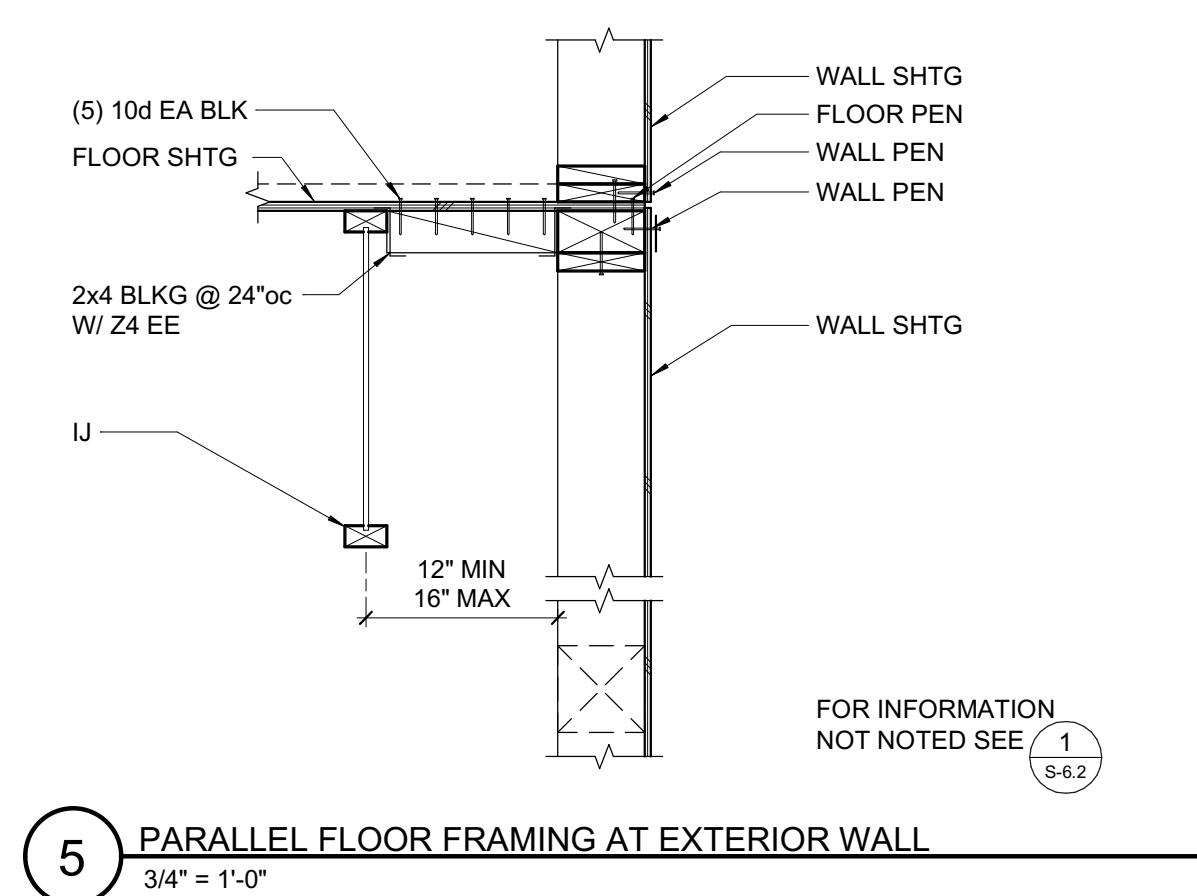
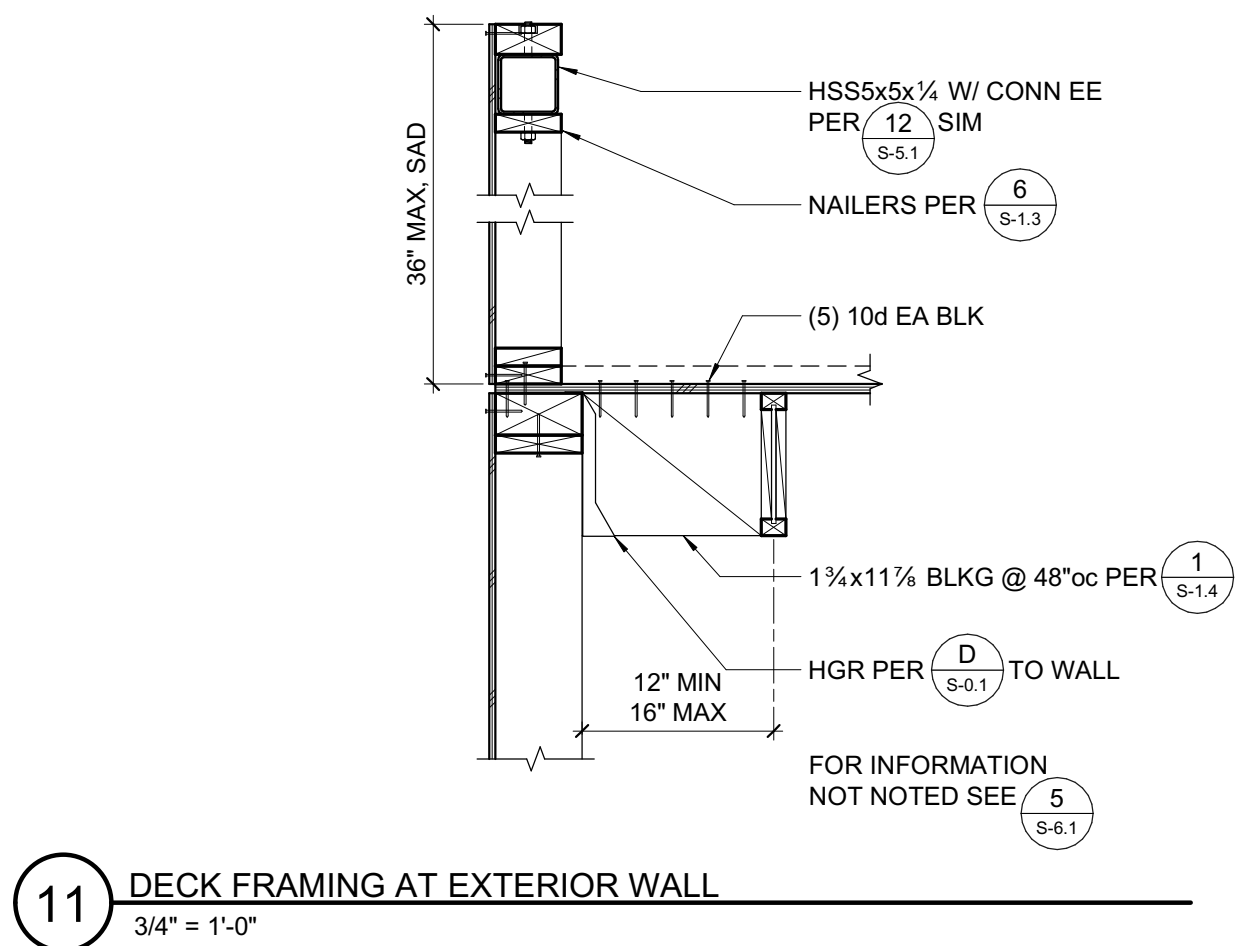
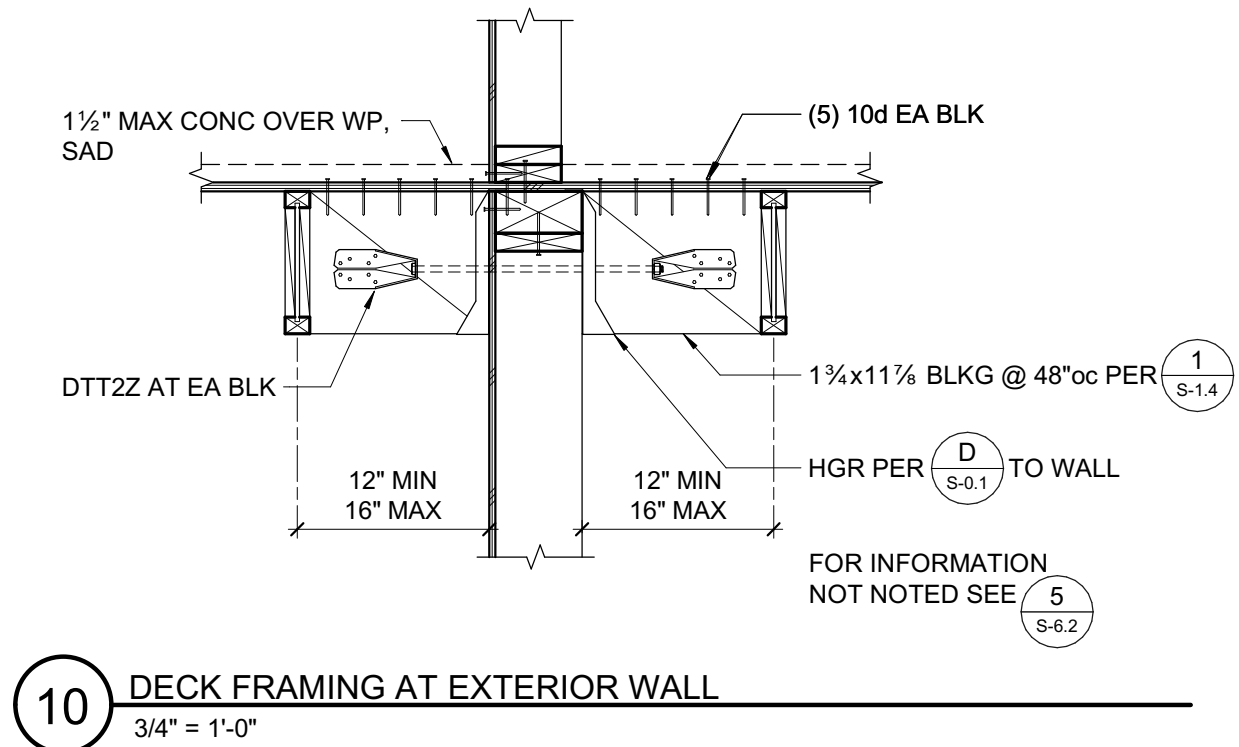
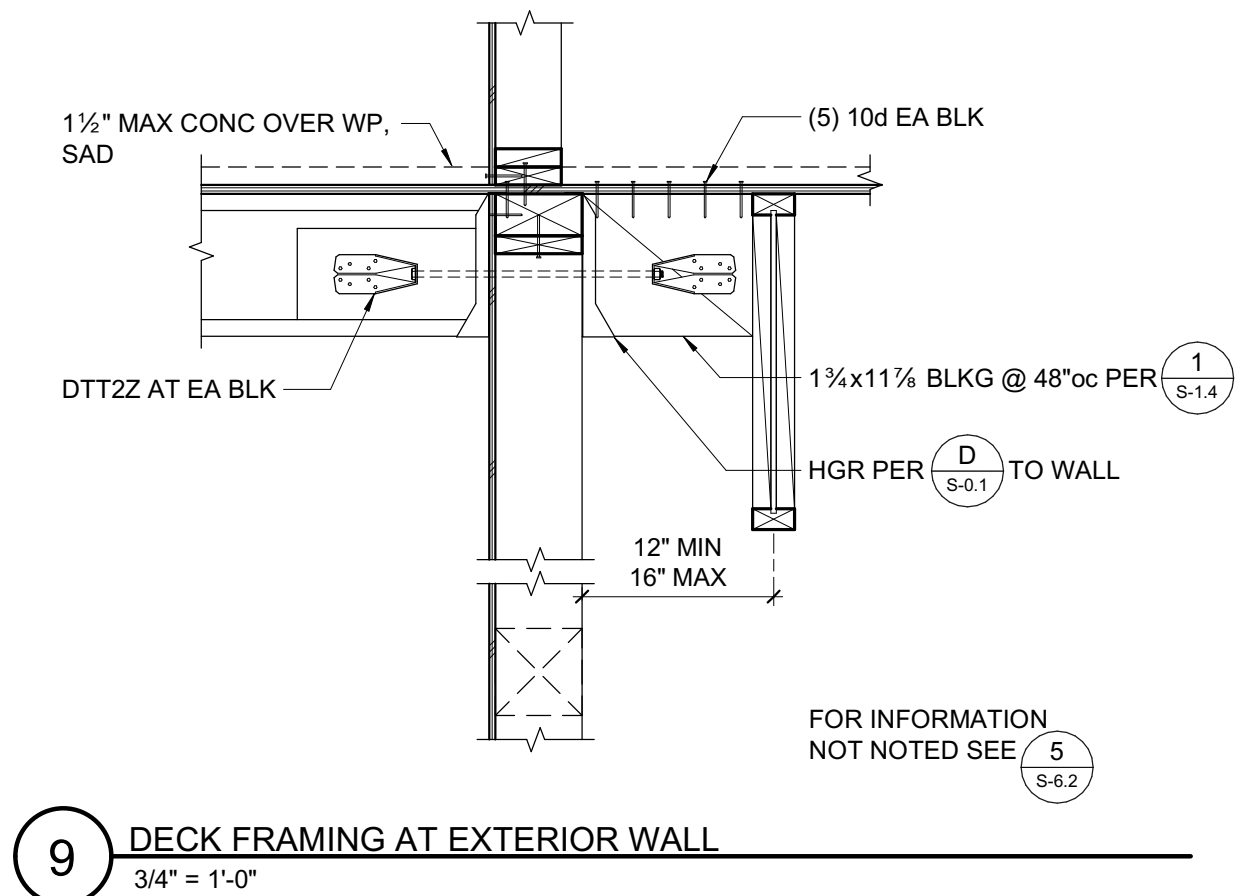
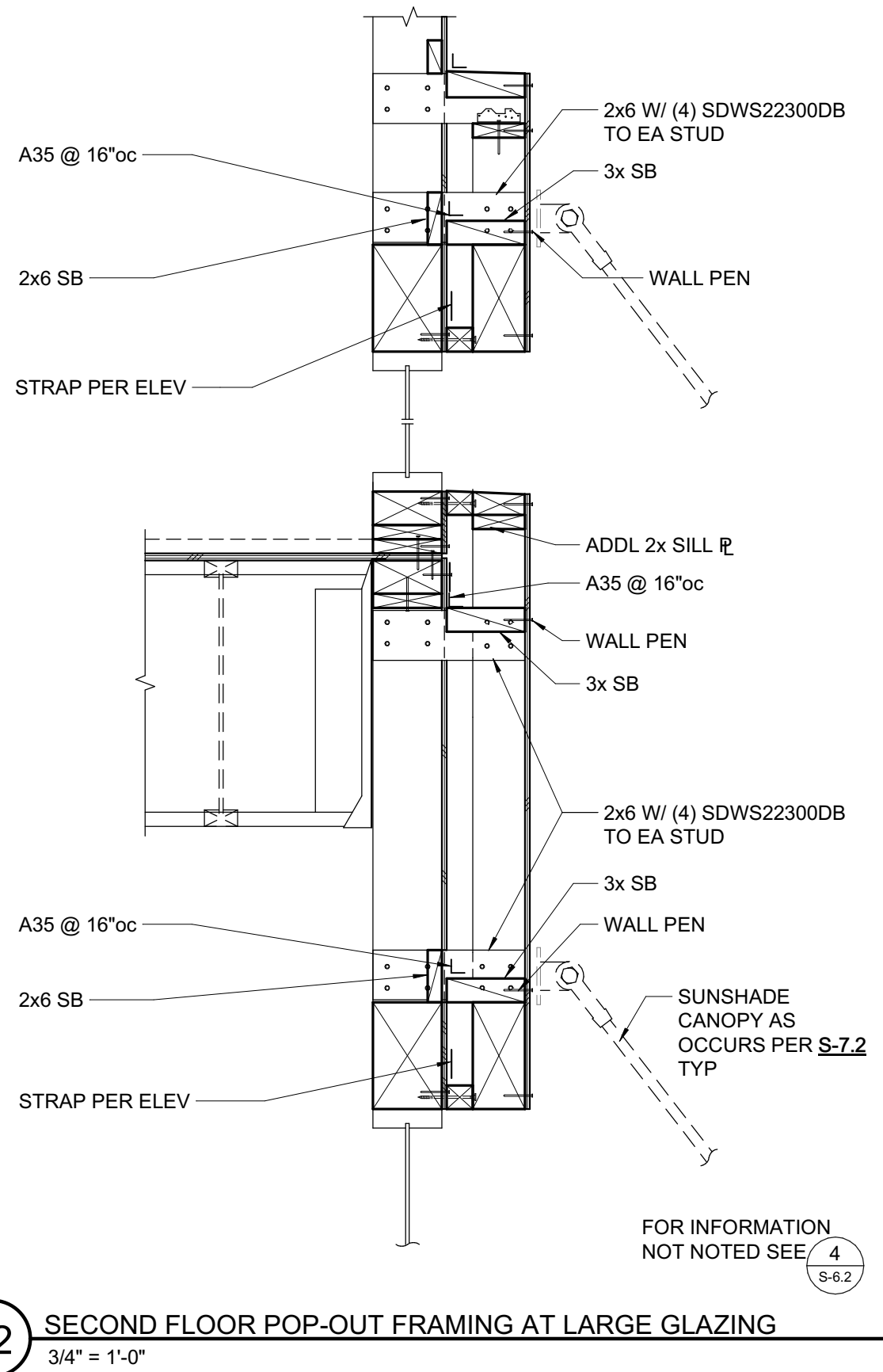
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SHEET TITLE

ROOF FRAMING DETAILS

SHEET NUMBER

S-6.1



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NEW CLASSROOM BUILDINGS
INCREMENT 2 OF 2

101 AMERICAN AVE,
BRENTWOOD CA 94513

LIBERTY UNION
HIGH SCHOOL
DISTRICT

REVISIONS

NO.	DESCRIPTION	DATE

DSA APP NO. 01-119268

ARCH PROJECT NO. 1870.00
ENGR / PM: KPB / DM / SCH
DRAWING SCALE: 3/4" = 1'-0"
PTN: 61721-77 FILE NO: 7-H4

BID SET

MAY 10, 2021

SHEET TITLE

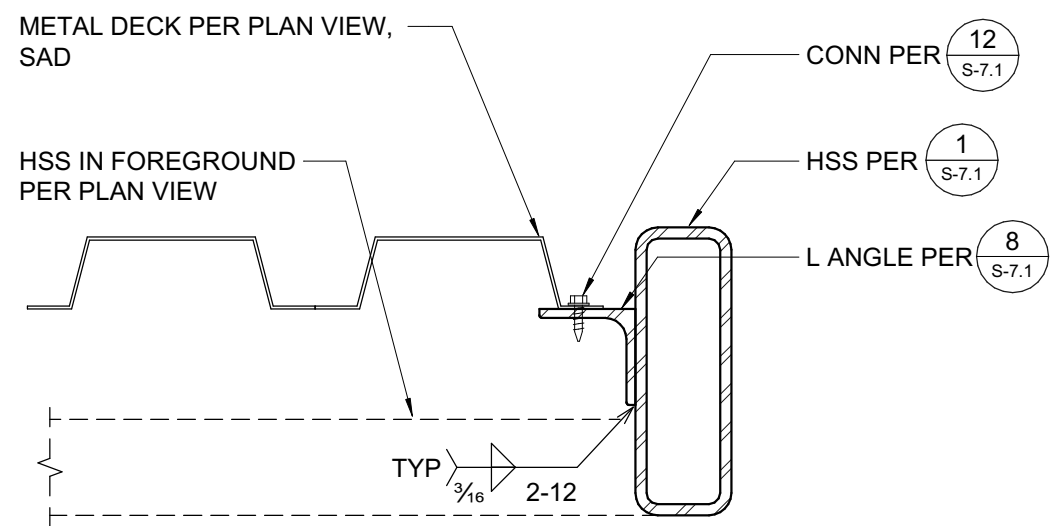
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FRAMING
DETAILS

SHEET NUMBER

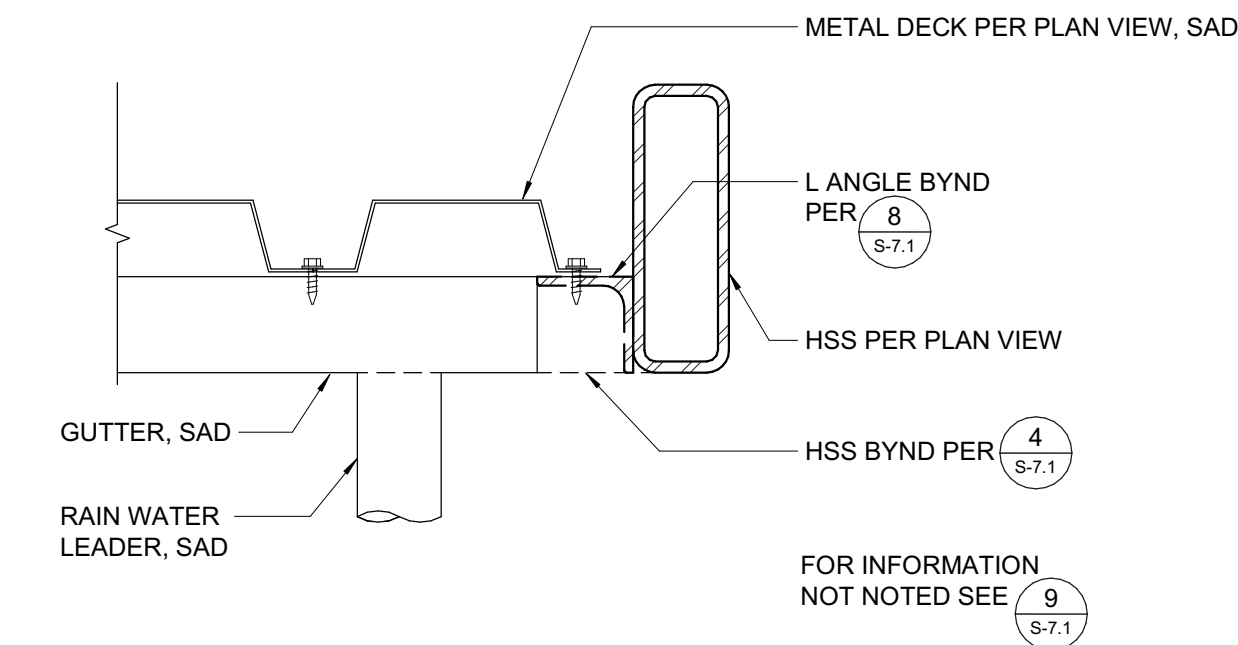
S-6.2

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5/10/2021 11:41:53 AM



9 RAIN CANOPY RAKE
3" = 1'-0"



10 RAIN CANOPY AT GUTTER
3" = 1'-0"

11 NOT USED
3" = 1'-0"

MARK	STEEL DECK GAGE & PROFILE TYPE SEE 13 S-7.1	DECK CONNECTIONS					
		END/INT BEARING CONN (A)		SIDE BEARING CONN (B)		SIDELAP CONNECTION (C)	
		SIZE & TYPE	PATTERN	SIZE & TYPE	SPACING	SIZE & TYPE	SPACING
1	20 GA	SCREWS	36/7	SCREWS	12"	SCREWS	12"

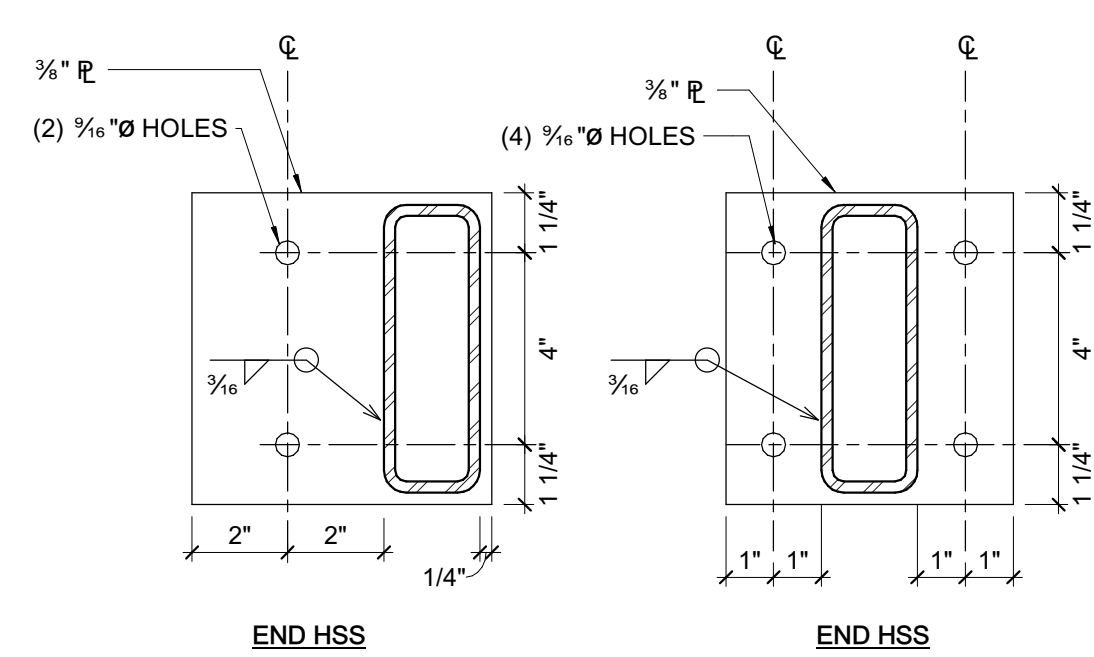
NOTES:

- ATTACH DECK TO ALL STEEL SUPPORT FRAMING AS OCCURS.
- SCREWS = STEEL DECK INSTITUTE (SDI) RECOGNIZED #12 SELF-DRILLING SCREWS, HILTI S-SLC01 M HW/H, OR HILTI S-SLC02 M HW/H, EXTERIOR-RATED AND W/ INTEGRAL NEOPRENE WASHER AT EXTERIOR CONDITIONS.
- ABOVE REFERENCED DECK IS BASED ON ALLOWABLE DESIGN LOADS PER IAPMO ER-0217 VERO MANUFACTURING - EQUIVALENT DECK MUST HAVE EQUIVALENT ALLOWABLE VERTICAL LOADS, DIAPHRAGM SHEAR VALUES, AND FLEXIBILITY FACTORS.

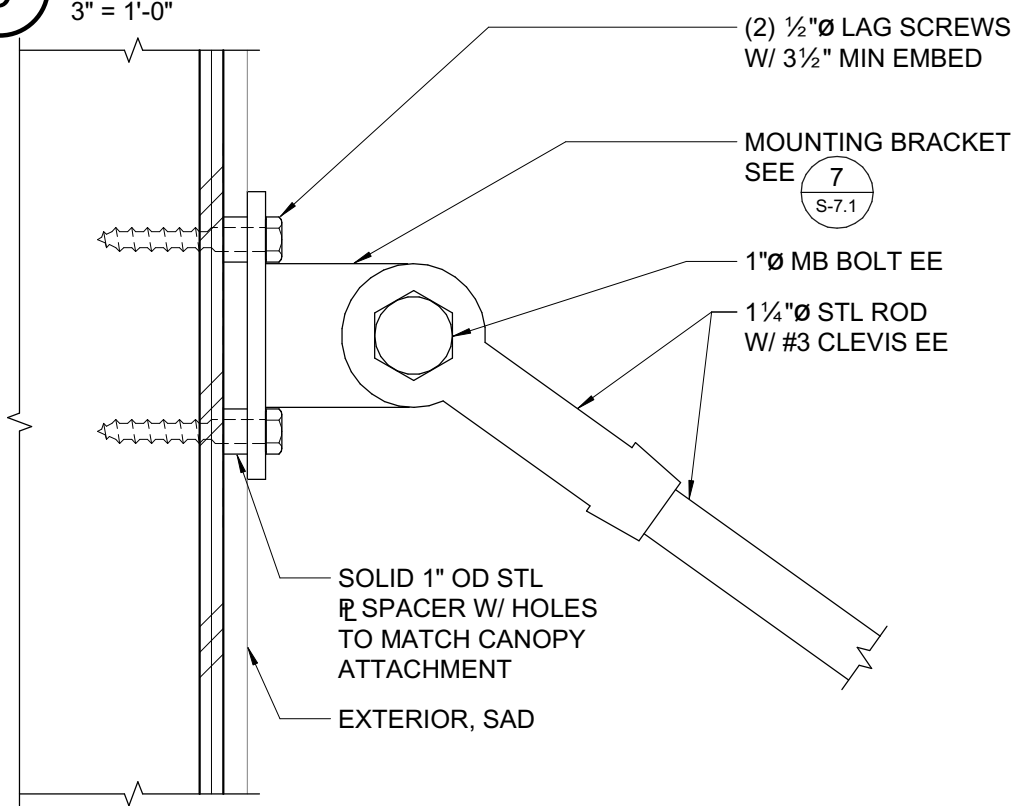
12 DECKING SCHEDULE
3/4" = 1'-0"

CONNECTION PATTERNS		PROPERTIES		
		F _y =36 KSI	GAGE 1 (in ⁴ /ft)	+S (in ³ /ft) -S (in ³ /ft)
TYPE "1" DECK VERCO PLB OR APPROVED EQUAL		20 GA	0.216	0.230 0.237

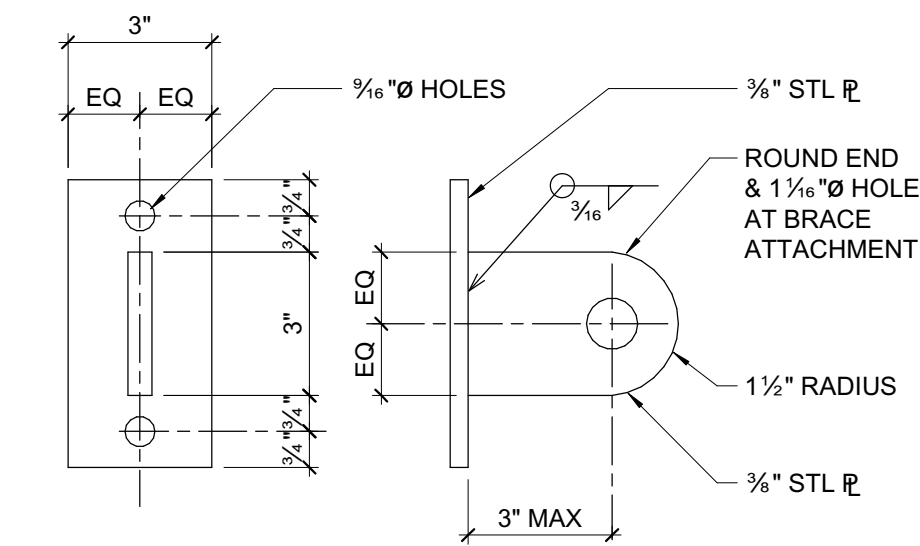
13 DECKING TYPE AND CONNECTION PATTERN
3/4" = 1'-0"



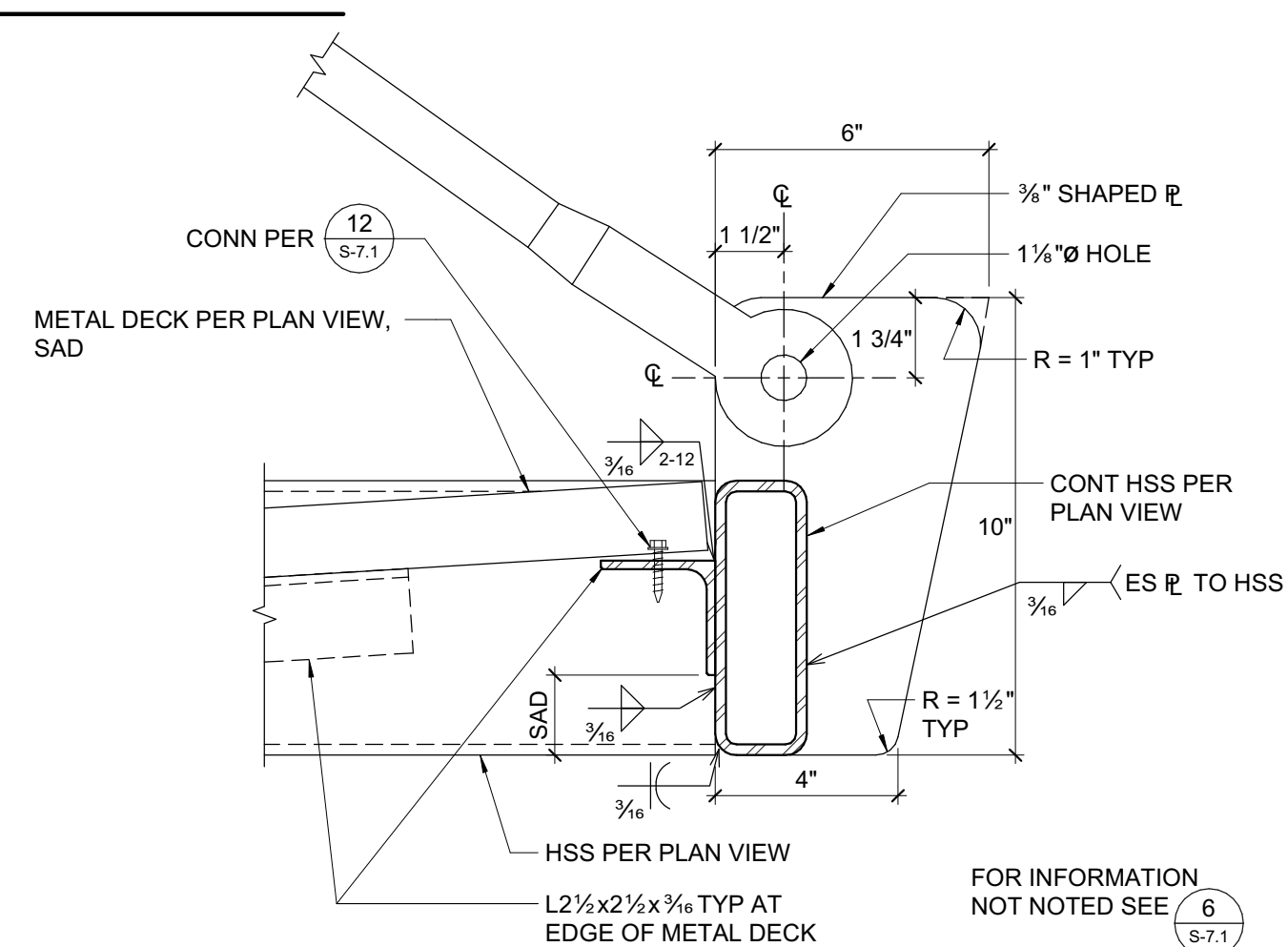
5 CANOPY ATTACHMENT
3" = 1'-0"



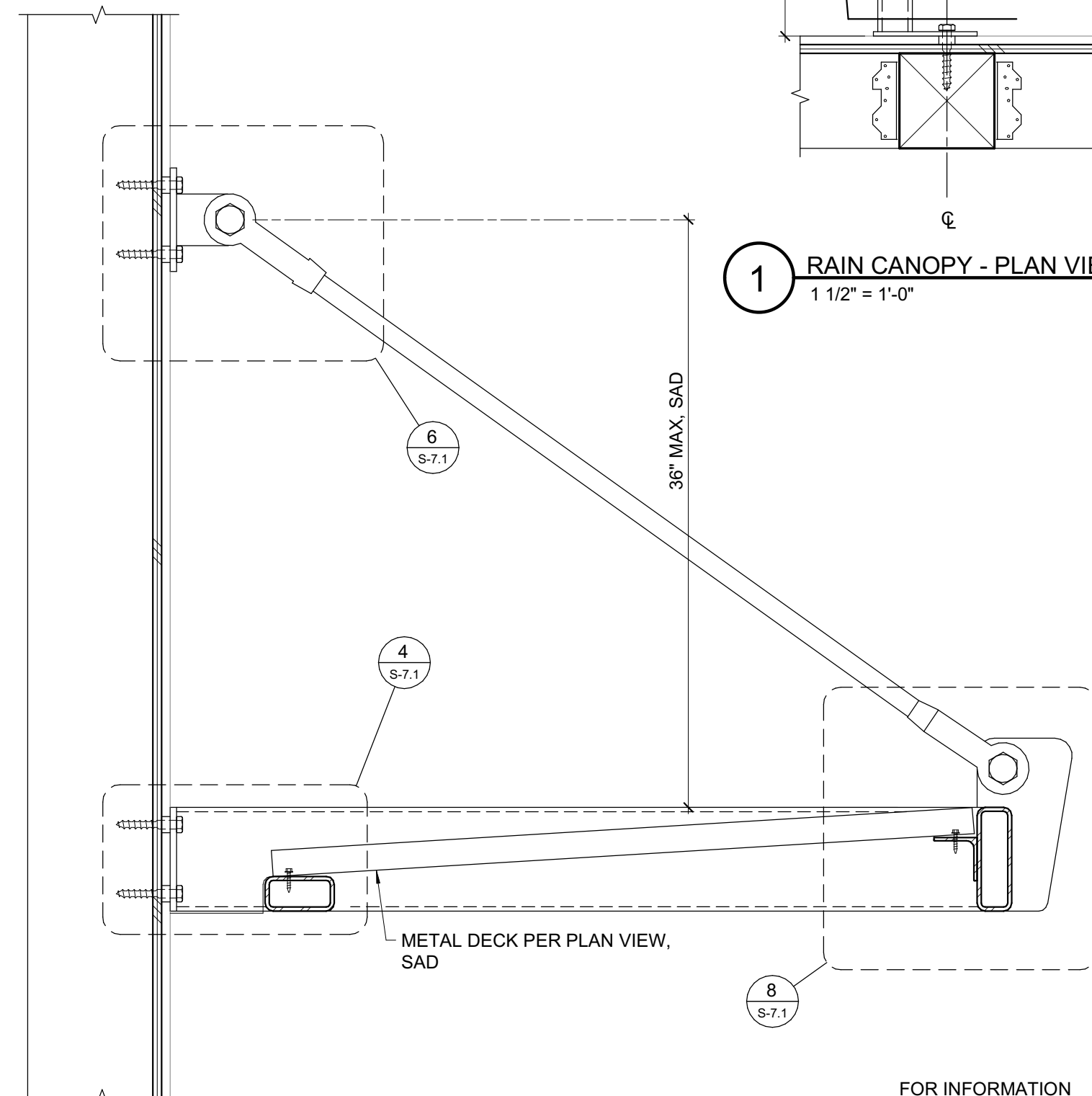
6 DIAGONAL BRACE MOUNTING BRACKET
3" = 1'-0"



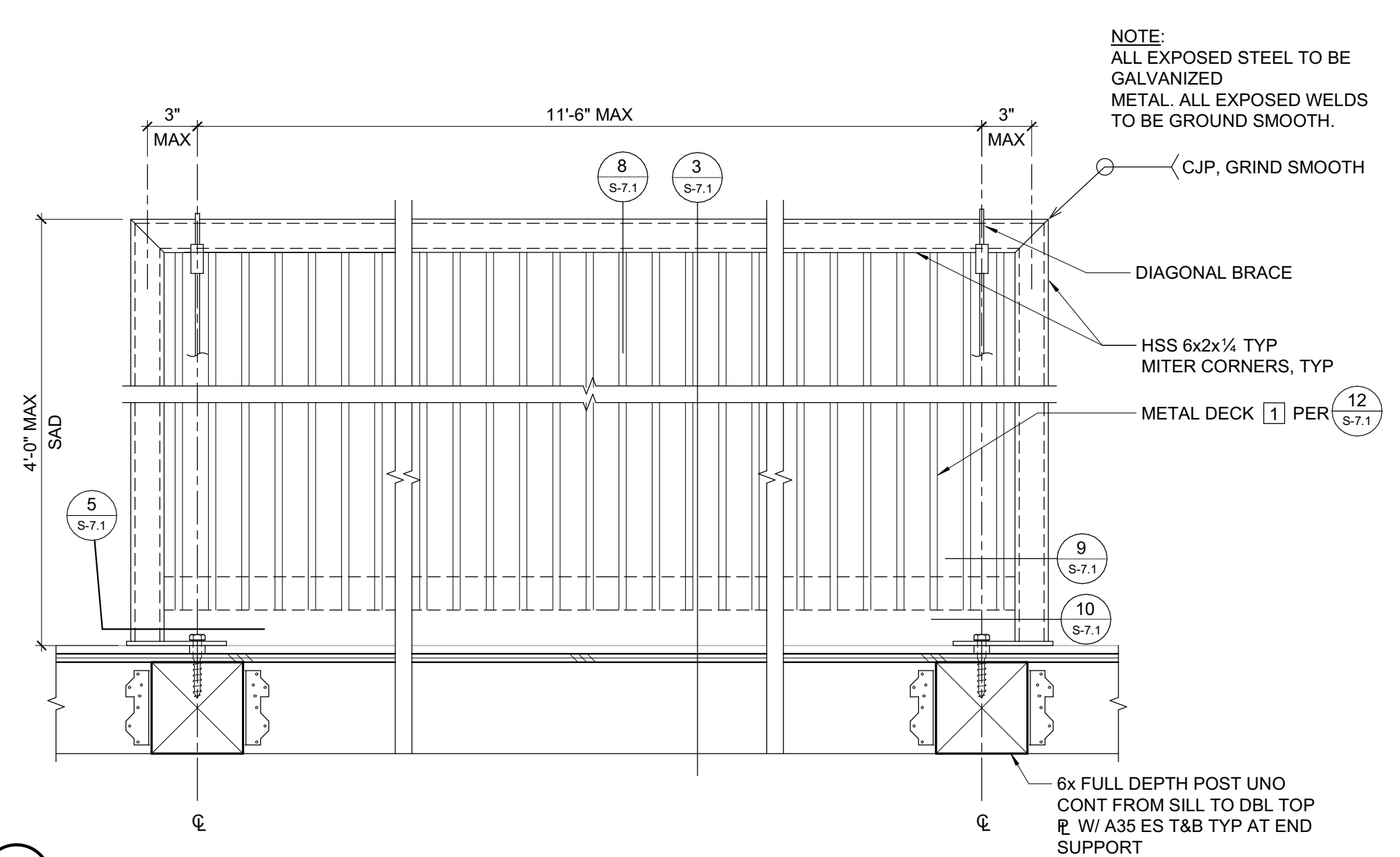
7 DIAGONAL BRACE MOUNTING
3" = 1'-0"



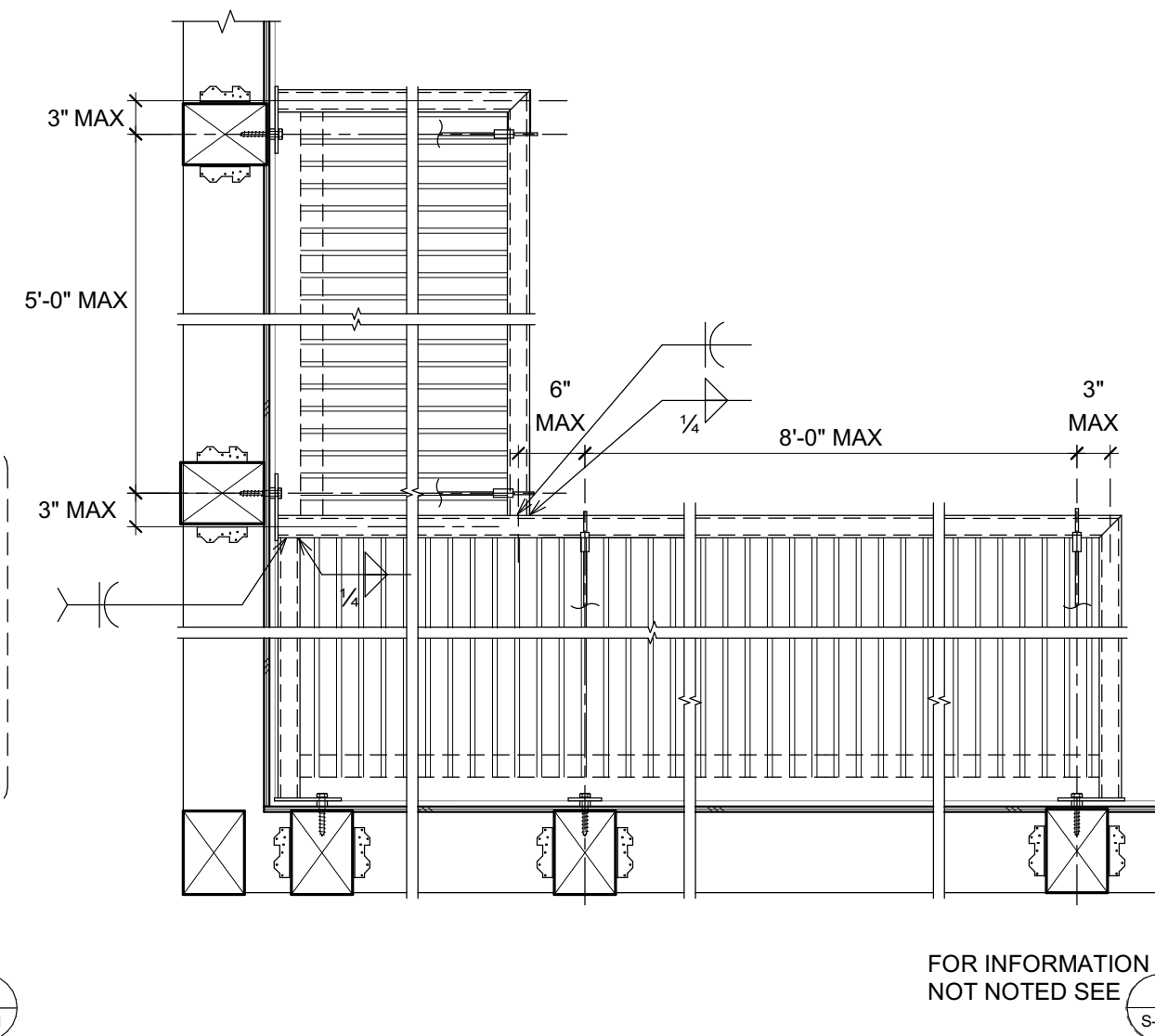
8 RAIN CANOPY HEAD
3" = 1'-0"



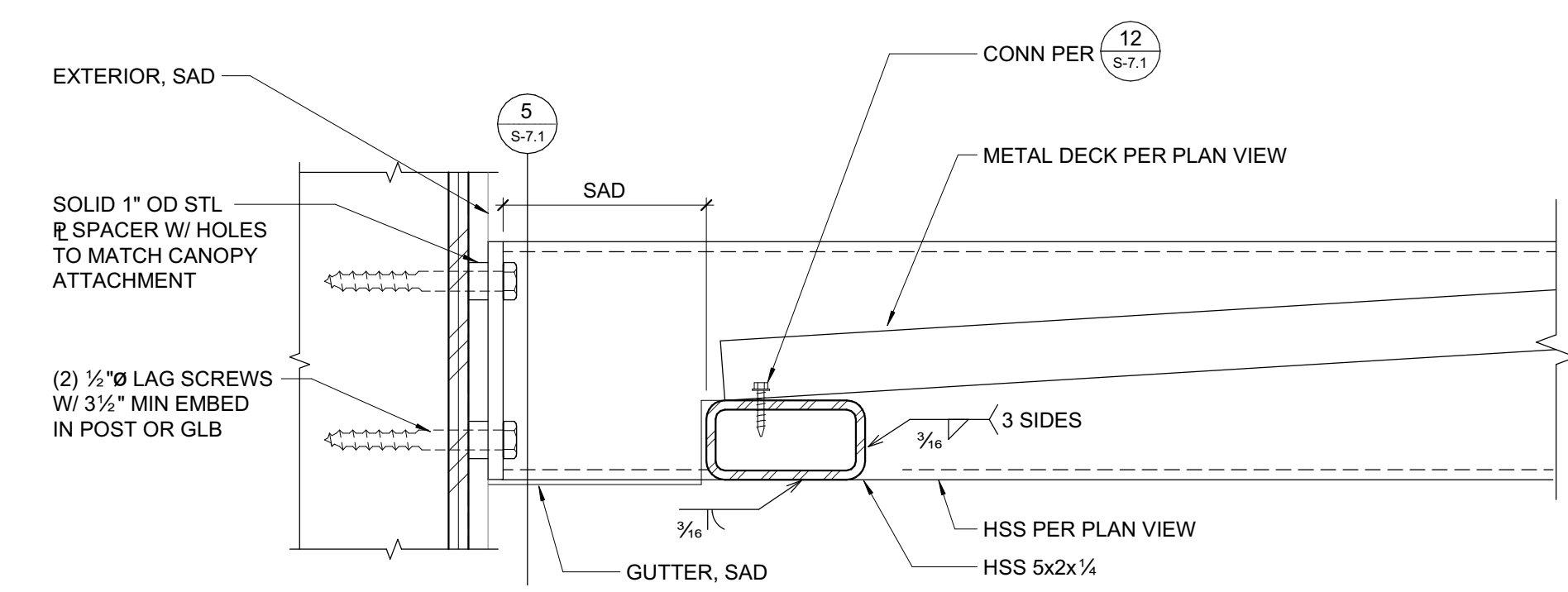
3 RAIN CANOPY - SECTION
1 1/2" = 1'-0"



1 RAIN CANOPY - PLAN VIEW
1 1/2" = 1'-0"



2 L-SHAPED RAIN CANOPY - PLAN VIEW
3/4" = 1'-0"



4 RAIN CANOPY LOWER CANOPY ATTACHMENT
3" = 1'-0"



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NEW CLASSROOM BUILDINGS INCREMENT 2 OF 2

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LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

NO.	DESCRIPTION	DATE

DSA APP NO. 01-119268

ARCH PROJECT NO. 1870.00
ENGR / PM: KPB / DM / SCH
DRAWING SCALE: As indicated
PTN: 61721-77 FILE NO: 7-H4

BID SET

MAY 10, 2021

SHEET TITLE

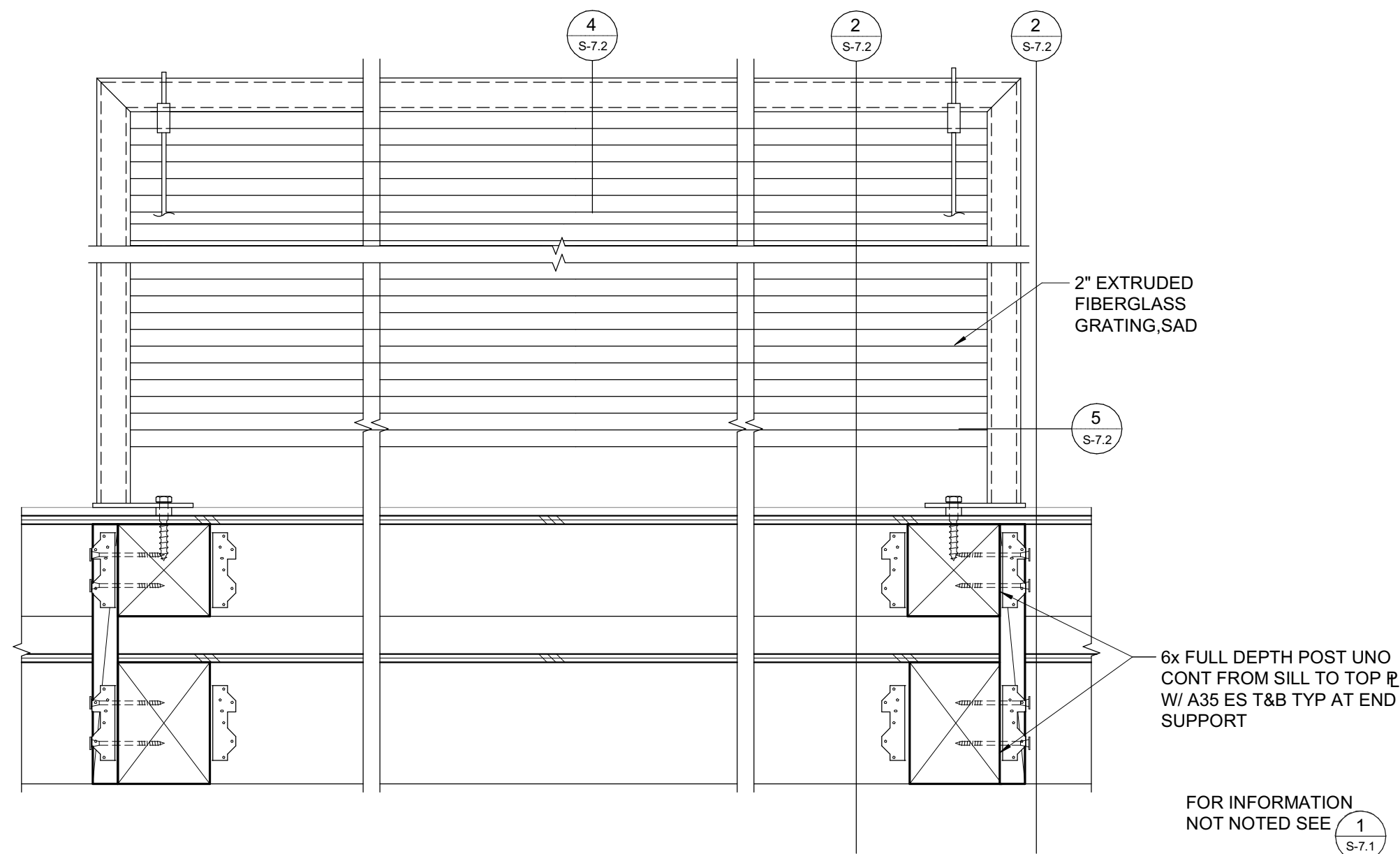
RAIN CANOPY DETAILS

SHEET NUMBER

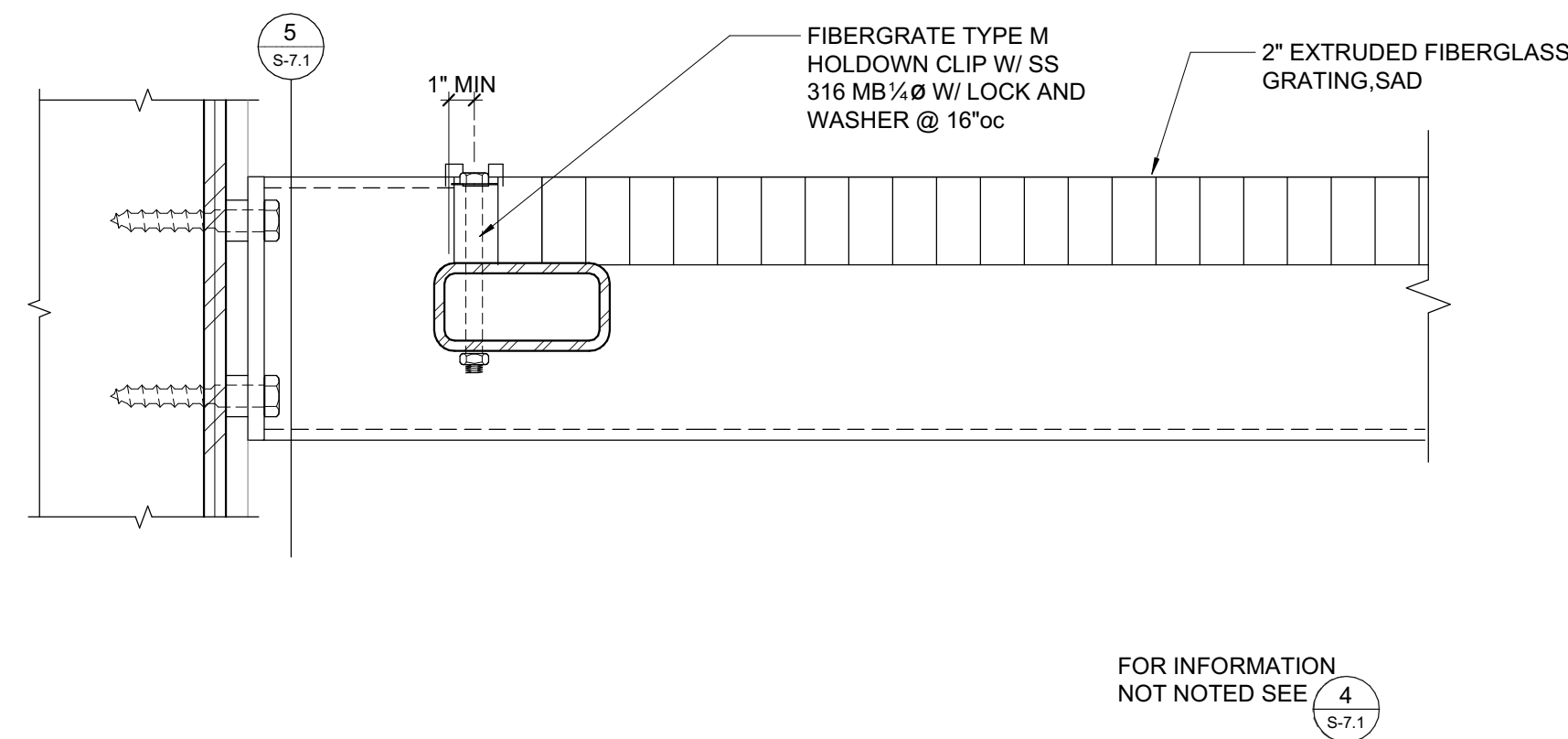
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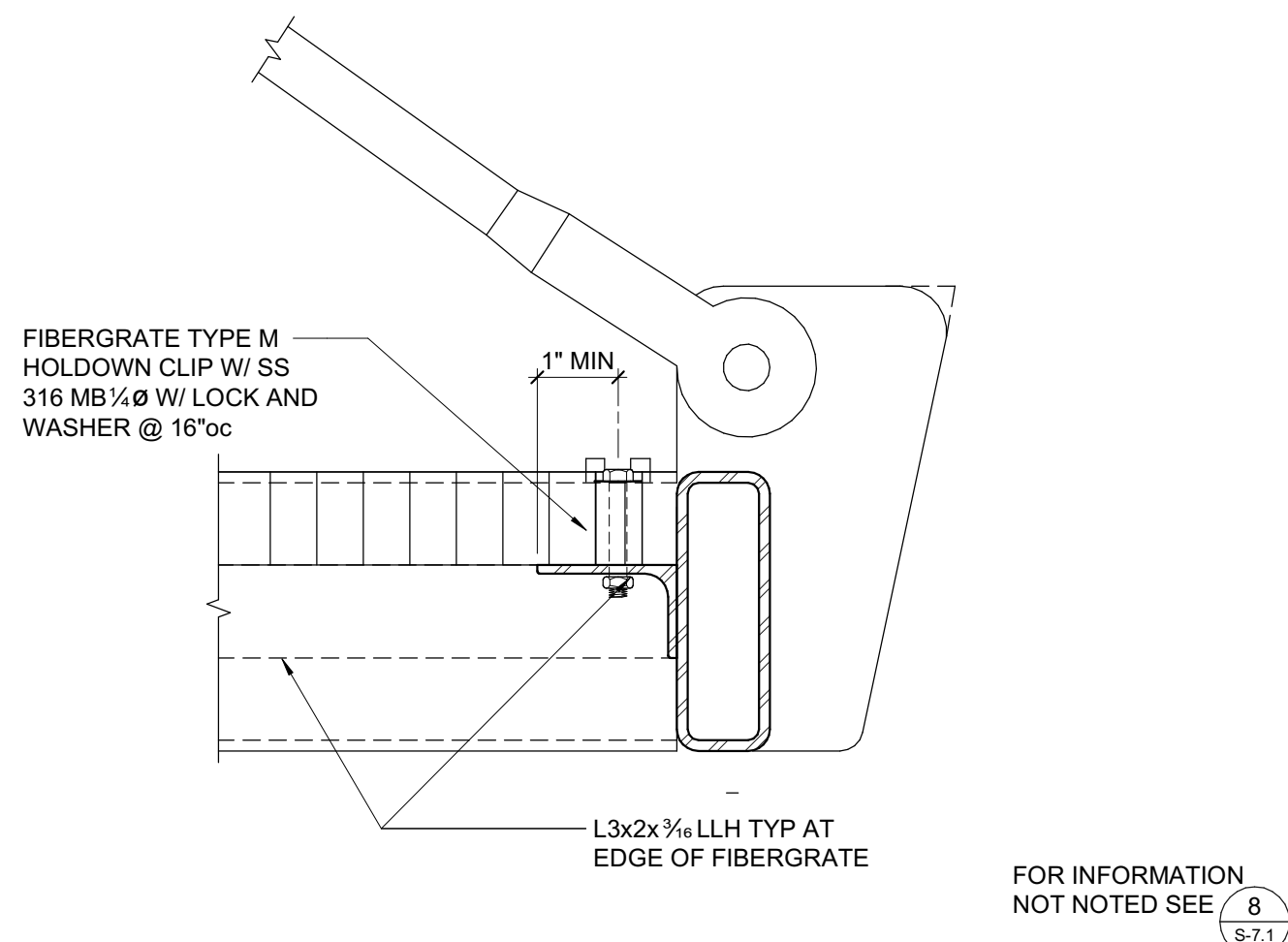
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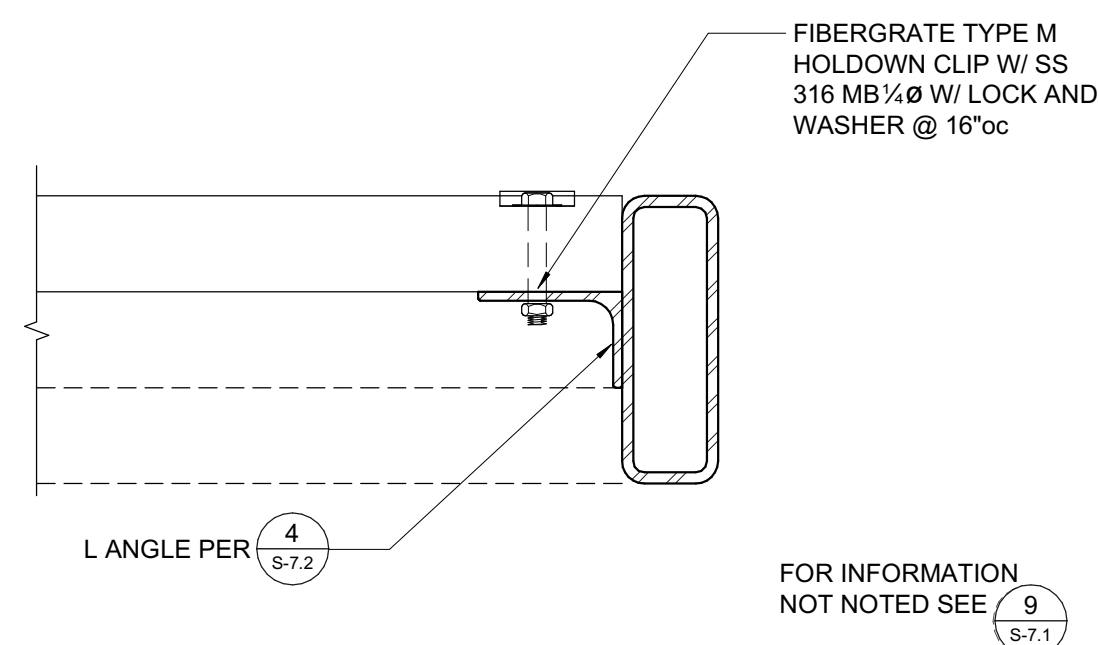
1 SHADE CANOPY - PLAN VIEW
1 1/2" = 1'-0"



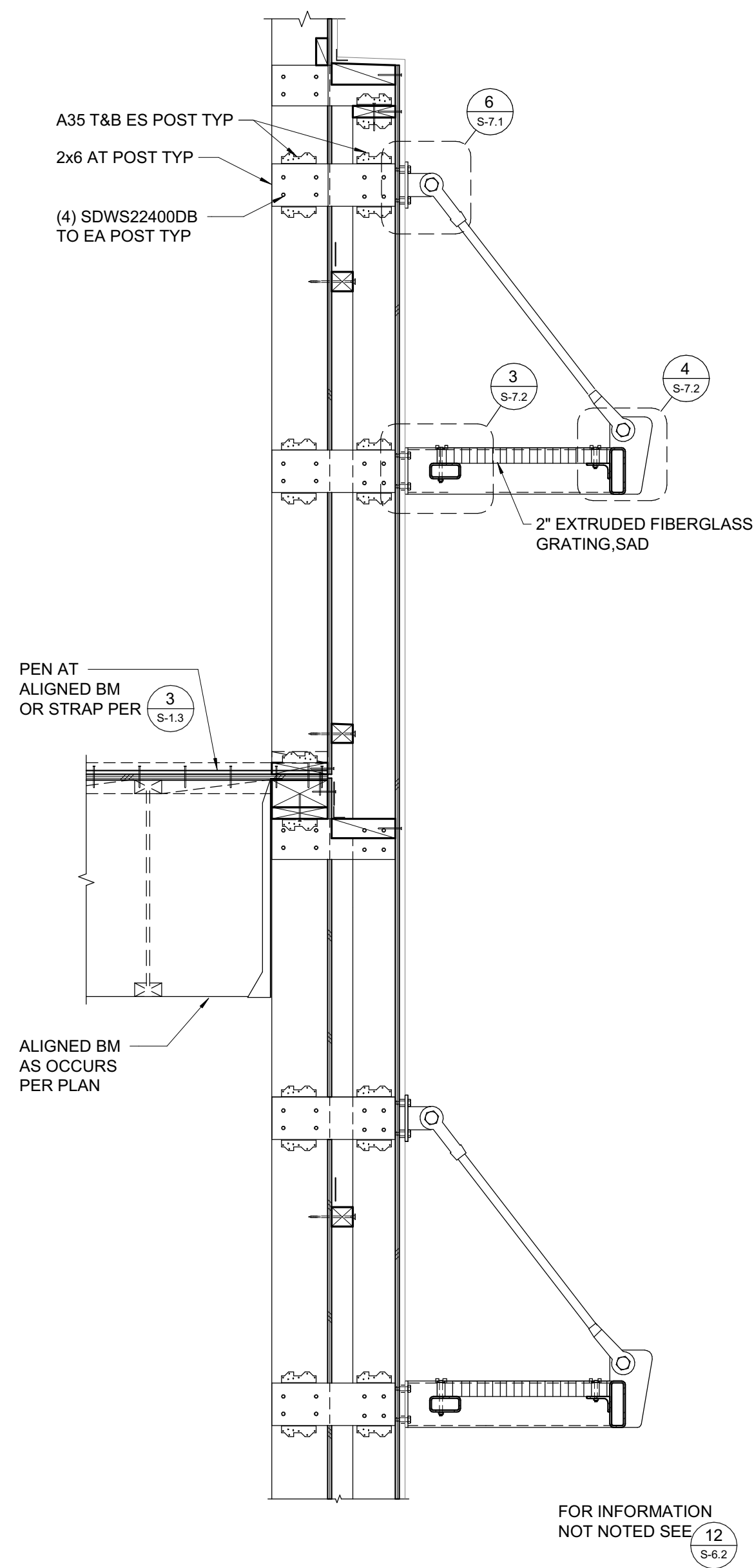
3 SHADE CANOPY LOWER CANOPY ATTACHMENT
3" = 1'-0"



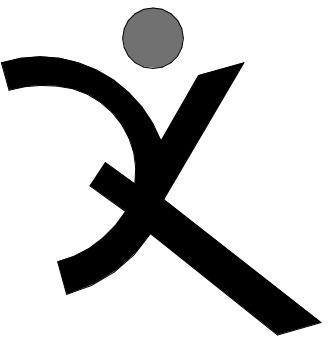
4 SHADE CANOPY HEAD
3" = 1'-0"



5 SHADE CANOPY RAKE
3" = 1'-0"



2 SHADE CANOPY - SECTION
3/4" = 1'-0"



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BUILDINGS
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LIBERTY UNION
HIGH SCHOOL
DISTRICT

REVISIONS

NO.	DESCRIPTION	DATE

DSA APP NO. 01-119268

ARCH PROJECT NO. 1870.00
ENGR / PM: KPB / DM / SCH
DRAWING SCALE: As indicated
PTN: 61721-77 FILE NO: 7-H4

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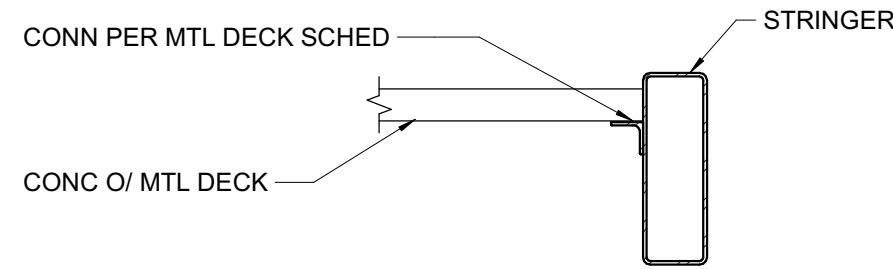
MAY 10, 2021

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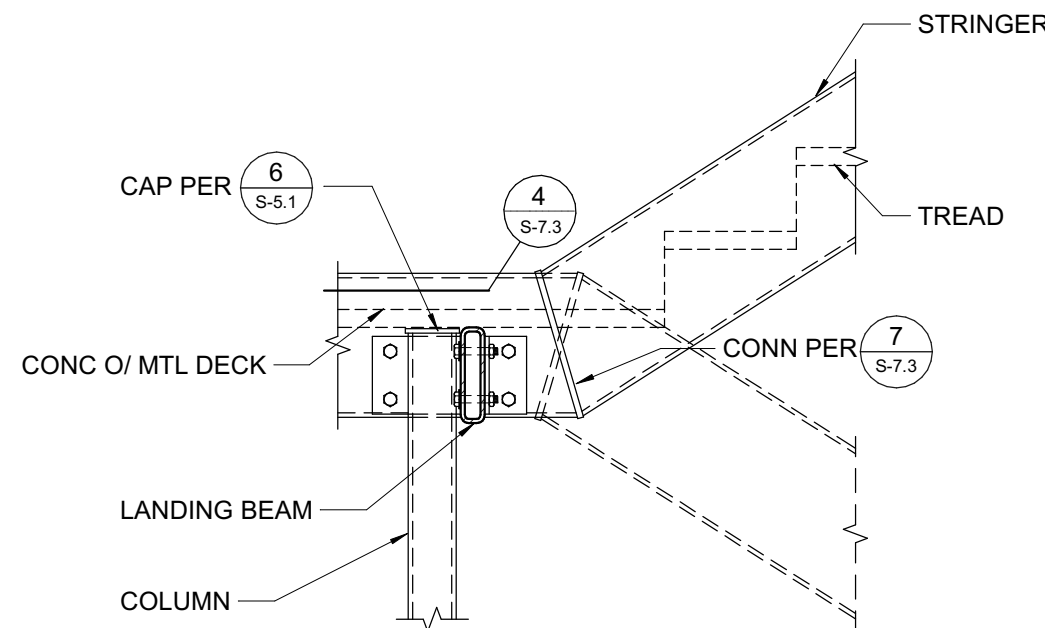
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DETAILS

SHEET NUMBER

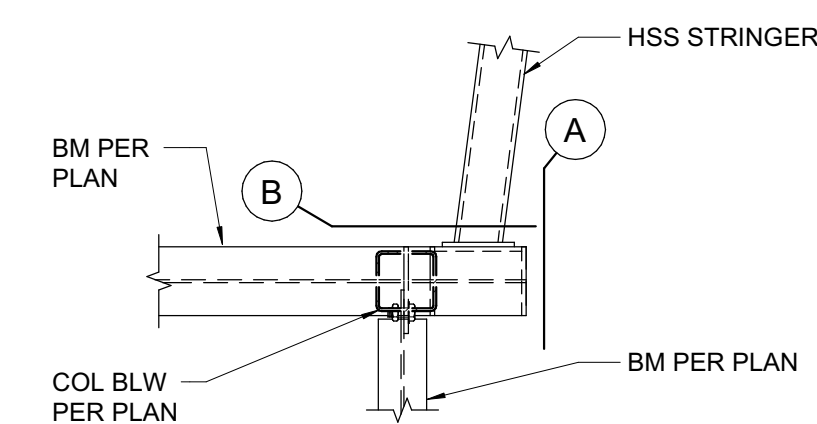
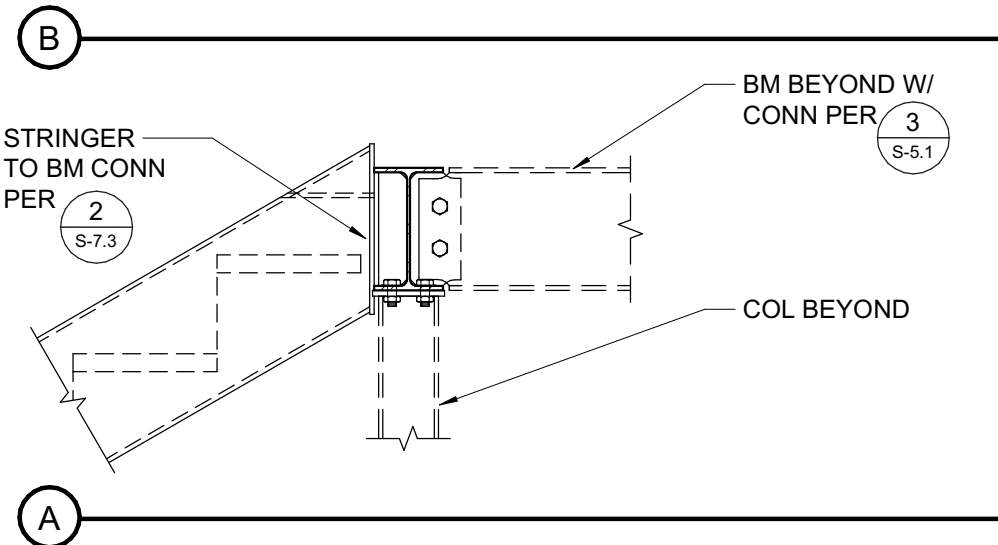
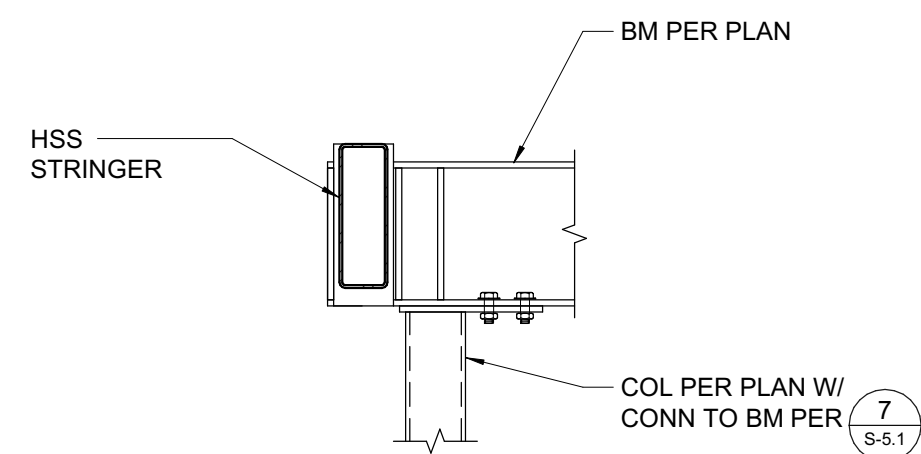
S-7.2



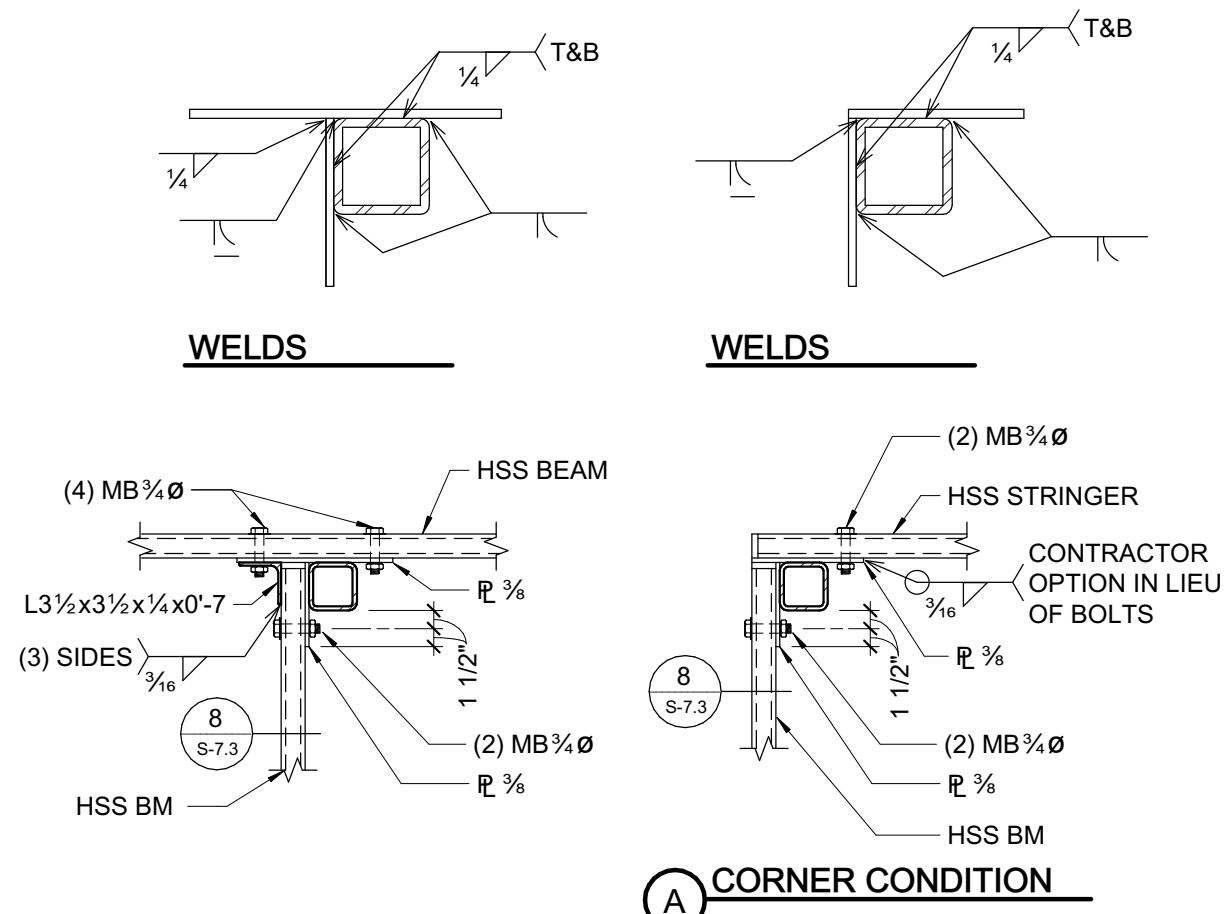
8 DECK AT LANDING TO BEAM CONNECTION
1" = 1'-0"



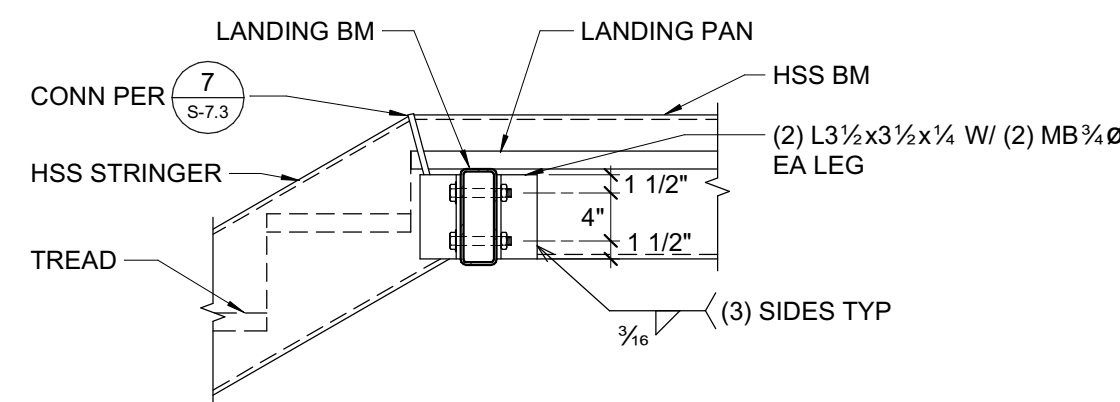
12 HSS COLUMN AT STRINGER
3/4" = 1'-0"



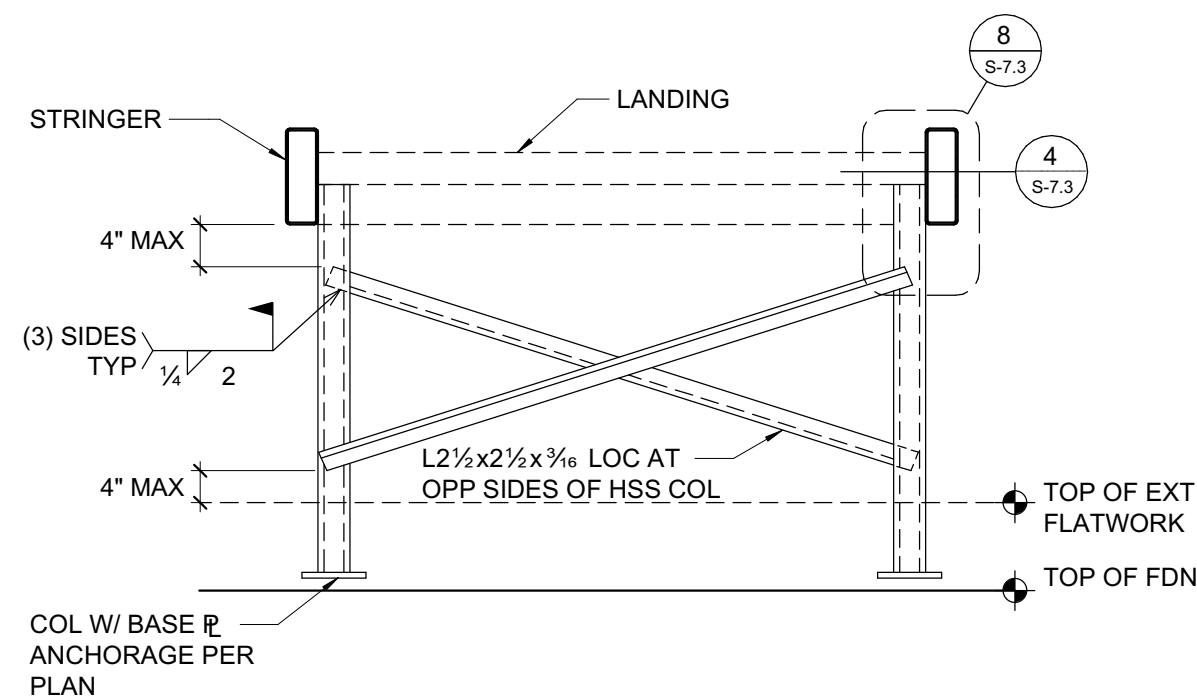
13 STRINGER CONNECTION TO W SHAPE
3/4" = 1'-0"



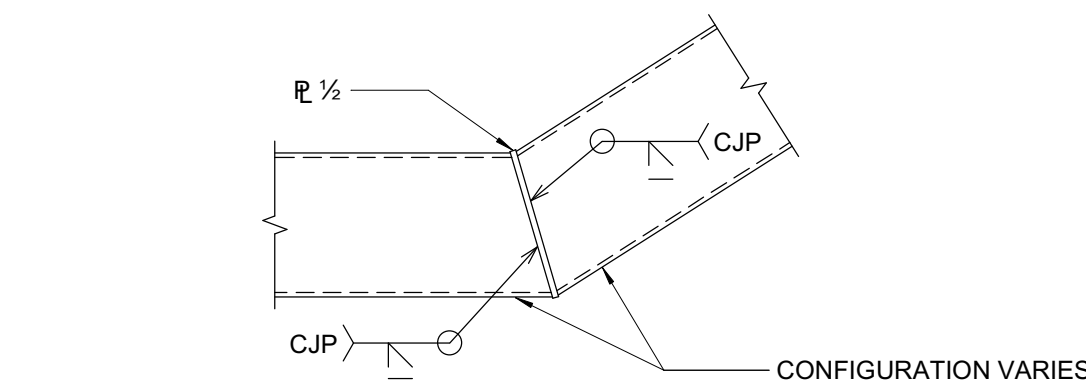
4 VERTICAL HSS BASE CONNECTION
3/4" = 1'-0"



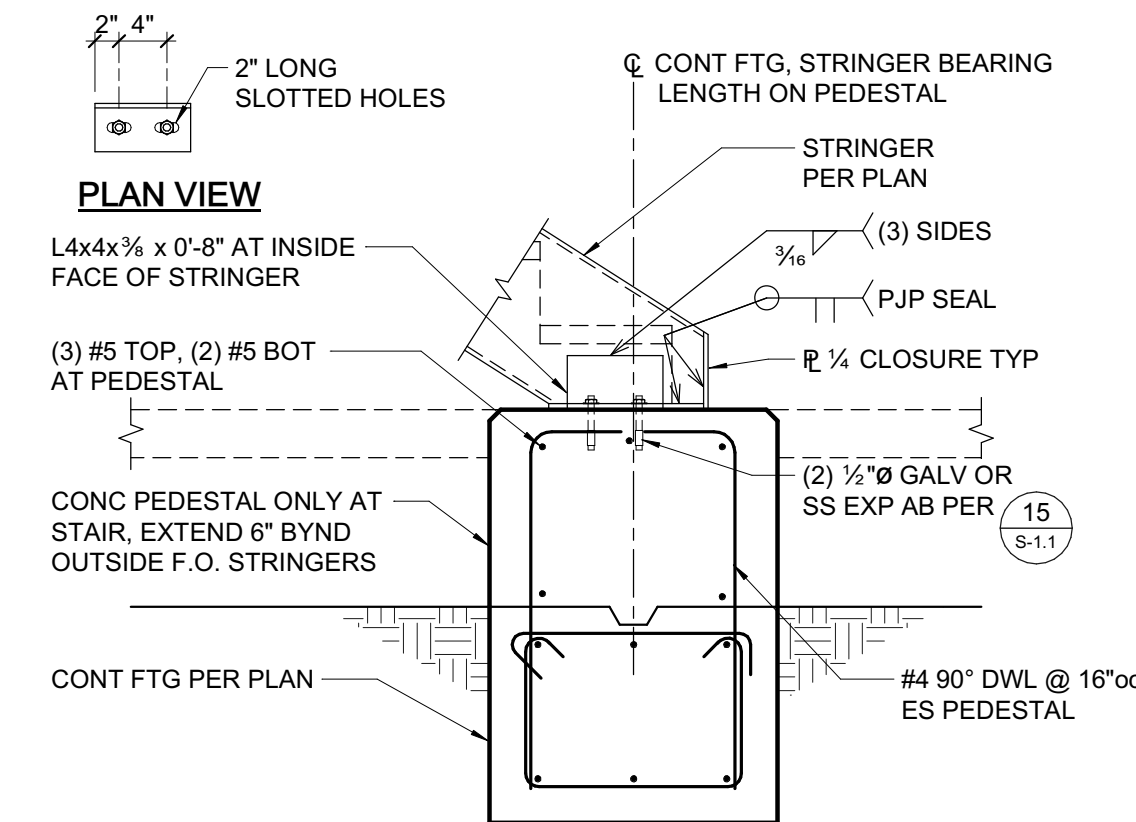
5 SHAPED STRINGER SUPPORTING LANDING BEAM
3/4" = 1'-0"



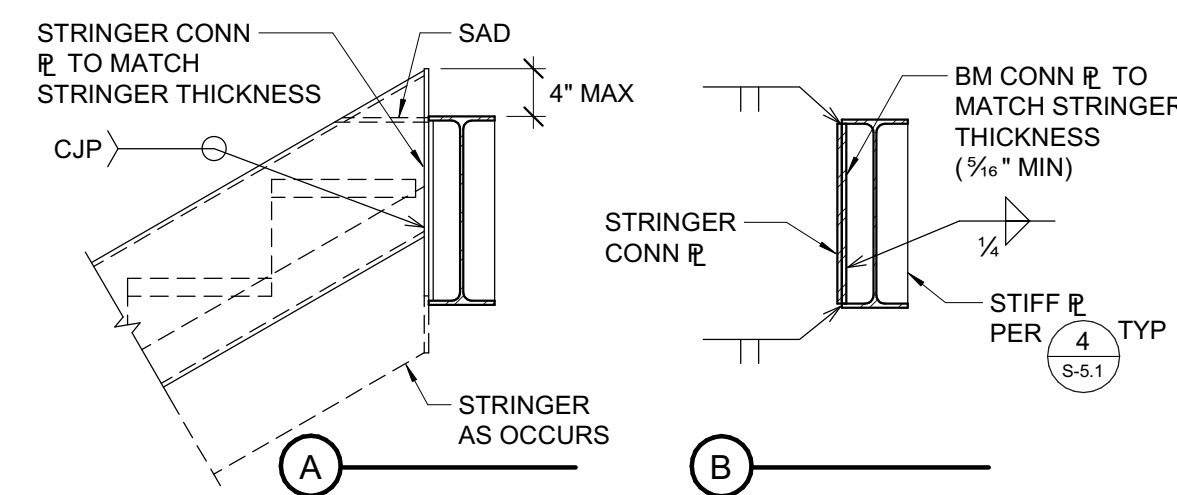
6 DIAGONAL CROSS BRACING
1/2" = 1'-0"



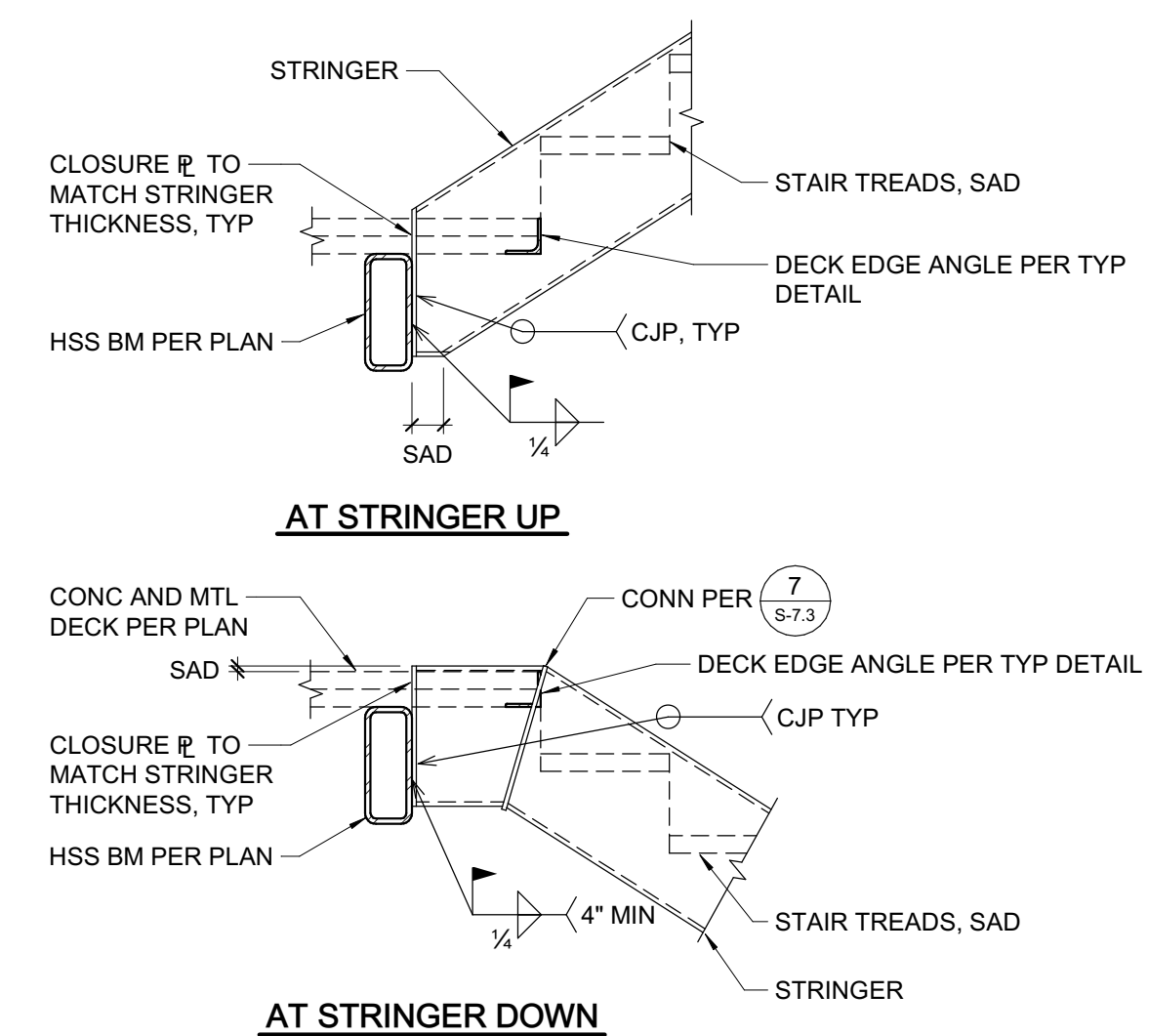
7 SHAPED STRINGER CONNECTION
3/4" = 1'-0"



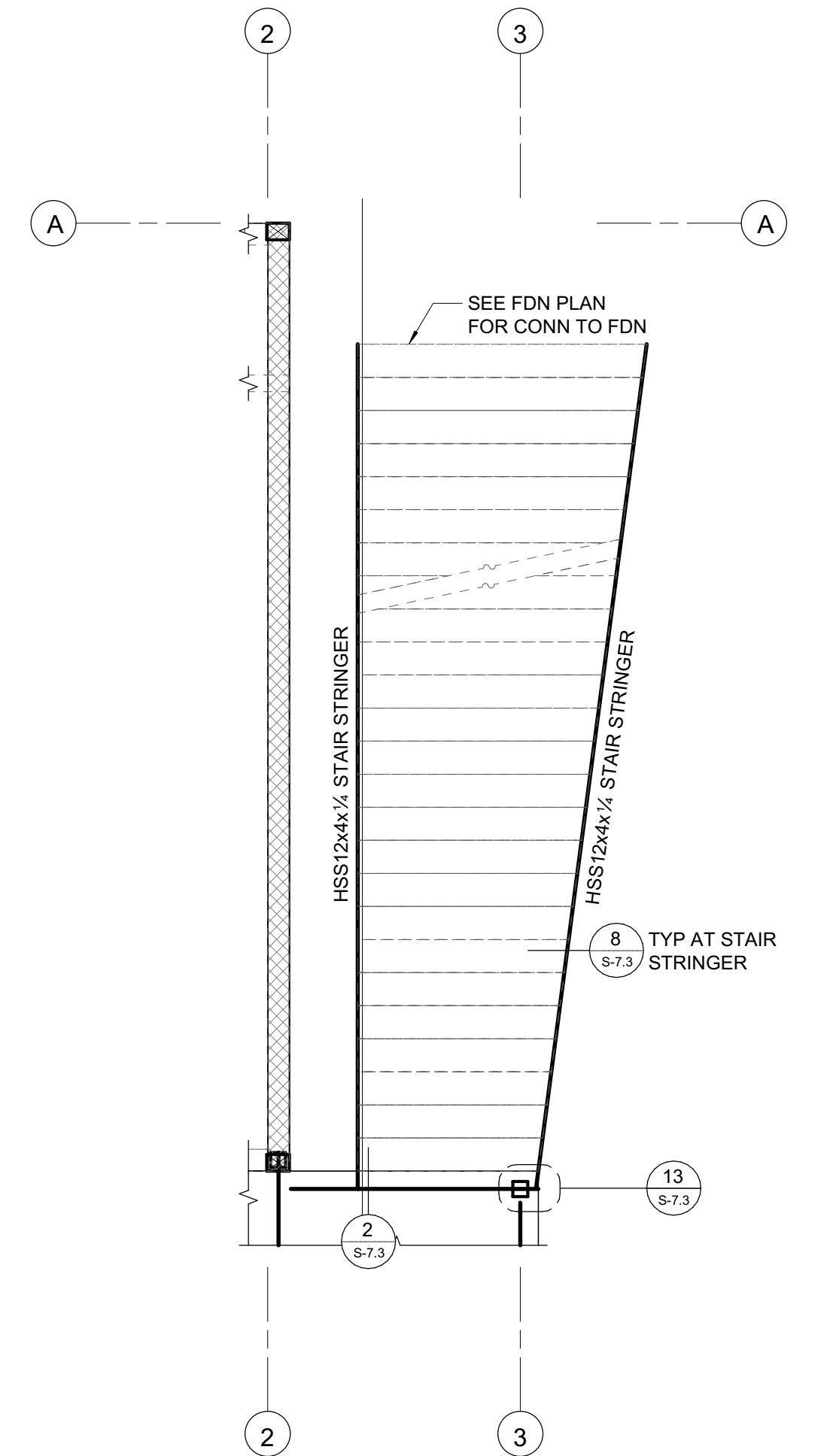
1 BOTTOM OF STRINGER TO FOUNDATION
3/4" = 1'-0"



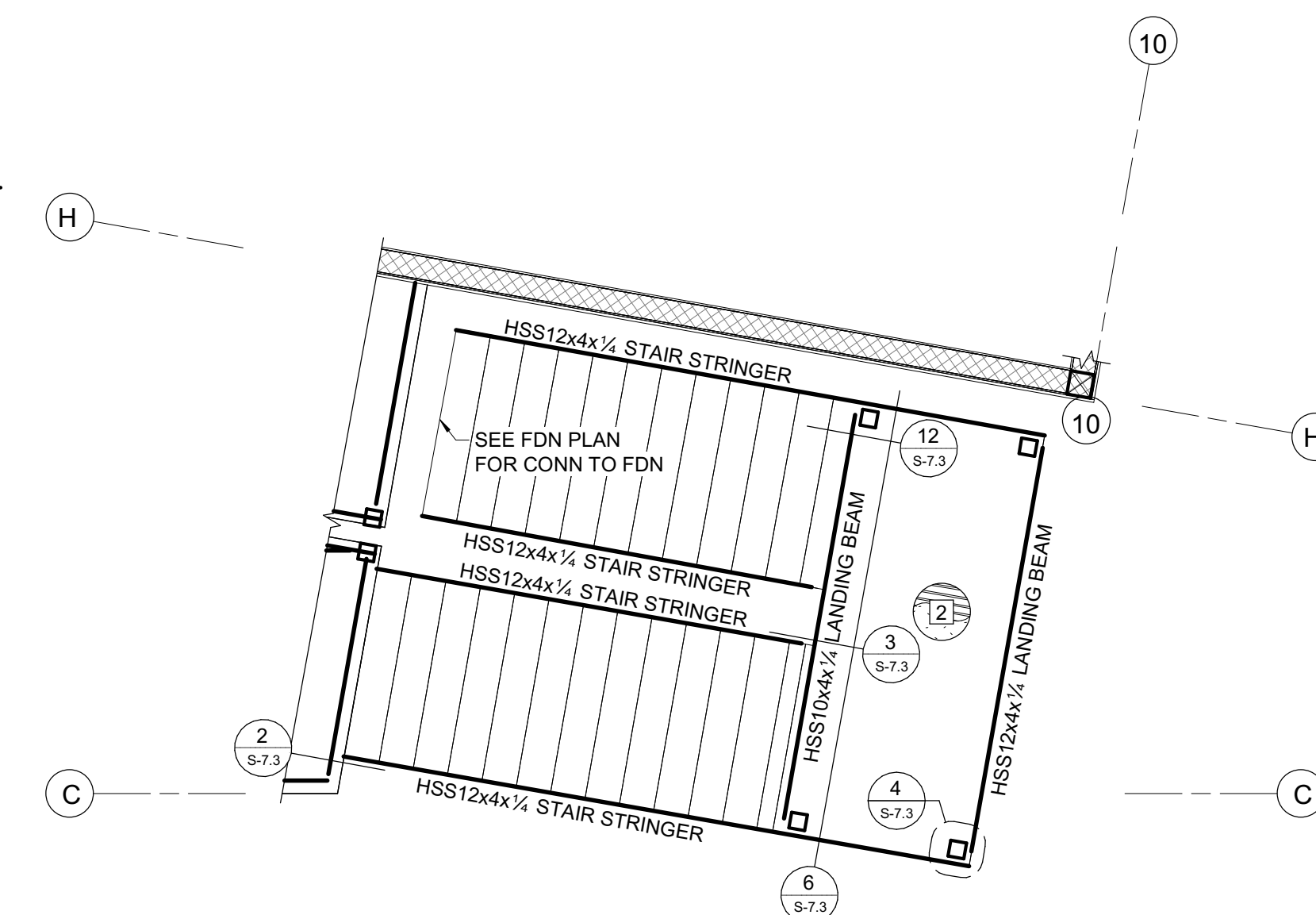
2 STRINGER CONNECTION TO W SHAPE
3/4" = 1'-0"



3 STRINGER TO HSS BEAM
3/4" = 1'-0"



A BLDG B - STAIR #1 PLAN
1/4" = 1'-0"



B BLDG B - STAIR #2
1/4" = 1'-0"



Quattrocchi Kwok Architects
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HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS INCREMENT 2 OF 2

101 AMERICAN AVE,
BRENTWOOD CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

NO.	DESCRIPTION	DATE

DSA APP NO. 01-119268

ARCH PROJECT NO. 1870.00
ENGR / PM: KPB / DM / SCH
DRAWING SCALE: As indicated
PTN: 61721-77 FILE NO: 7-H4

BID SET

MAY 10, 2021

SHEET TITLE

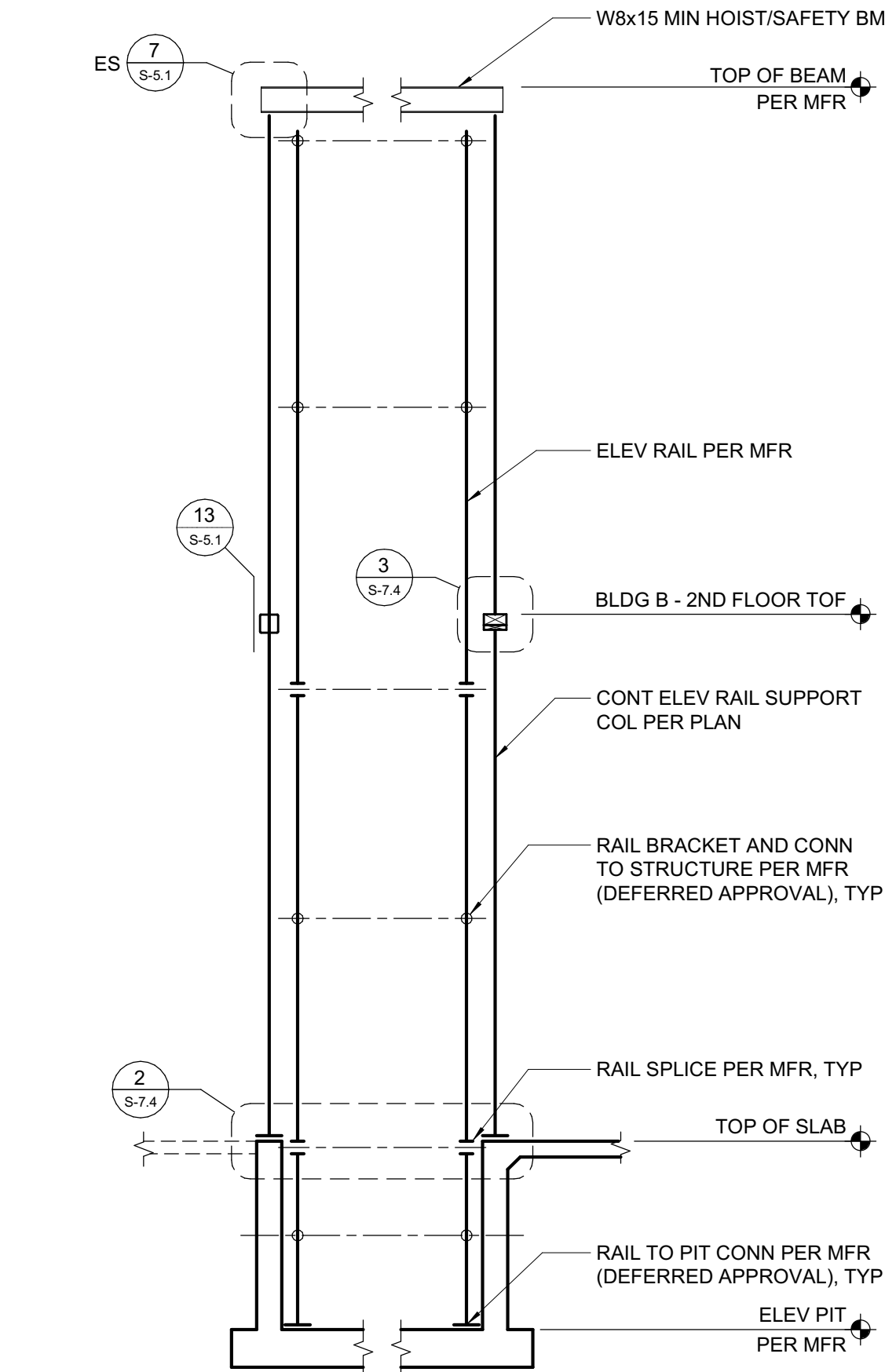
STEEL STAIR DETAILS

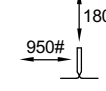

SHEET NUMBER

S-7.3

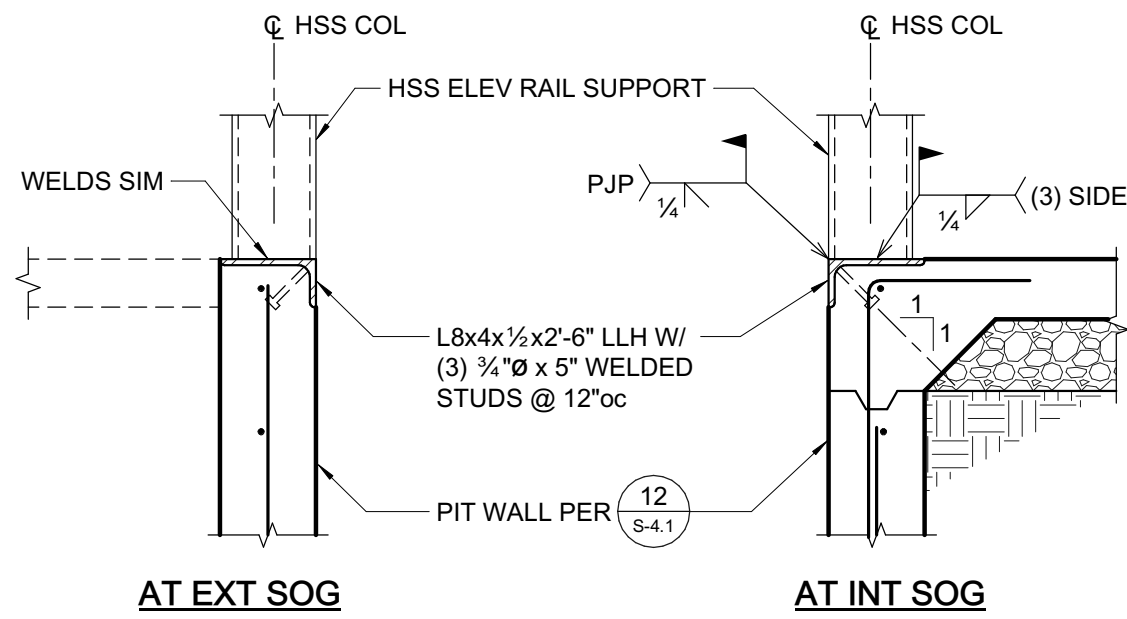
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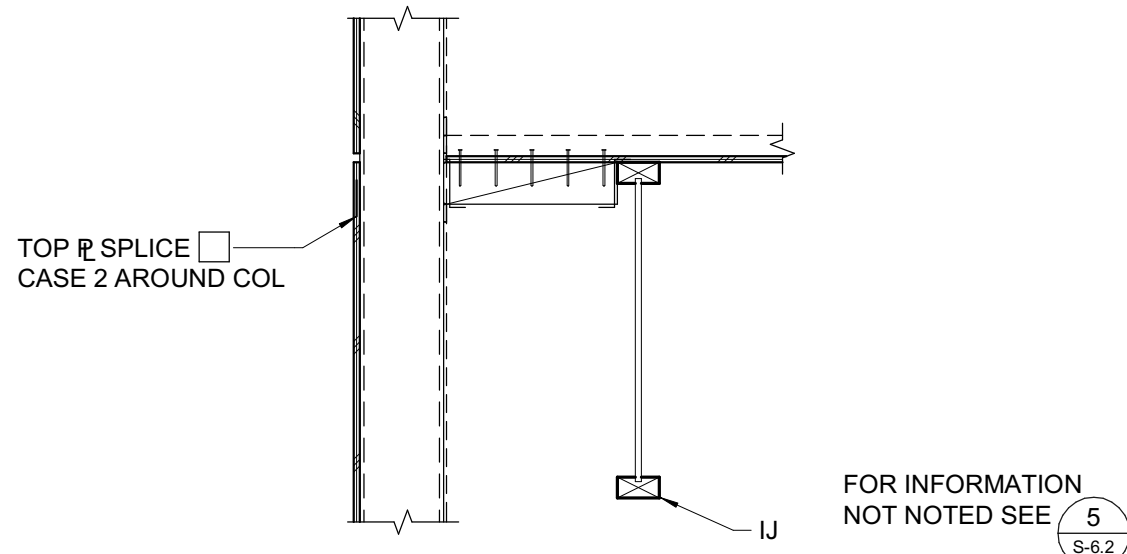


- ELEVATOR NOTES:**
- IF ELEV LOAD IS DIFFERENT THAN SHOWN, NOTIFY STRUCTURAL ENGINEER FOR MODIFICATION OF SUPPORT.
 - LATERAL RAIL LOADS:

 - ELEVATOR CAPACITY = 3500#
 - CAR WT = 3500# MAX
 - MAXIMUM BRACKET SPACING = 12'-0"
 - FOR SUBMITTAL ITEMS RELATED TO DETAILS ON THIS SHEET SEE 

1 ELEVATOR SECTION
1/4" = 1'-0"



2 ELEVATOR RAIL SUPPORT AT PIT
3/4" = 1'-0"



3 ELEVATOR RAIL SUPPORT AT FLOOR
3/4" = 1'-0"



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HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS
INCREMENT 2 OF 2

101 AMERICAN AVE,
BRENTWOOD CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS		

DSA APP NO.	01-119268
ARCH PROJECT NO.	1870.00
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DRAWING SCALE:	As indicated
PTN: 61721-77	FILE NO: 7-H4

BID SET
MAY 10, 2021

SHEET TITLE

ELEVATOR ELEVATION AND DETAILS

SHEET NUMBER

S-7.4

PACKAGED HEAT PUMP UNIT SCHEDULE																				
MARK	MFR	MODEL	SUPPLY FAN					COOLING CAPACITY			SEER	ELECTRICAL DATA			FILTERS	ECONOMIZER WEIGHT (LBS)	UNIT BASE WEIGHT (LBS)	CURB ISOLATOR WEIGHT (LBS)	TOTAL OPERATING WEIGHT (LBS)	REMARKS
			AIRFLOW (CFM)	MIN OSA (CFM)	MAX OSA (CFM)	ESP (in wg)	SUPPLY FAN RPM	TOTAL (MBH)	SENSIBLE (MBH)	TOTAL HEATING (MBH)		V-Ø-Hz	MCA	MOCP						
AC-A1	CARRIER	50GCM06	2000	250	600	0.75 in-wg	1984	62.3	49.1	55.90	16.20	460-3-60	26.0	30	(4) 16"x16"x2"	90	596 lb	365	1085	1 - 5
AC-A2	CARRIER	50GCM06	2000	250	600	0.75 in-wg	1984	62.3	49.1	55.90	16.20	460-3-60	26.0	30	(4) 16"x16"x2"	90	596 lb	365	1085	1 - 5
<div>REMARKS:</div> <div><div>1. UNIT CAPACITIES BASED ON ARI CONDITIONS, 80 DEG F EDB / 67 DEG F EWB, 95 DEG F AMBIENT</div><div>2. PROVIDE FACTORY INSTALLED ECONOMIZER WITH BAROMETRIC RELIEF, INCLUDING DAMPERS</div><div>3. CONTROLS CONTRACTOR SHALL PROVIDE ALL ECONOMIZER CONTROLS, INCLUDING BELIMO ACTUATORS</div><div>4. PROVIDE WITH EMS SYSTEM INTERFACE MODULE; INTERLOCK WITH EMS</div><div>5. SEE DETAIL A/M-3.1 FOR MOUNTING DETAIL</div></div>																				

VRV SYSTEM INDOOR UNIT SCHEDULE															
MARK	MFR	MODEL	AIRFLOW	OUTSIDE AIR (MIN)	RATED COOLING CAPACITY (MBH)	SENSIBLE COOLING CAPACITY (MBH)	RATED HEATING CAPACITY (MBH)	ELECTRICAL DATA			FILTER	UNIT WEIGHT	OPERATING WEIGHT	SERVICE	REMARKS
								V-Ø-HZ	MCA (AMPS)	MOCp (AMPS)					
FC-B1	DAIKIN	FXTQ42TAVJUD	1400 CFM	350 CFM	42.0	30.6	46.0	208/1/60	6.5	15	2" PLEATED MERV13	150 lb	223		1 - 3
FC-B2	DAIKIN	FXTQ42TAVJUD	1400 CFM	350 CFM	42.0	30.6	46.0	208/1/60	6.5	15	2" PLEATED MERV13	150 lb	223		1 - 3
FC-B3	DAIKIN	FXTQ42TAVJUD	1400 CFM	350 CFM	42.0	30.6	46.0	208/1/60	6.5	15	2" PLEATED MERV13	150 lb	223		1 - 3
FC-B4	DAIKIN	FXTQ42TAVJUD	1400 CFM	350 CFM	42.0	30.6	46.0	208/1/60	6.5	15	2" PLEATED MERV13	150 lb	223		1 - 3
FC-B5	DAIKIN	FXTQ42TAVJUD	1400 CFM	350 CFM	42.0	30.6	46.0	208/1/60	6.5	15	2" PLEATED MERV13	150 lb	223		1 - 3
FC-B6	DAIKIN	FXTQ42TAVJUD	1400 CFM	350 CFM	42.0	30.6	46.0	208/1/60	6.5	15	2" PLEATED MERV13	150 lb	223		1 - 3
FC-B7	DAIKIN	FXTQ42TAVJUD	1400 CFM	350 CFM	42.0	30.6	46.0	208/1/60	6.5	15	2" PLEATED MERV13	150 lb	223		1 - 3
FC-B8	DAIKIN	FXTQ42TAVJUD	1400 CFM	350 CFM	42.0	30.6	46.0	208/1/60	6.5	15	2" PLEATED MERV13	150 lb	223		1 - 3
FC-B9	DAIKIN	FXTQ42TAVJUD	1400 CFM	350 CFM	42.0	30.6	46.0	208/1/60	6.5	15	2" PLEATED MERV13	150 lb	223		1 - 3
FC-B10	DAIKIN	FXTQ42TAVJUD	1400 CFM	350 CFM	42.0	30.6	46.0	208/1/60	6.5	15	2" PLEATED MERV13	150 lb	223		1 - 3
REMARKS: 1. PROVIDE WITH NECESSARY REFRIGERATION PIPING & APPURTENANCES; R410A REFRIGERANT 2. PROVIDE WITH CONTROLS MANAGER & ADAPTOR FOR CONTROL INTERFACE INTO PELICAN EMS SYSTEM 3. SEE B/M-3.1 FOR MOUNTING DETAIL															

BRANCH SELECTOR BOX SCHEDULE							
MARK	MFR	MODEL NUMBER	ELECTRICAL DATA			WEIGHT	REMARKS
			V-Ø-HZ	MCA (AMPS)	MOPP (AMPS)		
BS-B1	DAIKIN	BS8Q54TVJ	208-230/1/60	0.8	15.0	73 lb	1, 2
BS-B2	DAIKIN	BS6Q54TVJ	208-230/1/60	0.6	15.0	68 lb	1, 2
REMARKS: 1. PROVIDE BRANCH SELECTOR BOX WITH FACTORY PELICAN WIRELESS THERMOSTAT TERMINAL BLOCK 2. SEE F/M-3.1 FOR MOUNTING DETAIL							

VRV HEAT RECOVERY UNIT OUTDOOR SCHEDULE											
MARK	MFR	MODEL NO.	RATED CAPACITIES (MBH)		EER	ELECTRICAL DATA			WEIGHT	SERVICE	REMARKS
			HEATING	COOLING		V-Ø-HZ	MCA	MOCp			
VRV-B1	DAIKIN	REYQ456XYDA *	414.0	430.0	9.5	460-3-60	27.9+27.9+31.1	40+40+40	2379	BS-1 & BS-2	1, 2
REMARKS: 1. UNIT SHALL BE AIR-COOLED WITH HEAT RECOVERY 2. SEE G/M-3.1 FOR MOUNTING DETAIL											
* UNIT COMBINATION = REYQ144XYDA + REYQ144XYDA + REYQ168XYDA											

SUPPLY FAN SCHEDULE								
MARK	MFR	MODEL NO	AIRFLOW	V-Ø-HZ	POWER CONSUMPTION (WATTS)	MAX CURRENT (AMPS)	WEIGHT	REMARKS
SF-A1	PANASONIC	FV-15NLF51	50 CFM	120-1-60	10 W	0.5 A	17 lb	1
REMARKS: 1. SEE F/M-3.1 FOR SIMILAR MOUNTING DETAIL								

SPLIT SYSTEM INDOOR UNIT SCHEDULE									
MARK	MFR	MODEL NO.	AIRFLOW	ELECTRICAL DATA			FILTER	WEIGHT	REMARKS
				V-Ø-HZ	MCA (AMPS)	MOCp (AMPS)			
SFC-A1	DAIKIN	FFQ09Q2VJU	378 CFM	208-1-60	-----SEE OUTDOOR UNIT-----	WASHABLE	36 lb	1, 3	
SFC-B1	DAIKIN	FTX15NMVJU	593 CFM	208-1-60	-----SEE OUTDOOR UNIT-----	WASHABLE	27 lb	2, 3	
SFC-B2	DAIKIN	FTX15NMVJU	593 CFM	208-1-60	-----SEE OUTDOOR UNIT-----	WASHABLE	27 lb	2, 3	
REMARKS: 1. CEILING-MOUNTED WITH SUPPLY FAN SF-A1; SEE DETAIL D/M-3.1 FOR MOUNTING DETAIL 2. WALL-MOUNTED, AS HIGH AS POSSIBLE; SEE C/M-3.1 FOR MOUNTING DETAIL 3. PROVIDE WITH ALL NECESSARY REFRIGERATION PIPING & APPURTENANCES; R410A REFRIGERANT									

SPLIT SYSTEM OUTDOOR UNIT SCHEDULE											
MARK	MFR	MODEL NO.	UNIT CAPACITIES (Btu/hr)			EER	ELECTRICAL DATA			WEIGHT	REMARKS
			SENS COOLING	COOLING	HEATING		V-Ø-HZ	MCA (AMPS)	MOCP (AMPS)		
SHP-A1	DAIKIN	RX09RMVJU	9100	11100	10000	13	208-1-60	9	15	60	1, 2
SHP-B1	DAIKIN	RXL15QMJVJA	12470	18400	24600	13	208-1-60	13	15	108	1, 2
SHP-B2	DAIKIN	RXL15QMJVJA	12470	18400	24600	13	208-1-60	13	15	108	1, 2

REMARKS: 1. PROVIDE WITH ALL NECESSARY REFRIGERATION PIPING & APPURTENANCES; R410A REFRIGERANT
2. SEE G/M-3.1 FOR MOUNTING DETAIL

EXHAUST FAN SCHEDULE											
MARK	MFR	MODEL NO	AIRFLOW	SPEED (RPM)	NOISE (SONES)	V-Ø-Hz	POWER (WATTS)	MAX CURRENT (AMPS)	WEIGHT	SERVICE	REMARKS
EF-A1	PANASONIC	FV-0511VKS2	100 CFM	1164	0.7	120-160	13 W	0.2	11.90 lb	STAFF A104	1 - 4
EF-A2	PANASONIC	FV-0511VKS2	75 CFM	1113	0.5	120-160	10 W	0.2	11.90 lb	CUST A103	1 - 4
EF-A3	PANASONIC	FV-0511VKS2	75 CFM	1113	0.5	120-160	10 W	0.2	11.90 lb	ICE A102A	1 - 4
EF-B1	PANASONIC	FV-0511VKS2	100 CFM	1164	0.7	120-160	13 W	0.2	11.90 lb	STUDENT B105	1 - 4
EF-B2	PANASONIC	FV-0511VKS2	100 CFM	1164	0.7	120-160	13 W	0.2	11.90 lb	STUDENT B205	1 - 4
REMARKS: 1. COMPLETE WITH BUILT-IN MULTI SPEED SELECTOR & BACKDRAFT DAMPER 2. PROVIDE WITH ROOF CAP OR WALL CAP 3. COMPLETE WITH FLEX-Z FAST MOUNTING BRACKET & CEILING GRILLE 4. SEE E/M-3-1 FOR MOUNTING DETAIL											

MECHANICAL LEGEND		
SYMBOL	ABBREVIATION	DESCRIPTION
		EQUIPMENT TYPE
		EQUIPMENT NUMBER
		DETAIL / DRAWING NUMBER
		SHEET NUMBER
	SA OR OA	SECTION THRU SUPPLY AIR OR OUTSIDE AIR DUCT
	RA	SECTION THRU RETURN AIR DUCT
	EXH	SECTION THRU EXHAUST AIR DUCT
		ROUND DUCT DOWN
	DN OR UP	SLOPE DUCT DOWN OR UP IN DIRECTION OF FLOW
	AL	ACOUSTICAL LINING
	FC	FLEXIBLE DUCT CONNECTION
	VD	VOLUME DAMPER
	FD	FIRE DAMPER
	FSD	FIRE SMOKE DAMPER
	TV	TURNING VANES
		FLEXIBLE DUCT
		45° ROUND DUCT TAKE-OFF
		45° RECTANGULAR DUCT TAKE-OFF
		90° TURN - ROUND DUCT
		90° RADIUS TURN - ROUND OR RECTANGULAR DUCT
		SQUARE TO ROUND DUCT TRANSITION
		DUCT TRANSITION
		RECTANGULAR DUCT 90° SPLIT
		THERMOSTAT @ 48° AFF TO TOP OF T-STAT, MAX
	AP	ACCESS PANEL
	POC	POINT OF CONNECTION
	UTR	UP THRU ROOF
	BHP	BRAKE HORSEPOWER
	HP	HORSEPOWER
	SAD	SEE ARCHITECTURAL DRAWINGS
	SSD	SEE STRUCTURAL DRAWINGS
	SCD	SEE CIVIL DRAWINGS
	IFC	IN FURRED CEILING



**HERITAGE HIGH
SCHOOL**

**NEW CLASSROOM
BUILDINGS
INCREMENT 2 OF 2**

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH
SCHOOL DISTRICT[illegible]

DSA APP NO. 01-119268

ARCH PROJECT NO: 1870.00

DRAWN BY: MC

DRAWING SCALE:

PTN: 61721-77 FILE NO: 7-H4

BID SET

MAY 10, 2021

SHEET TITLE

MECHANICAL LEGENDS & SCHEDULES

SHEET NUMBER

M-1.1

5/10/2021 12:59:27 PM C:\Users\maryann\Documents\20054 Heritage HS CR - RVT21_mcrutcher@costaengineers.com.rvt

MECHANICAL VENTILATION SCHEDULE															
ROOM #	ROOM NAME	Area	SF	(People per 1000 sq.ft.)	ASHRAE 62.1 OCCUPANCY	Occupancy	CAO CODE ANALYSIS OCCUPANCY	Area Outdoor Air Rate (Ra)	People Outdoor Air Rate (Rp)	EZ	ASHRAE	120.1-A.15*S F	15 CFM/ CAO/2)	RA2 w/o DCV	DESIGN OSA
A101	EARTH SCIENCE	1531	1531	25	62-Educational Facilities - Science Laboratories	39		0.18	10	1	666	230			
A101-A	LAB PREP	181	181	25	62-Educational Facilities - Science Laboratories	5		0.18	10	1	83	27			
A102	SPORTS MED	1514	1531	5	62-Office Buildings - Office Space	8		0.06	5	1	132	230			
B101	CLASSROOM	977	977	35	62-Educational Facilities - Classrooms Age 9 Plus	35		0.12	10	1	467	147			
B102	CLASSROOM	952	952	35	62-Educational Facilities - Classrooms Age 9 Plus	34		0.12	10	1	454	143			
B103	CLASSROOM	975	975	35	62-Educational Facilities - Classrooms Age 9 Plus	35		0.12	10	1	467	146			
B104	CLASSROOM	953	953	35	62-Educational Facilities - Classrooms Age 9 Plus	34		0.12	10	1	454	143			
B106	CLASSROOM	960	960	35	62-Educational Facilities - Classrooms Age 9 Plus	34		0.12	10	1	455	144			
B201	CLASSROOM	977	977	35	62-Educational Facilities - Classrooms Age 9 Plus	35		0.12	10	1	467	147			
B202	CLASSROOM	955	955	35	62-Educational Facilities - Classrooms Age 9 Plus	34		0.12	10	1	455	143			
B203	CLASSROOM	976	973	35	62-Educational Facilities - Classrooms Age 9 Plus	35		0.12	10	1	467	146			
B204	CLASSROOM	955	955	35	62-Educational Facilities - Classrooms Age 9 Plus	34		0.12	10	1	455	143			
B206	CLASSROOM	955	955	35	62-Educational Facilities - Classrooms Age 9 Plus	34		0.12	10	1	455	143			

EQUIPMENT ANCHORAGE NOTES

MEP COMPONENT ANCHORAGE NOTE

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA-APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2019 CBC SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTERS 13, 26, AND 30:

- ALL PERMANENT EQUIPMENT AND COMPONENTS.
- TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.
- TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS:

- A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.
- B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROCESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH THE ABOVE REQUIREMENTS.

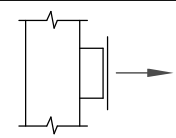
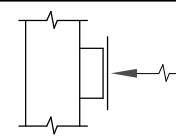
PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

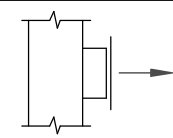
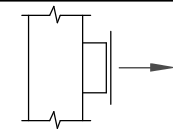
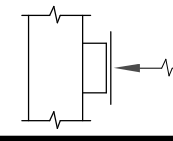
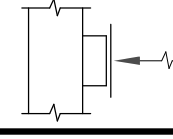
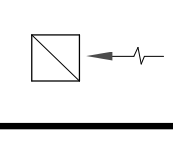
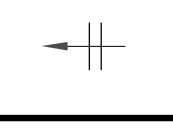
PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTIONS 13.6.5, 13.6.6, 13.6.7, 13.6.8; AND 2019 CBC, SECTIONS 1617A.1.24, 1617A.1.25 AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PREAPPROVED INSTALLATION GUIDE (E. G. OSHPD OPM FOR 2013 CBC OR LATER), COPIES OF THE BRACING OF THE DISTRIBUTION SYSTEMS, THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL SYSTEMS (E):

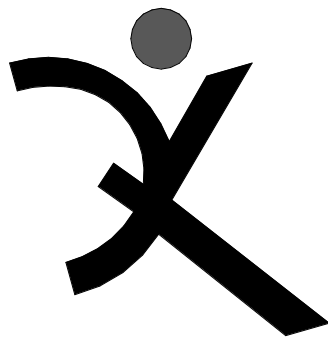
- MP ☐ MD ☐ PP ☐ E ☐ OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.
- MP ☐ MD ☐ PP ☐ E ☐ OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE-APPROVAL (OPM#) # _____.

LOUVER SCHEDULE			MANUFACTURER: RUSKIN
RAL		RELIEF AIR LOUVER	MODEL # ELBD375E GRAVITY EXHAUST COMBINATION LOUVER DAMPER, STATIONARY DRAINABLE BLADES, BACKDRAFT DAMPER, EXTRUDED ALUMINUM CONSTRUCTION, COMPLETE WITH BIRD SCREEN
OAL		OUTSIDE AIR LOUVER	MODEL # ELBD375I GRAVITY INTAKE COMBINATION LOUVER DAMPER, STATIONARY DRAINABLE BLADES, BACKDRAFT DAMPER, EXTRUDED ALUMINUM CONSTRUCTION, COMPLETE WITH BIRD SCREEN
NOTES:			

AIR TERMINAL SCHEDULE			MANUFACTURER: TITUS (EXCEPT AS NOTED)
WS		WALL SUPPLY GRILLE	MODEL # S300FS - DIRECT SPIRAL DUCT-MOUNTED, LOUVERS ON 3/4" CENTERS, DOUBLE DEFLECTION, ALUMINUM CONSTRUCTION, LOUVERS PARALLEL WITH SHORT DIMENSION, WITH AIR SCOOP EXTRACTOR
WS-1		WALL SUPPLY GRILLE	MODEL # 300RS - LOUVERS ON 3/4" CENTERS, DOUBLE DEFLECTION, STEEL CONSTRUCTION, LOUVERS PARALLEL WITH SHORT DIMENSION, WITH AIR SCOOP EXTRACTOR
WR		WALL RETURN GRILLE	MODEL # 350ZRL - LOUVERS ON 3/4" CENTERS, 0 (ZERO) DEGRESS DEFLECTION, STEEL CONSTRUCTION, LOUVERS PARALLEL WITH LONG DIMENSION
WR-1		WALL RETURN GRILLE	MODEL # 350ZRL - LOUVERS ON 3/4" CENTERS, 0 (ZERO) DEGRESS DEFLECTION, STEEL CONSTRUCTION, LOUVERS PARALLEL WITH LONG DIMENSION, WITH PRICE #RAS-LP RETURN AIR SILENCER
RAG		RELIEF AIR CEILING GRILLE	50F - 1/2" x 1/2" x 1/2" EGGCRATE, ALUMINUM CORE WITH ALUMINUM GRID
DL		DOOR LOUVER	T700 - STEEL CONSTRUCTION WITH FLANGED AND AUXILIARY FRAME
NOTES: 1. ADAPTER NEEDED FOR TRANSITION FROM SQUARE NECK TO ROUND DUCT. 2. SIZE (NECK/FACE) TYPE _____ FACE SIZE FOR T-BAR CEILING ONLY CFM (NO. OF THROW) _____			

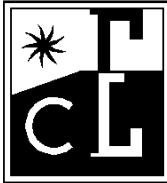
APPLICABLE GOVERNING CODES:

- 2019 CALIFORNIA BUILDING CODE
- 2019 CALIFORNIA ELECTRICAL CODE
- 2019 CALIFORNIA MECHANICAL CODE
- 2019 CALIFORNIA PLUMBING CODE
- 2019 CALIFORNIA ENERGY CODE
- 2019 CALIFORNIA FIRE CODE
- 2019 CALIFORNIA GREEN BUILDING STANDARDS



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HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119268

ARCH PROJECT NO. 1870.00

DRAWN BY: MC.

DRAWING SCALE:

PTN: 61721-77 FILE NO: 7-H4

BID SET

MAY 10, 2021

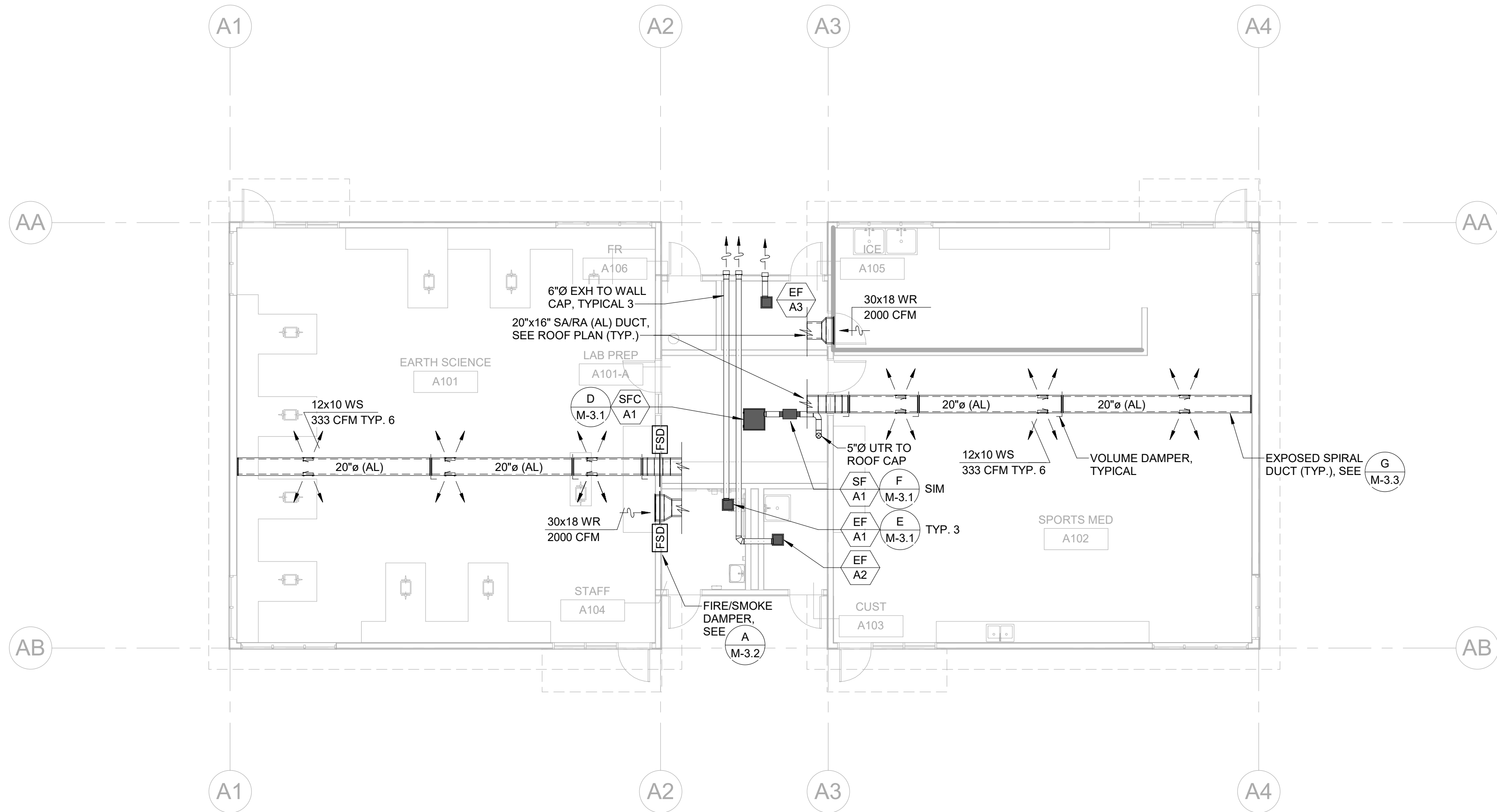
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MECHANICAL SCHEDULES & NOTES

SHEET NUMBER

M-1.2

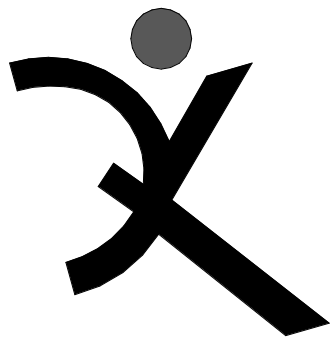
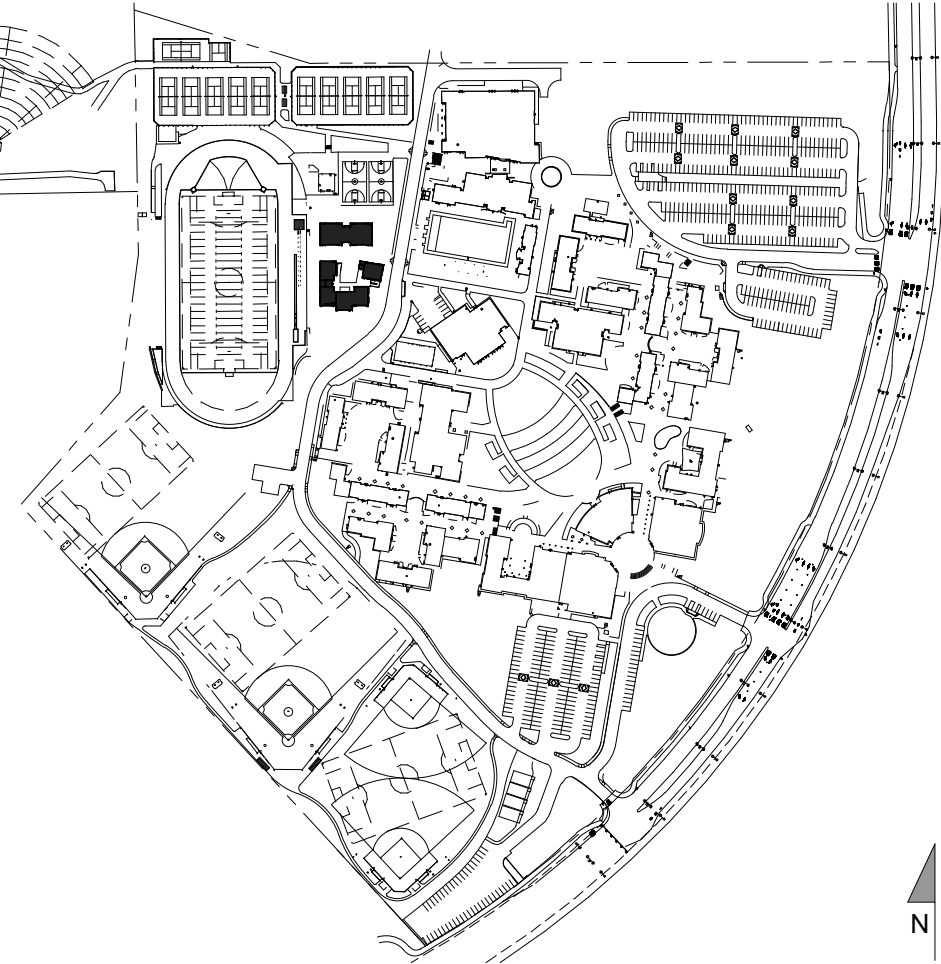
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WALL TYPE LEGEND

- S.S.D. FOR WOOD FRAMING SIZES
- WOOD FRAMED WALL - NON RATED, SAD
 - WOOD FRAMED - 1 HOUR RATED, SAD

KEYPLAN



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HERITAGE HIGH
SCHOOL

NEW CLASSROOM
BUILDINGS
INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH
SCHOOL DISTRICT

DSA APP NO. 01-119268

ARCH PROJECT NO. 1870.00

DRAWN BY: MC

DRAWING SCALE: 1/8" = 1'-0"

PTN: 61721-77 FILE NO: 7-H4

BID SET

MAY 10, 2021

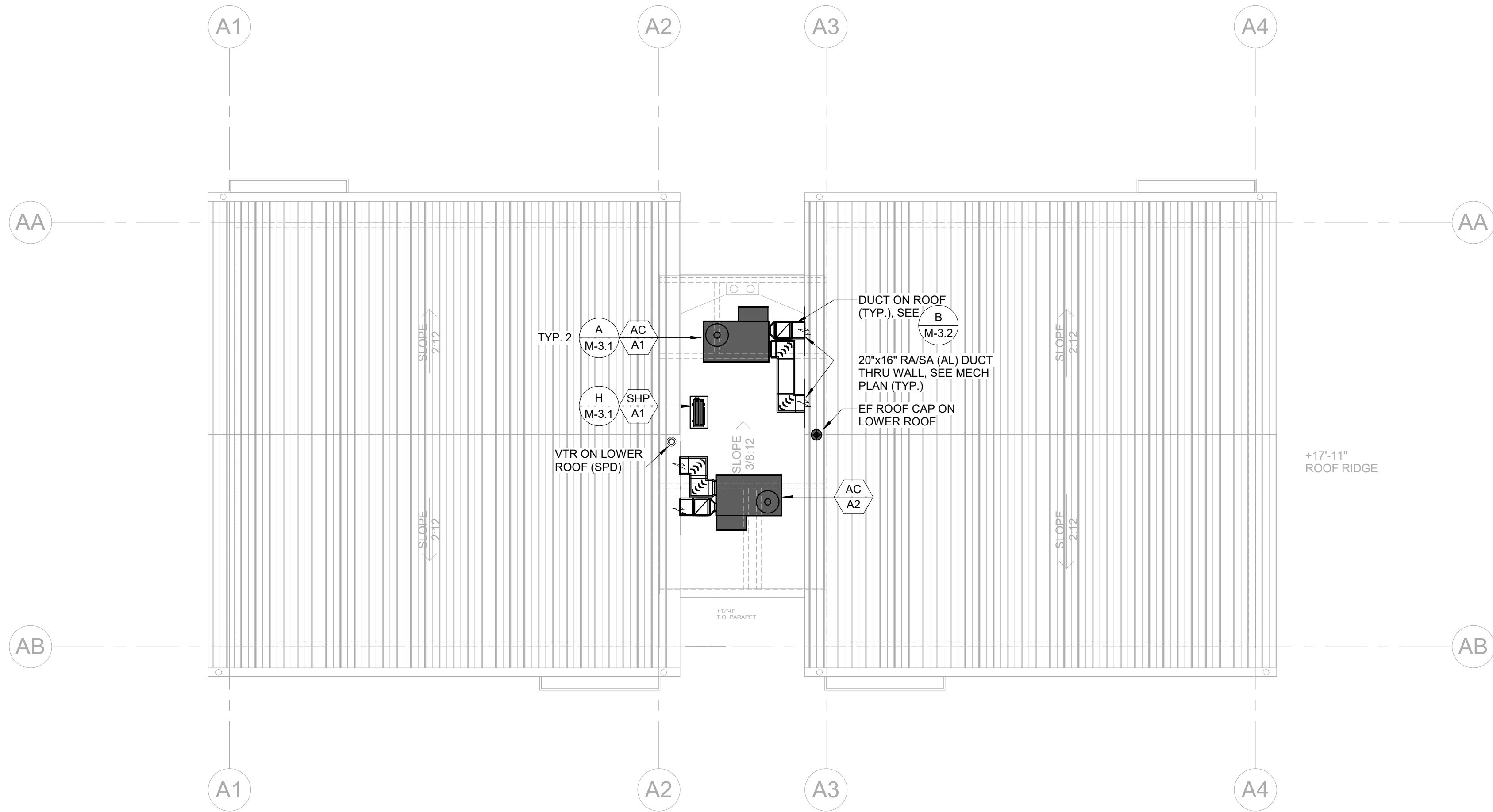
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BLDG A
MECHANICAL
PLAN

SHEET NUMBER

M-A2.1

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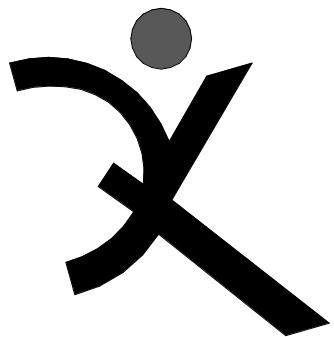
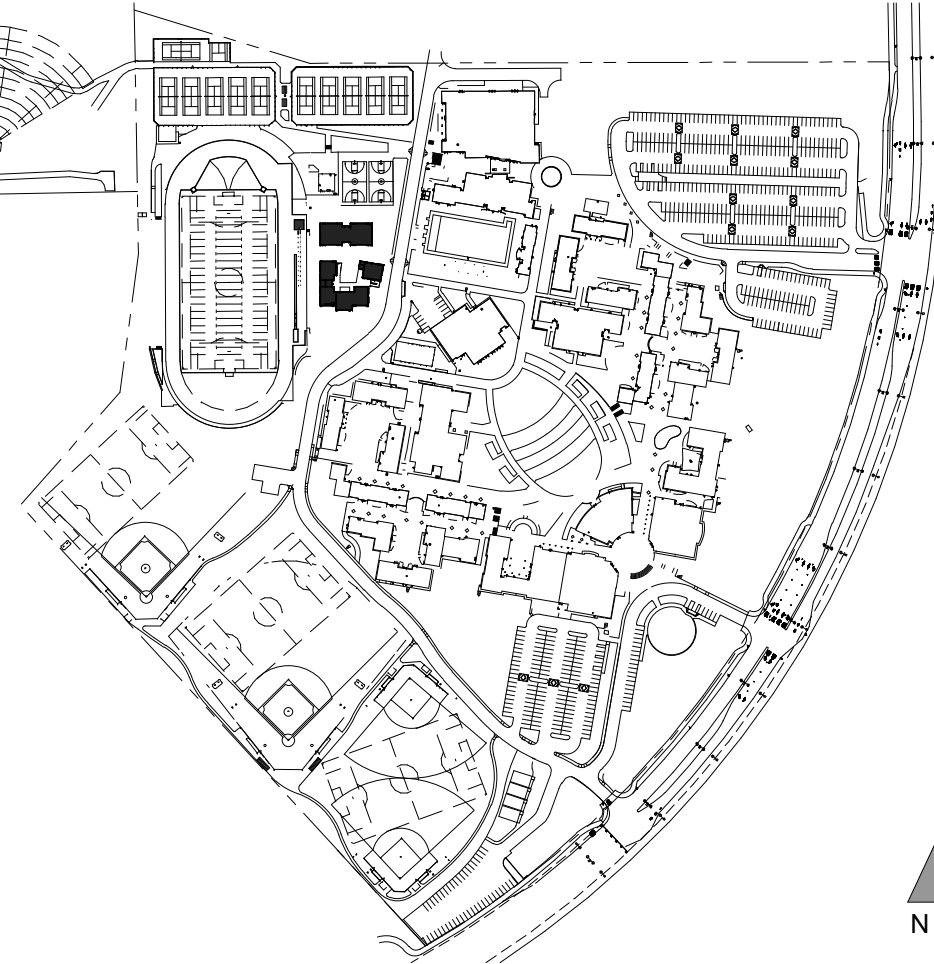


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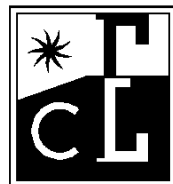
S.S.D. FOR WOOD FRAMING SIZES

- WOOD FRAMED WALL - NON RATED, SAD
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KEYPLAN



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HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO.	01-119268
ARCH PROJECT NO.	1870.00
DRAWN BY:	MC
DRAWING SCALE:	1/8" = 1'-0"
PTN:	61721-77
FILE NO:	7-H4

BID SET
MAY 10, 2021

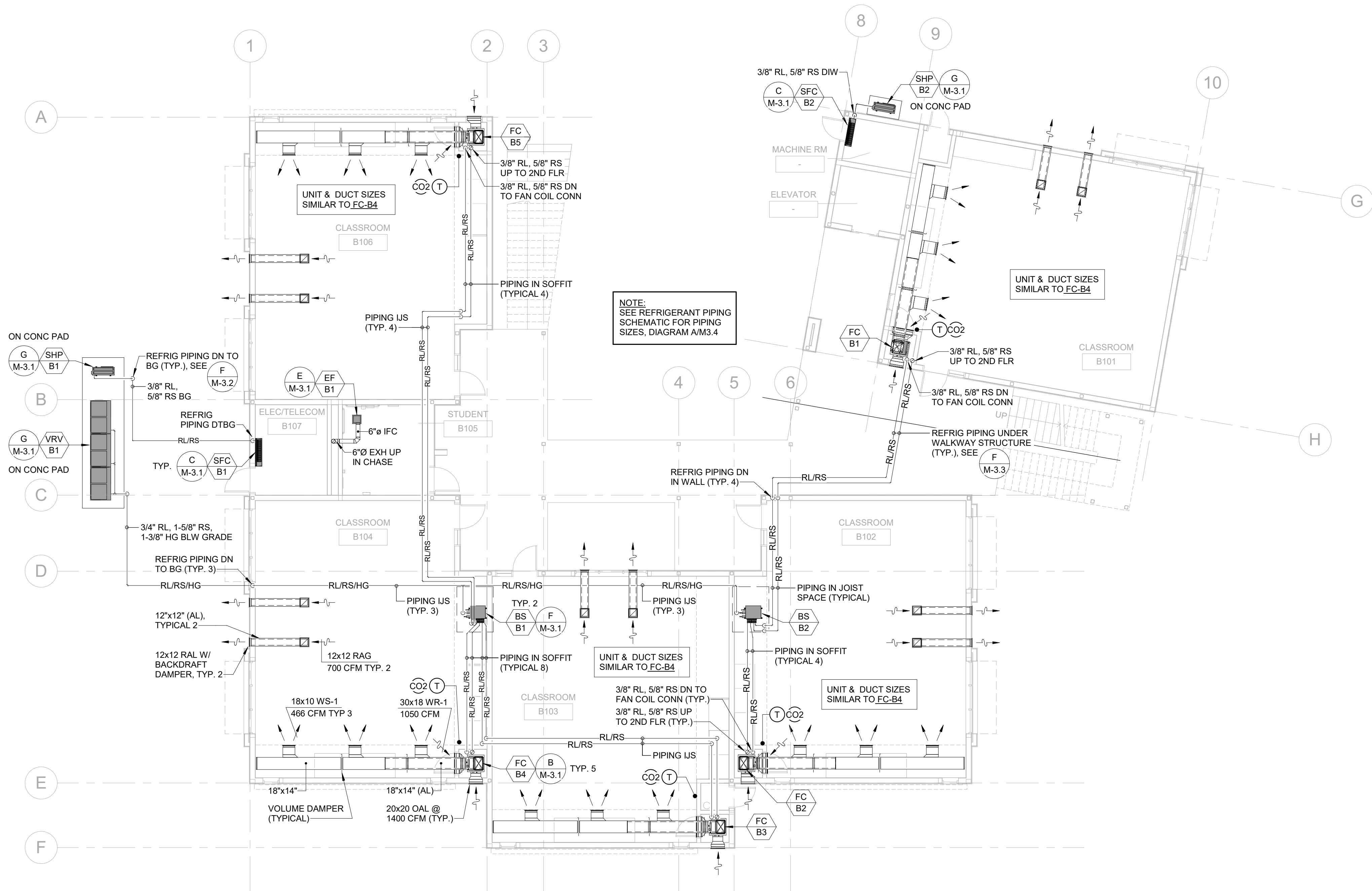
SHEET TITLE

BLDG A ROOF MECH PLAN

SHEET NUMBER

M-A4.1

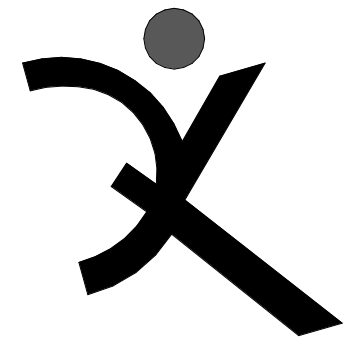
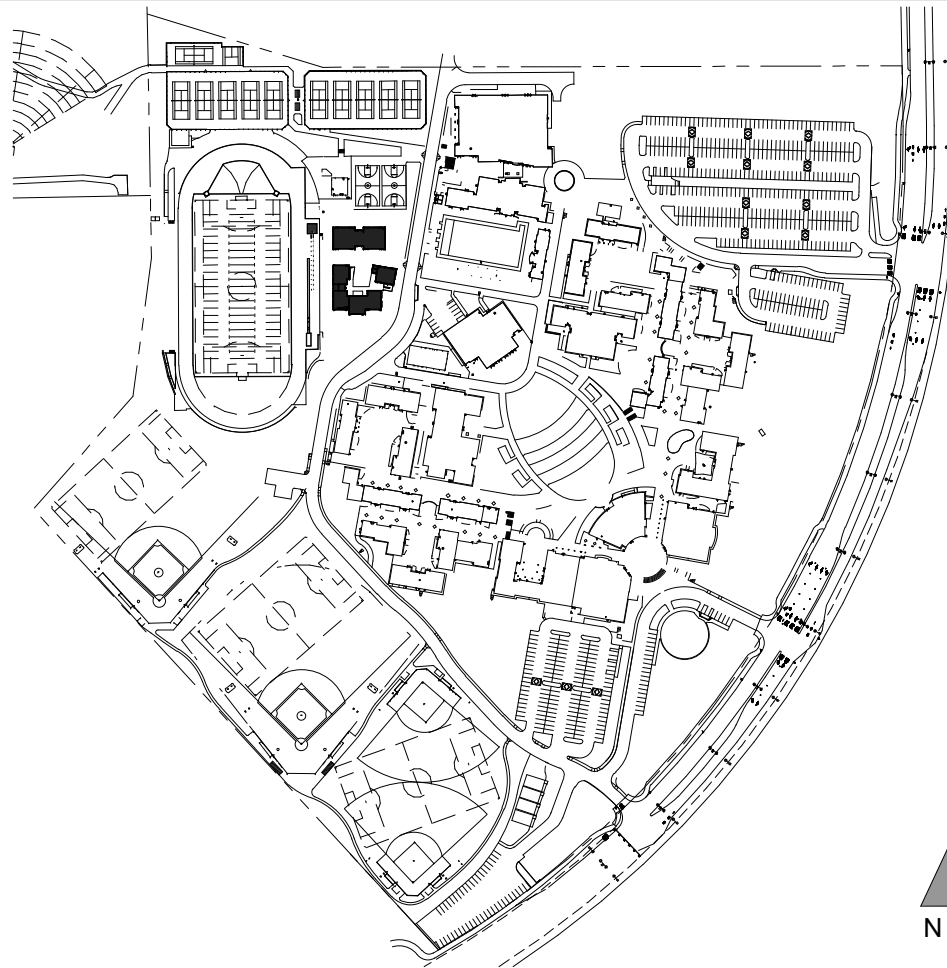
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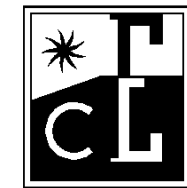
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- S.S.D. FOR WOOD FRAMING SIZES
- WOOD FRAMED WALL - NON RATED, SAD
 - WOOD FRAMED - 1 HOUR RATED, SAD

KEYPLAN



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HERITAGE HIGH
SCHOOL

NEW CLASSROOM
BUILDINGS
INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH
SCHOOL DISTRICT

DSA APP NO. 01-119268
ARCH PROJECT NO. 1870.00
DRAWN BY: MQ / MC.
DRAWING SCALE: 1/8" = 1'-0"
PTN: 61721-77 FILE NO: 7-H4

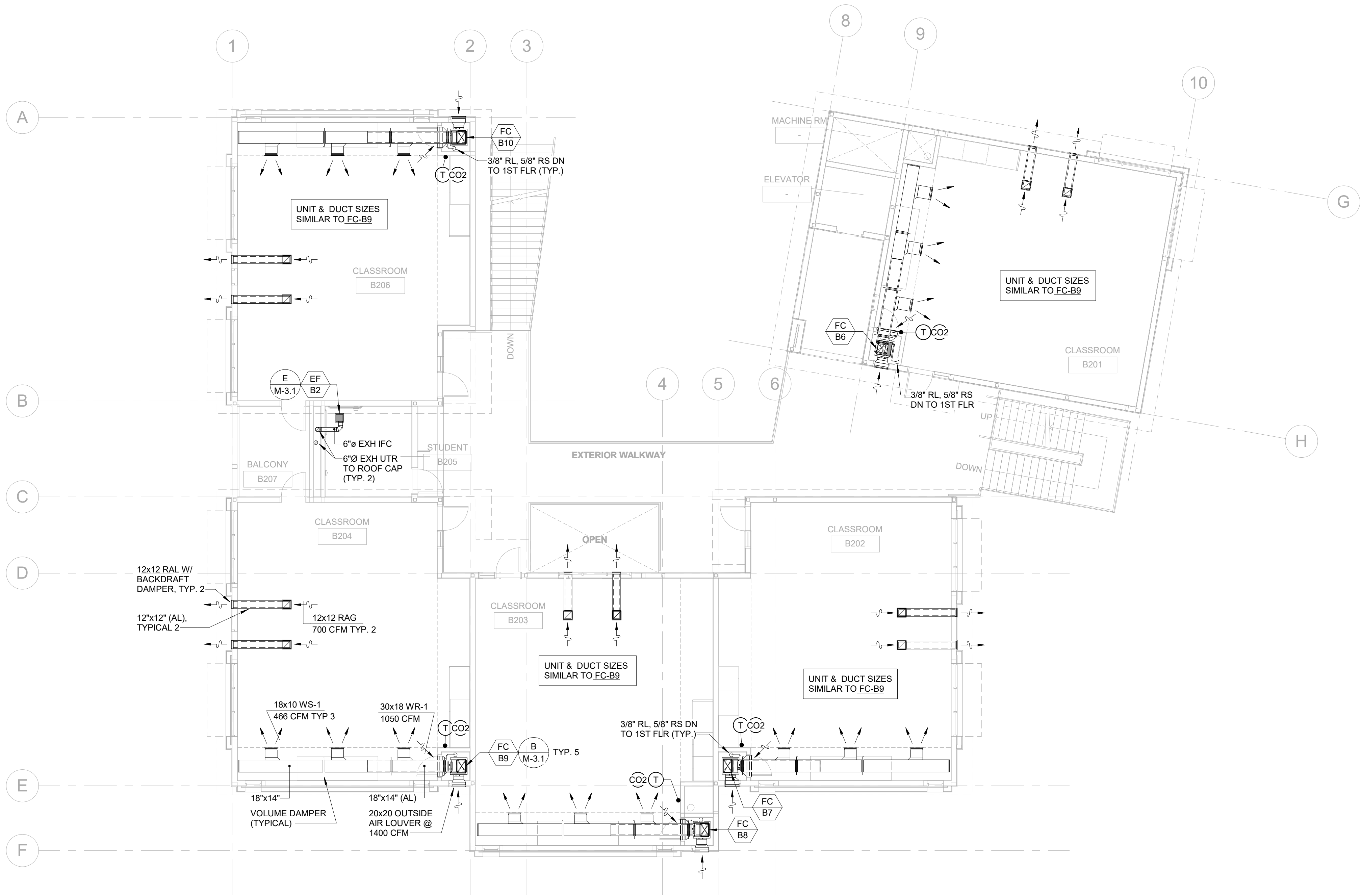
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MAY 10, 2021
SHEET TITLE

BLDG B
1ST FLOOR
MECH PLAN

SHEET NUMBER

M-B2.1

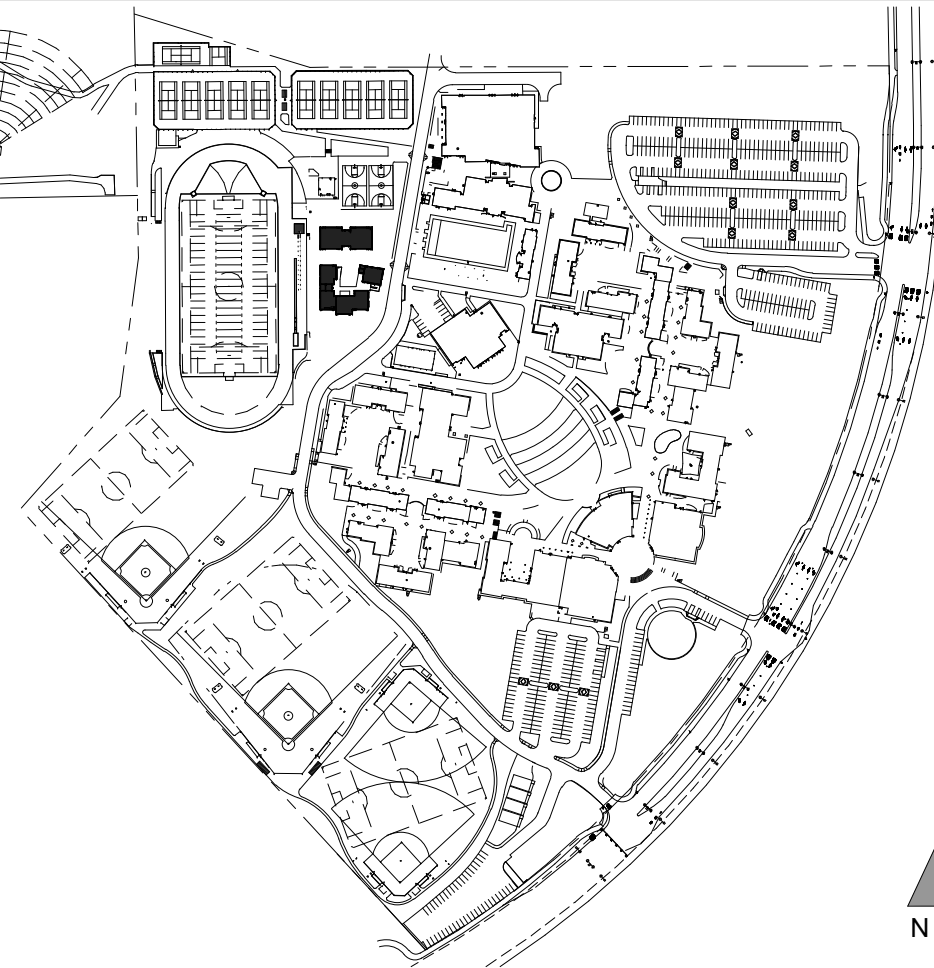
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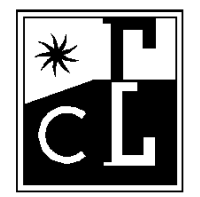
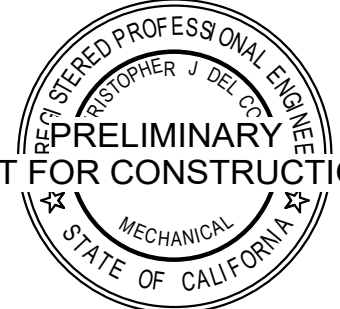
WALL TYPE LEGEND

- S.S.D. FOR WOOD FRAMING SIZES
- WOOD FRAMED WALL - NON RATED, SAD
 - WOOD FRAMED - 1 HOUR RATED, SAD

KEYPLAN




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PRELIMINARY
NOT FOR CONSTRUCTION

HERITAGE HIGH
SCHOOL

NEW CLASSROOM
BUILDINGS
INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH
SCHOOL DISTRICT

DSA APP NO.	01-119268
ARCH PROJECT NO.	1870.00
DRAWN BY:	MQ / MC
DRAWING SCALE:	1/8" = 1'-0"
PTN: 61721-77	FILE NO: 7-H4

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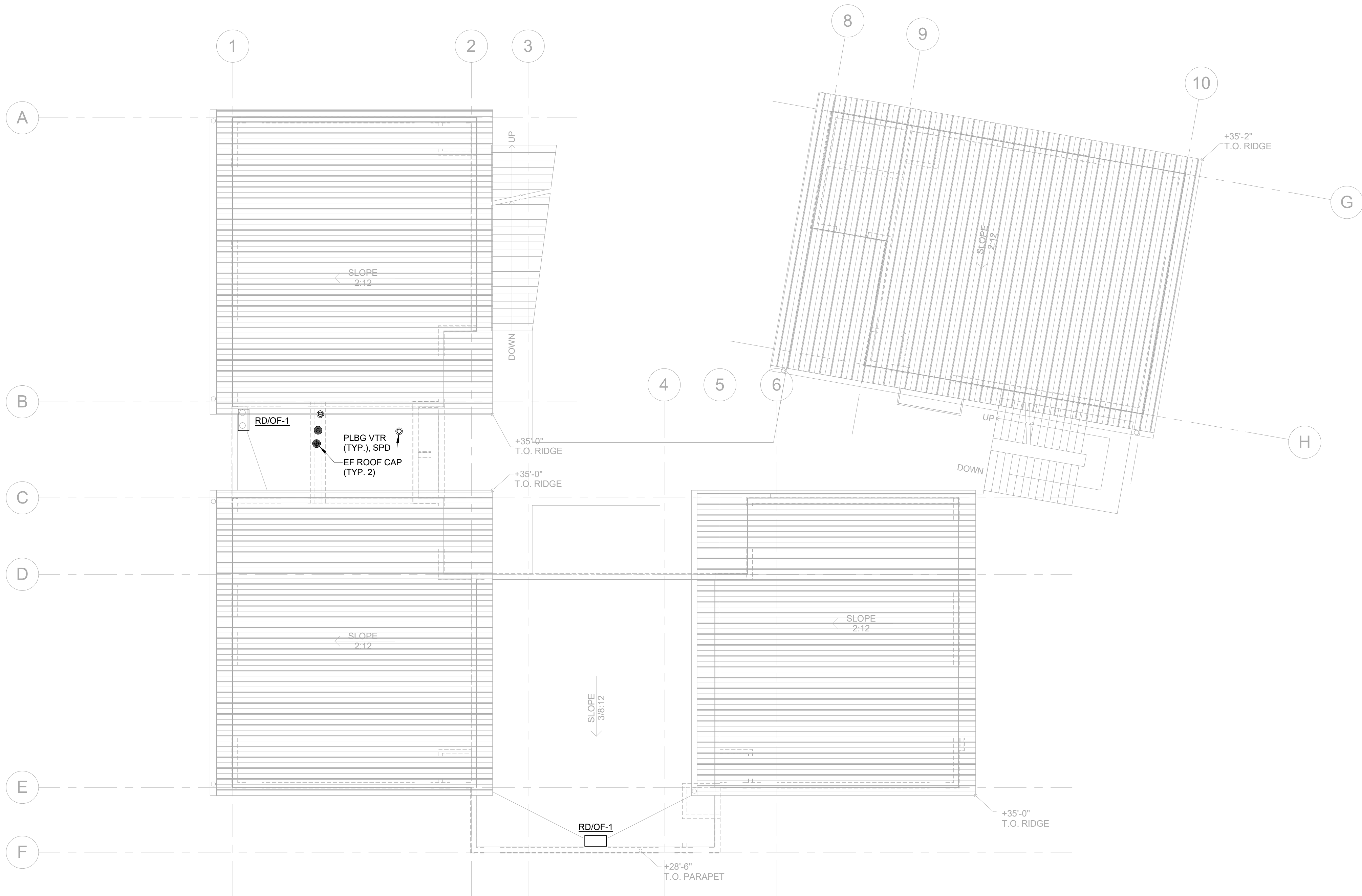
SHEET TITLE

BLDG B
2ND FLOOR
MECH PLAN

SHEET NUMBER

M-B2.2

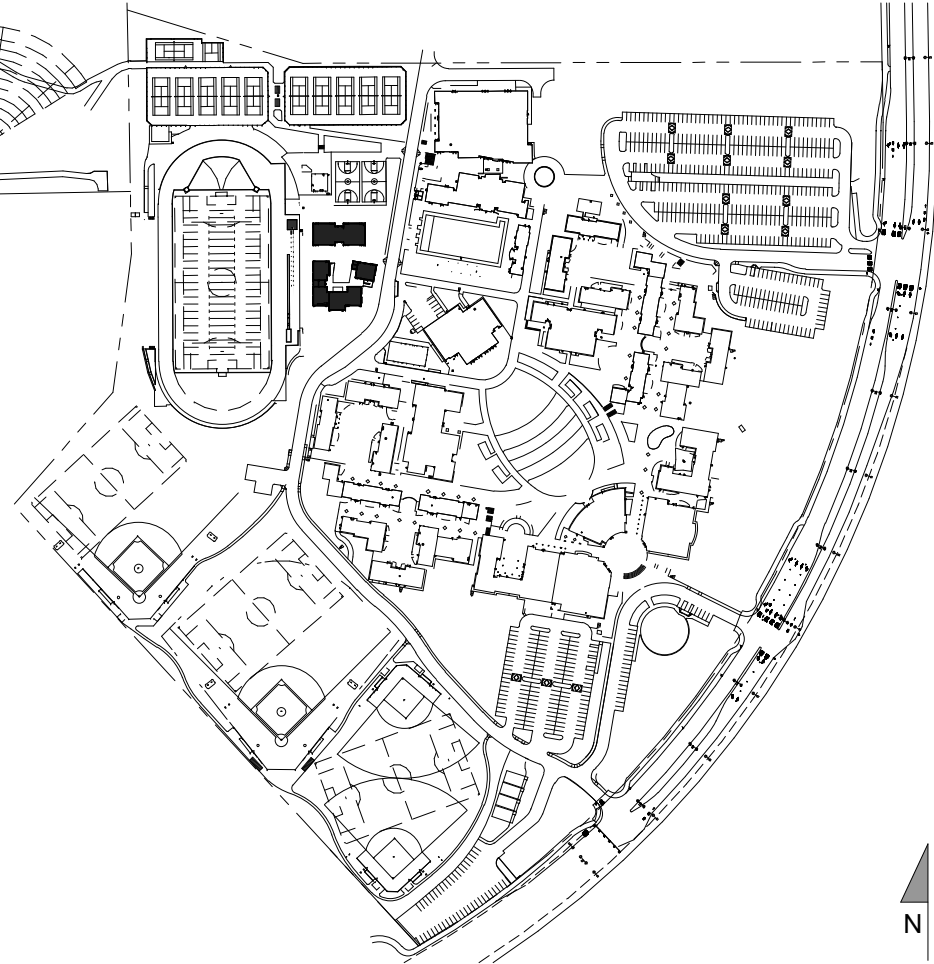
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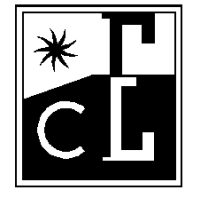
WALL TYPE LEGEND

S.S.D. FOR WOOD FRAMING SIZES	
WOOD FRAMED WALL - NON RATED, SAD	
WOOD FRAMED - 1 HOUR RATED, SAD	

KEYPLAN




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MECHANICAL
STATE OF CALIFORNIA

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SCHOOL
NEW CLASSROOM
BUILDINGS
INCREMENT 2 OF 2
101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

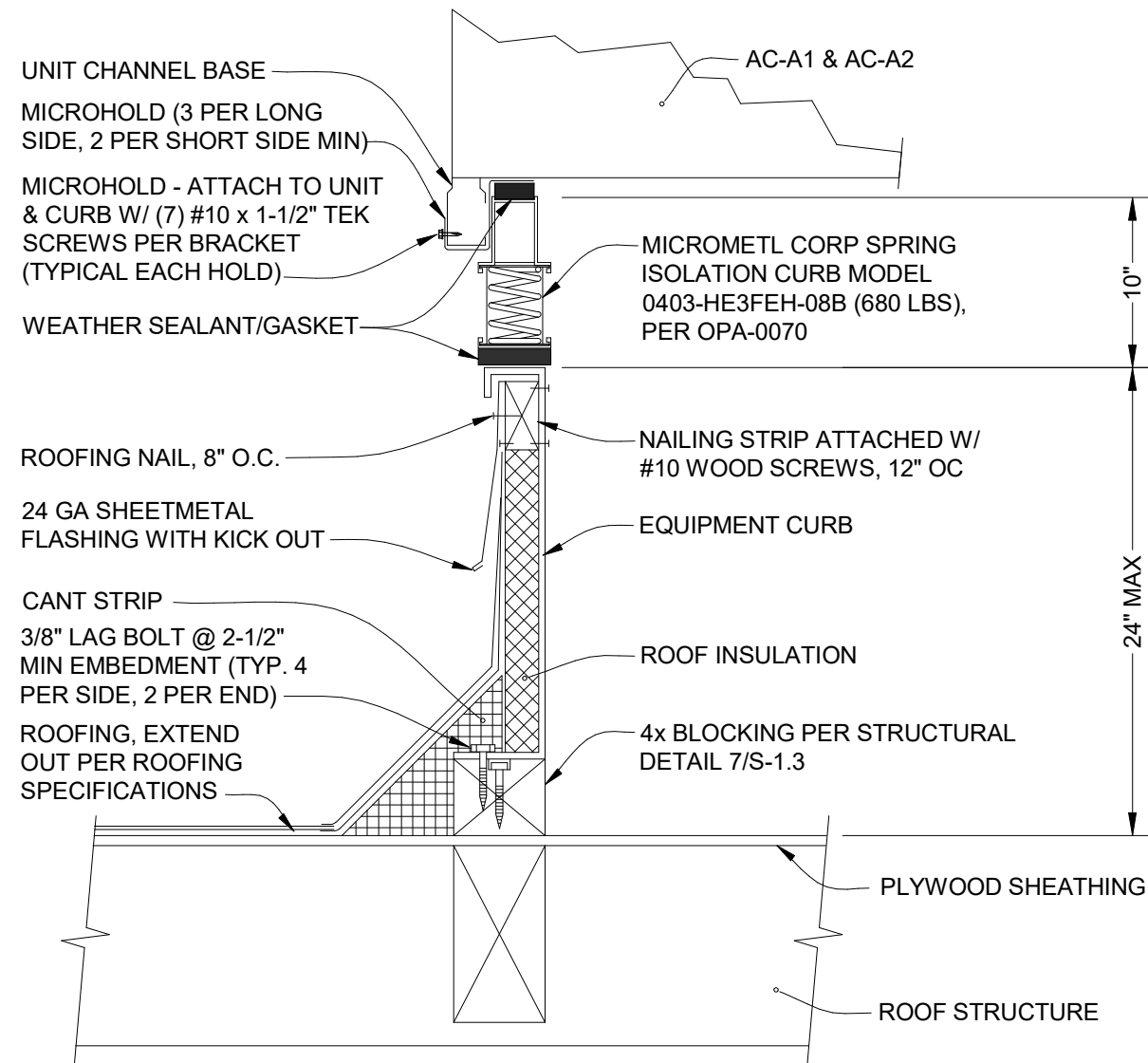
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SCHOOL DISTRICT

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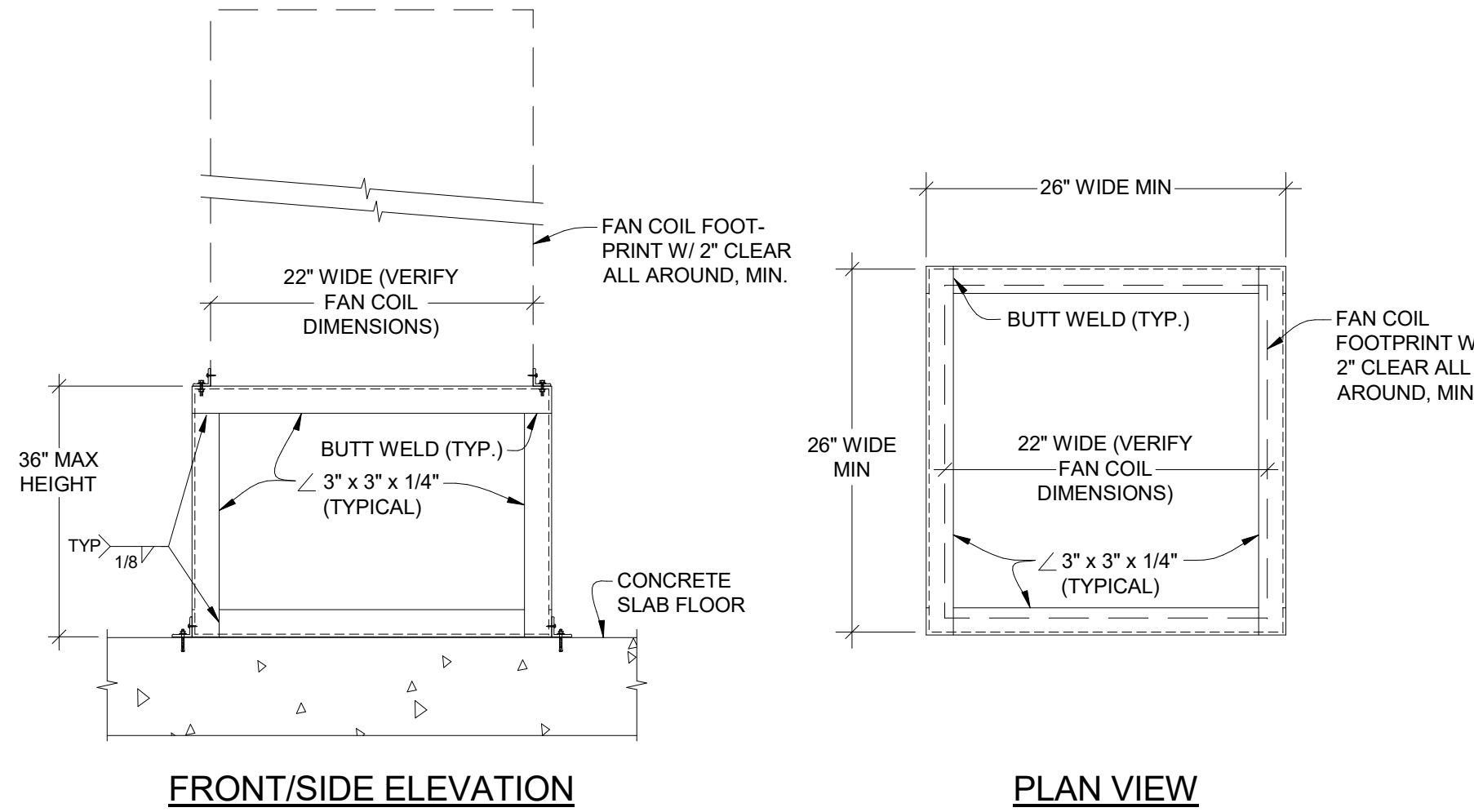
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MAY 10, 2021
SHEET TITLE

BLDG B
ROOF MECH
PLAN

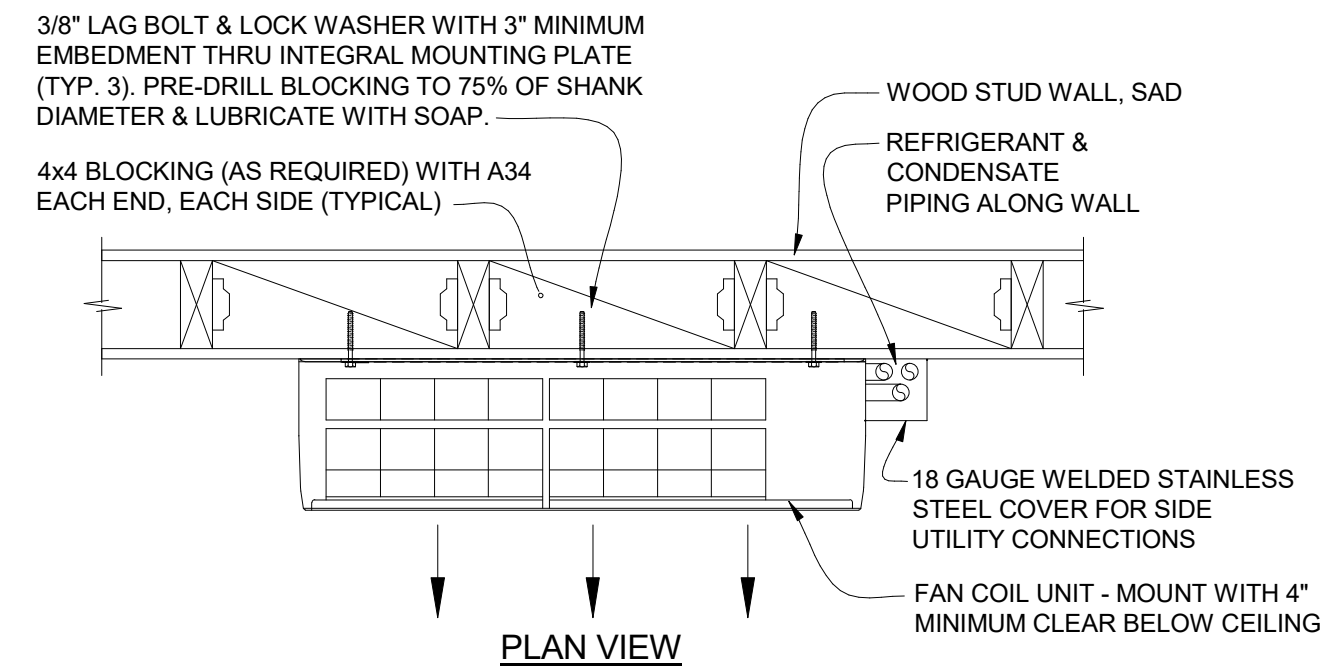
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M-B4.1



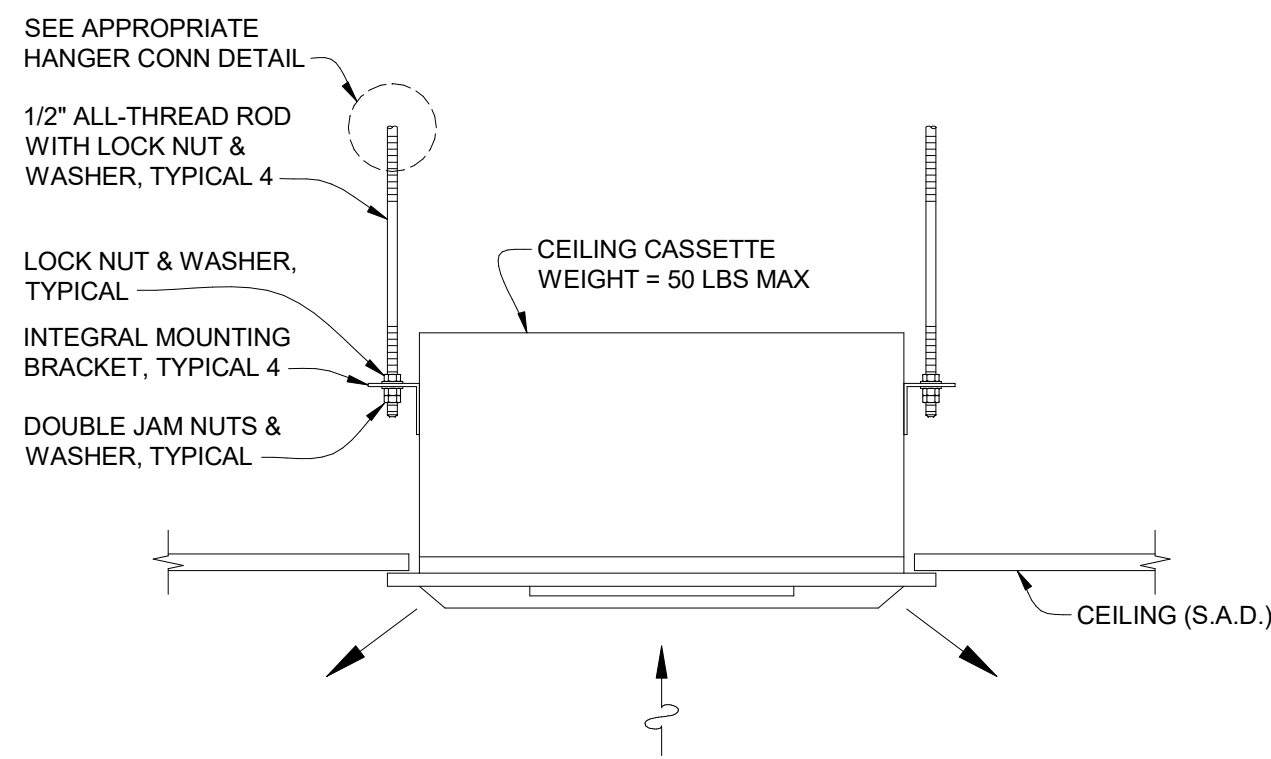
A ROOFTOP PACKAGED UNIT MOUNTING DETAIL
SCALE: NONE



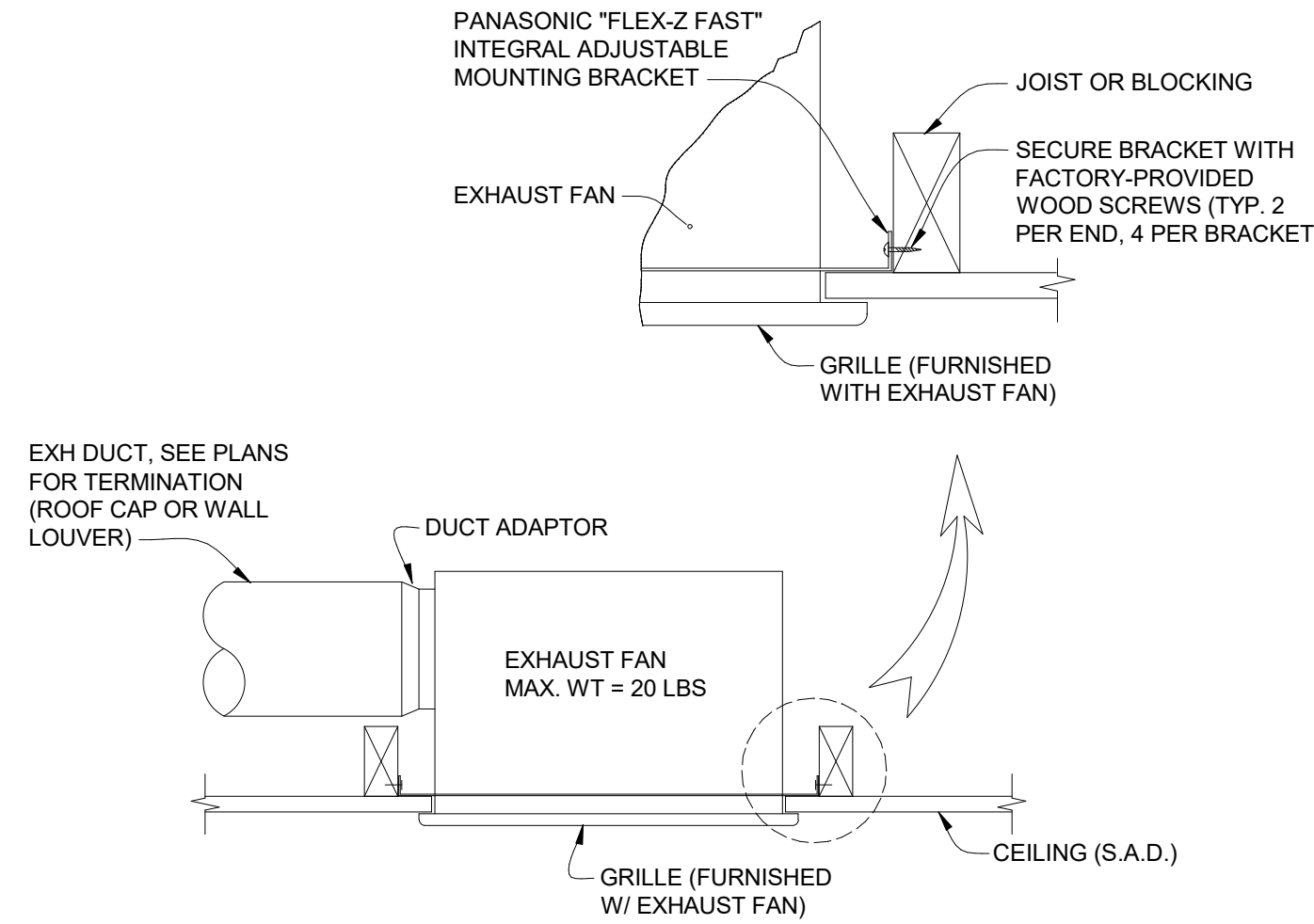
B VRV VERTICAL FAN COIL MOUNTING DETAIL
SCALE: NONE



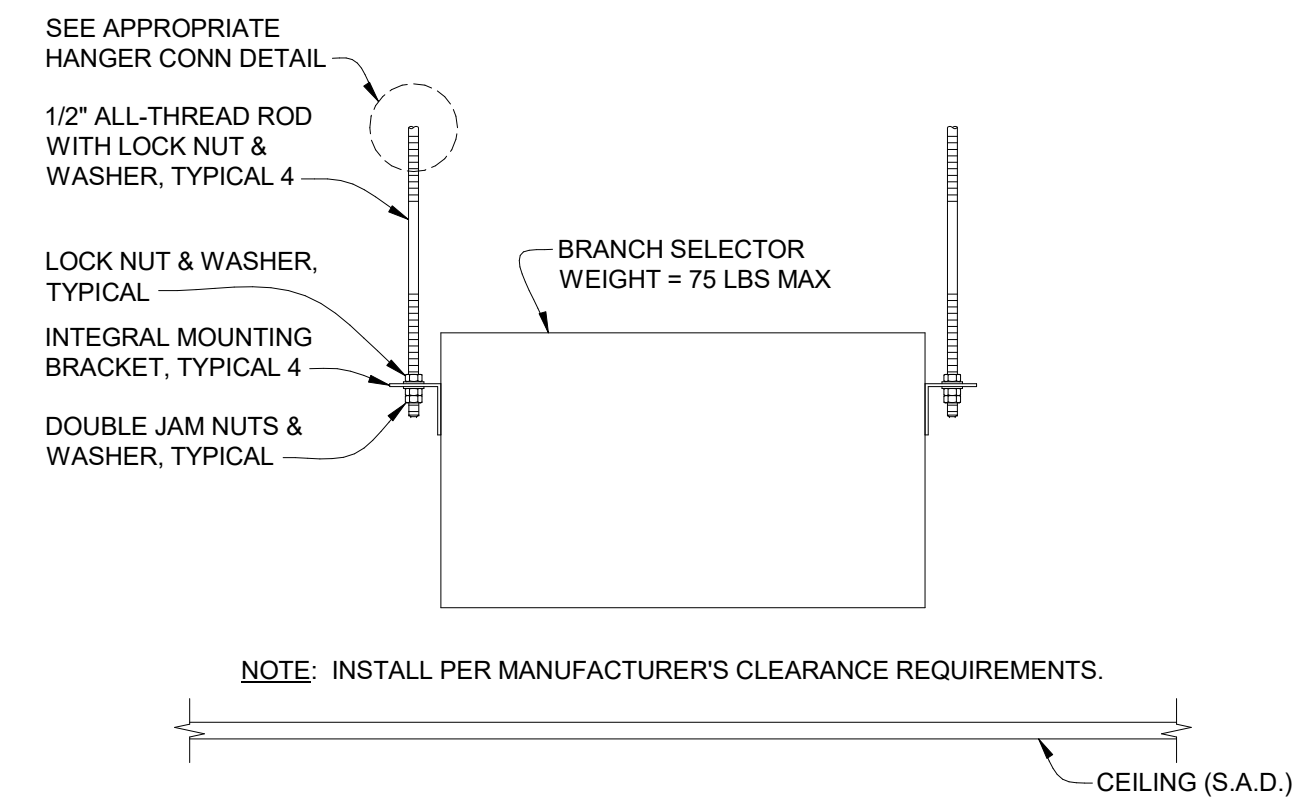
C DUCTLESS FAN COIL MOUNTING DETAIL
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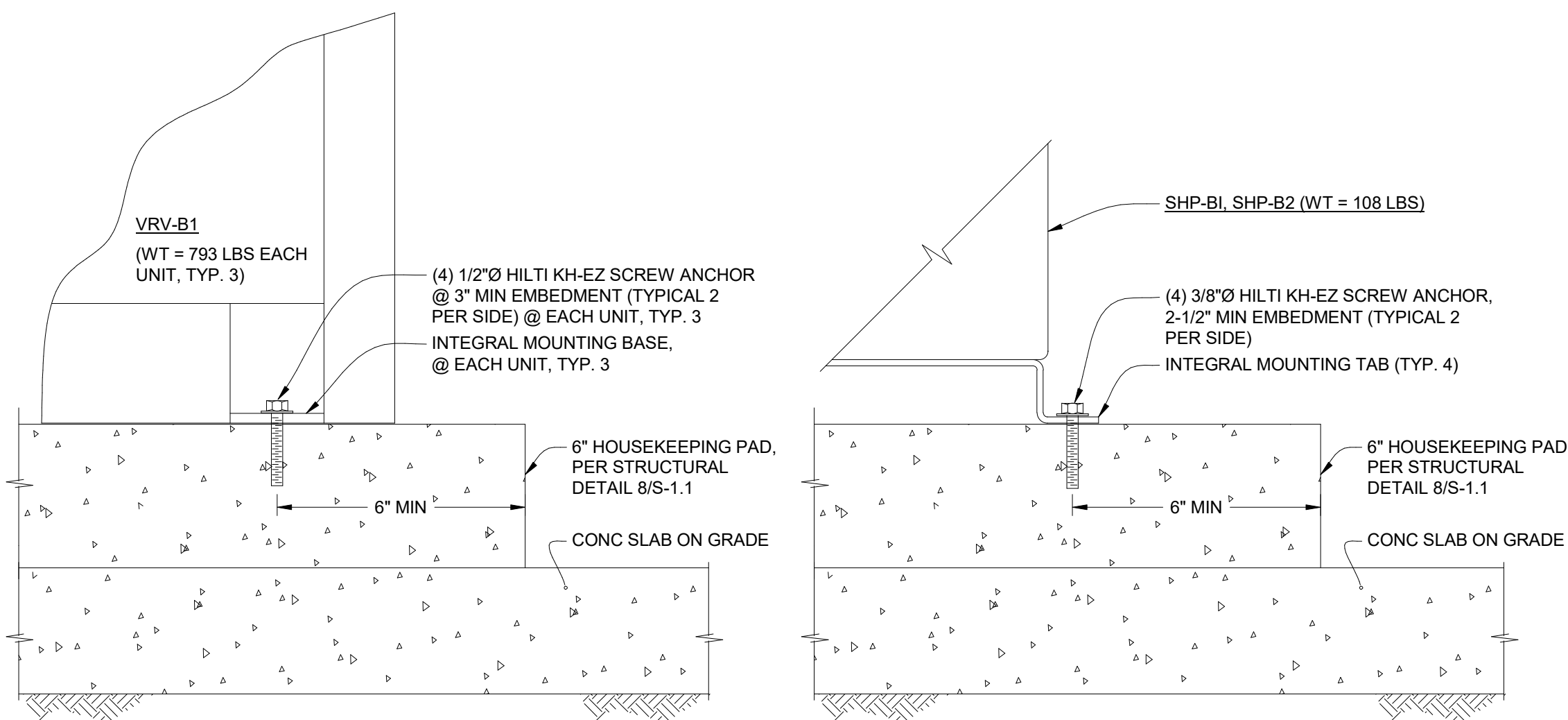
D CEILING CASSETTE MOUNTING DETAIL
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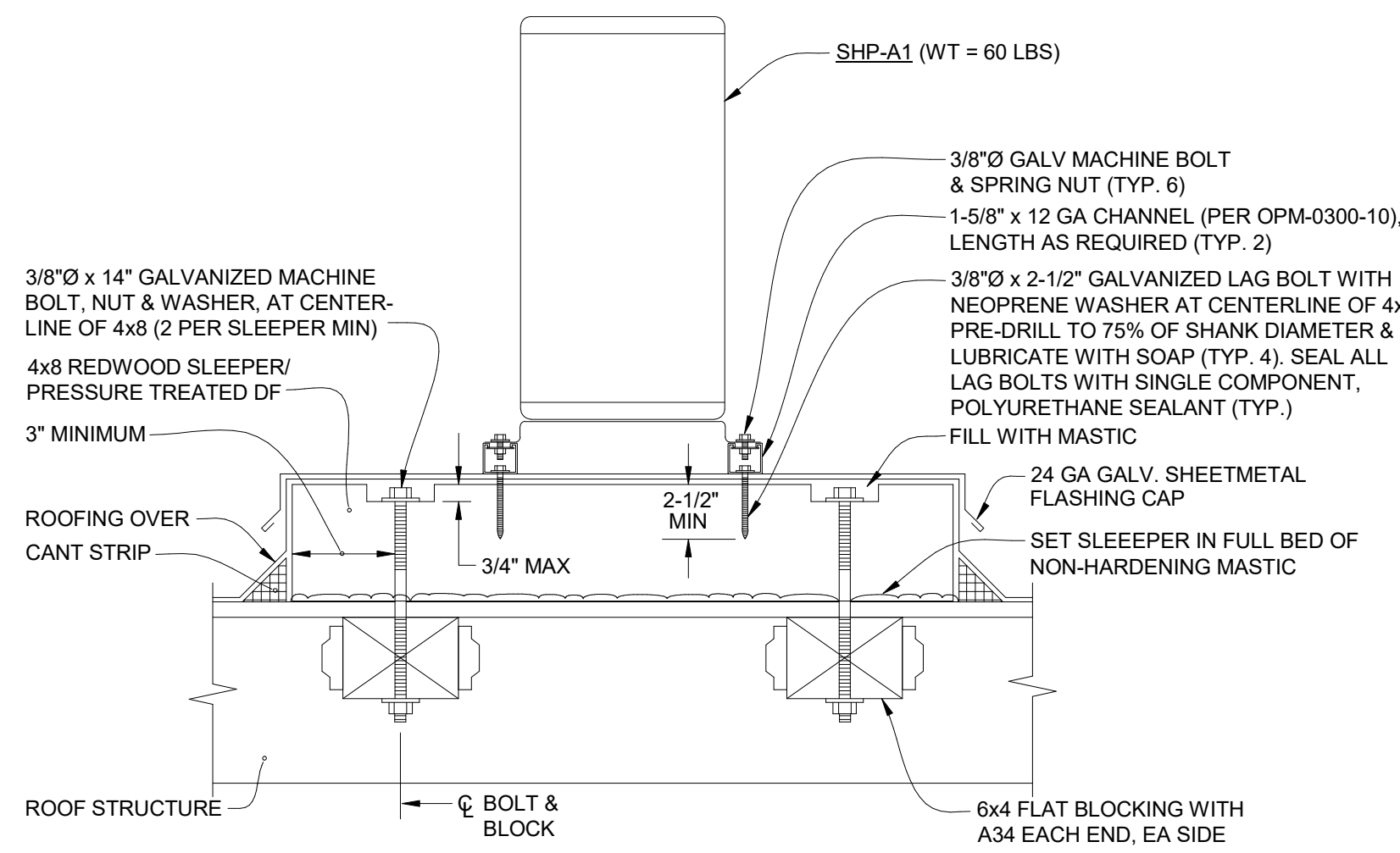
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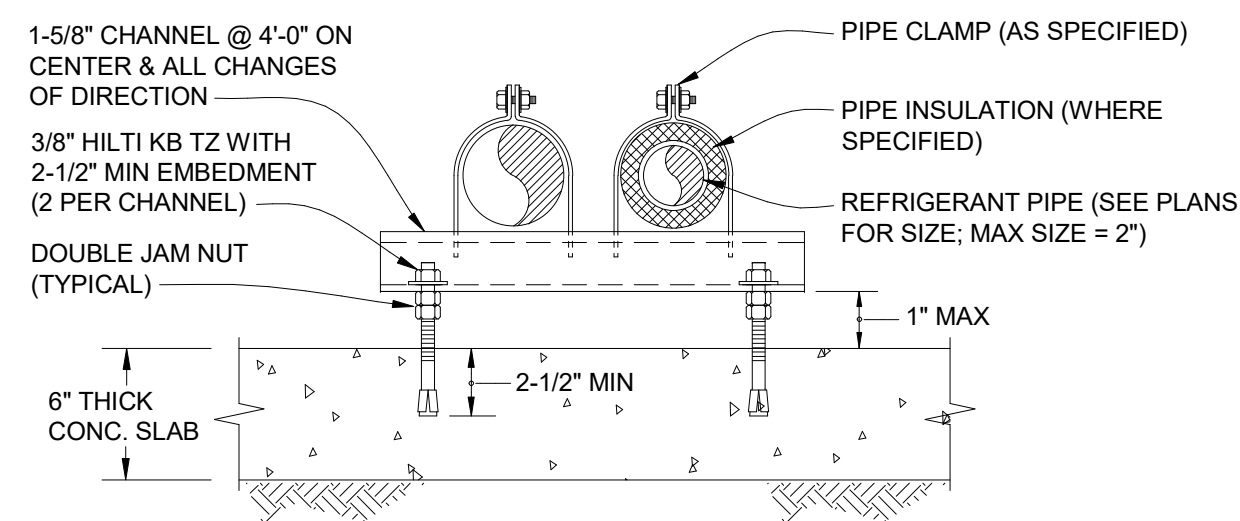
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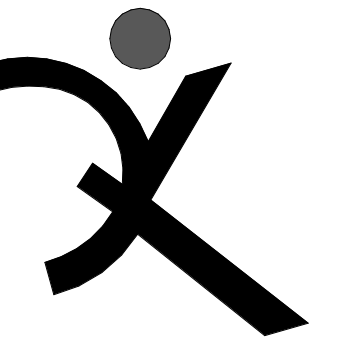
G VARIOUS OUTDOOR UNIT MOUNTING DETAILS
SCALE: NONE



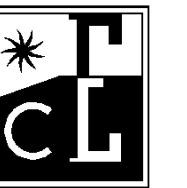
H HEAT PUMP UNIT MOUNTING DETAIL
SCALE: NONE



J PIPE SUPPORT ON CONG
SCALE: NONE



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HERITAGE HIGH
SCHOOL

NEW CLASSROOM
BUILDINGS
INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH
SCHOOL DISTRICT

DSA APP NO. 01-119268

ARCH PROJECT NO. 1870.00

DRAWN BY: Author

DRAWING SCALE:

PTN: 61721-77 FILE NO: 7-H4

BID SET

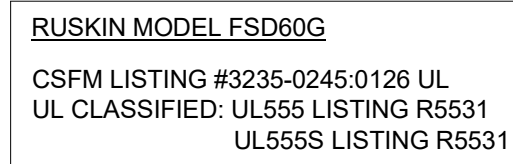
MAY 10, 2021

SHEET TITLE

MECHANICAL
DETAILS

SHEET NUMBER

M-3.1



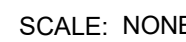
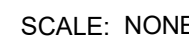
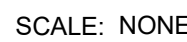
- ① FIRE RATED WALL (SEE ARCH DWGS.)
- ② "RUSKIN" COMBINATION FIRE/SMOKE DAMPER:
INSTALL IN ACCORDANCE WITH MANUFACTURER'S
INSTALLATION INSTRUCTIONS.
- ③ WELD OR BOLT FIRE/SMOKE DAMPER TO SLEEVE
- ④ 14 GAUGE SLEEVE
- ⑤ 5/8" GYPSUM BOARD LINER ALL AROUND
- ⑥ MOUNTING ANGLE, 1-1/2 x 1-1/2 x 14 GAUGE MIN
- ⑦ BREAK AWAY CONNECTION
- ⑧ ACCESS DOOR
- ⑨ DUCT OR AREA SMOKE DETECTOR
- ⑩ SHEETMETAL DUCT
- ⑪ SIDE WALL GRILLE (SUPPLIED BY OTHERS)
- ⑫ #8 TAPER HEAD FINISH SCREW

A. PROVIDE WITH INTEGRAL DUCT SMOKE
DETECTOR (BY DIV 23); POWER BY DIV. 26



- MODEL FSD60
- CSFM LISTING #3235-0245:0126
#3235-0245:0129

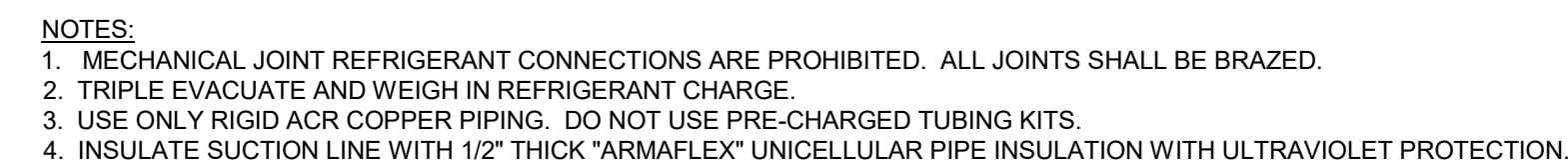
SCALE: NONE



- NOTES:**
1. INSTALL REFRIGERANT PIPING IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
 2. PROVIDE IN A TYPICAL TRENCH AT LEAST 18" BELOW GRADE WITH PROPER BED AND BACKFILL MATERIALS.
 3. SLEEVE MUST BE WATER TIGHT. DO NOT USE PERFORATED PIPE OR SOIL TIGHT CONNECTIONS.
 4. PRESSURE TEST SLEEVE AND PIPING PER MANUFACTURER'S RECOMMENDATIONS PRIOR TO BACKFILL.
 5. REFRIGERANT PIPING TO BE INSULATED WITH A MINIMUM OF 1/2" INSULATION ON EACH LINE SEPARATELY. CONTRACTOR TO ASSURE THAT INSULATION IS NOT DAMAGED WHEN INSTALLED INTO SLEEVE.
 6. TERMINATE SLEEVE OUTSIDE BUILDING. IF SLEEVE IS TO TERMINATE INSIDE THE BUILDING MECHANICAL ROOM, PROVISIONS FOR WATER DRAINAGE MUST BE PROVIDED.

F REFRA

SCALE: NONE



G REFRA
SCALE: NONE



**NEW CLASSROOM
BUILDINGS
INCREMENT 2 OF 2**

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH
SCHOOL DISTRICT

DSA APP NO. 01-119268

ARCH PROJECT NO: 1870.0

DRAWN BY: _____ Author: _____

DRAWING SCALE:

PTN: 61721-77 FILE NO: 7-H.

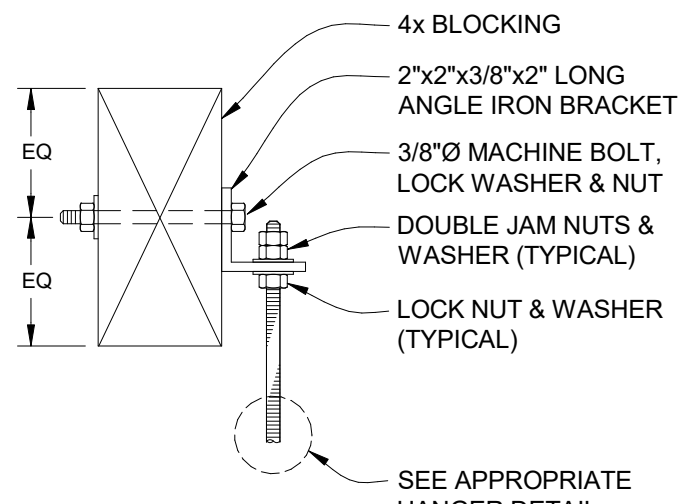
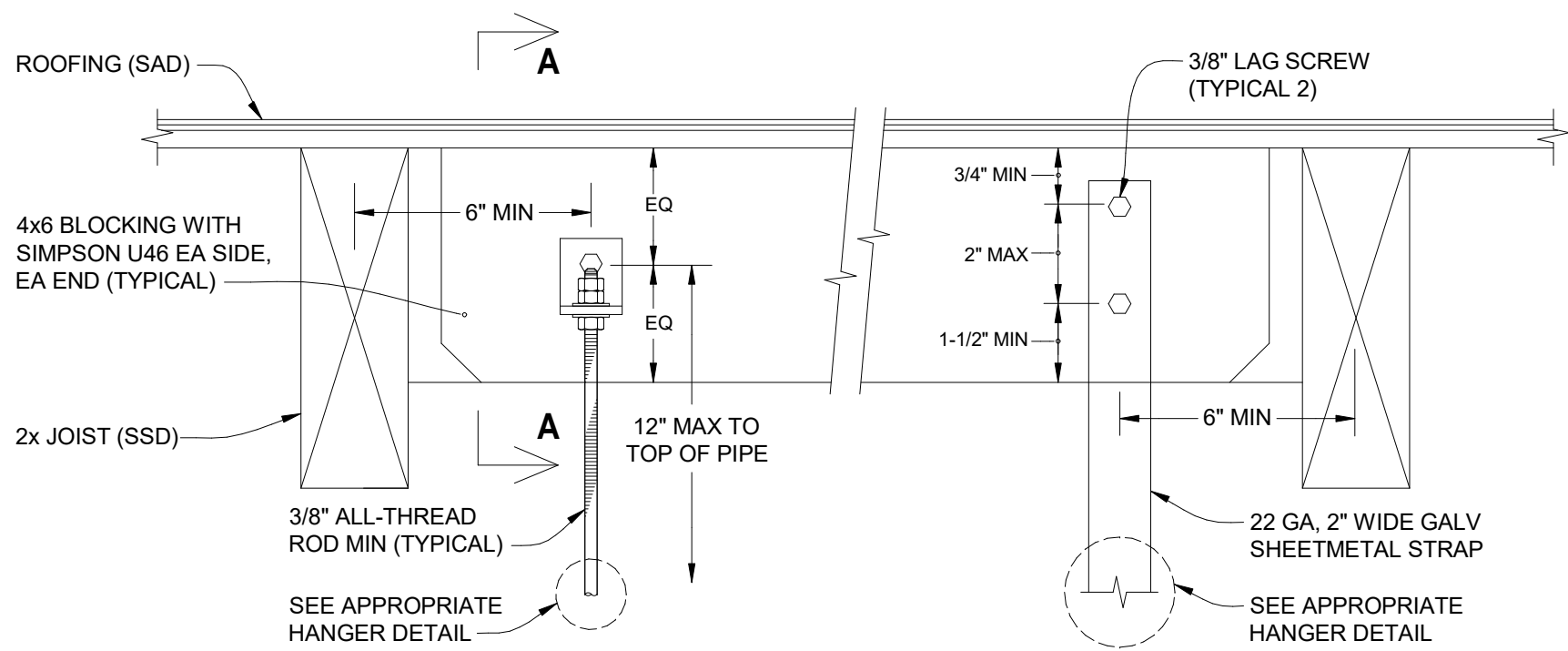
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MAY 10 2021

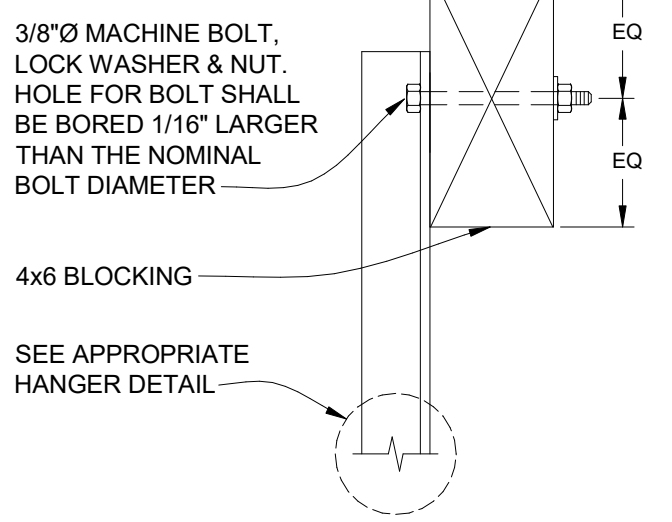
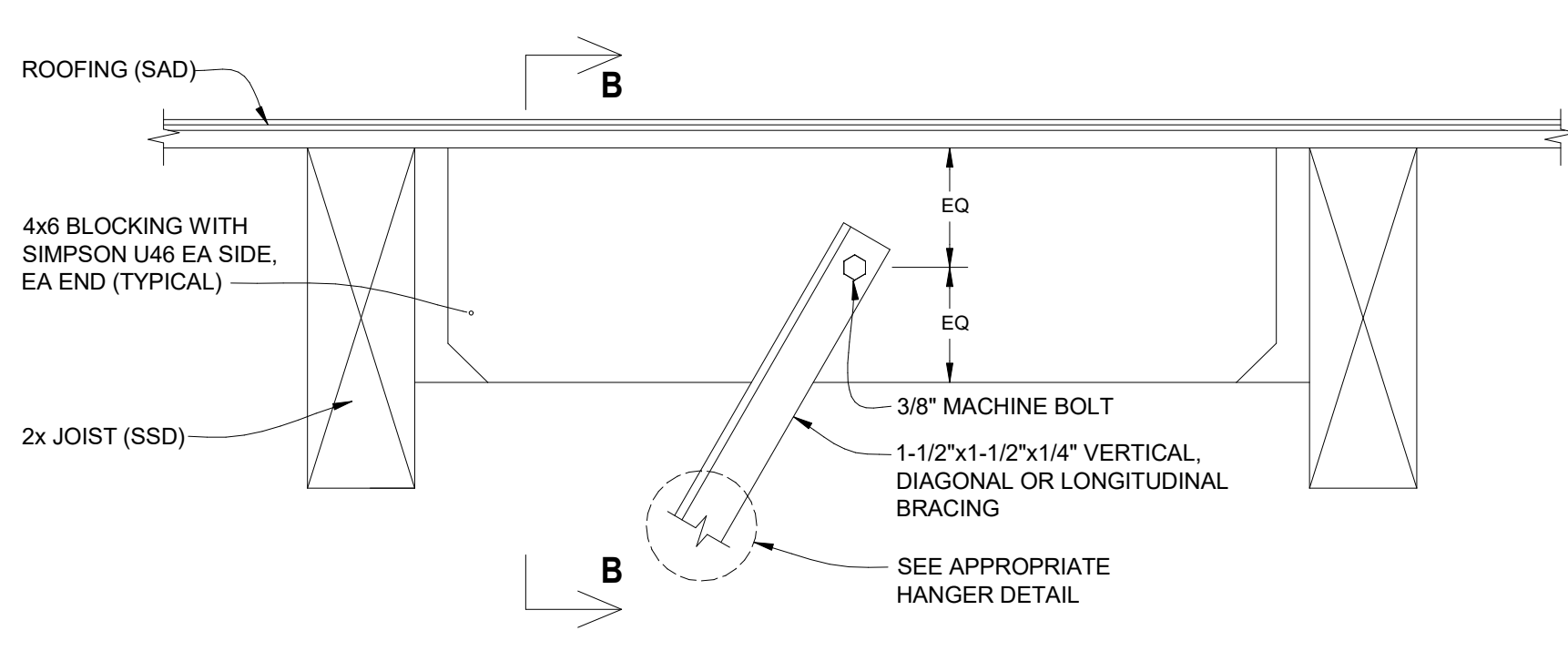
MECHANICAL DETAILS & DIAGRAMS

SHEET NUMBER

M-3.2



SECTION AA



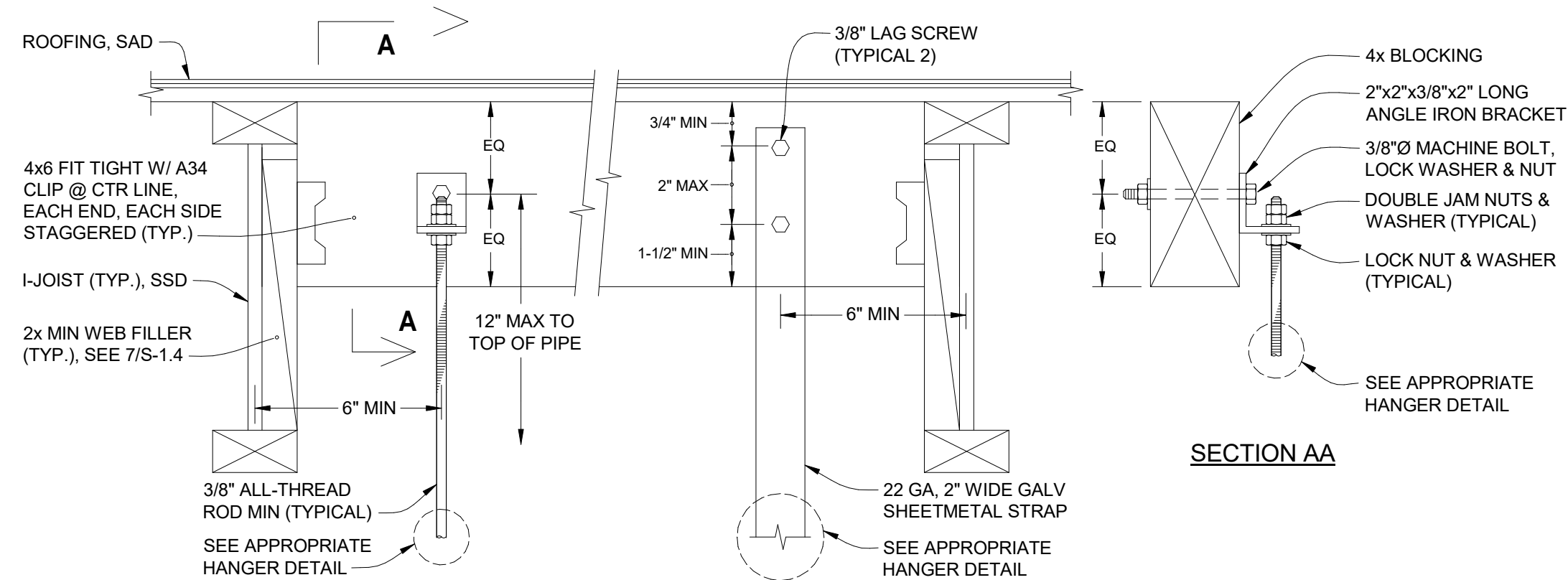
SECTION BB

A HANGER CONNECTION DETAILS @ WOOD STRUCTURE

SCALE: NONE

B SEISMIC BRACE CONNECTION DETAIL @ WOOD STRUCTURE

SCALE: NONE

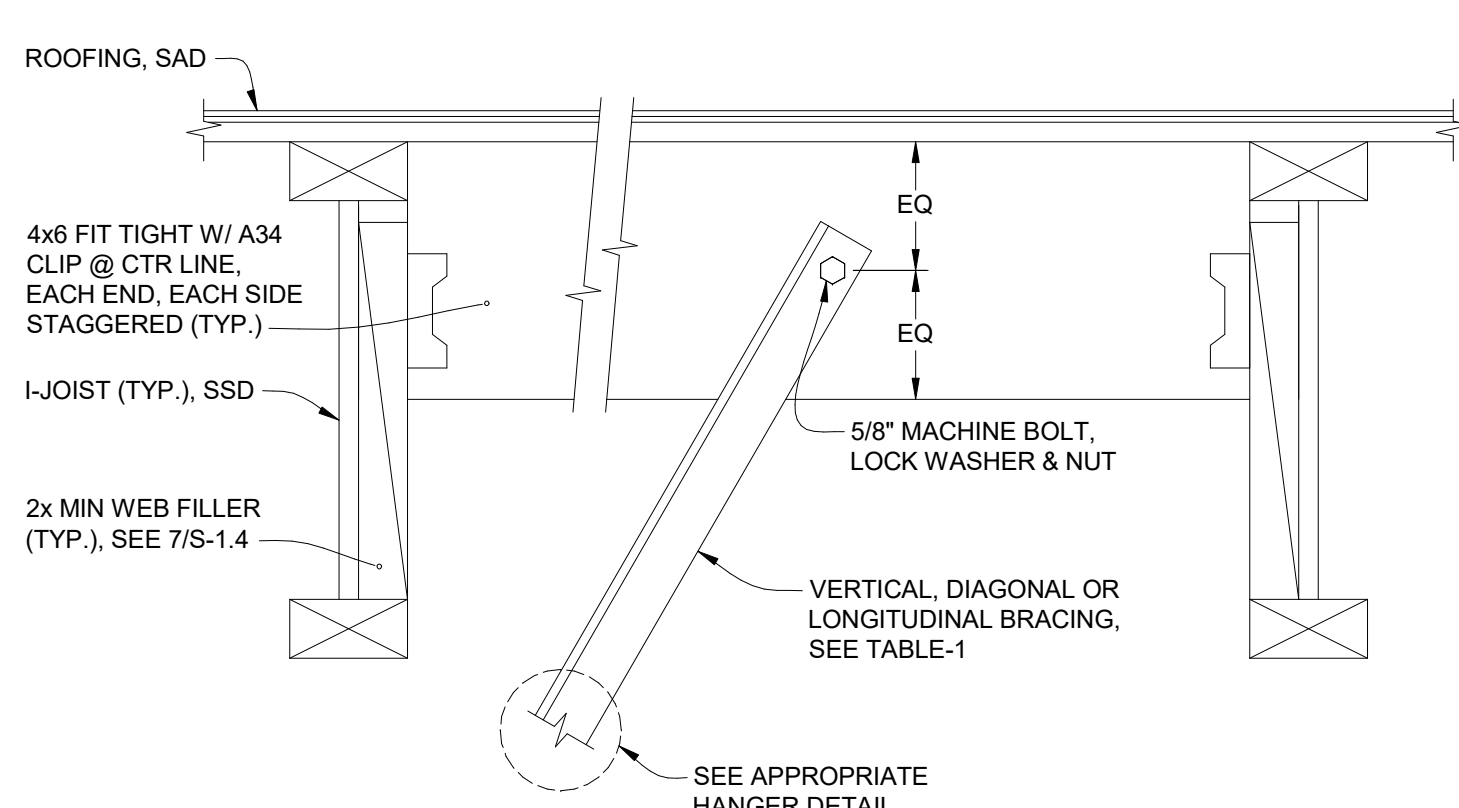


SECTION AA

VERTICAL HANGER CONNECTION TO BLK'G OR I-JOIST

C HANGER CONNECTION DETAILS @ I-JOIST

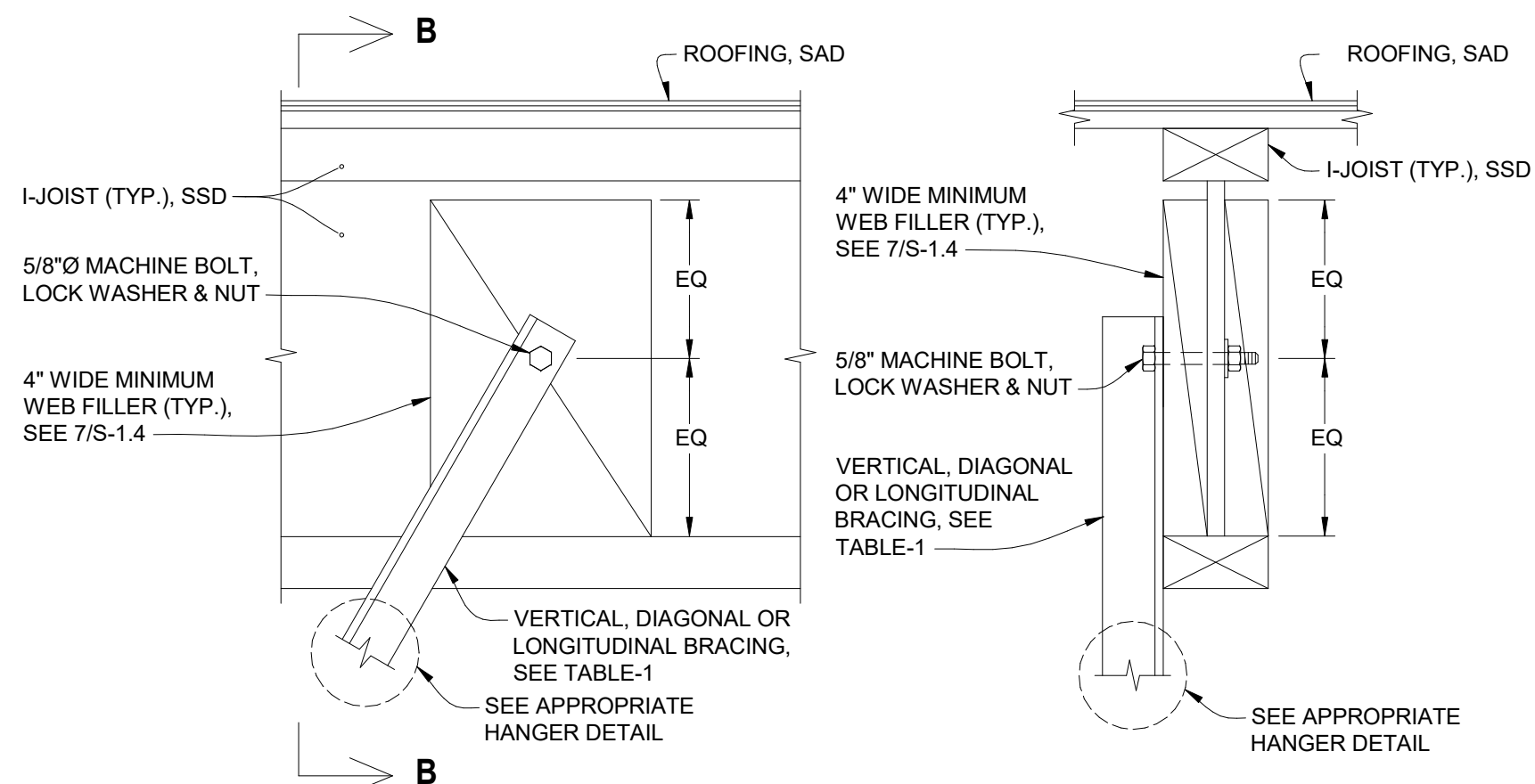
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DIAGONAL BRACING PERPENDICULAR W/ I-JOIST

D SEISMIC CONNECTION DETAILS @ I-JOIST

SCALE: NONE

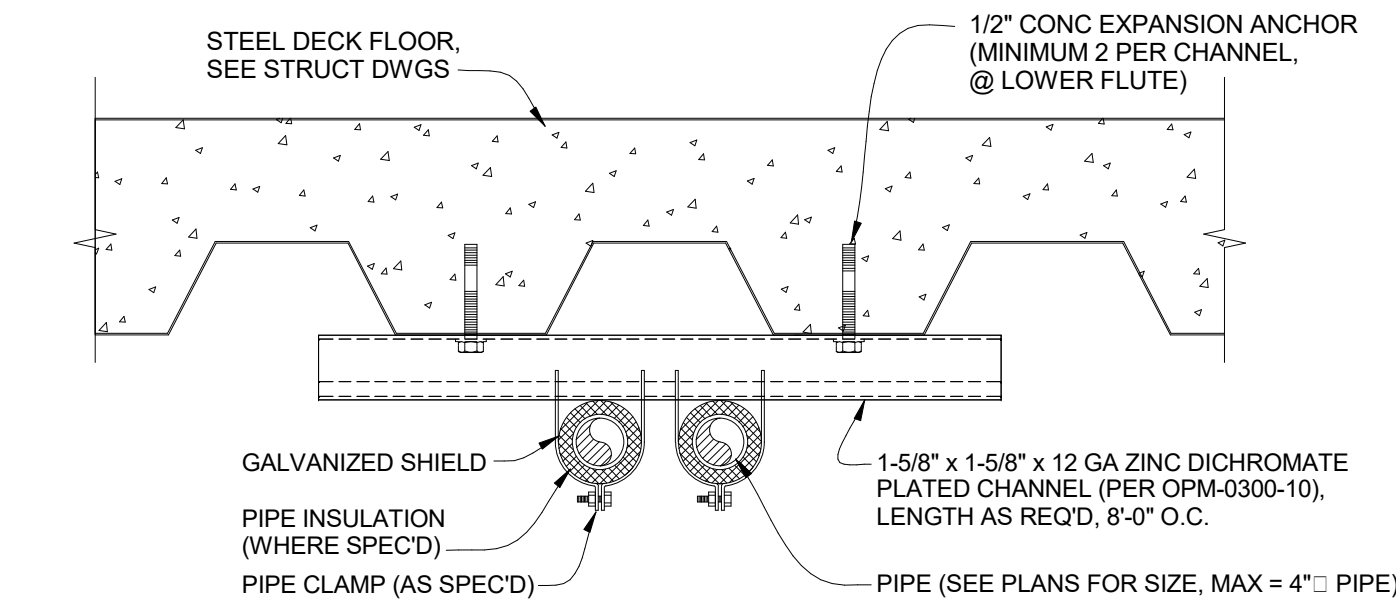


SECTION BB

DIAGONAL BRACING PARALLEL W/ I-JOIST

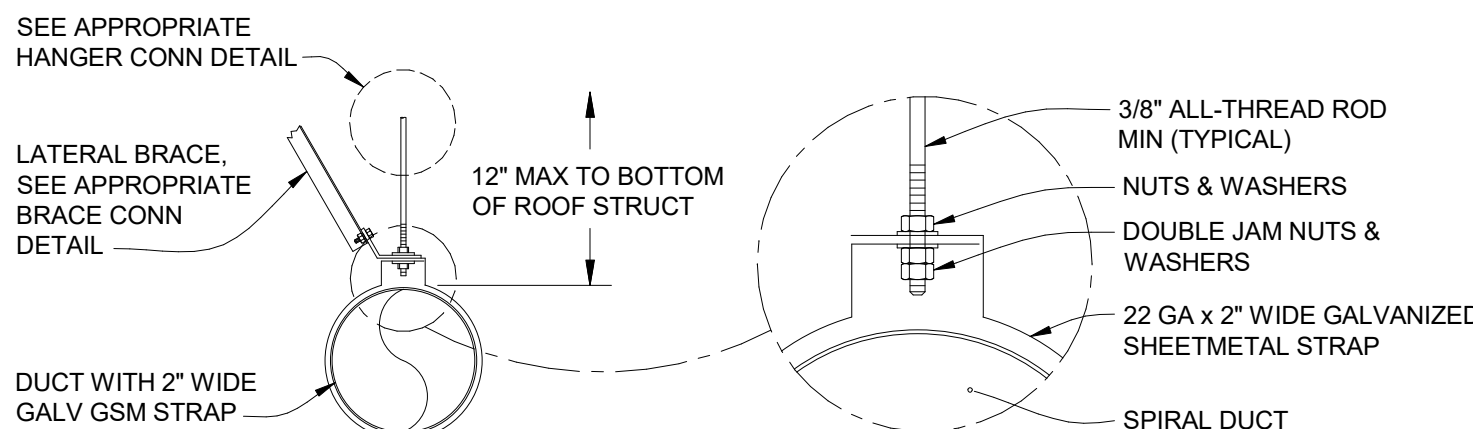
E SEISMIC CONNECTION DETAILS @ I-JOIST

SCALE: NONE

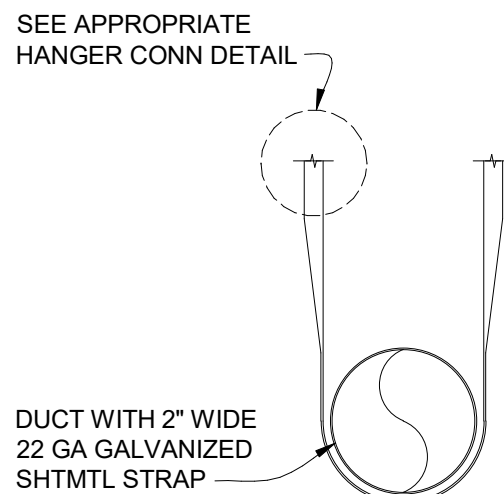


F PIPE SUPPORT @ METAL DECK

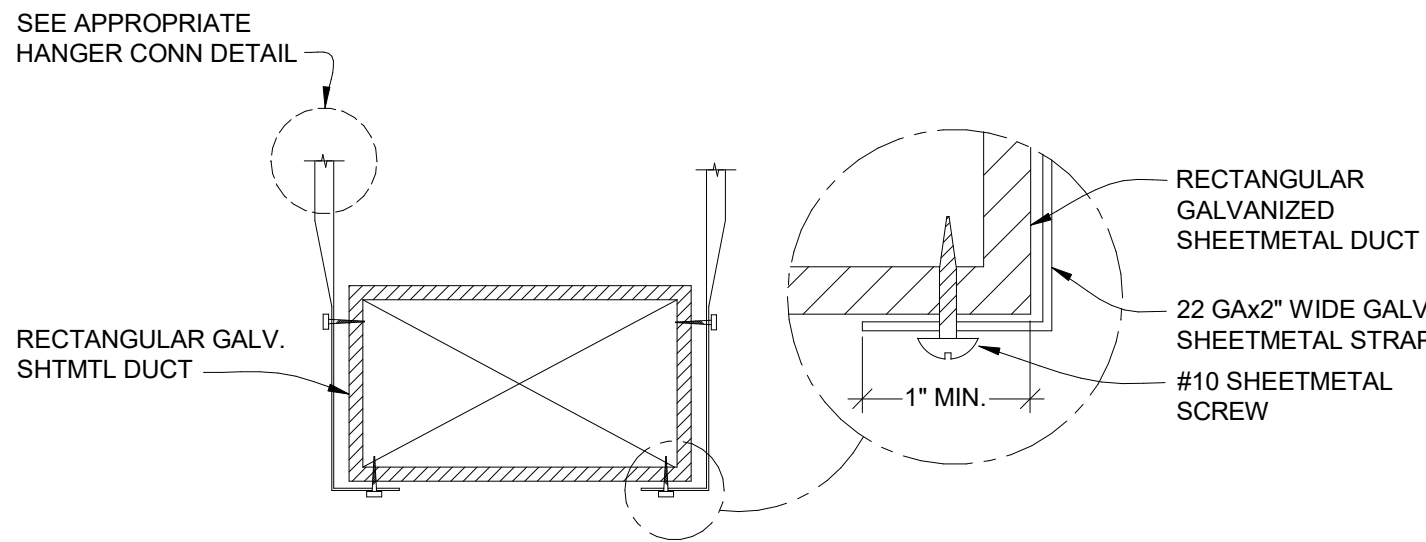
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ROUND DUCT (EXPOSED/CONCEALED)
(WITH CROSS-SECTIONAL AREA LARGER THAN 6 SQFT)



ROUND DUCT (EXPOSED/CONCEALED)
(WITH CROSS-SECTIONAL AREA SMALLER THAN 6 SQFT)

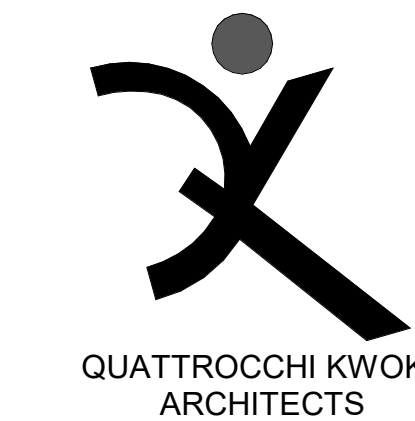


RECTANGULAR DUCT (EXPOSED/CONCEALED)
(WITH CROSS-SECTIONAL AREA SMALLER THAN 6 SQFT)

TABLE-1	
ANGLE (INCHES)	MAX LENGTH (INCHES)
1-1/2 x 1-1/2 x 1/8	3'-0"
2 x 2 x 3/16	6'-0"
3 x 3 x 1/4	8'-0"

DUCT SUPPORT NOTES:

- ALL STRAPS, RODS, TRAPEZE ANGLES AND TRAPEZE CHANNELS SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH THE LATEST SMACNA REQUIREMENTS.
- ALL BOLTS, NUTS, SCREWS AND OTHER FASTENING DEVICES SHALL BE LOAD-RATED AND SHALL MEET ALL CODE REQUIREMENTS AND SAFETY FACTORS WHICH APPLY.
- WIRE, USED IN LIEU OF STRAPS AND RODS, IS NOT ALLOWED.
- WHERE APPLICABLE, INSTALL INSULATION AFTER INSTALLING DUCT HANGERS.
- SUPPORTS SHALL BE PLACED AT 8'-0" ON CENTER (MAX) AND AT ALL CHANGES IN DIRECTION.
- LATERAL BRACING REQUIRED ON DUCTS WITH CROSS-SECTIONAL AREA LARGER THAN 6 SQ FT.
- SEISMIC BRACING IS NOT REQUIRED AT HVAC DUCTS THAT ARE 6 FT SQ OR LESS IN CROSS-SECTIONAL AREA, OR WEIGH 10 LB/FT OR LESS.
- SUPPORTS SHALL BE PLACED AT 8'-0" ON CENTER (MAX) AND AT ALL CHANGES IN DIRECTION.
- SEISMIC BRACING IS NOT REQUIRED AT HVAC DUCTS SUPPORTED BY HANGERS THAT ARE 12" OR LESS IN LENGTH FROM THE DUCT SUPPORT POINT TO THE SUPPORTING STRUCTURE. HVAC DUCTS SUPPORTED WITH ROD HANGERS WITH DIAMETER GREATER THAN 3/8 INCH SHALL BE EQUIPPED WITH SWIVELS TO PREVENT INELASTIC BENDING IN THE ROD.
- HVAC DUCTS ARE FREE TO SWING AT 45° IN ANY HORIZONTAL DIRECTION WITHOUT COLLIDING WITH THE STRUCTURE, ARCHITECTURAL ITEMS OR OTHER MECHANICAL, PLUMBING OR ELECTRICAL ITEMS.



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HERITAGE HIGH
SCHOOL

NEW CLASSROOM
BUILDINGS
INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH
SCHOOL DISTRICT

DSA APP NO. 01-119268

ARCH PROJECT NO. 1870.00

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DRAWING SCALE:

PTN: 61721-77 FILE NO: 7-H4

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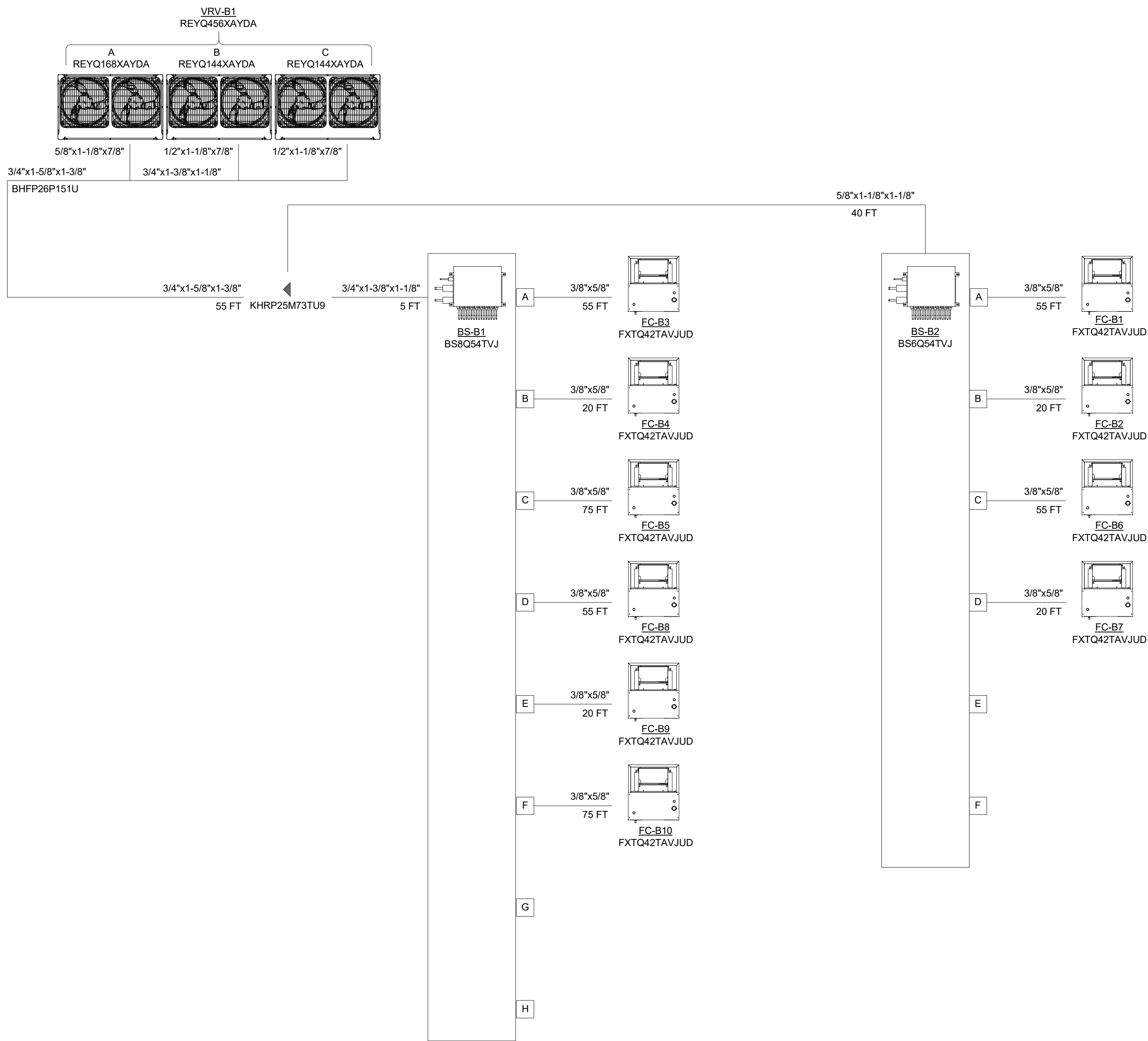
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MECHANICAL
DETAILS

SHEET NUMBER

M-3.3

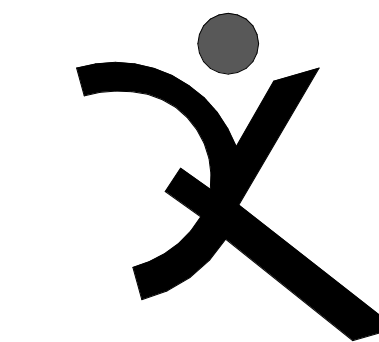
5/10/2021 12:59:28 PM C:\Users\maryann\Documents\20054 Heritage HS CR - RVT21_mcrutcher@costaengineers.com.rvt



A

VRV SYSTEM REFRIGERANT PIPING SCHEMATICS

SCALE: NONE



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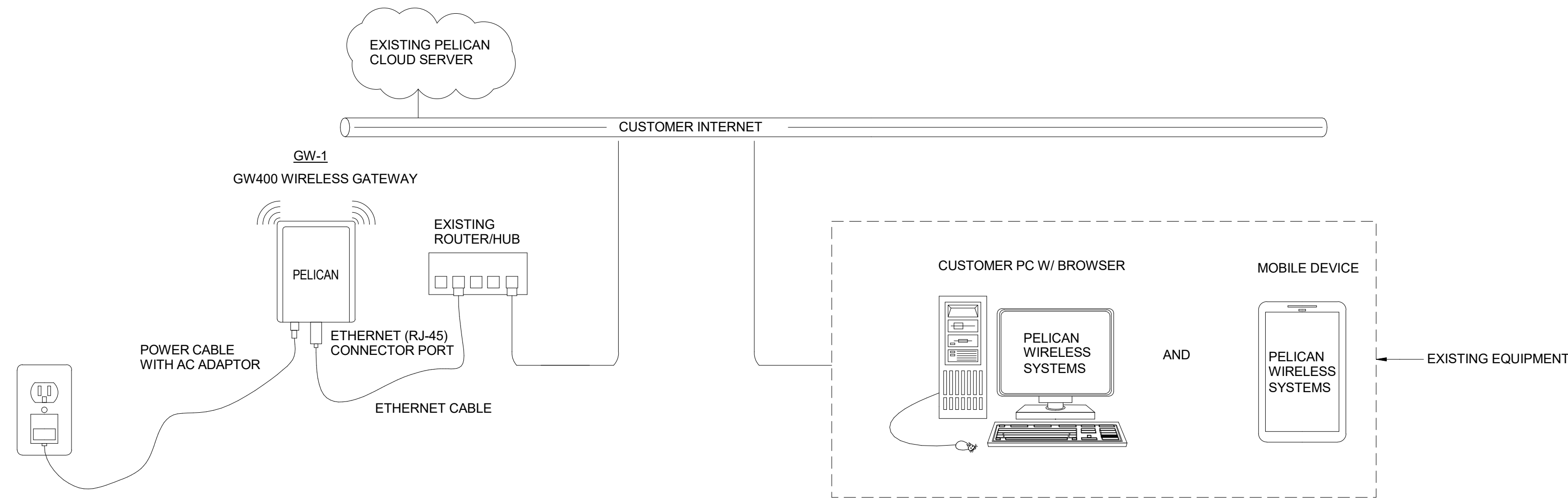
MAY 10, 2021

SHEET TITLE

PIPING DIAGRAM

SHEET NUMBER

M-3.4



CONTROL SYMBOL LEGEND	
	DIGITAL OUTPUT, EMS
	DIGITAL INPUT, EMS
	ANALOG OUTPUT, EMS
	ANALOG INPUT, EMS
INDICATES WIRING BY ELECTRICAL CONTRACTOR	
INDICATES WIRING BY CONTROL / EMS CONTRACTOR	
APPROX. NO. OF WIRES SHOWN	

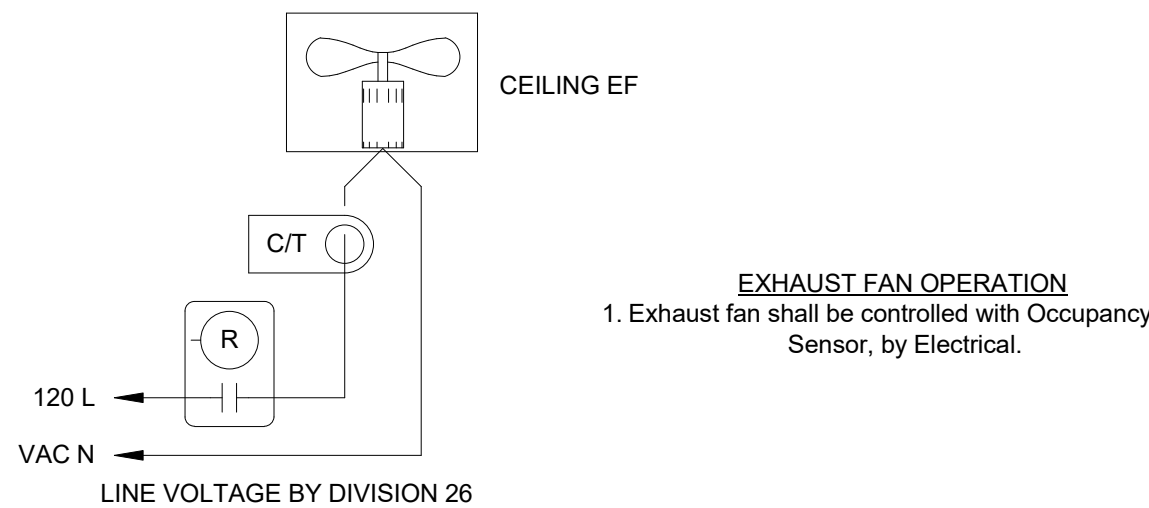
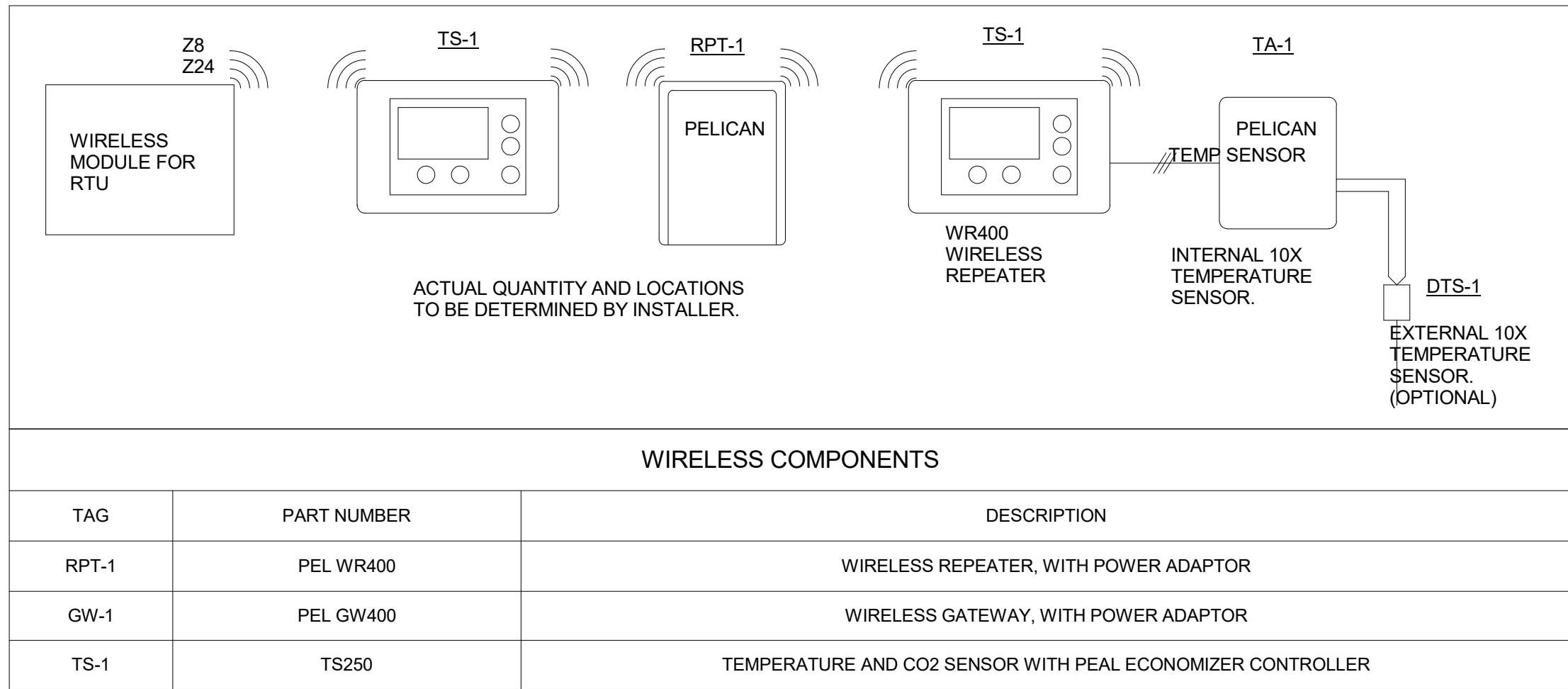
THE WIRELESS GATEWAY IS DESIGNATED TO BE WALL MOUNTED USING THE INCLUDED 3M COMMAND REMOVABLE STRIPS.

FIND A SUITABLE LOCATION WHICH IS:

- WITHIN 10 FEET OF YOUR INTERNET ROUTER
- WITHIN 4 FEET OF AN ELECTRICAL OUTLET
- AT LEAST 4 FEET AWAY FROM OTHER WIRELESS DEVICES
- AWAY FROM LARGE METAL OBJECTS WHICH MAY INTERFERE WITH THE WIRELESS SIGNAL
- ABOVE OFFICE EQUIPMENT WHICH MAY INTERFERE WITH THE WIRELESS SIGNAL
- ACTUAL QUANTITY AND LOCATIONS TO BE DETERMINED BY INSTALLER. NO PRACTICAL LIMITS TO NUMBER OF THERMOSTATS SUPPORTED BY A SINGLE GATEWAY

FACTORY IP ADDRESS GATEWAY WILL CONNECT AUTOMATICALLY TO PELICAN SERVER AFTER SERIAL NO. OF GATEWAY IS REGISTERED ON PELICAN SITE.

GO TO: <http://www.pelicanwireless.com/new-site-subscription/>

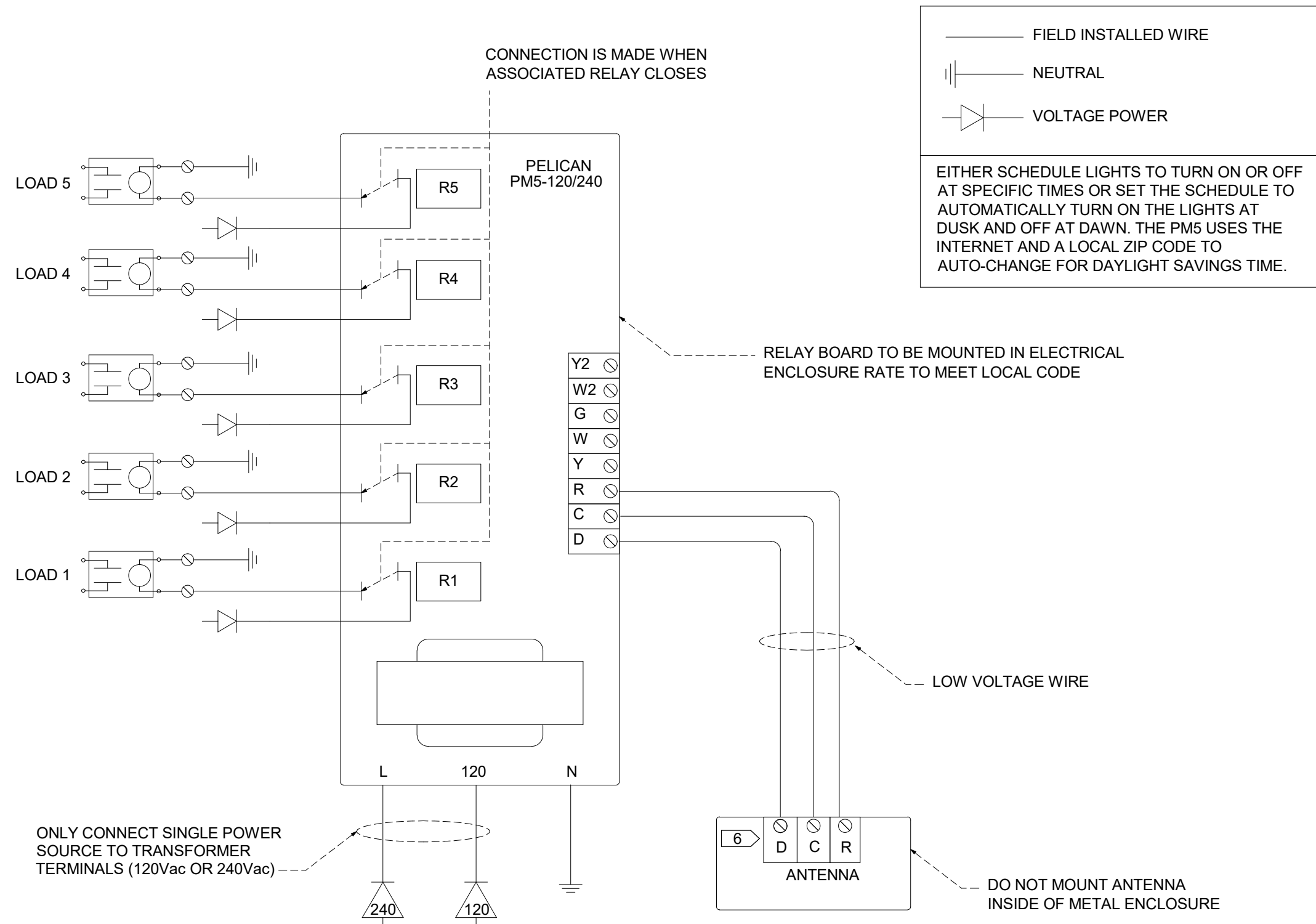


A TYPICAL PELICAN WIRELESS LAN LAYOUT

SCALE: NONE

B CEILING EF FAN CONTROL DIAGRAM

SCALE: NONE



C OUTDOOR LIGHTING CONTROL DIAGRAM

SCALE: NONE

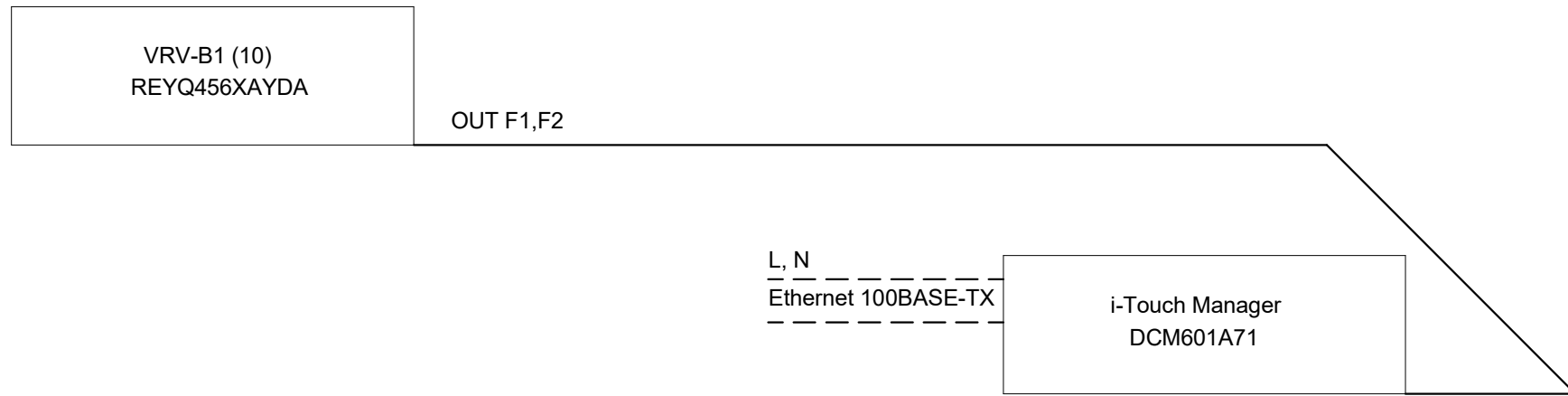
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MECHANICAL
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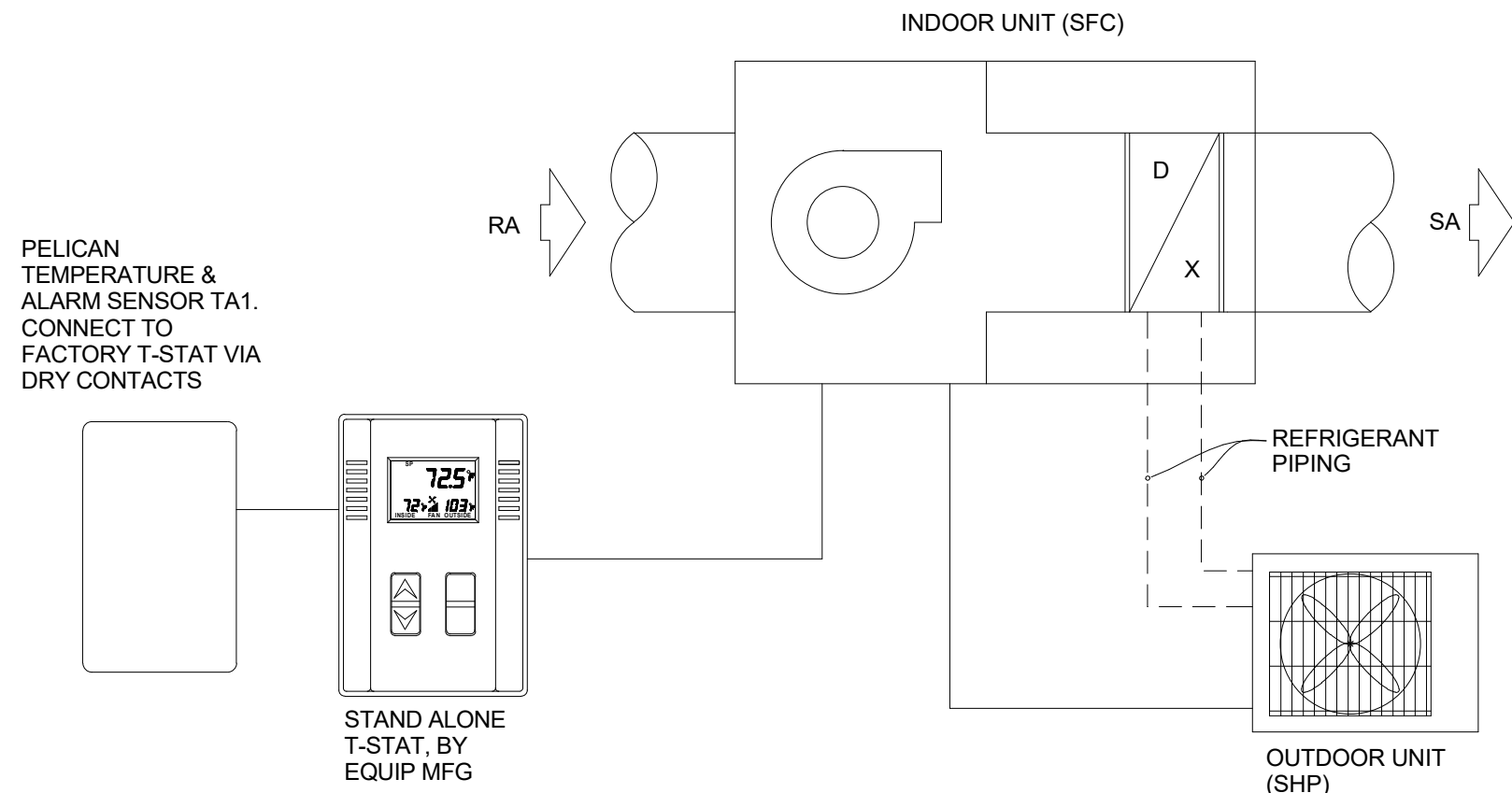
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SHEET TITLE

CONTROLS DIAGRAMS
SHEET NUMBER
M-4.1



A VRV CONTROLLER WIRING DIAGRAM
SCALE: NONE



B SINGLE ZONE SPLIT SYSTEM CONTROL DIAGRAM
SCALE: NONE

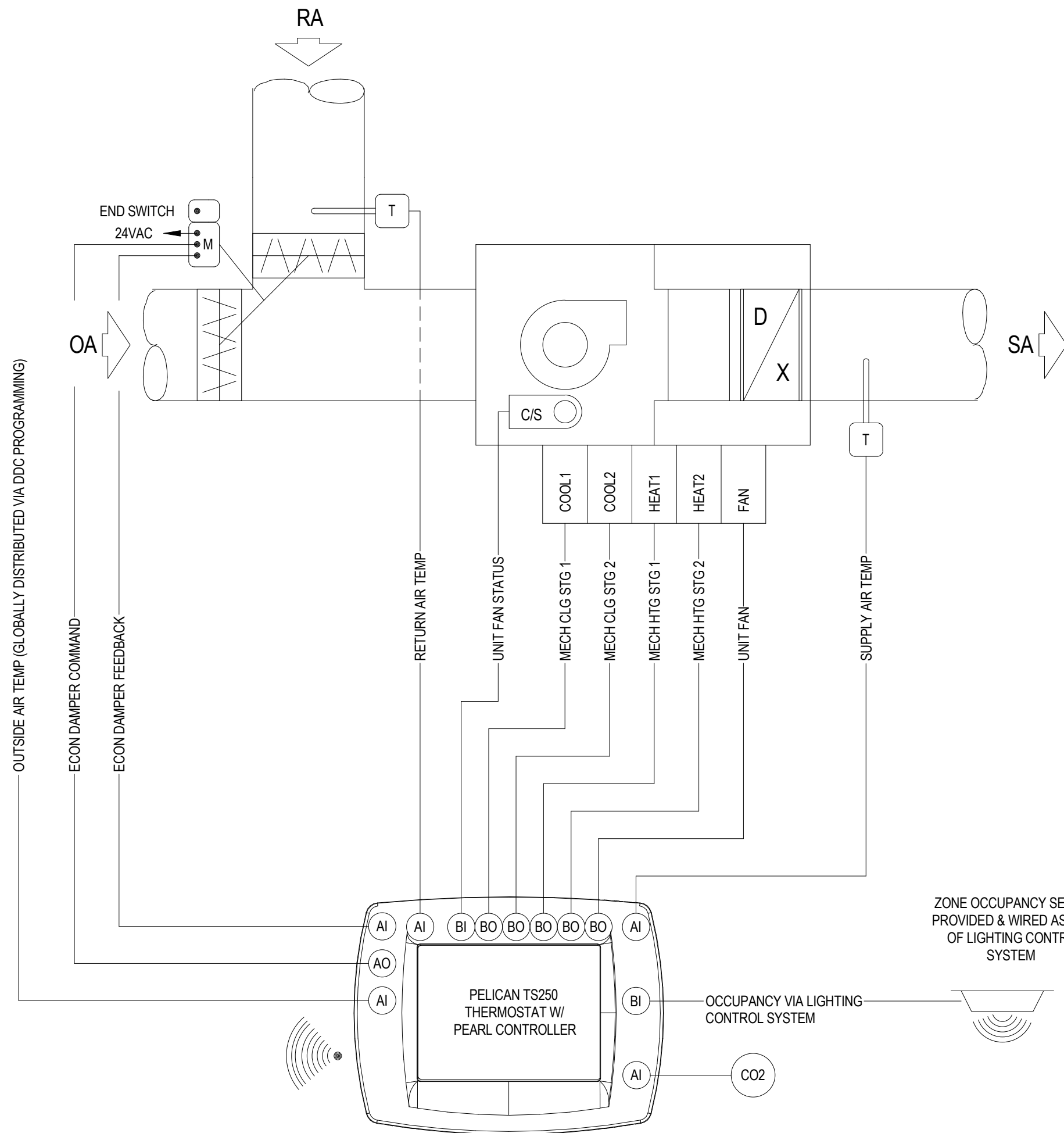
CONTROL SYMBOL LEGEND

- DO DIGITAL OUTPUT, EMS
- DI DIGITAL INPUT, EMS
- AO ANALOG OUTPUT, EMS
- AI ANALOG INPUT, EMS

INDICATES WIRING BY ELECTRICAL CONTRACTOR

INDICATES WIRING BY CONTROL / EMS CONTRACTOR

APPROX. NO. OF WIRES SHOWN

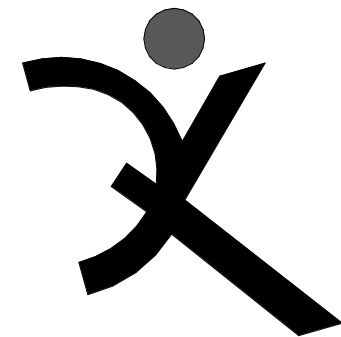


C PACKAGE HEAT PUMP UNIT W/ DEMAND CONTROL VENTILATION & OCCUPANCY MONITORING
SCALE: NONE

Packaged AC Unit with Economizer, Demand Control Ventilation, Zone Occupancy Monitoring

- System Overview
 - Each AC unit will be directly controlled by its own dedicated EMS (Energy Management System) unitary controller.
 - EMS unitary controller will be connected to a wall mounted electronic zone temperature sensor with integral relative humidity sensor and CO2 sensor.
 - Electronic zone temperature sensor shall have a touch screen LCD interface which includes: 1) digital pushbuttons for warmer/cooler setpoint control; 2) visual display of room temperature, room humidity, room CO2 and ambient OSA temperature; and 3) digital pushbutton after-hours override timer control, with user adjustable duration. The after-hours override duration shall have the ability to be limited from the front-end.
- Occupancy/Vacancy Monitoring
 - Zone occupancy and vacancy will be actively monitored by connection to Lighting Control System occupancy sensor(s). If available, monitoring shall be accomplished via BACnet system integration. Otherwise, BAS contractor shall monitor auxiliary contacts on Lighting Control System occupancy sensor(s).
- Unit Fan Operation
 - When the zone is in Occupied Mode or in Afterhours Mode, the fan shall run continuously, unless Vacant Mode has been triggered.
 - Low speed and high speed fan operation to be controlled by AC Unit Manufacturer's internal controls independent of EMS based upon call for heating, cooling or ventilation.
 - During the Unoccupied Mode as determined by EMS time schedule, the unit fan cycles with demand and the temperature is controlled by the unoccupied space temperature heating and cooling setpoints.
- Minimum Outdoor Air Ventilation
 - During Occupied Mode or Afterhours Mode, the economizer damper shall be commanded by the EMS unitary controller to maintain a position which satisfies the Minimum Outdoor Air ventilation requirements for the zone. Damper position(s) determined by Air Balancing Contractor.
- Demand Control Ventilation
 - EMS unitary controller will be connected to a wall mounted CO2 sensor to monitor zone CO2 concentration.
 - During Occupied Mode or Afterhours Mode, the EMS unitary controller shall reset the outside air damper minimum position to maintain the CO2 concentration below 1,000 ppm.
- Automatic Demand Reduction Controls
 - EMS shall be programmed with capability to implement centralized demand shed for all non-critical zones upon call for Automatic Demand Reduction. Critical zones shall not be impacted by demand shed conservation measures.
- Vacant Mode Control
 - When the zone has been scheduled for occupancy for at least one hour and the occupancy sensor has confirmed that zone has been vacant for 5 minutes (adjustable: maximum 30 minutes), zone shall be placed into Vacant Mode.
 - Reset cooling and heating setpoints up and down by 2°F (adjustable) or more.
 - Minimum Outdoor Air ventilation requirements in the zone need only be maintained 15 minutes out of every 60 minutes while the zone is in Vacant Mode.
 - Upon detection of occupancy, Vacant Mode shall be cleared.
- Zone Pre-Occupancy Purge
 - The EMS shall schedule the zone to be in Occupied Mode one hour prior to the actual time of anticipated occupancy.
- Heating operation
 - The controller compares the heating setpoint with the space temperature and determines a need-heating control signal to stage a gas regulating valve on the unit.
 - Economizer to be commanded to Min CFM setpoint and mechanical cooling to be locked out during heating mode.
- Cooling operation
 - The controller compares the cooling setpoint with the space temperature and determines a need-cooling signal.
 - The first stage of cooling will enable the economizer to provide free cooling for as long as possible.
 - The second stage will enable the compressor(s) to maintain the room set point.
 - Mechanical heating to be locked out during cooling mode.

- Fault Detection Diagnostics
 - The EMS DDC Controller shall monitor the following economizer actuator Fault Detection Diagnostic conditions and broadcast results via EMS network:
 - Temperature Sensor Failure/Fault
 - Economizer not economizing when enabled
 - Economizer economizing when disabled
 - Economizer damper modulation failure
 - Excess outdoor air
 - Monitoring - The following conditions shall be monitored and displayed at EMS Operator Workstation/Graphical User Interface:
 - Supply air temperature.
 - Room temperature.
 - Room CO2 concentration.
 - Room occupancy status.
 - Current mode (heating/cooling/fan).
 - Supply air temperature attained last time unit was in heating.
 - Supply air temperature attained last time unit was in cooling.
 - Current command status of fan, economizer, compressor and gas valve.
 - Run time meters on fan, compressor, and heat.
 - Fan Status thru Current Switch.
 - Economizer actuator feedback status.



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ARCH PROJECT NO. 1870.00

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DRAWING SCALE:

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SHEET TITLE

**CONTROLS
DIAGRAMS**

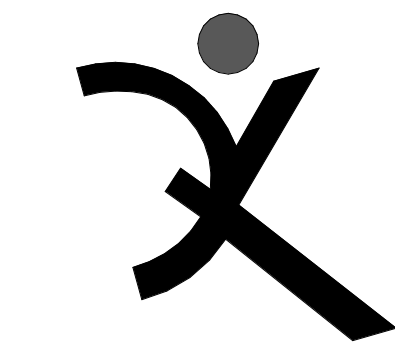
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M-4.2

LOCAL CONNECTION SCHEDULE					
MARK	S	V	CW	HW	REMARKS
P-1A	4"	2"	1 1/2"	0"	WALL MOUNTED WATER CLOSET; VITREOUS CHINA; ADA ACCESSIBLE; 1.28 GPF
P-2	2"	1 1/2"	3/4"	3/4"	WALL MOUNTED LAVATORY; VITREOUS CHINA; ADA ACCESSIBLE; 0.5 GPM
P-2A	2"	1 1/2"	3/4"	0"	WALL MOUNTED LAVATORY; VITREOUS CHINA; ADA ACCESSIBLE; 0.5 GPM
P-4	3"	2"	3/4"	3/4"	FLOOR MOUNTED JANITOR SINK
P-5	2"	1 1/2"	3/4"	0"	STAINLESS STEEL; INTEGRAL TO COUNTER; EPOXY COATED
P-5A	2"	1 1/2"	3/4"	0"	STAINLESS STEEL; INTEGRAL TO COUNTER; EPOXY COATED; ADA ACCESSIBLE
P-5B	2"	1 1/2"	3/4"	3/4"	STAINLESS STEEL; INTEGRAL TO COUNTER; EPOXY COATED; ADA ACCESSIBLE
P-5C	2"	2"	3/4"	3/4"	STAINLESS STEEL; FLOOR STANDING SINK
FS-1	2"	1 1/2"	1/2"	0"	4"x9" CONDENSATE FURNEL DRAIN
FS-2	2"	1 1/2"	0"	0"	12"x12" FLOOR SINK
FD-1	2"	1 1/2"	0"	0"	FLOOR DRAIN WITH TRAP PRIMER
HB-1	0"	0"	3/4"	0"	INTERIOR HOSE BIBB
HB-2	0"	0"	3/4"	0"	EXTERIOR HOSE BIBB
HB-3	0"	0"	0"	0"	EXTERIOR HOSE BIBB @ 36" AFG
RD/OF-1	0"	0"	0"	0"	ROOF DRAIN SEE PLAN FOR PIPE SIZES

NOTE: PLUMBING FIXTURES AND VALVES SHALL BE AB1953 COMPLIANT.

ELECTRIC WATER HEATER SCHEDULE										
MARK	MANUF.	MODEL	TYPE	STORAGE CAPACITY	RECOVERY @ 90°F RISE (GPH)	ELECTRICAL			OPER. WEIGHT	LOCATION
						V-Ø-HZ	No. Elements	WATTS		
WH-A1	A.O. SMITH	DEL-10	TANK-TYPE; ELECTRIC	10 gal	11	208-1-60	1	2,500 W	135 lb	CUSTODIAN A103
WH-A2	STIEBEL-ELTRON	DHC 5-2	TANKLESS; ELECTRIC	-	-	208/160	-	3,600 W	5 lb	EARTH SCIENCE A101
WH-A3	STIEBEL-ELTRON	DHC 5-2	TANKLESS; ELECTRIC	-	-	208/160	-	3,600 W	5 lb	REHAB A102-A
REMARKS: 1. UNDER-COUNTER WATER HEATER 2. ON-DEMAND TYPE, ELECTRIC WATER HEATER. ELECT INFO: 3.6 KW, 18A, 20A MIN CIRCUIT BREAKER 3. COMPLETE WITH AQUASTAT & EXPANSION TANK 4. WALL-MOUNTED, AS HIGH AS POSSIBLE (MINIMUM 6'-8" ABOVE FINISHED FLOOR) OVER MOP SINK 5. PROVIDE WITH DRAIN PAN 6. SET HOT WATER TEMPEATURE @ 120 DEG FAHRENHEIT 7. SEE DETAIL A/P-3-1 FOR MOUNTING DETAILS										

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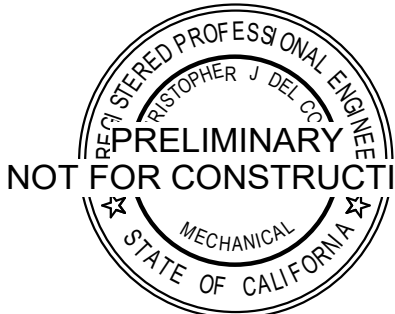
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LIBERTY UNION HIGH
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DSA APP NO. 01-119268

ARCH PROJECT NO: 1870.00

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PTN: 61721-77 FILE NO: 7-H4

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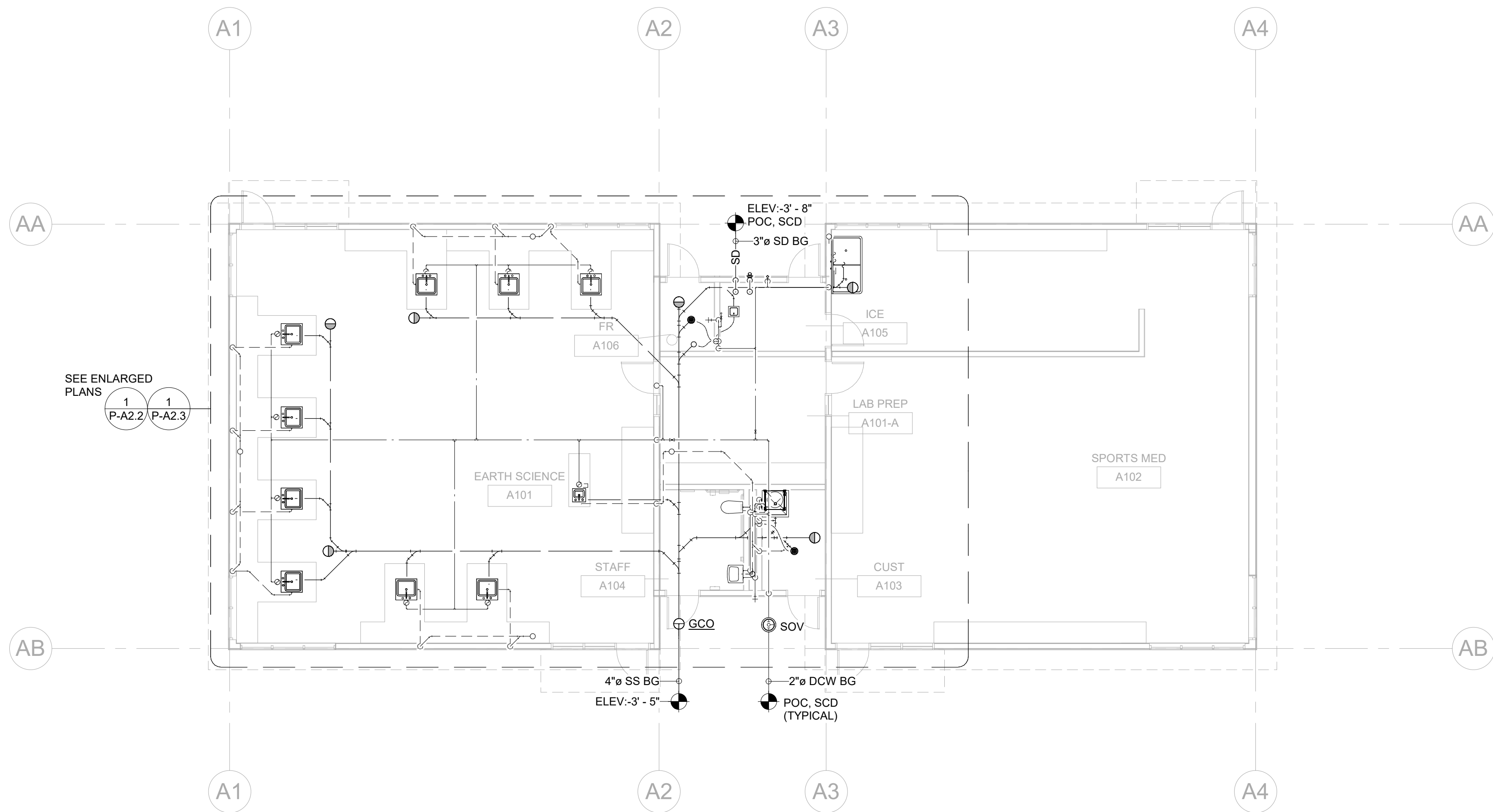
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PLUMBING LEGENDS & SCHEDULES

SHEET NUMBER

P-1.1

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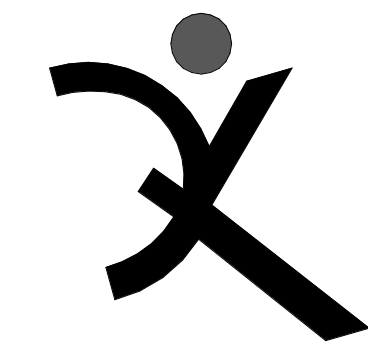
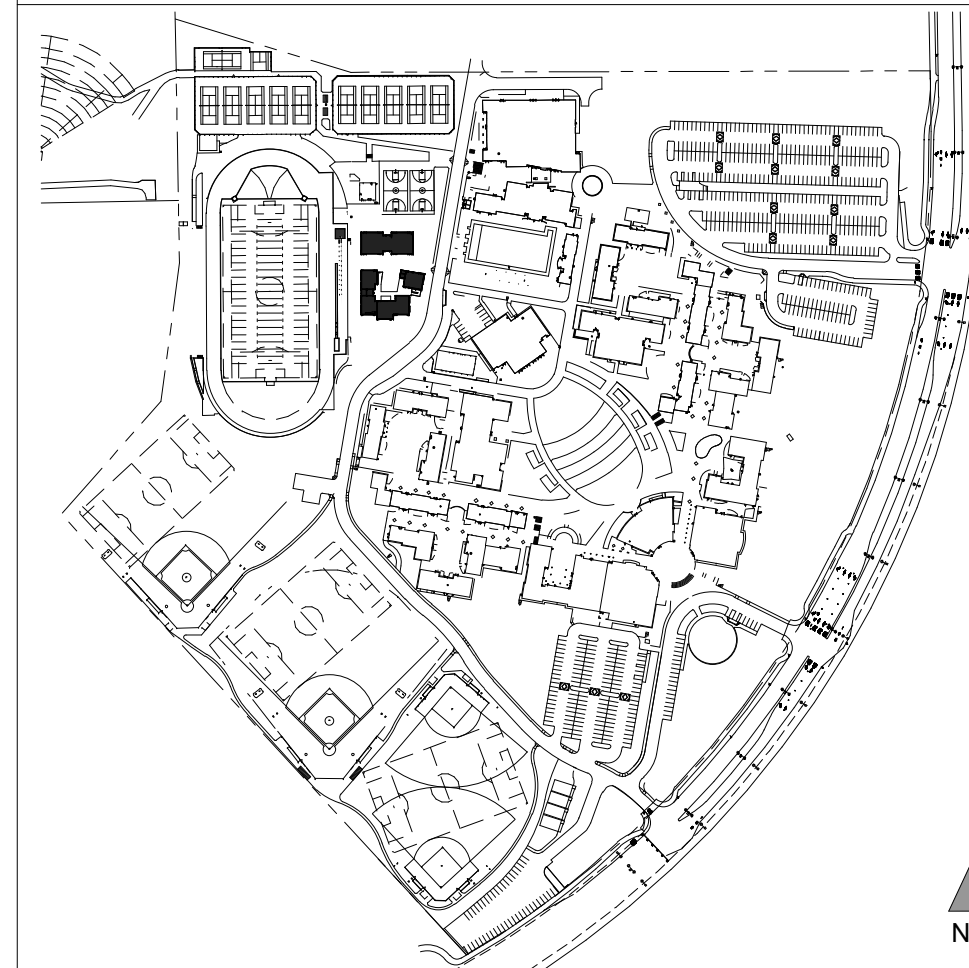


WALL TYPE LEGEND

S.S.D. FOR WOOD FRAMING SIZES

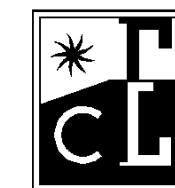
WOOD FRAMED WALL - NON RATED, SAD
WOOD FRAMED - 1 HOUR RATED, SAD

KEYPLAN



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BLDG A PLUMBING PLAN

SHEET NUMBER

P-A2.1



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DRAWING SCALE: $1/4" = 1'-0"$

PTN: 61721-77 FILE NO: 7-H4

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MAY 10, 2021

SHEET TITLE

BLDC A

BLDG A

ENLARGED

WASTE & VENT

PLANS

PLANS

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SHEET NUMBER

Discussion

P.A2 2

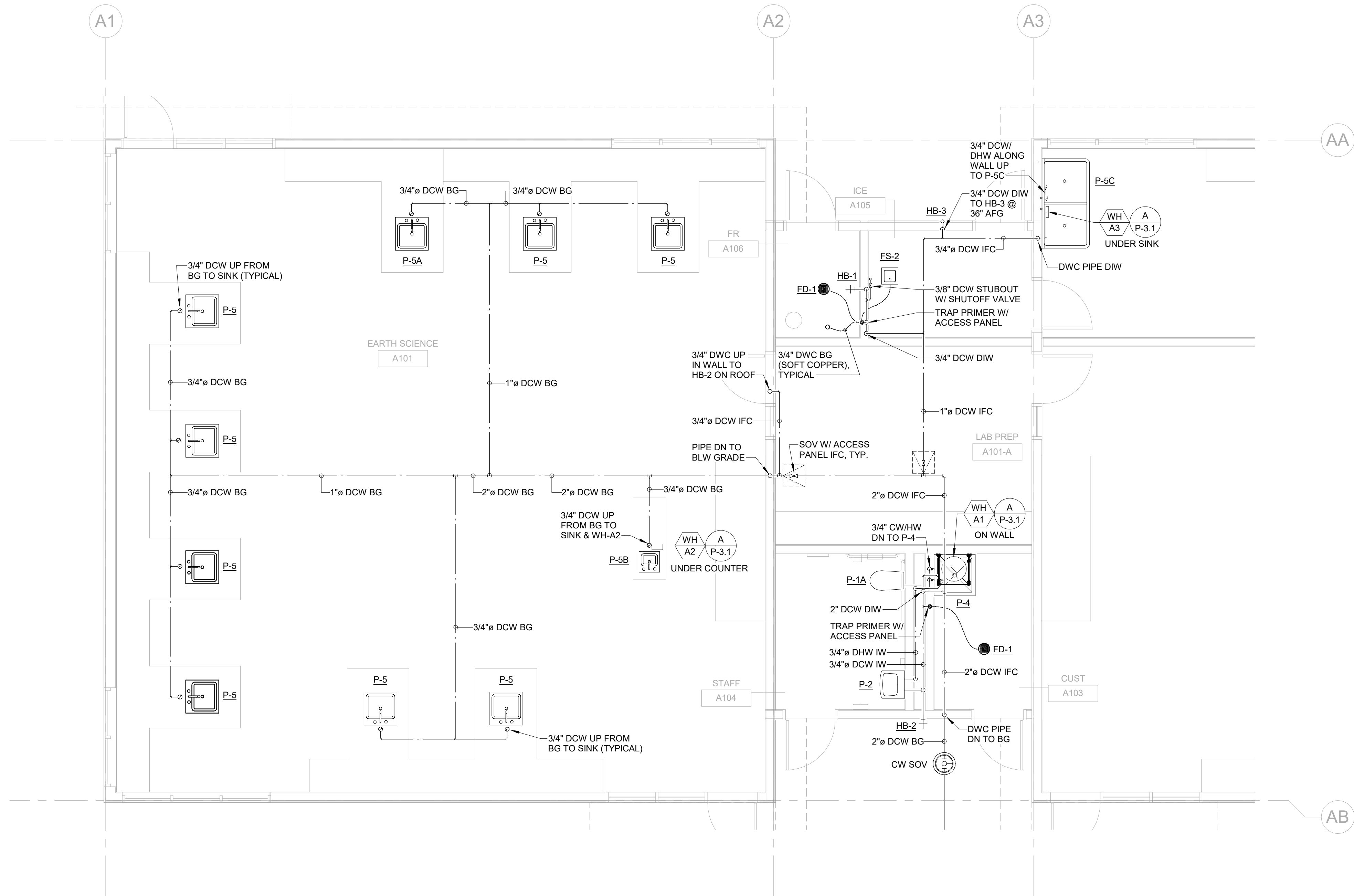
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$$1/4'' = 1'-0''$$

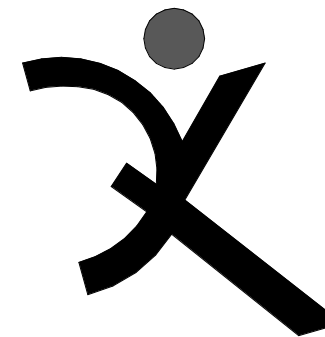
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1 ENLARGED PARTIAL PLAN - WATER

1/4" = 1'-0"



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PTN: 61721-77 FILE NO: 7-H4

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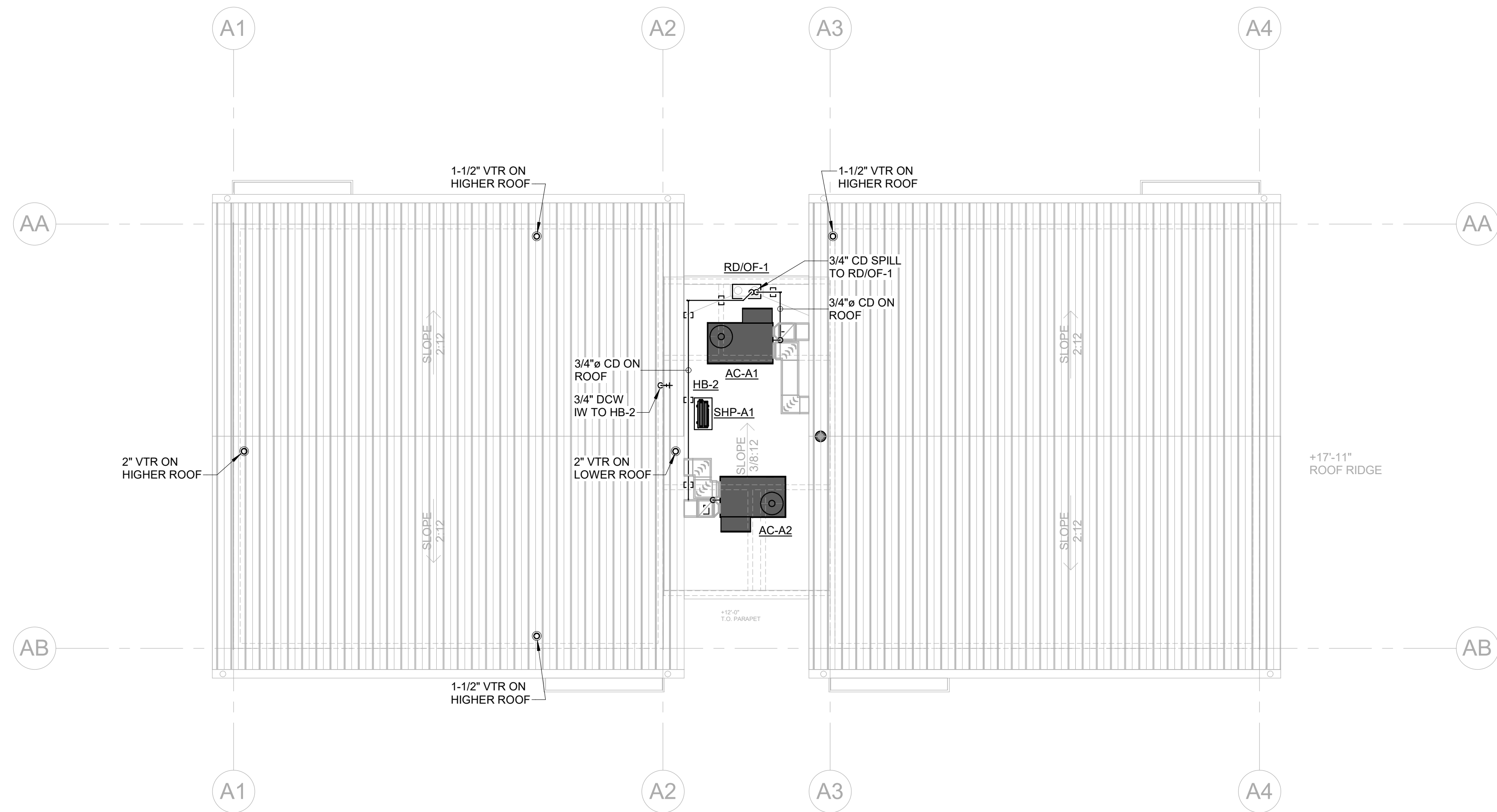
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BLDG A ENLARGED WATER PLANS

SHEET NUMBER

P-A2.3

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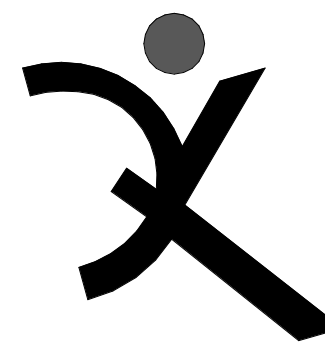
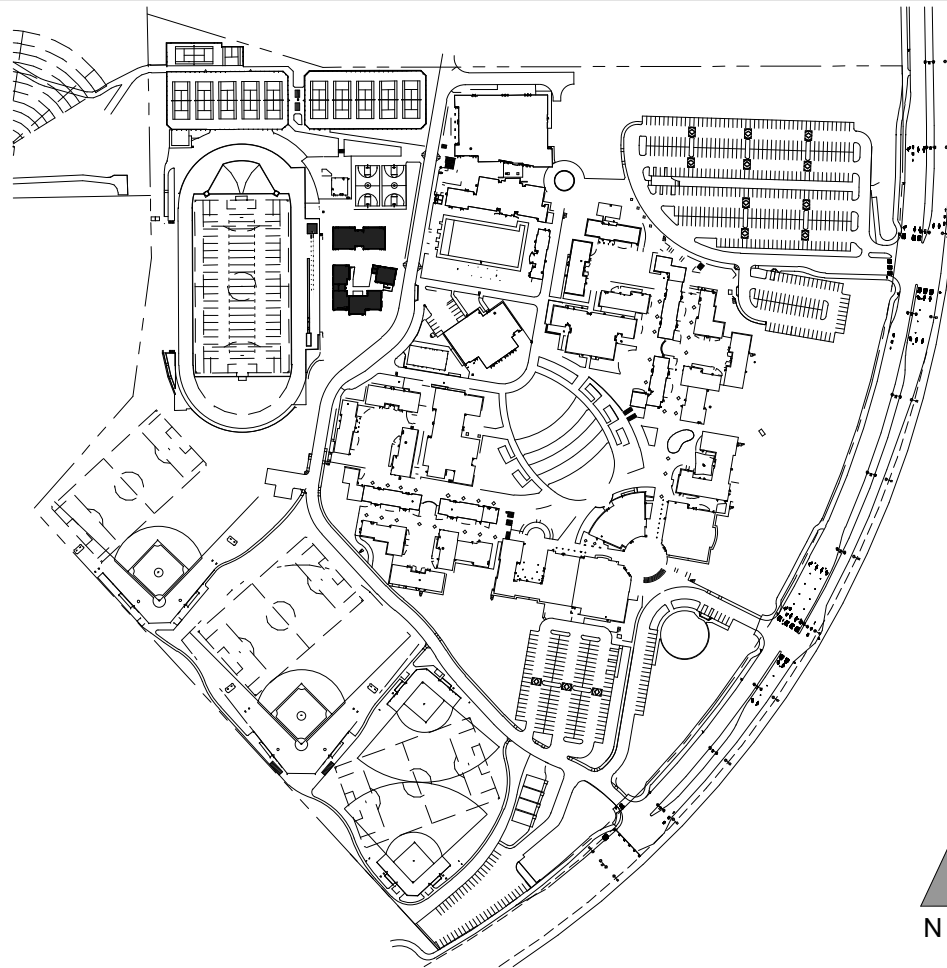


WALL TYPE LEGEND

S.S.D. FOR WOOD FRAMING SIZES

- WOOD FRAMED WALL - NON RATED, SAD
- WOOD FRAMED - 1 HOUR RATED, SAD

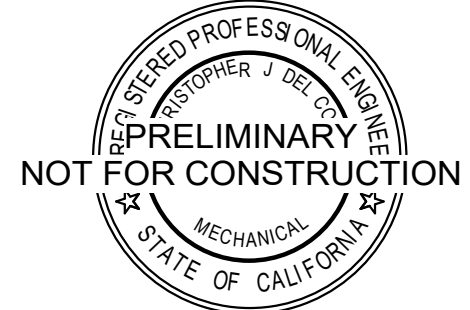
KEYPLAN



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BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119268
ARCH PROJECT NO. 1870.00
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DRAWING SCALE: 1/8" = 1'-0"
PTN: 61721-77 FILE NO: 7-H4

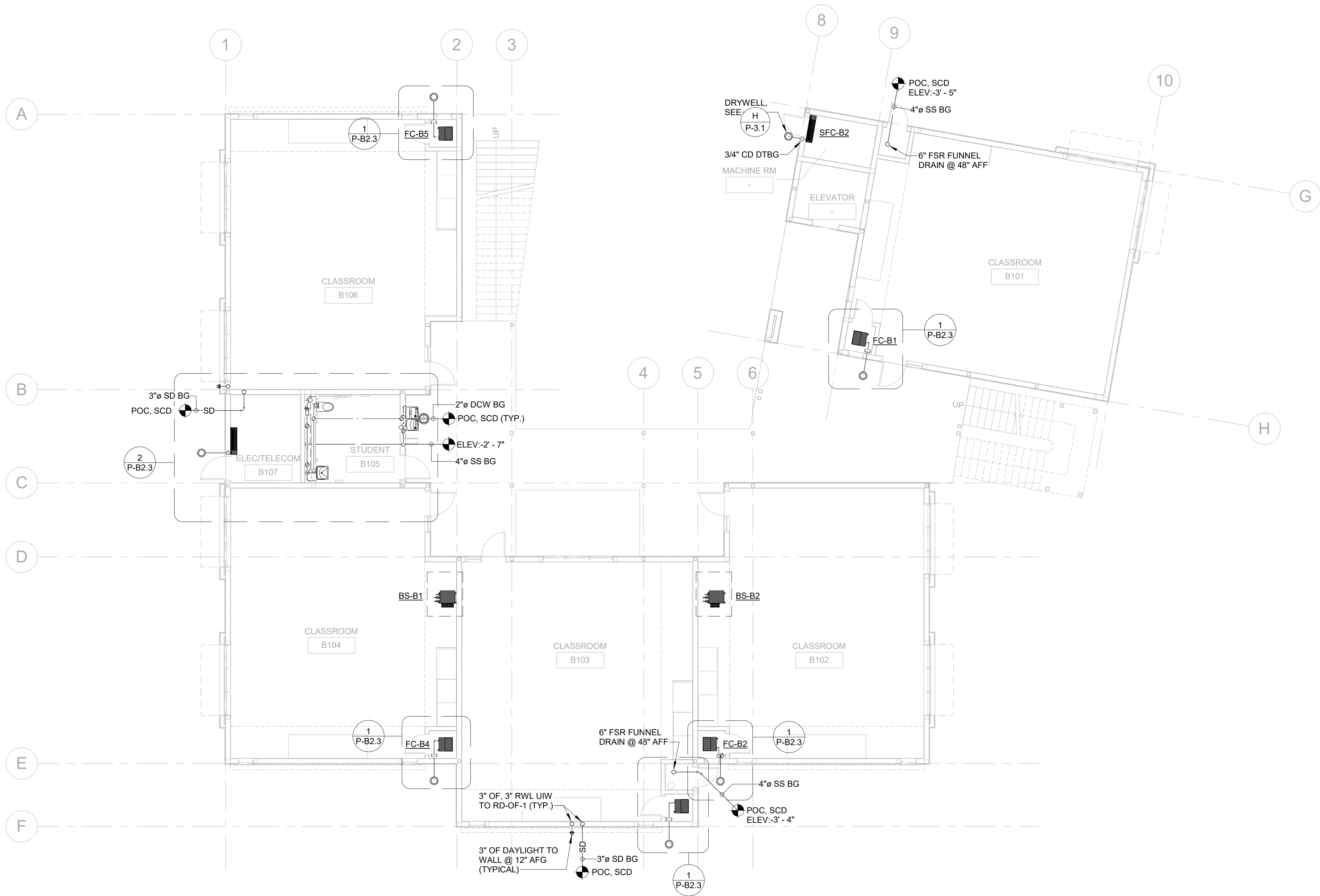
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MAY 10, 2021
SHEET TITLE

BLDG A ROOF PLBG PLAN

SHEET NUMBER

P-A4.1

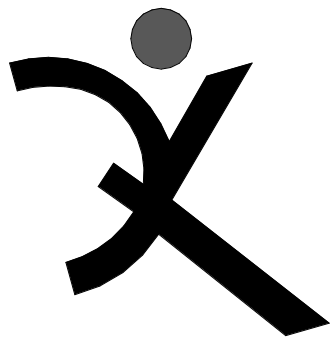
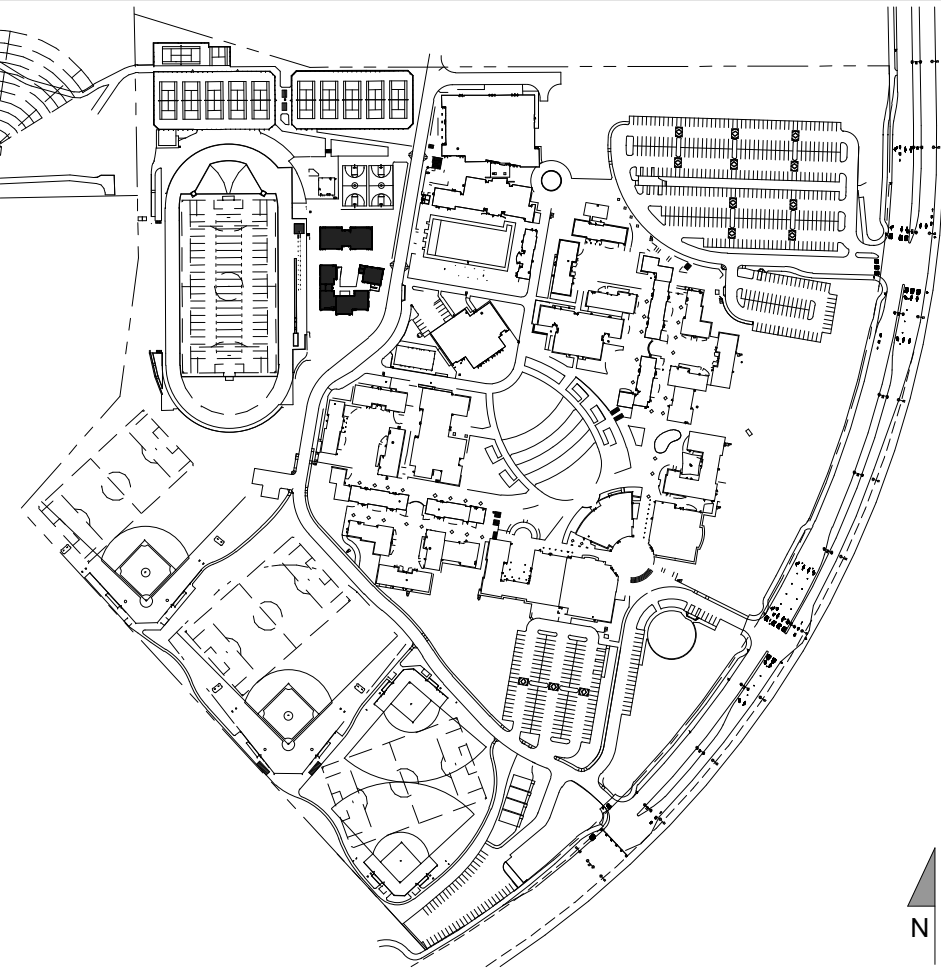
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WALL TYPE LEGEND

- S.S.D. FOR WOOD FRAMING SIZES
- WOOD FRAMED WALL - NON RATED, SAD
 - WOOD FRAMED - 1 HOUR RATED, SAD

KEYPLAN



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COSTA ENGINEERS INC.
3274 Vida Lane, Suite 200, San Jose, CA 95128
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HERITAGE HIGH
SCHOOL

NEW CLASSROOM
BUILDINGS
INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH
SCHOOL DISTRICT

DSA APP NO. 01-119268

ARCH PROJECT NO. 1870.00

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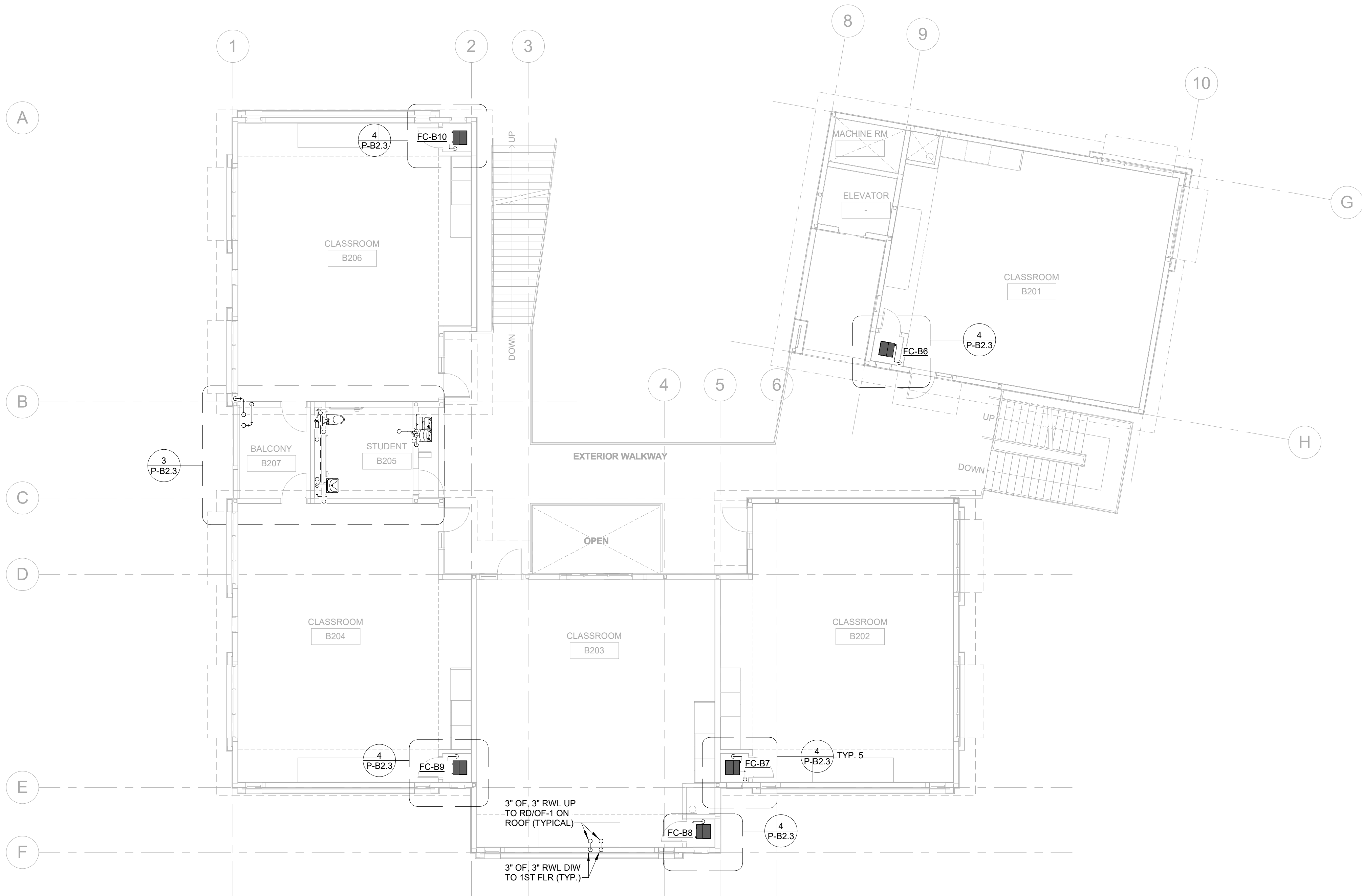
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BLDG B
1ST FLOOR
PLBG PLAN

SHEET NUMBER

P-B2.1

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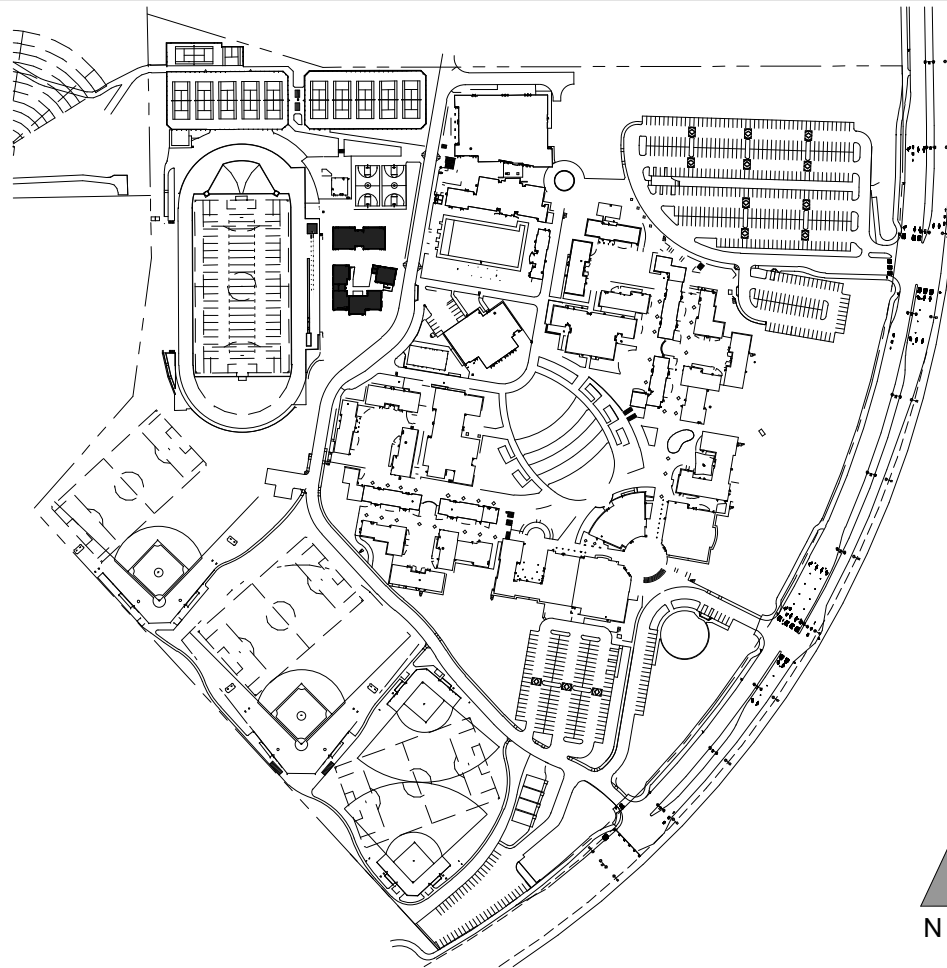


WALL TYPE LEGEND

S.S.D. FOR WOOD FRAMING SIZES

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- WOOD FRAMED - 1 HOUR RATED, SAD

KEYPLAN




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PRELIMINARY
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HERITAGE HIGH
SCHOOL

NEW CLASSROOM
BUILDINGS
INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO.	01-119268
ARCH PROJECT NO.	1870.00
DRAWN BY:	MQ / MC
DRAWING SCALE:	1/8" = 1'-0"
PTN: 61721-77	FILE NO: 7-H4

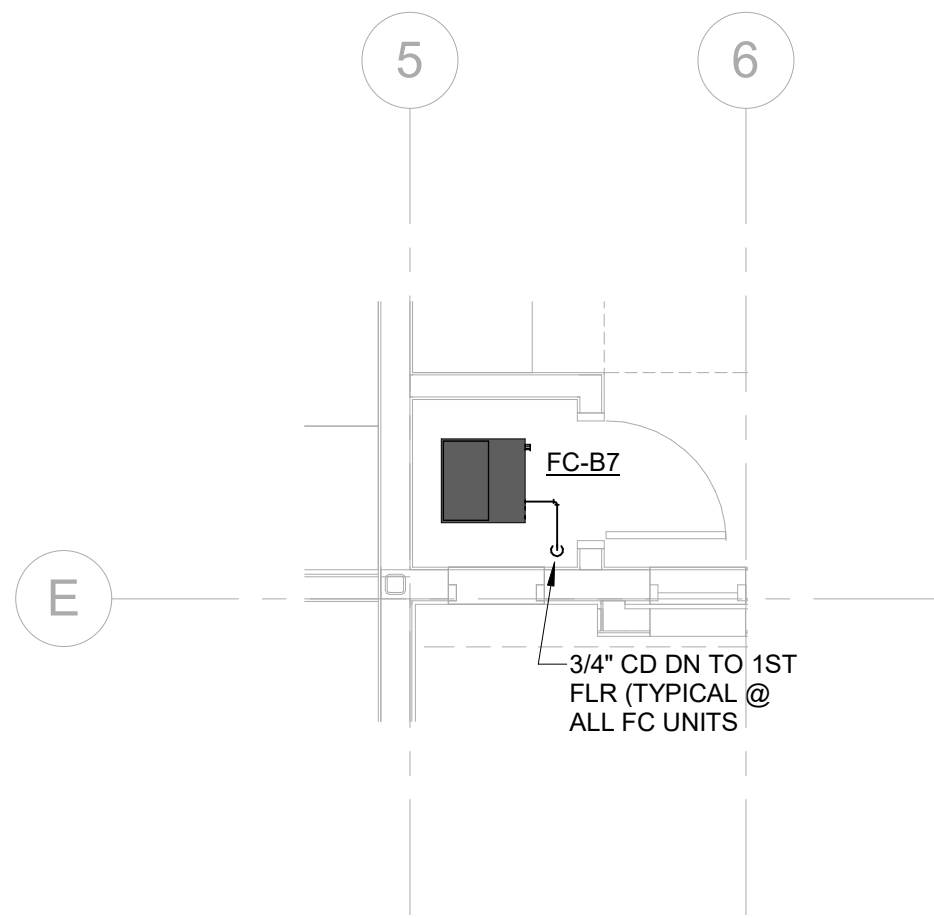
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SHEET TITLE

BLDG B
2ND FLOOR
PLBG PLAN

SHEET NUMBER

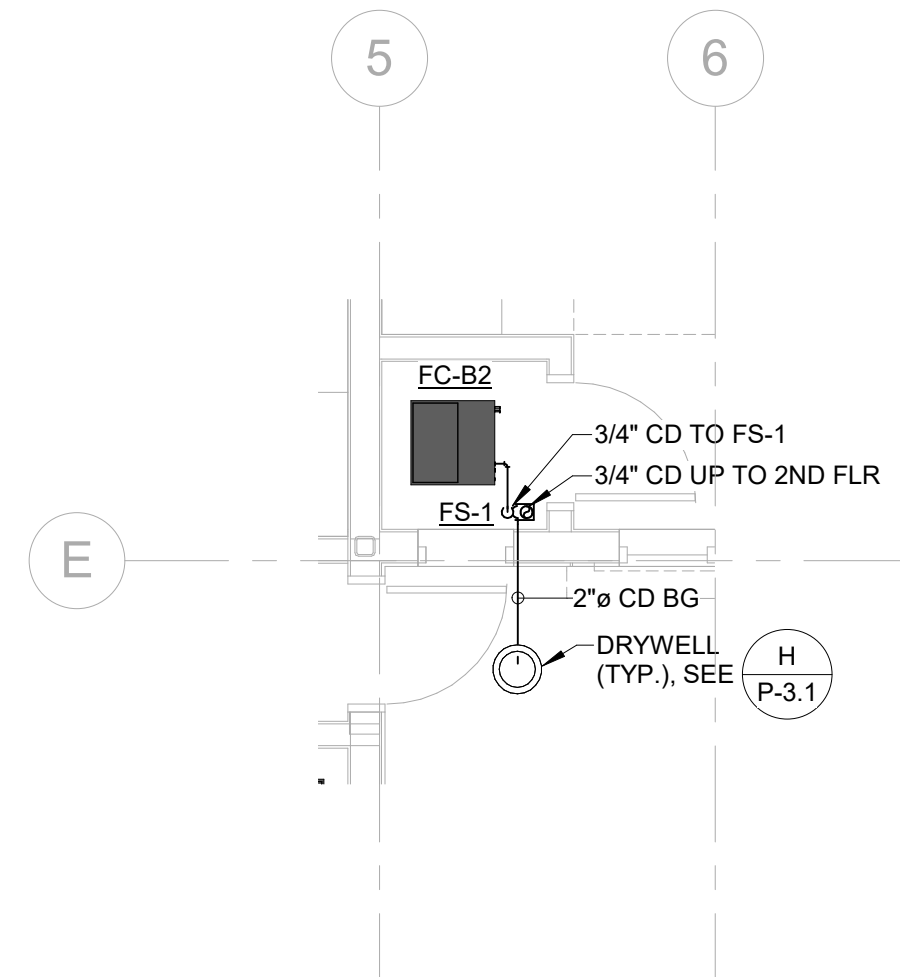
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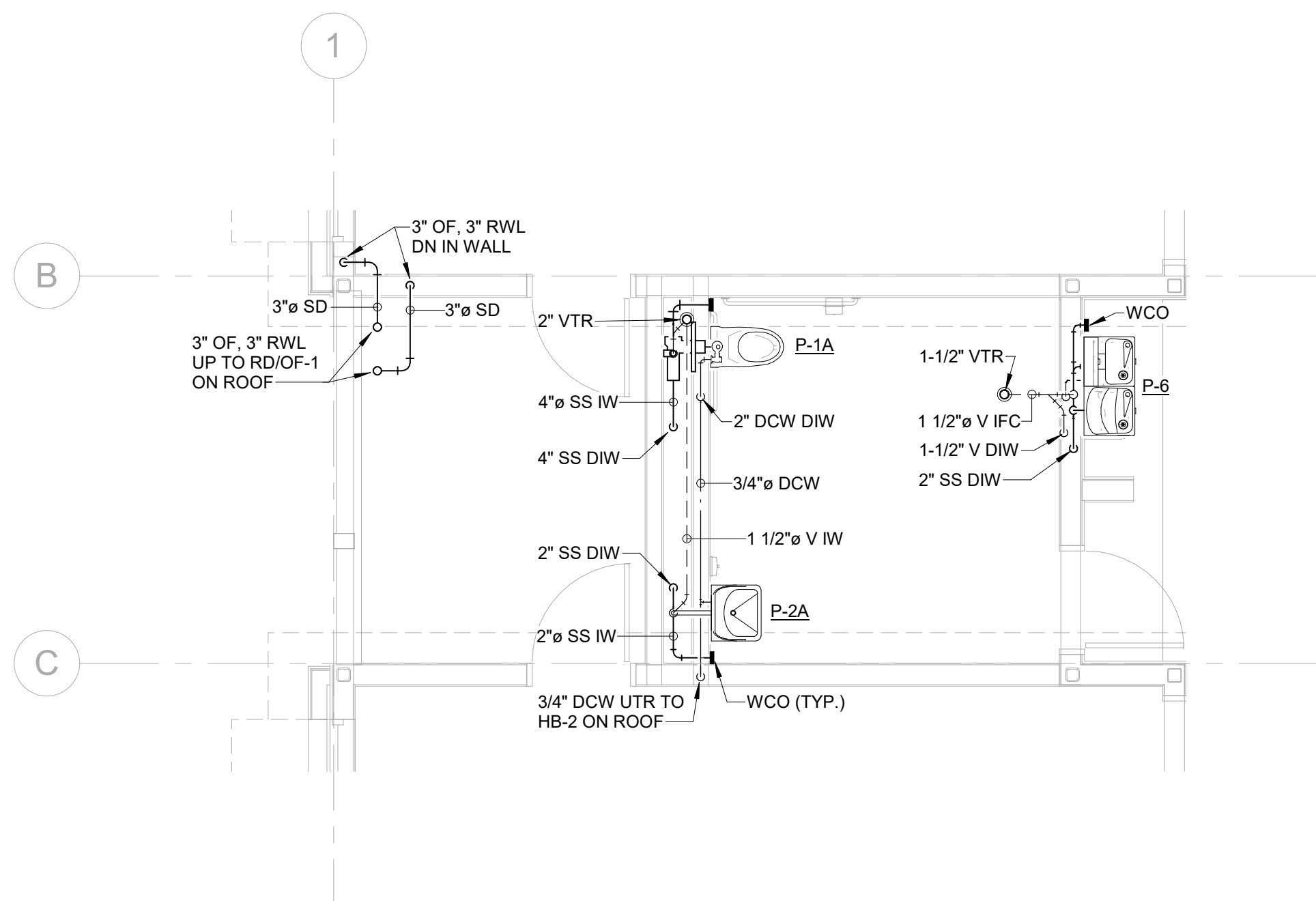
4 2ND FLOOR - TYPICAL FAN COIL PLUMBING PLAN

1/4" = 1'-0"



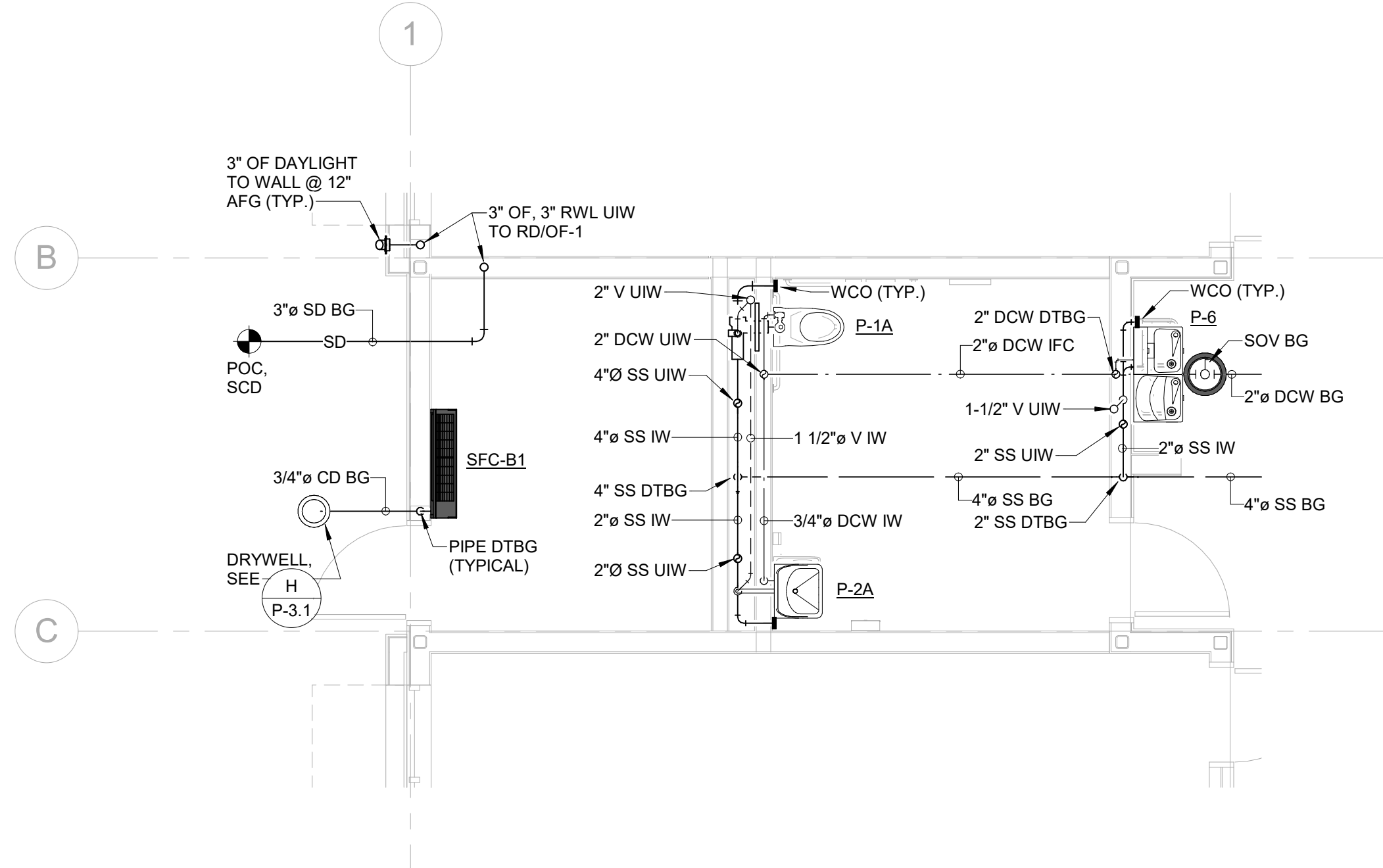
1 1ST FLOOR - TYPICAL FAN COIL PLUMBING PLAN

1/4" = 1'-0"



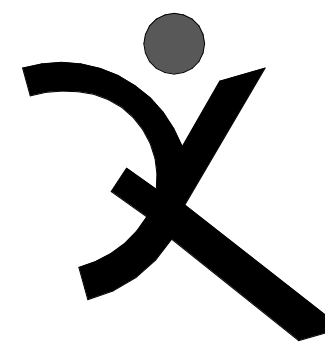
3 2ND FLOOR - ENLARGED PARTIAL PLUMBING PLAN

1/4" = 1'-0"



2 1ST FLOOR - ENLARGED PARTIAL PLUMBING PLAN

1/4" = 1'-0"



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HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119268

ARCH PROJECT NO. 1870.00

DRAWN BY: MQ / MC.

DRAWING SCALE: 1/4" = 1'-0"

PTN: 61721-77 FILE NO: 7-H4

BID SET

MAY 10, 2021

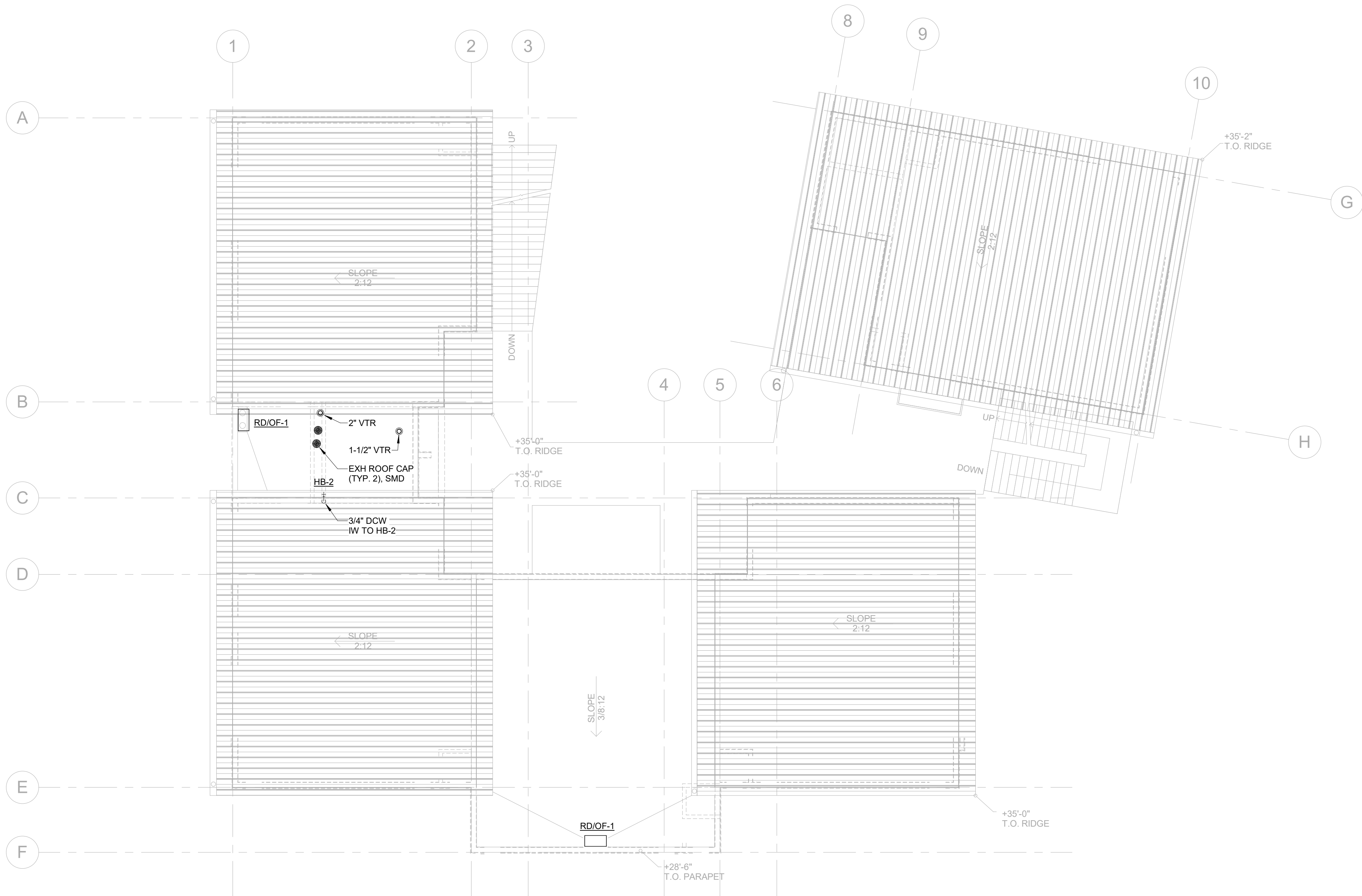
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BLDG B ENLARGED PARTIAL PLBG PLANS

SHEET NUMBER

P-B2.3

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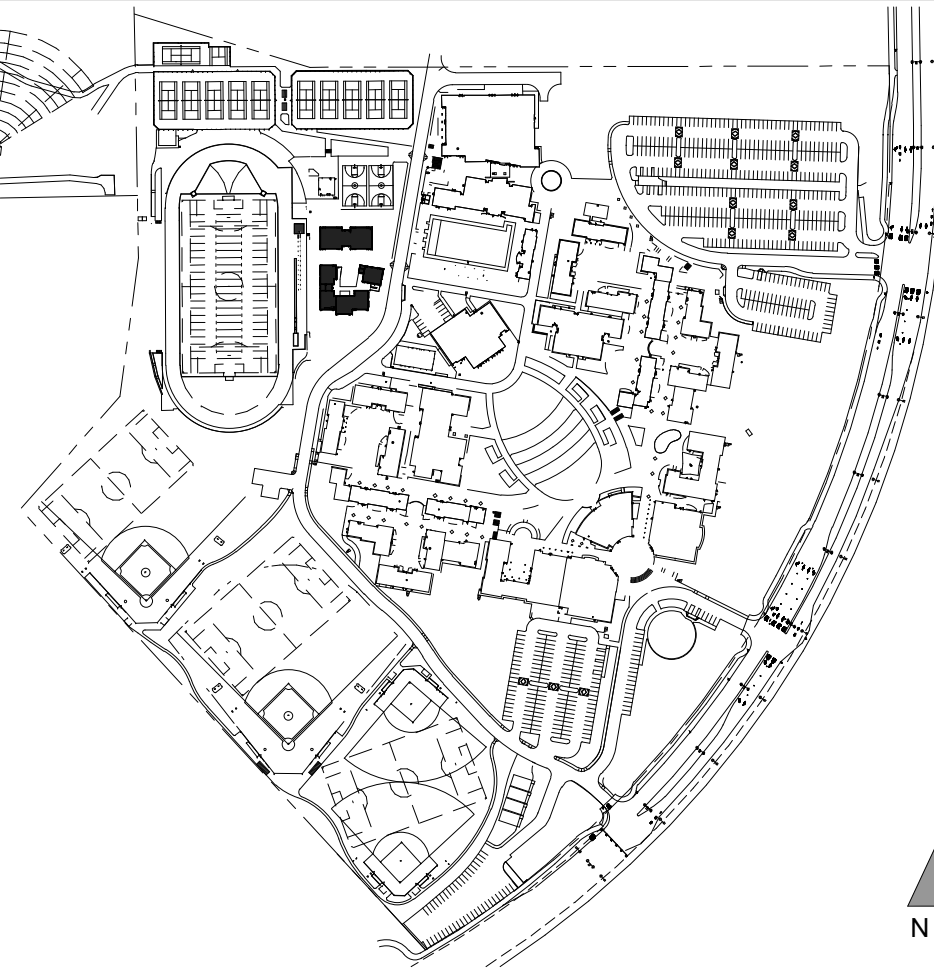


WALL TYPE LEGEND

S.S.D. FOR WOOD FRAMING SIZES

WOOD FRAMED WALL - NON RATED, SAD
WOOD FRAMED - 1 HOUR RATED, SAD

KEYPLAN



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REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
NOT FOR CONSTRUCTION
MECHANICAL
STATE OF CALIFORNIA

HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS

INCREMENT 2 OF 2

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MAY 10, 2021

SHEET TITLE

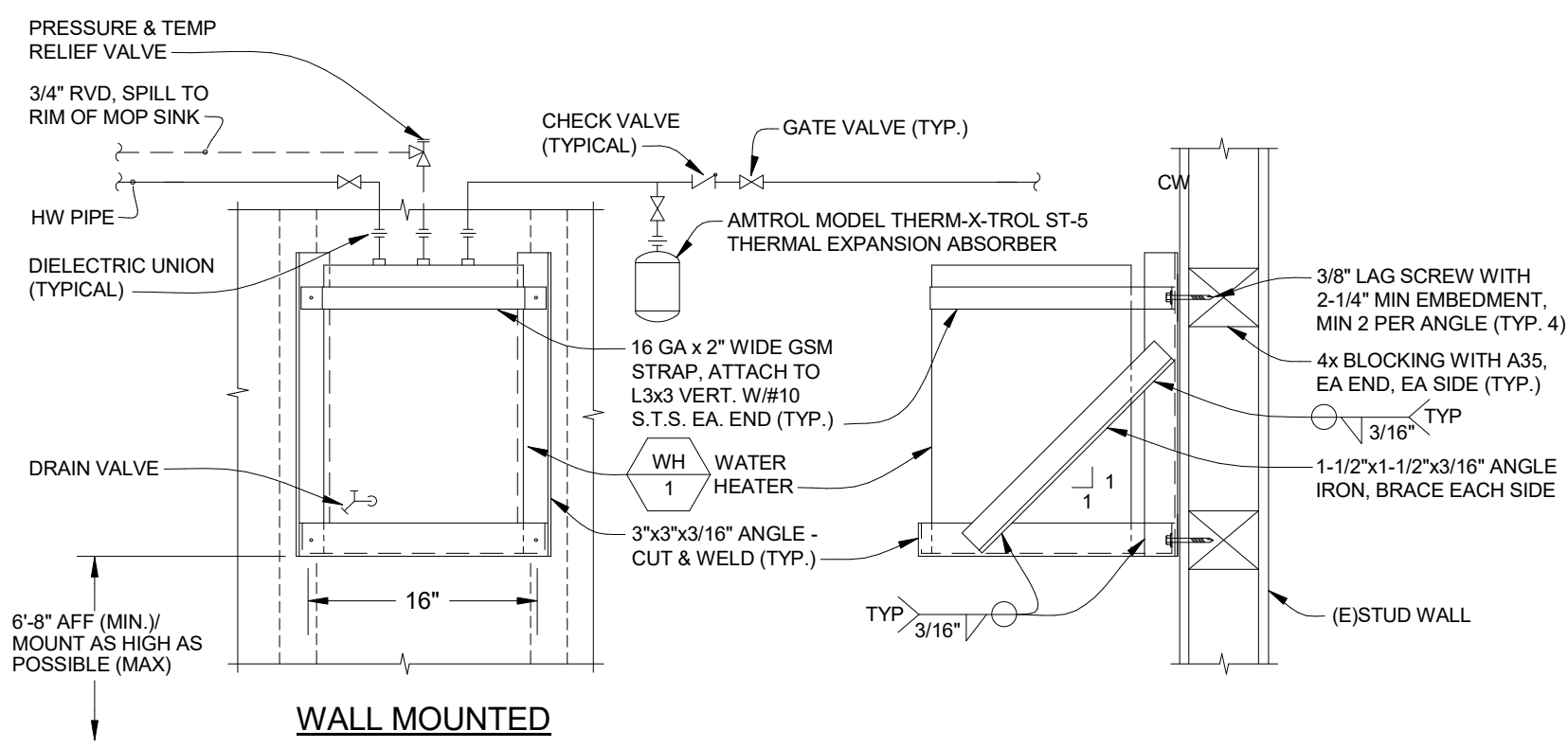
BLDG B

ROOF PLBG

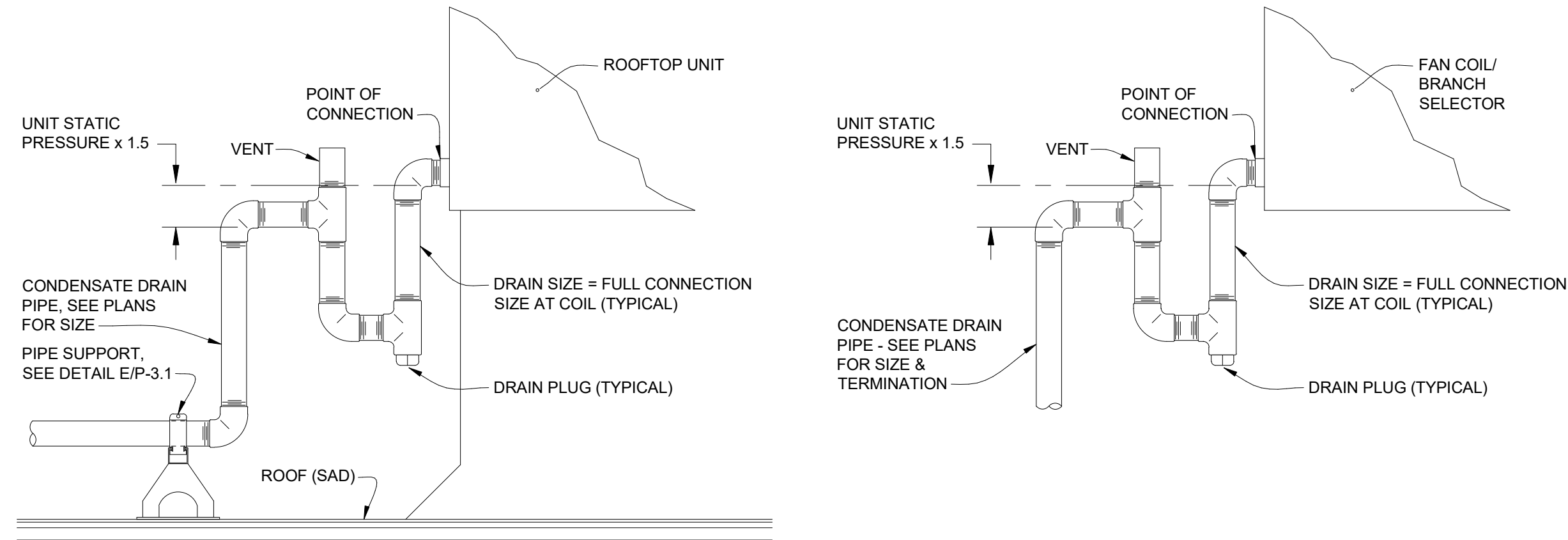
PLAN

SHEET NUMBER

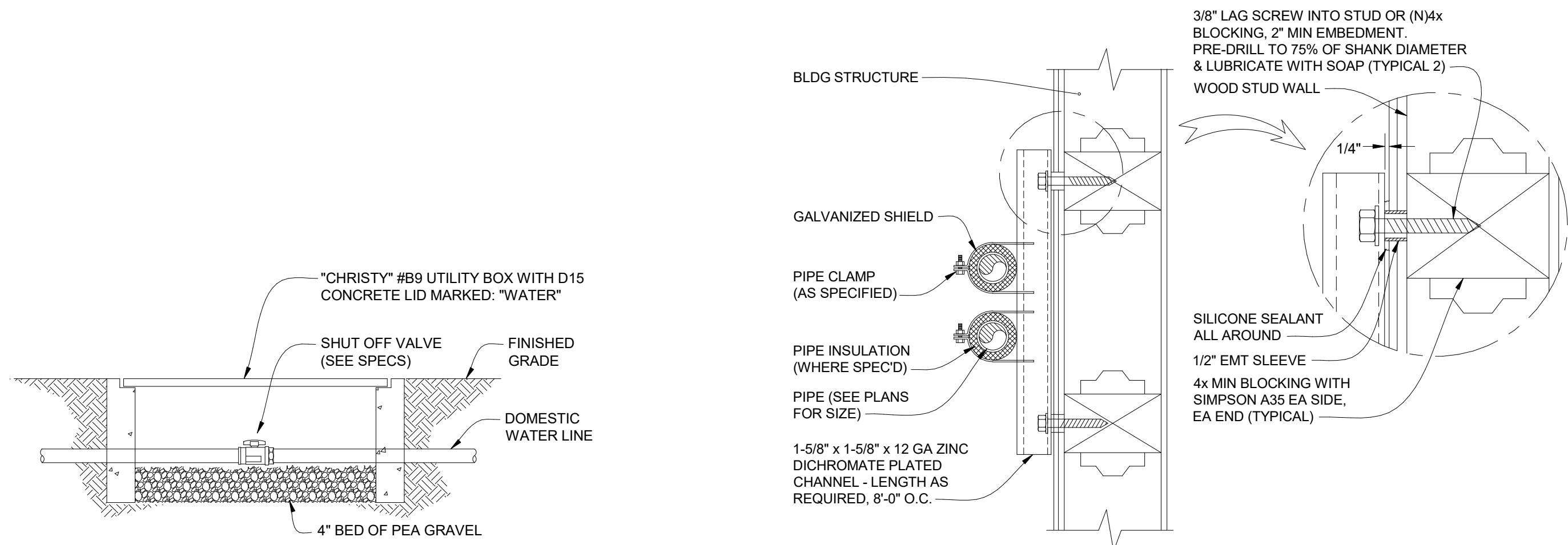
P-B4.1



A WATER HEATER MOUNTING DETAILS & PIPING DIAGRAM
SCALE: NONE

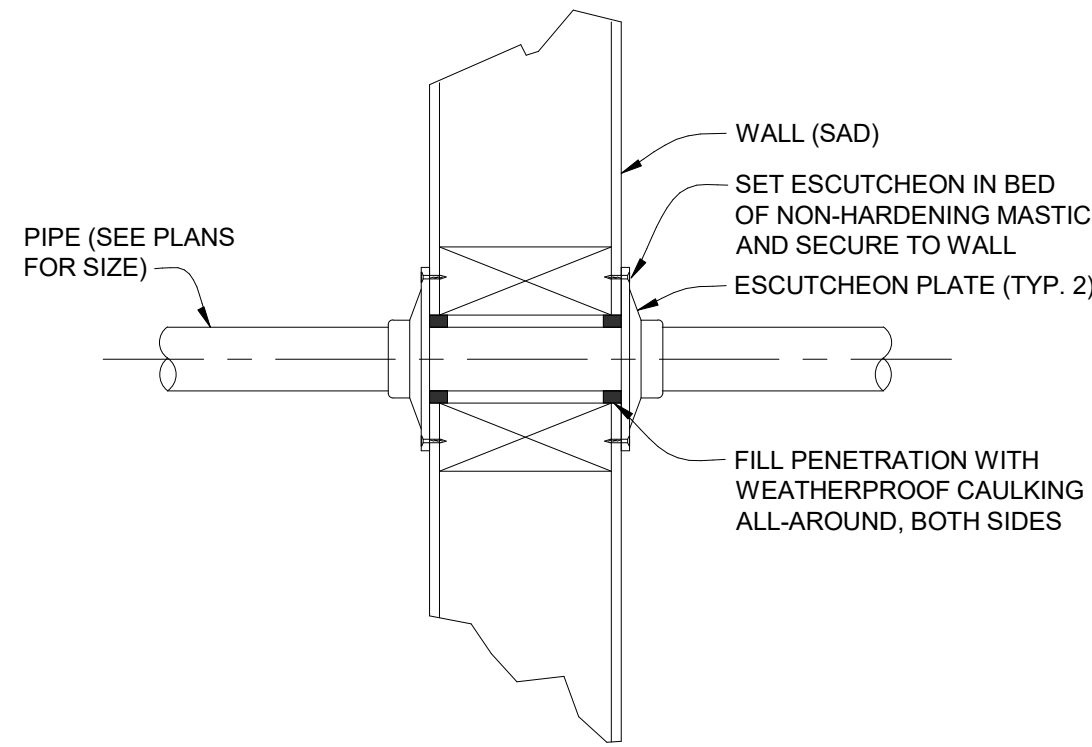


B VARIOUS CONDENSATE DRAIN DETAILS
SCALE: NONE

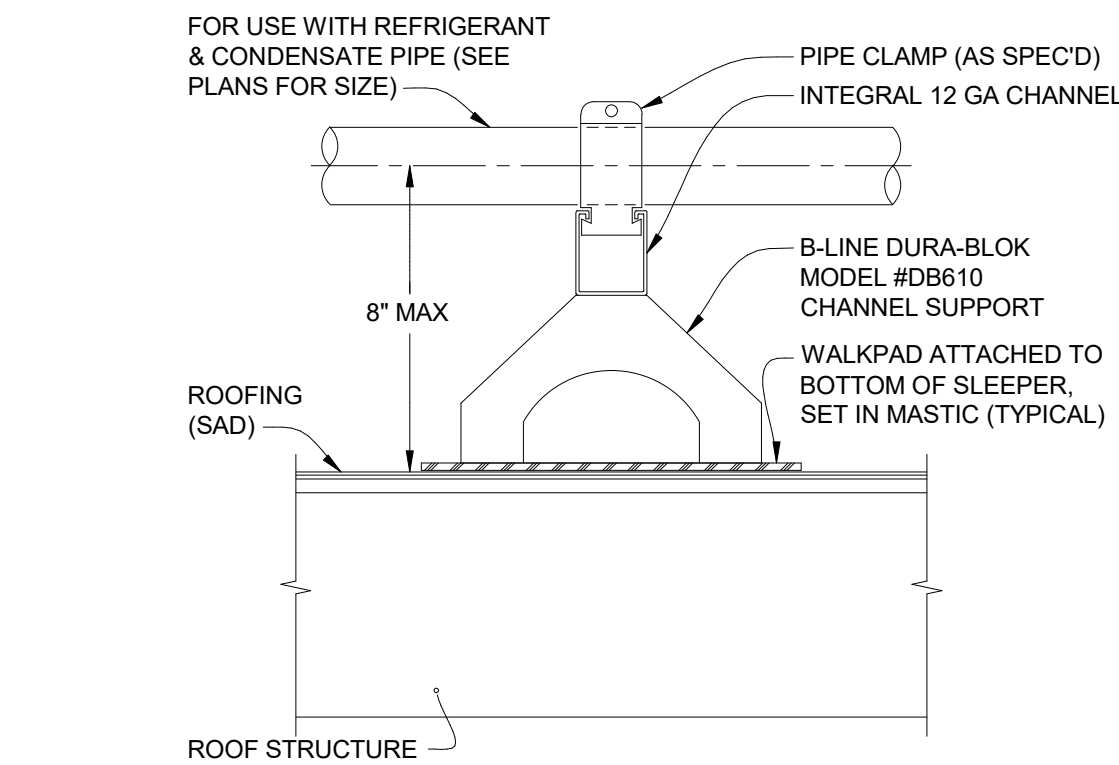


C DOMESTIC WATER SHUT-OFF
SCALE: NONE

D CHANNEL SUPPORT DETAIL
SCALE: NONE

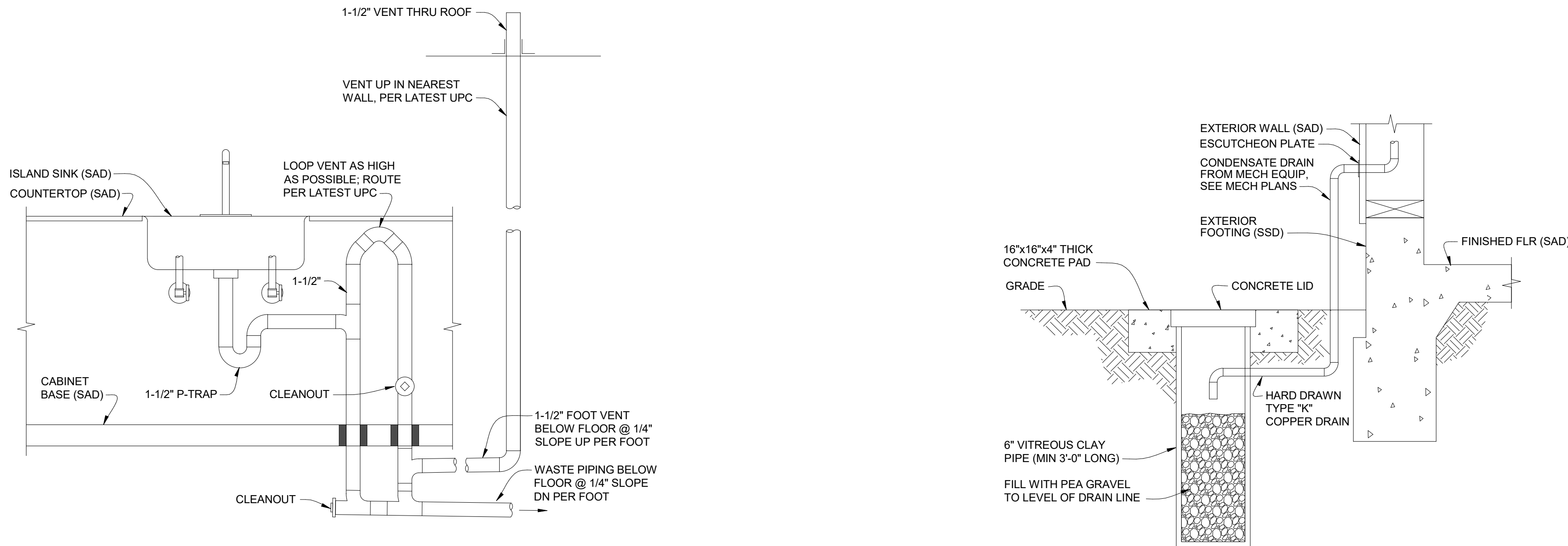


E PIPE THRU WALL DETAIL
SCALE: NONE



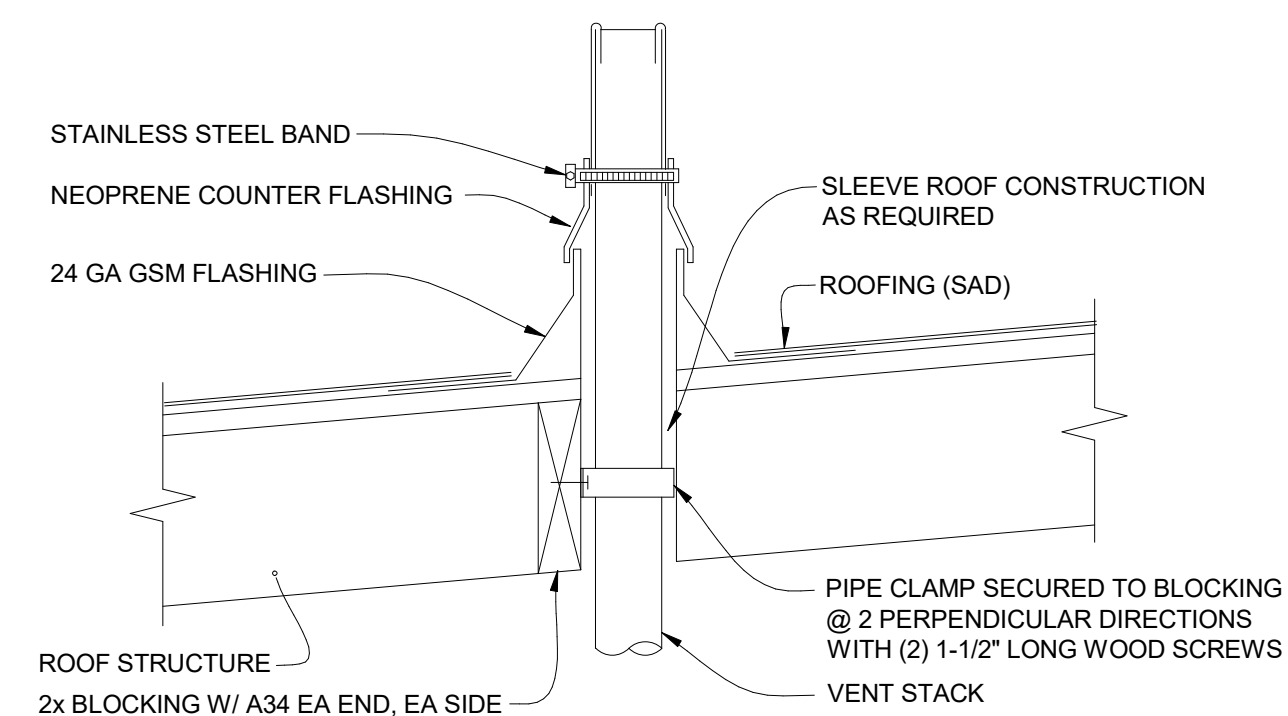
NOTE: SUPPORTS SHALL BE AT 8'-0" ON CENTER & AT ALL CHANGE OF DIRECTION

F PIPE SUPPORT ON ROOF DETAIL
SCALE: NONE



G ISLAND SINK VENT PIPING DETAIL
SCALE: NONE

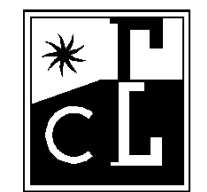
H CONDENSATE TO DRYWELL DETAIL
SCALE: NONE



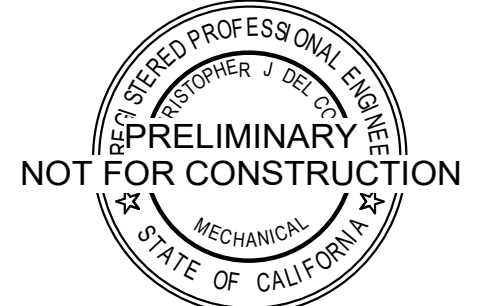
J VENT THRU ROOF DETAIL
SCALE: NONE



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DRAWING SCALE:

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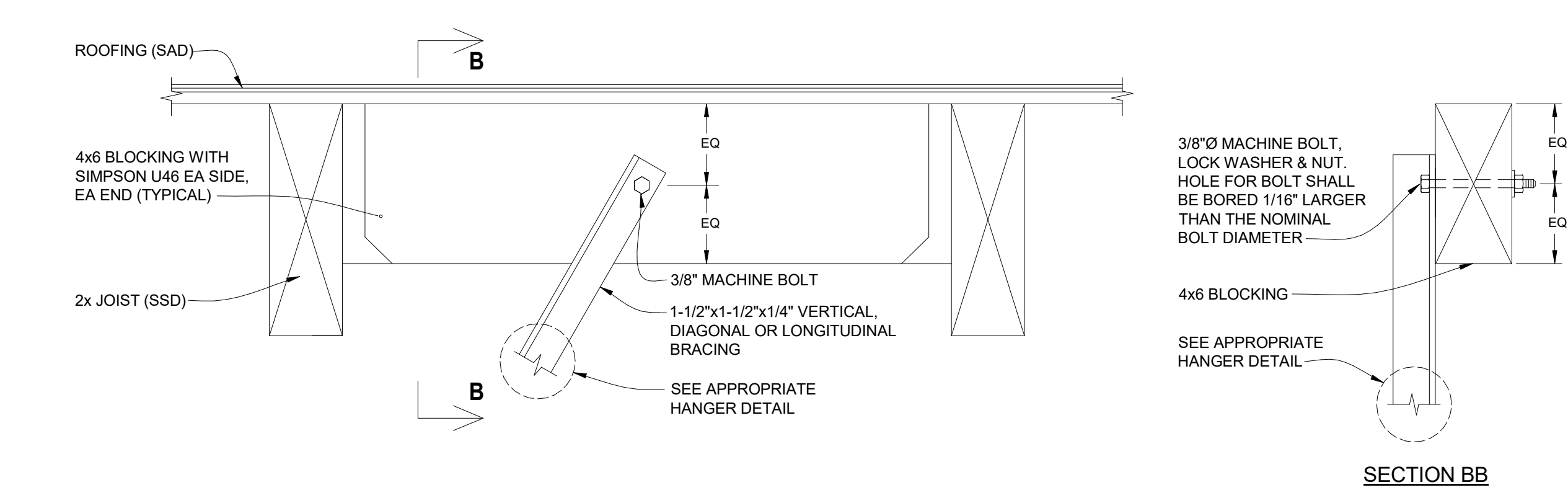
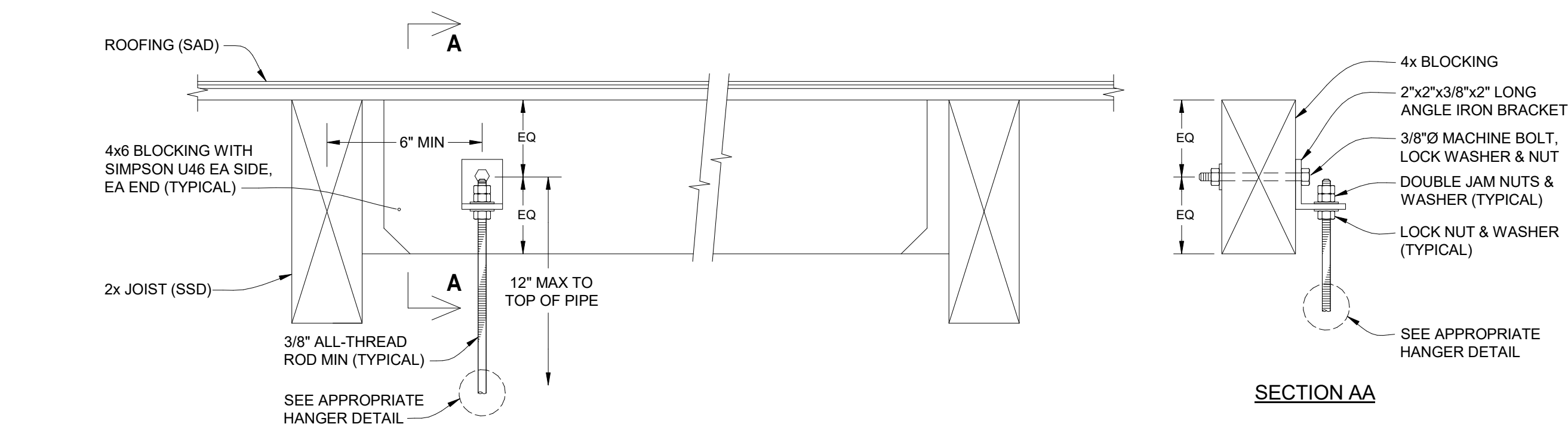
MAY 10, 2021

SHEET TITLE

PLUMBING
DETAILS &
DIAGRAMS

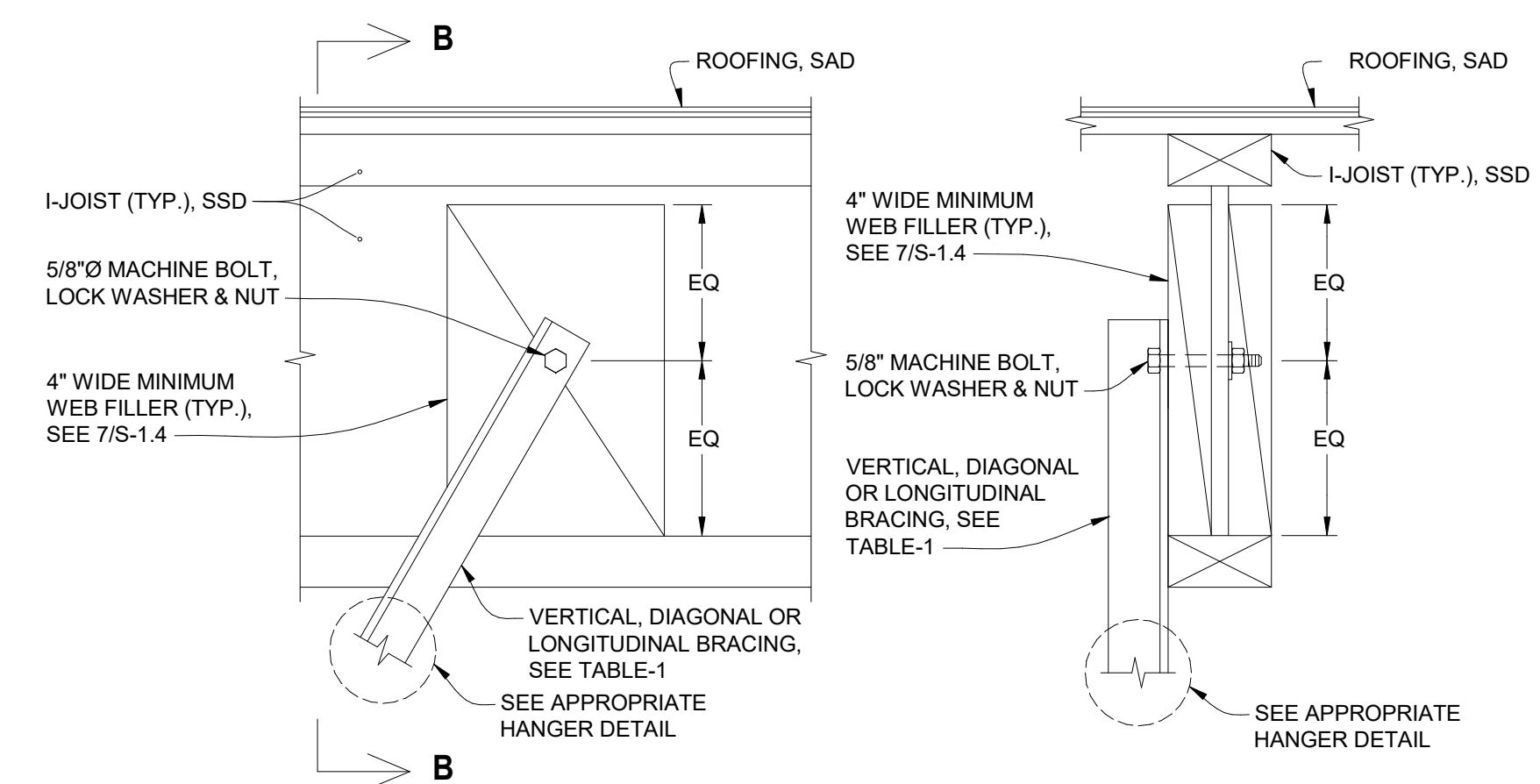
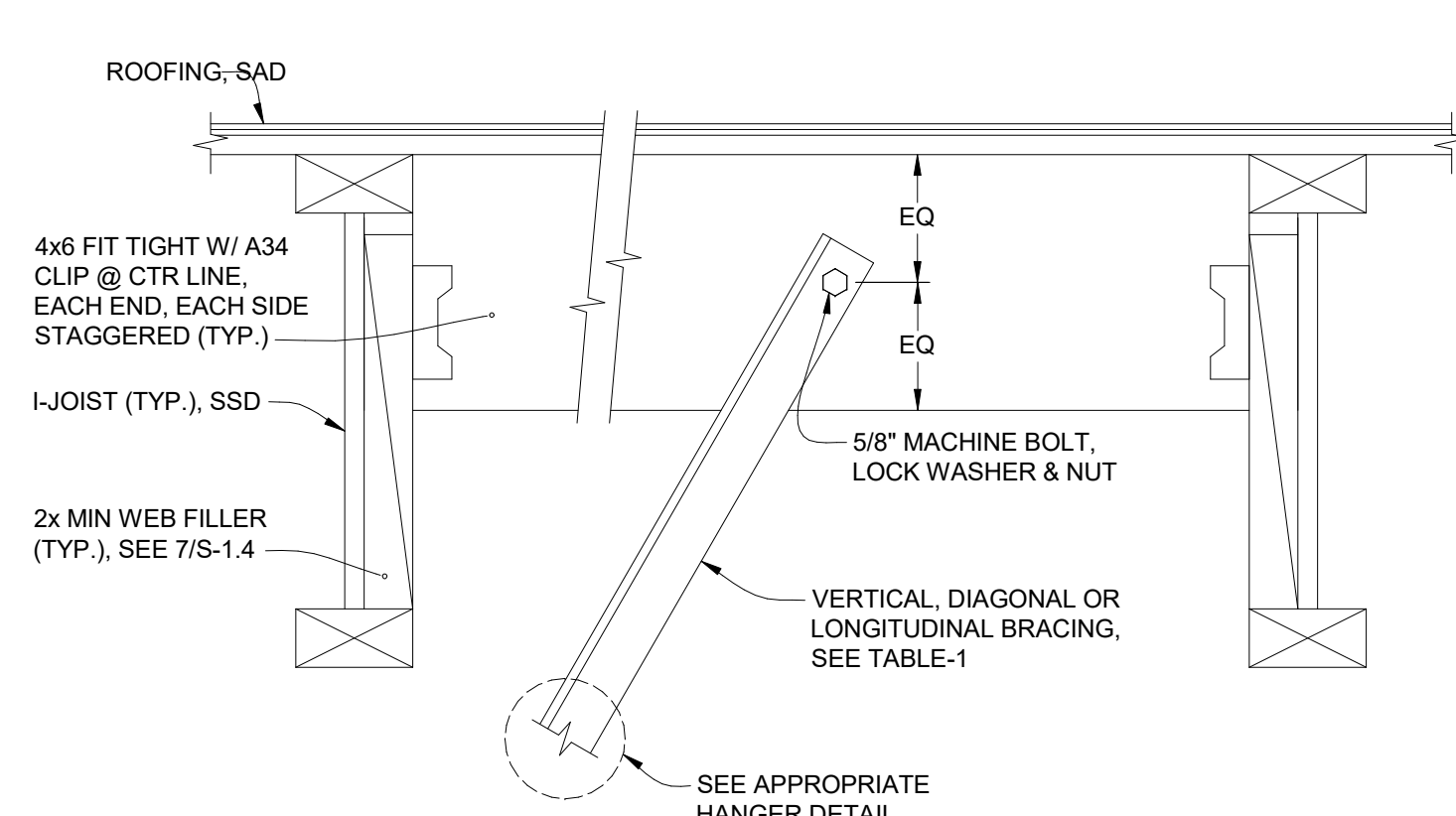
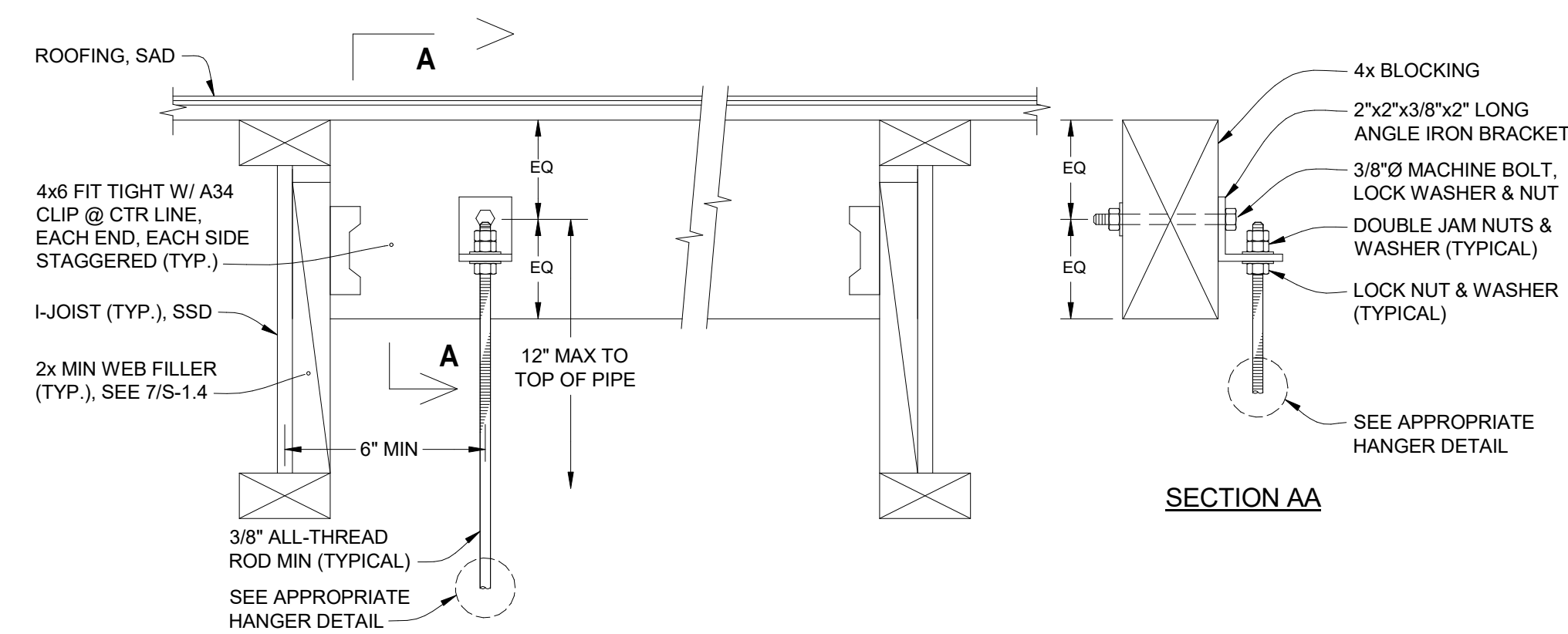
SHEET NUMBER

P-3.1



A HANGER CONNECTION DETAILS @ WOOD STRUCTURE
SCALE: NONE

B SEISMIC BRACE CONNECTION DETAIL @ WOOD STRUCTURE
SCALE: NONE



VERTICAL HANGER CONNECTION TO BLK'G OR I-JOIST

C HANGER CONNECTION DETAILS @ I-JOIST

SCALE: NONE

DIAGONAL BRACING PERPENDICULAR W/ I-JOIST

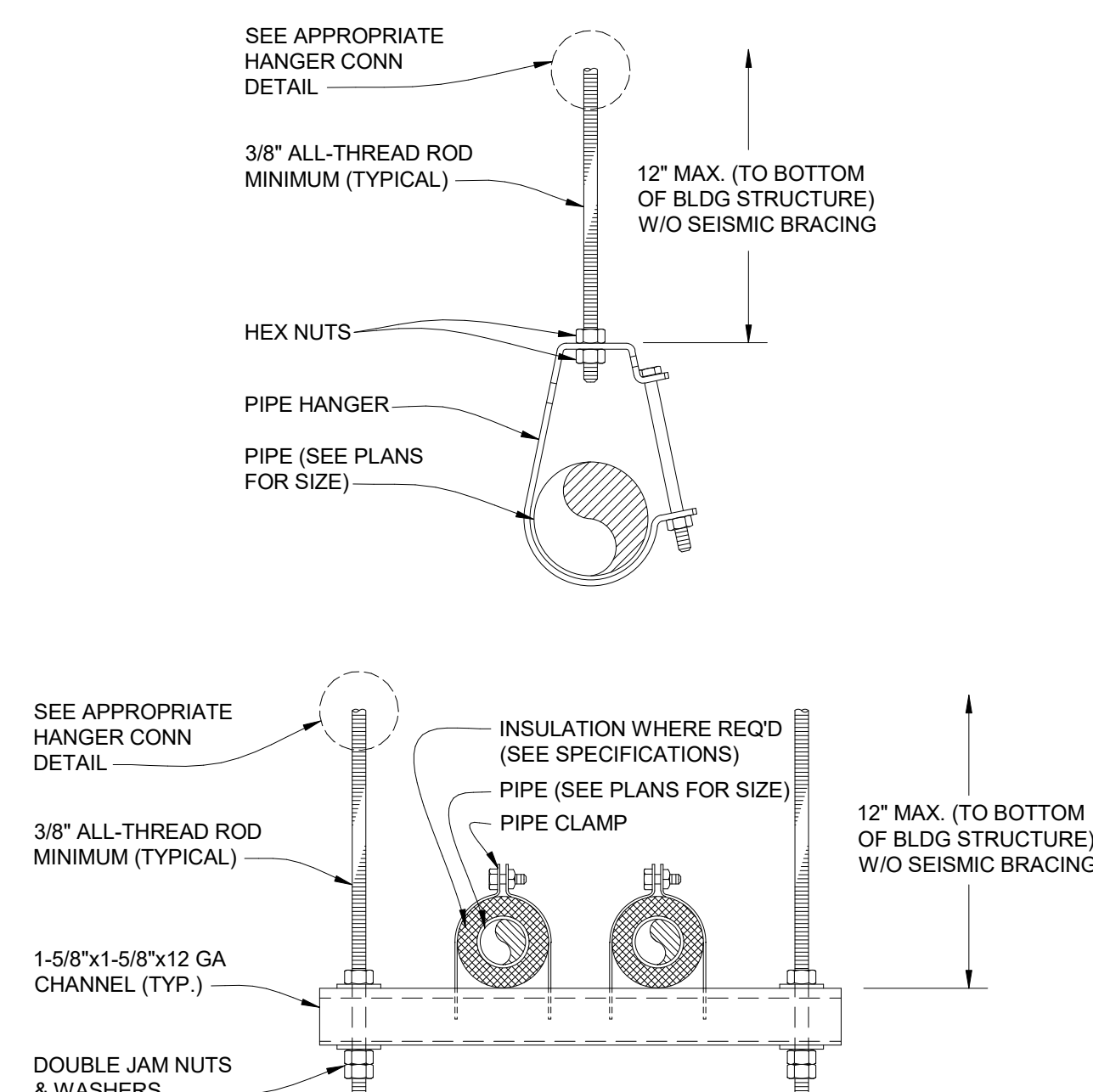
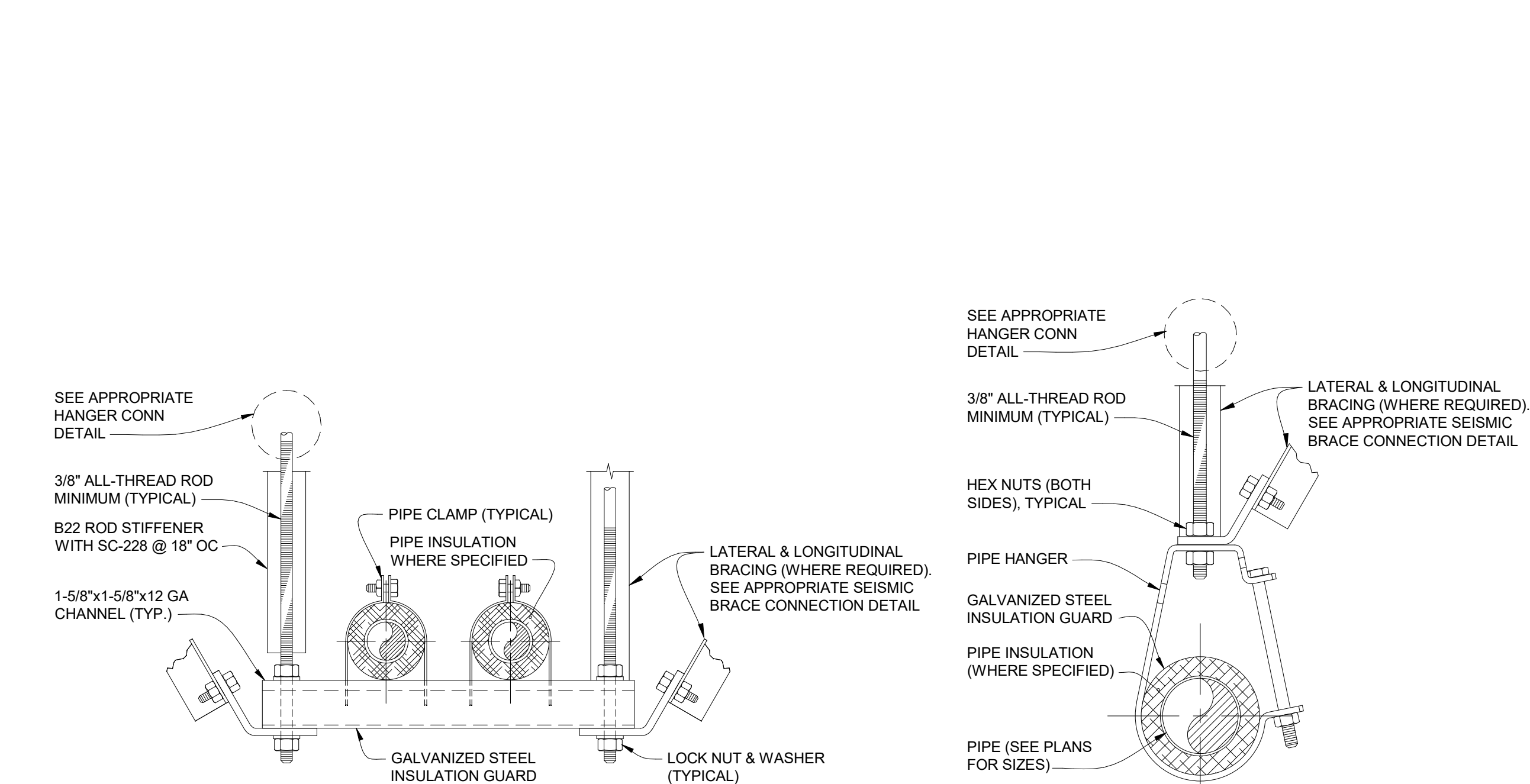
D **SEISMIC CONNECTION DETAILS @ I-JOIST**

SCALE: NONE

DIAGONAL BRACING PARALLEL W/ I-JOIST SECTION BB

E SEISMIC CONNECTION DETAILS @ I-JOIST

SCALE: NONE



MINIMUM ROD SIZES (INCHES)	PIPE DIAMETER (INCHES)
3/8"	2" & SMALLER PIPE
1/2"	2-1/2" & 3" PIPE

ELECTRICAL EQUIPMENT ANCHORAGE

ELECTRICAL ANCHORAGE NOTES:

ALL ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2019 CBC, SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16, CHAPTER 13, 26, AND 30.

- ALL PERMANENT EQUIPMENT AND COMPONENTS.
- TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (e.g. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.
- TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.

THE FOLLOWING ELECTRICAL COMPONENTS SHALL BE BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REQUIREMENTS NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS.

- COMPONENT WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.
- COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM WALL.

THE ANCHORAGE OF ALL ELECTRICAL COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL. IN GENERAL, RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH THE ABOVE REQUIREMENTS.

ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE:

ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTION 13.6.5, 13.6.6, 13.6.7, 13.6.8, AND 2019 CBC, SECTIONS 1617A.1.24, 1617A.1.25, AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PREAPPROVED INSTALLATION GUIDE (e.g., OSHIP OPM FOR 2013 CBC), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

ELECTRICAL DISTRIBUTION SYSTEMS ARE: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.

LIGHT FIXTURES:

ALL LIGHT FIXTURES SHALL BE POSITIVELY ATTACHED TO THE CEILING SUSPENSION SYSTEMS BY MECHANICAL MEANS TO RESIST A HORIZONTAL FORCE EQUAL TO THE WEIGHT OF THE FIXTURE. A MINIMUM OF TWO SCREWS OR APPROVED FASTENERS ARE REQUIRED AT EACH LIGHT FIXTURE, PER ASTM E580, SECTION 5.3.1.

SURFACE-MOUNTED LIGHT FIXTURES SHALL BE ATTACHED TO THE MAIN RUNNER WITH AT LEAST TWO POSITIVE CLAMPING DEVICES. THE CLAMPING DEVICE SHALL COMPLETELY SURROUND THE SUPPORTING CEILING RUNNER AND BE MADE OF STEEL WITH A MINIMUM THICKNESS OF #14 GAGE. ROTATIONAL SPRING CATCHES DO NOT COMPLY. A #12 GAGE SLACK SAFETY WIRE SHALL BE CONNECTED FROM EACH CLAMPING DEVICE TO THE STRUCTURE ABOVE. PROVIDE ADDITIONAL SUPPORTS WHEN LIGHT FIXTURES ARE EIGHT (8) FEET OR LONGER OR EXCEED 56 LB. MAXIMUM SPACING BETWEEN SUPPORTS SHALL NOT EXCEED EIGHT (8) FEET.

LIGHT FIXTURES WEIGHING LESS THAN OR EQUAL TO 10 LB. SHALL HAVE A MINIMUM OF ONE (1) #12 GAGE SLACK SAFETY WIRE CONNECTED FROM THE FIXTURE HOUSING TO THE STRUCTURE ABOVE.

LIGHT FIXTURES WEIGHING GREATER THAN 10 LB. BUT LESS THAN OR EQUAL TO 56 LBS. MAY BE SUPPORTED DIRECTLY ON THE CEILING RUNNERS, BUT THEY SHALL HAVE A MINIMUM OF TWO (2) #12 GAGE SLACK SAFETY WIRES CONNECTED FROM THE FIXTURE HOUSING AT DIAGONAL CORNERS TO THE STRUCTURE ABOVE. EXCEPT: ALL LIGHT FIXTURES GREATER THAN TWO BY FOUR FEET WEIGHING LESS THAN 56 LBS. SHALL HAVE A #12 GAGE SLACK SAFETY WIRE AT EACH CORNER.

ALL LIGHT FIXTURES WEIGHING GREATER THAN 56 LB. SHALL BE INDEPENDENTLY SUPPORTED BY NOT LESS THAN FOUR (4) TAUT #12 GAGE HANGER WIRES (ONE AT EACH CORNER) ATTACHED FROM THE FIXTURE HOUSING TO THE STRUCTURE ABOVE OR OTHER APPROVED HANGERS. THE FOUR (4) TAUT #12 GAGE WIRES OR OTHER APPROVED HANGERS, INCLUDING THEIR ATTACHMENT TO THE STRUCTURE ABOVE, SHALL BE CAPABLE OF SUPPORTING FOUR (4) TIMES THE WEIGHT OF THE FIXTURE.

GENERAL DEMOLITION NOTES

- THE CONTRACTOR SHALL VERIFY IN THE FIELD ALL LINES, LEVELS, DIMENSIONS AND EXISTING CONDITIONS. THE INFORMATION ON THE DRAWINGS REGARDING EXISTING ELECTRICAL EQUIPMENT AND BRANCH CIRCUITRY IS THE RESULT OF FIELD SURVEY AND IS ACCURATE TO THE BEST OF OUR KNOWLEDGE. IT IS INTENDED, HOWEVER, AS A GUIDE FOR USE IN VERIFICATION ONLY.
- ANY EXISTING ELECTRICAL EQUIPMENT IN THE AREA OF NEW CONSTRUCTION NOT SHOWN ON THE EXISTING PLANS SHALL BE DOCUMENTED AND SUBMITTED TO THE ENGINEER FOR DETERMINATION OF ACTION REQUIRED.
- WHEREVER THE REMOVAL OF EXISTING ELECTRICAL EQUIPMENT IS CALLED FOR AND ALL EQUIPMENT ON A PARTICULAR BRANCH CIRCUIT IS TO BE REMOVED, ALL CONDUIT AND WIRE BACK TO THE PANEL SHALL BE ENTIRELY REMOVED. THE REMOVAL OF THE PANEL SHALL BE MARKED "SPARE". THIS APPLIES TO SIGNAL AND COMMUNICATIONS SYSTEMS EQUIPMENT, CONDUIT, AND WIRE AS WELL.
- WHEREVER THE REMOVAL OF EXISTING ELECTRICAL EQUIPMENT IS CALLED FOR AND ALL EQUIPMENT ON A PARTICULAR BRANCH CIRCUIT IS NOT TO BE REMOVED, THE CIRCUIT SHALL BE MAINTAINED CONTINUOUS TO THE EXISTING EQUIPMENT IN USE WITH MINIMUM INTERRUPTIONS OF POWER. THIS APPLIES TO SIGNAL AND COMMUNICATIONS SYSTEMS EQUIPMENT, CONDUIT, AND WIRE AS WELL.
- WHENEVER THE REMOVAL OF EXISTING CONSTRUCTION REVEALS ELECTRICAL WORK THAT IS TO REMAIN, BUT IS IN CONFLICT WITH NEW CONSTRUCTION, RELOCATE THE EXISTING ELECTRICAL WORK AS NECESSARY TO AVOID ANY CONFLICT. RELOCATION WORK SHALL BE DONE TO MINIMIZE ANY INTERRUPTIONS OF POWER.
- CARE SHALL BE TAKEN IN ORDER TO IDENTIFY AND PROTECT ALL EXISTING ELECTRICAL WORK THAT IS TO REMAIN.
- ENSURE RECONNECTION OF EXISTING DEVICES WHOSE CIRCUITS HAVE BEEN INTERRUPTED BY DEMOLITION BY PROVIDING NEW CONNECTION TO ANOTHER EXISTING TO REMAIN DEVICE OR PANEL.
- ALL EXISTING ELECTRICAL EQUIPMENT SHOWN ON THE PLANS FOR NEW WORK ARE THOSE WHICH ARE TO BE REUSED DURING SOME PHASE OF THE NEW CONSTRUCTION OR REQUIRE SOME SPECIAL CONSIDERATIONS.
- WHENEVER THE REMOVAL OF EXISTING ELECTRICAL PANELBOARDS ARE CALLED FOR AND ALL EXISTING BRANCH CIRCUITS ARE NOT TO BE REMOVED, THE EXISTING BRANCH CIRCUITS SHALL BE CONNECTED TO OTHER EXISTING ELECTRICAL EQUIPMENT OR PANELS STILL IN USE WITH MINIMUM INTERRUPTIONS OF POWER. ALSO, IF REQUIRED, THESE SAME BRANCH CIRCUITS SHALL BE RECONNECTED TO RELOCATED EXISTING OR NEW PANELBOARDS AS PART OF THE NEW CONSTRUCTION. THIS APPLIES TO SIGNAL AND COMMUNICATIONS SYSTEMS EQUIPMENT, CONDUIT AND WIRE AS WELL.
- THE ELECTRICAL CONTRACTOR SHALL REVISE EXISTING PANEL SCHEDULES TO CORRESPOND TO ACTUAL CONDITIONS AFTER ALL DEMOLITION AND NEW WORK IS COMPLETED.
- REMOVE ALL ABANDONED CONDUIT AND WIRE ABOVE CEILINGS.
- WHEN ELECTRICAL EQUIPMENT OR DEVICE IS REMOVED FROM AN EXISTING WALL OR CEILING WHICH IS TO REMAIN, PATCH ABANDONED OPENINGS TO MATCH EXISTING FINISH.
- IN GENERAL, THE DEMOLITION PLANS SHOW ALL EXISTING EQUIPMENT THAT IS TO BE REMOVED UNLESS NOTED OTHERWISE. HOWEVER, ELECTRICAL EQUIPMENT, WHETHER SHOWN ON THIS DRAWING OR NOT, WHERE LOCATED IN THE AREA SCHEDULED TO BE DEMOLISHED, SHALL BE REMOVED COMPLETELY (INCLUDING CONDUIT AND WIRES BACK TO THE LAST REMAINING FIXTURE, OUTLET, DEVICE, ETC.) UNLESS OTHERWISE NOTED. COORDINATE DEMOLITION WORK WITH ARCHITECT AND GENERAL CONTRACTOR.
- EXISTING CONDUIT FEEDS UP THROUGH FLOOR SHALL BE CUT OFF AND PLUGGED FLUSH WITH FLOOR WHERE EXISTING WALLS, ETC., ARE REMOVED. REMOVE CONDUCTORS FROM THE POINT BACK TO LAST OUTLET REMAINING IN SERVICE.
- IT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR TO MAINTAIN CONTINUITY OF ALL ELECTRICAL SYSTEMS, EQUIPMENT, ETC. REMAINING IN OPERATION WHICH IS BEING FEED BY AN ABANDONED OUTLET. MAINTAINING CONTINUITY SHALL CONSIST OF REROUTING OF CONDUIT, WIRE, ETC. AS REQUIRED.
- IT SHALL BE THIS CONTRACTOR'S RESPONSIBILITY TO VERIFY LOCATIONS OF EXISTING CIRCUITS AND ADJUST CIRCUIT NUMBERS ACCORDING TO EXISTING CONDITIONS IF REQUIRED.
- THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE OWNER PRIOR TO REMOVAL OF EXISTING ELECTRICAL EQUIPMENT AND TURN OVER REMOVED EQUIPMENT THAT THE OWNER REQUESTS, IN AS-FOUND CONDITION. EQUIPMENT THAT IS TO BE TURNED OVER SHALL BE BOXED AND TAGGED TO IDENTIFY THE SPECIFIC EQUIPMENT. EQUIPMENT TO BE TEMPORARILY REMOVED DUE TO THE CONSTRUCTION SHALL BE CLEANED AND RE-INSTALLED IN ITS ORIGINAL CONDITION OR AS REQUIRED.
- WHERE EXISTING WALLS HAVE BEEN REMOVED, AND THERE ARE EXISTING CONDUIT FEEDS WHICH HAVE BEEN CUT OFF AND CAPPED FLUSH WITH THE FLOOR, IT IS THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY AND DIMENSION ALL SUCH CONDUITS ON THE "AS-BUILT" DRAWINGS.
- IF ANY EQUIPMENT THAT IS SCHEDULED TO REMAIN IN OPERATION IS DAMAGED BY THE CONTRACTOR, IT SHALL BE REPLACED TO ITS ORIGINAL CONDITION SATISFACTORY TO THE OWNER AT CONTRACTOR'S EXPENSE.

SYMBOLS LIST

	FIRE ALARM SYSTEM MAGNETIC DOOR HOLD-OPEN
	WALL-MOUNTED BEAM SMOKE DETECTOR - TRANSMITTING UNIT; MOUNT 18" BELOW CEILING LEVEL, U.O.N.
	WALL-MOUNTED BEAM SMOKE DETECTOR - RECEIVING UNIT; MOUNT IN EXACT HORIZONTAL & VERTICAL ALIGNMENT WITH CORRESPONDING TRANSMITTING UNIT
	CEILING-MOUNTED BEAM SMOKE DETECTOR - TRANSMITTING UNIT
	CEILING-MOUNTED BEAM SMOKE DETECTOR - RECEIVING UNIT; MOUNT IN EXACT HORIZONTAL & VERTICAL ALIGNMENT WITH CORRESPONDING TRANSMITTING UNIT
	FIRE ALARM SYSTEM END-OF-LINE RESISTOR
	FIRE SMOKE DAMPER BY MECHANICAL. COORDINATE WITH MECHANICAL FOR MONITORING TO FIRE ALARM SYSTEM (INCLUDING SMOKE DETECTOR PROVISIONS). CONTROL OF DAMPER TO BE BY MECHANICAL, U.O.N. PROVIDE TOGGLE TYPE DISCONNECT SWITCH
	FIRE ALARM CONTROL PANEL
	FIRE ALARM ANNUNCIATOR PANEL
	WEATHERPROOF ENCLOSURE
	CONDUIT AND WIRE CONCEALED IN CEILING OR WALL
	CONDUIT AND WIRE CONCEALED IN OR UNDER SLAB OR UNDERGROUND
	CONDUIT AND WIRE RUN EXPOSED
	CROSSMARKS INDICATE QUANTITY OF #12 CONDUCTORS PLUS PARITY SIZED GROUND CONDUCTOR (INCLUDED BUT NOT INDICATED), NO HASHMARKS INDICATES (2) #12 CONDUCTORS PLUS PARITY SIZED GROUND CONDUCTOR, U.O.N.
	WIRE SIZE 10 AWG FOR ALL CONDUCTORS, INCLUDING GROUND WIRE, THROUGHOUT THE COMPLETE CIRCUIT
	FLEXIBLE METALLIC CONDUIT
	HOMERUN TO PANELBOARD OR TERMINAL BOARD, AS NOTED ON PLANS
	COMPLETE CONNECTION OF EQUIPMENT
	CONDUIT STUBBED OUT, CAPPED AND MARKED
	CONDUIT TURNED UP
	CONDUIT TURNED DOWN
	TELEPHONE SYSTEM CONDUIT AND PULLWIRE; 3/4" U.O.N.
	COMPUTER/DATA SYSTEM CONDUIT AND PULLWIRE; 3/4" U.O.N.
	TELEPHONE/DATA SYSTEM CONDUIT AND PULLWIRE; 3/4" U.O.N.
	4/0 COPPER GROUNDING ELECTRODE CONDUCTOR, U.O.N.
	MECHANICAL EQUIPMENT DESIGNATION - SEE MECHANICAL PLANS
	DETAIL DESIGNATION - SEE DETAIL 3, SHEET E-6
	NUMBERED SHEET NOTE
	UTILITY METER
	CURRENT TRANSFORMERS
	CIRCUIT BREAKER. NUMBER INDICATES 30A 3-POLE
	FEEDER SIZE - SEE POWER SINGLE LINE DIAGRAMS & FEEDER SCHEDULE

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
C	CONDUIT
CATV	CABLE TV
CO	CONDUIT ONLY
CU	COPPER
EC	ELECTRICAL CONTRACTOR
E	EMERGENCY LIGHT FIXTURE ON EMERGENCY GENERATOR OR INVERTER, SWITCHABLE, U.O.N.
EM	EMERGENCY LIGHT FIXTURE WITH BATTERY PACK, SWITCHABLE
EMS	ENERGY MANAGEMENT SYSTEM
(E)	EXISTING
EQPT	EQUIPMENT
(EX)	EXISTING EQUIPMENT TO BE RELOCATED
(EK)	EXISTING EQUIPMENT TO BE DISCONNECTED AND REMOVED
EXT	EXTERIOR
FMC	FLEXIBLE METALLIC CONDUIT
FTL	FEED THROUGH LUGS
GFI	GROUND FAULT CIRCUIT INTERRUPTING TYPE RECEPTACLE
IDF	INTERMEDIATE DISTRIBUTION FRAME
L	LOOKABLE
LV	LOW VOLTAGE
MCB	MAIN CIRCUIT BREAKER
MDF	MAIN DISTRIBUTION FRAME
MFR	MANUFACTURER
MLO	MAIN LUGS ONLY
MTD	MOUNTED
(N)	NEW
N.E.C.	NEUTRAL ELECTRICAL CODE
NEU	NEUTRAL
N.I.E.C.	NOT IN ELECTRICAL CONTRACT
O.A.H.	OVERALL HEIGHT
O.F.C.I.	OWNER FURNISHED, CONTRACTOR INSTALLED
P	INDICATES FIXTURES ON PHOTOCCELL CONTROL
PA	PUBLIC ADDRESS
PAL	PANEL
S.A.D.	SEE ARCHITECTURAL DRAWINGS
ST	SIGNAL TERMINAL CABINET
TC	INDICATES FIXTURES ON TIMECLOCK CONTROL
TELE	TELEPHONE
FATC	FIRE ALARM TERMINAL CAN
U.O.N.	UNLESS OTHERWISE NOTED
VAV	VAV BOX, SEE MECHANICAL DIVISION DRAWINGS FOR LOCATIONS. PROVIDE TOGGLE TYPE DISCONNECT SWITCH
WPU	WEATHER PROOF, NEMA 3R
WPU	WEATHER PROOF WHILE IN USE

SYMBOLS LIST

	MAIN SWITCHBOARD, DISTRIBUTION PANEL OR MOTOR CONTROL CENTER
	FLUSH MOUNTED PANELBOARD, 6'-6" TO TOP
	SURFACE MOUNTED PANELBOARD, 6'-6" TO TOP
	FUSED EQUIPMENT DISCONNECT SWITCH WITH FUSE SIZE AS RECOMMENDED BY EQUIPMENT MANUFACTURER
	MOTOR DISCONNECT SWITCH; HORSEPOWER RATED, NON FUSE
	COMBINATION MAGNETIC MOTOR STARTER & MOTOR CIRCUIT PROTECTOR
	MAGNETIC MOTOR STARTER
	VARIABLE FREQUENCY DRIVE, FURNISHED BY MECHANICAL, INSTALLED & CONNECTED COMPLETELY BY ELECTRICAL
	MANUAL MOTOR STARTER WITH OVERLOAD PROTECTION
	MOTOR WITH FLEXIBLE CONDUIT CONNECTION AND DISCONNECT
	TRANSFORMER
	CONCRETE PULLBOX, SIZE AS REQUIRED OR SHOWN - CHRISTY OR EQUAL WITH LABELED LID PER USE
	COPPER GROUND ROD
	FLUSH CEILING MOUNTED JUNCTION BOX, U.O.N.
	FLUSH WALL MOUNTED JUNCTION BOX, UP 18" U.O.N.
	JUNCTION BOX FLUSH FLOOR MOUNTED
	20A 3PG 125V DUPLEX RECEPTACLE, UP 18" U.O.N.
	20A 3PG 125V DUPLEX RECEPTACLE, WEATHERPROOF, UP 18" U.O.N.
	20A 3PG 125V DUPLEX RECEPTACLE, GROUND FAULT CIRCUIT INTERRUPTER TYPE, UP 18" U.O.N.
	20A 3PG 125V DUPLEX RECEPTACLE, ISOLATED GROUND TYPE, UP 18" U.O.N.
	20A 3PG 125V DUPLEX RECEPTACLE, TAMPER RESISTANT, UP 18" U.O.N.
	20A 3PG 125V DUPLEX RECEPTACLE, MOUNTED ABOVE COUNTER, U.O.N.
	20A 3PG 125V DOUBLE DUPLEX RECEPTACLE, UP 18" U.O.N.
	20A 3PG 125V DOUBLE DUPLEX RECEPTACLE, MOUNTED ABOVE COUNTER, U.O.N.
	20A 3PG 125V SINGLE RECEPTACLE, UP 18" U.O.N.
	20A 3PG 125V SINGLE TWISTLOCK RECEPTACLE, NEMA LS-20R, UP 18" U.O.N.
	SPECIAL RECEPTACLE AS INDICATED ON PLANS
	CONTROLLED AND IDENTIFIED (SPLIT-WIRED) DUPLEX RECEPTACLE, WITH ONE HALF OF RECEPTACLE WIRED THROUGH LOCAL PLUG-LOAD CONTROLLER, UP 18" U.O.N.
	CONTROLLED DUPLEX RECEPTACLE WIRED THROUGH LOCAL PLUG-LOAD CONTROLLER, UP 18" U.O.N.
	FLUSH IN FLOOR OUTLET BOX WITH QUANTITY OF 20A 3PG 125V DUPLEX RECEPTACLES AS INDICATED ON PLANS
	FLUSH CEILING MTD. DUPLEX OUTLET, 20A 3PG
	LINE VOLTAGE THERMOSTAT, PROVIDED & INSTALLED BY ELECTRICAL, CONNECTED COMPLETE BY MECHANICAL
	SURFACE MOUNTED WIREMOLD RACEWAY WITH RECEPTACLES AS INDICATED ON PLANS
	TERMINAL MOUNTING BACKBOARD, 3/4" PLYWOOD, DIMENSIONS AS NOTED ON PLANS, PAINT TO MATCH ADJACENT WALL SURFACE, MAINTAINING UL FIRE LABEL VISIBLE
	TELEPHONE OUTLET, UP 18" U.O.N.
	TELEPHONE OUTLET, UP 48" U.O.N.
	COMBINED TELEPHONE/DATA OUTLET, UP 18" U.O.N.
	NUMBER INDICATES QUANTITY OF DATA OUTLET JACKS
	COMBINED VOICE/DATA OUTLET, MOUNTED ABOVE COUNTER U.O.N.
	WALL MOUNTED SIGNAL SYSTEM CLOCK, UP 48" U.O.N.
	FLUSH WALL MOUNTED INDOOR PUBLIC ADDRESS SPEAKER, UP 96" U.O.N.
	FLUSH WALL MOUNTED OUTDOOR WEATHERPROOF PUBLIC ADDRESS SPEAKER
	FLUSH CEILING MOUNTED INDOOR PUBLIC ADDRESS SPEAKER
	FLUSH WALL MOUNTED INDOOR PUBLIC ADDRESS SPEAKER & SIGNAL SYSTEM CLOCK, UP 96" U.O.N. REFER TO SHEET 3/E-5.1
	SHORT THROW PROJECTOR LOCATION
	AV TEACHER CONTROLS LOCATION.
	DOOR CONTACT FOR SECURITY SYSTEM.
	AUDIO DETECTOR FOR SECURITY SYSTEM.
	KEYPAD FOR SECURITY SYSTEM
	FIRE ALARM SYSTEM MANUAL PULL STATION, UP 48" U.O.N.
	FIRE ALARM SYSTEM HORN/STROBE, UP 80" U.O.N. NUMBER ADJACENT INDICATES CANDELA VALUE FOR STROBE
	WEATHERPROOF FIRE ALARM SYSTEM HORN/STROBE, UP 80" U.O.N. NUMBER ADJACENT INDICATES CANDELA VALUE FOR STROBE
	FIRE ALARM SYSTEM HORN/STROBE, CEILING MOUNTED. NUMBER ADJACENT INDICATES CANDELA VALUE FOR STROBE
	FIRE ALARM SYSTEM STROBE, UP 80" U.O.N. NUMBER ADJACENT INDICATES CANDELA VALUE FOR STROBE
	WEATHERPROOF FIRE ALARM SYSTEM STROBE, CEILING MOUNTED. NUMBER ADJACENT INDICATES CANDELA VALUE FOR STROBE
	WEATHERPROOF FIRE ALARM SYSTEM HORN, UP 90" U.O.N.
	FIRE ALARM SYSTEM SPEAKER/STROBE, UP 80" U.O.N. NUMBER ADJACENT INDICATES CANDELA VALUE FOR STROBE
	FIRE ALARM SYSTEM SPEAKER/STROBE, CEILING MOUNTED. NUMBER ADJACENT INDICATES CANDELA VALUE FOR STROBE
	FIRE ALARM SYSTEM SPEAKER, UP 90" U.O.N.
	WEATHERPROOF FIRE ALARM SYSTEM SPEAKER, UP 90" U.O.N.
	FIRE ALARM SYSTEM SPEAKER, CEILING MOUNTED
	WALL MOUNTED ELECTROMAGNETIC DOOR HOLD-OPEN DEVICE, FURNISHED BY DIV. 8, INSTALLED & CONNECTED COMPLETE TO FIRE ALARM SYSTEM BY DIV. 28
	FIRE ALARM SYSTEM SPRINKLER FLOW SWITCH. PROVIDE MONITOR MODULE
	FIRE ALARM SYSTEM SPRINKLER VALVE SUPERVISORY SWITCH. PROVIDE MONITOR MODULE
	POST INDICATING VALVE
	SPRINKLER FLOOR ALARM (PROVIDE BY SPRINKLER CONTRACTOR). CONNECT COMPLETE VIA WATER FLOOR SWITCH AUX. CONTACTS
	FIRE ALARM SYSTEM SMOKE DETECTOR
	FIRE ALARM SYSTEM CEILING MOUNTED SMOKE DETECTOR PROGRAMMED FOR AUTOMATIC RECALL OF ELEVATOR
	FIRE ALARM SYSTEM HEAT DETECTOR
	FIRE ALARM SYSTEM HVAC DUCT MOUNTED SMOKE DETECTOR. COORDINATE WITH MECHANICAL FOR SUPPLY, INSTALL AND COMPLETE CONNECTION (INCLUDING CONTROL OF HVAC EQUIPMENT) - SEE SPECIFICATIONS
	FIRE ALARM SYSTEM MONITOR MODULE
	FIRE ALARM SYSTEM CONTROL MODULE
	FIRE ALARM SYSTEM RELAY MODULE
	FIRE ALARM SYSTEM CEILING MOUNTED CARBON MONOXIDE DETECTOR WITH SOUNDER BASE
	FIRE ALARM SYSTEM CEILING MOUNTED AIR SAMPLING PORT

SYMBOLS LIST

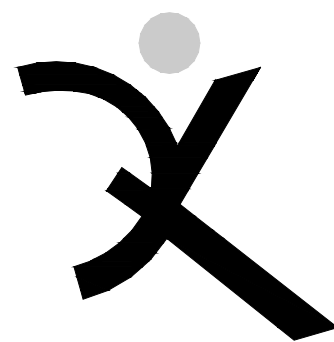
	INDICATES LUMINAIRE TYPE, SEE LUMINAIRE SCHEDULE
	RECESSED 2'x2', 2'x4' OR 1'x4' LUMINAIRE, FULLY LENSED
	RECESSED 2'x2', 2'x4' LUMINAIRE WITH DECORATIVE ARTICULATED OPTICAL SHIELD
	INDICATES EMERGENCY LUMINAIRE. SEE ABBREVIATIONS FOR TYPE OF EMERGENCY SOURCE
	SUSPENDED LINEAR LUMINAIRE
	INDICATES AIRCRAFT CABLE SUPPORT POINT (VERIFY WITH MANUFACTURER)
	INDICATES COMBINATION AIRCRAFT CABLE/ELECTRICAL FEED POINT (VERIFY WITH MANUFACTURER)
	SURFACE CEILING, WALL OR COVE MOUNTED LUMINAIRE
	UNDER CABINET LUMINAIRE
	SURFACE OR SUSPENDED STRIP LUMINAIRE
	SURFACE CEILING MOUNTED LUMINAIRE
	PENDANT MOUNTED LUMINAIRE
	DECORATIVE CEILING MOUNTED LUMINAIRE
	SURFACE MOUNTED LIGHTING TRACK WITH TRACK LUMINAIRES
	RECESSED ADJUSTABLE ACCENT LUMINAIRE. ARROW INDICATES AIMING DIRECTION
	RECESSED DOWNLIGHT LUMINAIRE
	RECESSED WALLWASH LUMINAIRE
	RECESSED OR SURFACE MOUNTED LINEAR WALLWASHER, OPEN AREA INDICATES DIRECTION OF ILLUMINATION
	RECESSED DOWNLIGHT WITH DECORATIVE TRIM
	WALL MOUNTED LUMINAIRE
	STEPLIGHT RECESSED FLUSH IN WALL
	POLE ARM-MOUNTED AREA LUMINAIRE; ARROW INDICATES DIRECTION OF LIGHT DISTRIBUTION WHEN NOT PARALLEL TO ARM ORIENTATION
	POLE ARM-MOUNTED PEDESTRIAN-SCALE WALKWAY OR AREA LUMINAIRE; ARROW INDICATES DIRECTION OF LIGHT DISTRIBUTION
	POST-TOP PEDESTRIAN-SCALE AREA LUMINAIRE; ARROW INDICATES DIRECTION OF LIGHT DISTRIBUTION
	BOLLARD LUMINAIRE; ARROW INDICATES DIRECTION OF LIGHT DISTRIBUTION
	FLUSH IN-GROUND LANDSCAPE OR BUILDING UPLIGHT, NON-ADJUSTABLE AIMING
	FLUSH IN-GROUND LANDSCAPE OR BUILDING UPLIGHT WITH ADJUSTABLE AIMING FEATURE; ARROW INDICATES AIMING DIRECTION
	FLUSH IN-GROUND WALLWASH UPLIGHT; OPEN AREA INDICATES DIRECTION OF ILLUMINATION
	STEM MOUNTED SIGN LIGHT
	WALL MOUNTED EXIT SIGN, ARROWS AS NOTED ON PLANS. SHADED AREA INDICATES NUMBER OF FACES
	CEILING MOUNTED EXIT SIGN, ARROWS AS NOTED ON PLANS. SHADED AREA INDICATES NUMBER OF FACES
	LOW LEVEL WALL MOUNTED EXIT SIGN
	WALL MOUNTED EMERGENCY BATTERY EGRESS LUMINAIRE WITH NUMBER OF ADJUSTABLE LAMP HEADS INDICATED
	LINE VOLTAGE SINGLE POLE TOGGLE SWITCH, LETTER ADJACENT INDICATES RESPECTIVE ZONE CONTROLLED, UP 48" U.O.N.
	LINE VOLTAGE TWO POLE TOGGLE SWITCH, UP 48" U.O.N.
	LINE VOLTAGE THREE-WAY TOGGLE SWITCH, UP 48" U.O.N.
	LINE VOLTAGE KEY OPERATED TOGGLE SWITCH
	LINE VOLTAGE MOTOR RATED TOGGLE SWITCH INSTALLED AT EQPT SHOWN
	LINE VOLTAGE TOGGLE SWITCH WITH PILOT LIGHT, LIGHT IS ON WHEN CIRCUIT IS CLOSED, UP 48" U.O.N.
	LOW VOLTAGE MOMENTARY CONTACT SWITCH - SEE LOW VOLTAGE RELAY SCHEDULE, LOWER CASE LETTER ADJACENT INDICATES RESPECTIVE ZONE CONTROLLED, UP 48" U.O.N.
	LOW VOLTAGE KEYED MOMENTARY CONTACT SWITCH - SEE LOW VOLTAGE RELAY SCHEDULE, LOWER CASE LETTER ADJACENT INDICATES RESPECTIVE ZONE CONTROLLED, UP 48" U.O.N.
	WALL MOUNTED SWITCH TYPE INFRARED OCCUPANCY SENSOR; UP 48" U.O.N.; SINGLE OR DUAL AS NOTED BY LETTERS ADJACENT. SET TO FIXED 20 MINUTE TIME DELAY AND MAX SENSITIVITY
	WALL MOUNTED SWITCH TYPE INFRARED OCCUPANCY SENSOR; UP 48" U.O.N.; SINGLE OR DUAL AS NOTED BY LETTERS ADJACENT. SET TO FIXED 20 MINUTE TIME DELAY AND MAX SENSITIVITY
	WALL MOUNTED DIGITAL SWITCH, UP 48" U.O.N.; LOWER CASE LETTER ADJACENT INDICATES RESPECTIVE ZONE CONTROLLED
	WALL MOUNTED DIGITAL SWITCH, UP 48" U.O.N.; LOWER CASE LETTER ADJACENT INDICATES RESPECTIVE ZONES TO BE SIMULTANEOUSLY MANUALLY CONTROLLED; NUMERAL DESIGNATES NUMBER OF ZONES ASSIGNED TO THE DEVICE
	CEILING MOUNTED DUAL TECHNOLOGY DIGITAL OCCUPANCY SENSOR
	WALL MOUNTED DUAL TECHNOLOGY DIGITAL OCCUPANCY SENSOR
	SINGLE OR MULTI-ZONE SWITCHING OR DIMMING OPEN LOOP DIGITAL DAYLIGHTING SENSOR; NOTATIONS ADJACENT IDENTIFY DAYLIGHT ZONES ASSIGNED TO THE DEVICE. VERIFY EXACT LOCATION PRIOR TO ROUGH-IN
	INDICATES DAYLIGHT ZONE CONTROLLED VIA PHOTOCELL
	ROOM CONTROLLER
	ADJACENTAL NUMERAL REFERS TO THE NUMBER OF ZONES TO BE CONTROLLED. VENDOR OR CONTRACTOR TO PROVIDE QUANTITY OF ROOM CONTROLLERS REQUIRED FOR THE NUMBER OF CONTROLLED ZONES.
	PLUG LOAD ROOM CONTROLLER
	ISOLATED RELAY INTERFACE
	SEISMIC BRACING FOR PENDANT LUMINAIRE
CALIFORNIA GREEN BUILDING STANDARDS COMPLIANCE	
ALL EXTERIOR LUMINAIRES SPECIFIED IN THESE CONTRACT DOCUMENTS COMPLY WITH THE REQUIREMENTS OF THE CALIFORNIA ENERGY CODE AND THE CALIFORNIA GREEN BUILDING STANDARDS CODE, SECTION 5.106.8 LIGHT POLLUTION REDUCTION. EXTERIOR LUMINAIRES COMPLY WITH BACKLIGHT, UPLIGHT, AND GLARE (BUG) RATINGS AS DEFINED IN IESNA TM-15-11 AND BUG RATINGS DO NOT EXCEED THE MAXIMUM ALLOWABLE RATINGS FOR THIS PROJECT.	

GENERAL NOTES

- PRIOR TO BID THE CONTRACTOR SHALL VISIT THE SITE TO ADEQUATELY DETERMINE ALL PRE-EXISTING CONDITIONS. BY THE ACT OF SUBMITTING A BID, THE CONTRACTOR WILL BE DEEMED TO HAVE COMPLIED WITH THE FOREGOING, TO HAVE ACCEPTED SUCH CONDITIONS, AND TO HAVE MADE ALLOWANCES THEREFORE IN PREPARING THE BID.
- PROVIDE PARITY SIZED GREEN GROUND WIRE IN ALL POWER CONDUITS, BRANCH CIRCUITS (LIGHTING & POWER) AND HOMERUNS. PROVIDE ADDITIONAL ISOLATED GROUND, GREEN WITH YELLOW STRIPE, TO ALL ISOLATED GROUND RECEPTACLES.
- PROVIDE PULLROPE IN ALL EMPTY CONDUITS THROUGHOUT THE PROJECT.
- REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT LOCATION & CONNECTION REQUIREMENTS OF ALL LUMINAIRE(S) AND ALL OUTLET,

LUMINAIRE SCHEDULE

TYPE	MOUNTING	DESCRIPTION	MANUFACTURER CATALOG #	LIGHT SOURCE	POWER SUPPLY	VOLTS	INPUT WATTS
AA3	CEILING SUSPENDED	CABLE SUSPENDED NARROW LINEAR LED WITH DIRECT/INDIRECT DISTRIBUTION (65%/35%). EXTRUDED ALUMINUM HOUSING. DIE CAST ALUMINUM FLAT END CAPS. DIE FORMED CRS REFLECTORS. WIDE SPREAD INDIRECT OPTICS. FLUSH BOTTOM LENS. FULLY ADJUSTABLE AIRCRAFT CABLE SUSPENSION. STANDARD WHITE FINISH. 12"L X 4-3/4"H X 2-1/4"D. WEIGHT: 2.9 LBS/FT.	FINELITE HP-2-P-ID-12"-H-B-835-WSO-F-F-96LG-12 OV-FA-FE-SC-SW-VERIFY CEILING TYPE	3500K/80CRI LED 785 LUMENS UP/ 422 LUMENS DN PER FOOT	0-10V 10-100% DIMMING	120V	141W
AA4	CEILING SUSPENDED	SIMILAR TO TYPE AA3 EXCEPT 16' LONG.	FINELITE HP-2ID-16"-H-B-835-WSO-F-F-96LG-12OV-FA-FE-SC-SW-VERIFY CEILING TYPE	3500K/80CRI LED 785 LUMENS UP/ 422 LUMENS DN PER FOOT	0-10V 10-100% DIMMING	120V	188W
AA6	CEILING SUSPENDED	SIMILAR TO TYPE AA3 EXCEPT 24' LONG.	FINELITE HP-2ID-24"-H-B-835-WSO-F-F-96LG-12OV-FA-FE-SC-SW-VERIFY CEILING TYPE	3500K/80CRI LED 785 LUMENS UP/ 422 LUMENS DN PER FOOT	0-10V 10-100% DIMMING	120V	281W
AB1	SURFACE CEILING	LED STRIPLIGHT WITH FORMED STEEL CONSTRUCTION HOUSING. ROUND DIFFUSE ACRYLIC LENS. SURFACE MOUNTED. VERIFY CEILING MOUNTING WITH ARCHITECT. STANDARD FINISH AS SELECTED BY ARCHITECT. 4' LONG.	H.E. WILLIAMS 75R-4-L30-835-VERIFY MOUNTING-DRV-UNV	3500K/80CRI LED 2,916 LUMENS	NON-DIM	120V	20W
AC1	SURFACE WALL	LED VAPORTIGHT LUMINAIRE WITH POLYCARBONATE HOUSING. SUITABLE FOR WET LOCATIONS. WHITE SHEET METAL REFLECTOR AND TEXTURED POLYCARBONATE LENS. 4' LONG.	RAB SHARK-4'-36-VN-W	3500K/80CRI LED 4,578 LUMENS	NON-DIM	120V	36W
AD1	WALL SURFACE	NARROW LINEAR LED WITH WRAP AROUND DIFFUSER. DIE FORMED STEEL HOUSING. SPRING FASTENED ALUMINUM END PLATES. ROUNDED SINGLE PIECE EXTRUDED ACRYLIC DIFFUSER. 48"L ADJUSTABLE AIRCRAFT CABLE MOUNTING. TEXTURED MATTE WHITE FINISH. 48"L X 3"H X 2-3/8"D. WEIGHT: 8 LBS.	PRUDENTIAL LIGHTING R1-LED35-MO-4-WA-TMWV-UNV-SUR-VERIFY CEILING TYPE-DM10-PRUBIN-EBCP1/2G	3500K/80CRI LED 700 LUMENS/FT	0-10V 10-100% DIMMING	120V	28W
AD2	WALL SURFACE	SIMILAR TO TYPE AD1 EXCEPT 8' LONG.	PRUDENTIAL LIGHTING R1-LED35-MO-8-WA-TMWV-UNV-SUR-VERIFY CEILING TYPE-DM10-PRUBIN-EBCP1/2G	3500K/80CRI LED 700 LUMENS/FT	0-10V 10-100% DIMMING	120V	56W
AD3	WALL SURFACE	SIMILAR TO TYPE AD1 EXCEPT 10' LONG.	PRUDENTIAL LIGHTING R1-LED35-MO-10-WA-TMWV-UNV-SUR-VERIFY CEILING TYPE-DM10-PRUBIN-EBCP1/2G	3500K/80CRI LED 700 LUMENS/FT	0-10V 10-100% DIMMING	120V	70W
AE1	RECESSED	RECESSED LED DOWNLIGHT WITH WIDE DISTRIBUTION AND FORMED STEEL CONSTRUCTION HOUSING. 4" DIA. APERTURE SELF FLANGED, LIGHTLY DIFFUSED. CLEAR ALZAK REFLECTOR. 2" MAX. CEILING THICKNESS, 5" NOMINAL DEPTH.	SIGNIFY LIGHTOLIER 4R-N CAL-10-8-35-W-210-U C4-R-DL-CC-P	3000K LED 80 CRI 1000 LM	0-10V DIMMING 100-10% RANGE	120/277V	10W
BA1	SURFACE CEILING	CEILING MOUNTED LED LUMINAIRE WITH DIE CAST ALUMINUM HOUSING. FACEPLATE WITH VERTICAL AND HORIZONTAL DOUBLE HEMISPHERIC RIBS. FULL TEMPERED GLASS LENS WITH INTERNAL SANDBLAST FINISH. STANDARD POWDERCOAT FINISHES ARE BLACK, DARK BRONZE, WHITE, PLATINUM SILVER, STEALTH GRAY, LIGHT GRAY. CUSTOM COLORS AVAILABLE. FINISH TO MATCH ADJACENT BUILDINGS, SELECTED BY THE ARCHITECT. 10-1/2" DIA X 8-5/8"D.	KIM LIGHTING WF20-18L3KUV-FINISH	3000K LED 1530 LUMENS	NON-DIM	120V	30W
BB1	WALL SURFACE	WALL MOUNTED LED SCONCE. DIE CAST ALUMINUM HOUSING, FACEPLATE WITH VERTICAL AND HORIZONTAL DOUBLE HEMISPHERIC RIBS. SOLID UPPER "EYELID" FOR CUTOFF OPTICS. FLAT TEMPERED GLASS LENS WITH INTERNAL SANDBLAST FINISH. STANDARD POWDERCOAT FINISHES ARE BLACK, DARK BRONZE, WHITE, PLATINUM SILVER, STEALTH GRAY, LIGHT GRAY. CUSTOM COLORS AVAILABLE. FINISH TO MATCH ADJACENT BUILDINGS, SELECTED BY THE ARCHITECT. 10-1/2" DIA X 8-5/8"D.	KIM LIGHTING WF22-18L3KUV-FINISH	3000K LED 1530 LUMENS	NON-DIM	120V	30W
BC1	WALL SURFACE	WALL MOUNTED DOWNLIGHT SCONCE WITH FABRICATED ALUMINUM MAIN HOUSING WITH STAMPED SILICONE GASKET AND STAINLESS STEEL BRACKETRY AND HARDWARE. CLEAR, INJECTION MOLDED PMMA ACRYLIC OPTICS. IES TYPE IV OPTICAL PATTERN WITH CLEAR LENS. FINISH TO BE DETERMINED BY THE ARCHITECT. FLAT FACE. 9.5" SQUARE X 2.8" D.	ARCHITECTURAL AREA LIGHTING CY1-15-3K8-1-4-UNV-FINISH-F	3000K LED 1668 LUMENS	NON-DIM	120V	18W
BD3	POLE MOUNTED	POST TOP MOUNTED AREA LIGHT WITH ALUMINUM HOUSING, SEALED WITH CONTINUOUS SILICONE RUBBER GASKETS, TEMPERED GLASS LENS, STAINLESS STEEL HARDWARE, TGIC POLYESTER POWDERCOAT PAINTED FINISH TO MATCH EXISTING CAMPUS STANDARD SITE LUMINAIRES, DIE CAST HEAT SINK, 450MA LED ENGINE, AND IES TYPE III OPTICAL DISTRIBUTION. LUMINAIRE IS 20.5" H X 25.5" DIAMETER. STRAIGHT, ROUND, 14" HIGH ALUMINUM POLE WITH HANDHOLE AND FULL BASE COVER. FINISH TO BE DETERMINED BY THE ARCHITECT.	ARCHITECTURAL AREA LIGHTING SLVT2-72L-285-3K7-3-FINISH-STND_MNT-CL-UNV POLE: PR4-4R14-125-SBC-FINISH-ND	3000K LED 6115 LUMENS	NON-DIM	120V	64W
BD4	POLE MOUNTED	SIMILAR TO TYPE BD3 EXCEPT WITH IES TYPE IV OPTICAL DISTRIBUTION.	ARCHITECTURAL AREA LIGHTING SLVT2-72L-285-3K7-4-FINISH-STND_MNT-CL-UNV POLE: PR4-4R14-125-SBC-FINISH-ND	3000K LED 6115 LUMENS	NON-DIM	120V	64W
EX1	WALL SURFACE	SINGLE FACE WALL MOUNTED LED EXIT SIGN. DIE CAST ALUMINUM HOUSING. REMOVABLE FACE SHIELD WITH FIELD SELECTABLE DIRECTIONAL CHEVRONS. INTEGRAL BATTERY BACKUP WITH SELF TEST, SELF DIAGNOSTICS. GREEN LETTERING. FACE & BODY FINISHES AVAILABLE IN ALL BRUSHED ALUMINUM, ALL BLACK, ALL WHITE OR CUSTOM COLOR. 13-1/16"W X 9-5/8"H X 5/8"D.	EVENLITE R2R3-EM-G-1-FINISH-1B-SD	LED	NON-DIM	120V	2.4W
EX2	WALL SURFACE	SINGLE FACE PHOTOLUMINESCENT (NON-ELECTRIC) EXIT SIGN. ABS GREEN FACE PANEL WITH 7"H X 7/8" STROKE PHOTOLUMINESCENT LETTERING. INCLUDES FIELD APPLIED DIRECTIONAL CHEVRONS. 16"W X 8-5/8"H X 1/4"D. 6-3/8"W X 1-3/8"D UNIVERSAL MOUNTING BRACKET.	EVENLITE PL100-1-G-U	PHOTO-LUMINESCENT	NON-ELECTRIC	NA	NA



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[illegible]

DSA APP NO. 01-119268

ARCH PROJECT NO: 1870.00

DRAWN BY:

DRAWING SCALE:

PTN: 61721-77 FILE NO: 7-H4

BID SET

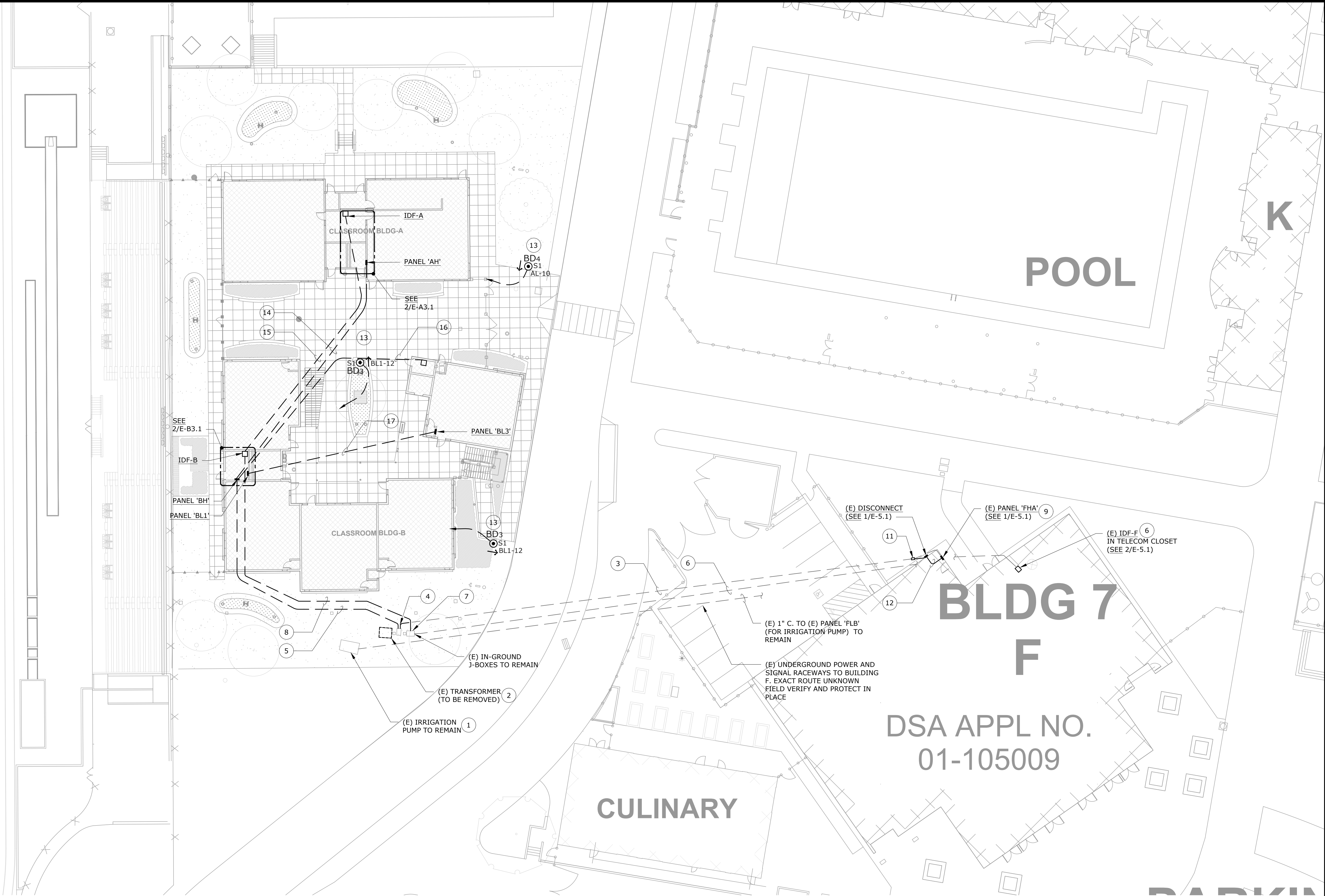
MAY 10, 2021

SHEET TITLE

LUMINAIRE SCHEDULE

SHEET NUMBER

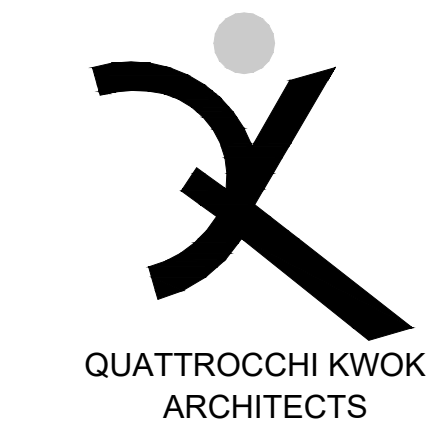
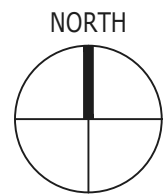
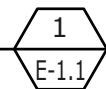
E-0.2



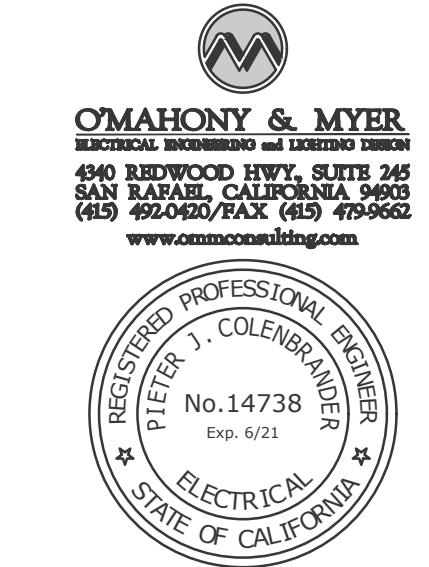
NUMBERED SHEET NOTES

- 1 PROTECT (E) EQUIPMENT IN PLACE. MAINTAIN CONNECTIONS.
- 2 DISCONNECT AND REMOVE (E) TRANSFORMER PREVIOUSLY FEEDING PORTABLE CLASSROOMS, INCLUDING ALL LOAD-SIDE CONDUIT AND WIRING FROM THE TRANSFORMER TO PORTABLES.
- 3 DISCONNECT AND REMOVE (E) TRANSFORMER PRIMARY DISCONNECT AND FEEDER CONDUCTORS BACK TO SOURCE AT PANEL 'FHA' AT BUILDING 'F'. MAINTAIN (E) 4" UNDERGROUND POWER RACEWAY AND PROVIDE AND INSTALL (N) CONDUCTORS PER 1/E-5.1 IN (E) RACEWAY.
- 4 MAINTAIN (E) POWER PULLBOX AND 4" CONDUIT FROM BUILDING 'F'. EXTEND (N) CONDUIT FROM (E) PULLBOX TO (N) PANEL 'BH' AS SHOWN. INSTALL (N) PANEL 'BH' FEEDER PER 1/E-5.1, FROM (E) PANEL 'FHA', THROUGH (E) AND (N) RACEWAYS.
- 5 (N) RACEWAY AND CONDUCTORS TO (N) PANEL 'BH'. SEE 1/E-5.1.
- 6 DISCONNECT AND REMOVE (E) SIGNAL SYSTEM CONDUCTORS BACK TO SOURCE AT IDF-F AT BUILDING 'F'. MAINTAIN (E) 4" AND (3) 1" UNDERGROUND LOW VOLTAGE RACEWAYS AND PROVIDE AND INSTALL (N) LOW VOLTAGE / TELECOM WIRING PER 1 AND 2/E-5.3 IN (E) RACEWAYS.
- 7 MAINTAIN (E) LOW VOLTAGE PULLBOX AND CONDUITS FROM BUILDING 'F'. EXTEND (N) CONDUIT FROM (E) PULLBOX TO (N) IDF-B AS SHOWN. INSTALL (N) LOW VOLTAGE / TELECOM CABLING PER 2/E-5.3, FROM (E) IDF-F, THROUGH (E) AND (N) RACEWAYS.
- 8 (N) RACEWAY AND CONDUCTORS TO (N) IDF-B. SEE 2/E-5.3.
- 9 PROVIDE AND INSTALL BUS-TAP AS PER 1/E-5.1.
- 10 SEE 2 AND 3/E-5.3 FOR TELECOM CONNECTIONS AND PROVISIONS.
- 11 INTERCEPT (E) POWER RACEWAY AND PROVIDE/INSTALL (N) PULLBOX (CHRISTY OR EQUAL). PROVIDE AND INSTALL (N) CONDUIT FROM PULLBOX TO EXTERIOR DISCONNECT AND CONNECT COMPLETE PER 1/E-5.1.
- 12 (N) CONDUIT AND CONDUCTORS TO BUS-TAP IN (E) PANEL 'FHA'. PROVIDE EXTERIOR WALL PENETRATION AND SEAL WEATHER-TIGHT.
- 13 SEE DETAIL 1/E-7.2.
- 14 (N) RACEWAY AND CONDUCTORS TO (N) PANEL 'AH'. SEE 1/E-5.1.
- 15 (N) RACEWAY AND CONDUCTORS TO (N) IDF-A. SEE 2/E-5.1.
- 16 (N) RACEWAY AND CONDUCTORS TO ELEVATOR. SEE 1/E-5.1.
- 17 (N) RACEWAY AND CONDUCTORS TO (N) PANEL 'BL3'. SEE 1/E-5.1.

SITE PLAN - ELECTRICAL & LIGHTING
SCALE: 1" = 20'-0"



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MAY 10, 2021

SHEET TITLE

SITE PLAN -
ELECTRICAL &
LIGHTING

SHEET NUMBER

E-1.1

- 1 SEE SHEET E-1.1 FOR NEW SITE LIGHTING.
- 2 SEE G0.4 FOR ACCESSIBLE PATH OF TRAVEL DIAGRAM



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ARCH PROJECT NO: 1870.00

DRAWN BY:

DRAWING SCALE: _____

PTN: 61721-77 FILE NO: 7-H4

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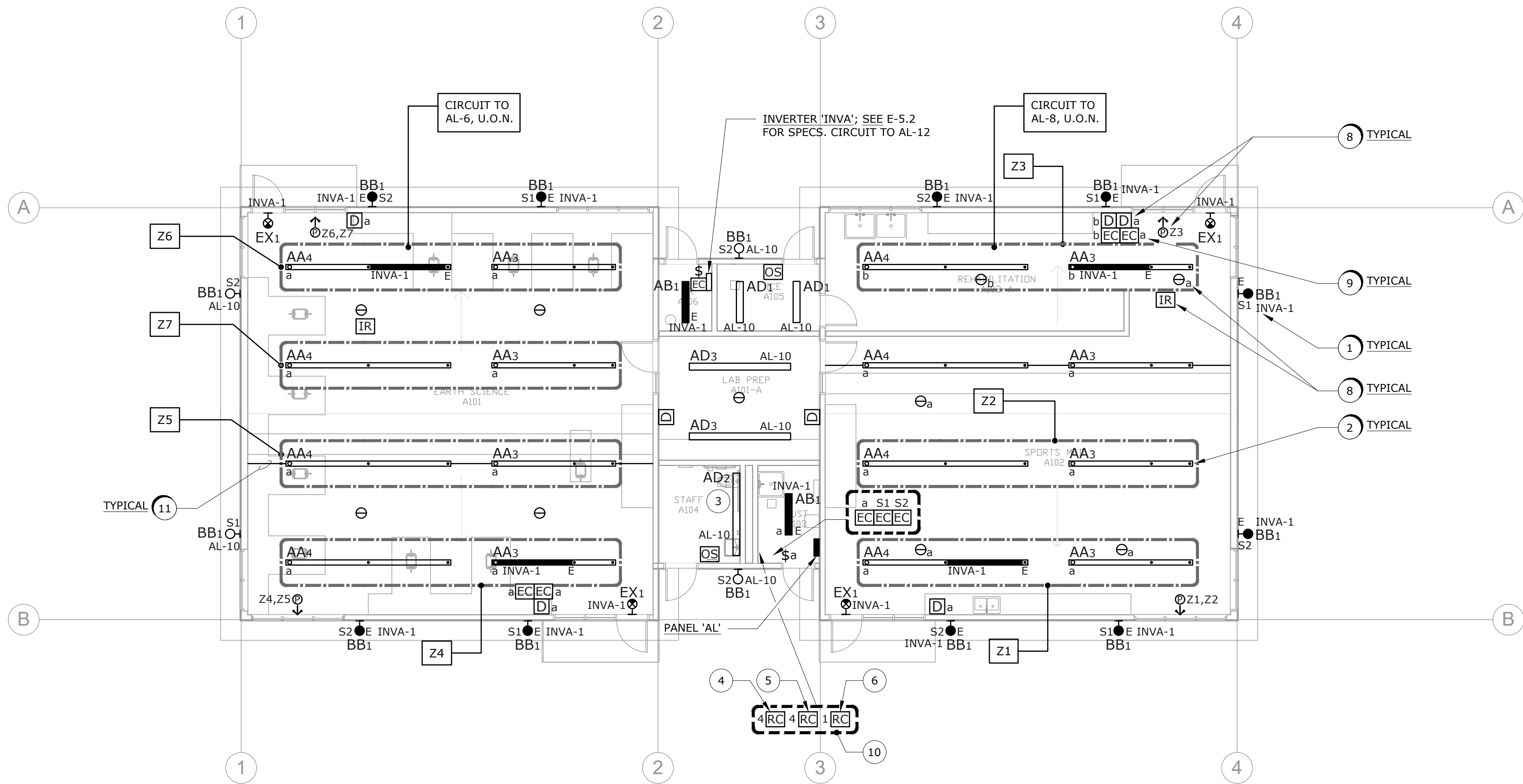
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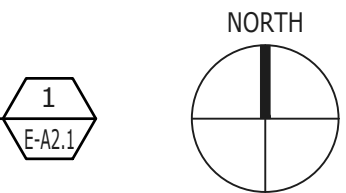
**SITE PLAN -
LIGHTING -
PATH OF
TRAVEL
ILLUMINATION**

SHEET NUMBER

E-1.2

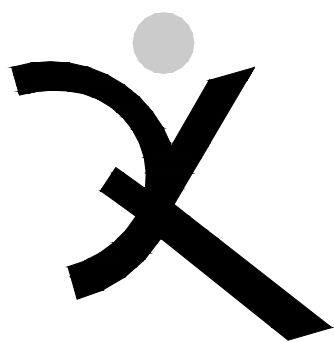


FLOOR PLAN BLDG. A - LIGHTING
SCALE: 1/8" = 1'-0"



NUMBERED SHEET NOTES

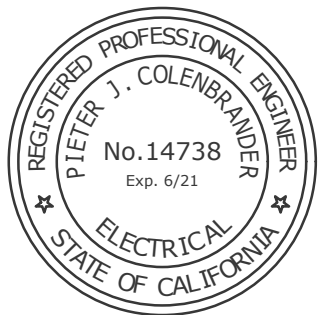
- 1 WALL MOUNTED AT 9'-0" A.F.F. TO CENTERLINE OF THE LUMINAIRE. SEE DETAIL 7/E-7.2.
- 2 PENDANT MOUNTED AT 1'-6" BELOW THE CEILING TO TOP OF THE LUMINAIRE. SEE DETAIL 1-E-7.3 FOR OFF-GRID MOUNTING OR 2/E-7.3 FOR ON-GRID MOUNTING.
- 3 WALL MOUNTED AT 7'-6" A.F.F. TO CENTERLINE OF THE LUMINAIRE. SEE DETAIL 7/E-7.2.
- 4 ROOM CONTROLLERS FOR EARTH SCIENCE A101.
- 5 ROOM CONTROLLERS FOR SPORTS MED & REHAB.
- 6 ROOM CONTROLLER FOR LAB PREP A101-A
- 7 MOUNT ROOM CONTROLLERS ON WALL 7'-0" A.F.F. AND LABEL WITH RESPECTIVE ROOM NAMES.
- 8 PROVIDE AND INSTALL DIMMER SWITCH(ES), OCCUPANCY SENSOR(S), PHOTOSENSOR(S), ROOM CONTROLLERS, AND ISOLATED RELAYS FOR HVAC INTERFACE WHERE SHOWN. SEE DETAILS ON SHEET E-5.2. MOUNT ROOM CONTROLLERS ABOVE ACCESSIBLE CEILING WHEREVER POSSIBLE OR WHERE SHOWN ON PLANS.
- 9 PROVIDE AN EMERGENCY LIGHTING CONTROL MODULE FOR ALL SWITCHED LIGHT FIXTURES ON EMERGENCY INVERTER. THIS INCLUDES EMERGENCY FIXTURES CONTROLLED BY OCCUPANCY SENSORS. SEE DETAIL 3/E-5.2. MOUNT CONTROL MODULE/TEST SWITCH 7'-6" A.F.F. AND ALIGN WITH LIGHT SWITCH BELOW WHEREVER POSSIBLE.
- 10 MOUNT DEVICES 7'-0" ON WALL AND LABEL WITH RESPECTIVE ROOM NAMES.
- 11 SEISMIC BRACING CABLES. SEE DETAIL 9/E-7.2.



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DRAWING SCALE:

PTN: 61721-77 FILE NO. 7-H4

BID SET

MAY 10, 2021

SHEET TITLE

FLOOR PLAN
BLDG. A -
LIGHTING

SHEET NUMBER

E-A2.1

NUMBERED SHEET NOTES

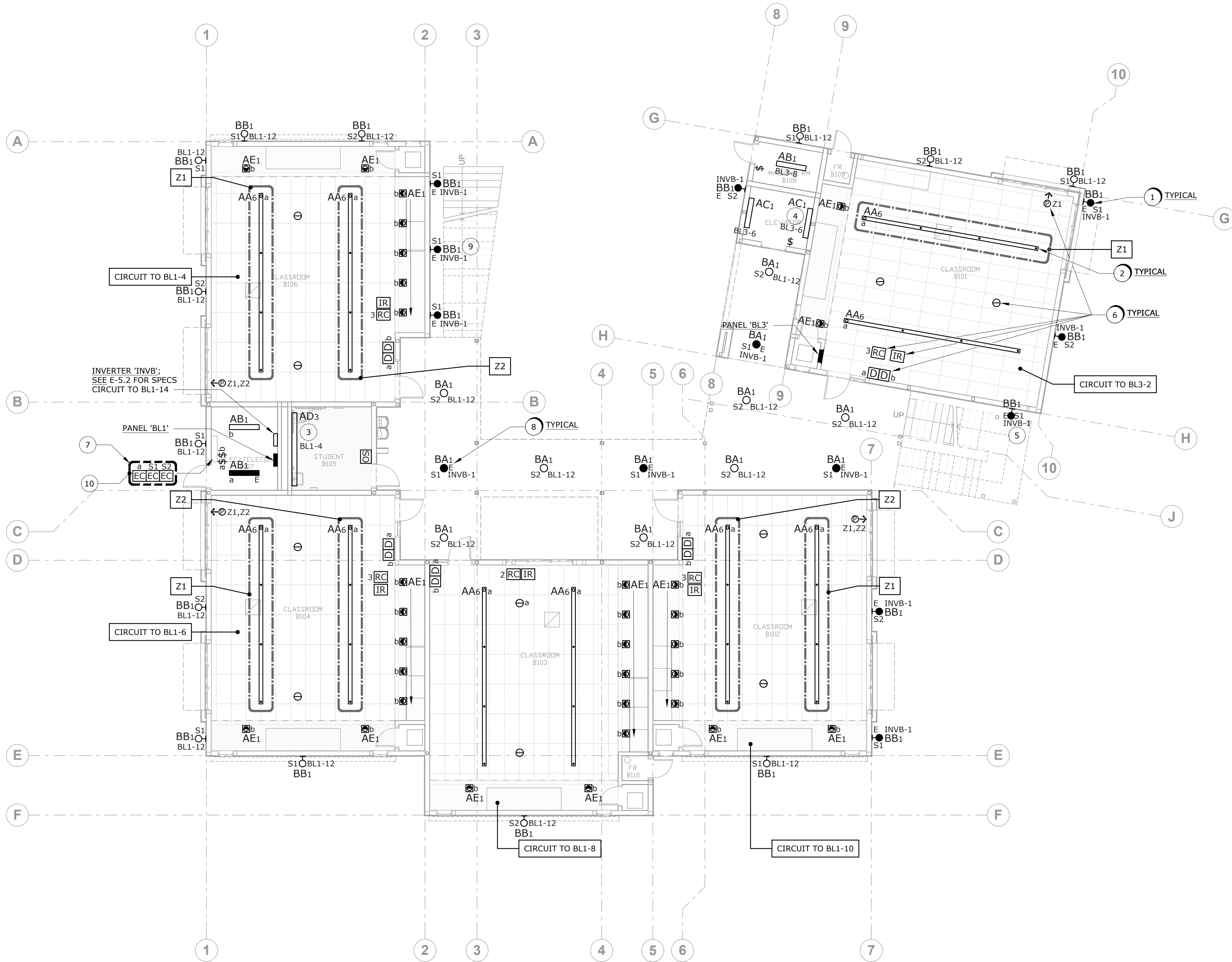
- 9 WALL MOUNTED AT 15'-3" A.F.F. TO CENTERLINE OF THE LUMINAIRE. SEE DETAIL 7/E-7.2.
- 10 MOUNT DEVICES 7'-0" ON WALL AND LABEL WITH RESPECTIVE ROOM NAMES.

NUMBERED SHEET NOTES

- 6 PROVIDE AND INSTALL DIMMER SWITCH(ES), OCCUPANCY SENSOR(S), PHOTOSENSOR(S), ROOM CONTROLLERS, AND ISOLATED RELAYS FOR HVAC INTERFACE WHERE SHOWN. SEE DETAILS ON SHEET E-5.2. MOUNT ROOM CONTROLLERS ABOVE ACCESSIBLE CEILING WHEREVER POSSIBLE OR WHERE SHOWN ON PLANS.
- 7 PROVIDE AN EMERGENCY LIGHTING CONTROL MODULE FOR ALL SWITCHED LIGHT FIXTURES ON EMERGENCY INVERTER. THIS INCLUDES EMERGENCY FIXTURES CONTROLLED BY OCCUPANCY SENSORS. SEE DETAIL 3/E-5.2. MOUNT CONTROL MODULE/TEST SWITCH 7'-6" A.F.F. AND ALIGN WITH LIGHT SWITCH BELOW WHEREVER POSSIBLE.
- 8 SEE DETAIL 3/E-7.3.

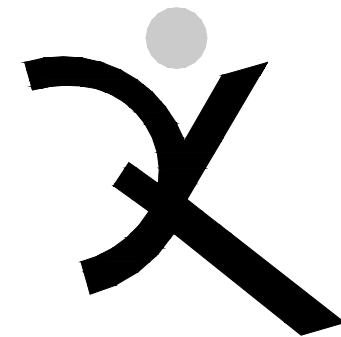
NUMBERED SHEET NOTES

- 1 WALL MOUNTED AT 9'-0" A.F.F. TO CENTERLINE OF THE LUMINAIRE. SEE DETAIL 7/E-7.2.
- 2 PENDANT MOUNTED AT 1'-6" BELOW THE CEILING TO TOP OF THE LUMINAIRE. SEE DETAIL 1-E-7.3 FOR OFF-GRID MOUNTING OR 2/E-7.3 FOR ON-GRID MOUNTING.
- 3 WALL MOUNTED AT 7'-6" A.F.F. TO CENTERLINE OF THE LUMINAIRE. SEE DETAIL 7/E-7.2.
- 4 ELEVATOR PIT LIGHT. COORDINATE LOCATION WITH ELEVATOR CONTRACTOR.
- 5 WALL MOUNTED AT 14'-6" A.F.F. TO CENTERLINE OF THE LUMINAIRE. SEE DETAIL 7/E-7.2.



FIRST FLOOR PLAN BLDG. B - LIGHTING

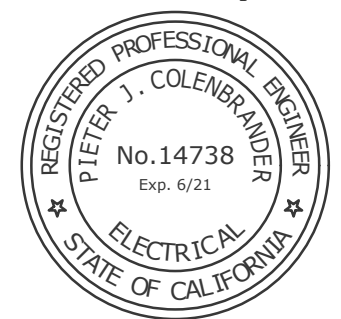
SCALE: 1/8" = 1'-0"



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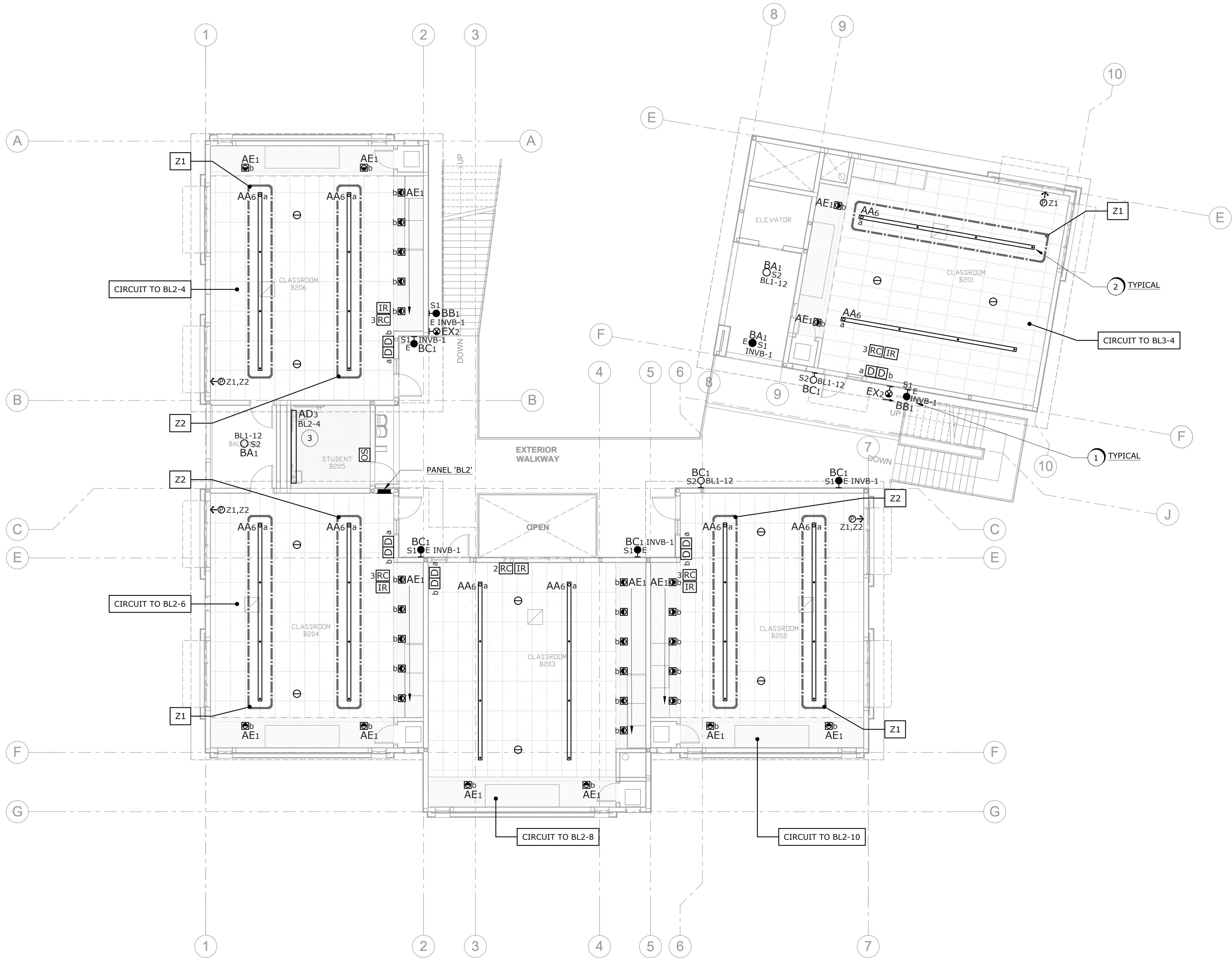
REVISIONS	

DSA APP NO. 01-119268	
ARCH PROJECT NO.	1870.00
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PTN: 61721-77	FILE NO. 7-H4
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SHEET TITLE	

FIRST FLOOR
PLAN BLDG. B -
LIGHTING

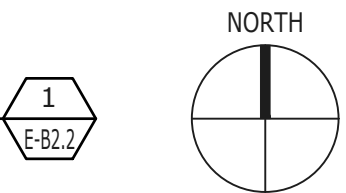
SHEET NUMBER

E-B2.1



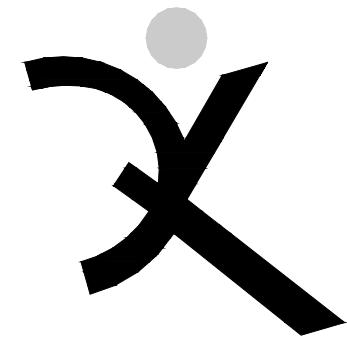
SECOND FLOOR PLAN BLDG. B - LIGHTING

SCALE: 1/8" = 1'-0"



NUMBERED SHEET NOTES

- 1 WALL MOUNTED AT 7'-0" A.F.F. TO CENTERLINE OF THE LUMINAIRE. SEE DETAIL 7/E-7.2.
- 2 PENDANT MOUNTED AT 1'-6" BELOW THE CEILING TO TOP OF THE LUMINAIRE. SEE DETAIL 1-E-7.3 FOR OFF-GRID MOUNTING OR 2/E-7.3 FOR ON-GRID MOUNTING.
- 3 WALL MOUNTED AT 7'-6" A.F.F. TO CENTERLINE OF THE LUMINAIRE. SEE DETAIL 7/E-7.2.



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PTN: 61721-77 FILE NO. 7-H4

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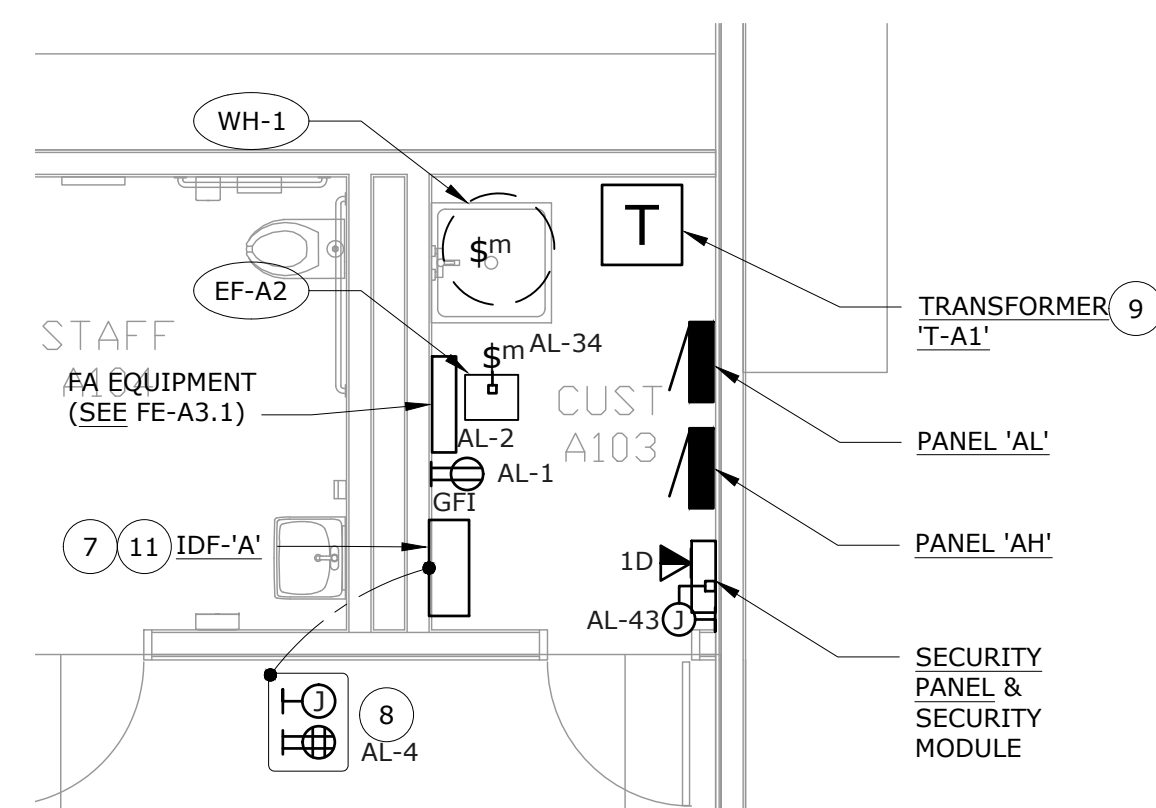
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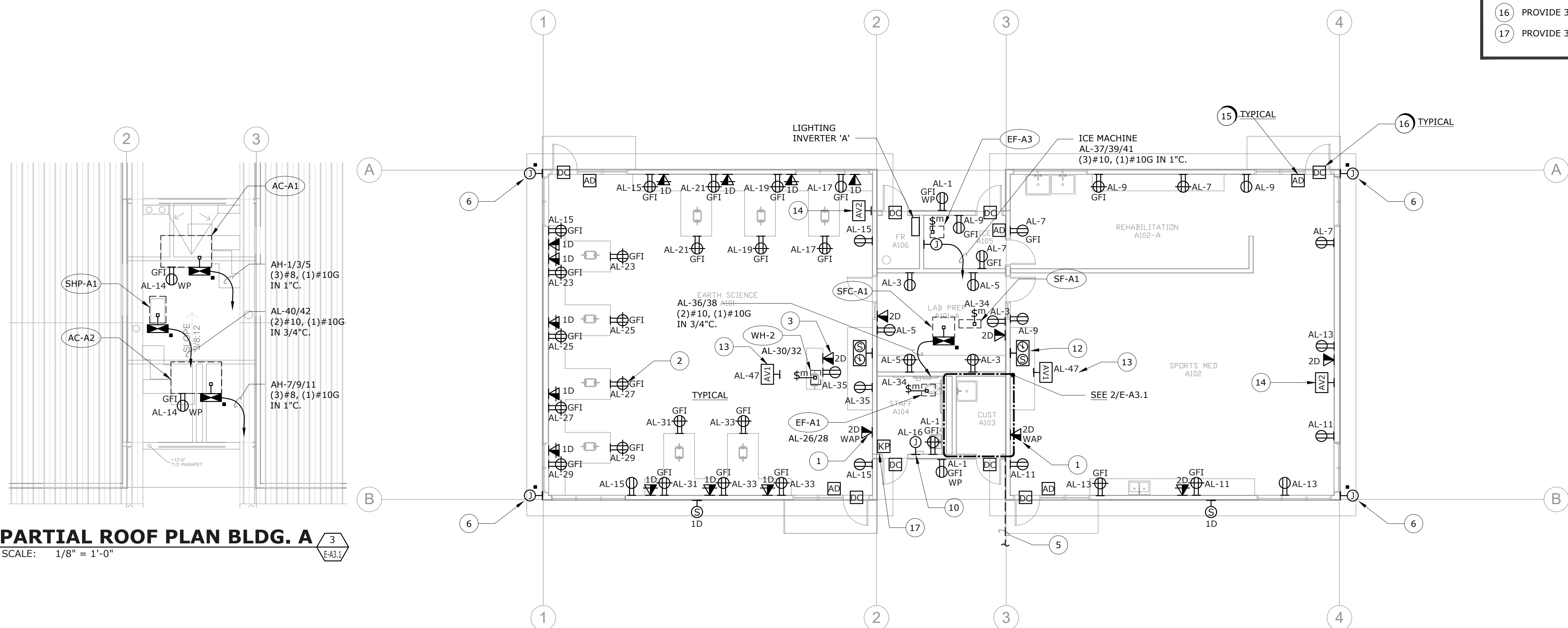
SECOND FLOOR
PLAN BLDG. B -
LIGHTING

SHEET NUMBER

E-B2.2



ENLARGED FLOOR PLAN BLDG. A - POWER & SIGNAL



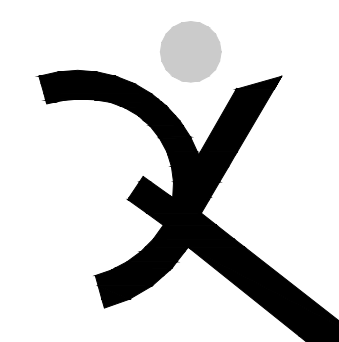
PARTIAL ROOF PLAN BLDG. A 3
SCALE: 1/8" = 1'-0" E-A3.1



FLOOR PLAN BLDG. A - POWER & SIGNAL
SCALE: 1/8" = 1'-0"

NUMBERED SHEET NOTES

- 1 AT +96" A.F.F.
- 2 ON FACE OF COUNTER.
- 3 ON FACE OF TEACHER COUNTER.
- 4 FLUSH LOCKING WP COVER. PASS & SEYMOUR 4600. REQUIRE SPECIAL ROUGH-IN.
- 5 TO BUILDING B, PANEL 'BL1'. SEE E-B3.1.
- 6 SECURITY CAMERA LOCATION. CAMERAS TO BE PROVIDED AND INSTALLED BY DISTRICT. PROVIDE 4" JUNCTION BOX AND 1" C. WITH CAT6A BACK TO IDF 'A'.
- 7 PROVIDE IDF HUBBELL REBOX 'RE4' OR EQUIVALENT WITH OWNER PROVIDED SWITCH. MOUNT HIGH ON WALL.
- 8 PROVIDE DEDICATED QUAD RECEPTACLE AND J-BOX WITH #2AWG G. TO NEAREST BUILDING ELECTRODE. LOCATE EQUIPMENT WITHIN IDF CABINET (OR RACK).
- 9 MOUNT TRANSFORMER UP HIGH ON WALL. SEE 2/E-7.1
- 10 120V ELECTRIC HAND DRYER. S.A.D. FOR MOUNTING LOCATION.
- 11 SEE 2/E-5.3 FOR TELECOM SYSTEM.
- 12 SEE 1/E-5.3 FOR CLOCK SPEAKERS.
- 13 LOCATION OF SHORT THROW PROJECTOR. VERIFY LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
- 14 LOCATION OF TEACHER CONTROLS AND VIDEO / AUDIO INPUT FOR PROJECTOR. RUN (2) 1.5" CONDUITS FROM SHORT THROW PROJECTOR TO TEACHER CONTROLS LOCATION.
- 15 PROVIDE 3/4" C. FOR SECURITY SYSTEM AUDIO DETECTOR BACK TO SECURITY CONTROL PANEL. VERIFY MOUNTING LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN. TYPICAL
- 16 PROVIDE 3/4" C. FOR SECURITY SYSTEM DOOR CONTACT BACK TO SECURITY CONTROL PANEL. TYPICAL
- 17 PROVIDE 3/4" C. FOR SECURITY SYSTEM KEYPAD BACK TO SECURITY CONTROL PANEL.



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PTN: 61721-77 FILE NO: 7-H4

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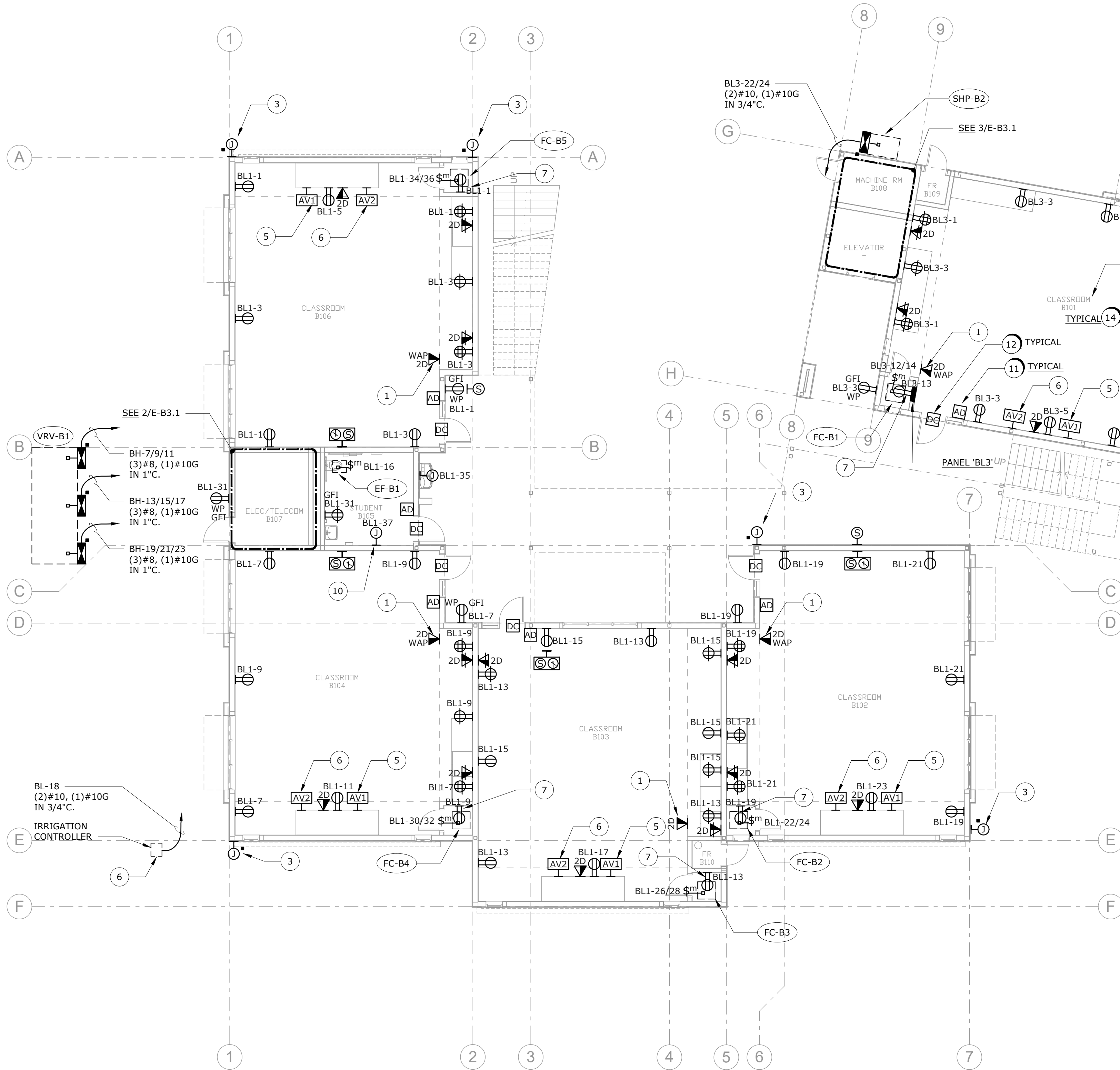
MAY 10, 2021

SHEET TITLE

**FLOOR PLAN
BLDG. A -
POWER &
SIGNAL**

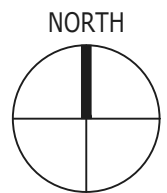
SHEET NUMBER

E-A3.1



FIRST FLOOR PLAN BLDG. B - POWER & SIGNAL
SCALE: 1/8" = 1'-0"

1
E-B3.1

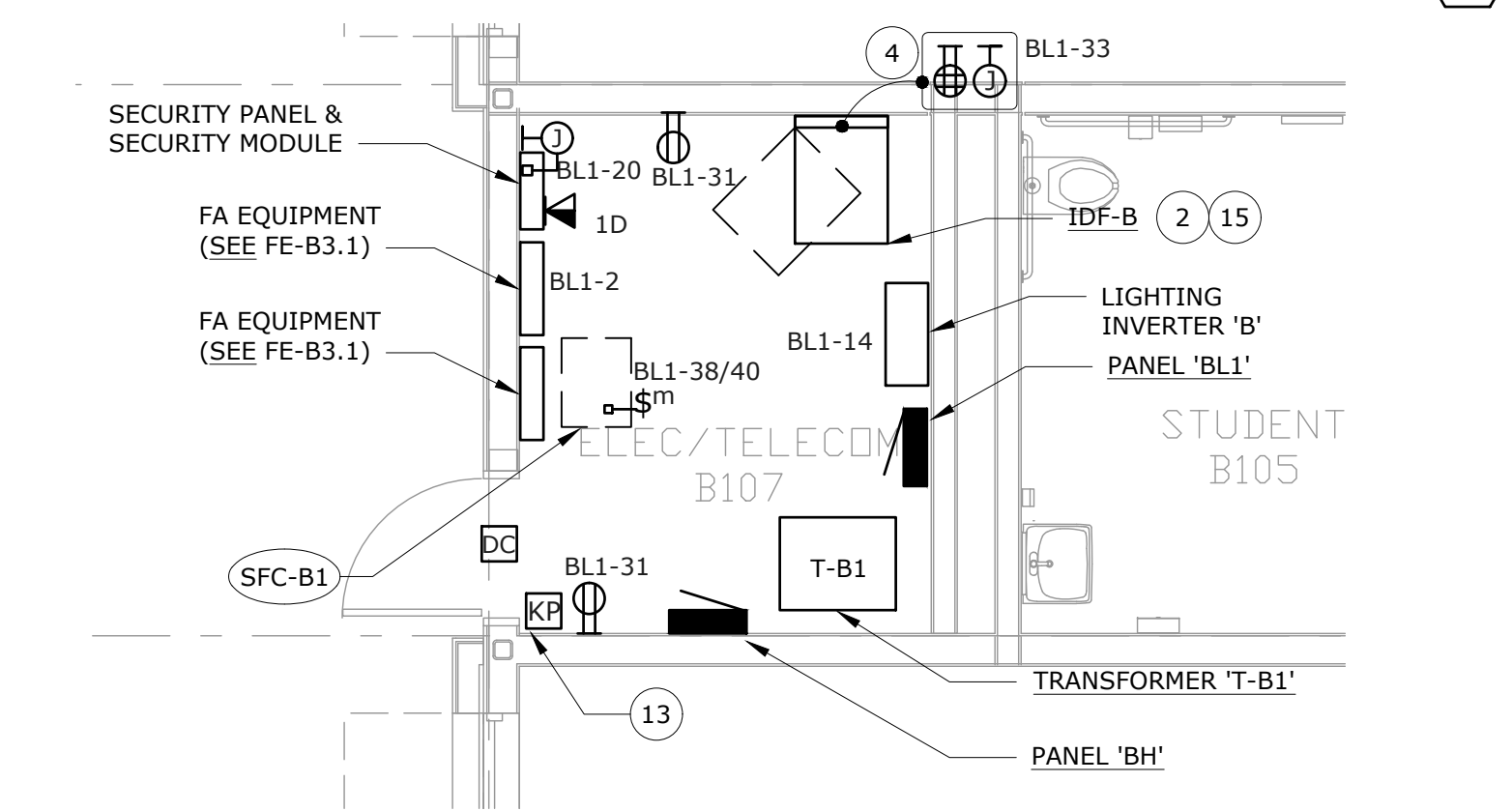


NUMBERED SHEET NOTES

- 1 ON FACE OF SOFFIT.
- 2 WALL MOUNTED. FLOOR SUPPORTED, 6'H x 24"W x 30"D.
- 3 SECURITY CAMERA LOCATION. CAMERAS TO BE PROVIDED AND INSTALLED BY DISTRICT. PROVIDE 4" JUNCTION BOX AND 1" C. WITH CAT6A BACK TO IDF 'B'. VERIFY EXACT LOCATION AND HEIGHT REQUIREMENT WITH ARCHITECT PRIOR TO ROUGH-IN.
- 4 PROVIDE DEDICATED QUAD RECEPTACLE AND J-BOX WITH #2AWG G. TO NEAREST BUILDING ELECTRODE. LOCATE EQUIPMENT WITHIN IDF CABINET (OR RACK).
- 5 LOCATION OF SHORT THROW PROJECTOR.
- 6 LOCATION OF TEACHER CONTROLS AND VIDEO / AUDIO INPUT FOR SHORT THROW PROJECTOR. RUN (2) 1.5" CONDUITS FROM SHORT THROW PROJECTOR TO TEACHER CONTROLS LOCATION.
- 7 OUTLET REQUIRED FOR FAN COIL UNIT CONDENSATE PUMP. COORDINATE LOCATION WITH MECHANICAL PLANS PRIOR TO ROUGH-IN.
- 8 VERIFY EXACT LOCATION WITH LANDSCAPE PLANS PRIOR TO ROUGH-IN.
- 9 DATA CABLES IN CONDUIT TO THIS ROOM FROM IDF-'B' ARE TO BE RUN UNDERNEATH OF COVERED WALKWAY.
- 10 120V ELECTRIC HAND DRYER. S.A.D. FOR MOUNTING LOCATION.
- 11 PROVIDE 3/4" C. FOR SECURITY SYSTEM AUDIO DETECTOR BACK TO SECURITY CONTROL PANEL. VERIFY MOUNTING LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN. TYPICAL
- 12 PROVIDE 3/4" C. FOR SECURITY SYSTEM DOOR CONTACT BACK TO SECURITY CONTROL PANEL. TYPICAL
- 13 PROVIDE 3/4" C. FOR SECURITY SYSTEM KEYPAD BACK TO SECURITY CONTROL PANEL.
- 14 SEE 1/E-5.3 FOR CLOCK SPEAKERS.
- 15 SEE 2/E-5.3 FOR TELECOM SYSTEM.

PARTIAL PLAN - ELEVATOR

SCALE: 1/4" = 1'-0"



PARTIAL PLAN - ELECTRIC ROOM

SCALE: 1/4" = 1'-0"

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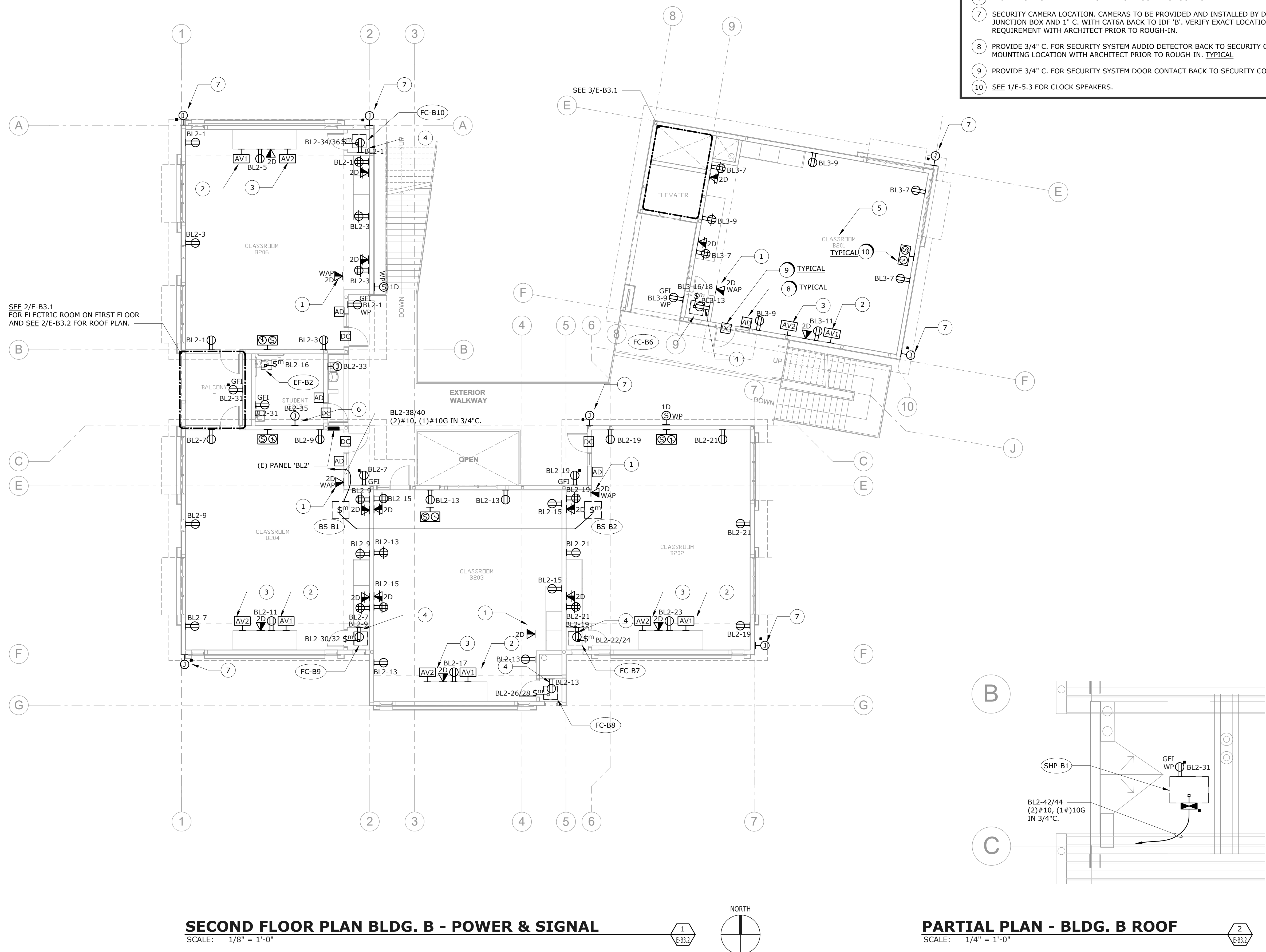
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DRAWING SCALE:	
PTN: 61721-77	FILE NO. 7-H4
BID SET	
MAY 10, 2021	
SHEET TITLE	

FIRST FLOOR
PLAN BLDG. B -
POWER &
SIGNAL

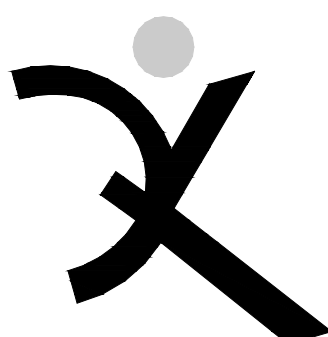
SHEET NUMBER

E-B3.1



NUMBERED SHEET NOTES

- 1 ON FACE OF SOFFIT.
- 2 LOCATION OF SHORT THROW PROJECTOR.
- 3 LOCATION OF TEACHER CONTROLS AND VIDEO / AUDIO INPUT FOR SHORT THROW PROJECTOR. RUN (2) 1.5" CONDUITS FROM SHORT THROW PROJECTOR TO TEACHER CONTROLS LOCATION.
- 4 OUTLET REQUIRED FOR FAN COIL UNIT CONDENSATE PUMP. COORDINATE LOCATION WITH MECHANICAL PLANS PRIOR TO ROUGH-IN.
- 5 DATA CABLES IN CONDUIT TO THIS ROOM FROM IDF-'B' ARE TO BE RUN UNDERNEATH OF COVERED WALKWAY.
- 6 120V ELECTRIC HAND DRYER. S.A.D. FOR MOUNTING LOCATION.
- 7 SECURITY CAMERA LOCATION. CAMERAS TO BE PROVIDED AND INSTALLED BY DISTRICT. PROVIDE 4" JUNCTION BOX AND 1" C. WITH CAT6A BACK TO IDF 'B'. VERIFY EXACT LOCATION AND HEIGHT REQUIREMENT WITH ARCHITECT PRIOR TO ROUGH-IN.
- 8 PROVIDE 3/4" C. FOR SECURITY SYSTEM AUDIO DETECTOR BACK TO SECURITY CONTROL PANEL. VERIFY MOUNTING LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN. TYPICAL
- 9 PROVIDE 3/4" C. FOR SECURITY SYSTEM DOOR CONTACT BACK TO SECURITY CONTROL PANEL. TYPICAL
- 10 SEE 1/E-5.3 FOR CLOCK SPEAKERS.



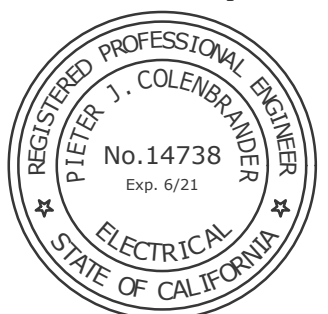
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[illegible]

DSA APP NO. 01-119268

ARCH PROJECT NO: 1870.00

DRAWN BY:

DRAWING SCALE:

PTN: 61721-77 FILE NO: 7-H4

BID SET

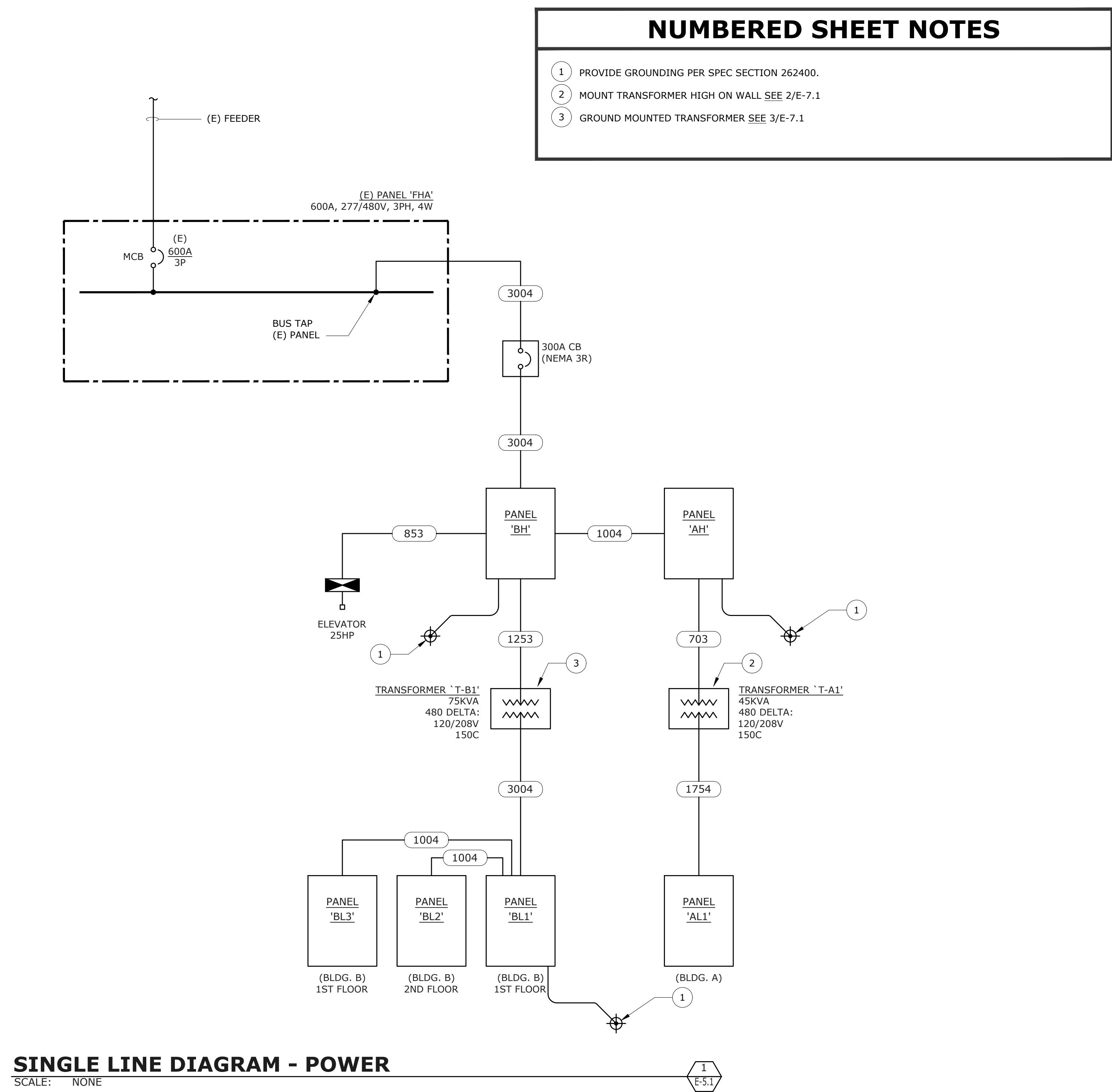
MAY 10, 2021

SHEET TITLE

**SECOND FLOOR
PLAN BLDG. B -
POWER &
SIGNAL**

SHEET NUMBER

E-B3.2



COPPER FEEDER SCHEDULE		
FEEDER	CONDUIT	CONDUCTORS
3004	(1) 3"	(4)350 MCM & (1)#2 G.
1754	(1) 2"	(4)#2/0 & (1)#6 G.
1253	(1) 1-1/2"	(3)#1/0 & (1)#6 G.
1004	(1) 2"	(4)#1 & (1)#6 G.
804	(1) 1-1/4"	(4)#2 & (1)#6 G.
853	(1) 1-1/4"	(3)#2 & (1)#6 G.
703	(1) 1"	(3)#4 & (1)#8 G.

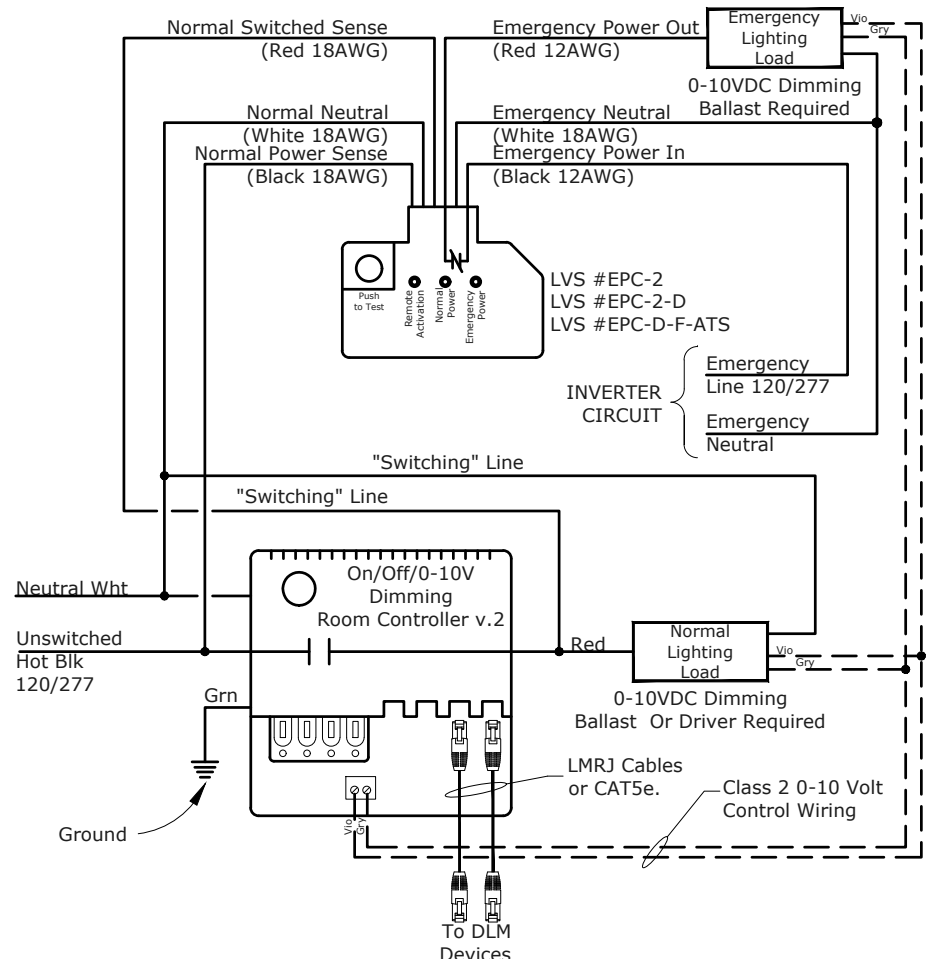
FEEDER TAG KEY

The diagram shows a circular feeder tag with the text "400 4 N" inside. Three lines extend from the tag to the right, each pointing to a descriptive text:

- The top line points to "INDICATES DOUBLE NEUTRAL".
- The middle line points to "WIRE QUANTITY".
- The bottom line points to "FEEDER AMPACITY".

Below the diagram, a note states: "NOTE: NOT ALL FEEDERS ON THIS SCHEDULE ARE NECESSARILY USED ON THIS PROJECT."

SEQUENCE OF OPERATION:
Upon the loss of normal power, the LVS Emergency Control Module will bypass the Room Controller and force the emergency fixtures ON. The Room Controller will force the dimmed emergency fixture to 100%. The LVS is UL924 listed.

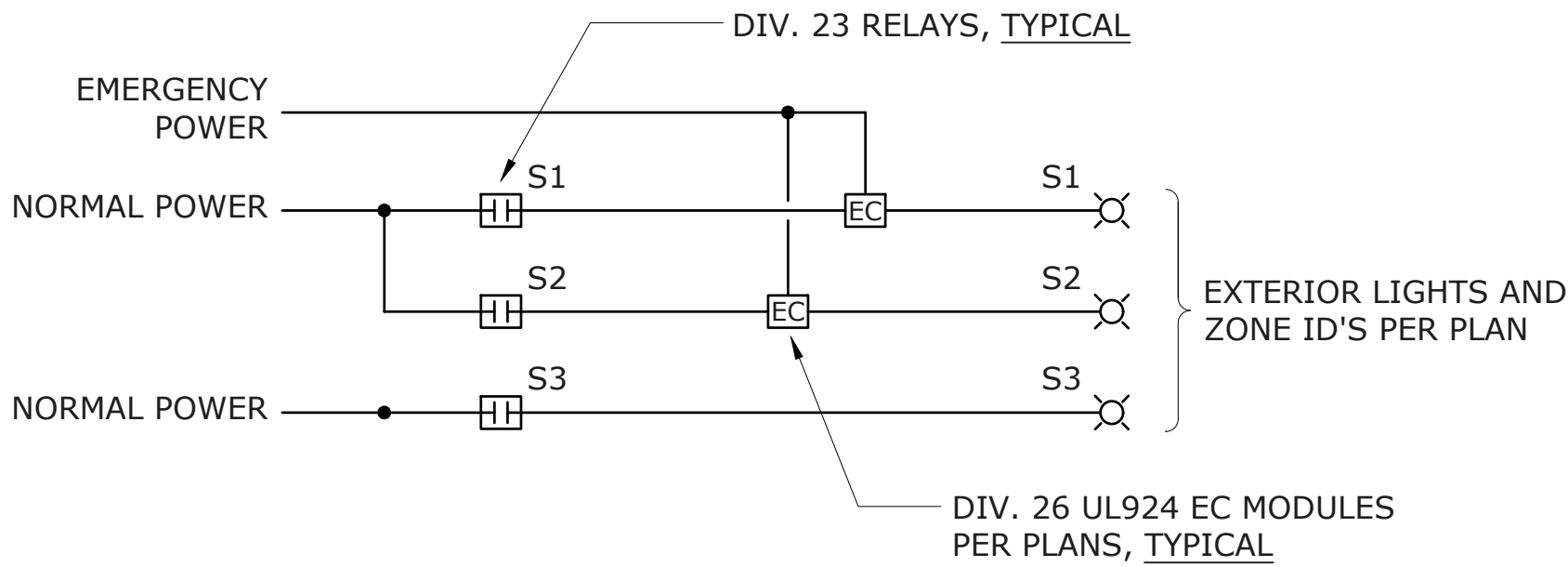


**EMERGENCY LIGHTING CONTROL MODULE
WIRING DIAGRAM FOR DIMMED EMERGENCY
FIXTURES CONTROLLED BY 0-10V DIMMING ROOM CONTROLLER**

SCALE: NONE
FILE: L:\DETAILS\LIGHT\LTG CONTROL WATTSTOPPER DLM\LLCW010

3
E-5.2

EMS SYSTEM INTERFACE:
COORDINATE WITH DISTRICT EMS SYSTEM (PELICAN CONTROLS)
FOR CONTROL OF EXTERIOR LIGHTING ZONES. PELICAN TO
PROVIDE OVERRIDE SWITCHES IN BLDGSS A & B.



EXTERIOR LIGHTING CONTROL DETAIL

SCALE: NONE
FILE: NEW FOR 220065

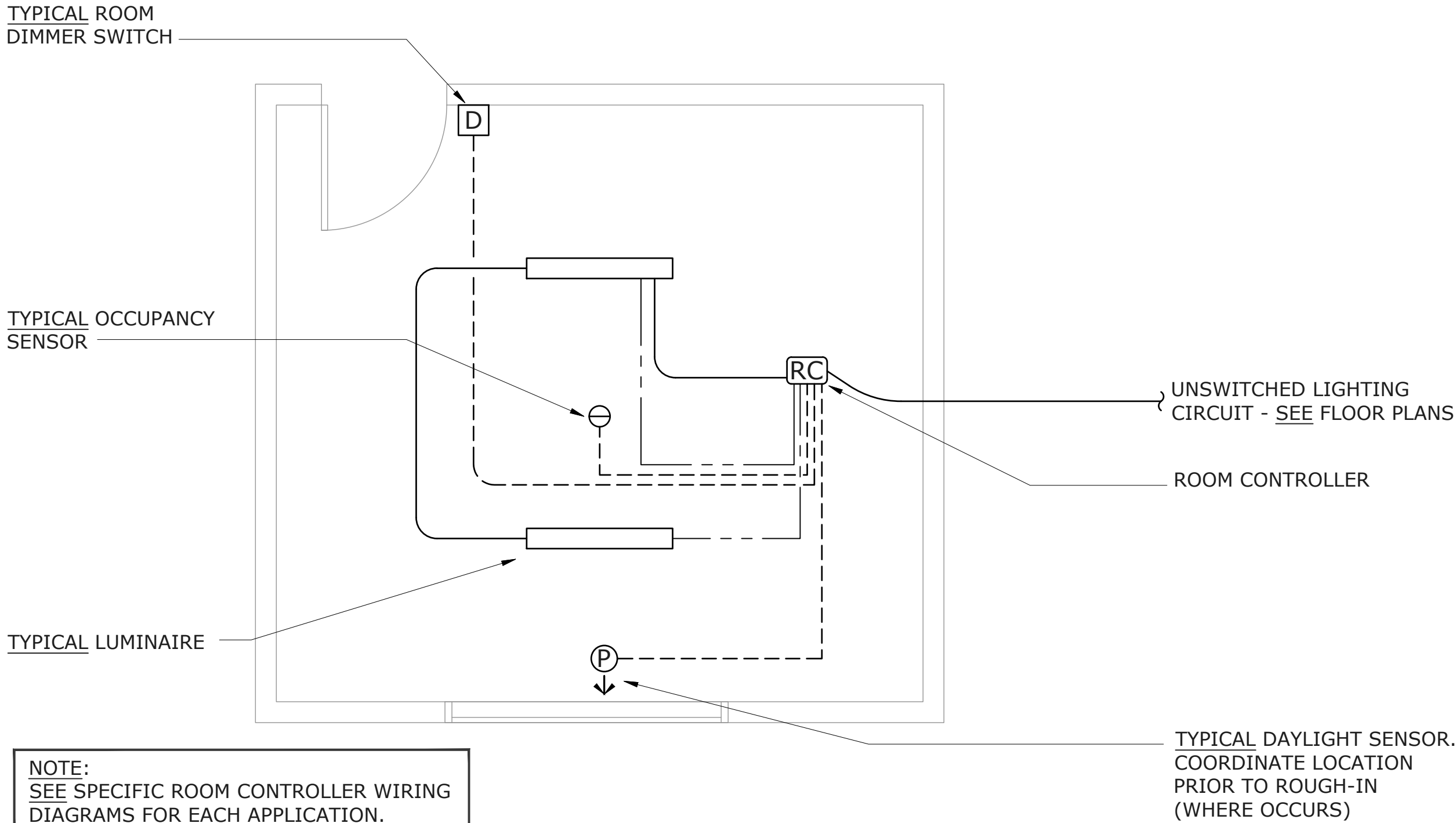
4
E-5.2

INVERTER UNIT SPECIFICATIONS - INVA & INVB

- ALL EMERGENCY SOURCE CIRCUITS SHALL BE INSTALLED IN SEPARATE RACEWAYS (FROM NORMAL POWER), PER 2014 NEC 700.10(B), OR APPLICABLE CODE AT THE TIME OF PERMITTING.
- REFER ALSO TO SPECIFICATIONS SECTION 265101. UNIT SHALL BE MYERS ILLUMINATOR CM OR APPROVED EQUAL NO. M-1000-A-BA2002-R-T-Z-2YW.
- UNIT SHALL BE 120 1PH 2W INPUT, 120V OUTPUT, RATED 1.0KVA WITH 20AMP OUTPUT CIRCUIT BREAKERS.
- INPUT SHALL BE EQUIPPED WITH ANSI 62.41 SURGE PROTECTION AND 1HZ NOMINAL SYNCHRONIZING SLEW RATE.
- OUTPUT VOLTAGE STATIC REGULATION SHALL BE +/- 5% FOR 100% RESISTIVE LOAD.
- OUTPUT DISTORTION SHALL BE 5% THD MAXIMUM.
- OVERLOAD RATING: 150% MOMENTARY; 120% FOR 5 MINUTES.
- TRANSFER TIME: NO BREAK
- BATTERY SHALL BE SEALED LEAD CALCIUM, 10 YEAR LIFE, 90 MINUTE RUN TIME, WITH AUTO-DISCONNECT FOR LOW BATTERY VOLTAGE.
- PROVIDE RS232 PORT FOR EXTERNAL COMMUNICATIONS.
- INVERTER SHALL BE PWM TYPE.
- PROVIDE MAINTENANCE BYPASS.
- PROVIDE IN NEMA 1 ENCLOSURE, FRONT ACCESS ONLY.
- PROVIDE FACTORY STARTUP AND TEST OF UNIT TO THE SATISFACTION OF BUILDING INSPECTION AUTHORITIES AND WITH MAXIMUM 4 HOURS OF PERSONNEL TRAINING FOLLOWING STARTUP.
- AUTO SELF TESTING.
- PROVIDE (2) OUTPUT CIRCUIT BREAKERS RATED 20AMPS EACH WITH DEDICATED CIRCUITS FOR EACH OF THE EMERGENCY LIGHTING LOADS.
- CBC 2016 SPECIAL SEISMIC CERTIFICATION.
- SUBMIT FOR REVIEW AND APPROVAL.

WIRING LEGEND

- BRANCH CIRCUIT WIRING - PROVIDED AND INSTALLED BY CONTRACTOR. EXACT QTY., TYPE AND SIZE VARIES
- CAT5e CABLING - PROVIDED AND INSTALLED BY CONTRACTOR, VERIFY WIRE TYPE WITH LIGHTING CONTROL MANUFACTURER
- 0-10V DIMMING CONTROL WIRING



NOTE:
SEE SPECIFIC ROOM CONTROLLER WIRING
DIAGRAMS FOR EACH APPLICATION.

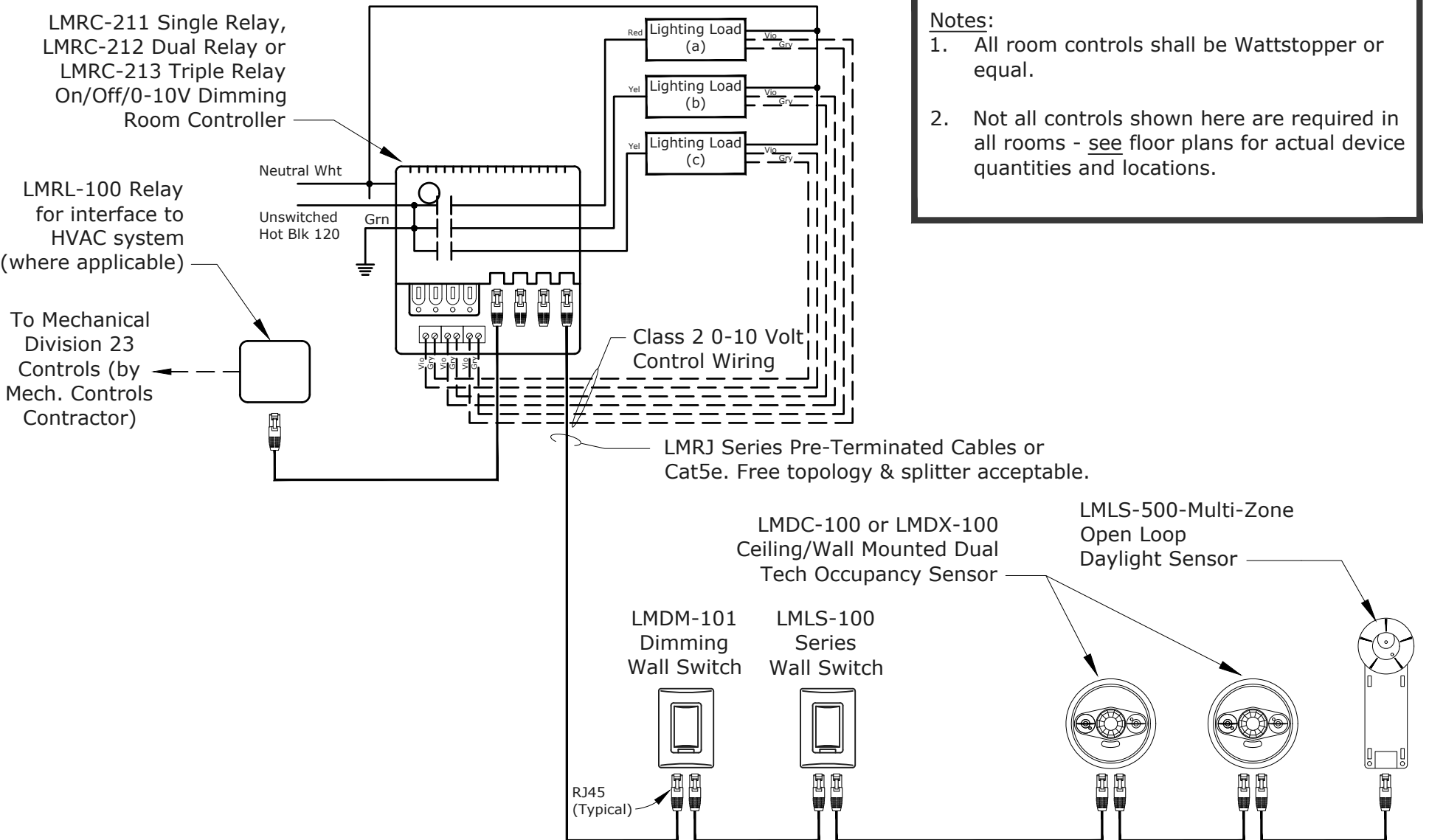
TYPICAL ROOM CONTROL DIAGRAM

SCALE: NONE
FILE: L:\DETAILS\LIGHT\LTG CONTROL WATTSTOPPER DLM\LLCW007

(MODIFIED FOR 220065)

1
E-5.2

NOTE:
One, two or three zone 0-10v dimmed application with wall or ceiling mounted occupancy sensor(s) for shut off and manual dimming. Lights will turn on automatically from the occupancy sensor upon entering the space and can be dimmed or switched manually from the device on the wall. Lights will be turned off automatically by the occupancy sensor. Time-out of sensor to be set at 20 minutes.



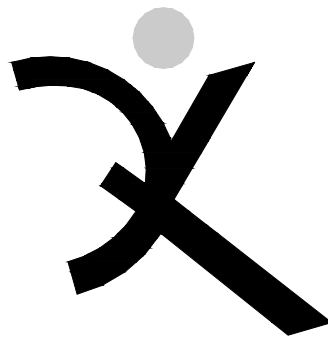
Notes:
1. All room controls shall be Wattstopper or equal.
2. Not all controls shown here are required in all rooms - see floor plans for actual device quantities and locations.

ONE, TWO OR THREE ZONE ROOM CONTROLLER

SCALE: NONE WITH ISOLATED RELAY FOR HVAC INTERFACE
FILE: L:\DETAILS\LIGHT\LTG CONTROL WATTSTOPPER DLM\LLCW011

(MODIFIED FOR 220065)

2
E-5.2

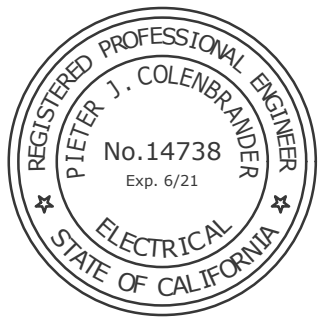


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REVISIONS

NO.	DESCRIPTION	DATE

DSA APP NO. 01-119268

ARCH PROJECT NO. 1870.00

DRAWN BY:

DRAWING SCALE:

PTN: 61721-77 FILE NO. 7-H4

BID SET

MAY 10, 2021

SHEET TITLE

DIAGRAMS

SHEET NUMBER

E-5.2

PANEL BL1

VOLTS:120 / 208

PHASE:3 PH

WIRE:4 W

BUSSING:400A

POLES:54P

MAINS:300A MCB

FEEDER:SEE SINGLE LINE

CONDUIT:SEE SINGLE LINE

MOUNTED:SURFACE

AIC RATING:10 KAIC

LOAD DESCRIPTION

TYPE

A

B

C

BRKR.

CKT.

CKT.

BRKR.

A

B

C

TYPE

LOAD DESCRIPTION

REC - CLASSROOM B106

R

1.08

20/1

1

2

20/1

0.50

L

FIRE ALARM

REC - CLASSROOM B106

R

0.90

20/1

3

4

20/1

0.90

L

LTG - CLASSRM B106, STUDENT

REC - CLASSROOM B106 - AV

R

0.75

20/1

5

6

20/1

0.79

L

LTG - CLASSRM 104, EXTERIOR

REC - CLASSROOM B104

R

0.90

20/1

7

8

20/1

0.79

L

LTG - CLASSRM B103

REC - CLASSROOM B104

R

1.08

20/1

9

10

20/1

0.79

L

LTG - CLASSRM B102

REC - CLASSROOM B104 - AV

R

0.75

20/1

11

12

20/1

0.90

L

LTG - EXTERIOR

REC - CLASSROOM B103

R

1.08

20/1

13

14

30/1

0.67

L

LTG - INVERTER 'INV'

REC - CLASSROOM B103

R

1.08

20/1

15

16

15/1

0.10

H

EXHAUST FAN - EF-B1

REC - CLASSROOM B103 - AV

R

0.75

20/1

17

18

15/1

0.10

L

IRRIGATION CONTROLLER

REC - CLASSROOM B102

R

1.08

20/1

19

20

20/1

0.25

L

SECURITY PANEL

REC - CLASSROOM B102

R

0.90

20/1

21

22

0.68

H

FANCOIL - FC-B2

REC - CLASSROOM B102 - AV

R

0.75

20/1

23

24

0.68

H

FANCOIL - FC-B3

REC - CLASSROOM B101

R

1.08

20/1

25

26

15/2

0.68

H

FANCOIL - FC-B4

REC - CLASSROOM B101

R

0.90

20/1

27

28

0.68

H

REC - CLASSROOM B101 - AV

R

0.75

20/1

29

30

0.68

H

REC - RESTROOM & ELECTRIC RM

R

0.72

20/1

31

32

15/2

0.68

H

FANCOIL - FC-B4

REC - IDF-B1

L

0.50

20/1

33

34

15/2

0.68

H

FANCOIL - FC-B5

DRINKING FOUNTAIN

M

0.75

20/1

35

36

0.68

H

REC - ELEVATOR PIT - MACHINE ROOM

R

0.36

20/1

37

38

15/2

1.35

H

SPLIT SYSTEM INDOOR - SFC-B1

HAND DRYER

M

1.50

20/1

39

40

1.35

H

SPARE

20/1

41

42

20/1

SPARE

7.81

43

44

20/1

SPARE

PANEL BL2

6.70

100/3

45

46

20/1

SPARE

6.39

47

48

S P A C E

5.30

49

50

S P A C E

PANEL BL3

6.45

100/3

51

52

S P A C E

4.30

53

54

S P A C E

19.41

20.01

15.19

4.92

5.18

3.83

DEMAND LOAD SUMMARY

CONN. KVA

DEMAND FACTOR

DEMAND KVA

TYPE "M": NON-CONTINUOUS / MISC. LOADS

2.25

100%

2.25

TYPE "L": LIGHTING / CONTINUOUS LOADS

6.19

125%

7.74

TYPE "R": RECEPTACLES (FIRST 10KVA)

10.00

100%

10.00

TYPE "R": RECEPTACLES (OVER 10KVA)

4.91

50%

2.46

TYPE "H": HVAC / MECHANICAL LOADS

8.24

100%

8.24

TOTALS:

31.59

30.68

PHASE A:24.33

KVA

PHASE B:25.19

KVA

PHASE C:19.02

KVA

209.92

MAX AMPS / PHASE

PANEL BL2

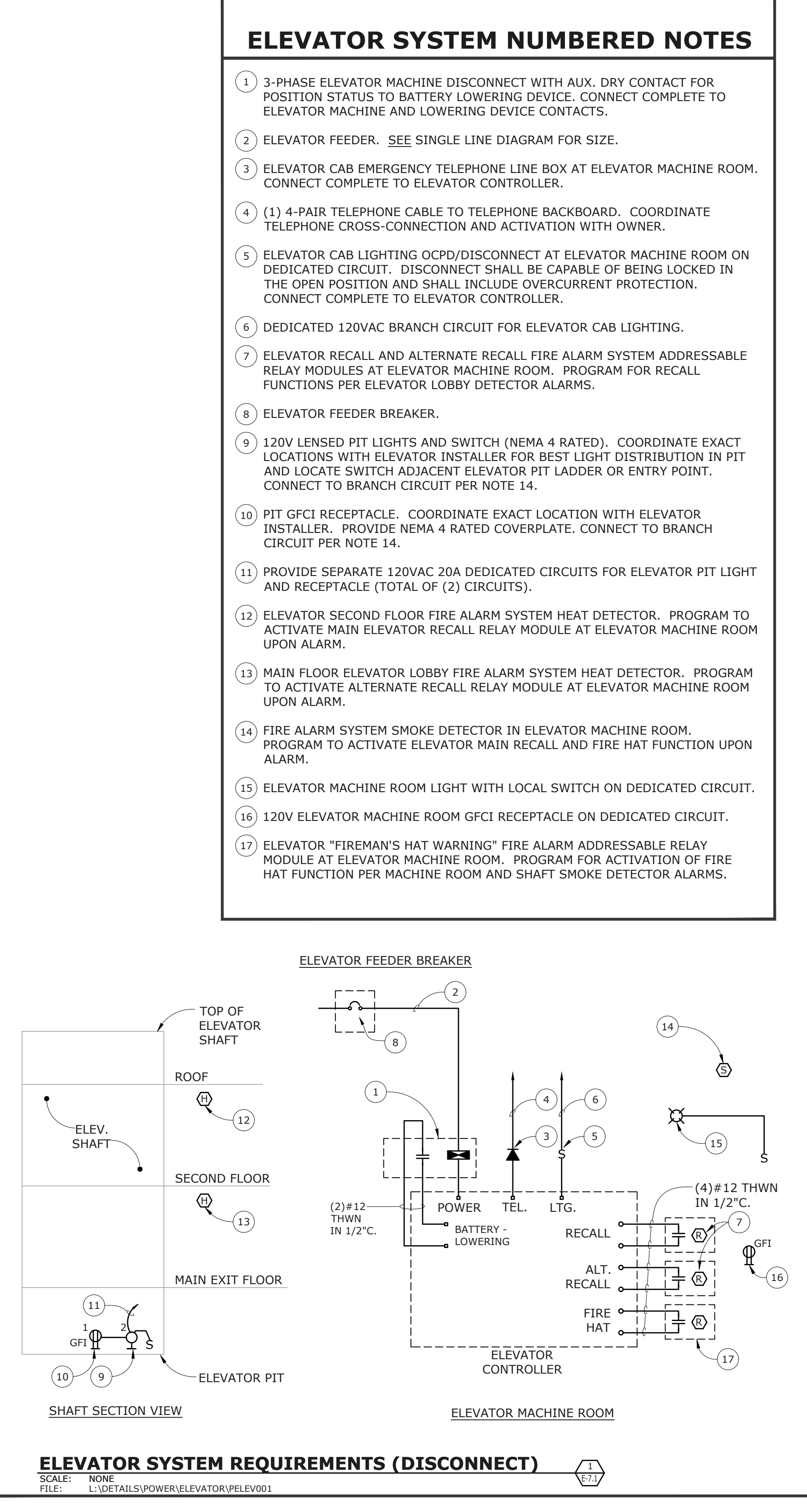
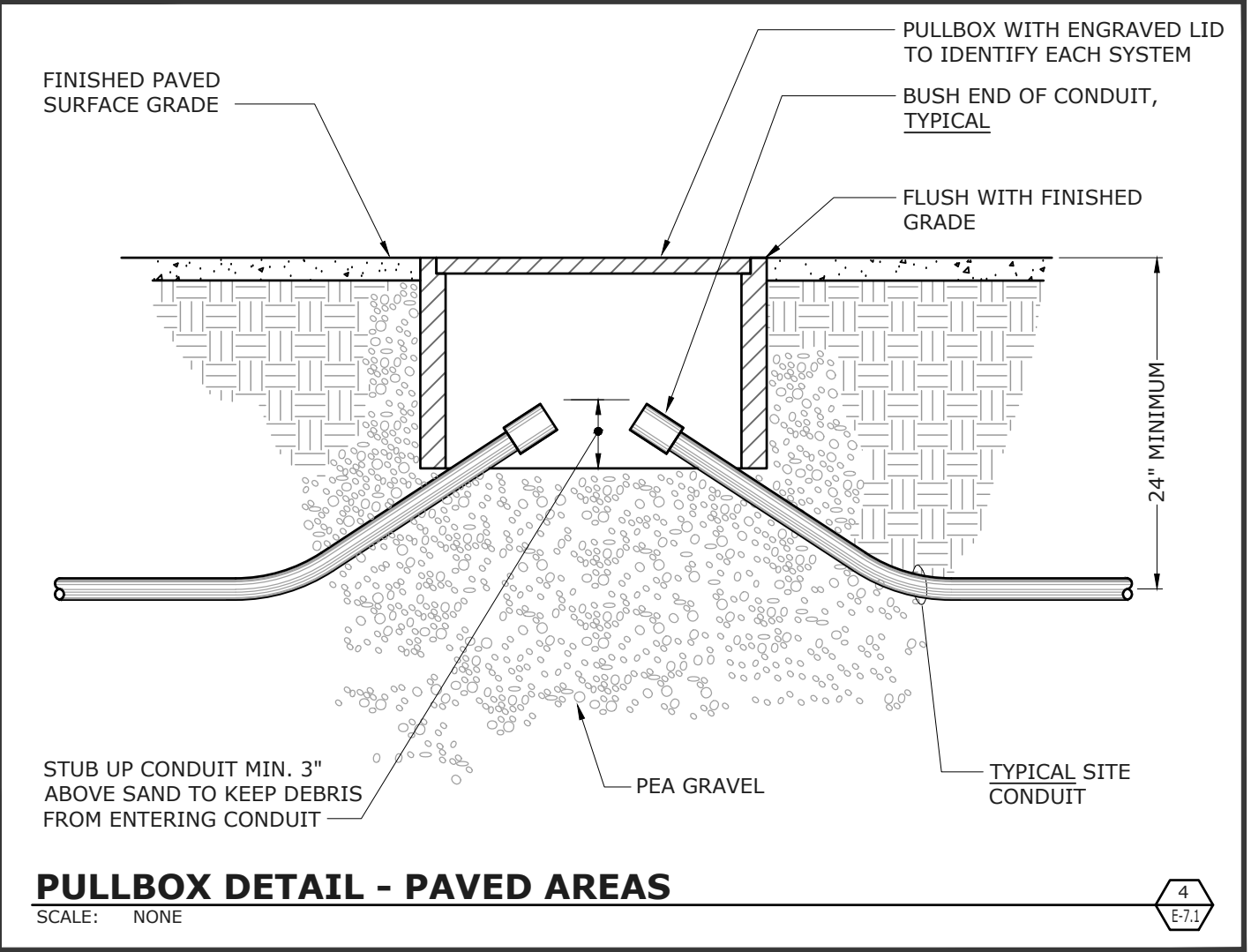
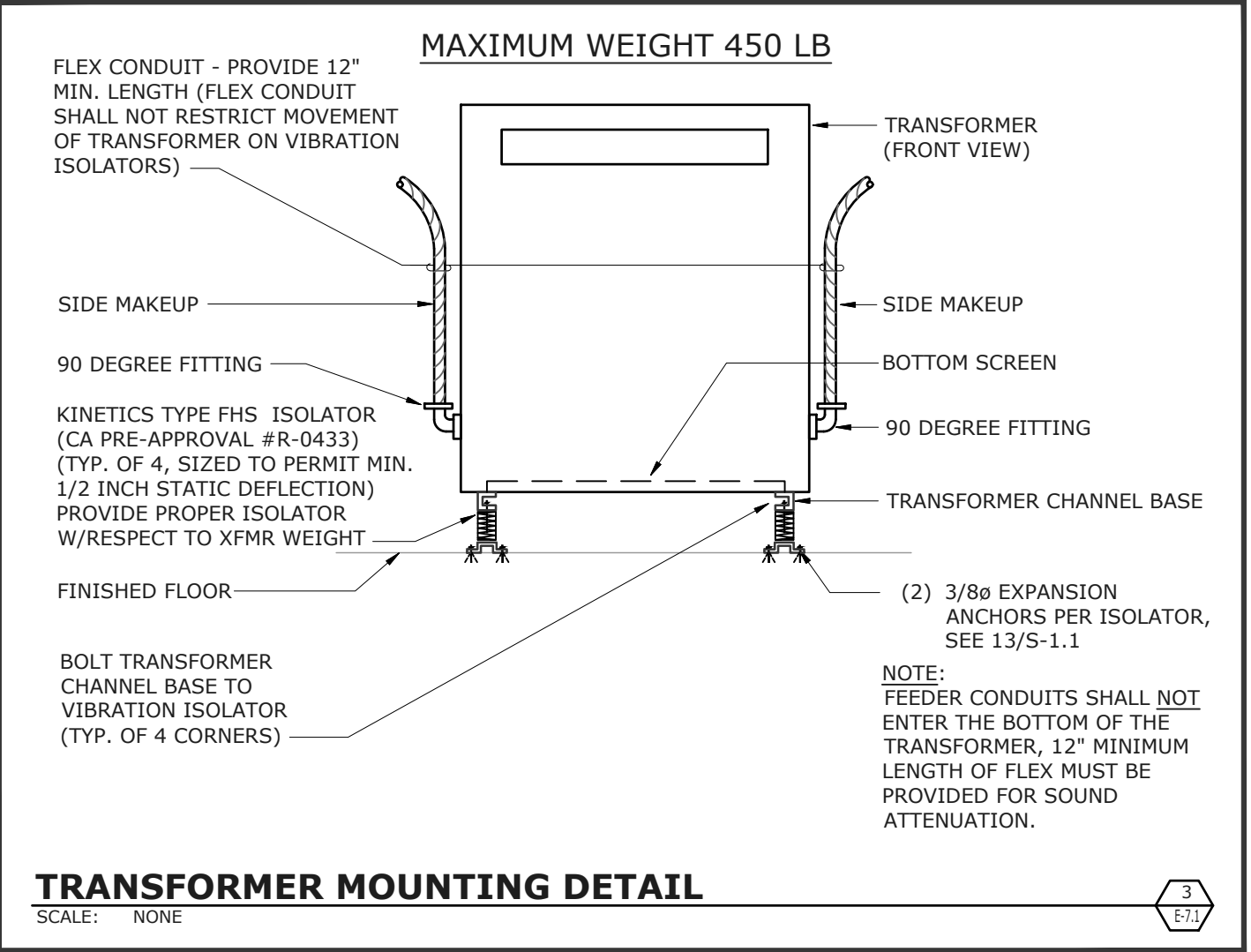
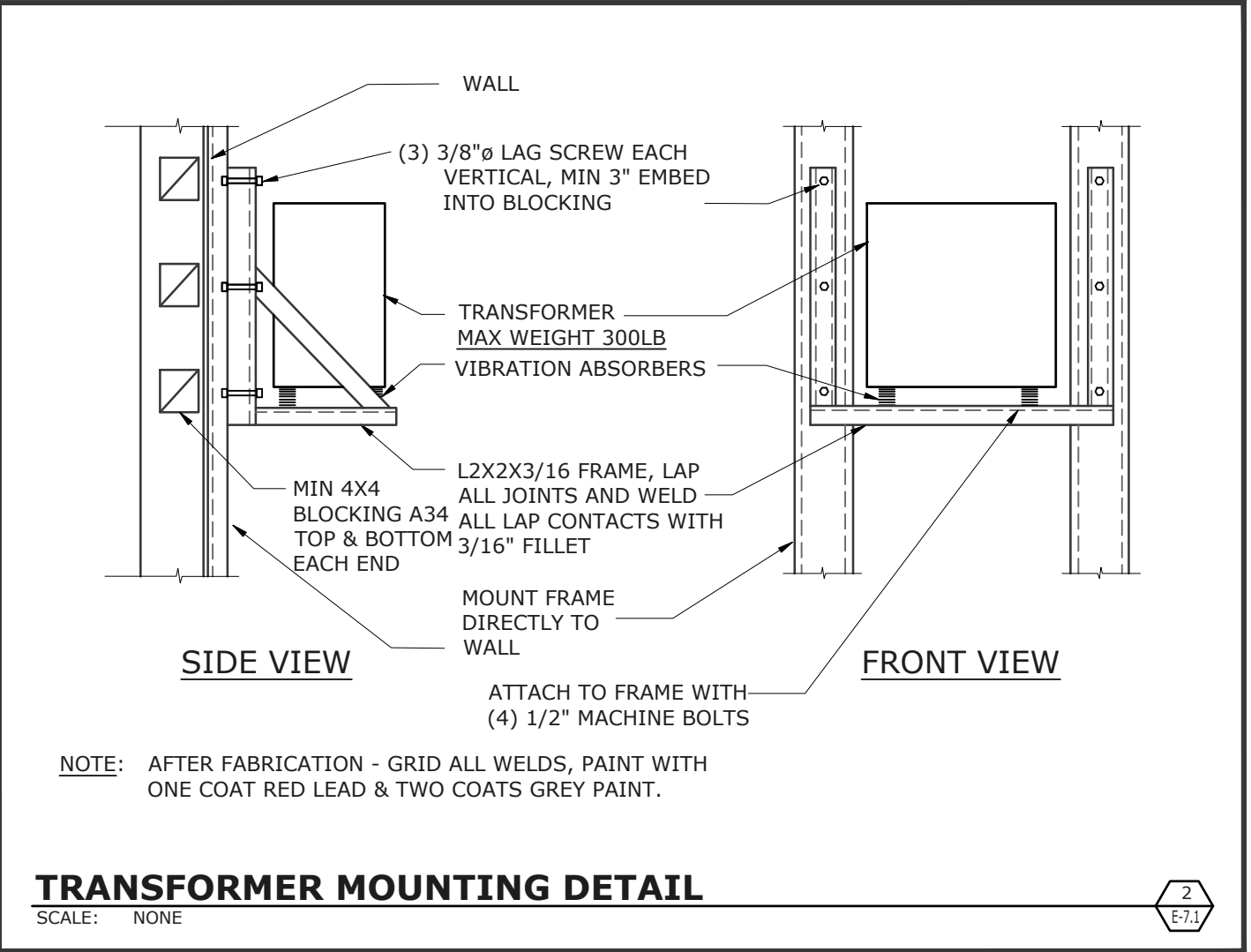
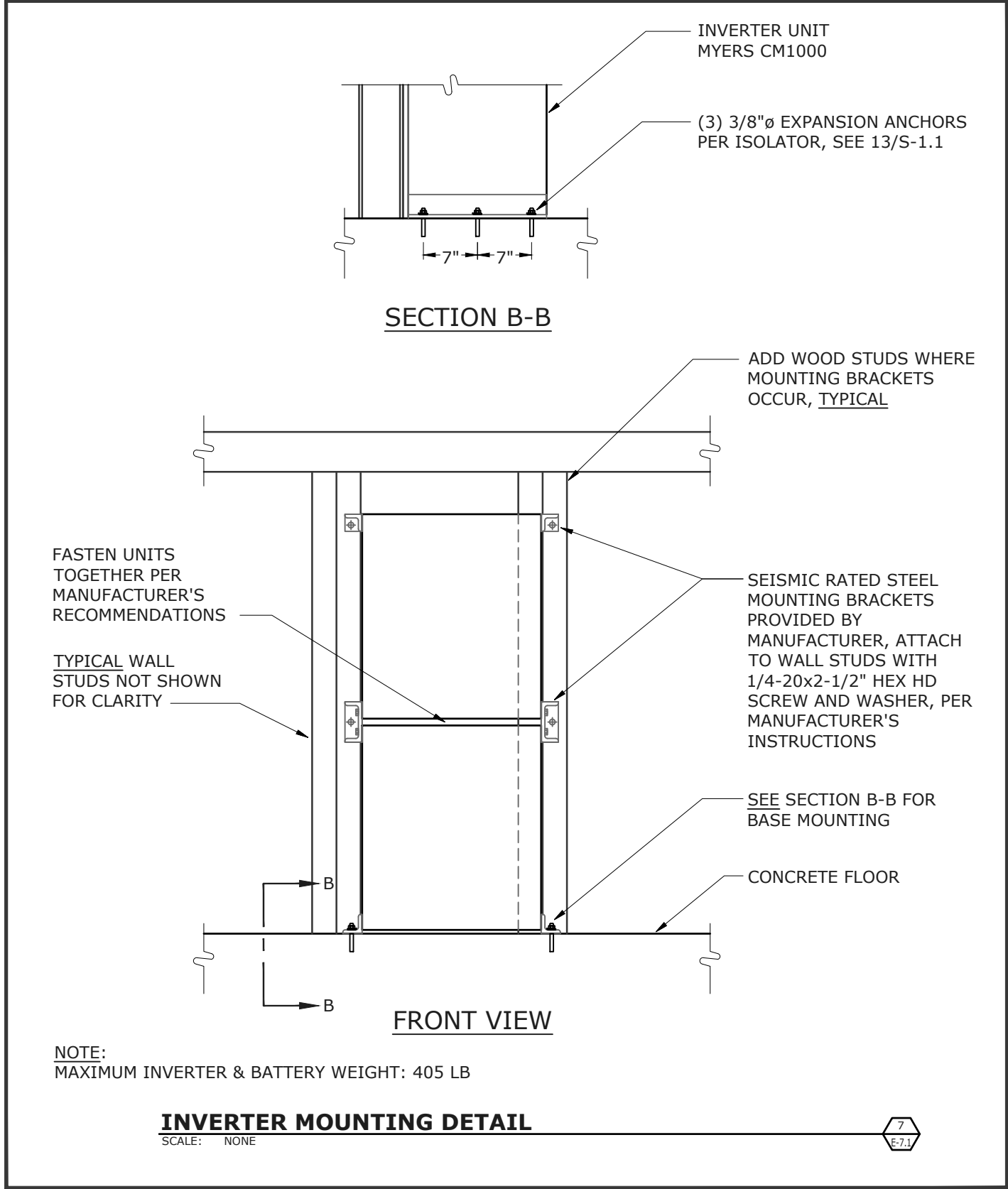
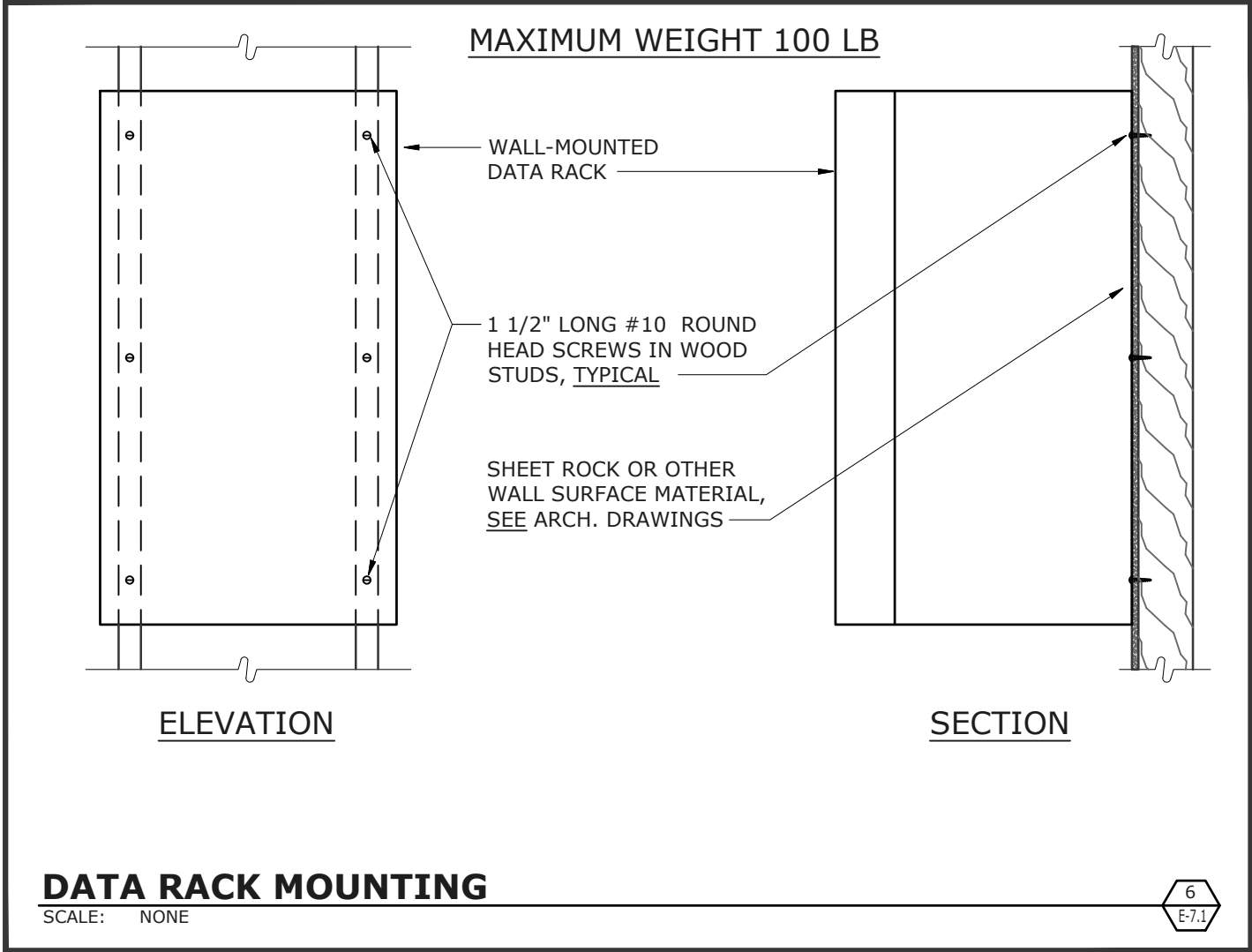
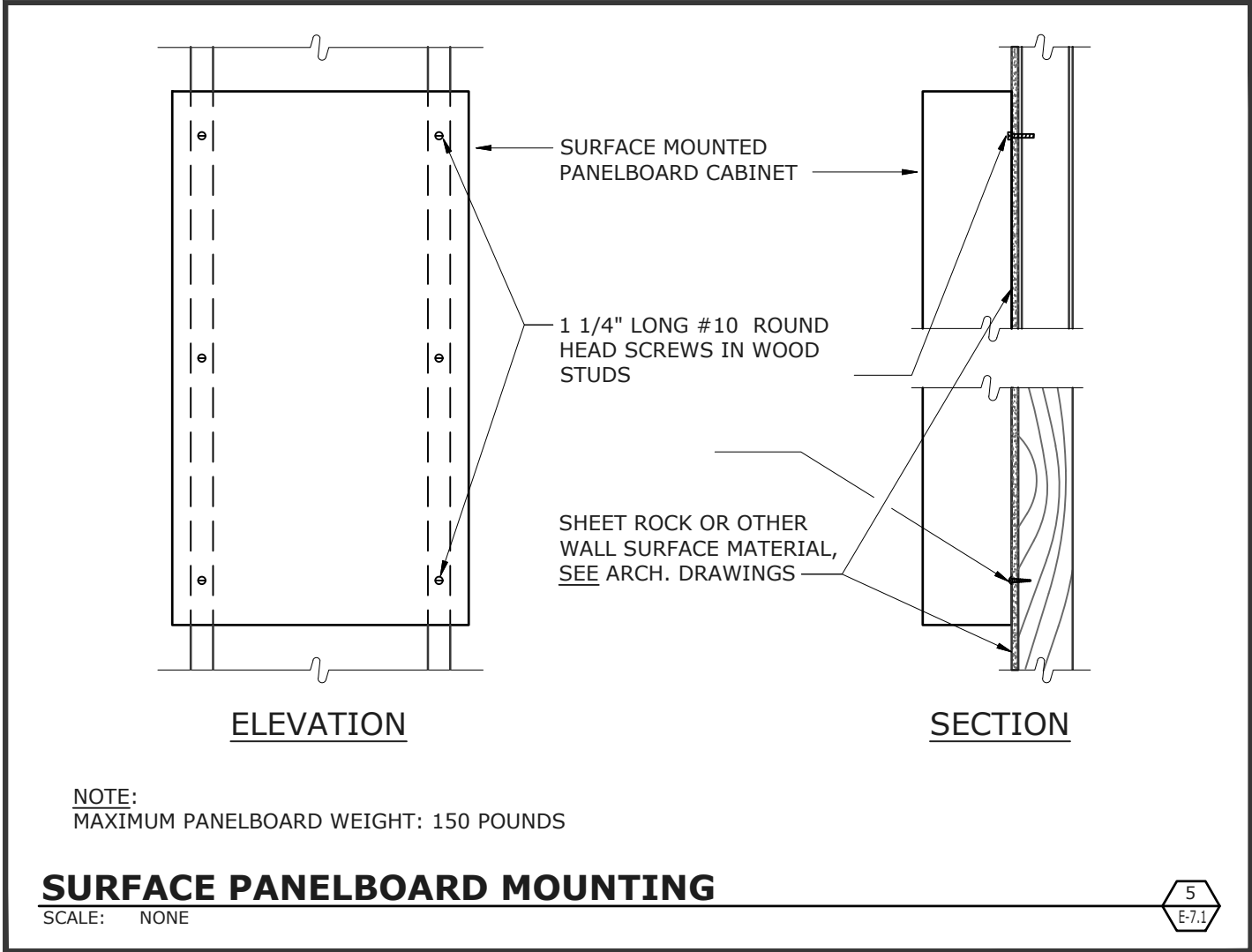
VOLTS: 120 / 208 PHASE: 3 PH WIRE: 4 W BUSSING: 125A POLES: 54P												MAINS: 100A MCB FEEDER: SEE SINGLE LINE CONDUIT: SEE SINGLE LINE MOUNTED: FLUSH AIC RATING: 10K AIC											
LOAD DESCRIPTION				TYPE	A	B	C	BRKR.	CKT.	CKT.	BRKR.	A	B	C	TYPE	LOAD DESCRIPTION							
REC - CLASSROOM B206				R	1.08			20/1	1	2	20/1	0.50				L	FIRE ALARM						
REC - CLASSROOM B206				R		0.90		20/1	3	4	20/1					L	LTG - CLASSROOM B206, STUDENT						
REC - CLASSROOM B206 - AV				R			0.75	20/1	5	6	20/1					L	LTG - CLASSROOM B204						
REC - CLASSROOM B204				R	0.90			20/1	7	8	20/1					L	LTG - CLASSROOM B203						
REC - CLASSROOM B204				R		1.08		20/1	9	10	20/1					L	LTG - CLASSROOM B202						
REC - CLASSROOM B204 - AV				R			0.75	20/1	11	12	20/1						SPARE						
REC - CLASSROOM B203				R	1.08			20/1	13	14	20/1						SPARE						
REC - CLASSROOM B203				R		1.08		20/1	15	16	15/1		0.10		H	EXHAUST FAN - EF-B2							
REC - CLASSROOM B203 - AV				R			0.75	20/1	17	18	20/1						SPARE						
REC - CLASSROOM B202				R	1.08			20/1	19	20	20/1						SPARE						
REC - CLASSROOM B202				R		0.90		20/1	21	22			0.68		H	FANCOIL - FC-B7							
REC - CLASSROOM B202 - AV				R			0.75	20/1	23	24				0.68	H	FANCOIL - FC-B8							
SPARE								20/1	25	26		0.68			H	FANCOIL - FC-B8							
SPARE								20/1	27	28			0.68		H	FANCOIL - FC-B9							
SPARE								20/1	29	30													
REC - RESTROOM & BALCONY				R	0.36			20/1	31	32		0.68			H	FANCOIL - FC-B9							
DRINKING FOUNTAIN				M		0.50		20/1	33	34			0.68		H	FANCOIL - FC-B10							
HAND DRYER				M			1.50	20/1	35	36				0.68	H								
SPARE								20/1	37	38		0.10			H								
SPARE								20/1	39	40			0.10		H	BRANCH SELECTOR BS-B1, BS-B2							
S P A C E									41	42				1.35	H								
S P A C E									43	44		20/2			1.35	H	SPLIT SYSTEM OUTDOOR - SHP-B1						
S P A C E									45	46							S P A C E						
S P A C E									47	48							S P A C E						
S P A C E									49	50							S P A C E						
S P A C E									51	52							S P A C E						
S P A C E									53	54							S P A C E						
					4.50	4.48	4.50					3.31	2.24	3.39									

DEMAND LOAD SUMMARY				CONN. KVA	DEMAND FACTOR	DEMAND KVA
TYPE "M": NON-CONTINUOUS / MISC. LOADS				2.00	100%	2.00
TYPE "L": LIGHTING / CONTINUOUS LOADS				0.50	125%	0.63
TYPE "R": RECEPTACLES (FIRST 10KVA)				10.00	100%	10.00
TYPE "R": RECEPTACLES (OVER 10KVA)				1.46	50%	0.73
TYPE "H": HVAC / MECHANICAL LOADS				8.44	100%	8.44
TOTALS:				22.40		21.80

PHASE A: 7.81 KVA
PHASE B: 6.70 KVA
PHASE C: 7.89 KVA

65.75 MAX AMPS / PHASE

PANEL BL3																											
VOLTS: 120 / 208 PHASE: 3 PH WIRE: 4 W BUSSING: 125A POLES: 42P										MAIN BRKR: FEEDER: CONDUIT: MOUNTED: AIC RATING:				100A MCB SEE SINGLE LINE SEE SINGLE LINE FLUSH 10 KAC													
LOAD DESCRIPTION														LOAD DESCRIPTION													
	TYPE	A	B	C	BRKR.	CKT.	CKT.	BRKR.	A	B	C	TYPE															
REC - CLASSROOM B101	R	1.08			20/1	1	2	20/1	0.73			L	LTG - CLASSROOM B101														
REC - CLASSROOM B101	R		1.08		20/1	3	4	20/1		0.73		L	LTG - CLASSROOM B201														
REC - CLASSROOM B101 - AV	R			0.75	20/1	5	6	20/1			0.09	L	LTG - ELEVATOR PIT														
REC - CLASSROOM B201	R	1.08			20/1	7	8	20/1	0.02			L	LTG - ELEV MACHINE ROOM														
REC - CLASSROOM B201	R		0.90		20/1	9	10	20/1					SPARE														
REC - CLASSROOM B201 - AV	R			0.75	20/1	11	12				0.68	H															
REC - FC-B1 & FC-B2 CONDENSATE PUMPS	R	0.36			20/1	13	14	15/2	0.68			H	FANCOIL - FC-B1														
REC - ELEVATOR PIT / MACHINE ROOM	R		0.36		20/1	15	16			0.68		H															
SPARE					20/1	17	18				0.68	H	FANCOIL - FC-B6														
SPARE					20/1	19	20	20/1																			
SPARE					20/1	21	22			1.35		H															
SPARE					20/1	23	24	20/2			1.35	H	SPLIT SYSTEM OUTDOOR - SHP-B2														
S P A C E						25	26	20/1	1.35			H															
S P A C E						27	28	20/1		1.35		H	SPLIT SYSTEM INDOOR - SFC-B2														
S P A C E						29	30						S P A C E														
S P A C E						31	32						S P A C E														
S P A C E						33	34						S P A C E														
S P A C E						35	36						S P A C E														
S P A C E						37	38						S P A C E														
S P A C E						39	40						S P A C E														
S P A C E						41	42						S P A C E														
		2.52	2.34	1.50					2.78	4.11	2.80																
DEMAND LOAD SUMMARY					CONN KVA	DEMAND FACTOR				DEMAND KVA																	
TYPE "M": NON-CONTINUOUS / MISC. LOADS					0.00	100%				0.00																	
TYPE "L": LIGHTING / CONTINUOUS LOADS					1.57	125%				1.96				PHASE A: 5.30 KVA													
TYPE "R": RECEPTACLES (FIRST 10KVA)					6.36	100%				6.36				PHASE B: 6.45 KVA													
TYPE "R": RECEPTACLES (OVER 10KVA)					0.00	50%				0.00				PHASE C: 4.30 KVA													
TYPE "H": HVAC / MECHANICAL LOADS					8.12	100%				8.12				53.77 MAX AMPS / PHASE													
TOTALS:					16.05					16.44																	



ELEVATOR SYSTEM NUMBERED NOTES

- 3-PHASE ELEVATOR MACHINE DISCONNECT WITH AUX. DRY CONTACT FOR POSITION STATUS TO BATTERY LOWERING DEVICE. CONNECT COMPLETE TO ELEVATOR MACHINE AND LOWERING DEVICE CONTACTS.
- ELEVATOR FEEDER. SEE SINGLE LINE DIAGRAM FOR SIZE.
- ELEVATOR CAB EMERGENCY TELEPHONE LINE BOX AT ELEVATOR MACHINE ROOM. CONNECT COMPLETE TO ELEVATOR CONTROLLER.
- 4-PAIR TELEPHONE CABLE TO TELEPHONE BACKBOARD. COORDINATE TELEPHONE CROSS-CONNECTION AND ACTIVATION WITH OWNER.
- ELEVATOR CAB LIGHTING OCPD/DISCONNECT AT ELEVATOR MACHINE ROOM ON DEDICATED CIRCUIT. DISCONNECT SHALL BE CAPABLE OF BEING LOCKED IN THE OPEN POSITION AND SHALL INCLUDE OVERCURRENT PROTECTION. CONNECT COMPLETE TO ELEVATOR CONTROLLER.
- DEDICATED 120VAC BRANCH CIRCUIT FOR ELEVATOR CAB LIGHTING.
- ELEVATOR RECALL AND ALTERNATE RECALL FIRE ALARM SYSTEM ADDRESSABLE RELAY MODULES AT ELEVATOR MACHINE ROOM. PROGRAM FOR RECALL FUNCTIONS PER ELEVATOR LOBBY DETECTOR ALARMS.
- ELEVATOR FEEDER BREAKER.
- 120V LENSED PIT LIGHTS AND SWITCH (NEMA 4 RATED). COORDINATE EXACT LOCATIONS WITH ELEVATOR INSTALLER FOR BEST LIGHT DISTRIBUTION IN PIT AND LOCATE SWITCH ADJACENT ELEVATOR PIT LADDER OR ENTRY POINT. CONNECT TO BRANCH CIRCUIT PER NOTE 14.
- PIT GFCI RECEPTACLE. COORDINATE EXACT LOCATION WITH ELEVATOR INSTALLER. PROVIDE NEMA 4 RATED COVERPLATE. CONNECT TO BRANCH CIRCUIT PER NOTE 14.
- PROVIDE SEPARATE 120VAC 20A DEDICATED CIRCUITS FOR ELEVATOR PIT LIGHT AND RECEPTACLE (TOTAL OF (2) CIRCUITS).
- ELEVATOR SECOND FLOOR FIRE ALARM SYSTEM HEAT DETECTOR. PROGRAM TO ACTIVATE MAIN ELEVATOR RECALL RELAY MODULE AT ELEVATOR MACHINE ROOM UPON ALARM.
- MAIN FLOOR ELEVATOR LOBBY FIRE ALARM SYSTEM HEAT DETECTOR. PROGRAM TO ACTIVATE ALTERNATE RECALL RELAY MODULE AT ELEVATOR MACHINE ROOM UPON ALARM.
- FIRE ALARM SYSTEM SMOKE DETECTOR IN ELEVATOR MACHINE ROOM. PROGRAM TO ACTIVATE ELEVATOR MAIN RECALL AND FIRE HAT FUNCTION UPON ALARM.
- ELEVATOR MACHINE ROOM LIGHT WITH LOCAL SWITCH ON DEDICATED CIRCUIT.
- 120V ELEVATOR MACHINE ROOM GFCI RECEPTACLE ON DEDICATED CIRCUIT.
- ELEVATOR "FIREMAN'S HAT WARNING" FIRE ALARM ADDRESSABLE RELAY MODULE AT ELEVATOR MACHINE ROOM. PROGRAM FOR ACTIVATION OF FIRE HAT FUNCTION PER MACHINE ROOM AND SHAFT SMOKE DETECTOR ALARMS.

QUATTROCCHI KWOK ARCHITECTS

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REGISTERED PROFESSIONAL ENGINEER
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STATE OF CALIFORNIA
P. No. 14738
Exp. 6/31

HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS INCREMENT 2 OF 2

101 AMERICAN AVE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

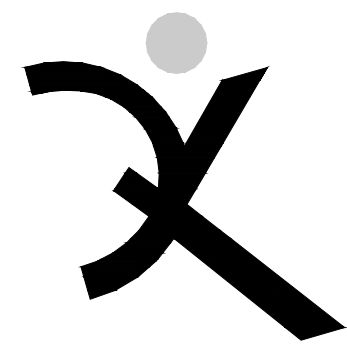
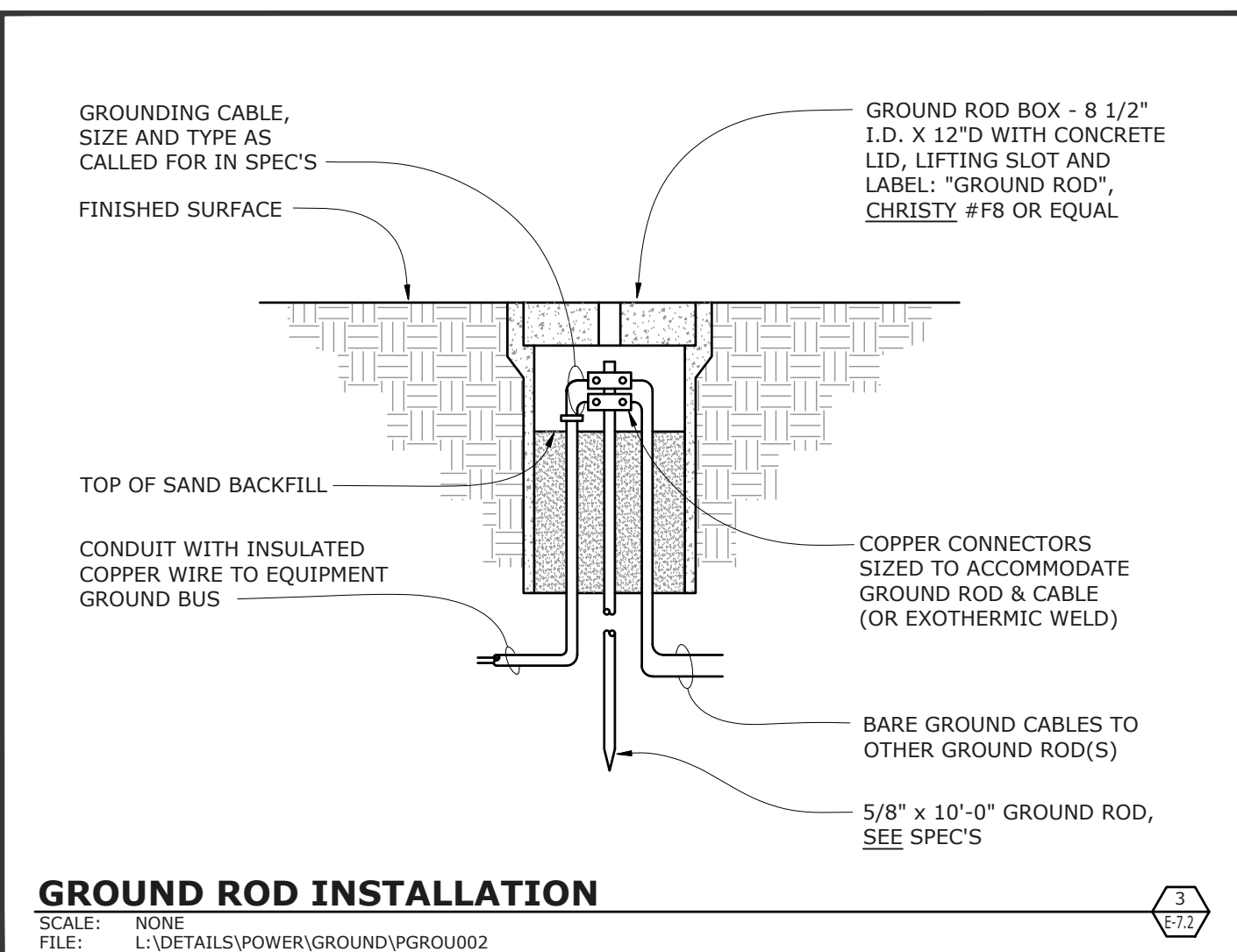
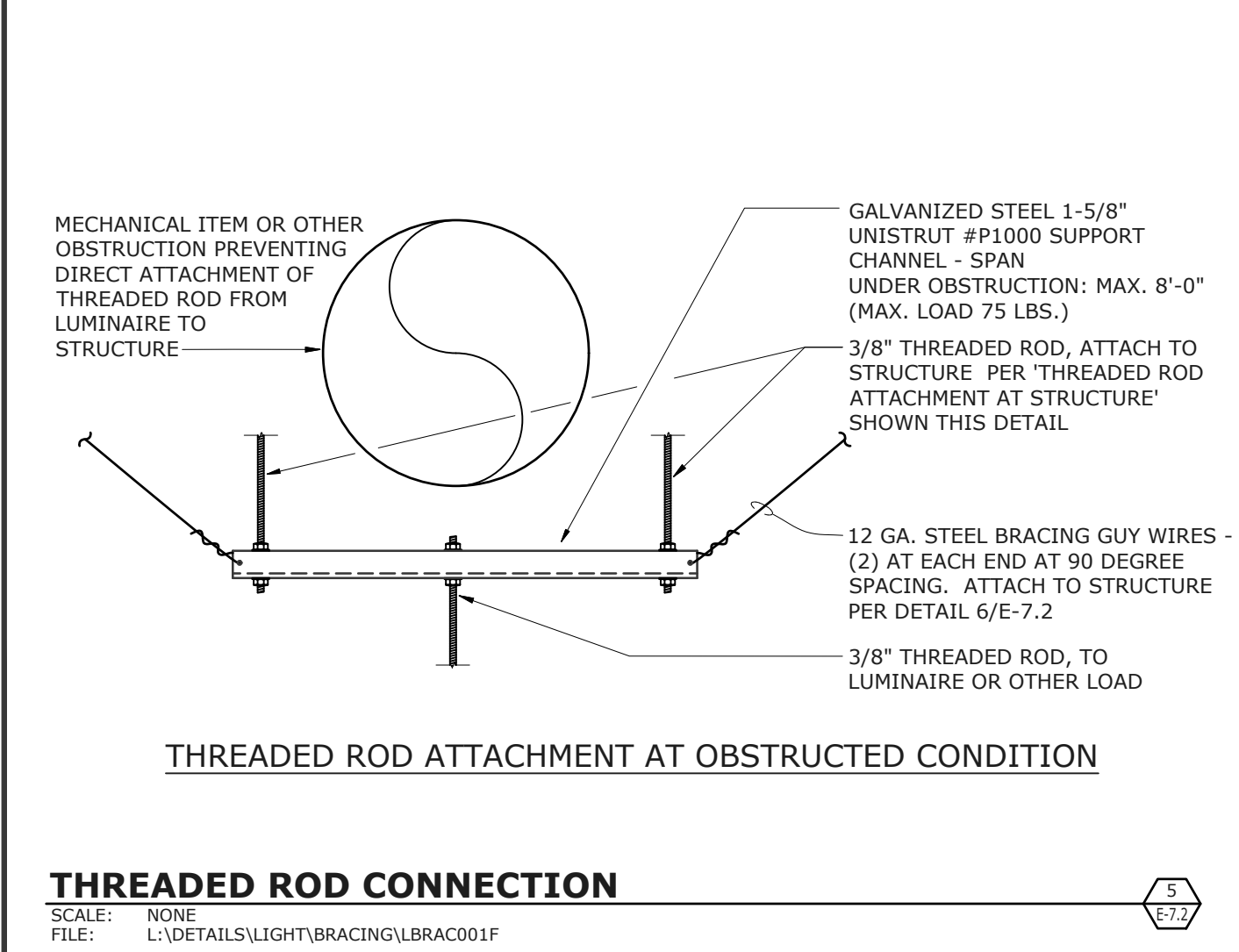
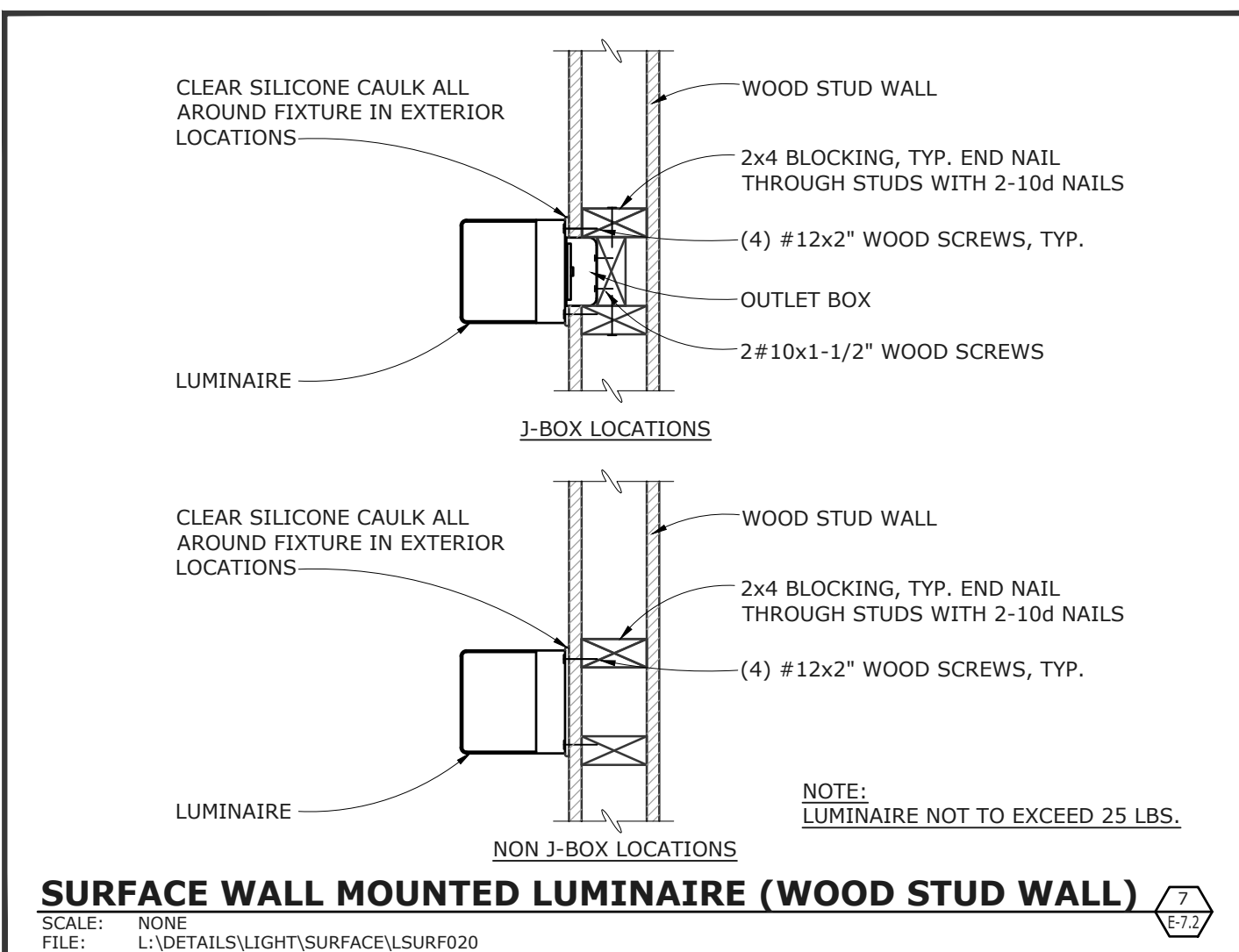
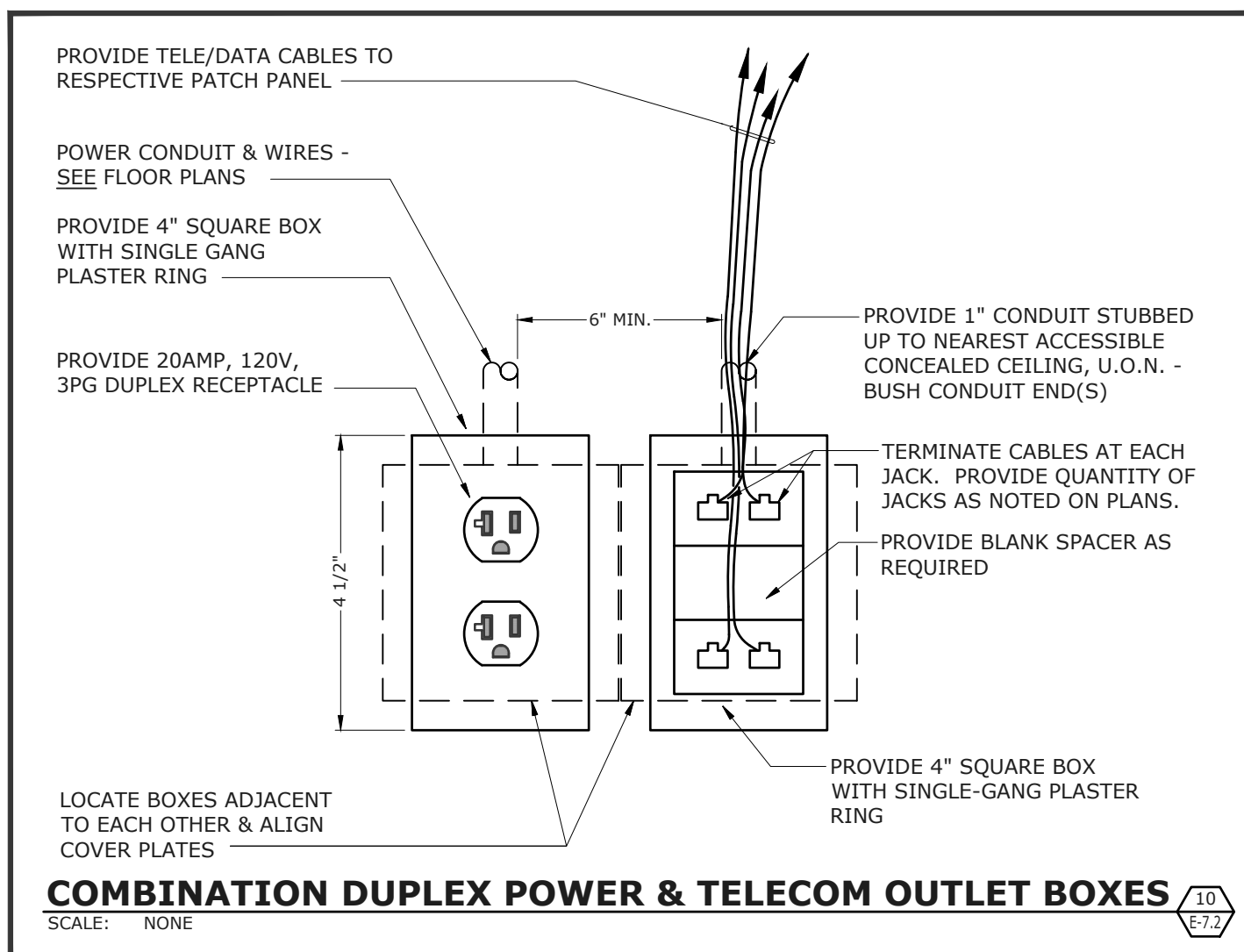
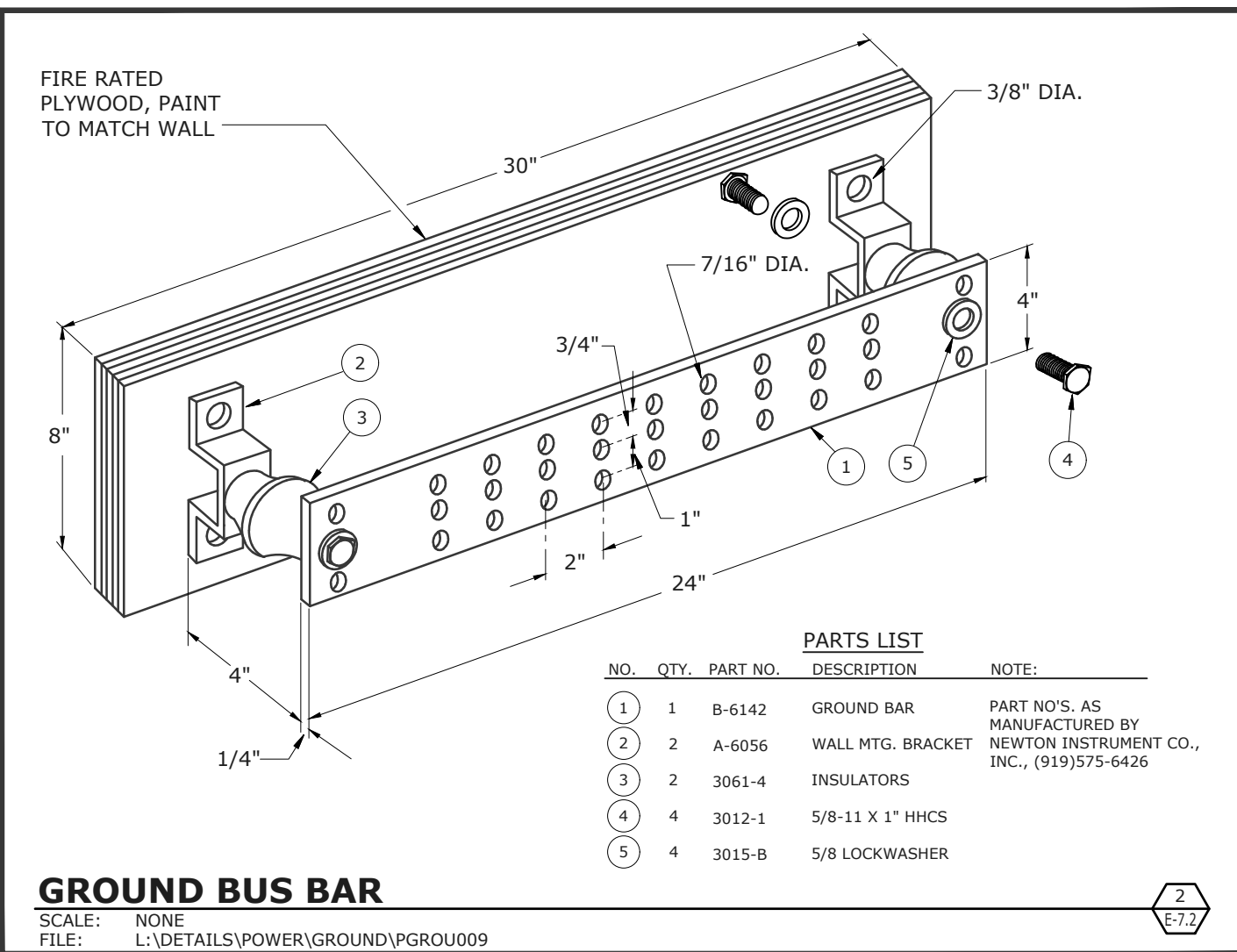
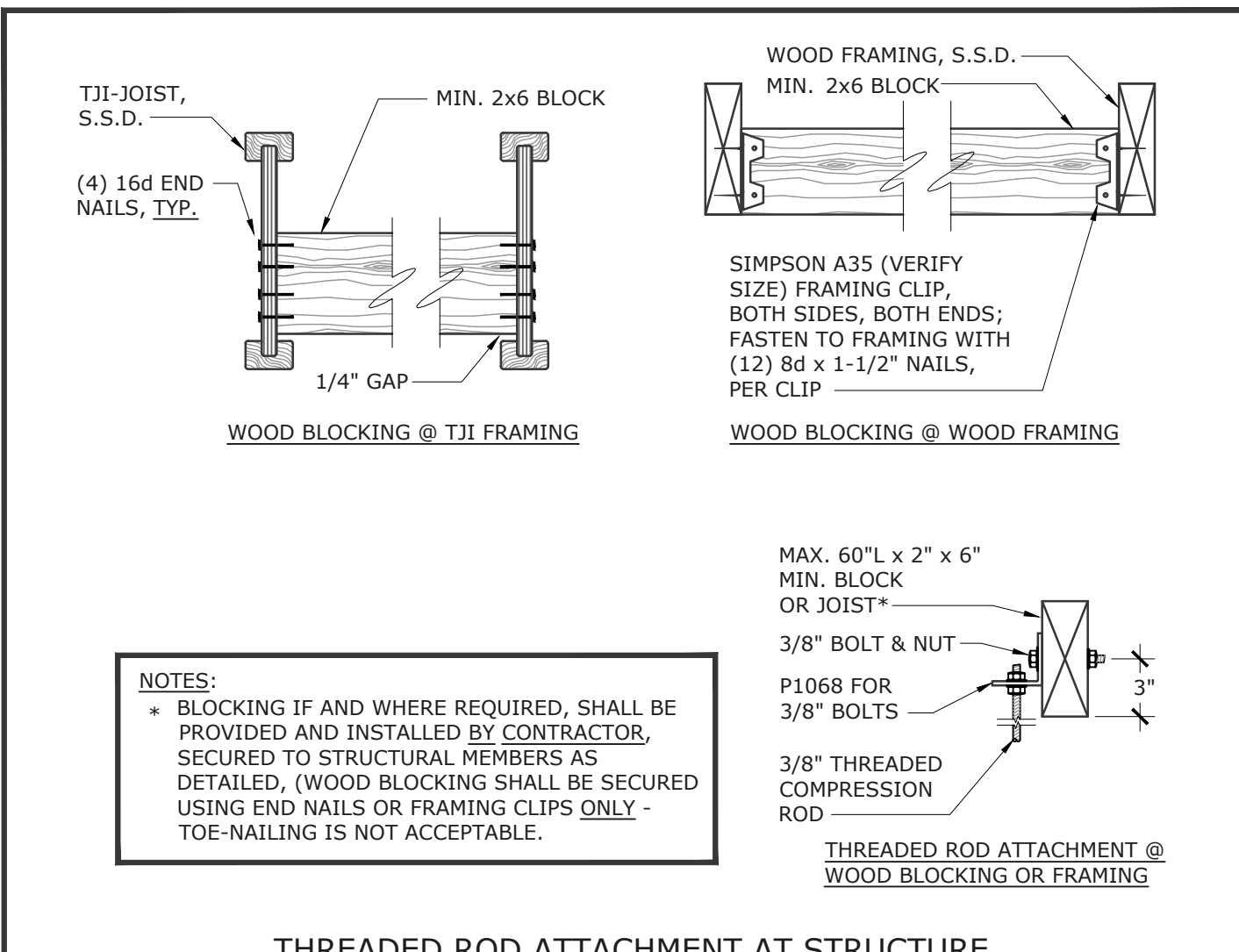
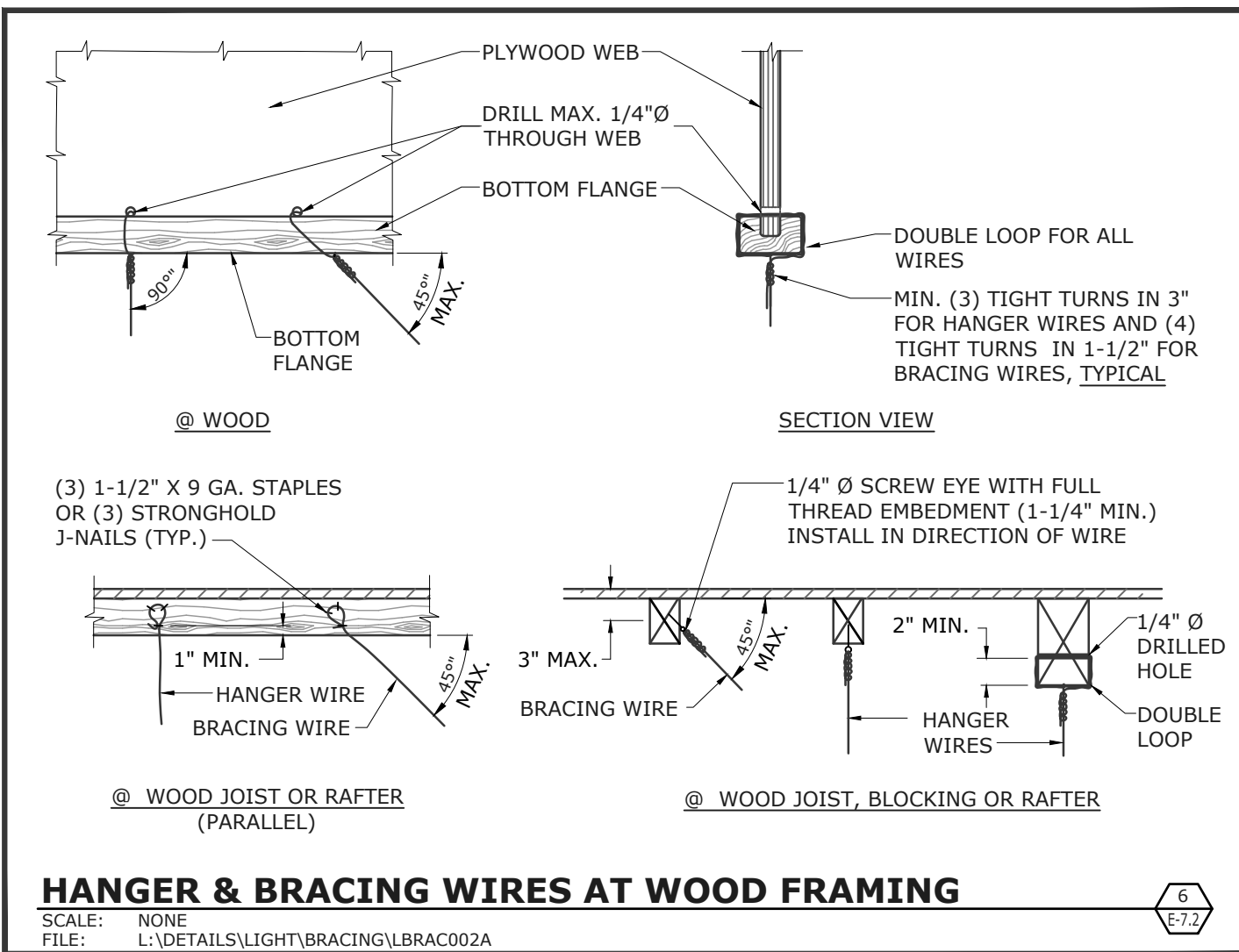
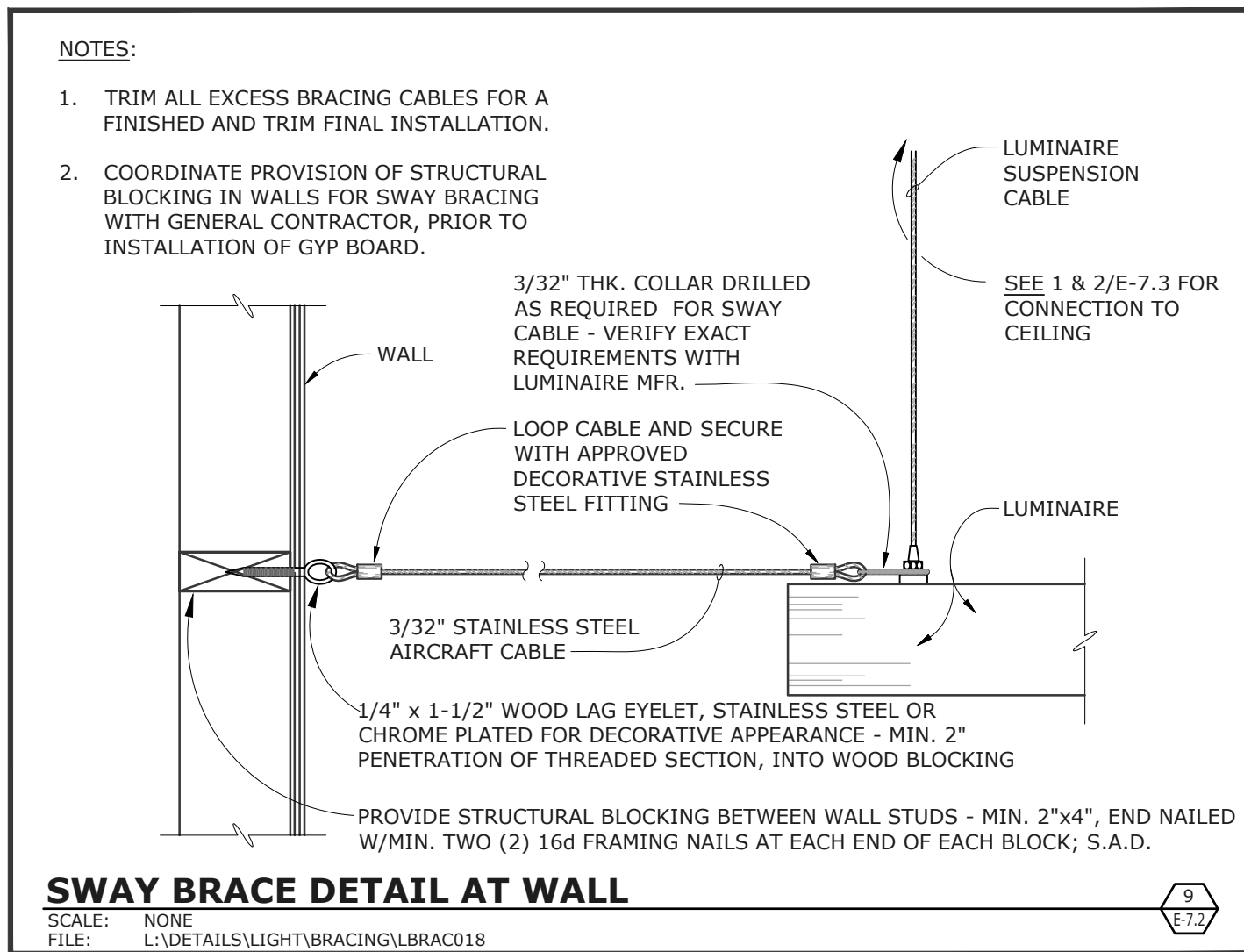
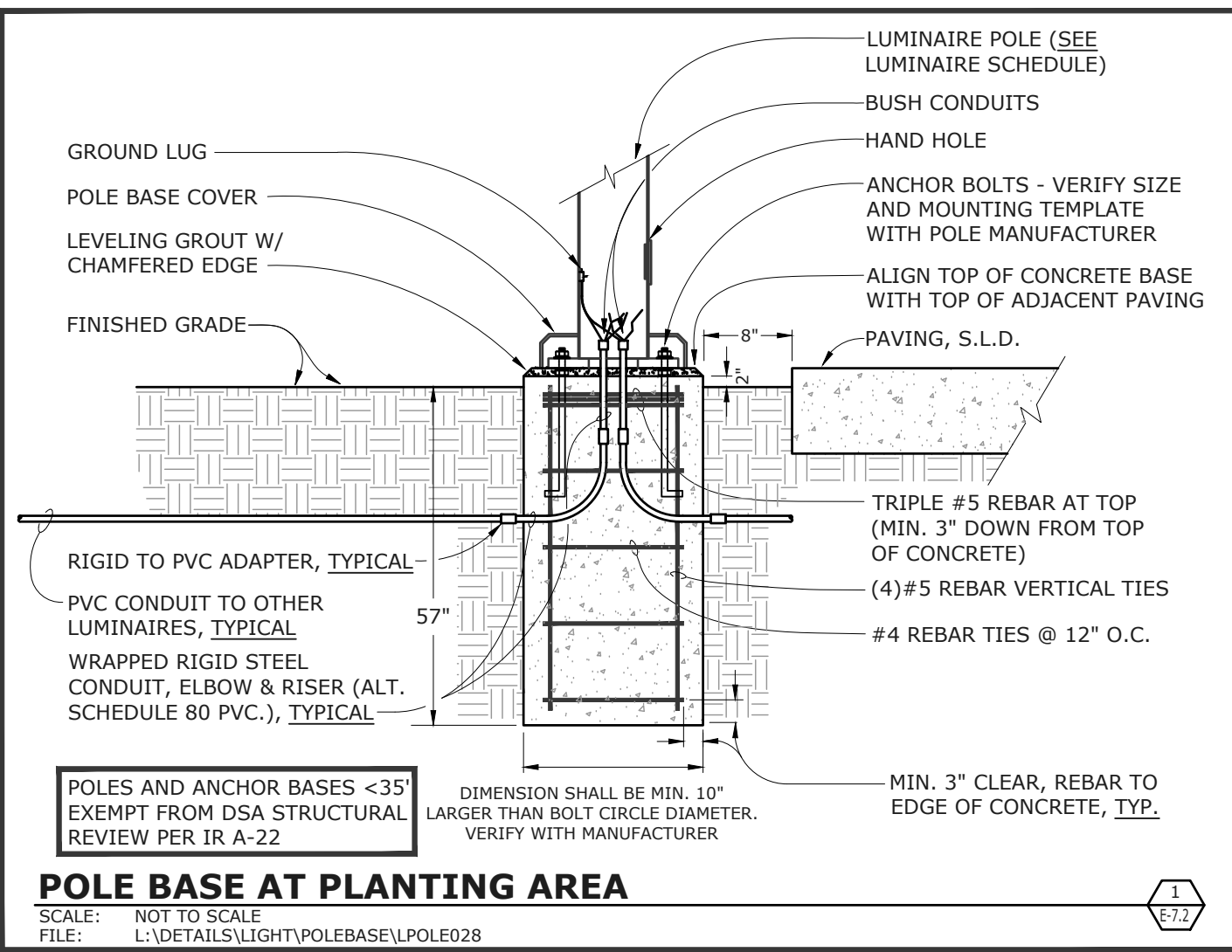
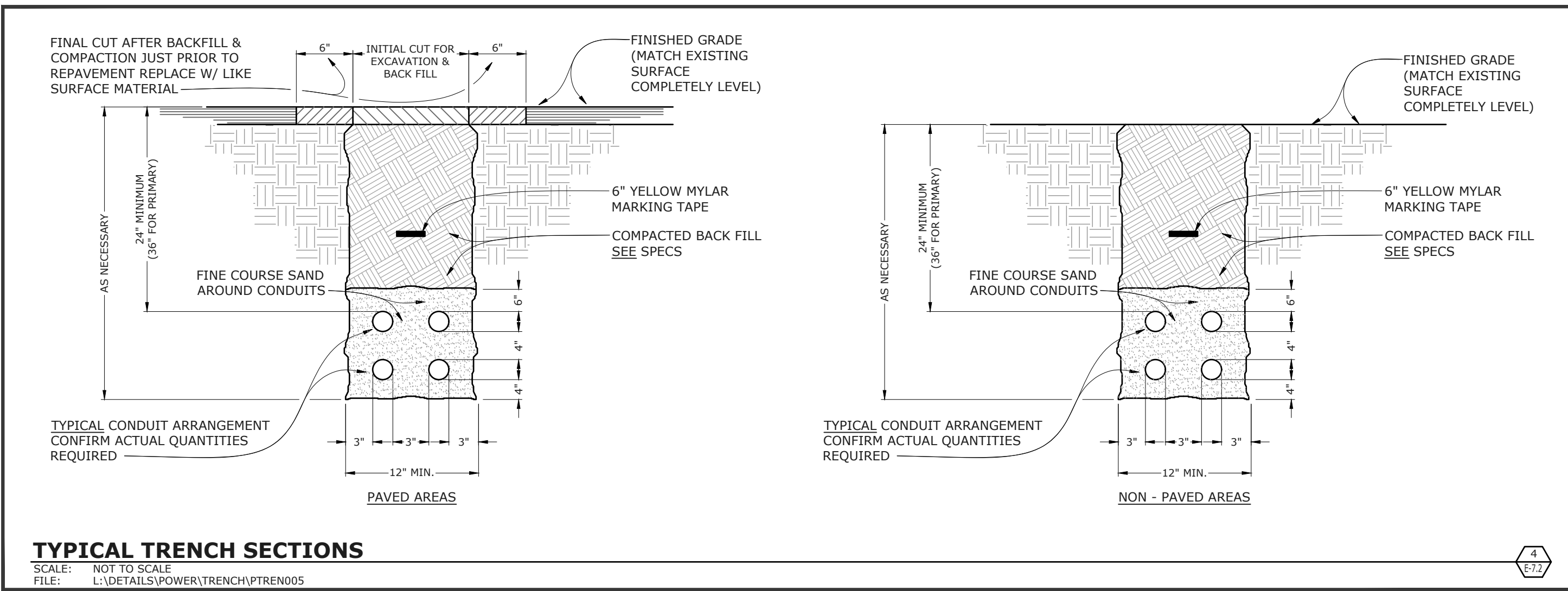
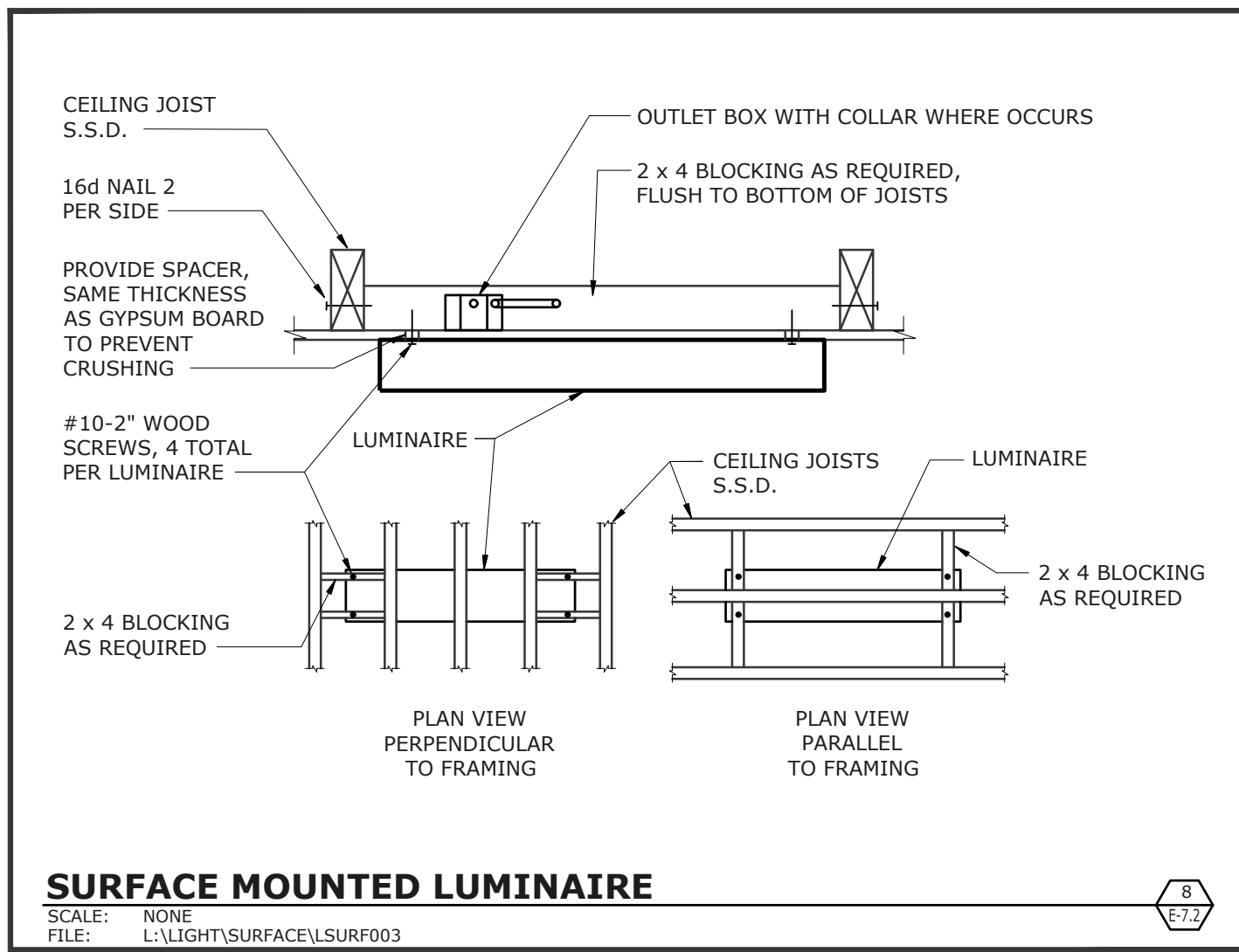
NO.	DESCRIPTION

DSA APP NO. 01-119268
ARCH PROJECT NO. 1870.00
DRAWN BY: LN/TV/JW
DRAWING SCALE:
PTN: 61721-77 FILE NO. 7-H4
BID SET
MAY 10, 2021
SHEET TITLE

DETAILS

SHEET NUMBER

E-7.1



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NEW CLASSROOM BUILDINGS INCREMENT 2 OF 2

101 AMERICAN AVE,
BRENTWOOD, CA 94513

LIBERTY UNION
HIGH SCHOOL
DISTRICT

REVISIONS		
DSA APP NO	01-119268	

DSA APP NO. 01-119268

ARCH PROJECT NO: 1870.00

DRAWN BY: LN/TV/JW

DRAWING SCALE: _____

PTN: 61721-77 FILE NO: 7-H4

BID SET

MAY 10, 2021

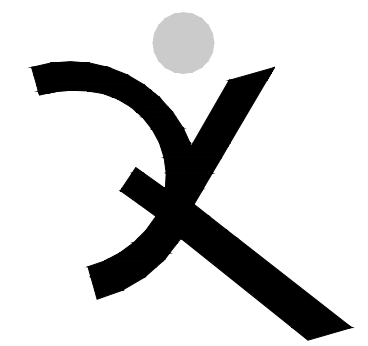
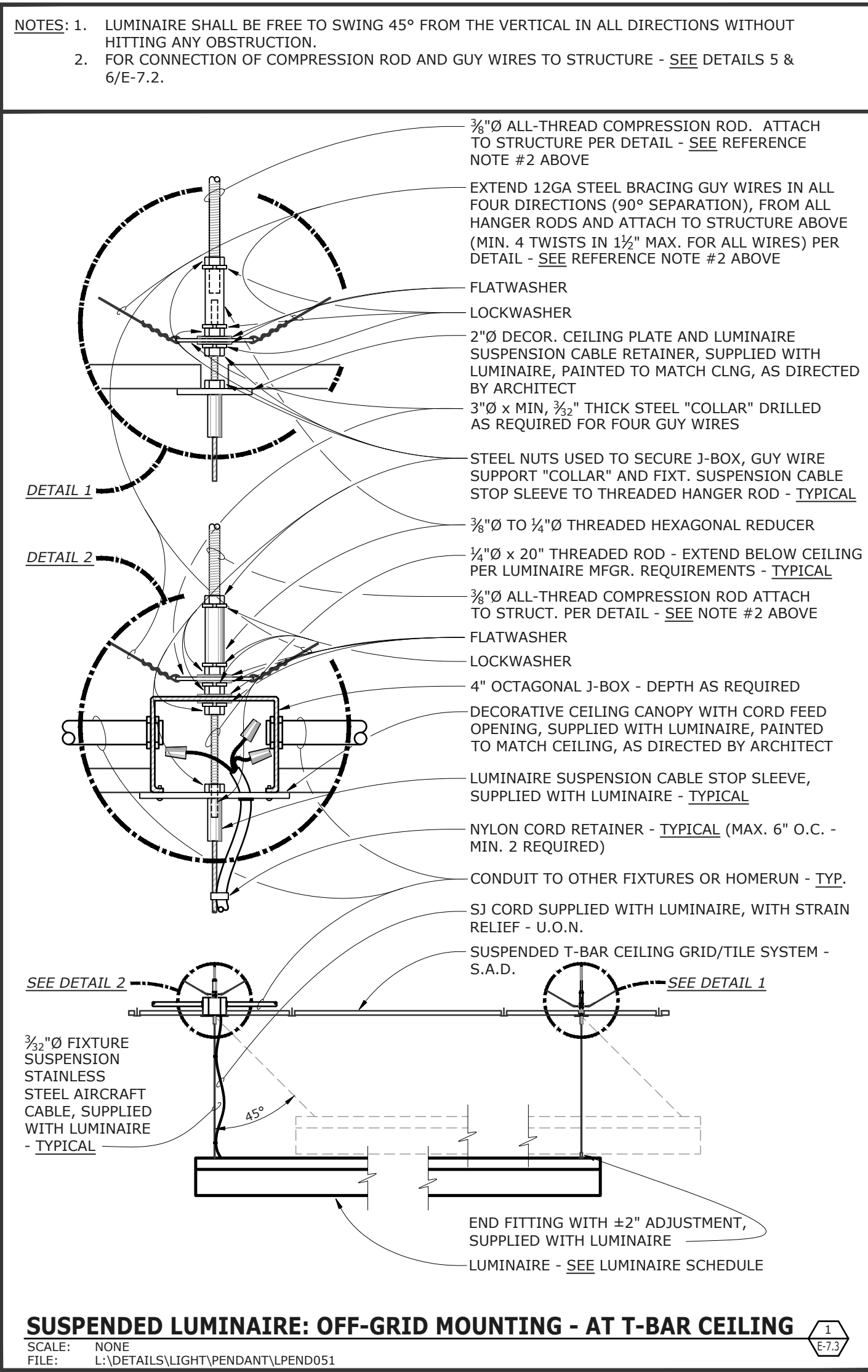
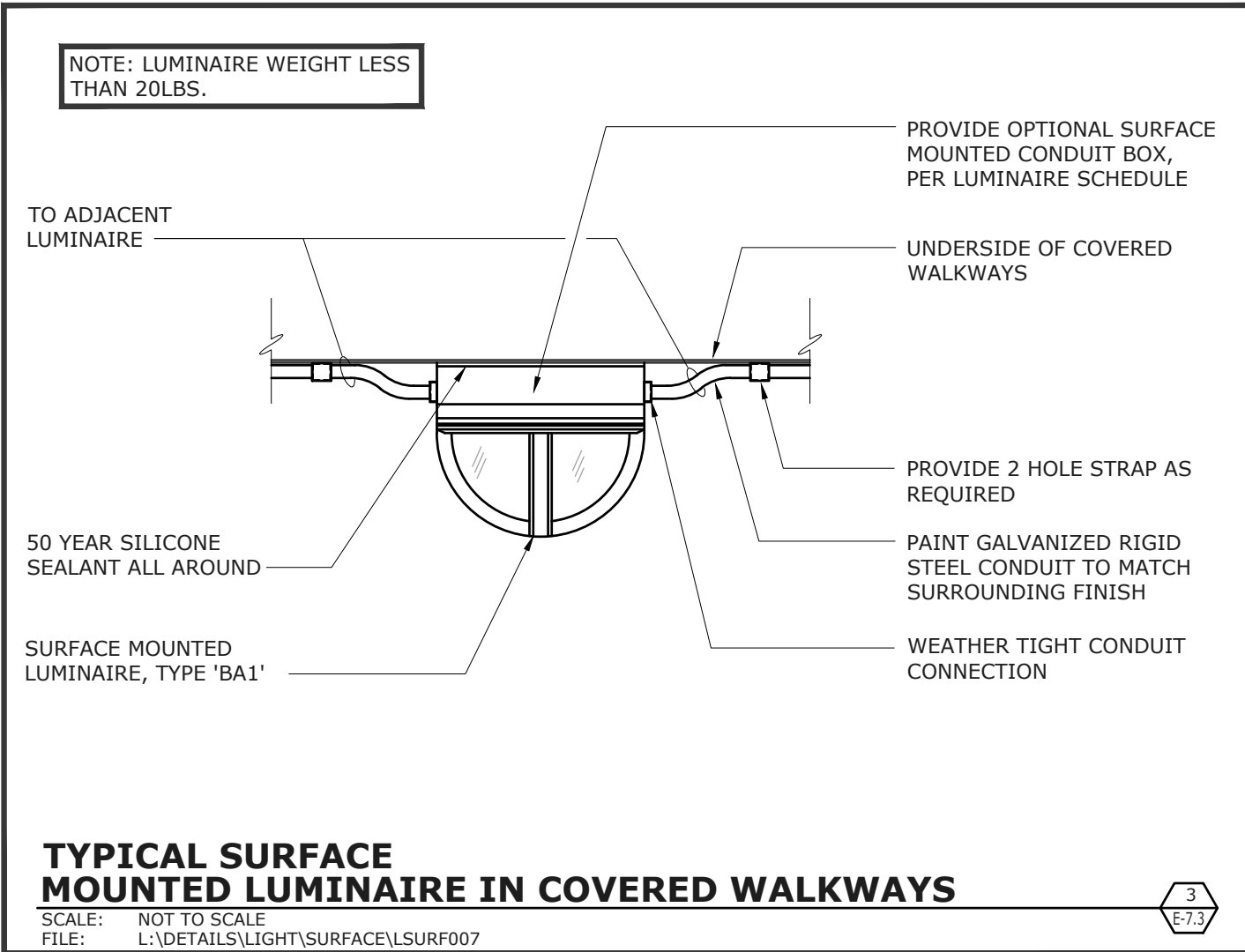
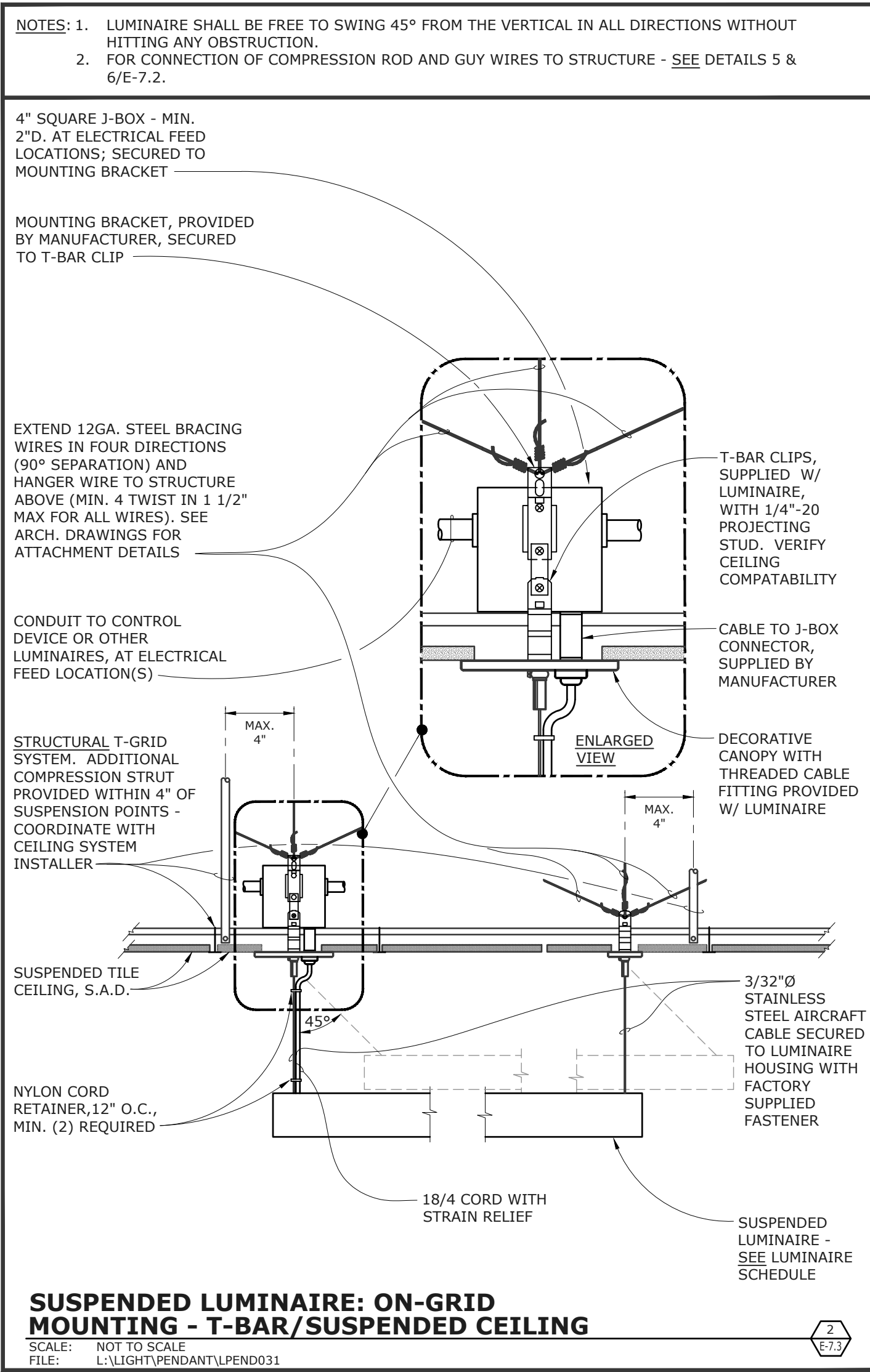
SHEET TITLE

DETAILS

SHEET NUMBER

E 7 2

E-7.2



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**HERITAGE
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**NEW CLASSROOM
BUILDINGS
INCREMENT 2 OF 2**

101 AMERICAN AVE,
BRENTWOOD, CA 94513

LIBERTY UNION
HIGH SCHOOL
DISTRICT

REVISIONS	

DSA APP NO. 01-119268	
ARCH PROJECT NO.	1870.00
DRAWN BY:	LN/TV/JW
DRAWING SCALE:	
PTN: 61721-77	FILE NO. 7-H4
BID SET	
MAY 10, 2021	
SHEET TITLE	

DETAILS

SHEET NUMBER

E-7.3

STATE OF CALIFORNIA Indoor Lighting NRCC-LTI-E		CALIFORNIA ENERGY COMMISSION NRCC-LTI-E	
CERTIFICATE OF COMPLIANCE			
Project Name:		Heritage HS New Classrooms-Bldg A	
Project Address:		101 American Ave	
Report Date:		12/18/2020	
DOCUMENTATION AUTHOR'S DECLARATION STATEMENT			
I certify that this Certificate of Compliance documentation is accurate and complete.			
Documentation Author Name: Pieter Colenbrander		Documentation Author Signature:	
Company: O'Mahony & Myer		Signature Date:	
Address: 4340 Redwood Hwy Suite 245		CEA/ HERS Certification Identification (if applicable): 14738	
City/State/Zip: San Rafael CA 94903		Phone: 415-492-0420	
RESPONSIBLE PERSON'S DECLARATION STATEMENT			
I certify the following under penalty of perjury, under the laws of the State of California:			
<ol style="list-style-type: none"> The information provided on this Certificate of Compliance is true and correct. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer) The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy. 			
Responsible Designer Name: Pieter Colenbrander		Responsible Designer Signature:	
Company: O'Mahony & Myer		Date Signed: 2020-12-18	
Address: 4340 Redwood Hwy, Suite 245		License: 14738	
City/State/Zip: San Rafael CA 94903		Phone: 415-492-0420	
Registration Number:			
Registration Date/Time:		Registration Provider: Energysoft	
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance			
Report Version: 2019.01.03			
Schema Version: rev 20200601			
Report Generated: 2020-12-18 12:40:27			

STATE OF CALIFORNIA Indoor Lighting NRCC-LI-E						CALIFORNIA ENERGY COMMISSION NRCC-LTI-E (Page 4 of 7) 12/18/2020											
CERTIFICATE OF COMPLIANCE Project Name: Heritage HS New Classrooms-Bldg A Report Page: Project Address: 101 American Ave Date Prepared:																	
H. INDOOR LIGHTING CONTROLS (Not including PAFs) Area Level Controls																	
04		05		06		07		08		09		10		11		12	
Area Description		Complete Building or Area Category Primary Function Area		Area Controls <i>\$130.1(a)</i>		Multi-Level Controls <i>\$130.1(b)</i>		Shut-Off Controls <i>\$130.1(c)</i>		Primary/Skylight Daylighting <i>\$140.6(d)</i>		Secondary Daylighting <i>\$140.6(e)</i>		Interlocked Systems <i>\$140.6(a)(1)</i>		Field Inspector	
																Pass	Fail
Restroom		Restrooms		Manual ON/OFF		Exempt*		Occupancy Sensor		N/A		N/A		No		<input type="checkbox"/> <input type="checkbox"/>	
Classroom / Labs		Classroom, Lecture, or Training Vocational Area		Manual ON/OFF		Dimmer		Occupancy Sensor		Included		Included		No		<input type="checkbox"/> <input type="checkbox"/>	
Support Rooms		All Other Space Types		Manual ON/OFF		Exempt*		Occupancy Sensor		N/A		N/A		No		<input type="checkbox"/> <input type="checkbox"/>	
*NOTES: Controls with a * require a note in the space below explaining how compliance is achieved. EX: Conference 1: Primary/Skylight Daylighting; Exempt because less than 120 watts of general lighting; EXCEPTION 1 to <i>\$130.1(d)(2)</i>										13 Plan Sheet Showing Daylit Zones:							
Restroom																	
Support Rooms		<100 SqFt															
LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS Each area complying using the Complete Building or Area Category Methods per <i>\$140.6(b)</i> , are included in this table. Column 06 indicates if additional lighting power allowances per <i>\$140.6(c)</i> or adjustments per <i>\$140.6(a)</i> are being used.																	
Conditioned Spaces																	
01		02		03		04		05		06							
Area Description		Complete Building or Area Category Primary Function Area		Allowed Density (W/R ²)		Area (ft ²)		Allowed Wattage (Watts)		Additional Allowance / Adjustment Area Category				PAF			
Lab Classrooms		Scientific Laboratory Area		1		3,438		3,438		No				No			
Restroom		Restrooms		0.65		90		58.5		No				No			
Registration Number:				Registration Date/Time:				Registration Provider: Energyfoot									
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance				Report Version: 2019.1.003 Schema Version: rev 20200601				Report Generated: 2020-12-18 12:40:27									

STATE OF CALIFORNIA

Indoor Lighting

NRCC-LTI-E

CALIFORNIA ENERGY COMMISSION

NRCC-LTI-E

This document is used to demonstrate compliance with requirements in §110.9, §110.12(c), §130.0, §130.1, §140.6, and §141.0(b)(2) for indoor lighting scopes using the prescriptive path.

Project Name:

Heritage HS New Classrooms-Bldg A

Report Page:

(Page 1 of 7)

Project Address:

101 American Ave

Date Prepared:

12/18/2020

A. GENERAL INFORMATION

01	Project Location (city)	Brentwood	04	Total Conditioned Floor Area (ft ²)	3,717
02	Climate Zone	12	05	Total Unconditioned Floor Area (ft ²)	0
03	Occupancy Types Within Project (select all that apply):	06 # of Stories (Habitable Above Grade)			
<input type="checkbox"/> Office <input type="checkbox"/> Retail <input type="checkbox"/> Warehouse <input type="checkbox"/> Hotel/Motel <input type="checkbox"/> School <input checked="" type="checkbox"/> Support Areas		<input type="checkbox"/> High-Rise Residential <input type="checkbox"/> Relocatable <input type="checkbox"/> Healthcare <input checked="" type="checkbox"/> Other (Write in) <input type="checkbox"/> See Table I			

B. PROJECT SCOPE

This table includes any lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.6 or §141.0(b)(2) for alterations.

Scope of Work		Conditioned Spaces		Unconditioned Spaces	
01		02	03	04	05
My Project Consists of (check all that apply):		Calculation Method	Area (ft ²)	Calculation Method	Area (ft ²)
<input checked="" type="checkbox"/>	New Lighting System	Area Category Method	3717	Area Category Method	0
<input type="checkbox"/>	New Lighting System - Parking Garage				
Total Area of Work (ft ²)		3717		0	

Registration Number:

Registration Date/Time:

Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Report Version: 2019.1.003

Schema Version: rev 20200601

Report Generated: 2020-12-18 14:20:27

STATE OF CALIFORNIA Indoor Lighting NICC-L1-E		CALIFORNIA ENERGY COMMISSION NICC-L1-E	
CERTIFICATE OF COMPLIANCE		(Page 5 of 7)	
Project Name:	Heritage HS New Classrooms-Bldg A	Report Page:	12/18/2020
Project Address:	101 American Ave	Date Prepared:	

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS				
Storage	All Other Space Types	0.4	189	75.6
TOTALS:		3,717	3,572.1	No
				See Tables J, or P for detail

J. ADDITIONAL ALLOWANCE: AREA CATEGORY METHOD QUALIFYING LIGHTING SYSTEM
This section does not apply to this project.

K. TAILORED METHOD GENERAL LIGHTING POWER ALLOWANCE
This section does not apply to this project.

L. ADDITIONAL LIGHTING ALLOWANCE: TAILORED WALL DISPLAY
This section does not apply to this project.

M. ADDITIONAL LIGHTING ALLOWANCE: TAILORED FLOOR AND TASK LIGHTING
This section does not apply to this project.

N. ADDITIONAL LIGHTING ALLOWANCE: TAILORED ORNAMENTAL/SPECIAL EFFECTS
This section does not apply to this project.

O. ADDITIONAL LIGHTING ALLOWANCE: TAILORED VERY VALUABLE MERCHANDISE
This section does not apply to this project.

P. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (POWER ADJUSTMENT FACTOR (PAF))
This section does not apply to this project.

Q. RATED POWER REDUCTION COMPLIANCE FOR ALTERATIONS
This section does not apply to this project.

R. 80% LIGHTING POWER FOR ALL ALTERATIONS - CONTROLS EXCEPTIONS
This section does not apply to this project.

CITY OF CALIFORNIA										CALIFORNIA ENERGY COMMISSION									
Indoor Lighting NCC-174-E										NCC-174-F									
CERTIFICATE OF COMPLIANCE																			
Project Name: Heritage HS New Classrooms-Bldg A					Report Page:					Page 2 of 7									
Project Address: 101 American Ave					Date Prepared:					12/18/2020									

C. COMPLIANCE RESULTS											
<i>If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.</i>											
Lighting in conditioned and unconditioned spaces must not be combined for compliance per §140.6(b)(1)	Allowed Lighting Power per §140.6(b) (Watts)					Adjusted Lighting Power per §140.6(a) (Watts)			Compliance Results		
	01	02	03	04	05	06	07	08	09 must be >= 08 \$140.6		
	Complete Building §140.6(c)(1)	Area Category §140.6(c)(2)	Area Category Additional §140.6(c)(2G (+))	Tailored §140.6(c)(3 (+))	Total Allowed (Watts)	Total Designed (Watts)	Adjustments PAF Lighting Control Credits §140.6(a)(2) (-)	Total Adjusted (Watts) *Includes Adjustments			
	(See Table I)	(See Table J)	(See Table J)	(See Table K)	=	≥	=	=			
	(See Table L)	(See Table M)	(See Table N)	(See Table O)	=	≥	=	=			
Conditioned	3,572.1	0			3,572	≥	2,595	0	2595	COMPLIES	
Unconditioned						≥				COMPLIES	
Controls Compliance (See Table H for Details)										COMPLIES	
Rated Power Reduction Compliance (See Table Q for Details)											

D. EXCEPTIONAL CONDITIONS											
<i>This table is auto-filled with undeletable comments because of selections made or data entered in tables throughout the form.</i>											

E. ADDITIONAL REMARKS											
<i>This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.</i>											

F. INDOOR LIGHTING FIXTURE SCHEDULE											
<i>This table includes all permanent designed lighting and all portable lighting in offices.</i>											
Designed Wattage: Conditioned Spaces											
01	02	03	04	05	06	07	08	09	10		
Name or Item Tag	Complete Luminaire Description	Modular (Track) Fixture	Small Aperture & Color Change ¹	Watts per luminaire ²	How is Wattage Determined	Total Number of Luminaires	Excluded per §140.6(a)(3)	Design Watts	Field Inspector Pass Fail		
A#3	A#3-LINEAR-12	No	No	141	Mfr. Spec	7	No	987	<input type="checkbox"/>	<input type="checkbox"/>	
A#4	A#4-LINEAR-16	No	No	188	Mfr. Spec	7	No	1,316	<input type="checkbox"/>	<input type="checkbox"/>	

Registration Number:	Registration Date/Time:	Registration Provider: Energysoft
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CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance	Report Version: 2019.1.003 Schema Version: rev 20200601	Report Generated: 2020-12-18 12:40:27
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State of California NRC-C-LTI-E		CALIFORNIA ENERGY COMMISSION	
CERTIFICATE OF COMPLIANCE		NRC-C-LTI-E	
Heritage HS New Classrooms-Bldg A		(Page 6 of 7)	
Project Name:	101 American Ave	Report Page:	12/18/2020
Project Address:		Date Prepared:	
S. DAYLIGHT DESIGN POWER ADJUSTMENT FACTOR (PAF)			
This section does not apply to this project.			
T. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION			
<i>Selections have been made based on information provided in this document. If any selection have been changed by permit applicant, an explanation should be included in Table E.</i> <i>Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at</i> https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRC/I/			
Yes	No	Form/Title	Field Inspector
			Pass Fail
<input checked="" type="radio"/>	<input type="radio"/>	NRC-LTI-01-E - Must be submitted for all buildings	<input type="checkbox"/> <input type="checkbox"/>
<input type="radio"/>	<input checked="" type="radio"/>	NRC-LTI-02-E - Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS), to be recognized for compliance.	<input type="checkbox"/> <input type="checkbox"/>
<input type="radio"/>	<input checked="" type="radio"/>	NRC-LTI-04-E - Must be submitted for two interlocked systems serving an auditorium, a convention center, a conference room, a multipurpose room or a theater to be recognized for compliance.	<input type="checkbox"/> <input type="checkbox"/>
<input type="radio"/>	<input checked="" type="radio"/>	NRC-LTI-05-E - Must be submitted for a Power Adjustment Factor (PAF) to be recognized for compliance.	<input type="checkbox"/> <input type="checkbox"/>
<input type="radio"/>	<input checked="" type="radio"/>	NRC-LTI-06-E - Must be submitted for additional wattage installed in a video conferencing studio to be recognized for compliance.	<input type="checkbox"/> <input type="checkbox"/>
U. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE			
<i>Selections have been made based on information provided in this document. If any selection have been changed by the permit applicant, an explanation should be included in Table E.</i> <i>Additional Remarks. These documents must be provided to the building inspector during construction and any with "A" in the form name must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html</i>			
Yes	No	Form/Title	Field Inspector
			Pass Fail
<input checked="" type="radio"/>	<input type="radio"/>	NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.	<input type="checkbox"/> <input type="checkbox"/>
<input checked="" type="radio"/>	<input type="radio"/>	NRCA-LTI-03-A - Must be submitted for automatic daylight controls.	<input type="checkbox"/> <input type="checkbox"/>
<input type="radio"/>	<input checked="" type="radio"/>	NRCA-LTI-04-A - Must be submitted for demand responsive lighting controls.	<input type="checkbox"/> <input type="checkbox"/>
<input type="radio"/>	<input checked="" type="radio"/>	NRCA-LTI-05-A - Must be submitted for institutional tuning power adjustment factor (PAF)	<input type="checkbox"/> <input type="checkbox"/>

STATE OF CALIFORNIA Indoor Lighting NRCC-174		CALIFORNIA ENERGY COMMISSION NRCC-174	
CERTIFICATE OF COMPLIANCE			
Project Name: Heritage HS New Classrooms-Bldg A		Report Page: Page 3 of 7	
Project Address: 101 American Ave		Date Prepared: 12/18/2020	

F. INDOOR LIGHTING FIXTURE SCHEDULE										
AB1	AB1-STRNPLIGHT	No	No	20	Mfr. Spec	2	No	40	<input type="checkbox"/>	<input type="checkbox"/>
AD1	AD1-WRAP4	No	No	28	Mfr. Spec	2	No	56	<input type="checkbox"/>	<input type="checkbox"/>
AD2	AD2-WRAP8	No	No	56	Mfr. Spec	1	No	56	<input type="checkbox"/>	<input type="checkbox"/>
AD3	AD3-WRAP10	No	No	70	Mfr. Spec	2	No	140	<input type="checkbox"/>	<input type="checkbox"/>
Total Designed Watts: CONDITIONED SPACES									2,595	

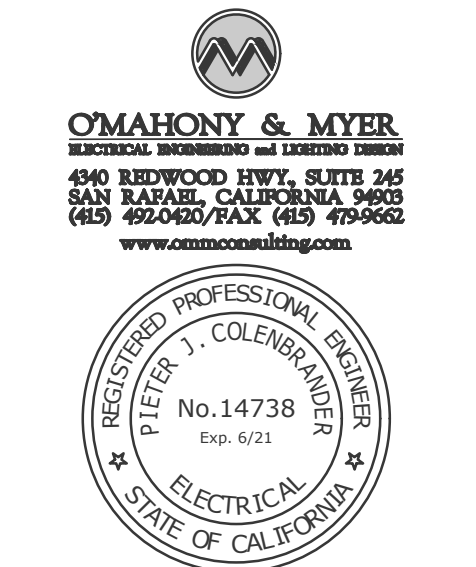
**FOOTNOTE: Design Watts for small aperture and color changing luminaires which qualify per §140.6(a)(48) is adjusted to be 75% of their rated wattage. Table F automatically makes this adjustment, the permit applicant should enter full rated wattage in column 05.*

**Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per §130.0(c). Wattage used must be the maximum rated for the luminaire, not the lamp.*

G. MODULAR LIGHTING SYSTEMS
This section does not apply to this project.

H. INDOOR LIGHTING CONTROLS (Not including PAFs)
<i>This table includes lighting controls for conditioned and unconditioned spaces. When a control having a * is shown, the notes section of this table provides more detail on how compliance is achieved. The lighting controls section of the Compliance Summary Table on the first page will show "DOES NOT COMPLY" if the notes are left blank.</i>

Building Level Controls			
01	02	03	
Mandatory Demand Response §110.12(c) Not Required <= 10,000 SF	Shut-off controls §130.1(c) Whole Building Auto Time Switch	Field Inspector	
		Pass	Fail
		<input type="checkbox"/>	<input type="checkbox"/>



**HERITAGE
HIGH SCHOOL**

NEW CLASSROOM BUILDINGS INCREMENT 2 OF 2

101 AMERICAN AVE,
BRENTWOOD, CA 94513

LIBERTY UNION
HIGH SCHOOL
DISTRICT

REVISIONS

[illegible]

DSA APP NO. 01-119268

ARCH PROJECT NO: 1870.00

DRAWN BY: _____

DRAWING SCALE: _____

PTN: 61721-77 FILE NO: 7-H4

BID SET

MAY 10, 2021

SHEET TITLE

TITLE 24 DOCUMENTATION

SHEET NUMBER

E-8.1

STATE OF CALIFORNIA

Indoor Lighting

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE

NRCC-LTI-E

NRCC-LTI-E

Project Name:

Heritage HS New Classrooms-Bldg A

Report Page:

(Page 7 of 7)

Project Address:

101 American Ave

Date Prepared:

12/18/2020

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:

Pieter Colenbrander

Signature Date:

Company:

O'Mahony & Myer

Address:

4340 Redwood Hwy Suite 245

City/State/Zip:

San Rafael CA 94903

CEA/HERS Certification Identification (if applicable):

14738

Phone:

415-492-0420

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.

2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance [responsible designer]

3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.

4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.

5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:

Pieter Colenbrander

Responsible Designer Signature:

Company:

O'Mahony & Myer

Address:

4340 Redwood Hwy, Suite 245

City/State/Zip:

San Rafael CA 94903

Date Signed:

2020-12-18

License:

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Phone:

415-492-0420

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CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

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Report Version: 2019.1.003
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Energysoft

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H. INDOOR LIGHTING CONTROLS (Not including PAFs)

Area Level Controls

04	05	06	07	08	09	10	11	12
Area Description	Complete Building or Area Category Primary Function Area	Area Controls §130.1(a)	Multi-Level Controls §130.1(b)	Shut-Off Controls §130.1(c)	Primary/Sky lit Daylighting §130.1(d)	Secondary Daylighting §140.6(d)	Interlocked Systems §140.6(a)1	Field Inspector
								Pass Fail
Restroom	All Others Buildings	Manual ON/OFF	Exempt*	Occupancy Sensor	N/A	N/A	No	<input type="checkbox"/> <input type="checkbox"/>
Classroom / Labs	All Others Buildings	Manual ON/OFF	Dimmer	Occupancy Sensor	Included	Included	No	<input type="checkbox"/> <input type="checkbox"/>
Support Rooms	All Others Buildings	Manual ON/OFF	Exempt*	Occupancy Sensor	N/A	N/A	No	<input type="checkbox"/> <input type="checkbox"/>
Electrical	All Others Buildings	Manual ON/OFF	Exempt*	Occupancy Sensor	N/A	N/A	No	<input type="checkbox"/> <input type="checkbox"/>
13								
Plan Sheet Showing Daylit Zones:								
Restroom								
Support Rooms	<100 SqFt							
Electrical	Exc 4 to Sec 130.1(c)1							

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

Each area complying using the Complete Building or Area Category Methods per [§140.6\(b\)](#) are included in this table. Column 06 indicates if additional lighting power allowances per [§140.6\(c\)](#) or adjustments per [§140.6\(a\)](#) are being used.

Conditioned Spaces

01	02	03	04	05	06
01	02	03	04	05	06

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I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

Area Description	Complete Building or Area Category Primary Function Area	Allowed Density (W/ft²)	Area (ft²)	Allowed Wattage (Watts)	Additional Allowance / Adjustment Area Category	PAF
Whole Building	School Building	0.65	11,284	7,334.6	No	No
TOTALS:			11,284	7,334.6	See Tables J, or P for detail	

J. ADDITIONAL ALLOWANCE: AREA CATEGORY METHOD QUALIFYING LIGHTING SYSTEM

This section does not apply to this project.

K. TAILORED METHOD GENERAL LIGHTING POWER ALLOWANCE

This section does not apply to this project.

L. ADDITIONAL LIGHTING ALLOWANCE: TAILORED WALL DISPLAY

This section does not apply to this project.

M. ADDITIONAL LIGHTING ALLOWANCE: TAILORED FLOOR AND TASK LIGHTING

This section does not apply to this project.

N. ADDITIONAL LIGHTING ALLOWANCE: TAILORED ORNAMENTAL/SPECIAL EFFECTS

This section does not apply to this project.

O. ADDITIONAL LIGHTING ALLOWANCE: TAILORED VERY VALUABLE MERCHANDISE

This section does not apply to this project.

P. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (POWER ADJUSTMENT FACTOR (PAF))

This section does not apply to this project.

Q. RATED POWER REDUCTION COMPLIANCE FOR ALTERATIONS

This section does not apply to this project.

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R. 80% LIGHTING POWER FOR ALL ALTERATIONS - CONTROLS EXCEPTIONS

This section does not apply to this project.

S. DAYLIGHT DESIGN POWER ADJUSTMENT FACTOR (PAF)

This section does not apply to this project.

T. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

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Yes	No	Form/Title	Field Inspector
			Pass Fail
<input checked="" type="radio"/>	<input type="radio"/>	NRCH-LTI-01-E - Must be submitted for all buildings	<input type="checkbox"/> <input type="checkbox"/>
<input type="radio"/>	<input checked="" type="radio"/>	NRCH-LTI-02-E - Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS), to be recognized for compliance.	<input type="checkbox"/> <input type="checkbox"/>
<input type="radio"/>	<input checked="" type="radio"/>	NRCH-LTI-04-E - Must be submitted for two interlocked systems serving an auditorium, a convention center, a conference room, a multipurpose room or a theater to be recognized for compliance.	<input type="checkbox"/> <input type="checkbox"/>
<input type="radio"/>	<input checked="" type="radio"/>	NRCH-LTI-05-E - Must be submitted for a Power Adjustment Factor (PAF) to be recognized for compliance.	<input type="checkbox"/> <input type="checkbox"/>
<input type="radio"/>	<input checked="" type="radio"/>	NRCH-LTI-06-E - Must be submitted for additional wattage installed in a video conferencing studio to be recognized for compliance.	<input type="checkbox"/> <input type="checkbox"/>

U. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

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Yes	No	Form/Title	Field Inspector
			Pass Fail
<input checked="" type="radio"/>	<input type="radio"/>	NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.	<input type="checkbox"/> <input type="checkbox"/>
<input checked="" type="radio"/>	<input type="radio"/>	NRCA-LTI-03-A - Must be submitted for automatic daylight controls.	<input type="checkbox"/> <input type="checkbox"/>
<input checked="" type="radio"/>	<input type="radio"/>	NRCA-LTI-04-A - Must be submitted for demand responsive lighting controls.	<input type="checkbox"/> <input type="checkbox"/>
<input type="radio"/>	<input checked="" type="radio"/>	NRCA-LTI-05-A - Must be submitted for institutional tuning power adjustment factor (PAF)	<input type="checkbox"/> <input type="checkbox"/>

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A. GENERAL INFORMATION

01 Project Location (city)	Brentwood	04 Total Conditioned Floor Area (ft²)	11,284	
02 Climate Zone	12	05 Total Unconditioned Floor Area (ft²)	0	
03 Occupancy Types Within Project (select all that apply):		06 # of Stories (Habitable Above Grade)	1	
<input type="checkbox"/> Office	<input type="checkbox"/> Retail	<input type="checkbox"/> Warehouse	<input type="checkbox"/> School	<input type="checkbox"/> Support Areas
<input type="checkbox"/> Parking Garage	<input type="checkbox"/> High-Rise Residential	<input type="checkbox"/> Relocatable	<input type="checkbox"/> Healthcare	<input type="checkbox"/> Other (Write in)

B. PROJECT SCOPE

This table includes any lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in [§140.6](#) or [§141.0\(b\)2](#) for alterations.

Scope of Work	Conditioned Spaces	Unconditioned Spaces		
01	02	03	04	05
My Project Consists of (check all that apply):	Calculation Method	Area (ft²)	Calculation Method	Area (ft²)
<input checked="" type="checkbox"/> New Lighting System	Complete Building Method	11284	Complete Building Method	0
<input type="checkbox"/> New Lighting System - Parking Garage				
Total Area of Work (ft²)	11284		0	

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C. COMPLIANCE RESULTS

If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D, for guidance.

Lighting in conditioned and unconditioned spaces must not be combined for compliance per §140.6(b)1	Allowed Lighting Power per §140.6(b) (Watts)				Adjusted Lighting Power per §140.6(a) (Watts)				Compliance Results		
	01	02	03	04	05	06	07	08			
Complete Building §140.6(c)1	Area Category §140.6(c)2	Area Category Additional §140.6(c)25 (+)	Tailored §140.6(c)3 (+)	=	Total Allowed (Watts)	≥	Total Designed (Watts)	PAF Lighting Control Credits §140.6(a)2 (-)	=	Total Adjusted (Watts) *Includes Adjustments	05 must be >= 08 §140.6
(See Table I)	(See Table I)	(See Table J)	(See Table K)				(See Table F)	(See Table P)			
Conditioned	7,335				=	7,335	≥	6,762	0	=	6762
Unconditioned					=		≥			=	
Controls Compliance (See Table H for Details)											COMPLIES
Rated Power Reduction Compliance (See Table Q for Details)											COMPLIES

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

F. INDOOR LIGHTING FIXTURE SCHEDULE

This table includes all permanent designed lighting and all portable lighting in offices.

Designed Wattage: Conditioned Spaces

01	02	03	04	05	06	07	08	09	10
Name or Item Tag	Complete Luminaire Description	Modular (Track) Fixture	Small Aperture & Color Change ¹	Watts per luminaire ²	How is Wattage determined	Total Number of Luminaires	Excluded per §140.6(a)3	Design Watts	Field Inspector
									Pass Fail
AA6	AA6-LINEAR-24	No	No	281	Mfr. Spec	20	No	5,620	<input type="checkbox"/> <input type="checkbox"/>
AB1	AB1-STRIPLIGHT	No	No	20	Mfr. Spec	3	No	60	<input type="checkbox"/> <input type="checkbox"/>
Total Designed Watts: CONDITIONED SPACES									6,762

Footnote:

Design Watts for small aperture and color changing luminaires which qualify per [§140.6\(a\)4B](#) is adjusted to be 75% of their rated wattage. Table F automatically makes this adjustment, the permit applicant should enter full rated wattage in column 05.

²Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per [§130.0\(c\)](#) Wattage used must be the maximum rated for the luminaire, not the lamp.

G. MODULAR LIGHTING SYSTEMS

This section does not apply to this project.

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

This table includes lighting controls for conditioned and unconditioned spaces. When a control having a * is shown, the notes section of this table provides more detail on how compliance is achieved. The lighting controls section of the Compliance Summary Table on the first page will show "DOES NOT COMPLY" if the notes are left blank.

Building Level Controls

01	02	03
Mandatory Demand Response §110.12(c)	Shut-off controls §130.1(c)	Field Inspector
		Pass Fail
Required > 10,000 SF	Whole Building Auto Time Switch	<input type="checkbox"/> <input type="checkbox"/>

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QUATTROCCHI KWOK

ARCHITECTS

Main:
636 Fifth Street, Santa Rosa, CA 95404
East Bay:
55 Harrison Street, Suite 525,
Oakland, CA 94607
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440 REDWOOD HWY, SUITE 245
SAN RAFAEL, CALIFORNIA 94903
(415) 492-0607 / FAX: (415) 492-0602
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M. LIGHTING ALLOWANCE: PER SPECIFIC AREA									
This table includes areas using the wattage allowance per specific area from Table 140.7-B. More than one specific area allowance may be taken in a single project, if applicable. However, multiple specific area allowances may not be taken for the exact same area on the site.									
01	02	03	04	05	06	07	08	09	10
Area Description	Specific Area Type per Table 140.7-B	CALCULATED ALLOWANCE (Watts)			DESIGN WATTS			Design Watts	Additional Allowance (Watts)
		Specific Area (ft ²)	Allowed Density (W/ft ²)	Extra Allowance (Watts)	Luminaire Name or Item Tag	Watts per Luminaire	# of Luminaires		
Canopy	NonSalesCanopy	1390	0.27	375.3	BB1	30	21	630	375.3
Total Design Watts for this Area:									630
Total Allowance (Watts) All Areas:									375.3

¹ FOOTNOTES: See Table 140.7-B for rules for calculating the specific areas (ft²) for these additional lighting allowances.
² For luminaires indicated in Table F as linear, wattage in column 07 is W/ft instead of Watts/luminaire. Total linear feet should be indicated in column 08 instead of number of luminaires.

N. EXISTING CONDITIONS POWER ALLOWANCE (alterations only)

This section does not apply to this project.

O. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

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Yes	No	Form/Title	Field Inspector
<input type="radio"/>	<input type="radio"/>	NRCC-LTO-01-E - Must be submitted for all buildings	<input type="checkbox"/> Pass <input type="checkbox"/> Fail
<input checked="" type="radio"/>	<input type="radio"/>	NRCC-LTO-02-E - Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS), to be recognized for compliance.	<input type="checkbox"/> Pass <input type="checkbox"/> Fail

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Yes	No	Form/Title	Field Inspector
<input checked="" type="radio"/>	<input type="radio"/>	NRCA-LTO-02-A - Must be submitted for all outdoor lighting controls except for alterations where controls are added to <= 20 luminaires.	<input type="checkbox"/> Pass <input type="checkbox"/> Fail

Registration Number:

Registration Date/Time:

Registration Provider: Energysoft

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Signature Date: 2020-12-18

Company: O'Mahony & Myer

Address: 4340 Redwood Hwy Suite 245

City/State/Zip: San Rafael CA 94903

Phone: 415-492-0420

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

- The information provided on this Certificate of Compliance is true and correct.
- I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
- The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
- The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
- I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Pieter Colenbrander

Responsible Designer Signature:

Company: O'Mahony & Myer

Date Signed: 2020-12-18

Address: 4340 Redwood Hwy, Suite 245

License: 14738

City/State/Zip: San Rafael CA 94903

Phone: 415-492-0420

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G. CUTOFF REQUIREMENTS (BUG)												
This table includes fixtures of >=6,200 initial lumens indicated on Table F as needing to comply with Cutoff Requirements. Maximum lumens can be found in Title 24, Part 11, Section 5.106.8.												
true	02	03	04	05	06	07	08	09	10	11	12	
Name or Item Tag	Complete Luminaire Description	Backlight Rating ²			Uplight Rating ²			Glare Rating (Lumens) ²			Field Inspector	
		Mounting Height ¹	Max Allowable Backlight Rating ¹	Backlight Rating Per Design	Lighting type	Max Allowable Uplight Rating ¹	Uplight Rating Per Design	Mounting Height ¹	Max Allowable Glare Rating ¹	Glare Rating Per Design	Pass	Fail
BD3	BD3-POST TOP	2 MH from property line	No Limit	B1	All other outdoor lighting, including decorative	U3	U0	2 MH from property line	G3	G2	<input type="checkbox"/>	<input type="checkbox"/>
BD4	BD4-POST TOP	2 MH from property line	No Limit	B1	All other outdoor lighting, including decorative	U3	U0	2 MH from property line	G3	G3	<input type="checkbox"/>	<input type="checkbox"/>

¹ FOOTNOTES: Mounting Height is labeled MH in this table.
² Authority Having Jurisdiction may ask for Luminaire cut sheets or other documentation to confirm luminaire type, uplight ratings and glare ratings used for compliance per §130.2(b).
³ BUG ratings with a lower number than the "Max Allowable" are compliant. Ex. If Max Allowable is Bug Rating B4, then B0, B1, B2 and B3 are all compliant.

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H. OUTDOOR LIGHTING CONTROLS

This table demonstrates compliance with controls requirements for all new or altered luminaires installed as part of the permit application. For alteration projects, luminaires which are existing to remain (ie untouched) and luminaires which are removed and reinstalled (wiring only) do not need to be included in this table even if they are within the spaces covered by the permit application. When an option having a * is selected, the notes section of this table must be completed. The lighting controls section of the Compliance Summary Table on the first page will show "DOES NOT COMPLY" if the notes are left blank.

01	02	03	04	05
Area Description	Shut-Off §130.2(c)1	Auto-Schedule §130.2(c)2	Motion Sensor §130.2(c)3	Field Inspector
Canopy	Astronomical Timer	Yes	Exempt*	<input type="checkbox"/> Pass <input type="checkbox"/> Fail
Pedestrian	Astronomical Timer	Yes	Exempt*	<input type="checkbox"/> Pass <input type="checkbox"/> Fail
Pedestrian-Poles	Astronomical Timer	Yes	Yes	<input type="checkbox"/> Pass <input type="checkbox"/> Fail
Walkway	Astronomical Timer	Yes	Exempt*	<input type="checkbox"/> Pass <input type="checkbox"/> Fail

*NOTES: Controls with a * require a note in the space below explaining how compliance is achieved.
EX: Not permitted by health & safety to be turned off. EXCEPTION 1 to §130.2(c)

Canopy	<40Watts
Pedestrian	<40Watts
Walkway	<40Watts

Registration Number:

Registration Date/Time:

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CERTIFICATE OF COMPLIANCE

Heritage HS New Classrooms-Bldg A

Report Page: (Page 6 of 9)

Project Name:

101 American Ave

Date Prepared:

12/18/2020

I. LIGHTING POWER ALLOWANCE (per §140.7)

This table includes areas using allowance calculations per §140.7. General Hardscape Allowance is per Table 140.7-A while "Use it or lose it" Allowances are per Table 140.7-B. Indicate which allowances are being used to expand sections for user input. Luminaires that qualify for one of the "Use it or lose it" allowances shall not qualify for another "Use it or lose it" allowance.

☒ General Hardscape Allowance Table I (below)

☐ Per Application Table J

☐ Sales Frontage Table K

☐ Ornamental Table L

☒ Per Specific Area Table M

Calculated General Hardscape Lighting Power Allowance per Table 140.7-A (LZ 0, 1 & 4)

This section does not apply to this project.

Calculated General Hardscape Lighting Power Allowance per Table 140.7-A (LZ 2 & 3)

02	03	04	05	06	07	08	9	10	
Area Description	Surface Type	Area Wattage Allowance (AWA)		Area Wattage Allowance (AWA)		Perimeter Length (lf)	Allowed Density (W/lf)	Linear Allowance (Watts)	Total General AWA + LWA (Watts)
		Illuminated Area (ft ²)	Allowed Density (W/ft ²)	Area Allowance (Watts)	Allowed Density (W/lf)				
Pedestrian	Concrete	7354	0.03	220.62	1437	0.4	574.8	795.42	
Walkway	Asphalt	1270	0.03	31.75	265	0.4	66.25	98	
Initial Wattage Allowance for Entire Site (Watts):									350
Total General Hardscape Allowance (Watts):									1243.42

J. LIGHTING ALLOWANCE: PER APPLICATION

This section does not apply to this project.

K. LIGHTING ALLOWANCE: SALES FRONTAGE

This section does not apply to this project.

L. LIGHTING ALLOWANCE: ORNAMENTAL

This section does not apply to this project.

Registration Number:

Registration Date/Time:

Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Report Version: 2019.1.003

Report Generated: 2020-12-18 12:40:27

Schema Version: rev 20200601

STATE OF CALIFORNIA

Outdoor Lighting

CALIFORNIA ENERGY COMMISSION

NRCC-LTO-E

CERTIFICATE OF COMPLIANCE

Heritage HS New Classrooms-Bldg A

Report Page: (Page 1 of 9)

Project Name:

101 American Ave

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A. GENERAL INFORMATION

01 Project Location (city)	Brentwood	04 Total Illuminated Hardscape Area (ft ²)	8624
02 Climate Zone	12		
03 Outdoor Lighting Zone per Title 24 Part 1 §10.114 or as designated by Authority Having Jurisdiction (AHJ):			
<input type="checkbox"/> LZ-0: Very Low - Undeveloped Parkland <input type="checkbox"/> LZ-2: Moderate - Rural Areas <input type="checkbox"/> LZ-4: High - Must be reviewed by CA Energy Commission for Approval			
<input type="checkbox"/> LZ-1: Low - Developed Parkland <input checked="" type="checkbox"/> LZ-3: Moderately High - Urban Areas			

B. PROJECT SCOPE

This table includes outdoor lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.7 or §141.0(b)(2), for alterations.

My Project Consists of:

<input checked="" type="checkbox"/> New Lighting System	Must Comply with Allowances from §140.7	
<input type="checkbox"/> Altered Lighting System	Is your alteration increasing the connected lighting load (Watts)? <input type="radio"/> Yes <input checked="" type="radio"/> No	
03 % of Existing Luminaires Being Altered ¹	04 Sum Total of Luminaires Being Added or Altered	05 Calculation Method
<input type="checkbox"/> < 10% <input type="checkbox"/> >= 10% and < 50% <input type="checkbox"/> >= 50%		

Please proceed to Table F, Outdoor Lighting Fixture Schedule to define the project's luminaires.

¹ FOOTNOTES: % of Existing Luminaires Being Altered = (Sum Total of Luminaires Being Added or Altered / Existing Luminaires within the Scope of the Permit Application) x 100.

C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables F through I. Note: If any cell on this table says "COMPLIES with Exceptional Conditions" refer to Table D. Exceptional Conditions for guidance or see applicable Table referenced below.

Calculations of Total Allowed Lighting Power (Watts) §140.7 or §141.0(b)(2)						Compliance Results		
01 General Hardscape Allowance §140.7(d)1 (See Table I)	+	02 Per Application §140.7(d)2 (See Table J)	+	03 Sales Frontage §140.7(d)2 (See Table K)	+	04 Ornamental §140.7(d)2 (See Table L)	+	05 Per Specific Area §140.7(d)2 (See Table M)
1,243.42	+	---	+	---	+	375.3	OR	---
Cutoff Compliance (See Table G for Details)						1,618.72	≥	1,422
Controls Compliance (See Table H for Details)						COMPLIES with Exceptional Conditions		

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

STATE OF CALIFORNIA

Outdoor Lighting

CALIFORNIA ENERGY COMMISSION

NRCC-LTO-E

CERTIFICATE OF COMPLIANCE

Heritage HS New Classrooms-Bldg A

Report Page: (Page 3 of 9)

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F. OUTDOOR LIGHTING FIXTURE SCHEDULE

For new or altered lighting systems demonstrating compliance with §140.7 all new luminaires being installed and any existing luminaires remaining or being moved within the spaces covered by the permit application are included in the Table below. For altered lighting systems using the Existing Power method per §141.0(b)(2), only new luminaires being installed and replacement luminaires being installed as part of the project scope are included (ie, existing luminaires remaining or existing luminaires being moved are not included).

Designed Wattage:

01	02	03	04	05	06	07	08	09	10
Name or Item Tag	Complete Luminaire Description	Watts per luminaire ^{1,2}	How is Wattage determined	Total number luminaires ³	Luminaire Status ¹	Excluded per §140.7(a)	Design Watts	Cutoff Req. > 6,200 initial lumen output §130.2(b) ⁴	Field Inspector
BA1	BA1-DOWNLIGHT	<input type="checkbox"/> Linear	30	Mfr. Spec	15	New	<input type="checkbox"/>	450	NA: < 6200 lumens <input type="checkbox"/> Pass <input type="checkbox"/> Fail
BB1	BB1-SCONCE	<input type="checkbox"/> Linear	30	Mfr. Spec	23	New	<input type="checkbox"/>	690	NA: < 6200 lumens <input type="checkbox"/> Pass <input type="checkbox"/> Fail
BC1	BC1-SCONCE	<input type="checkbox"/> Linear	18	Mfr. Spec	5	New	<input type="checkbox"/>	90	NA: < 6200 lumens <input type="checkbox"/> Pass <input type="checkbox"/> Fail
BD3	BD3-POST TOP	<input type="checkbox"/> Linear	64	Mfr. Spec	2	New	<input type="checkbox"/>	128	Yes <input type="checkbox"/> Pass <input type="checkbox"/> Fail
BD4	BD4-POST TOP	<input type="checkbox"/> Linear	64	Mfr. Spec	1	New	<input type="checkbox"/>	64	Yes <input type="checkbox"/> Pass <input type="checkbox"/> Fail
Total Design Watts:								1422	

¹ NOTES: Selections with a "1" require a note in the space below explaining how compliance is achieved.
EX: Luminaire is lighting a statue; EXCEPTION 2 to §130.2(b).
² FOOTNOTES: Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per §130.0(c).
³ For linear luminaires, wattage should be indicated as W/ft instead of Watts/luminaire. Total linear feet should be indicated in column 05 instead of number of luminaires.
⁴ Select "New" for new luminaires in a new outdoor lighting project, or for added luminaires in an alteration. Select "Altered" for replacement luminaires in an alteration. Select "Existing to Remain" for existing luminaires within the project scope that are not being altered and are remaining. Select "Existing Reinstalled" for existing luminaires which are being removed and reinstalled as part of the project scope.
⁵ Compliance with mandatory cutoff requirements is required for luminaires with initial lumen output >= 6,200 unless exempted by §130.2(b).

Registration Number:

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CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

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HIGH SCHOOL
DISTRICT

REVISIONS

DSA APP NO. 01-119268

ARCH PROJECT NO. 1870.00

DRAWN BY:

DRAWING SCALE:

PTN: 61721-77 FILE NO. 7-H4

BID SET

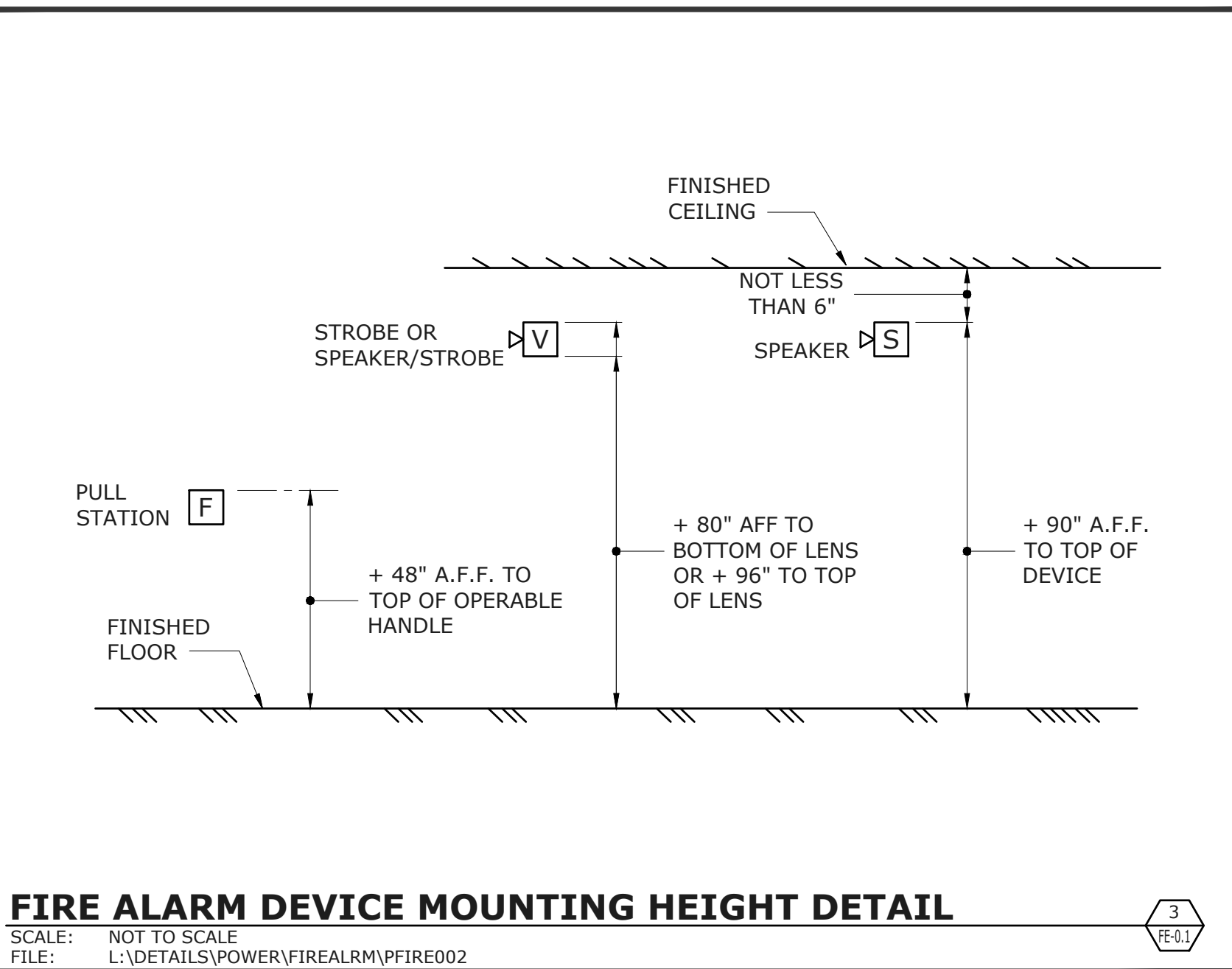
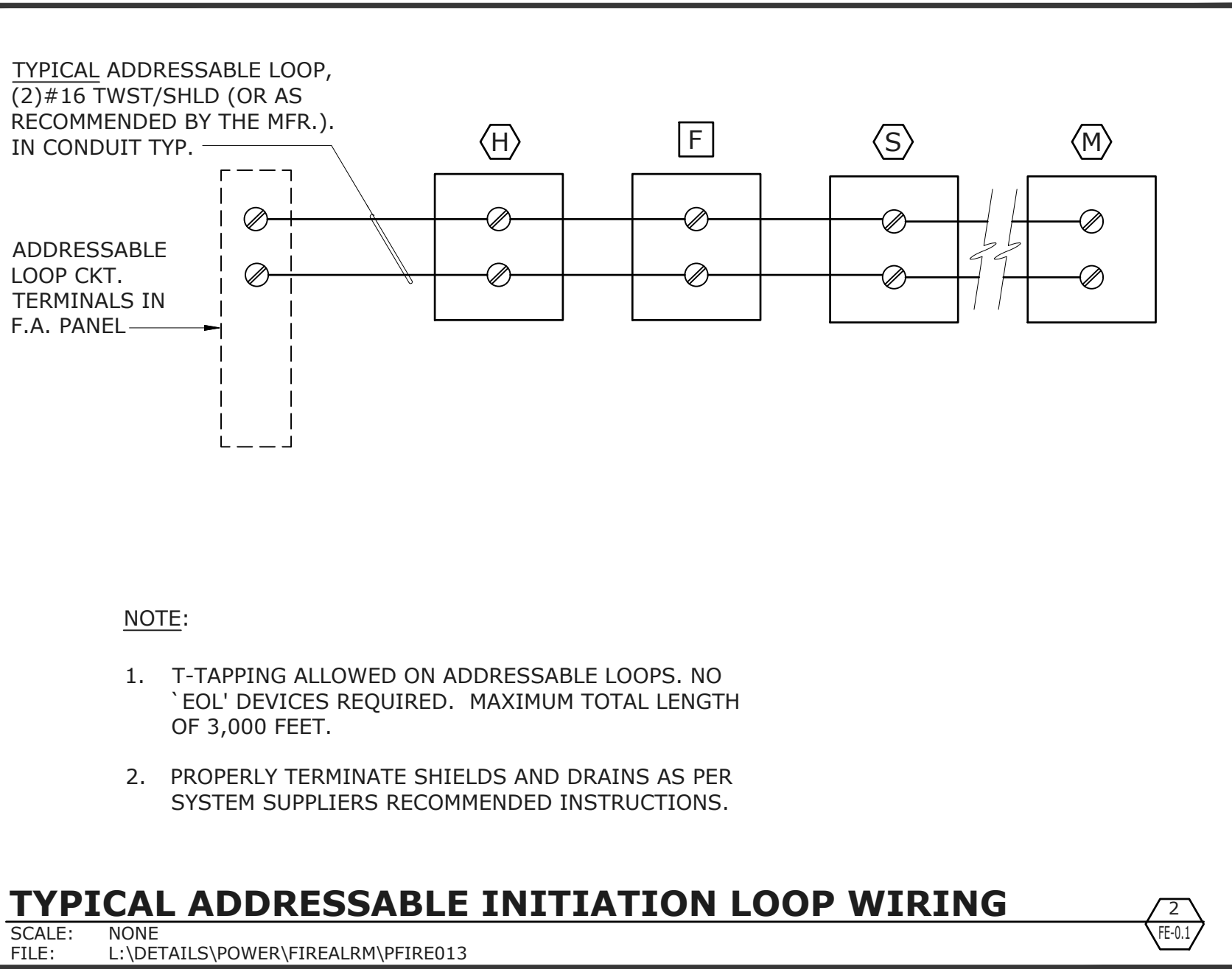
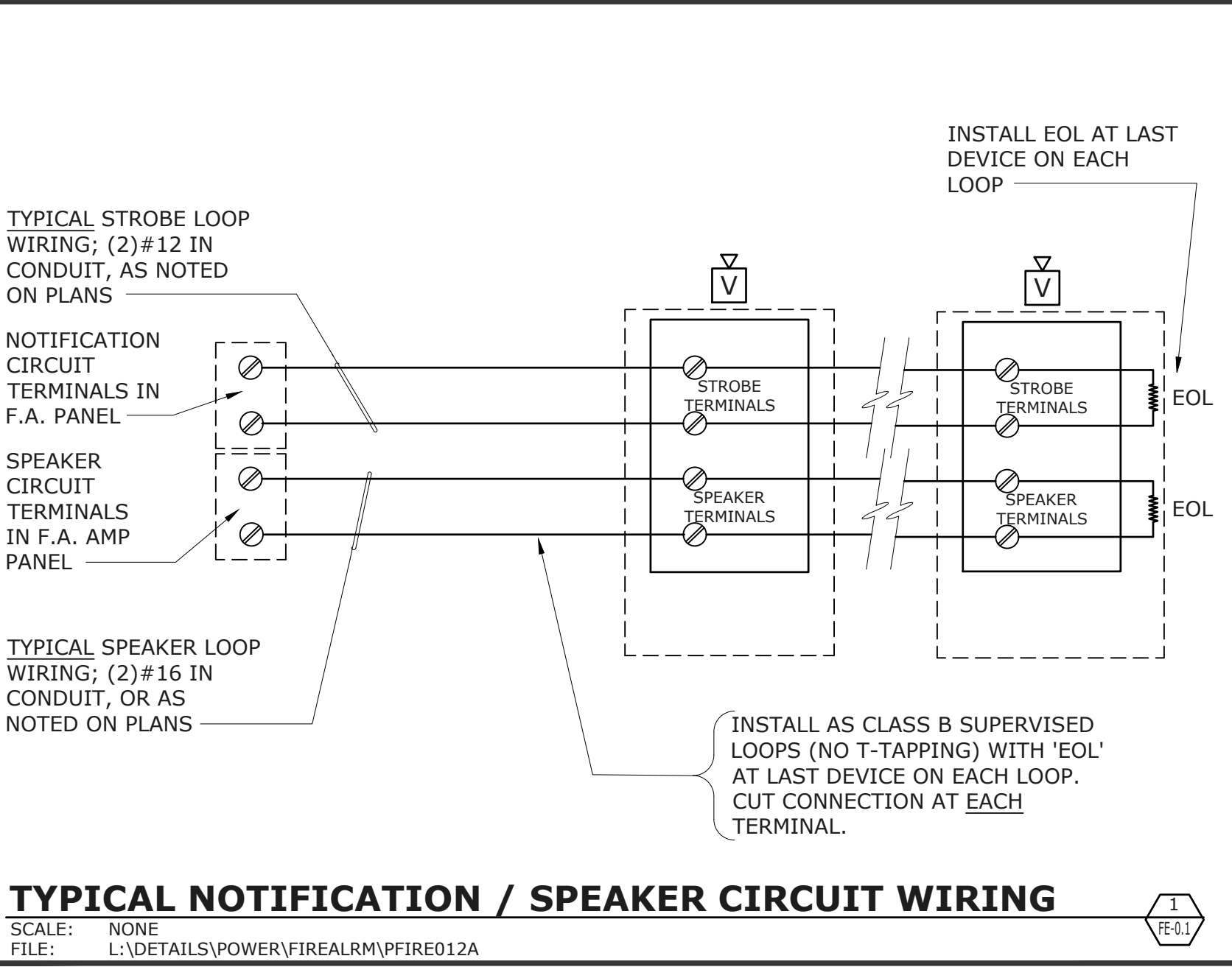
MAY 10, 2021

SHEET TITLE

TITLE 24
DOCUMENTATION

SHEET NUMBER

E-8.3



GENERAL FIRE ALARM NOTES

- FINAL FIRE ALARM TEST SHALL BE MADE WITH THE DSA INSPECTOR OF RECORD (IOR). LOCAL FIRE AUTHORITY SHALL BE NOTIFIED OF DATE AND TIME OF FINAL ALARM TESTING AND SHALL ASSIST/WITNESS SUCH TESTING WHEN ABLE. DSA/ARCHITECT/ENGINEER AND OWNER SHALL BE NOTIFIED A MINIMUM OF (48) HOURS PRIOR TO THE FINAL INSPECTION AND/OR TESTING.
- FIRE ALARM CONTRACTOR SHALL PROVIDE SYSTEM PROGRAMMING FOR SUPERVISORY MONITORING PER CBC SECTION 901.6.2. MONITORING SHALL BE TESTED AND VERIFIED AS SENDING THE CORRECT SIGNALS IN CONJUNCTION WITH FINAL ACCEPTANCE TEST. OWNER SHALL BE RESPONSIBLE FOR ESTABLISHING A FIRE SYSTEM MONITORING CONTRACT AND/OR PROVISIONS
- UNDERGROUND AND EXTERIOR CONDUITS SHALL HAVE WATERTIGHT FITTINGS.
- FIRE ALARM DEVICE MOUNTING HEIGHTS:
 - PULL STATION: 48" TO TOP OF OPERATOR ABOVE FINISHED FLOOR.
 - HORN INTERIOR: 90" MIN. TO TOP OF DEVICE ABOVE FINISHED FLOOR, OR 100" MAX TO TOP OF DEVICE, BUT NOT LESS THAN 6" FROM CEILING.
 - WALL MOUNTED STROBE OR HORN/STROBE: BETWEEN 80" TO BOTTOM OF DEVICE LENS TO +96" TO TOP OF DEVICE LENS ABOVE FINISH FLOOR, BUT NOT LESS THAN 6" FROM CEILING.
- AUDIBLE FIRE ALARM SYSTEM LEVEL SHALL BE AT LEAST 15dba ABOVE THE AVERAGE AMBIENT SOUND LEVEL IN ALL OCCUPIABLE AREAS, OR 5 dba ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION OF AT LEAST 60 SECONDS, WHICHEVER IS GREATER, MEASURED AT 5 FEET ABOVE THE FLOOR. AUDIBLE SIGNALS SHALL NOT BE LESS THAN 75dba AT 10 FEET, OR MORE THAN 110dba AT THE MINIMUM HEARING DISTANCE.
- AUDIBLE DEVICES SHALL BE SYNCHRONIZED TEMPORAL THREE DISTINCTIVE FIRE ALARM SOUND PER NFPA 72.
- APPLICABLE CODES:
 - CBC 2019; CEC 2019; CMC 2019; CFC 2019.
 - STATE FIRE MARSHAL TITLE 19, PUBLIC SAFETY.
 - NFPA 72, 2016 EDITION W/CA AMENDMENTS, FIRE ALARM CODE.
- STROBES SHALL FLASH AT A RATE NOT EXCEEDING TWO FLASHES PER SECOND, AND NOT LESS THAN ONE FLASH EVERY SECOND. THE DEVICE SHALL HAVE A PULSING LIGHT SOURCE NOT LESS THAN 15 CANDELA. VISUAL DEVICES WITHIN 55 FEET OF EACH OTHER SHALL BE SYNCHRONIZED.
- FIRE ALARM CONTRACTOR SHALL PROVIDE A COPY OF NFPA 72 SYSTEM RECORD OF COMPLETION, SYSTEM RECORD OF INSPECTION AND TESTING, AND THE "EMERGENCY COMMUNICATIONS SUPPLEMENTARY RECORD OF COMPLETION", TO THE INSPECTOR OF RECORD IOR/DSA, SCHOOL DISTRICT, ARCHITECT AND LOCAL FIRE AUTHORITY.
- POWER SERVICE TO THE FACP, REMOTE POWER SUPPLIES, AND CENTRAL STATION AUTO DIALER SHALL BE ON A DEDICATED BRANCH CIRCUIT WITH A RED MARKING AND IDENTIFIED AS "FIRE ALARM CIRCUIT CONTROL".
- INSTALL ALL WIRING IN CONDUIT, MIN. 3/4" CONDUIT. ALL FIRE ALARM SYSTEM WIRING SHALL BE FPL (FIRE POWER LIMITED) OR FPLP (FIRE POWER LIMITED PLENUM RATED) AS REQUIRED FOR APPLICATION. WIRING IN CONDUIT ABOVE GROUND MAY BE THHN OR THWN.
- CONDUIT AND WIRING SHALL BE PER MANUFACTURERS REQUIREMENTS.
- ALL FIRE ALARM COMPONENTS SHALL BE SECURED TO MOUNTING SURFACES PER MANUFACTURERS SPECIFICATIONS. NO SINGLE DEVICES/EQPT. SHALL EXCEED 20LBS. WITHOUT SPECIAL MOUNTING DETAILS.
- INSTALLATION OF SYSTEM SHALL NOT BE STARTED UNTIL COMPLETE SET OF CONSTRUCTION DOCUMENTS (WITH DEVICE TYPES AND LISTINGS) HAVE BEEN REVIEWED AND APPROVED BY DSA.
- A STAMPED SET OF APPROVED PLANS SHALL BE ON THE JOB SITE AT ALL TIMES AND SHALL BE USED FOR INSTALLATION.
- ANY DISCREPANCIES BETWEEN THE CONTRACT DOCUMENTS AND CODE OR RECOGNIZED STANDARDS SHALL BE BROUGHT TO THE ATTENTION OF DSA AND ARCHITECT/ENGINEER OF RECORD.
- THE CONTRACTOR SHALL INSTALL AND ADJUST ALL DEVICES TO MAXIMIZE PERFORMANCE AND TO MINIMIZE FALSE ALARMS.
- SMOKE DETECTORS SHALL NOT BE ANY CLOSER THAN 1 FOOT FROM FIRE SPRINKLER HEADS OR 3 FEET FROM ANY SUPPLY DIFFUSER. IN AREAS OF CONSTRUCTION OR POSSIBLE DAMAGE /CONTAMINATION, INSTALLED DEVICES SHALL BE COVERED UNTIL AREA IS READY TO BE TURNED OVER TO THE OWNER.
- PER CEC STANDARDS, ALL WIRING IS TO BE PULLED THROUGH EACH JUNCTION BOX AND CONNECTED DIRECTLY TO EACH FIRE ALARM DEVICE. DO NOT SPlice WIRE. THERE MUST BE AT LEAST 6" OF WIRE LEAD FROM THE BOX TO THE DEVICE. ALL BOXES TO BE SIZED PER CEC FOR PROPER VOLUME WITH INSTALLED WIRING AND DEVICES.
- SUPERVISING STATION: AUTOMATIC FIRE ALARM SYSTEMS SHALL TRANSMIT THE ALARM, SUPERVISORY AND TROUBLE SIGNALS TO AN APPROVED SUPERVISING STATION AS REQUIRED BY NFPA 72, AS AMENDED BY CFC CHAPTER 80. THE SUPERVISION STATION SHALL BE LISTED AS EITHER UJFX OR UJUS BY UNDERWRITERS LABORATORY OR SHALL MEET THE REQUIREMENTS OF FACTORY MUTUAL RESEARCH APPROVAL STANDARD 3011.
- A DOCUMENTATION CABINET SHALL BE INSTALLED ADJACENT TO THE FACP IN THE MAIN ELECTRICAL ROOM (NFPA 72, 7.7.2.1). SPACE AGE ELECTRONICS INC, ACERBOX FAD SERIES (#SSU00685 OR EQUAL).
- ALL RECORD DOCUMENTATION SHALL BE STORED IN THE DOCUMENTATION CABINET (NFPA 72, 7.7.2.3): PROVIDE NAMEPLATE "FIRE ALARM SYSTEM RECORD DOCUMENTS" (NFPA 72, 7.7.2.5).
- FIRE ALARM MANUAL PULLSTATIONS SHALL MEET THE CALIFORNIA ACCESSIBILITY REQUIREMENTS OUTLINED IN THE CBC ("CONTROLS AND OPERATING MECHANISMS SHALL BE OPERABLE WITH ONE HAND AND NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST. THE FORCE TO ACTIVATE THE CONTROLS SHALL BE NO GREATER THAN 5 POUNDS OF FORCE". REFER TO DSA ACCESSIBILITY STAFF FOR QUESTIONS OR CLARIFICATION.)

SEQUENCE OF OPERATION

- MANUAL PULL STATION - WHEN A PULL STATION IS PULLED, IT SHALL ANNUNCIATE AN ALARM AT THE FACP. ALARM SHALL ACTIVATE ALL AUDIO AND VISUAL DEVICES THROUGHOUT THE CAMPUS.
- SMOKE AND HEAT DETECTORS - WHEN A SMOKE OR HEAT DETECTOR IS ACTIVATED, IT SHALL ANNUNCIATE AN ALARM AT THE FACP. ALARM SHALL ACTIVATE ALL AUDIO AND VISUAL DEVICES THROUGHOUT THE CAMPUS.
- ANY BUILDING POWER FAILURE- IF THE BUILDING LOSES POWER, THE FAILURE SHALL SHOW UP AS A TROUBLE SIGNAL ON THE FACP. THE SYSTEM SHALL STAY ACTIVE ON BATTERY BACK-UP POWER IN ACCORDANCE WITH THE STATE FIRE CODE.
- SYSTEM SHALL INDICATE TROUBLE ALARMS FOR ALL SYSTEM FAULTS (i.e. GROUND FAULTS, SHORTS, OPEN CIRCUITS, BATTERY DISCONNECT, ETC.).
- FIRE/SMOKE DAMPERS - WHEN A FIRE/SMOKE DAMPER SMOKE DETECTOR IS ACTIVATED, IT SHALL ANNUNCIATE AN ALARM AT THE MAIN FACP. ALARM SHALL ACTIVATE ALL AUDIO AND VISUAL DEVICES THROUGHOUT THE CAMPUS AND SHALL SHUT DOWN THE ASSOCIATED HVAC UNIT.
- FIRE SPRINKLER SYSTEM - WHEN A FLOW SWITCH IS ACTIVATED, IT SHALL ANNUNCIATE AN ALARM AT THE MAIN FACP. ALARM SHALL ACTIVATE ALL AUDIO AND VISUAL DEVICES THROUGHOUT THE CAMPUS. WHEN TAMPER SWITCH IS ACTIVATED, IT SHALL ANNUNCIATE A SUPERVISORY ALARM AT THE MAIN FACP.
- UPON ALARM CONDITION, AUTO DIALER TO NOTIFY THE SUPERVISING STATION, AND AUTHORIZED SCHOOL PERSONNEL TO NOTIFY THE FIRE DEPARTMENT AND INITIATE EVACUATION OF STUDENTS AND FACULTY AS PER THE SCHOOL'S EVACUATION PLAN.
- UPON TROUBLE CONDITION, AUTO DIALER TO NOTIFY THE SUPERVISING STATION, AND AUTHORIZED SCHOOL PERSONNEL TO NOTIFY AUTHORIZED TECHNICIAN TO CORRECT THE TROUBLE CONDITION.
- UPON CO DETECTION, IT SHALL ANNUNCIATE AN ALARM AT THE FACP AND REMOTE ANNUNCIATOR ONLY AND SHALL ACTIVATE THE CO DETECTOR SOUNDER BASE WITH TEMPORAL 4 FORM IN THE CLASSROOM. SCHOOL PERSONNEL TO NOTIFY THE OCCUPANTS IMMEDIATELY AND INITIATE EVACUATION OF STUDENTS & FACULTY.

FIRE ALARM EQUIPMENT LIST

SYMBOL	DESCRIPTION	MANUFACTURER & MODEL NUMBER	CSFM LISTING NUMBER	STANDBY CURRENT	ALARM CURRENT
	(E) FIRE ALARM CONTROL PANEL 'FACP'	NOTIFIER NFS-640	-	348mA	2727mA
	FIRE ALARM EXPANDER PANEL	NOTIFIER ACP8-610 W/ CAB-PS1 CABINET	7315-0028.0248	150mA	90mA
	FIRE ALARM REMOTE AUDIO AMPLIFIER	NOTIFIER NFC-1250A	7300-0028.0266	375mA	700mA
	ADDRESSABLE PHOTOELECTRIC SMOKE DETECTOR	NOTIFIER FSP-851	7272-0028.0206	0.36	7mA
	ADDRESSABLE FIXED TEMPERATURE HEAT DETECTOR (135F)	NOTIFIER FST-851	7270-0028.0196	0.30mA	6.50mA
-	ADDRESSABLE DETECTOR BASE	SYSTEM SENSOR B210LP	7300-1653.0109	-	-
	ADDRESSABLE MONITOR MODULE	NOTIFIER FMM-1	7300-0028.0219	0.38mA	5.10mA
	ADDRESSABLE CONTROL MODULE	NOTIFIER FCM-1	7300-0028.0219	0.38mA	5.10mA
	VISUAL STROBE, WALL MOUNT, SELECTABLE CANDELA UL 1971 PUBLIC MODE NOTIFICATION	WHEELLOCK STR	7125-0785.0168	-	-
			15cd	0mA	57mA
			30cd	0mA	85mA
	VISUAL STROBE, CEILING MOUNT, SELECTABLE CANDELA UL 1971 PUBLIC MODE NOTIFICATION	WHEELLOCK STC	7125-0785.0168	-	-
			15cd	0mA	61mA
			30cd	0mA	85mA
			75cd	0mA	135mA
	COMBINATION VISUAL STROBE AND SPEAKER (1W). WALL MOUNT, SELECTABLE CANDELA UL 1971 PUBLIC MODE NOTIFICATION, VISUAL DEVICE	WHEELLOCK #E70-24MCW-R (1 WATT TAP)	7125-0785.0152	-	-
			STROBE CKT: 15cd	0mA	60mA
			STROBE CKT: 30cd	0mA	92mA
			STROBE CKT: 75cd	0mA	165mA
	COMBINATION VISUAL STROBE AND SPEAKER (1W). CEILING MOUNT, SELECTABLE CANDELA UL 1971 PUBLIC MODE NOTIFICATION, VISUAL DEVICE	WHEELLOCK #E90-24MCC-R (1 WATT TAP)	7125-0785.0152	-	-
			STROBE CKT: 15cd	0mA	65mA
			STROBE CKT: 30cd	0mA	105mA
			STROBE CKT: 75cd	0mA	189mA
	EXTERIOR AUDIBLE SPEAKER (1W) WITH WEATHER-PROOF BACKBOX	WHEELLOCK #ET-1010R	7320-0785.0105	0mA	7mA
	CONVENTIONAL HEAT DETECTOR OUTDOOR RATED	THERMOTECH 302	7270-0021.0001	-	-

NOTE:

DETECTOR SUBSCRIPTS:

"v" - DETECTOR IN ACCESSIBLE CEILING SPACE

"p" - DETECTOR WITHIN 36" OF PEAK

FIRE ALARM WIRING LEGEND

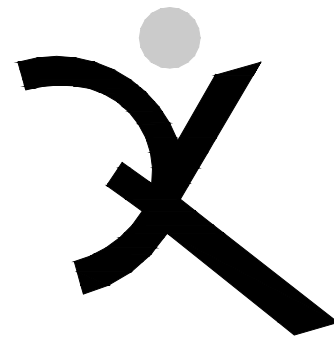
TAG	DESCRIPTION	CABLING
A	INITIATION CIRCUIT	(2) #16 TWISTED/UNSHIELDED
B	STROBE NOTIFICATION CIRCUIT(S)	(2) #12 THHN/THWN
C	SPEAKER NOTIFICATION CIRCUIT(S)	(2) #16 TWISTED/SHIELDED
D	CONSTANT 24V SUPPLY	(2) #14 THHN/THWN
E	CONTROL (NON RESETABLE POWER)	(2) #14 THHN/THWN
F	CONVENTIONAL INITIATION CIRCUIT	(2) #14 THHN/THWN
G	REMOTE AUDIO AMPLIFIER WIRING	WEST PENN (2)#AQC293 & (1) #AQC225

NOTE:

CONTRACTOR SHALL VERIFY EXACT CABLE/WIRE TYPES WITH SYSTEM MANUFACTURER PRIOR TO ROUGH-IN. INSTALL WIRING IN WIREMOLD RACEWAYS (IN FINISH AREAS, I.E. CLASSROOMS, OFFICES, HALLWAYS, ETC.) AND IN 3/4" CONDUIT MIN. (IN UTILITY ROOMS).

FIRE ALARM SYSTEM DESCRIPTION

- THE FIRE ALARM SYSTEM SHALL BE AN AUTOMATIC ADDRESSABLE SYSTEM WITH CLASS B WIRING FOR IDC'S, NAC'S, AND SLC'S WITH EMERGENCY VOICE / ALARM COMMUNICATIONS.
- CIRCUIT PATHWAY SURVIVABILITY SHALL BE LEVEL 1.
- PROVIDE AND INSTALL NEW EQUIPMENT, DEVICES AND REQUIRED MODULES AND PROVIDE CONNECTIONS COMPLETE FOR A FULLY FUNCTIONING NETWORKED FIRE ALARM SYSTEM.
- THE NAME OF THE SPECIFIC PERSON RESPONSIBLE FOR THE SYSTEM DESIGN IS ANTHONY CHU (O'MAHONY & MYER).
- SYSTEM INSTALLATION SHALL BE BY A LICENSED ELECTRICAL OR FIRE ALARM CONTRACTOR WITH A CALIFORNIA C-10 LICENSE, REGULARLY ENGAGED IN THE INSTALLATION AND COMMISSIONING OF FIRE ALARM SYSTEMS TO NFPA 72 STANDARDS. FIRE ALARM CONTRACTOR SHALL BE FACTORY-AUTHORIZED OF THE SPECIFIED SYSTEM MANUFACTURER. INSTALLING CONTRACTOR'S NAME AND CONTACT INFORMATION SHALL BE LISTED IN THE NFPA CLOSE OUT DOCUMENTATION AT COMPLETION OF PROJECT.
- UPON CO DETECTION, IT SHALL TRANSMIT AN ON SITE CARBON MONOXIDE ALARM SIGNAL ON THE FIRE ALARM CONTROL AND ANNUNCIATOR PANELS AND OCCUPANT NOTIFICATION SIGNAL OF 4-PULSE, TEMPORAL PATTERN. SCHOOL PERSONNEL TO NOTIFY THE OCCUPANTS IMMEDIATELY AND INITIATE EVACUATION OF STUDENTS & FACULTY.



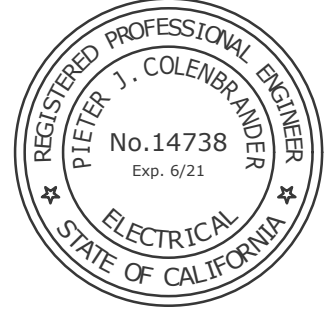
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DISTRICT

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ARCH PROJECT NO: 1870.00

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DRAWING SCALE:

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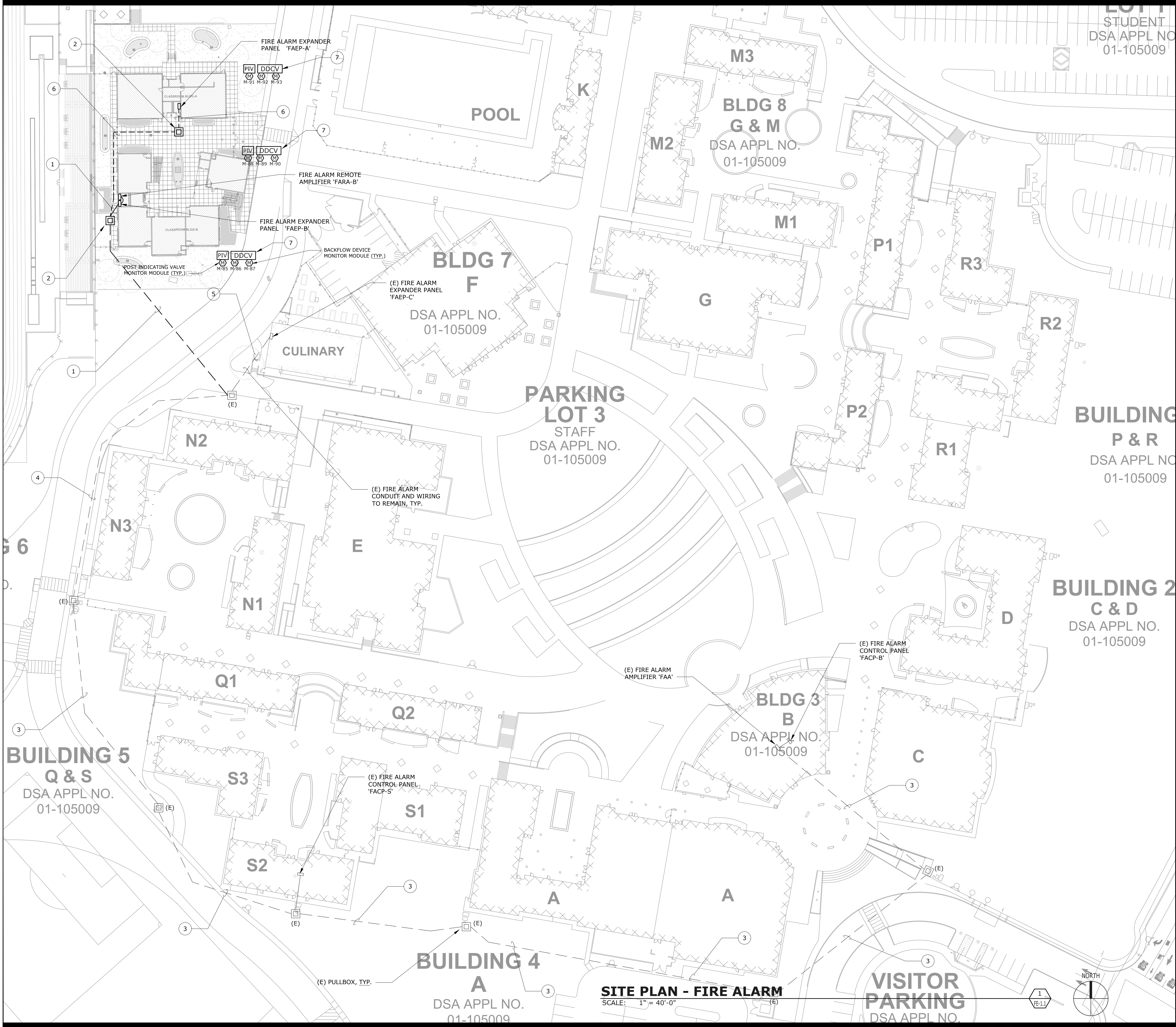
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SHEET TITLE

FIRE ALARM EQUIPMENT LIST & NOTES

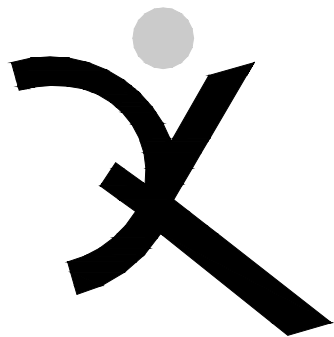
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FE-0.1

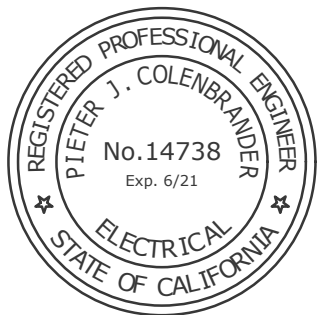


NUMBERED SHEET NOTES

- 1-1/2" CONDUIT WITH (1) TYPE 'A' & (1) TYPE 'G' CABLES.
- CHRISTY N9 PULLBOX.
- PROVIDE (1) TYPE 'G' CABLE IN (E) 4" TELECOM CONDUIT.
- PROVIDE (1) TYPE 'G' CABLE IN (E) 3" TELECOM CONDUIT.
- PROVIDE (1) TYPE 'A' CABLE IN (E) 1-1/2" FIRE ALARM CONDUIT.
- 1" CONDUIT WITH (1) TYPE 'A' CABLE.
- SEE CIVIL PLANS C-3.1 & C-3.2 FOR EXACT LOCATIONS OF CHECK VALVE AND POST INDICATING VALVE. SEE FE-5.2 FOR RISER DIAGRAM.



QUATTROCCHI KWOK
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BUILDINGS
INCREMENT 2 OF 2

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HIGH SCHOOL
DISTRICT

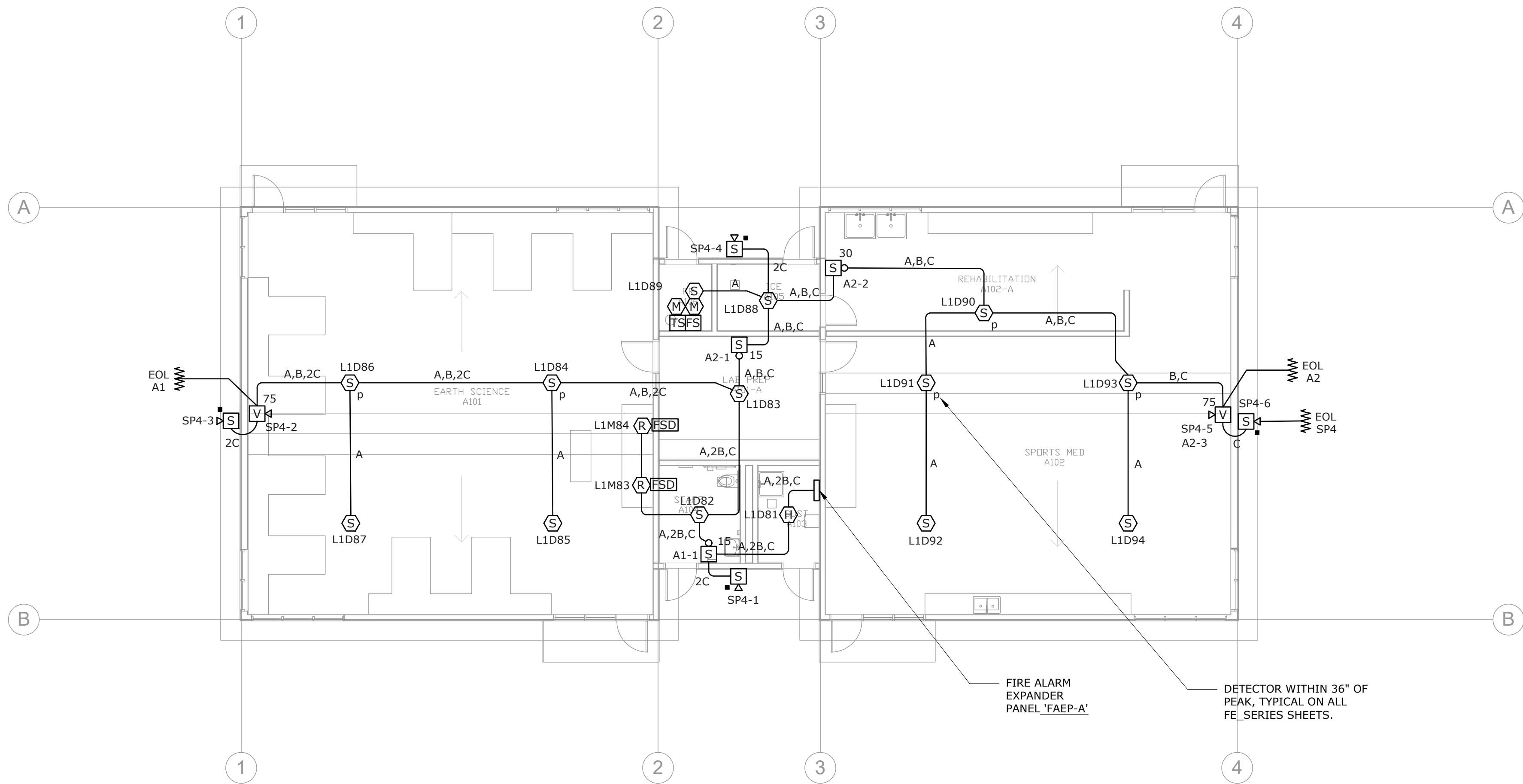
REVISIONS	

DSA APP NO.	01-119268
ARCH PROJECT NO.	1870.00
DRAWN BY:	
DRAWING SCALE:	
PTN: 61721-77	FILE NO. 7-H4
BID SET	
MAY 10, 2021	
SHEET TITLE	

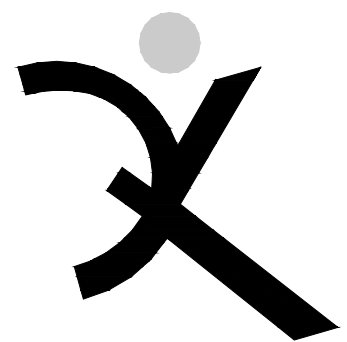
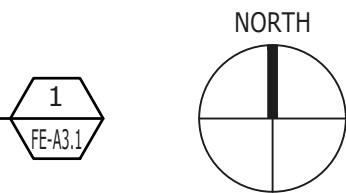
SITE PLAN - FIRE
ALARM

SHEET NUMBER

FE-1.1



FLOOR PLAN BLDG. A - FIRE ALARM
SCALE: 1/8" = 1'-0"



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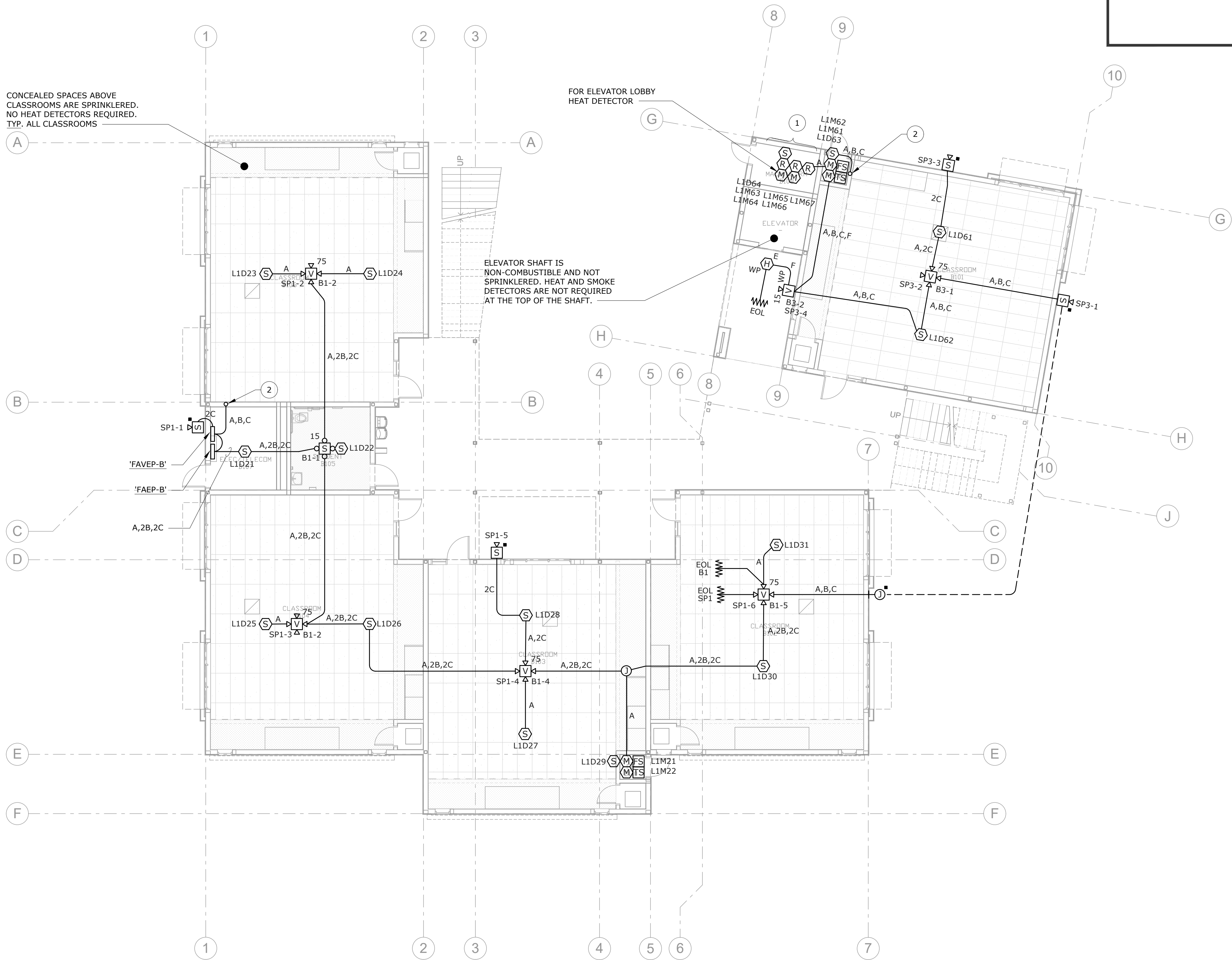
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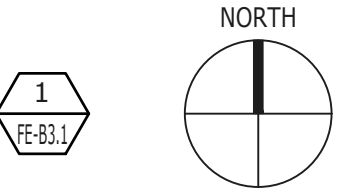
FLOOR PLAN BLDG. A - FIRE ALARM

SHEET NUMBER

FE-A3.1

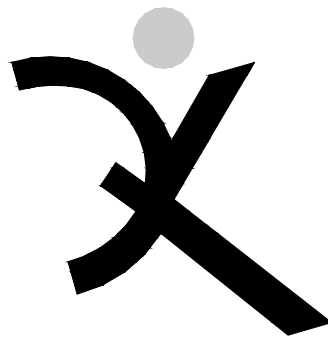


FIRST FLOOR PLAN BLDG. B - FIRE ALARM
SCALE: 1/8" = 1'-0"



NUMBERED SHEET NOTES

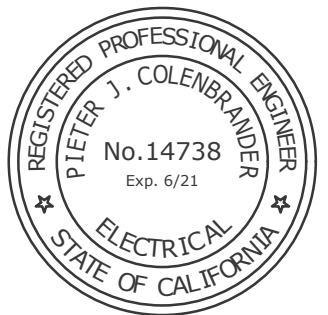
- 1 FOR ELEVATOR SYSTEM. SEE ALSO DETAIL 1/E-7.1.
- 2 CONDUIT IN WALL UP TO SECOND FLOOR FIRE ALARM DEVICES.



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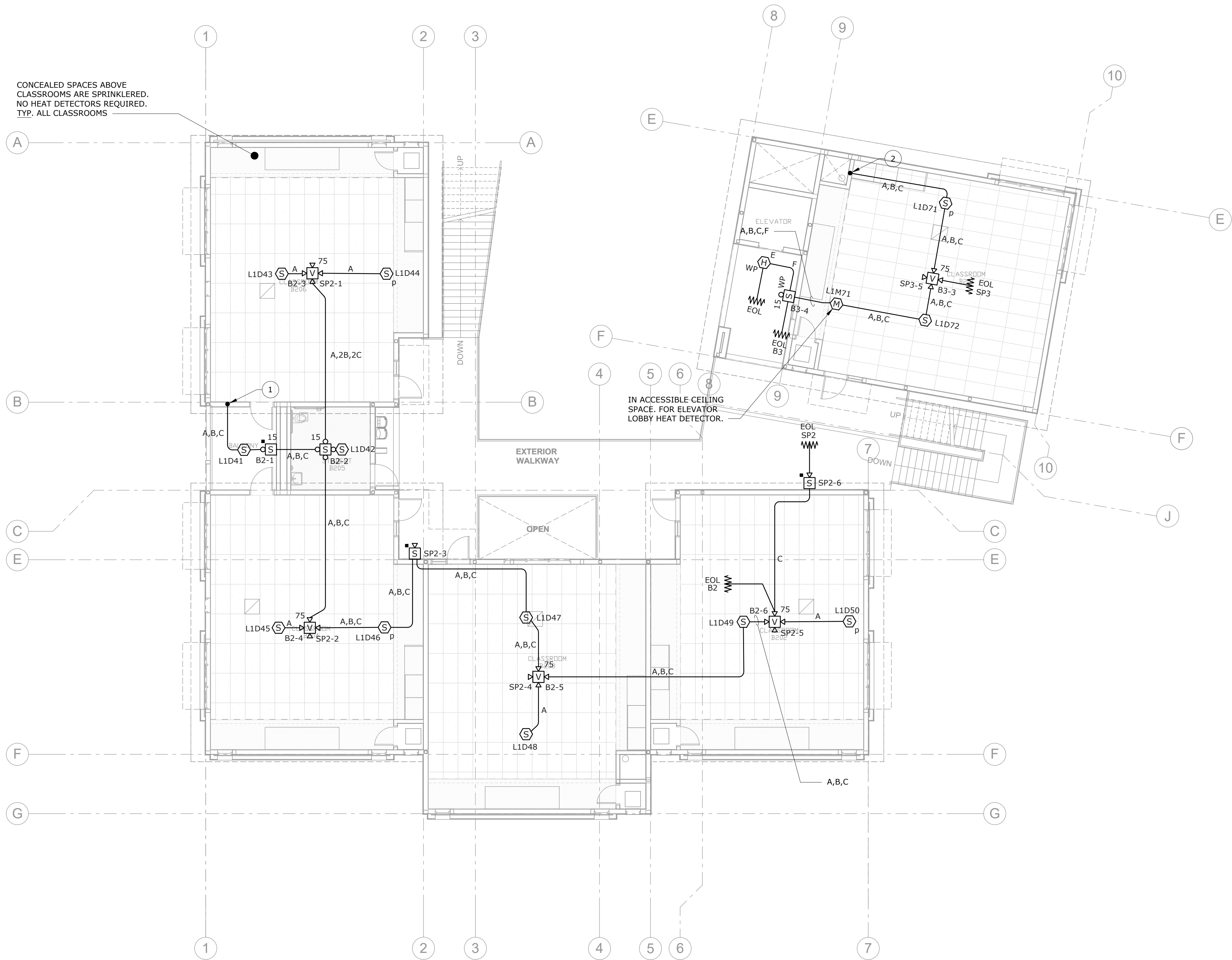
MAY 10, 2021

SHEET TITLE

FIRST FLOOR
PLAN BLDG. B -
FIRE ALARM

SHEET NUMBER

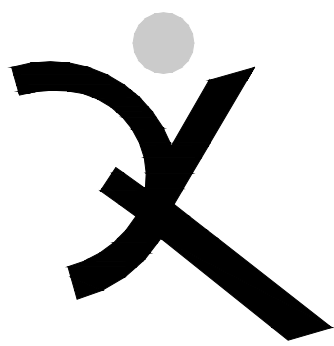
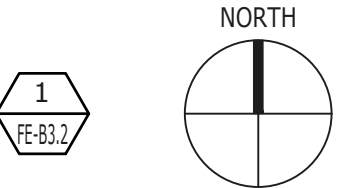
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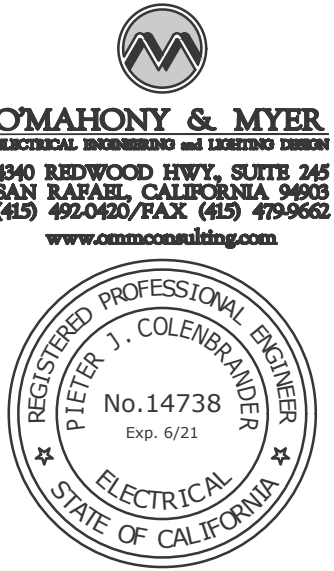
NUMBERED SHEET NOTES

- 1 CONDUIT DOWN TO FIRST FLOOR ELECTRICAL ROOM.
- 2 CONDUIT DOWN TO FIRST FLOOR FIRE RISER ROOM.

SECOND FLOOR PLAN BLDG. B - FIRE ALARM
SCALE: 1/8" = 1'-0"



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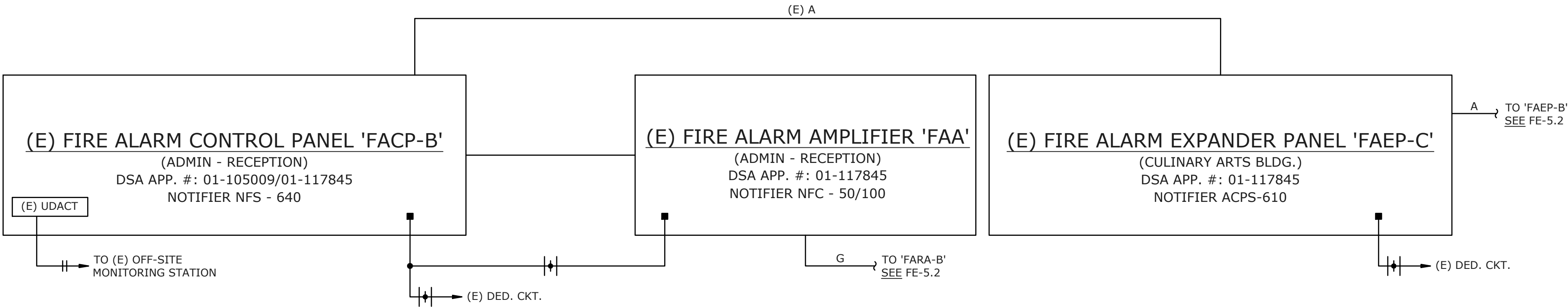
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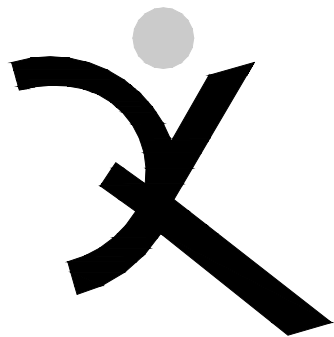
SECOND FLOOR
PLAN BLDG. B -
FIRE ALARM

SHEET NUMBER

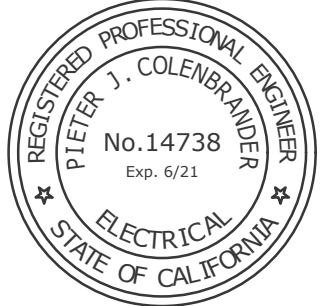
FE-B3.2



RISER DIAGRAM - FIRE ALARM
SCALE: NONE



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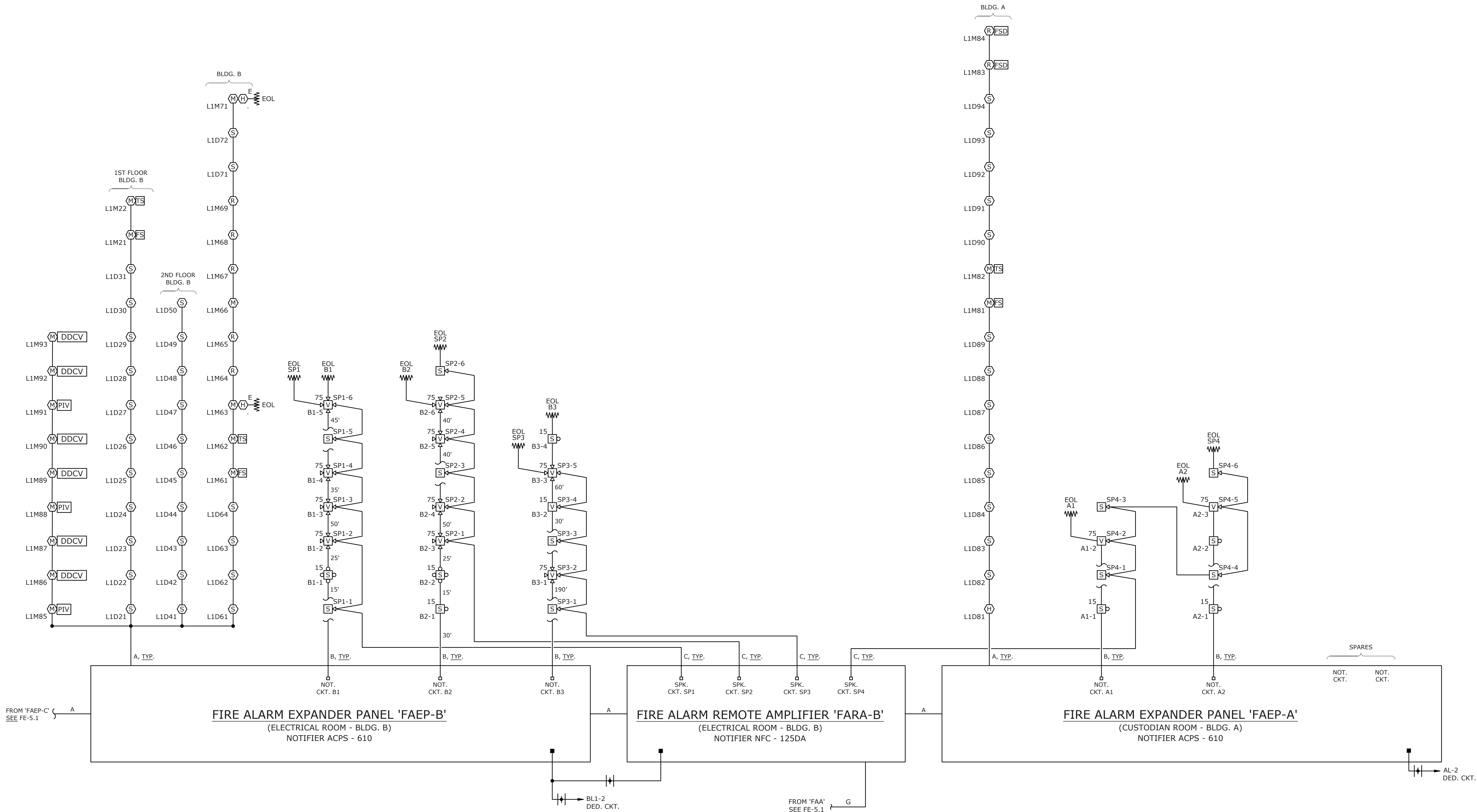
MAY 10, 2021

SHEET TITLE

RISER DIAGRAM
- FIRE ALARM

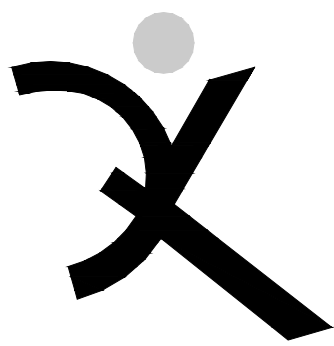
SHEET NUMBER

FE-5.1



RISER DIAGRAM - FIRE ALARM
SCALE: NONE

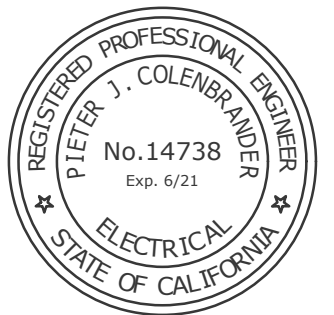
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FE-5.2



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DSA APP NO. 01-119268

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RISER DIAGRAM - FIRE ALARM

SHEET NUMBER

FE-5.2

VOLTAGE DROP CALCULATIONS			
FIRE ALARM EXPANDER PANEL 'FAEP-A'			
SIGNAL CIRCUIT: A1			
TOTAL CKT CURRENT =	0.227	A	
MAX VOLT-DROP =	0.28%		
SYSTEM VOLTAGE =	20.4	V	
Device Address-->	A1-1	A1-2	
Type of Device -->	15STR	75SPSTR	eol
Current of Device (Amp) -->	0.057	0.165	0.005
Size of Wire (AWG) -->	#12	#12	#12
Distance to each Device (Ft) -->	20	60	5
Current Total (Amp) -->	0.227	0.170	0.005
Device Volt-drop -->	0.09%	0.28%	0.28%
Device Volt -->	20.4	20.3	20.3
SIGNAL CIRCUIT: A2			
TOTAL CKT CURRENT =	0.312	A	
MAX VOLT-DROP =	0.51%		
SYSTEM VOLTAGE =	20.4	V	
Device Address-->	A2-1	A2-2	A2-3
Type of Device -->	15STR	30STR	75SPSTR
Current of Device (Amp) -->	0.057	0.085	0.165
Size of Wire (AWG) -->	#12	#12	#12
Distance to each Device (Ft) -->	40	20	55
Current Total (Amp) -->	0.312	0.255	0.170
Device Volt-drop -->	0.24%	0.33%	0.51%
Device Volt -->	20.4	20.3	20.3

VOLTAGE DROP CALCULATIONS			
FIRE ALARM EXPANDER PANEL 'FAEP-B'			
SIGNAL CIRCUIT: B1			
TOTAL CKT CURRENT =	0.822	A	
MAX VOLT-DROP =	1.55%		
SYSTEM VOLTAGE =	20.4	V	
Device Address-->	B1-1	B1-2	B1-3
Type of Device -->	15CSTR	75CSPSTR	75CSPSTR
Current of Device (Amp) -->	0.061	0.189	0.189
Size of Wire (AWG) -->	#12	#12	#12
Distance to each Device (Ft) -->	15	25	50
Current Total (Amp) -->	0.822	0.761	0.572
Device Volt-drop -->	0.23%	0.59%	1.13%
Device Volt -->	20.4	20.3	20.2
SIGNAL CIRCUIT: B2			
TOTAL CKT CURRENT =	0.879	A	
MAX VOLT-DROP =	2.07%		
SYSTEM VOLTAGE =	20.4	V	
Device Address-->	B2-1	B2-2	B2-3
Type of Device -->	15STR	15CSTR	75CSPSTR
Current of Device (Amp) -->	0.057	0.061	0.189
Size of Wire (AWG) -->	#12	#12	#12
Distance to each Device (Ft) -->	30	15	25
Current Total (Amp) -->	0.879	0.822	0.761
Device Volt-drop -->	0.50%	0.73%	1.09%
Device Volt -->	20.3	20.3	20.2
SIGNAL CIRCUIT: B3			
TOTAL CKT CURRENT =	0.505	A	
MAX VOLT-DROP =	2.32%		
SYSTEM VOLTAGE =	20.4	V	
Device Address-->	B3-1	B3-2	B3-3
Type of Device -->	75CSPSTR	15SPSTR	75CSPSTR
Current of Device (Amp) -->	0.189	0.065	0.189
Size of Wire (AWG) -->	#12	#12	#12
Distance to each Device (Ft) -->	190	30	60
Current Total (Amp) -->	0.505	0.316	0.251
Device Volt-drop -->	1.82%	1.99%	2.28%
Device Volt -->	20.0	20.0	19.9

BATTERY CALCULATIONS:			
FIRE ALARM REMOTE AMPLIFIER 'FARA-B'			
STANDBY MODE			
FARA CTRL UNIT	EA (A)	QTY.	CURRENT
	0.375	1	0.375
TOTAL STANDBY CURRENT = 0.375 A			
REQUIRED (24 HOURS) = 9.000 AH			
ALARM MODE			
FARA CTRL UNIT	EA (A)	QTY.	CURRENT
SPEAKERS	0.700	1	0.700
	0.007	23	0.161
TOTAL ALARM CURRENT = 0.861 A			
REQUIRED (15 MIN) = 0.215 AH			
TOTAL POWER REQUIRED WITH 120% BATTERY DERATING FACTOR = 11.058 AH			
PROVIDE TWO 12V, 12.0AH BATTERIES			

BATTERY CALCULATIONS:			
(E) FIRE ALARM CONTROL PANEL 'FACP-B'			
STANDBY MODE			
(E) LOADS	EA (A)	QTY.	CURRENT
(N) DETECTORS	0.348	1	0.348
(N) MODULES	0.0004	41	0.016
	0.0004	12	0.005
TOTAL STANDBY CURRENT = 0.364 A			
REQUIRED (24 HOURS) = 8.726 AH			
ALARM MODE			
(E) LOADS	EA (A)	QTY.	CURRENT
(N) DETECTORS	2.727	1	2.727
(N) MODULES	0.007	41	0.287
	0.005	14	0.070
TOTAL ALARM CURRENT = 3.014 A			
REQUIRED (15 MIN) = 0.754 AH			
TOTAL POWER REQUIRED WITH 120% BATTERY DERATING FACTOR = 11.375 AH			
EXISTING BATTERIES WITH (4) 12V, 7AH - OK			
(NOTE: (E) LOADS INFO ARE FROM DSA APP. #01-117845)			


BATTERY CALCULATIONS:			
FIRE ALARM EXPANDER PANEL 'FAEP-A'			
STANDBY MODE			
FAEP CTRL UNIT	EA (A)	QTY.	CURRENT
	0.150	1	0.150
TOTAL STANDBY CURRENT = 0.150 A			
REQUIRED (24 HOURS) = 3.600 AH			
ALARM MODE			
FAEP CTRL UNIT	EA (A)	QTY.	CURRENT
NOTIFICATION CKT	A1	0.090	1
NOTIFICATION CKT	A2	0.227	1
		0.312	1
TOTAL ALARM CURRENT = 0.629 A			
REQUIRED (15 MIN) = 0.157 AH			
TOTAL POWER REQUIRED WITH 120% BATTERY DERATING FACTOR = 4.509 AH			
PROVIDE TWO 12V, 12.0AH BATTERIES			

BATTERY CALCULATIONS:			
FIRE ALARM EXPANDER PANEL 'FAEP-B'			
STANDBY MODE			
FAEP CTRL UNIT	EA (A)	QTY.	CURRENT
	0.150	1	0.150
TOTAL STANDBY CURRENT = 0.150 A			
REQUIRED (24 HOURS) = 3.600 AH			
ALARM MODE			
FAEP CTRL UNIT	EA (A)	QTY.	CURRENT
NOTIFICATION CKT	B1	0.090	1
NOTIFICATION CKT	B2	0.822	1
NOTIFICATION CKT	B3	0.879	1
		0.505	1
TOTAL ALARM CURRENT = 2.296 A			
REQUIRED (15 MIN) = 0.574 AH			
TOTAL POWER REQUIRED WITH 120% BATTERY DERATING FACTOR = 5.009 AH			
PROVIDE TWO 12V, 12.0AH BATTERIES			



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ARCH PROJECT NO. 1870.00

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DRAWING SCALE:

PTN: 61721-77 FILE NO. 7-H4

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SHEET TITLE

CALCULATIONS
- FIRE ALARM

SHEET NUMBER

FE-6.1

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	<div>LIST OF GOVERNING CODES</div> <div>2019 BUILDING STANDARDS ADMINISTRATIVE CODE, PART 1, TITLE 24, C.C.R. 2019 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24, C.C.R. 2019 CALIFORNIA ELECTRICAL CODE, PART 3, TITLE 24, C.C.R. 2019 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24, C.C.R. 2019 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24, C.C.R. 2019 CALIFORNIA ENERGY CODE (CEC), PART 6, TITLE 24, C.C.R. 2019 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24, C.C.R. 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE, PART 11, TITLE 24, C.C.R. 2019 CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24, C.C.R. TITLE 19, C.C.R., PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS. 2016 NFPA 13 AS AMENDED 2016 NFPA 24 AS AMENDED ALL SECTION NUMBERS BELOW REFER TO GROUP 1, CHAPTER 4, PART 1, TITLE 24, C.C.R. 1. ADDENDA, CONSTRUCTION CHANGES PER SECTION 4-338 2. INSPECTOR APPROVED BY DSA, INSPECTOR AND CONTINUOUS INSPECTION OF WORK PER SECTION 4-333(b) AND 4-342. 3. TESTS AND TESTING LABORATORY PER SECTION 4-335. 4. SPECIAL INSPECTION PER SECTION 4-333(c). 5. CONTRACTOR SHALL SUBMIT VERIFIED REPORTS PER SECTION 4-336 AND 4-343(c). 6. ADMINISTRATION OF CONSTRUCTION PER PART 1, TITLE 24, C.C.R. - DUTIES OF ARCHITECT, STRUCTURAL ENGINEER OR PROFESSIONAL ENGINEER PER SECTION 4-333(a) AND 4-341. 7. GOVERNING CODES: TITLE 24. 8. A COPY OF PARTS 1, 2, 3, 4, AND 5 OF TITLE 24 SHALL BE KEPT AVAILABLE IN THE FIELD DURING CONSTRUCTION. 9. DSA SHALL BE NOTIFIED OF START OF CONSTRUCTION PER SECTION 4-331. 10. SUPERVISION BY THE DIVISION OF THE STATE ARCHITECT PER SECTION 4-334.</div>	<div>UNDERGROUND FIRE SERVICE GENERAL NOTES:</div> <div>NFPA 24 (2016) SEC. 10.4.1.1 ALL BOLTED JOINT ACCESSORIES SHALL BE CLEANED AND THOROUGHLY COATED WITH ASPHALT OR OTHER CORROSION-RETARDING MATERIAL AFTER INSTALLATION. ALL METALLIC PIPE FITTINGS SHALL BE PROTECTED FROM CORROSIVE SOIL IN ACCORDANCE WITH SPECIFICATION 21 10 00. NFPA 24 (2016) SEC. 10.8.3.5 AFTER INSTALLATION RODS, NUTS, BOLTS, WASHER, CLAMPS, AND OTHER RESTRAINING DEVICE, EXCEPT THRUST BLOCKS, SHALL BE CLEANED AND THOROUGHLY COATED WITH A BITUMINOUS OR OTHER ACCEPTABLE CORROSION-RETARDING MATERIALS NFPA 24 (2016) SEC. 10.8.2 THRUST BLOCKS SHALL BE OF A CONCRETE MIX NOT LEANER THAN ON PART CEMENT, TWO AND ONE-HALF PARTS SAND, AND FIVE PARTS STONE WITH A MINIMUM COMPRESSIVE STRENGTH (F_c) OF 2500 PSI. THRUST BLOCKS SHALL BE PLACED BETWEEN UNDISTURBED EARTH AND THE FITTING TO BE RESTRAINED AND SHALL BE OF SUCH BEARING AS TO ENSURE ADEQUATE RESISTANCE TO THRUST TO BE ENCOUNTERED IN GENERAL, THRUST BLOCKS SHALL BE SO PLACED THAT THE JOINTS WILL BE ACCESSIBLE FOR INSPECTION AND REPAIR. NFPA 24 (2016) SEC. 10.10.2.1 UNDERGROUND MAINS SHALL BE COMPLETELY FLUSHED TO REMOVE FOREIGN MATERIALS THAT MIGHT HAVE ENTERED THE MAIN DURING THE COURSE OF THE INSTALLATION PER TABLE 10.10.2.1.3 TO PRODUCE A VELOCITY OF 10 FEET PER SECOND IN PIPES. LOCAL FIRE JURISDICTION SHALL BE NOTIFIED OF DATE AND TIME OF TESTING SO THEY MAY OBSERVE TESTING NFPA 24 (2016) SEC. 10.10.2.2 ALL NEW PRIVATE UNDERGROUND FIRE SERVICE MAINS SHALL BE TESTED HYDROSTATICALLY AT NO LESS THAN 200-PSI PRESSURE FOR A MINIMUM OF TWO HOUR. LOCAL FIRE JURISDICTION SHALL BE NOTIFIED OF DATE AND TIME OF TESTING AND SHALL OBSERVE AND/OR ASSIST IOR WHENEVER POSSIBLE THE AMOUNT OF LEAKAGE IN BURIED PIPING SHALL BE MEASURE AT THE SPECIFIED TEST PRESSURE BY PUMPING FROM A CALIBRATED CONTAINER. FOR NEW PIPE, THE AMOUNT OF LEAKAGE AT THE JOINTS SHALL NOT EXCEED TWO QUARTS PER HOUR PER 100 GASKETS OR JOINTS IRRESPECTIVE OF PIPE DIAMETER. NO VISIBLE LEAKAGE SHALL BE ALLOWED IN ABOVEGROUND PIPING. (ALSO SEE SEC. 10.10.2.8 FOR ALLOWABLE LEAKAGE) HYDROSTATIC TESTS SHALL BE MADE BEFORE THE JOINTS ARE COVERED SO THAT ANY LEAKS MAY BE READILY DETECTED. NFPA 24 (2016) SEC. 10.10 BEFORE ASKING FINAL APPROVAL OF AN INSTALLATION BY THE INSPECTOR OF RECORD, THE INSTALLING COMPANY SHALL FURNISH A CONTRACTORS MATERIAL AND TEST CERTIFICATE TO BE SUBMITTED TO THE OWNER. A TYPICAL CERTIFICATE IS SHOWN IN FIGURE 10.10.1. THIS FORM SHALL BE GIVEN TO THE APPROVING AUTHORITY, OWNER, AND CONTRACTOR. NFPA 24 (2016) SEC. 10.4 THE DEPTH OF COVER OVER WATER PIPES SHALL BE NOT LESS THAN 2'-6" TO PREVENT MECHANICAL DAMAGE AD SHALL BE BURIED A MINIMUM OF 3'-0" UNDER DRIVEWAYS. THE METHOD USED FOR UNDERGROUND FIRE LINES WHEN ENTERING BUILDING UNDER CONCRETE. NFPA 24(2016) SEC. 12.2.6, NFPA (2016)9.3.4.2 REQUIRES A CLEARANCE BY A PIPE SLEEVE WITH A NOMINAL DIAMETER 4 IN. LARGER THAN THE NOMINAL DIAMETER OF THE SUPPLY PIPING 4 IN. NOMINAL AND LARGER. (IE FIRE LINES NOMINAL 6IN, REQUIRES 10 IN. SLEEVE) CPC SEC. 601.1 (2016) PVD PIPING MAY BE INSTALLED TO 5 FEET OUTSIDE THE FOUNDATION OF ANY BUILDING OR STRUCTURE OR PARTS THEROF. IT SHALL BE BURIED IN THE GROUND FOR IS ENTIRE LENGTH. IS SHALL NOT BE INSTALLED WITHIN OR UNDER ANY BUILDING OR STRUCTURE. (DUCTILE PIPE SHALL BE INSTALLED WITHIN 5 FEET OF BUILDING)</div>	<div>SYMBOL LEGEND</div> <table><tr><th>SYMBOL</th><th>ABBRV.</th><th>IDENTIFICATION</th><th>SYMBOL</th><th>ABBRV.</th><th>IDENTIFICATION</th></tr><tr><td></td><td>F</td><td>FIRE WATER</td><td></td><td>T&PRV</td><td>TEMP & PRESS RELIEF VALVE</td></tr><tr><td></td><td>SPKR</td><td>SPRINKLER</td><td></td><td>DCDA</td><td>DOUBLE CHECK DETECTOR ASSEMBLY</td></tr><tr><td></td><td></td><td>PENDENT ON 401 EXTENSION</td><td></td><td></td><td>UNION</td></tr><tr><td></td><td></td><td>RECESSED PENDENT</td><td></td><td></td><td>PRESSURE GAUGE</td></tr><tr><td></td><td></td><td>UPRIGHT W/ 1" OUTLET BELOW</td><td></td><td>FC</td><td>FLEXIBLE CONNECTION</td></tr><tr><td></td><td></td><td>UPRIGHT ON 1" SPRIG UP</td><td></td><td>RPBP</td><td>REDUCE PRESS BACKFLOW PREVENTER</td></tr><tr><td></td><td></td><td>UPRIGHT ON BRANCH LINE</td><td></td><td>FH</td><td>FIRE HYDRANT</td></tr><tr><td></td><td></td><td>UPRIGHT OVER PENDENT</td><td></td><td>PIV</td><td>POST INDICATING VALVE</td></tr><tr><td></td><td></td><td>SIDEWALL</td><td></td><td>FDC</td><td>FIRE DEPARTMENT CONNECTION</td></tr><tr><td></td><td></td><td>GROOVED COUPLING</td><td></td><td>AD</td><td>ACCESS DOOR</td></tr><tr><td></td><td></td><td>EQ BRACE LOCATION</td><td></td><td></td><td>BACK OF ELBOW</td></tr><tr><td></td><td></td><td>4WAY EQ BRACE LOCATION</td><td></td><td>DIA</td><td>DIAMETER</td></tr><tr><td></td><td></td><td>HANGER LOCATION</td><td></td><td>P.O.C.</td><td>POINT OF CONNECTION</td></tr><tr><td></td><td></td><td>BRANCH LINE RESTRAINT</td><td></td><td></td><td>CENTERLINE</td></tr><tr><td></td><td></td><td>HYDRAULIC CALCULATION NODE</td><td></td><td></td><td></td></tr><tr><td></td><td>CHVA</td><td>CHECK VALVE</td><td></td><td></td><td></td></tr><tr><td></td><td></td><td>GATE VALVE</td><td></td><td></td><td></td></tr></table>	SYMBOL	ABBRV.	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<div>FIRE FLOW CALCULATIONS:</div> <div>CODE REQUIREMENTS SITE FLOW: CONSTRUCTION TYPE: V-B (WITH AUTOMATIC SPRINKLER SYSTEM) FIRE FLOW CALCULATION AREA: 16,531 SF 2019 CFC FIRE FLOW(TABLE BB105.1) 3,500 GPM 2019 CFC MINIMUM FIRE FLOW: 1,500 GPM AVAILABLE WATER SUPPLY: CSG CONSULTANTS, INC., SEPTEMBER 3, 2020 STATIC PRESSURE: 87 PSI, SEE FP 1.1 FOR LOCATION RESIDUAL PRESSURE: 65 PSI OBSERVED FLOW: 1130 GPM AVAILABLE FLOW: 2061 GPM @ 20 PSI RESIDUAL</div>	<div>OVERHEAD FIRE SPRINKLER SYSTEM GENERAL NOTES:</div> <div>NFPA 13 (2016) SEC. 9.2.1.3.3.4 WHERE FLEXIBLE SPRINKLER HOSE FITTINGS ARE USED TO CONNECT SPRINKLER TO BRANCH LINES IN SUSPENDED CEILINGS, A LABEL LIMITING RELOCATION OF THE SPRINKLER SHALL BE PROVIDED ON THE ANCHORING COMPONENT. NFPA 13 (2016) SEC. 10.10.2.1 UNDERGROUND MAINS AND LEAD-IN CONNECTION MADE TO OVERHEAD SPRINKLER PIPING SYSTEMS SHALL BE COMPLETELY FLUSHED NFPA 13(2016) SEC. 10.10.2.2 ALL INTERIOR PIPING AND APPURTENANCES SUBJECT TO SYSTEM WORKING PRESSURE SHALL BE HYDROSTATICALLY TESTED AT 200 PSI AND SHALL MAINTAIN THAT PRESSURE WITHOUT LOSS FOR 2 HOURS. LOCAL FIRE DEPARTMENT SHOULD BE NOTIFIED OF DATE AND TESTING SO THEY MAY OBSERVE TESTING. NFPA 13 (2016) SEC. 6.2.9 PROVIDE SPARE SPRINKLER HEAD CABINET, SPRINKLER WRENCH, AND NO FEWER THAT A TOTAL OF 6 SPARE SPRINKLER HEADS MATCHING THE TYPES AND TEMPERATURE RATINGS IN EACH PROTECTED BUILDING FOR SYSTEMS LESS THAN 300 SPRINKLERS AND FEWER THAN 12 FOR SYSTEMS HAVING 300 TO 1000 SPRINKLERS. NFPA 13 (2016) SEC. 9.3.6.1 PROVIDE RESTRAINT OF BRANCH LINES BY USING ONE OF THE FOLLOWING: (1) LISTED SWAY BRACE ASSEMBLY (2) WRAPAROUND U-HOOK SATISFYING THE REQUIREMENTS OF 9.3.5.5.11 (3) NO. 12 440 LB (200 KG) WIRE INSTALLED AT LEAST 45 DEGREES FROM THE VERTICAL PLANE AND ANCHORAGE ON BOTH SIDES OF THE PIPE. (4) CPVC HANGERS LISTED TO PROVIDE RESTRAINT (5) HANGER NOT LESS THAN 45 DEGREES FROM VERTICAL INSTALLED WITHIN 6 IN. OF THE VERTICAL HANGER ARRANGED FOR RESTRAINT AGAINST UPWARD MOVEMENT, PROVIDED IT IS UTILIZED SUCH THAT IJR DOES NOT EXCEED, WHERE THE ROD EXTENDS TO THE PIPE OR A SURGE CLOP HAS BEEN INSTALLED. NFPA 72 (2016) SEC. 17.12.2 SPRINKLER FLOW SWITCH SHALL BE TESTED BY IOR TO CONFIRM THAT WHEN THE INSPECTOR'S TEST VALVE IS ACTIVATED AN ALARM WILL SOUND IN NOT MORE THAN 90 SECONDS. NFPA 13 (2016) SEC. 6.9.3 FLOW SWITCH SHALL BE CONNECTED TO AN OUTSIDE ALARM BELL FOR EACH RISER. APPROVED IDENTIFICATION SIGN SHALL BE PROVIDED FOR OUTSIDE ALARM BELL "SPRINKLER FIRE ALARM WHEN BELL RINGS CALL 911/FIRE DEPARTMENT. THE PLANS SHALL INCLUDE THE INFORMATION ON THE HYDRAULIC DESIGN INFORMATION SIGN, IN COMPLIANCE WITH NFPA 13 SECTION 23.1.3 ITEM 31 AND CBC CHAPTER 35 AMENDMENTS TO NFPA 13 SECTION 25.5.1 AND 25.5.2 NFPA 13 (2016) SEC. 25.1(3) SPRINKLER CONTRACTOR (C16) SHALL COMPLETE AND SIGN CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR THE OVERHEAD SPRINKLER SYSTEM USING FORM IN FIGURE 251 THIS COMPLETED FORM SHALL BE GIVEN TO THE APPROVING AUTHORITY, OWNER AND CONTRACTOR. NFPA 13 (2016) SEC. 25.1.3.4.1 THE MAIN DRAIN VALVE SHALL BE OPENED AND REMAIN OPENED UNTIL THE SYSTEM PRESSURE STABILIZES, THE STATIC AND RESIDUAL PRESSURES SHALL BE RECORDED ON THE CONTRACTOR'S TEST CERTIFICATE. TITLE 19 ARTICLE (A) A LABEL OF SELF-ADHESIVE TYPE SHALL BE PLACED ON THE FIRE DEPARTMENT CONNECTION OR ON THE RISER FOR THE FIRE SPRINKLER SYSTEM WITH THE DATE OF SERVICE AND/OR DATE OF INSTALLATION WAS PERFORMED AND LICENSE NUMBER OF PERSON PERFORMING SERVICE WORK. THE SPRINKLER CONTRACTOR SHALL HAVE A REPRESENTATIVE PRESENT AT THE ROUGH-IN/HYDRO INSPECTION. NFPA 13 (2016) SEC. 9.3.4.2 WHERE PIPE PASSES THROUGH HOLES IN PLATFORMS, FOUNDATIONS, WALLS, OR FLOORS, THE HOLES SHALL BE SIZED SUCH THAN THE DIAMETER OF THE HOLE IS NOMINALLY 2" LARGER THAN THE PIPE 1" NOMINAL TO 3½" NOMINAL AND 4" LARGER THAN PIPE FOR PIPE 4" NOMINAL AND LARGER.</div>	<div>ABBREVIATIONS</div> <table><tr><td>& AND °F DEGREES FAHRENHEIT AC AIR CONDITIONER AFF ABOVE FINISH FLOOR AFUE ANNUAL FUEL UTILIZATION EFFICIENCY AL ACOUSTICALLY LINED AMP AMPERE APPROX APPROXIMATE ARCH ARCHITECT/ARCHITECTURAL BHP BRAKE HORSEPOWER BLDG BUILDING BTU BTU BTUH BRITISH THERMAL UNITS PER HOUR CA COMBUSTION AIR CFH CUBIC FEET PER HOUR CFM CUBIC FEET PER MINUTE CIRC CIRCULATING CLG CEILING CONC CONCRETE CONN CONNECTION CONT CONTINUED, CONTINUATION COOL COOLING COP COEFFICIENT OF PERFORMANCE DB DRY BULB DF DRINKING FOUNTAIN D/L DOOR LOUVER DN DOWN DWGS DRAWINGS (E) EXISTING EA EXHAUST AIR EAT ENTERING AIR TEMPERATURE EER ENERGY EFFICIENCY RATIO ELEC ELECTRICAL ELEV ELEVATION EQUIP EQUIPMENT ESP EXTERNAL STATIC PRESSURE EWB ENTERING WET BULB EWT ENTERING WATER TEMPERATURE EXT EXTERIOR</td><td>FD FLOOR DRAIN FFE FINISHED FLOOR ELEVATION FLA FULL LOAD AMPS FLEX FLEXIBLE FLR FLOOR FPM FEET PER MINUTE FS FLOOR SINK FT FEET FT HD FEET HEAD FPM FEET PER MINUTE FTR FLUE THRU ROOF GPM GALLONS PER MINUTE HP HORSEPOWER HR HOUR HTG HEATING HZ HERTZ IE INVERT ELEVATION IN INCH INV INVERT KW KILOWATTS LAT LEAVING AIR TEMPERATURE LBS POUNDS LWT LEAVING WATER TEMPERATURE LWB LEAVING WET BULB MAX MAXIMUM MBH 1000 BTU PER HOUR MCA MINIMUM CIRCUIT AMPS MCP MECHANICAL CONTROL PANEL MECH MECHANICAL MFR MANUFACTURER MIN MINIMUM MOCP MAXIMUM OVERCURRENT PROTECTION (N) NEW NC NORMALLY CLOSED NIC NOT IN CONTRACT NO NORMALLY OPEN NTS NOT TO SCALE OA OUTSIDE AIR OC ON CENTER PD PRESSURE DROP</td><td>PH PHASE PRV PRESSURE REDUCING VALVE PSI POUNDS PER SQUARE INCH P/T PRESSURE/TEMPERATURE QTY QUANTITY RA RETURN AIR RM ROOM RPM REVOLUTIONS PER MINUTE RV RELIEF VALVE SA SUPPLY AIR SC SENSIBLE COOLING SEER SEASONAL ENERGY EFFICIENCY RATIO SOV SHUT-OFF VALVE SP STATIC PRESSURE SPEC SPECIFICATION SQ SQUARE STRUCT STRUCTURAL TC TOTAL COOLING TDH TOTAL DYNAMIC HEAD TEMP TEMPERATURE TSP TOTAL STATIC PRESSURE TV TURNING VANES TYP TYPICAL UL UNDERWRITER'S LABORATORIES UON UNLESS OTHERWISE NOTED V VOLT VTR VENT THROUGH ROOF WB WET BULB WC WATER COLUMN WH WATER HEATER WT WEIGHT</td></tr></table>	& AND °F DEGREES FAHRENHEIT AC AIR CONDITIONER AFF ABOVE FINISH FLOOR AFUE ANNUAL FUEL UTILIZATION EFFICIENCY AL ACOUSTICALLY LINED AMP AMPERE APPROX APPROXIMATE ARCH ARCHITECT/ARCHITECTURAL BHP BRAKE HORSEPOWER BLDG BUILDING BTU BTU BTUH BRITISH THERMAL UNITS PER HOUR CA COMBUSTION AIR CFH CUBIC FEET PER HOUR CFM CUBIC FEET PER MINUTE CIRC CIRCULATING CLG CEILING CONC CONCRETE CONN CONNECTION CONT CONTINUED, CONTINUATION COOL COOLING COP COEFFICIENT OF PERFORMANCE DB DRY BULB DF DRINKING FOUNTAIN D/L DOOR LOUVER DN DOWN DWGS DRAWINGS (E) EXISTING EA EXHAUST AIR EAT ENTERING AIR TEMPERATURE EER ENERGY EFFICIENCY RATIO ELEC ELECTRICAL ELEV ELEVATION EQUIP EQUIPMENT ESP EXTERNAL STATIC PRESSURE EWB ENTERING WET BULB EWT ENTERING WATER TEMPERATURE EXT EXTERIOR	FD FLOOR DRAIN FFE FINISHED FLOOR ELEVATION FLA FULL LOAD AMPS FLEX FLEXIBLE FLR FLOOR FPM FEET PER MINUTE FS FLOOR SINK FT FEET FT HD FEET HEAD FPM FEET PER MINUTE FTR FLUE THRU ROOF GPM GALLONS PER MINUTE HP HORSEPOWER HR HOUR HTG HEATING HZ HERTZ IE INVERT ELEVATION IN INCH INV INVERT KW KILOWATTS LAT LEAVING AIR TEMPERATURE LBS POUNDS LWT LEAVING WATER TEMPERATURE LWB LEAVING WET BULB MAX MAXIMUM MBH 1000 BTU PER HOUR MCA MINIMUM CIRCUIT AMPS MCP MECHANICAL CONTROL PANEL MECH MECHANICAL MFR MANUFACTURER MIN MINIMUM MOCP MAXIMUM OVERCURRENT PROTECTION (N) NEW NC NORMALLY CLOSED NIC NOT IN CONTRACT NO NORMALLY OPEN NTS NOT TO SCALE OA OUTSIDE AIR OC ON CENTER PD PRESSURE DROP	PH PHASE PRV PRESSURE REDUCING VALVE PSI POUNDS PER SQUARE INCH P/T PRESSURE/TEMPERATURE QTY QUANTITY RA RETURN AIR RM ROOM RPM REVOLUTIONS PER MINUTE RV RELIEF VALVE SA SUPPLY AIR SC SENSIBLE COOLING SEER SEASONAL ENERGY EFFICIENCY RATIO SOV SHUT-OFF VALVE SP STATIC PRESSURE SPEC SPECIFICATION SQ SQUARE STRUCT STRUCTURAL TC TOTAL COOLING TDH TOTAL DYNAMIC HEAD TEMP TEMPERATURE TSP TOTAL STATIC PRESSURE TV TURNING VANES TYP TYPICAL UL UNDERWRITER'S LABORATORIES UON UNLESS OTHERWISE NOTED V VOLT VTR VENT THROUGH ROOF WB WET BULB WC WATER COLUMN WH WATER HEATER WT WEIGHT																																																																																																										
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<div>SEISMIC BRACING:</div> <div>SPECTRAL RESPONSE: LATITUDE: 37.9225° W LONGITUDE: 121.7584° N S_s = 1.57 (2016 ASCE 7 STANDARD) SEE DESIGN CRITERIA ON STRUCTURAL DRAWING SEISMIC COEFFICIENT: C_p = 0.75 (2016 NFPA 13-TABLE 9.3.5.9.3) USE C_p = 0.75 SEE DRAWING FP-6.1 FOR SPECIFIC SEISMIC BRACING DETAILS AND FP-6.2 FOR CALCULATIONS.</div>	<div>DSA GENERAL NOTES</div> <div>1. THE INTENT OF THE CONTRACT DOCUMENTS IS NEW CLASSROOMS ON THE SCHOOL'S CAMPUS. SHOULD ANY CONDITIONS DEVELOP NOT COVERED BY THE CONTRACT DOCUMENTS, A CONSTRUCTION CHANGE DOCUMENT DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE WORK. 2. ALL HANGERS AND SEISMIC SWAY BRACING SHALL BE DESIGNED AND INSTALLED PER NFPA 13 AND CHAPTER 16A CALIFORNIA BUILDING CODE 3. ALL ANCHORAGE SHALL BE INSTALLED IN ACCORDANCE WITH DETAILS ON THE DSA APPROVED DRAWINGS 4. NO DEMOLITION SHALL BEGIN UNTIL PLANS INCLUDING THE DEMOLITION WORK HAVE BEEN APPROVED BY DSA.</div>																																																																																																														
	<div>FIRE DEPARTMENT CONNECTIONS:</div> <div>NFPA 13(2016) SEC. 8.17.2.5.1 CHECK-VALVE SHALL BE PROVIDED AT FIRE DEPARTMENT CONNECTION ASSEMBLY (FDC) TO PREVENT WATER (PRESSURE) AT INLET OF FDC INLET TITLE 19 ARTICLE 906 (A) A LABEL OF THE SELF-ADHESIVE TYPE SHALL BE PLACED ON THE FIRE DEPARTMENT CONNECTION OR ON THE RISER FOR FIRE SPRINKLER SYSTEMS WITH THE DATE OF SERVICE AND/OR DATE INSTALLATION WAS PERFORMED ND LICENSE NUMBER OF PERSON PERFORMING SERVICE WORK.</div>																																																																																																														

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HERITAGE
HIGH SCHOOL

NEW CLASSROOM
BUILDINGS
INCREMENT 2 OF 2

101 AMERICAN AVE,
BRENTWOOD, CA 94513

LIBERTY UNION
HIGH SCHOOL
DISTRICT

REVISIONS

DSA APP NO. 01-119268

ARCH PROJECT NO: 1870.00

DRAWN BY:

DRAWING SCALE: NONE

PTN: 61721-77 FILE NO: 7-H4

BID SET

MAY 10, 2021

SHEET TITLE

LEGEND, NOTES,
AND
ABBREVIATIONS
FIRE
PROTECTION

SHEET NUMBER

FP-0.1

CEG JOB NO: 20117

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KEEP CONCRETE CLEAR OF BELL

BENDS

SECTION A-A
BENDS, TEES

TOTAL BLOCK DEPTH

TEES

18" MIN.

PLUGGINGS

TOTAL BLOCK DEPTH

SOIL BEARING CAPACITY 2000 PSF FOR CLAYEY SAND SOILS TYPE ACCORDANCE WITH NFPA 13: TABLE A10.6(c); SEE GEOTECHNICAL REPORT FOR DESCRIPTION OF SOIL CONDITIONS.

TRUST BLOCK CALCULATIONS PER NFPA 13: A10.6.1(b)

6" 90° BEND AREA = (7.9 S.F.)(225 PSI/100PSI)(1000 PSF/2000PSF) = 8.9 S.F.

6" 45° BEND AREA = 8.9 S.F. x 0.541 = 4.8 S.F.

6" 22.5° BEND AREA = 8.9 S.F. x 0.275 = 2.5 S.F.

6" DEAD END AREA = (5.6 S.F.)(225 PSI/100 PSI)(1000 PSF/2000PSF) = 6.3 S.F.

PIPE SIZE	90° BENDS			45° BENDS			22.5° BENDS			TEES AND PLUGS		
	SQ. FT.	"A"	"B"	SQ. FT.	"A"	"B"	SQ. FT.	"A"	"B"	SQ. FT.	"A"	"B"
6	8.9	53"	24"	4.8	39"	18"	2.5	30"	12"	6.3	43"	21"

BASED ON A WATER PRESSURE OF 225 POUNDS PER SQUIRE INCH AND A SOIL RESISTANCE OF 2000 POUNDS PER SQUARE FOOT, AND SAFETY FACTOR OF 1.5 IN ACCORDANCE WITH NFPA 13(2016) TABLE A.10.6.1(b).

TOTAL BLOCK DEPTH SHALL BE AT LEAST TWICE THE BLOCK DEPTH "B" IN ACCORDANCE WITH NFPA 24.

JOINT RESTRAINT SHALL UTILIZE BOTH THRUST BLOCKS AND MEGALUG MECHANICAL JOINT RESTRAINT FITTINGS PER LOCAL FIRE MARSHAL

3

THRUST BLOCK

N.T.S.

1

2

3

4

5

6

7

8

9

6'-0" MAX

18" MIN. SEE STRUCTURAL DRAWINGS

DETAIL NOTES:

- FOR DETAIL OF OVERHEAD SPRINKLER SYSTEM RISER, SEE 1/FP6.1
- UNDERGROUND WORK TO FLANGE WITH END CAP, 12" ABOVE FINISH GRADE, PROVIDE DIELECTRIC INSULATING FLANGE KIT, SEE CP-1.3.
- PIPE SLEEVE NOMINALLY 4" GREATER IN DIAMETER THAN THE UNDERGROUND RISER IN ACCORDANCE WITH NFPA 13 9.3.4.2, SEE PLANS FOR SIZE
- DUCTILE IRON, SEE PLANS FOR SIZE.
- PROVIDE CATHODIC PROTECTION, SEE CP-1.2
- DUCTILE IRON MxFe 90° ELBOW
- THRUST BLOCK SEE DETAIL 3/FP-0.2
- HYDRAULIC CALCULATION NODE, TYPICAL
- TO UNDERGROUND FIRE SERVICE, SEE C-3.0

1

UNDERGROUND RISER

N.T.S.

LANDSCAPE AREAS AND AREAS TO BE LEFT SOIL

EXISTING PAVED AREAS

1

2

3

4

5

6

7

8

6" MIN.

3' MIN.

1'-6"

1'-6"

PIPE O.D.

6"

PIPE O.D.

6"

DETAIL NOTES:

- SELECT NATIVE SOILS, 90% COMPACTION FOR AREAS TO BE LEFT IN NATIVE STATE ONLY. CAP AREAS IN UNPAVED ROADWAYS WITH 12" CLASS 2 AGGREGATE BASE, 95% COMPACTION
- SAWCUT PAVEMENT EACH SIDE OF TRENCH 6' FROM TRENCH EDGE, REMOVE PAVEMENT AND BASEROCK, REPLACE AND RECOMPOST BASEROCK TACKCOAT EDGE AND REPAVE
- SELECT SAND BACKFILL AT 95% COMPACTION
- CLASS 2 AGGREGATE BASEROCK
- PLASTIC WARNING TAPE MARKED "FIRE WATER"
- 10 GA. COPPER TRACE WIRE COATED AND STRANDED TAPED ON TOP OF ALL NON-METALLIC PIPE
- SAND BEDDING MATERIAL(95% COMPACTION)
- FIRE SERVICE PIPING

2

UTILITY TRENCH

N.T.S.

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(707) 576-0829

HERITAGE
HIGH SCHOOL

NEW CLASSROOM
BUILDINGS
INCREMENT 2 OF 2

101 AMERICAN AVE,
BRENTWOOD, CA 94513

LIBERTY UNION
HIGH SCHOOL
DISTRICT

REVISIONS

NO.	DESCRIPTION	DATE

DSA APP NO. 01-119268

ARCH PROJECT NO: 1870.00

DRAWN BY:

DRAWING SCALE: NONE

PTN: 61721-77 FILE NO: 7-H4

BID SET

MAY 10, 2021

SHEET TITLE

CEG JOB NO: 20117

REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA
EXP. JUNE 30, 2022

831.218.1802
8 Harris Court, Suite A8
Monterey, CA 93940
cypresseg.com

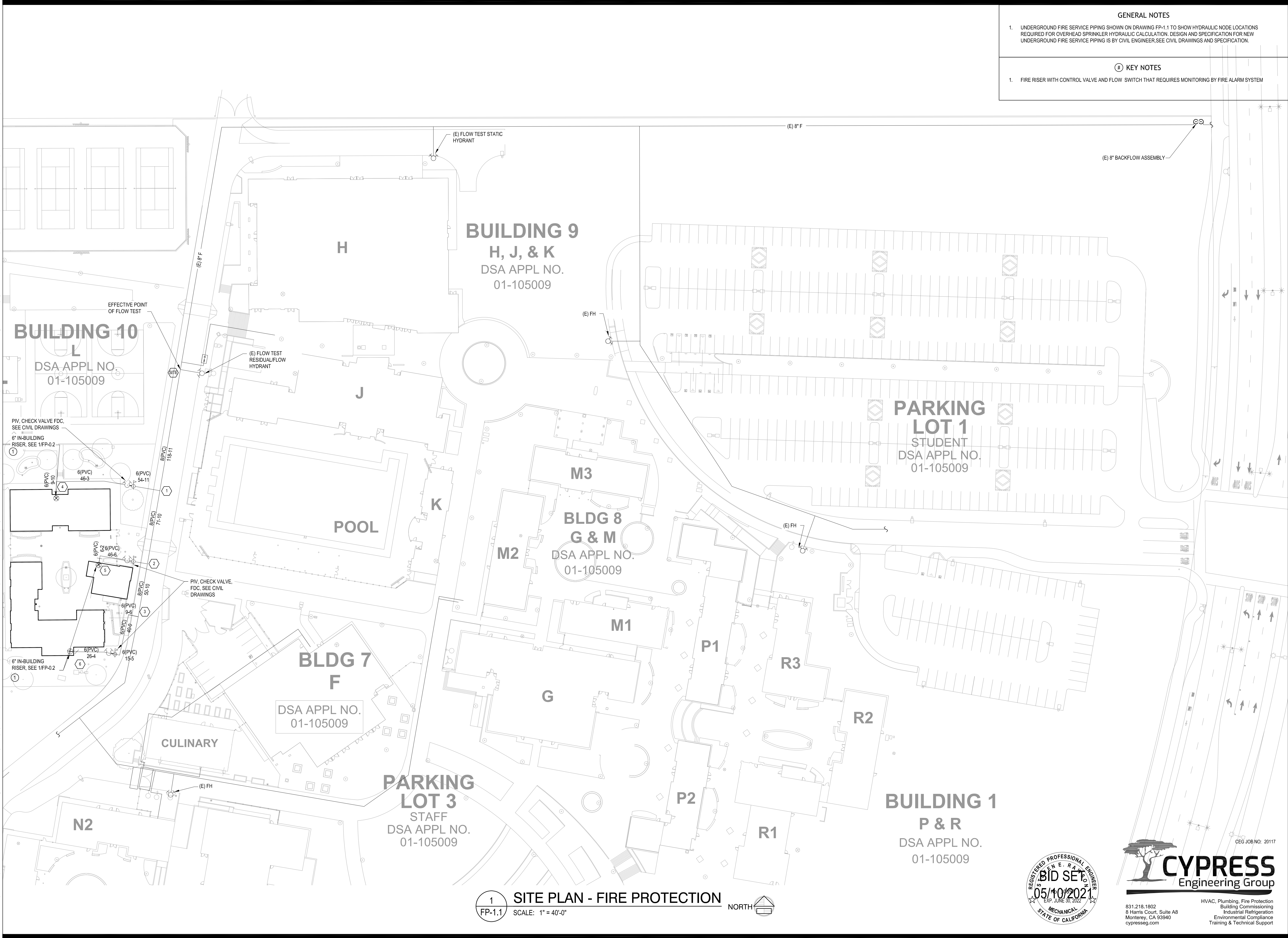
HVAC, Plumbing, Fire Protection
Building Commissioning
Industrial Refrigeration
Environmental Compliance
Training & Technical Support

DETAILS - FIRE
PROTECTION

SHEET NUMBER

FP-0.2

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SPRINKLER								
SYMBOL	DESCRIPTION	MANF.	MODEL	SIN	TYPE	K FACTOR	TEMP RATING	QTY
●	RECESSED PENDENT	TYCO	TY-FRB	3231	SSP	5.6	155 °F	39
○	UPRIGHT ON BRANCH LINE	TYCO	TY-FRB	3131	SSU	5.6	155 °F	0
○	CONCEALED UPRIGHT	TYCO	TY-FRB	3131	SSU	5.6	155 °F	8
TOTAL SPRINKLER (THIS SHEET)								47
TOTAL SPRINKLERS BLDG A								47

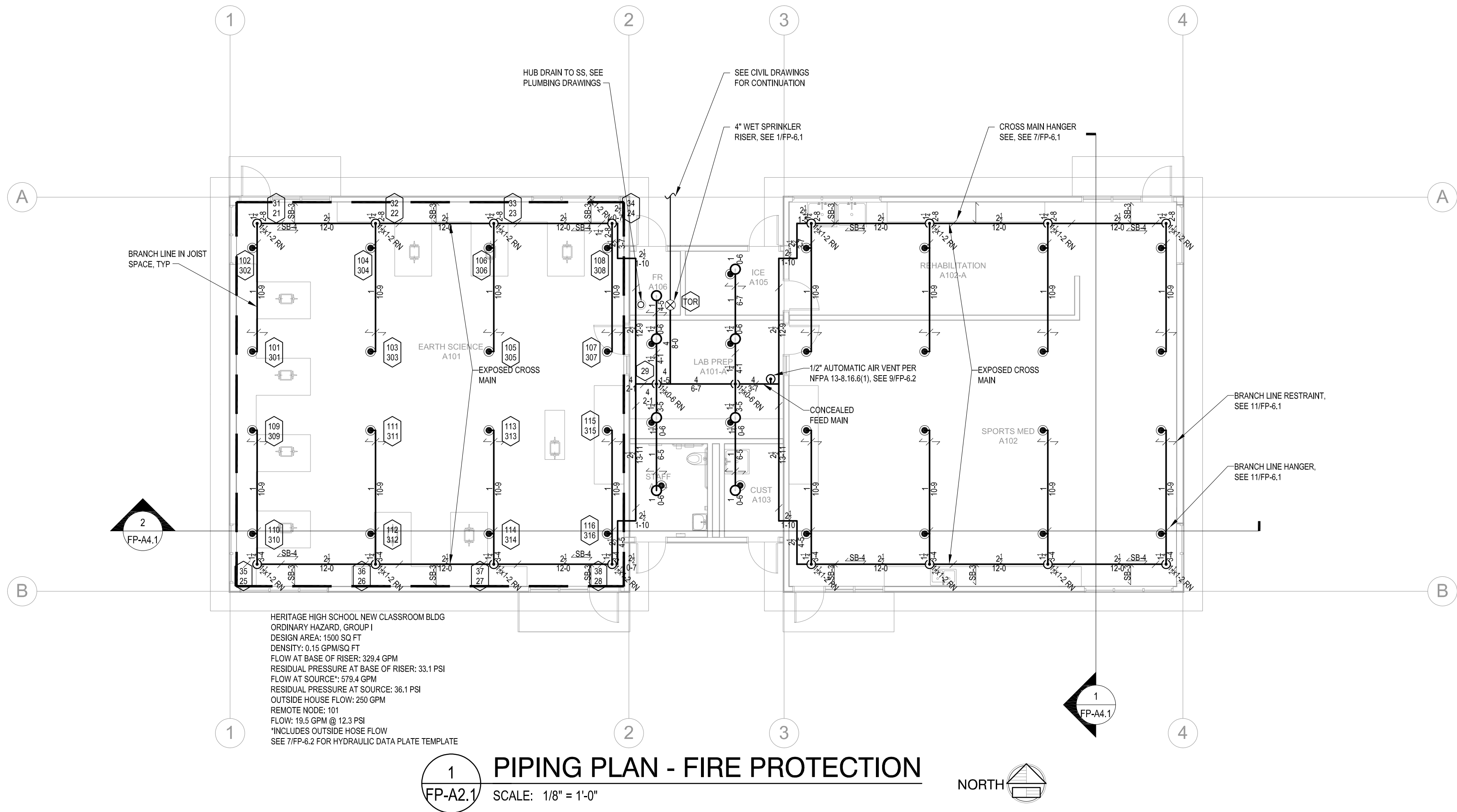
1. FINISH TO MATCH ADJACENT MATERIAL VERIFY WITH ARCHITECT

2. PROVIDE ON 401 EXTENSION

3. PROVIDE STYLE 10 RECESSED ESCUTCHEON. FINISH TO MATCH ADJACENT MATERIAL VERIFY WITH ARCHITECT
4. FOR LAY IN PANEL SUSPENDED CEILINGS PROVIDE 1" ANNULAR CLEARANCE AROUND RECESSED ESCUTCHEON. CONCEAL OVERSIZED HOLE WITH VIKING 1260 EXPANSION PLATE. FINISH TO MATCH ADJACENT MATERIAL VERIFY WITH ARCHITECT

GENERAL NOTES

1. ALL DIMENSIONS ARE CENTERLINE TO CENTERLINE UNLESS OTHERWISE NOTED.
2. ALL PIPE 1-1/2" AND SMALLER SHALL BE SCHEDULE 40 BLACK STEEL WITH CAST IRON THREADED FITTINGS IN ACCORDANCE WITH ANSI B16.4.
3. ALL PIPE 2" AND GREATER SHALL BE SCHEDULE 10 BLACK STEEL WITH GROOVED COUPLINGS AND WELDED OUTLETS.
4. ALL PIPE 1-1/2" AND SMALLER SHALL HAVE SUPPORT SPACING LESS THAN 12 FEET.
5. ALL PIPE 2" AND GREATER SHALL HAVE SUPPORT SPACING LESS THAN 15 FEET.
6. BRANCH LINES SHALL BE RESTRAINED AT THE END OF BRANCH LINE, AND AT INTERVALS NOT EXCEEDING 26 FT PER NFPA-13 TABLE 9.3.6.4(a).
7. PROVIDE 1" ANNULAR CLEARANCE AT ALL SPRINKLER PENETRATIONS OF LAY IN PANEL SUSPENDED CEILINGS.
8. PAINT ALL EXPOSED PIPING TO MATCH ADJACENT FINISHES.



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Building Commissioning
Industrial Refrigeration
Environmental Compliance
Training & Technical Support



QUATTROCCHI KWOK
ARCHITECTS

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East Bay:
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HERITAGE
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NEW CLASSROOM
BUILDINGS
INCREMENT 2 OF 2

101 AMERICAN AVE,
BRENTWOOD, CA 94513

LIBERTY UNION
HIGH SCHOOL
DISTRICT

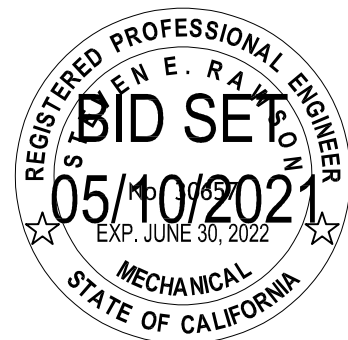
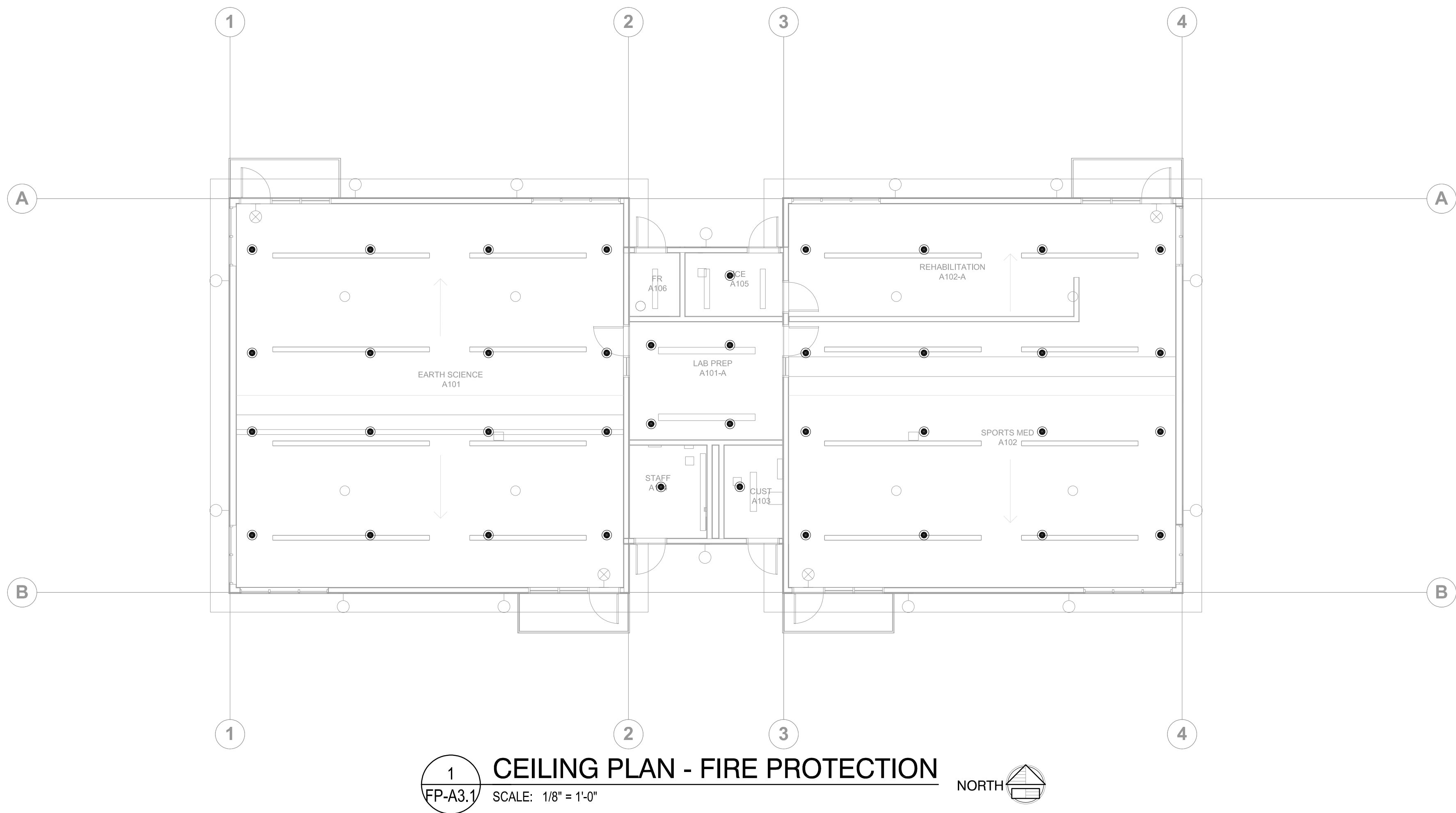
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DSA APP NO. 01-119268		
ARCH PROJECT NO:	1870.00	
DRAWN BY:		
DRAWING SCALE:	1/8" = 1' - 0"	
PTN: 61721-77	FILE NO:	7-H4
BID SET		
MAY 10, 2021		
SHEET TITLE		

PIPING PLAN -
FIRE
PROTECTION

SHEET NUMBER

FP-A2.1

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101 AMERICAN AVE,
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HIGH SCHOOL
DISTRICT

REVISIONS		
DSA APP NO. 01-119268		

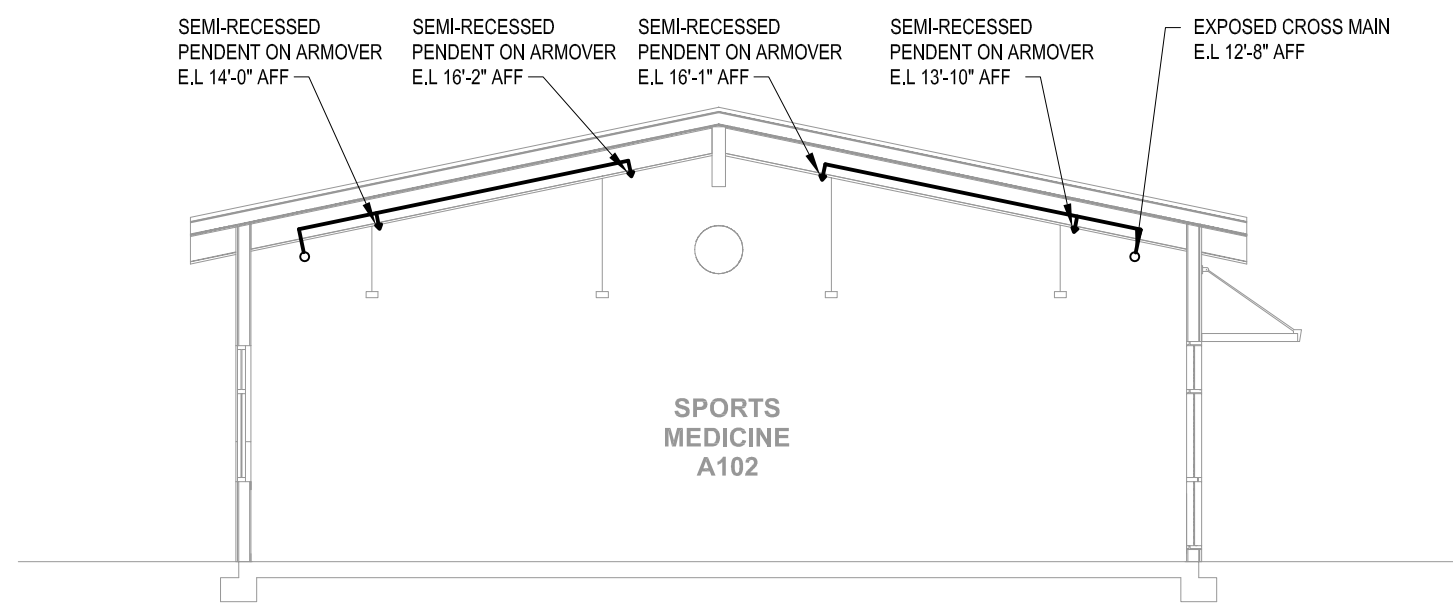
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DRAWN BY:
DRAWING SCALE: 1/8" = 1' - 0"
PTN: 61721-77 FILE NO: 7-H4

BID SET
MAY 10, 2021
SHEET TITLE

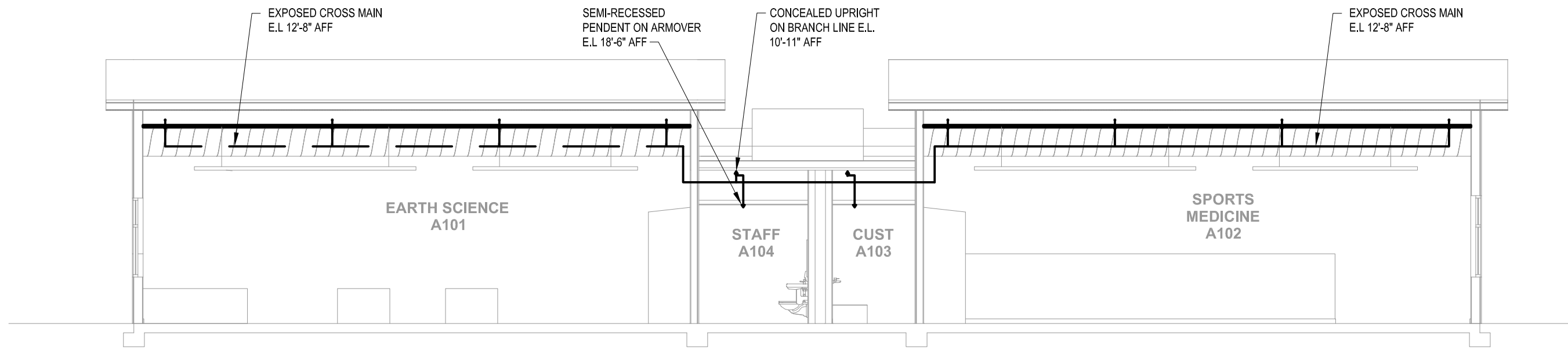
**CEILING PLAN -
FIRE
PROTECTION**
SHEET NUMBER

FP-A3.1

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1 CLASSROOM SECTION - FIRE PROTECTION
FP-A4.1 SCALE: 1/8" = 1'-0"



2 CLASSROOM LONGITUDINAL SECTION - FIRE PROTECTION
FP-A4.1 SCALE: 1/8" = 1'-0"



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REVISIONS		

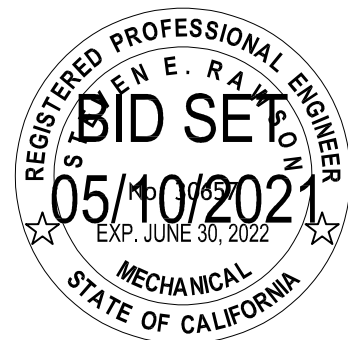
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DRAWING SCALE: 1/8" = 1' - 0"
PTN: 61721-77 FILE NO: 7-H4

BID SET
MAY 10, 2021
SHEET TITLE

SECTIONS - FIRE PROTECTION

SHEET NUMBER

FP-A4.1



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SPRINKLER									
SYMBOL	DESCRIPTION	MANF.	MODEL	SIN	TYPE	K FACTOR	TEMP RATING	QTY	NOTES
●	PENDENT ON 401 EXTENSION	TYCO	TY-FRB	3231	SSP	5.6	155 °F	X	1, 2, 3, 4
⦿	RECESSED PENDENT	TYCO	TY-FRB	3231	SSP	5.6	155 °F	X	1, 2, 3, 4
○	UPRIGHT ON BRANCH LINE	TYCO	TY-FRB	3131	SSU	5.6	155 °F	X	
○	CONCEALED UPRIGHT	TYCO	TY-FRB	3131	SSU	5.6	155 °F	X	
⊗	FLAT SPRAY UPRIGHT	TYCO	CC3	3199	FSU	5.6	155 °F	X	
TOTAL SPRINKLER (THIS SHEET)								X	
TOTAL SPRINKLERS JOB								X	

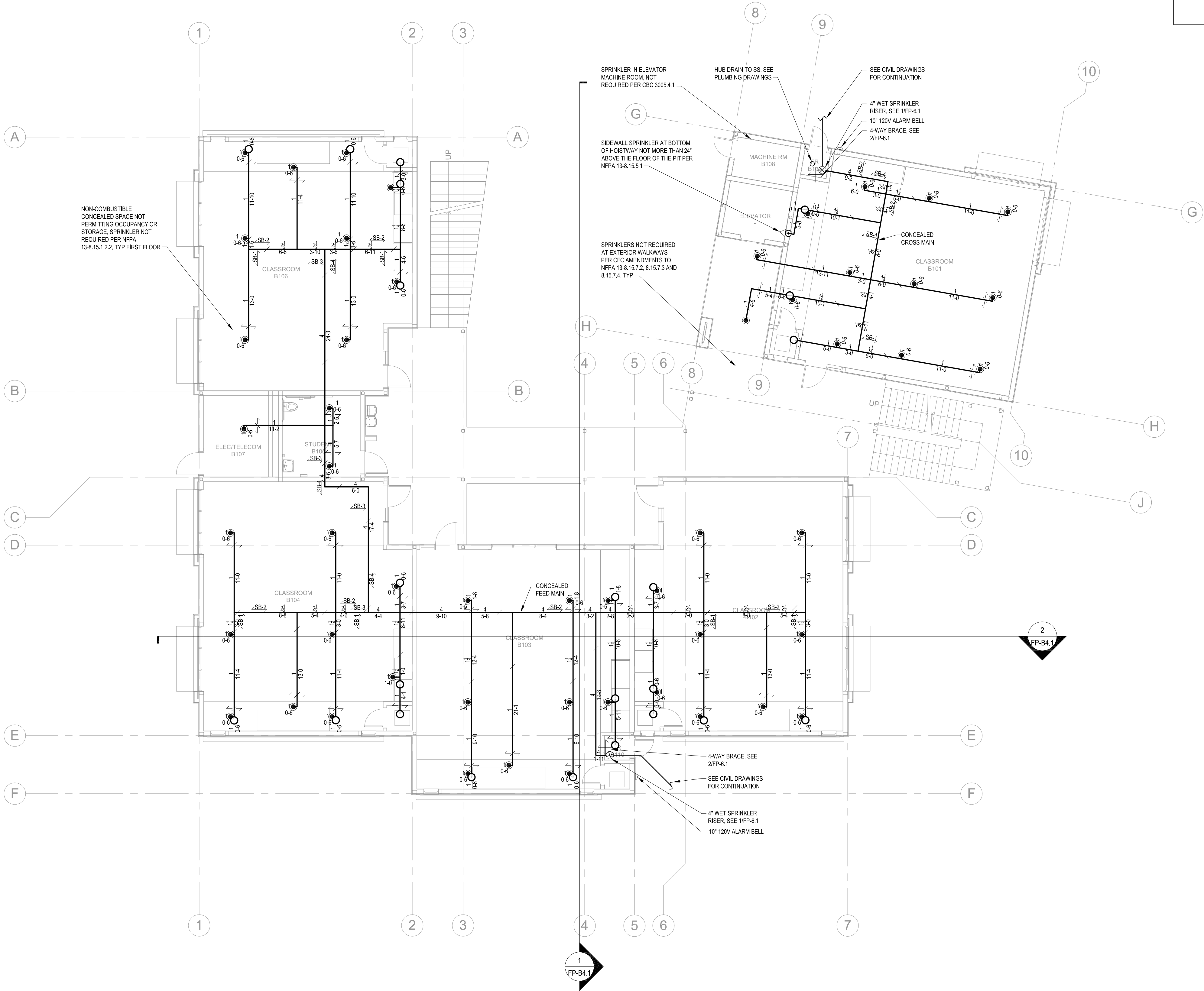
1. FINISH TO MATCH ADJACENT MATERIAL VERIFY WITH ARCHITECT

2. PROVIDE ON 401 EXTENSION

3. PROVIDE STYLE 10 RECESSED ESCUTCHEON. FINISH TO MATCH ADJACENT MATERIAL VERIFY WITH ARCHITECT
4. FOR LAY IN PANEL SUSPENDED CEILINGS PROVIDE 1" ANNULAR CLEARANCE AROUND RECESSED ESCUTCHEON. CONCEAL OVERSIZED HOLE WITH VIKING 1260 EXPANSION PLATE. FINISH TO MATCH ADJACENT MATERIAL VERIFY WITH ARCHITECT

GENERAL NOTES

1. ALL DIMENSIONS ARE CENTERLINE TO CENTERLINE UNLESS OTHERWISE NOTED.
2. ALL PIPE 1-1/2" AND SMALLER SHALL BE SCHEDULE 40 BLACK STEEL WITH CAST IRON THREADED FITTINGS IN ACCORDANCE WITH ANSI B16.4.
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6. BRANCH LINES SHALL BE RESTRAINED AT THE END OF BRANCH LINE, AND AT INTERVALS NOT EXCEEDING 26 FT PER NFPA-13 TABLE 9.3.6.4(a).
7. PROVIDE 1" ANNULAR CLEARANCE AT ALL SPRINKLER PENETRATIONS OF LAY IN PANEL SUSPENDED CEILINGS.
8. PAINT ALL EXPOSED PIPING TO MATCH ADJACENT FINISHES.



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SPRINKLER									
SYMBOL	DESCRIPTION	MANF.	MODEL	SIN	TYPE	K FACTOR	TEMP RATING	QTY	NOTES
●	PENDENT ON 401 EXTENSION	TYCO	TY-FRB	3231	SSP	5.6	155 °F	X	1, 2, 3, 4
⊙	RECESSED PENDENT	TYCO	TY-FRB	3231	SSP	5.6	155 °F	X	1, 2, 3, 4
○	UPRIGHT ON BRANCH LINE	TYCO	TY-FRB	3131	SSU	5.6	155 °F	X	
○	CONCEALED UPRIGHT	TYCO	TY-FRB	3131	SSU	5.6	155 °F	X	
⊕	FLAT SPRAY UPRIGHT	TYCO	CC3	3199	FSU	5.6	155 °F	X	
TOTAL SPRINKLER (THIS SHEET)								X	
TOTAL SPRINKLERS JOB								X	

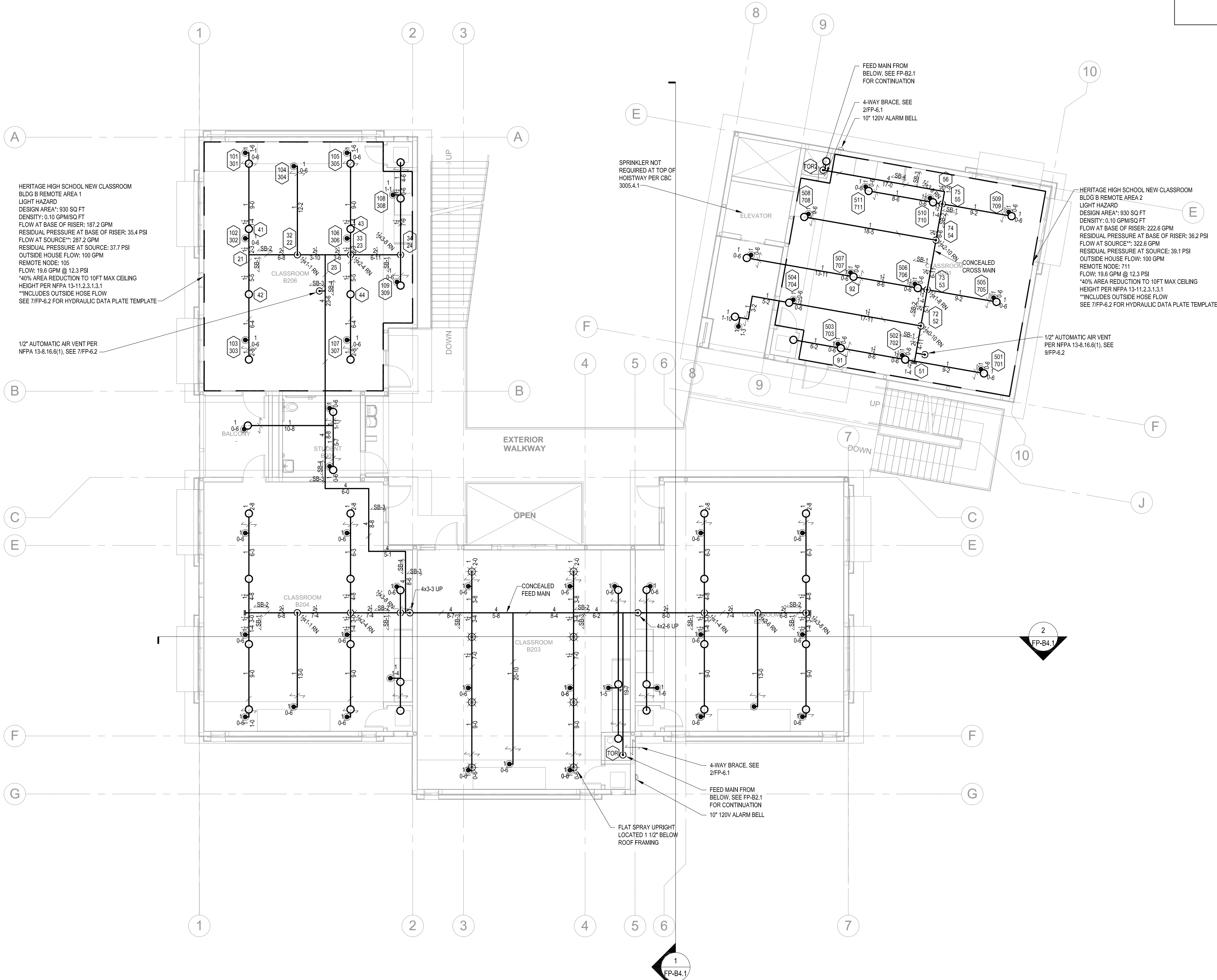
1. FINISH TO MATCH ADJACENT MATERIAL. VERIFY WITH ARCHITECT.

2. PROVIDE ON 401 EXTENSION.

3. PROVIDE STYLE 10 RECESSED ESCUTCHEON. FINISH TO MATCH ADJACENT MATERIAL. VERIFY WITH ARCHITECT.
4. FOR LAY IN PANEL SUSPENDED CEILINGS PROVIDE 1" ANNULAR CLEARANCE AROUND RECESSED ESCUTCHEON. CONCEAL OVERSIZED HOLE WITH VIKING 1280 EXPANSION PLATE. FINISH TO MATCH ADJACENT MATERIAL. VERIFY WITH ARCHITECT.

GENERAL NOTES

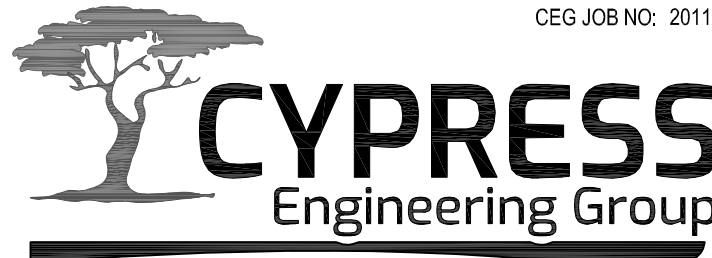
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1
FP-B2.2

SECOND FLOOR PIPING PLAN - FIRE PROTECTION

SCALE: 1/8" = 1'-0"



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HERITAGE
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NEW CLASSROOM
BUILDINGS
INCREMENT 2 OF 2

101 AMERICAN AVE,
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LIBERTY UNION
HIGH SCHOOL
DISTRICT

REVISIONS

NO.	DESCRIPTION	DATE

DSA APP NO. 01-119268

ARCH PROJECT NO: 1870.00

DRAWN BY:

DRAWING SCALE: 1/8" = 1' - 0"

PTN: 61721-77 FILE NO: 7-H4

BID SET

MAY 10, 2021

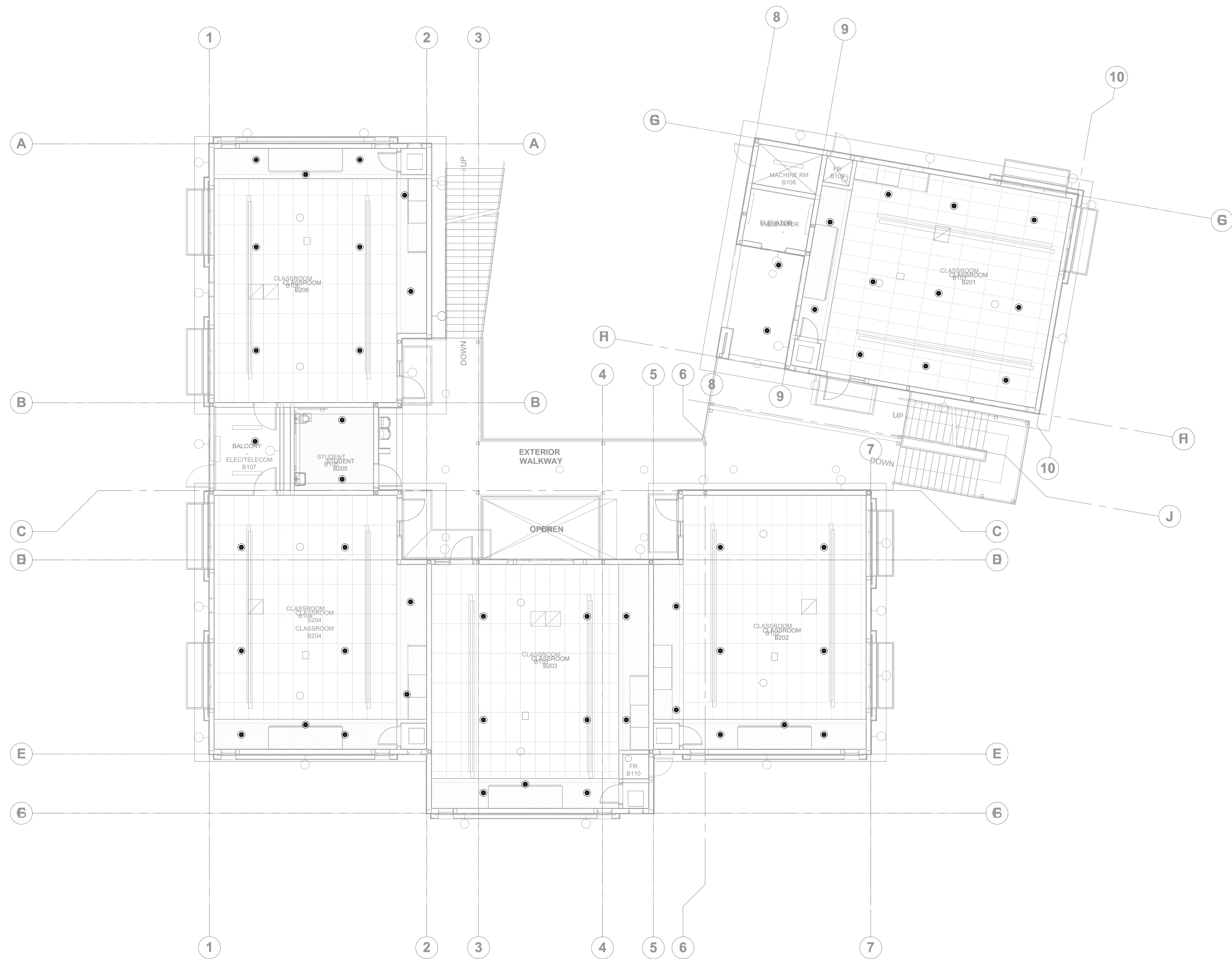
SHEET TITLE

SECOND FLOOR
PIPING PLAN -
FIRE
PROTECTION

SHEET NUMBER

FP-B2.2

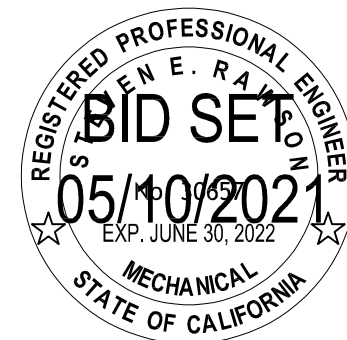
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1
FP-B3.1

FIRST FLOOR CEILING PLAN - FIRE PROTECTION

SCALE: 1/8" = 1'-0"

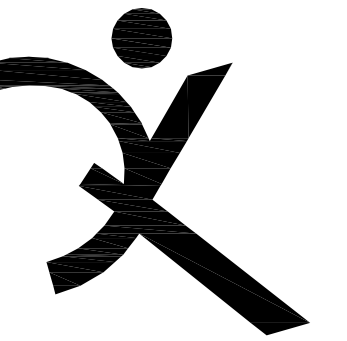


CEG JOB NO: 20117

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HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS INCREMENT 2 OF 2

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LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS

NO.	DESCRIPTION	DATE

DSA APP NO. 01-119268

ARCH PROJECT NO: 1870.00

DRAWN BY:

DRAWING SCALE: 1/8" = 1' - 0"

PTN: 61721-77 FILE NO: 7-H4

BID SET

MAY 10, 2021

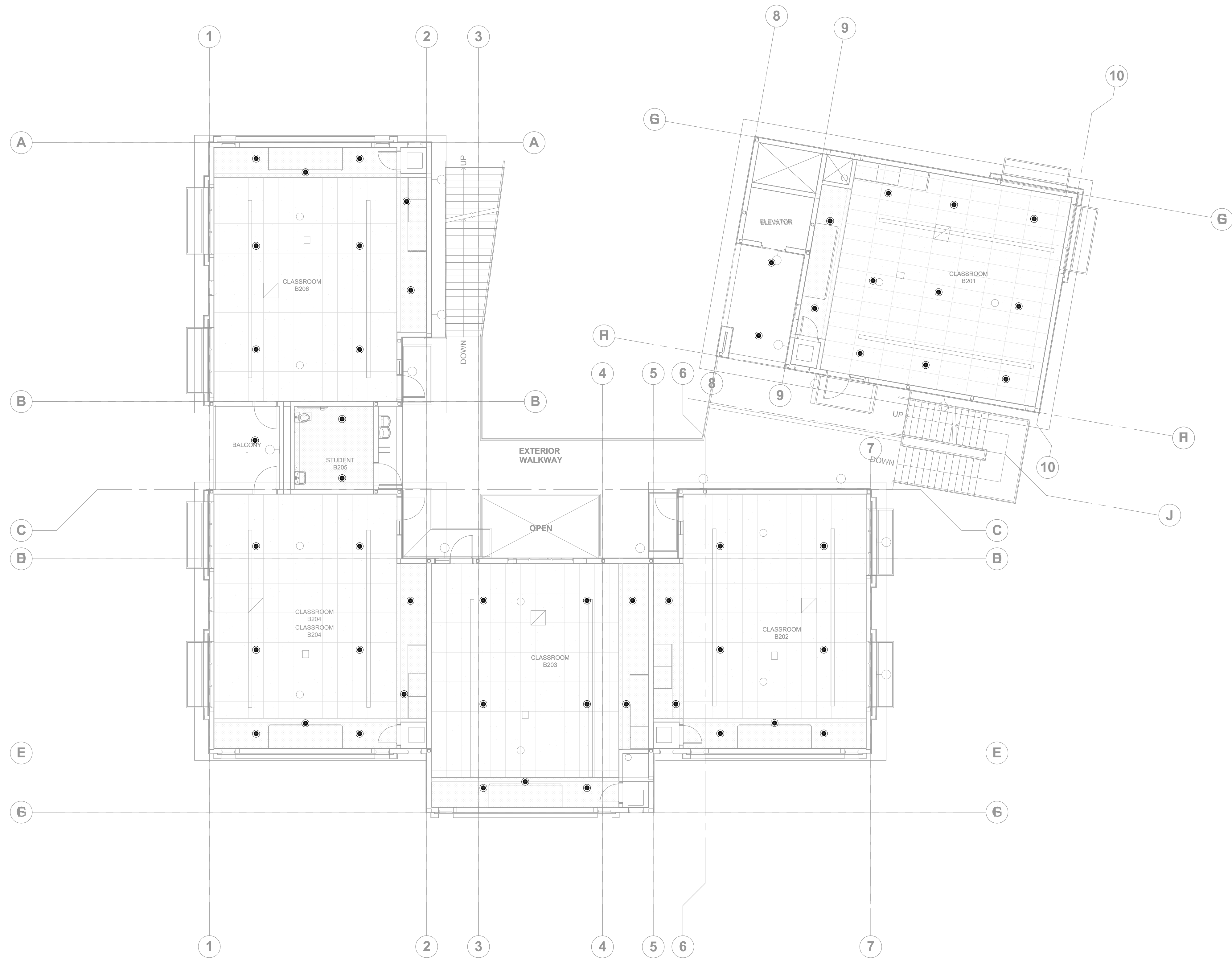
SHEET TITLE

CEILING PLAN - FIRE PROTECTION

SHEET NUMBER

FP-B3.1

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1
FP-B3.2

SECOND FLOOR CEILING PLAN - FIRE PROTECTION

SCALE: 1/8" = 1'-0"

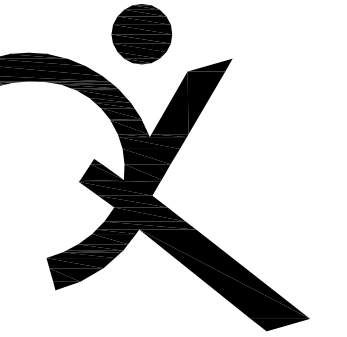


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DISTRICT

REVISIONS

NO.	DESCRIPTION	DATE

DSA APP NO. 01-119268

ARCH PROJECT NO: 1870.00

DRAWN BY:

DRAWING SCALE: 1/8" = 1' - 0"

PTN: 61721-77 FILE NO: 7-H4

BID SET

MAY 10, 2021

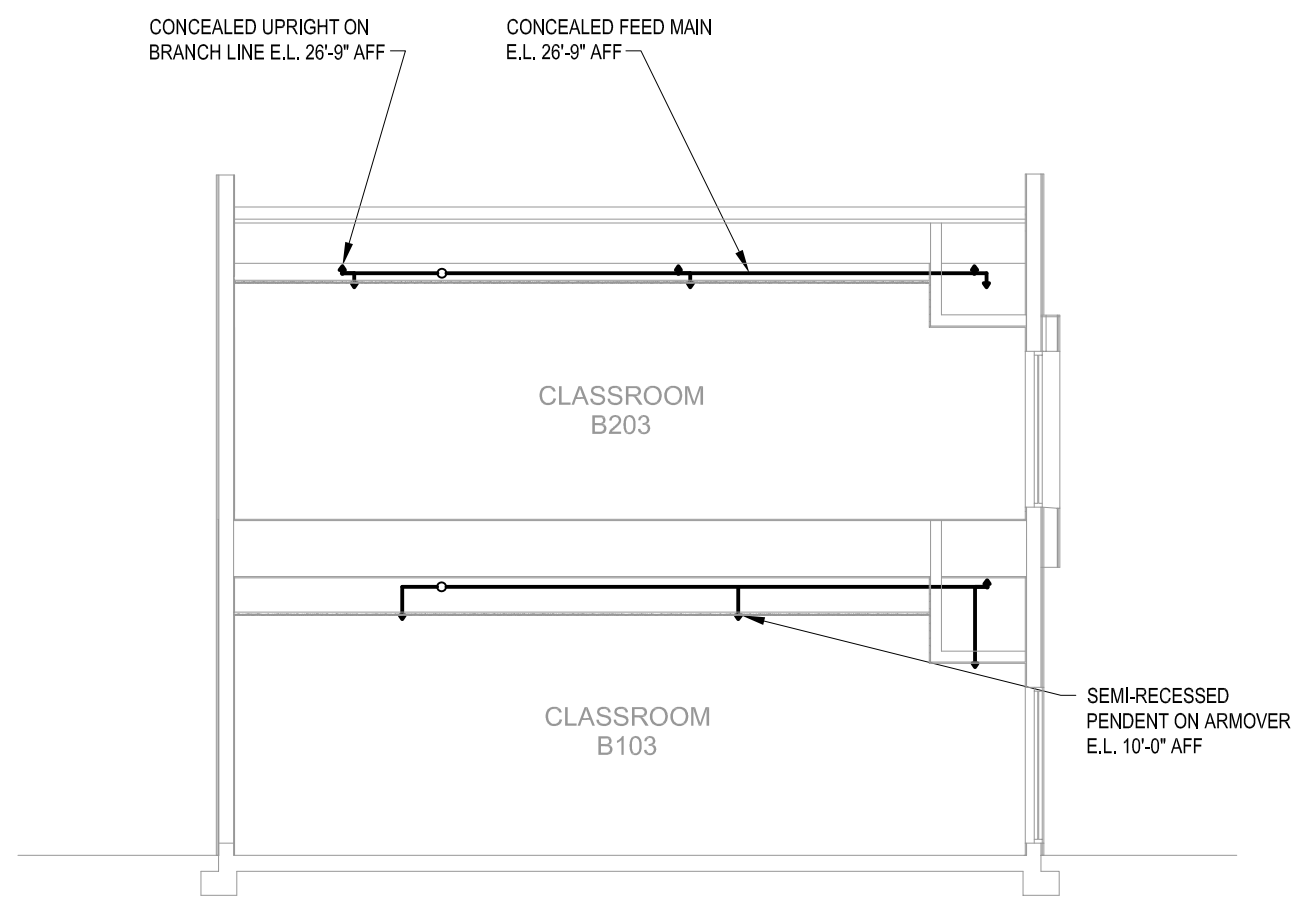
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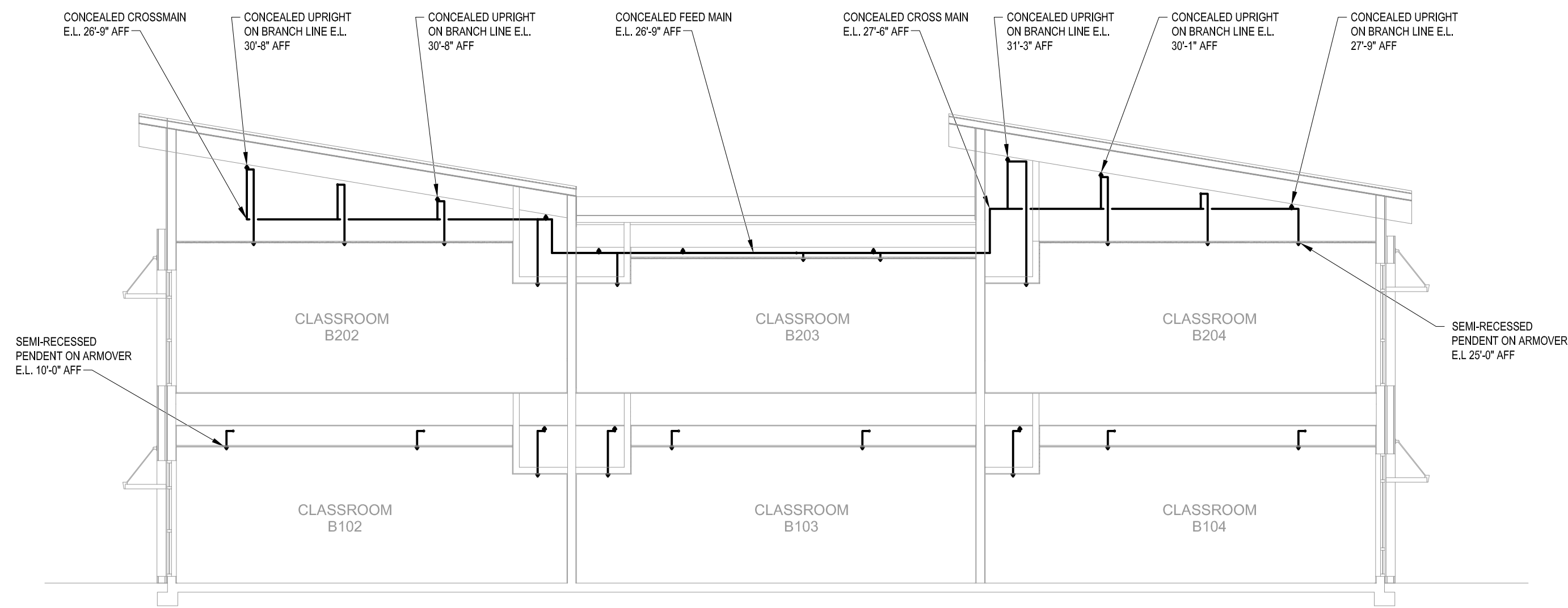
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FP-B3.2

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1 CLASSROOM SECTION - FIRE PROTECTION
FP-B4.1 SCALE: 1/8" = 1'-0"



2 CLASSROOM BUILDING SECTION - FIRE PROTECTION
FP-B4.1 SCALE: 1/8" = 1'-0"



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REVISIONS

DSA APP NO. 01-119268

ARCH PROJECT NO: 1870.00

DRAWN BY:

DRAWING SCALE: 1/8" = 1' - 0"

PTN: 61721-77 FILE NO: 7-H4

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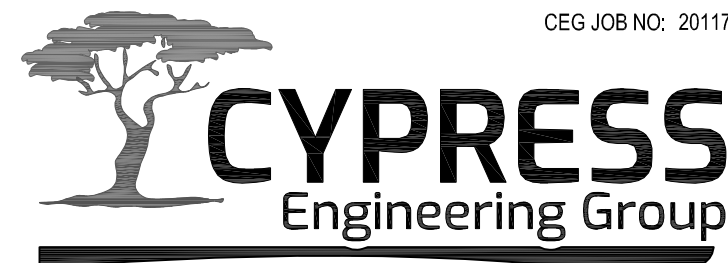
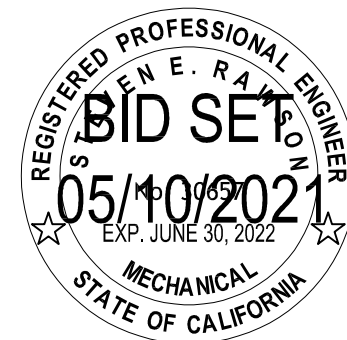
MAY 10, 2021

SHEET TITLE

SECTIONS - FIRE PROTECTION

SHEET NUMBER

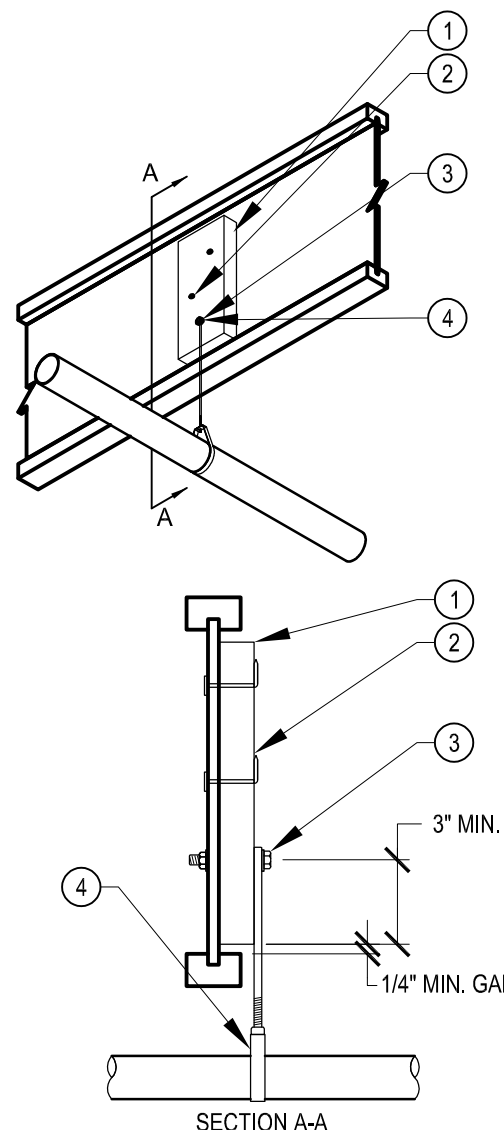
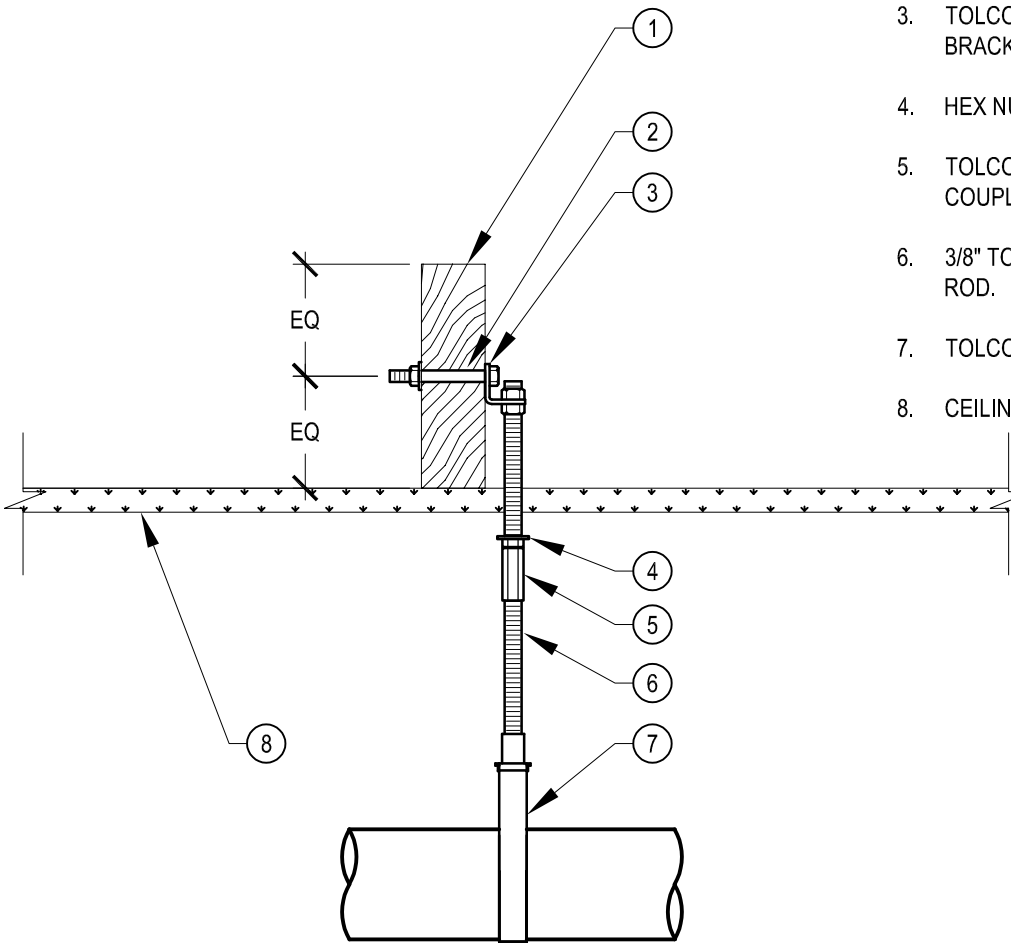
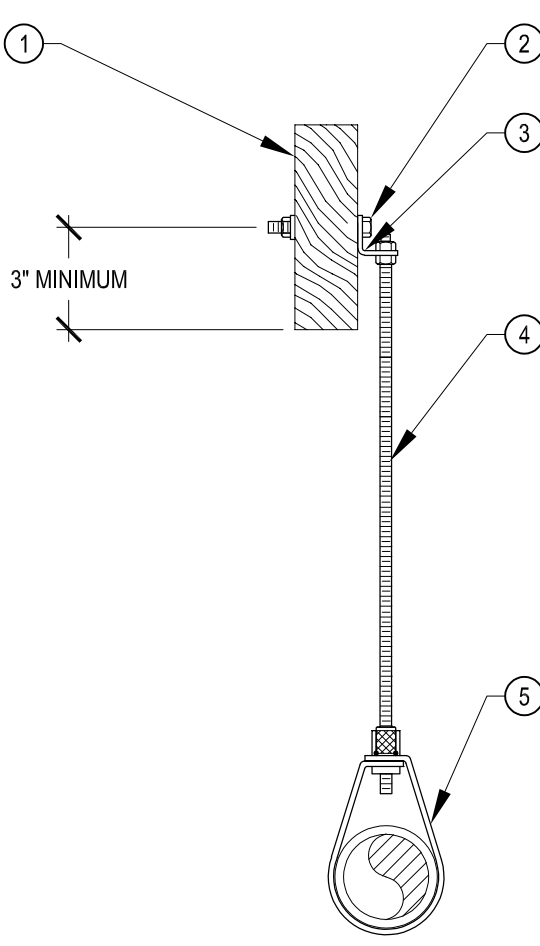
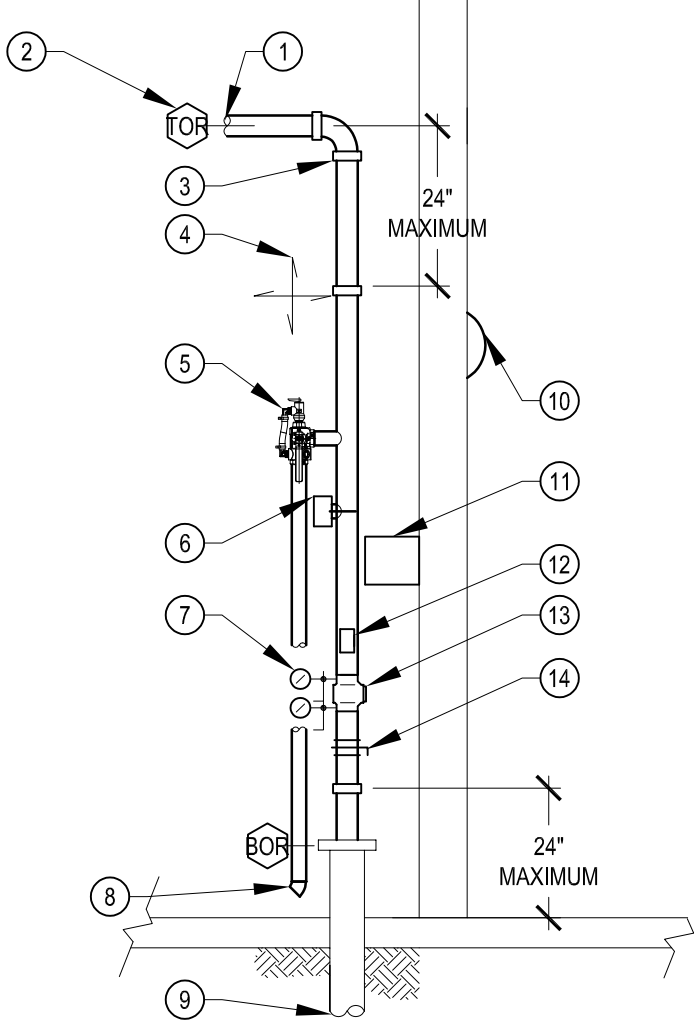
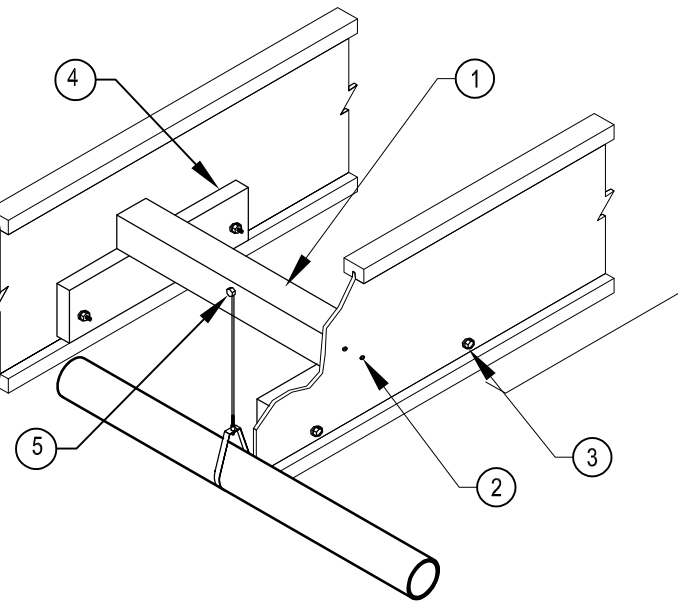
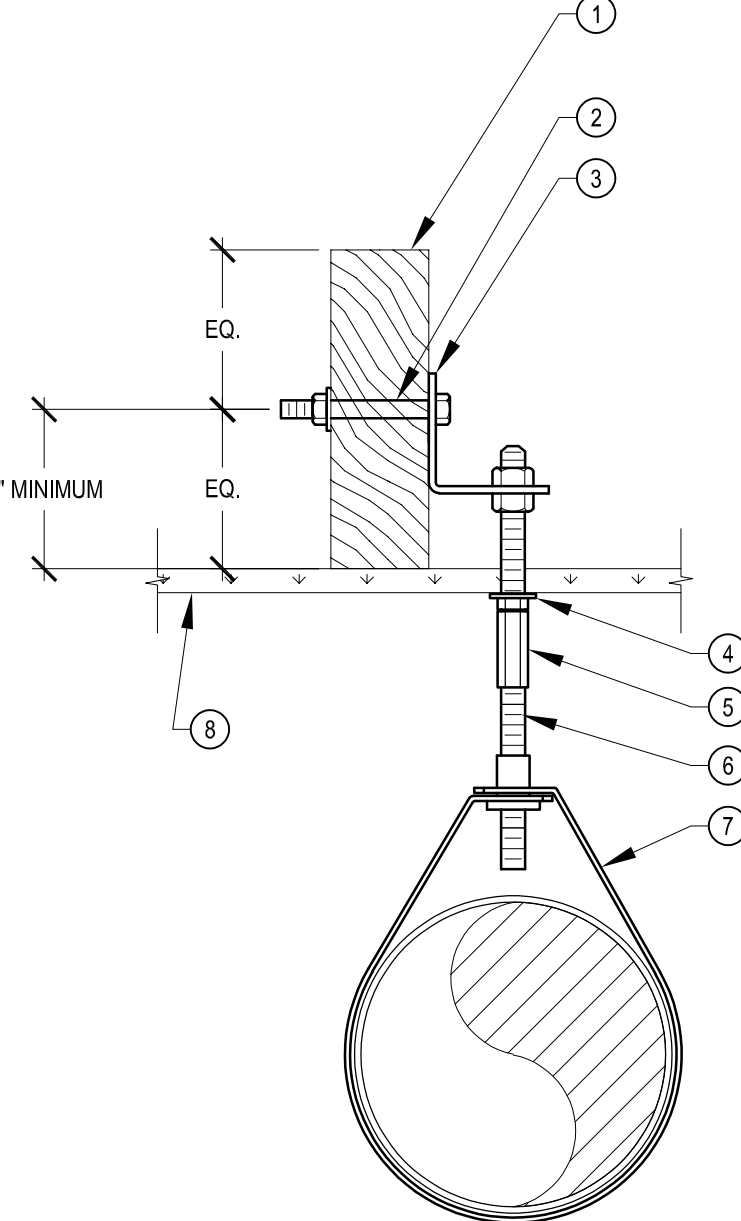
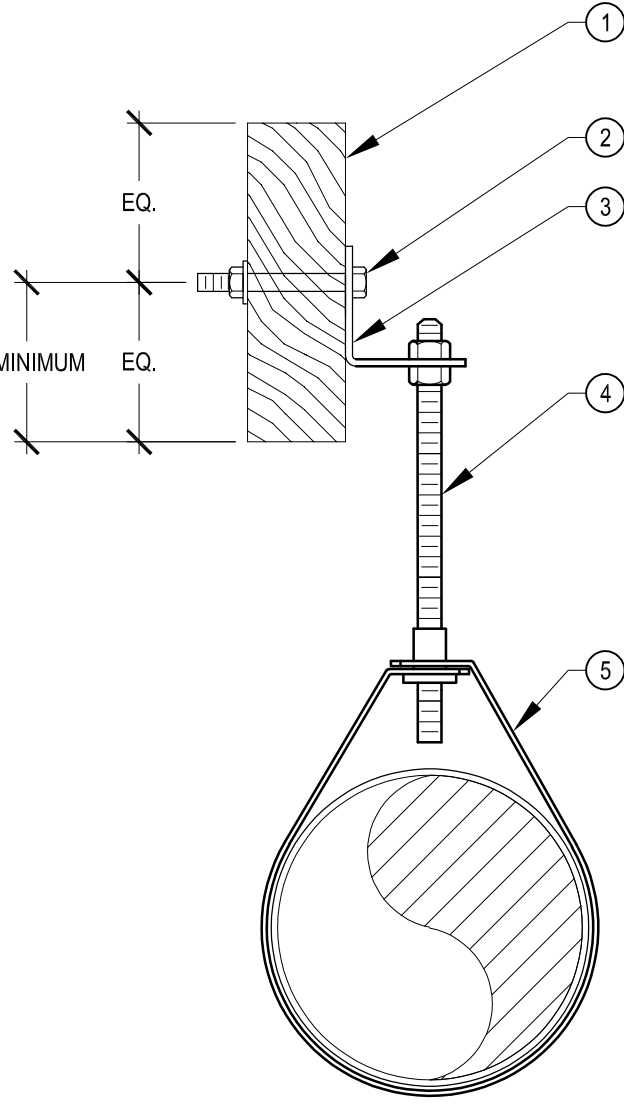
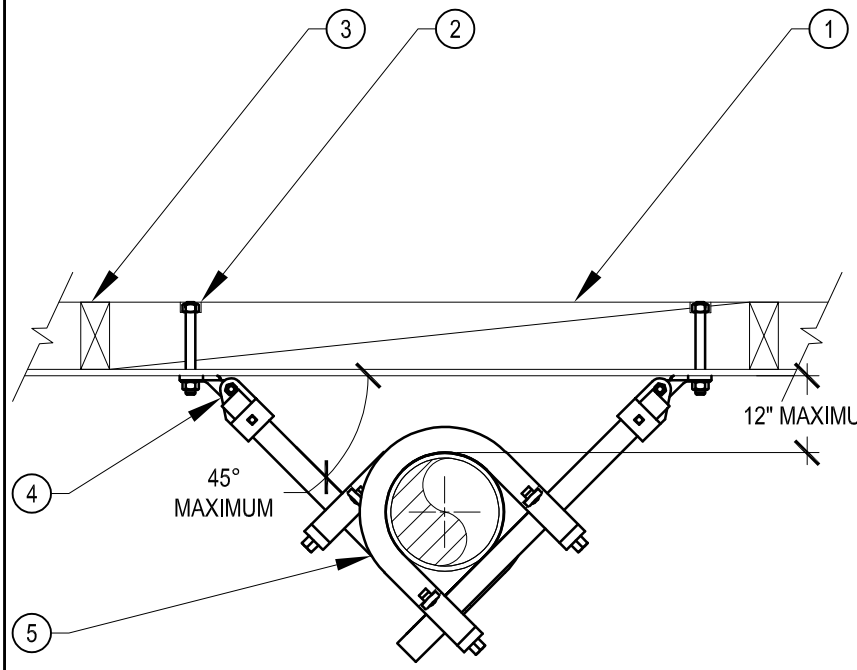
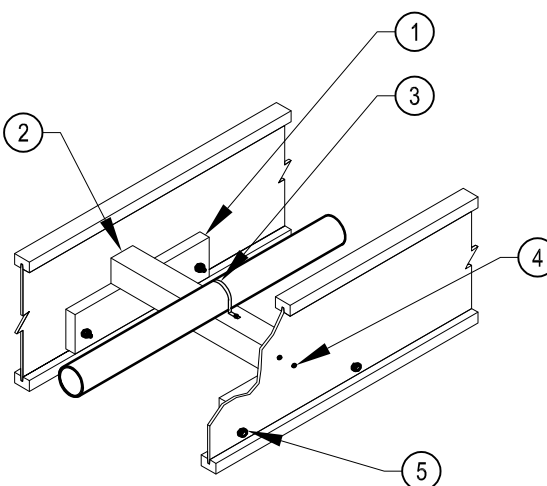
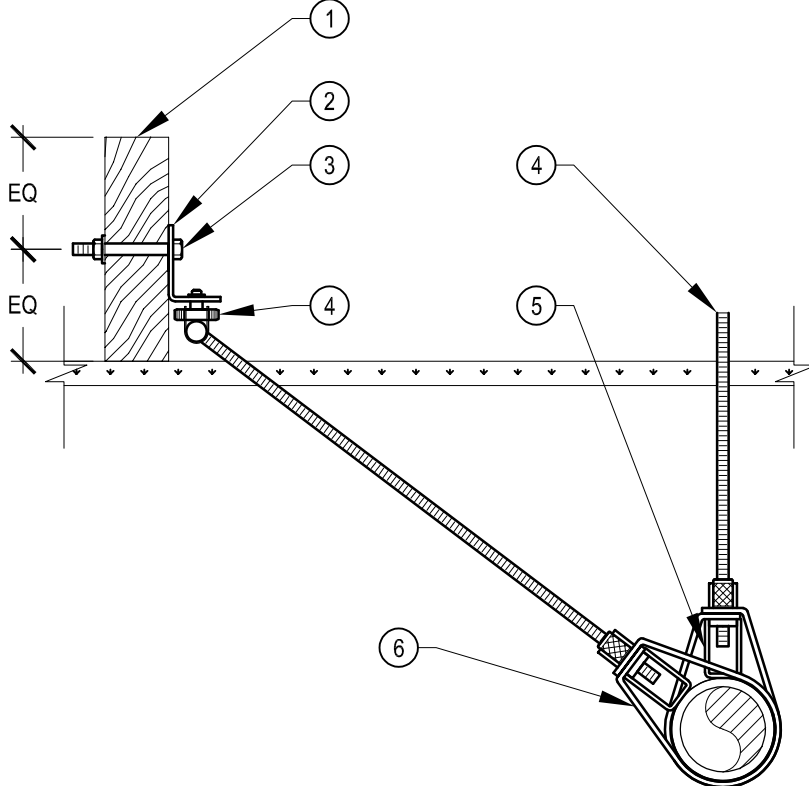
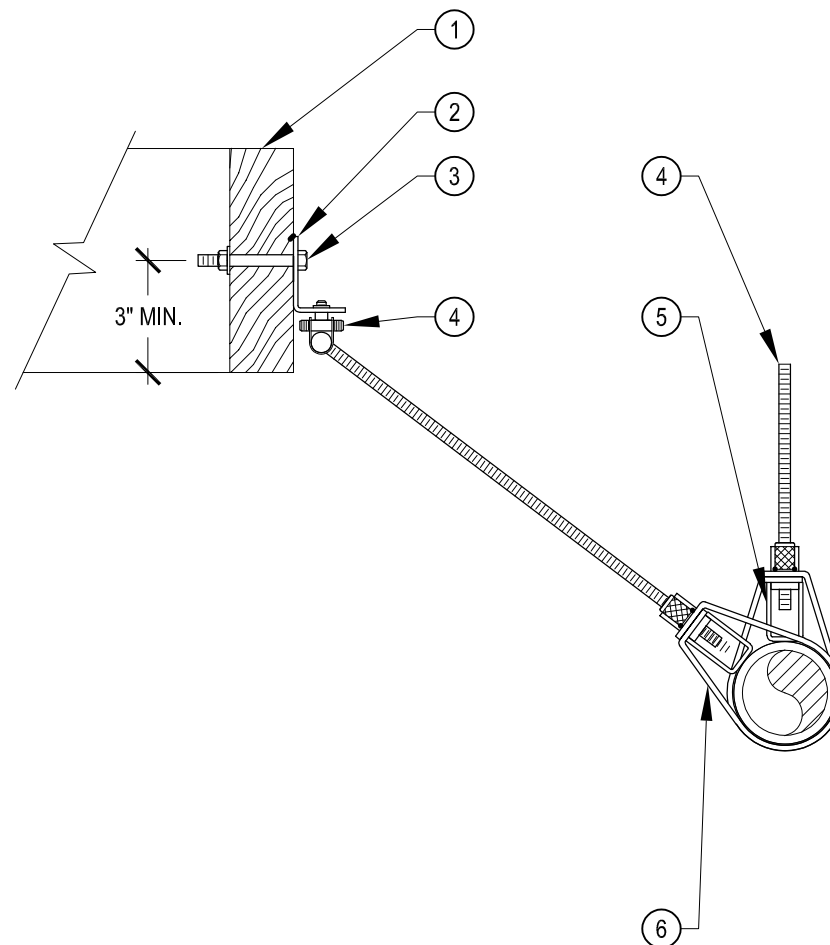
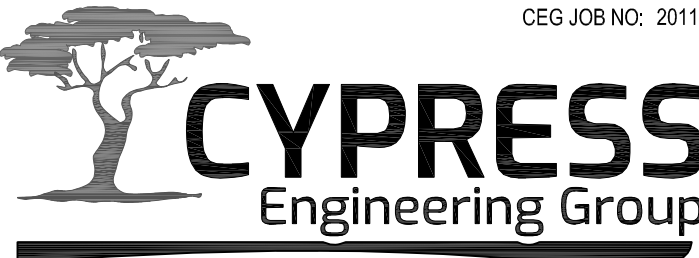
FP-B4.1



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 <p>SECTION A-A</p> <p>MAIN PERPENDICULAR OR PARALLEL TO TJI (AT MAXIMUM HANGER SPACING, MAX. PIPE SIZE IS 2" WITH A 3/8" MACHINE BOLT, OR 4" WITH 1/2" MACHINE BOLT)</p>		<p>DETAIL NOTES:</p> <ol style="list-style-type: none">2x6 DOUGLAS FIR NO. 2 WOOD HANGER BLOCK AS REQUIRED. GRAIN ORIENTED VERTICALLY WITH MINIMUM 1/4" GAP BETWEEN BLOCK FLANGE.TWO 10D COMMON NAILS (0.148"x3"), CLINCHED.ONE 3/8" OR 1/2" DIAMETER MACHINE BOLT WITH WASHER, TURNED TIGHT.SEE 3/FP-6.1 OR 4/FP-6.1 FOR THROUGH BLOT, SIDE BEAM CLIP AND RING HANGER.		 <p>DETAIL NOTES:</p> <ol style="list-style-type: none">MIN. 3x WOOD STRUCTURE. PROVIDE BLOCKING WHEN 3x OR GREATER STRUCTURE IS NOT AVAILABLE. SEE DETAIL 9/FP-6.1 OR 10/FP-6.1.3/8" THROUGH BOLT.TOLCO FIG. 58 THREADED SIDE BEAM BRACKET.HEX NUT AND WASHER.TOLCO FIG 71 WINDOW ROD COUPLING.3/8" TOLCO FIG. 100 ALL THREAD ROD.TOLCO FIG. 200 RING HANGER.CEILING.		 <p>NOTE: FOR PIPE SIZES UP TO AND INCLUDING 2"</p> <p>DETAIL NOTES:</p> <ol style="list-style-type: none">MIN. 3x WOOD STRUCTURE. PROVIDE BLOCKING WHEN 3x OR GREATER STRUCTURE IS NOT AVAILABLE. SEE DETAIL 9/FP-6.1 OR 10/FP-6.1.3/8" THROUGH BOLTTOLCO FIG. 58 THREADED SIDE BEAM BRACKET3/8" TOLCO FIG. 100 ALL THREAD RODTOLCO FIG. 200 RING HANGER		 <p>DETAIL NOTES:</p> <ol style="list-style-type: none">TO SYSTEM. SEE SPRINKLER PIPING PLANHYDRAULIC CALCULATION NODE, TYPFLEXIBLE COUPLING, TYP4-WAY BRACE, SEE X/FP6.22" TESTANDRAIN MODEL 1011A WITH MODEL 7000 PRESSURE RELIEVE VALVE SET AT 175 PSIFLOW SWITCHPRESSURE GAGE, TYPPROVIDE TERMINATION WITH 45° EL TO SMOOTH BORE CORROSION-RESISTANT OUTLET GIVING FLOW EQUIVALENT TO ONE SPRINKLER FOR ALARM TEST IN ACCORDANCE WITH NFPA 13-8.17.4.2.4. DAYLIGHT OVER HUB DRAIN. SEE PLUMBING DRAWINGS.SEE 1/FP0.1 FOR UNDERGROUND RISER10" 120V ALARM BELLSPARE HEAD CABINETHYDRAULIC DATA PLATETYCO CV-1FR UL LISTED CHECK VALVEBUTTERFLY INDICATING VALVE WITH TAMPER SWITCH			
9	STRUCTURE ATTACHMENT	N.T.S.	6	RING HANGER	N.T.S.	3	RING HANGER	N.T.S.	1	WET RISER	N.T.S.
 <p>MAIN PERPENDICULAR OR PARALLEL TO TJI (FOR PIPE SIZES UP TO 6" WITH A MAXIMUM SUPPORT SPACING OF 15 FEET)</p>		<p>DETAIL NOTES:</p> <ol style="list-style-type: none">4x6 DOUGLAS FIR NO. 2 WOOD HANGER BLOCK AS REQUIRED.TWO 16D COMMON NAILSTWO 3/8" DIAMETER MACHINE BOLT PER JOIST WITH 1" WASHER, TURNED TIGHT.2x6x18" LONG MINIMUMSEE 3/FP-6.1 OR 4/FP-6.1 FOR THROUGH BLOT, SIDE BEAM CLIP AND RING HANGER.		 <p>DETAIL NOTES:</p> <ol style="list-style-type: none">MIN. 3x WOOD STRUCTURE. PROVIDE BLOCKING WHEN 3x OR GREATER STRUCTURE IS NOT AVAILABLE. SEE DETAIL 9/FP-6.1 OR 10/FP-6.1.1/2" THROUGH BOLT.TOLCO FIG. 51 SIDE BEAM BRACKET.HEX NUT AND WASHER.TOLCO FIG 71 WINDOW ROD COUPLING.1/2" TOLCO FIG. 100 ALL THREAD ROD.TOLCO FIG. 200 RING HANGER.CEILING.		 <p>DETAIL NOTES:</p> <ol style="list-style-type: none">MIN. 3x WOOD STRUCTURE. PROVIDE BLOCKING WHEN 3x OR GREATER STRUCTURE IS NOT AVAILABLE. SEE DETAIL 9/FP-6.1 OR 10/FP-6.11/2" THROUGH-BOLTTOLCO FIG. 51 SIDE BEAM BRACKET3/8" TOLCO FIG. 100 ALL THREAD RODTOLCO FIG 200 ADJUSTABLE RING HANGER		 <p>DETAIL NOTES:</p> <ol style="list-style-type: none">PROVIDE 4X BLOCKING W/34 TOP AND BOTTOM AT EACH END1/2" Ø GALV. THROUGH BOLT(E) WALL FRAMINGTOLCO FIG 909 SWIVELTOLCO 1001 FAST CLAMP SWAY BRACE ATTACHMENT			
10	STRUCTURE ATTACHMENT	N.T.S.	7	RING HANGER	N.T.S.	4	RING HANGER	N.T.S.	2	RISER BRACE	N.T.S.
 <p>HANGER BLOCK SIZE (4X4 BLOCK FOR TJI JOIST SPACED 32" ON CENTER OR LESS, 4X6 BLOCK FOR TJI JOIST SPACED AT 48")</p>		<p>DETAIL NOTES:</p> <ol style="list-style-type: none">MINIMUM 2x6x18" LONG DOUGLAS FIR NO. 2 WOOD HANGER BLOCK AS REQUIRED, TIGHT TO BOTTOM FLANGE.HANGER BLOCK.PIPE STRAP OR INVERTED U-HOOK, CENTERED BETWEEN JOIST.TWO 16D COMMON NAILS.TWO 3/8" DIAMETER MACHINE BOLTS PER JOIST WITH 1" WASHER TURNED TIGHT.		 <p>DETAIL NOTES:</p> <ol style="list-style-type: none">MIN. 3x WOOD STRUCTURE. PROVIDE BLOCKING WHEN 3x OR GREATER STRUCTURE IS NOT AVAILABLE. SEE DETAIL 9/FP-6.1.TOLCO FIG. 51 SIDE BEAM BRACKET1/2" THROUGH-BOLTTOLCO FIG 75 SWIVEL ATTACHMENTSEE 3/FP-6.1 FOR HANGER ATTACHMENTTOLCO FIG 25 SURGE ARRESTOR AT RESTRAINT LOCATION PER NFPA 13-9.3.6.2TOLCO FIG 200 ADJUSTABLE RING HANGER		 <p>DETAIL NOTES:</p> <ol style="list-style-type: none">MIN. 3x WOOD STRUCTURE. PROVIDE BLOCKING WHEN 3x OR GREATER STRUCTURE IS NOT AVAILABLE. SEE DETAIL 9/FP-6.1.TOLCO FIG. 51 SIDE BEAM BRACKET1/2" THROUGH-BOLTTOLCO FIG 75 SWIVEL ATTACHMENTSEE 3/FP-6.1 FOR HANGER ATTACHMENTTOLCO FIG 25 SURGE ARRESTOR AT RESTRAINT LOCATION PER NFPA 13-9.3.6.2TOLCO FIG 200 ADJUSTABLE RING HANGER					
11	STRUCTURE ATTACHMENT	N.T.S.	8	BRANCH LINE RESTRAINT	N.T.S.	5	BRANCH LINE RESTRAINT	N.T.S.	<div><div><div>REGISTERED PROFESSIONAL ENGINEER STATE OF CALIFORNIA No. 10000 EXP. JUNE 30, 2021</div><div>BID SET 05/10/2021</div></div><div><p>CEG JOB NO.: 20117</p><p>HVAC, Plumbing, Fire Protection</p></div></div>		



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HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS INCREMENT 2 OF 2

101 AMERICAN AVE,
BRENTWOOD, CA 94513

LIBERTY UNION
HIGH SCHOOL
DISTRICT

REVISIONS

NO.	DESCRIPTION	DATE

DSA APP NO. 01-119268

ARCH PROJECT NO: 1870.00

DRAWN BY:

DRAWING SCALE: NONE

PTN: 61721-77 FILE NO: 7-H4

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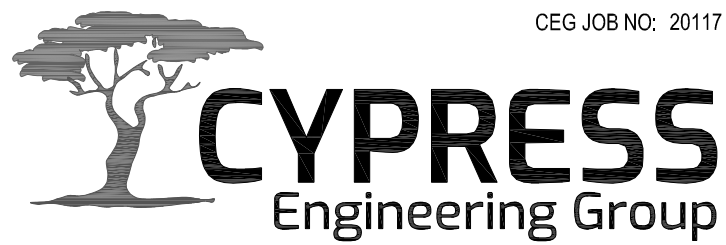
MAY 10, 2021

SHEET TITLE

DETAILS - FIRE PROTECTION

SHEET NUMBER

FP-6.1



CEG JOB NO: 20117

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INCREMENT 2 OF 2

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BRENTWOOD, CA 94513

LIBERTY UNION
HIGH SCHOOL
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REVISIONS

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ARCH PROJECT NO: 1870.00

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DRAWING SCALE: NONE

PTN: 61721-77 FILE NO: 7-H4

BID SET

MAY 10, 2021

SHEET TITLE

DETAILS - FIRE PROTECTION

SHEET NUMBER

FP-6.2

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Seismic Bracing Calculations

Sheet_X_of_X

Project:

HERITAGE HIGH SCHOOL NEW CLASSROOM BUILDINGS

Address:

101 AMERICAN AVE, BRENTWOOD, CA 94513

Cypress Engineering Group

8 Harris Ct., Suite A8

Monterey, CA 93940

(831) 218 - 1802

Brace Information

Maximum Spacing: 30'-0"

Maximum Brace Length: 7'-0"

Bracing Material: 1" Sch. 40

Angle from Vertical: 60° MINIMUM

Least radius of gyration: 0.421"

L/R value: 200

Maximum Horizontal load: 1604 lbs

NFPA 13: Table 9.3.5.11.8(b)

Seismic Brace Attachments

Structure attachment or tension-only bracing system:

Make: TOLCO Model: FIG 309 NO THREAD SWIVEL

Listed load rating: 2015 Adjusted load rating: 1745

Sway brace (pipe attachment) fitting:

Make: TOLCO Model: FIG 1001 IN-LINE SWAY BRACE

Listed load rating: 2015 Adjusted load rating: 1745

Fastener Information

Orientation of connecting surface: NFPA Type I

Type: THROUGH BOLT

Diameter: 1/2 in

Length: 3 1/2 in

Maximum load: 485 lbs

NFPA 13: Figure 9.3.5.12.1

Seismic Brace Assembly Detail

(Provide detail on plans)

SEE DETAIL 3/FP-6.2 SEE DETERMINATION OF SEISMIC COEFFICIENT Cp ON FP-0.1

Brace Identification no. (to be used on plans) SB-3

☒ Lateral brace ☐ Longitudinal brace

Seismic Coefficient Cp= 0.75 (See Attached NFPA13: Table 9.3.5.9.3)

Diameter	Type	Length	Total (ft)	Weight per ft	Total Weight
4 in	Sch. 10 Steel	.	30	11.78 lb/ft	353.4 lb
.	.	.	.	lb/ft	lb
.	.	.	.	lb/ft	lb
.	.	.	.	lb/ft	lb
.	.	.	.	lb/ft	lb
.	.	.	.	lb/ft	lb
.	.	.	.	lb/ft	lb
Total Weight of Water Filled Piping					353.4 lb
Wp (Total Weight of Water Filled Piping x 1.15 to account for valves and fittings)					406.4 lb
Horizontal Force (NFPA13.9.3.5.9.3) Fpw = Cp x Wp =					304.8 lb
*Excludes tension-only bracing systems					

Seismic Bracing Calculations

Sheet_X_of_X

Project:

HERITAGE HIGH SCHOOL NEW CLASSROOM BUILDINGS

Address:

101 AMERICAN AVE, BRENTWOOD, CA 94513

Cypress Engineering Group

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Brace Information

Maximum Spacing: 20'-0"

Maximum Brace Length: 7'-0"

Bracing Material: 1" Sch. 40

Angle from Vertical: 60° MINIMUM

Least radius of gyration: 0.421"

L/R value: 200

Maximum Horizontal load: 1604 lbs

NFPA 13: Table 9.3.5.11.8(b)

Seismic Brace Attachments

Structure attachment or tension-only bracing system:

Make: TOLCO Model: FIG 309 NO THREAD SWIVEL

Listed load rating: 2015 Adjusted load rating: 1745

Sway brace (pipe attachment) fitting:

Make: TOLCO Model: FIG 1001 IN-LINE SWAY BRACE

Listed load rating: 2015 Adjusted load rating: 1745

Fastener Information

Orientation of connecting surface: NFPA Type I

Type: THROUGH BOLT

Diameter: 1/2 in

Length: 3 1/2 in

Maximum load: 485 lbs

NFPA 13: Figure 9.3.5.12.1

Seismic Brace Assembly Detail

(Provide detail on plans)

SEE DETAIL 3/FP-6.2 SEE DETERMINATION OF SEISMIC COEFFICIENT Cp ON FP-0.1

Brace Identification no. (to be used on plans) SB-3

☒ Lateral brace ☐ Longitudinal brace

Seismic Coefficient Cp= 0.75 (See Attached NFPA13: Table 9.3.5.9.3)

Diameter	Type	Length	Total (ft)	Weight per ft	Total Weight
2.5 in	Sch. 10 Steel	.	20	5.89 lb/ft	117.8 lb
1.25 in	Sch. 40 Steel	.	18	2.93 lb/ft	52.8 lb
1 in	Sch. 40 Steel	.	44	2.05 lb/ft	90.2 lb
.	.	.	.	lb/ft	lb
.	.	.	.	lb/ft	lb
.	.	.	.	lb/ft	lb
.	.	.	.	lb/ft	lb
Total Weight of Water Filled Piping					260.8 lb
Wp (Total Weight of Water Filled Piping x 1.15 to account for valves and fittings)					299.9 lb
Horizontal Force (NFPA13.9.3.5.9.3) Fpw = Cp x Wp =					224.9 lb
*Excludes tension-only bracing systems					

Seismic Bracing Calculations

Sheet_X_of_X

Project:

HERITAGE HIGH SCHOOL NEW CLASSROOM BUILDINGS

Address:

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Cypress Engineering Group

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Brace Information

Maximum Spacing: 30'-0"

Maximum Brace Length: 7'-0"

Bracing Material: 1" Sch. 40

Angle from Vertical: 60° MINIMUM

Least radius of gyration: 0.421"

L/R value: 200

Maximum Horizontal load: 1604 lbs

NFPA 13: Table 9.3.5.11.8(b)

Seismic Brace Attachments

Structure attachment or tension-only bracing system:

Make: TOLCO Model: FIG 309 NO THREAD SWIVEL

Listed load rating: 2015 Adjusted load rating: 1745

Sway brace (pipe attachment) fitting:

Make: TOLCO Model: FIG 4L IN-LINE SWAY BRACE

Listed load rating: 2015 Adjusted load rating: 1745

Fastener Information

Orientation of connecting surface: NFPA Type I

Type: THROUGH BOLT

Diameter: 1/2 in

Length: 3 1/2 in

Maximum load: 485 lbs

NFPA 13: Figure 9.3.5.12.1

Seismic Brace Assembly Detail

(Provide detail on plans)

SEE DETAIL 6/FP-6.2 SEE DETERMINATION OF SEISMIC COEFFICIENT Cp ON FP-0.1

Brace Identification no. (to be used on plans) SB-4

☐ Lateral brace ☒ Longitudinal brace

Seismic Coefficient Cp= 0.75 (See Attached NFPA13: Table 9.3.5.9.3)

Diameter	Type	Length	Total (ft)	Weight per ft	Total Weight
4 in	Sch. 10 Steel	.	30	11.78 lb/ft	353.4 lb
.	.	.	.	lb/ft	lb
.	.	.	.	lb/ft	lb
.	.	.	.	lb/ft	lb
.	.	.	.	lb/ft	lb
.	.	.	.	lb/ft	lb
Total Weight of Water Filled Piping					353.4 lb
Wp (Total Weight of Water Filled Piping x 1.15 to account for valves and fittings)					406.4 lb
Horizontal Force (NFPA13.9.3.5.9.3) Fpw = Cp x Wp =					264.2 lb
*Excludes tension-only bracing systems					

Seismic Bracing Calculations

Sheet_X_of_X

Project:

HERITAGE HIGH SCHOOL NEW CLASSROOM BUILDINGS

Address:

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Brace Information

Maximum Spacing: 30'-0"

Maximum Brace Length: 7'-0"

Bracing Material: 1" Sch. 40

Angle from Vertical: 60° MINIMUM

Least radius of gyration: 0.421"

L/R value: 200

Maximum Horizontal load: 1604 lbs

NFPA 13: Table 9.3.5.11.8(b)

Seismic Brace Attachments

Structure attachment or tension-only bracing system:

Make: TOLCO Model: FIG 309 NO THREAD SWIVEL

Listed load rating: 2015 Adjusted load rating: 1745

Sway brace (pipe attachment) fitting:

Make: TOLCO Model: FIG 4L IN-LINE SWAY BRACE

Listed load rating: 2015 Adjusted load rating: 1745

Fastener Information

Orientation of connecting surface: NFPA Type I

Type: THROUGH BOLT

Diameter: 1/2 in

Length: 3 1/2 in

Maximum load: 485 lbs

NFPA 13: Figure 9.3.5.12.1

Seismic Brace Assembly Detail

(Provide detail on plans)

SEE DETAIL 4/FP-6.2 SEE DETERMINATION OF SEISMIC COEFFICIENT Cp ON FP-0.1

Brace Identification no. (to be used on plans) SB-2

☐ Lateral brace ☒ Longitudinal brace

Seismic Coefficient Cp= 0.75 (See Attached NFPA13: Table 9.3.5.9.3)

Diameter	Type	Length	Total (ft)	Weight per ft	Total Weight
4 in	Sch. 10 Steel	.	30	11.78 lb/ft	353.4 lb
.	.	.	.	lb/ft	lb
.	.	.	.	lb/ft	lb
.	.	.	.	lb/ft	lb
.	.	.	.	lb/ft	lb
.	.	.	.	lb/ft	lb
Total Weight of Water Filled Piping					353.4 lb
Wp (Total Weight of Water Filled Piping x 1.15 to account for valves and fittings)					406.4 lb
Horizontal Force (NFPA13.9.3.5.9.3) Fpw = Cp x Wp =					264.2 lb
*Excludes tension-only bracing systems					



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HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS INCREMENT 2 OF 2

101 AMERICAN AVE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

REVISIONS		

DSA APP NO. 01-119268

ARCH PROJECT NO: 1870.00

DRAWN BY:

DRAWING SCALE: NONE

PTN: 61721-77 FILE NO: 7-H4

BID SET

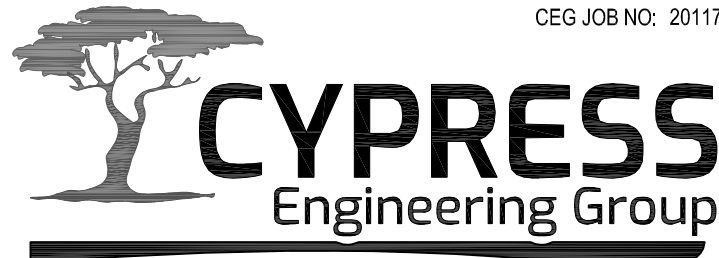
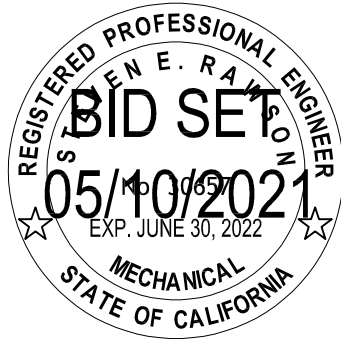
MAY 10, 2021

SHEET TITLE

SEISMIC BRACING CALCULATIONS - FIRE PROTECTION

SHEET NUMBER

FP-6.3



CEG JOB NO: 20117

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Training & Technical Support

Project Name:	Heritage High School New Classroom Building A	NRCC-PRF-01-E	Page 1 of 14
Project Address:	101 American Avenue Brentwood 94513	Calculation Date/Time:	10:28, Tue, Dec 22, 2020
Input File Name:	Heritage HS Classroom Bldg A.cibd19x		

A. GENERAL INFORMATION			
1. Project Location (city)	Brentwood	8. Standards Version	Compliance2019
2. CA Zip Code	94513	9. Compliance Software (version)	EnergyPro 8.1
3. Climate Zone	12	10. Weather File	LIVERMORE_724927_CZ2010.gpw
4. Total Conditioned Floor Area in Scope	3,441 ft²	11. Building Orientation (deg)	(E) 90 deg
5. Total Unconditioned Floor Area	260 ft²	12. Permitted Scope of Work	NewEnvelopeAndMechanical
6. Total # of Stories (Habitable Above Grade)	1	13. Building Type(s)	Nonresidential
7. Total # of dwelling units	0	14. Gas Type	NaturalGas

B. PROJECT SUMMARY			
Table Instructions: Table B shows which building components are included in the performance calculation. If indicated as not included, the project must show compliance prescriptively if within permit application.			
Building Components Complying via Performance		Building Components Complying Prescriptively	
Envelope	<input checked="" type="checkbox"/> Performance	Covered Process: Commercial Kitchens	<input type="checkbox"/> Performance
	<input type="checkbox"/> Not Included		<input type="checkbox"/> Not Included
Mechanical	<input checked="" type="checkbox"/> Performance	Covered Process: Computer Rooms	<input type="checkbox"/> Performance
	<input type="checkbox"/> Not Included		<input type="checkbox"/> Not Included
Domestic Hot Water	<input checked="" type="checkbox"/> Performance	Covered Process: Laboratory Exhaust	<input type="checkbox"/> Performance
	<input type="checkbox"/> Not Included		<input type="checkbox"/> Not Included
Lighting (Indoor Conditioned)	<input type="checkbox"/> Performance		Electrical power systems, commissioning and solar ready requirements are mandatory and should be documented on the NRCC form listed if applicable (i.e. compliance will not be shown on the NRCC-PRF-E.)
	<input type="checkbox"/> Not Included		Electrical Power Distribution S110.11
Solar Thermal Water Heating	<input checked="" type="checkbox"/> Performance		Commissioning S120.8
	<input type="checkbox"/> Not Included		Solar Ready S110.10

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-04282020-6206 Report Generated at: 2020-12-22 10:28:51

Project Name:	Heritage High School New Classroom Building A	NRCC-PRF-01-E	Page 4 of 14
Project Address:	101 American Avenue Brentwood 94513	Calculation Date/Time:	10:28, Tue, Dec 22, 2020
Input File Name:	Heritage HS Classroom Bldg A.cibd19x		

H. FENESTRATION ASSEMBLY SUMMARY §10.6								
1. Fenestration Assembly Name / Tag or I.D.	2. Fenestration Type / Product Type / Frame Type	3. Certification Method¹	4. Assembly Method	5. Area ft²	6. Overall U-factor	7. Overall SHGC	8. Overall VT	9. Status
NFRC 0.40 0.36 1f	VerticalFenestration CurtainWall	NFRC Rated	Manufactured	448	0.40	0.36	0.56	N
Glazed door	VerticalFenestration GlazedDoor MetalFramingWithThermalBreak	Default Performance	Manufactured	84	0.59	0.63	0.53	N

¹ Newly installed fenestration that has a certified NFRC label Certificate or on the DEC default tables found in Table 10.6-A and Table 10.6-B. Center of Glass (COG) values are for the glass only, determined by the manufacturer, and are shown for ease of verification. The built fenestration values are calculated per Nonresidential Appendix M6 and are used in the analysis.
² Status: N - New, A - Altered, E - Existing

I. ENVELOPE DETAILS §120.7 & §140.3								
1I. OPAQUE SURFACE ASSEMBLY SUMMARY								
1. Surface Name	2. Surface Type	3. Description of Assembly Layers	4. Area (ft²)	5. Framing Type	6. Cavity R-Value	7. Continuous R-Value	8. U-Factor / F-Factor / C-Factor	9. Status
R-30 Metal Roof8	Roof	Metal Standing Seam - 1/16 in. Plywood - 5/8 in. Wood framed roof, 24in. OC, 11.25in., R-30 Air - Cavity - Wall Roof Ceiling - 4 in. or more Acoustic Tile - 1/2 in.	3236	Wood	30	NA	U-Factor: 0.032	N
R-19 Wall stucco11	ExteriorWall	Gypsum plaster - on metal lath 70 lb/ft3 - 3/4 in. Air - Wall - 1/2 in. Vapor permeable felt - 1/8 in. Plywood - 5/8 in. Wood framed wall, 16in. OC, 5.5in., R-19 Gypsum Board - 5/8 in.	4471	Wood	19	NA	U-Factor: 0.062	N
Slab On Grade24	UndergroundFloor	Slab Type = UnheatedSlabOnGrade Insulation Orientation = None Insulation R-Value = R0	3701	NA	0	NA	F-Factor: 0.730	N

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-04282020-6206 Report Generated at: 2020-12-22 10:28:51

Project Name:	Heritage High School New Classroom Building A	NRCC-PRF-01-E	Page 7 of 14
Project Address:	101 American Avenue Brentwood 94513	Calculation Date/Time:	10:28, Tue, Dec 22, 2020
Input File Name:	Heritage HS Classroom Bldg A.cibd19x		

K4. Wet System Equipment (boilers, chillers, cooling towers, etc.)											
1. Name or Item Tag	2. Equipment Type	3. Qty	4. Vol (gal)	5. Rated Capacity (kBtu/h)	6. Efficiency	7. Standby Loss	8. Qty	9. GPM	10. HP	11. VSD [Y/N]	12. Status¹
¹ Status: N - New, A - Altered, E - Existing											

K5. SYSTEM FEATURES §120.2					
1. System Name	2. Optimum Start	3. Window Interlocks per §140.4(n)	4. Evaporative Cooling	5. Heat Recovery	6. Other Controls
AC-A1	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	1 Zones With CO2Sensor Vent. Control, No DDC Differential Drykulu Economizer No Supply Air Temp. Control
AC-A2	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	1 Zones With CO2Sensor Vent. Control, No DDC Differential Drykulu Economizer No Supply Air Temp. Control
SFC-A1	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
WH-A31 - SHW	NA	NA	NA	NA	Fixed Temperature Control, No DDC
WH-A236 - SHW	NA	NA	NA	NA	Fixed Temperature Control, No DDC
WH-A165 - SHW	NA	NA	NA	NA	Fixed Temperature Control, No DDC

Notes: This table includes controls related to the performance path only. For projects using the prescriptive path, mandatory and prescriptive controls requirements are documented on the NRCC-MCH-E.

K6. MECHANICAL VENTILATION AND REHEAT §120.1								
1. Zone Name	2. Ventilation Function	3. # hotel rooms	4. # of people	5. # of bedrooms	6. Supply OA CFM	7. Exhaust CFM	8. Conditioned Area (ft²)	9. DCV or Occupant Sensor Controls, or Both
1-Sports Med A102 Zone	Office - Office space	0	8.09	0	243	0	1618	NA
3-Earth Sci A101 Zone	Education - Classrooms (ages 9-18)	0	40.45	0	607	0	1618	NA

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C1. COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual TDV Energy Use, kBtu/ft²-yr)			
COMPLIES			
Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV)¹
Space Heating	9.16	9.43	-0.27
Space Cooling	60.75	51.42	9.33
Indoor Fans	89.82	74.01	15.81
Heat Rejection	--	--	--
Pumps & Misc.	--	--	--
Domestic Hot Water	15.77	29.56	-13.79
Indoor Lighting	39.57	39.57	--
ENERGY STANDARDS COMPLIANCE TOTAL	215.07	203.99	11.08 (5.2%)

¹ Notes: The number in parenthesis following the Compliance Margin in column 4, represents the Percent Better than Standard.

C2. RESULTS FOR 'ABOVE CODE' QUALIFICATIONS¹			
<input checked="" type="checkbox"/> This project is pursuing CalGreen Tier 1		<input type="checkbox"/> This project is pursuing CalGreen Tier 2	
Miscellaneous Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV)¹
Receptacle	99.96	99.96	--
Process	--	--	--
Other UG	--	--	--
Process Motors	2.18	2.18	--
COMPLIANCE TOTAL PLUS MISCELLANEOUS COMPONENTS	317.21	306.13	11.1 (3.5%)

¹ Notes: This table is used to document compliance with programs OTHER THAN Title 24 Part 6, if applicable.

D. EXCEPTIONAL CONDITIONS	
This project includes partial performance compliance scope options. The building must show compliance with all other applicable compliance scope options (performance or prescriptively) before occupying.	
This project uses the Simplified Geometry Performance Modeling Approach which is not capable of modeling daylighting controls and assumes the prescriptive Secondary Daylit Control requirements are met. PRESCRIPTIVE COMPLIANCE documentation (form NRCC-L1-02-E) for the requirements of section 140.6(d) Automatic Daylighting Controls in Secondary Daylit Zones is required.	

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I. ENVELOPE DETAILS §120.7 & §140.3									
1I. OPAQUE SURFACE ASSEMBLY SUMMARY									
1. Surface Name	2. Surface Type	3. Description of Assembly Layers	4. Area (ft²)	5. Framing Type	6. Cavity R-Value	7. Continuous R-Value	8. U-Factor / F-Factor / C-Factor	9. Status	10. Notes
wall to adj26	InteriorWall	Gypsum Board - 1/2 in. Wood framed wall, 16in. OC, 5.5in., R-19 Gypsum Board - 1/2 in. Built-up roofing - 3/8 in. Fiberboard sheathing - 1/2 in. Compliance Insulation R30.00 Plywood - 5/8 in.	555	Wood	19	NA	U-Factor: 0.068	N	
R-30 BU Roof rigid31	Roof		465	NA	0	30	U-Factor: 0.030	N	

¹ Status: N - New, A - Altered, E - Existing

12. OVERHANG DETAILS		
This Section Does Not Apply		
13. OPAQUE DOOR SUMMARY		
1. Assembly Name	2. Overall U-Factor	3. Status¹
ICM Door34	0.500	N

J. CRRC ROOFING PRODUCT SUMMARY §140.3	
This Section Does Not Apply	
K. HVAC SYSTEM SUMMARY §110.1 & §110.2	

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K4. Wet System Equipment (boilers, chillers, cooling towers, etc.)											
1. Name or Item Tag	2. Equipment Type	3. Qty	4. Vol (gal)	5. Rated Capacity (kBtu/h)	6. Efficiency	7. Standby Loss	8. Qty	9. GPM	10. HP	11. VSD [Y/N]	12. Status¹
¹ Status: N - New, A - Altered, E - Existing											

K5. SYSTEM FEATURES §120.2					
1. System Name	2. Optimum Start	3. Window Interlocks per §140.4(n)	4. Evaporative Cooling	5. Heat Recovery	6. Other Controls
AC-A1	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	1 Zones With CO2Sensor Vent. Control, No DDC Differential Drykulu Economizer No Supply Air Temp. Control
AC-A2	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	1 Zones With CO2Sensor Vent. Control, No DDC Differential Drykulu Economizer No Supply Air Temp. Control
SFC-A1	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
WH-A31 - SHW	NA	NA	NA	NA	Fixed Temperature Control, No DDC
WH-A236 - SHW	NA	NA	NA	NA	Fixed Temperature Control, No DDC
WH-A165 - SHW	NA	NA	NA	NA	Fixed Temperature Control, No DDC

Notes: This table includes controls related to the performance path only. For projects using the prescriptive path, mandatory and prescriptive controls requirements are documented on the NRCC-MCH-E.

K6. MECHANICAL VENTILATION AND REHEAT §120.1								
1. Zone Name	2. Ventilation Function	3. # hotel rooms	4. # of people	5. # of bedrooms	6. Supply OA CFM	7. Exhaust CFM	8. Conditioned Area (ft²)	9. DCV or Occupant Sensor Controls, or Both
1-Sports Med A102 Zone	Office - Office space	0	8.09	0	243	0	1618	NA
3-Earth Sci A101 Zone	Education - Classrooms (ages 9-18)	0	40.45	0	607	0	1618	NA

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E. HERS VERIFICATION			
This Section Does Not Apply			
F. ADDITIONAL REMARKS			
This Section Does Not Apply			
G. ENVELOPE GENERAL INFORMATION			
1. Opaque Surfaces & Orientation	2. Total Gross Surface Area (ft²)	3. Total Fenestration Area (ft²)	4. Window to Wall Ratio (%)
North-Facing¹	1,134 ft²	198 ft²	17.5%
East-Facing²	930 ft²	68 ft²	07.3%
South-Facing³	1,134 ft²	198 ft²	17.5%
West-Facing⁴	930 ft²	68 ft²	07.3%
Total	4,128 ft²	532 ft²	12.9%
Roof	3,441 ft²	0 ft²	00.0%

Notes:
¹ North-Facing is oriented to within 45 degrees of true north, including 45°00'00" east of north (NE), but excluding 45°00'00" west of north (NW).
² East-Facing is oriented to within 45 degrees of true east, including 45°00'00" south of east (SE), but excluding 45°00'00" north of east (NE).
³ South-Facing is oriented to within 45 degrees of true south, including 45°00'00" west of south (SW), but excluding 45°00'00" east of south (SE).
⁴ West-Facing is oriented to within 45 degrees of true west, including 45°00'00" north of due west (NW), but excluding 45°00'00" south of west (SW).

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K1. Dry System Equipment (furnaces, air handling units, heat pumps, VRF, etc.)									
Dry System Equipment¹ (Fan & Economizer info included below in Table N)									
1. Equipment Name	2. Equipment Type	3. Qty	4. Total Heating Output (kBtu/h)	5. Supp Heat Source (V/N)	6. Supp Heat Output (kBtu/h)	7. Efficiency	8. Total Cooling Output (kBtu/h)	9. Efficiency	10. Status
AC-A1	SZHP (Packaged3Phase)	1	56	No	0	HSPF-8.30	62	SEER-16.20 / EER-12.20	N
AC-A2	SZHP (Packaged3Phase)	1	56	No	0	HSPF-8.30	62	SEER-16.20 / EER-12.20	N
SFC-A1	SZHP (Split1Phase)	1	10	No	0	HSPF-8.200	11	SEER-14.000 / EER-12.200	N

¹ Status: N - New, A - Altered, E - Existing

K2. ECONOMIZER & FAN SYSTEMS SUMMARY §140.4¹												
1. Name or Item Tag	2. System Type packaged, DOAS, etc.	3. Design OA CFM	4. CFM	5. BHP	6. Watts	7. Control	8. CFM	9. BHP	10. Watts	11. Control	12. Economizer Type (if present)	13. Status
AC-A1	SZHP	243	2000	1.060	913.7	ConstantVolume	NA	NA	NA	NA	DifferentialDrykulu	N
AC-A2	SZHP	607	2000	1.060	913.7	ConstantVolume	NA	NA	NA	NA	DifferentialDrykulu	N
SFC-A1	SZHP	78	378	0.057	50.0	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N

¹ Status: N - New, A - Altered, E - Existing

K3. EXHAUST FAN SUMMARY	
This Section Does Not Apply	

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Input File Name:	Heritage HS Classroom Bldg A.cldx93		

O. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Table Instructions: Selections shall be made by Documentation Author to indicate which Certificates of Installation must be submitted for the features to be recognized for compliance. These documents must be retained and provided to the building inspector during construction and can be found online at: https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRC/

Building Component	YES	NO	Form/Title	Field Inspector	
				Pass	Fail
Envelope	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCI-ENV-01-E - Must be submitted for all buildings	<input type="checkbox"/>	<input type="checkbox"/>
Mechanical	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCI-MCH-01-E - Must be submitted for all buildings	<input type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCI-PLB-01-E - Must be submitted for all buildings	<input type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCI-PLB-02-E - Must be submitted for high-rise residential and hotel/ motel central hot water distribution systems to be recognized for compliance	<input type="checkbox"/>	<input type="checkbox"/>
Plumbing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCI-PLB-03-E - Must be submitted for high-rise residential and hotel/motel single dwelling unit hot water system distribution systems to be recognized for compliance	<input type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCI-PLB-21-E - Must be HERS verified for central systems in high-rise residential hotel/ motel application	<input type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCI-PLB-22-E - Must be HERS verified for single dwelling unit systems in high-rise residential, hotel/motel application	<input type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCI-STH-01-E - Must be submitted for solar hot water heating systems	<input type="checkbox"/>	<input type="checkbox"/>
Indoor Lighting	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCI-LTI-01-E - Must be submitted for all buildings	<input type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCI-LTI-02-E - Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS) to be recognized for compliance	<input type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCI-LTI-04-E - Must be submitted for two interlocked systems serving an auditorium, a convention center, a conference room, a multipurpose room, or a theater to be recognized for compliance	<input type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCI-LTI-05-E - Must be submitted for a Power Adjustment Factor (PAF) to be recognized for compliance	<input type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCI-LTI-06-E - Must be submitted for additional wattage installed in a video conferencing studio to be recognized for compliance	<input type="checkbox"/>	<input type="checkbox"/>
Covered Process	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCI-PRC-01-E - Must be submitted for all Covered Processes	<input type="checkbox"/>	<input type="checkbox"/>

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Q. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

Table Instructions: Selections shall be made by Documentation Author to indicate which Certificates of Verification must be submitted for the features to be recognized for compliance. These documents must be retained and provided to the building inspector during construction and can be found online at: https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCC/

Building Component	YES	NO	Form/Title	Field Inspector	
				Pass	Fail
Mechanical	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCC-MCH-04-H Duct Leakage Test	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCC-MCH-24-H Enclosure Air Leakage	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCC-MCH-27 Indoor Air Quality & Mechanical Ventilation	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCC-MCH-32-H Local Mechanical Exhaust	<input type="checkbox"/>	<input type="checkbox"/>
Plumbing	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCC-PLB-21-H - HERS verified central systems in high-rise residential, hotel/motel application	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCC-PLB-22-H - HERS verified single dwelling unit systems in high-rise residential, hotel/motel application	<input type="checkbox"/>	<input type="checkbox"/>

R. UNMET LOAD HOURS

This Section Does Not Apply

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P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Table Instructions: Selections shall be made by Documentation Author to indicate which Certificates of Acceptance must be submitted for the features to be recognized for compliance. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/

Building Component	YES	NO	Form/Title	Field Inspector	
				Pass	Fail
Envelope	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCA-ENV-02-F - NRRC label verification for fenestration	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	NRCA-ENV-03-F - Daylighting Design PAFs	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-LTI-02-A - Occupancy Sensors and Automatic Time Switch Controls	<input type="checkbox"/>	<input type="checkbox"/>
Indoor Lighting	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-LTI-03-A - Automatic Daylight Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-LTI-04-A - Demand Responsive Lighting Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-LTI-05-A - Institutional Tuning Power Adjustment Factor (PAF)	<input type="checkbox"/>	<input type="checkbox"/>
Covered Process	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-PRC-02-F - Kitchen Exhaust	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-PRC-03-F - Garage Exhaust	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-PRC-12-F - Elevator Lighting and Ventilation Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-PRC-13-F - Escalator and Moving Walkways Speed Control	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-PRC-14-F - Lab Exhaust Ventilation System	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-PRC-15-F - Fume Hood Automatic Sash Closures System	<input type="checkbox"/>	<input type="checkbox"/>

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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Sean Plikuhn Company: SOLIDATA Energy Consulting Address: 2227 Capricorn Way, Suite 202 City/State/Zip: Santa Rosa CA 95407 Phone: 707-545-4440	Signature: Sean Plikuhn Signature Date: 2020-12-22 CEA/ HERS Certification Identification (if applicable):
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This form is required by the American
 Council on Energy-Efficient Buildings (ACEEE) for
 all new construction projects. For more information,
 please visit www.aceee.org.
 Form 1000-10-2019-00000

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

- The information provided on this Certificate of Compliance is true and correct.
- I am eligible under Division 5 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
- The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
- The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
- I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Envelope Designer Name: Company: Quattrocchi Wolk Architects Address: 636 Fifth Street City/State/Zip: Santa Rosa CA 95404 Phone: (707) 576-0829	Signature: Date Signed: 12/23/2020
Responsible Lighting Designer Name: Company: n/a Address: City/State/Zip: Phone:	Title: Principal License #: C-22643
Responsible Mechanical Designer Name: - specify - Company: Costa Engineers Inc. Address: 3274 Villa Lane City/State/Zip: Napa CA 94558 Phone: 707-252-9177	Title: Principal License #: M31600

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P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE					
<p><i>Table Instructions: Selections shall be made by Documentation Authority to indicate which Certificates of Acceptance must be submitted for the features to be recognized for compliance. These documents must be provided to the building inspector during construction and must be completed through on Acceptance Test Technician Certification Provider (ATTCP). For more information visit: https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/</i></p>					
Building Component	YES	NO	Form/Title	Field Inspector	
				Pass	Fail
Mechanical	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCA-MCH-02-A Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH2-A can be performed in conjunction with MCH-07 A Supply Fan VFD Acceptance (if applicable) since testing activities overlap	<input type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCA-MCH-03-A Constant Volume Single Zone HVAC	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-04(a)-H Air Distribution Duct Leakage - HERS Verification required	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-04(b)-A Air Distribution Duct Leakage - ATT only	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-05-A Air Economizer Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCA-MCH-06-A Demand Control Ventilation Systems Acceptance must be submitted for all systems required to employ demand controlled ventilation (refer to §120.16(13)) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO2) concentration setpoints	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-07-A Supply Fan Variable Flow Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-08-A Valve Leakage Test	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-09-A Supply Water Temperature Reset Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-10-A Hydronic System Variable Flow Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-11-A Automatic Demand Shed Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCA-MCH-12-A FDD for Packaged Direct Expansion Units	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-13-A Automatic FDD for Air Handling Units and Zone Terminal Units Acceptance	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-14-A Distributed Energy Storage DX AC Systems Acceptance	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-15-A Thermal Energy Storage (TES) System Acceptance	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-16-A Supply Air Temperature Reset Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-17-A Condenser Water Temperature Reset Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-18 Energy Management Control Systems	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-19 Occupancy Sensor Controls	<input type="checkbox"/>	<input type="checkbox"/>	

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-04282020-6206 Report Generated at: 2020-12-22 10:28:51



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SIGNED: MAY 10, 2021

**HERITAGE HIGH
SCHOOL**

NEW CLASSROOM BUILDINGS

INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH
SCHOOL DISTRICT[illegible]

DSA APP NO. 01-119268

ARCH PROJECT NO: 1870.00

DRAWN BY:

DRAWING SCALE:

PTN: 61721-77

BID SET

MAY 10, 2021

SHEET TITLE

**BLDG A
TITLE 24
ENERGY CALCS**

SHEET NUMBER

T-1.2

BIMcloud: archserver - BIMcloud Basic for ARCHICAD 22/1870.00 Heritage HS New Classroom Bldgs/5/11/2021:8:49 AM

Project Name:	Heritage High School New Classroom Building B	NRCC-PRF-01-E	Page 1 of 17
Project Address:	101 American Avenue Brentwood 94513	Calculation Date/Time:	10:36, Tue, Dec 22, 2020
Input File Name:	Heritage HS Classroom Bldg B.cibd19x		
A. GENERAL INFORMATION			
1. Project Location (city)	Brentwood	8. Standards Version	Compliance2019
2. CA Zip Code	94513	9. Compliance Software (version)	EnergyPro 8.1
3. Climate Zone	12	10. Weather File	LIVERMORE_724927_CZ2010.apw
4. Total Conditioned Floor Area in Scope	10,385 ft²	11. Building Orientation (deg)	(E) 90 deg
5. Total Unconditioned Floor Area	337 ft²	12. Permitted Scope of Work	NewEnvelopeAndMechanical
6. Total # of Stories (Habitable Above Grade)	2	13. Building Type(s)	Nonresidential
7. Total # of dwelling units	0	14. Gas Type	NaturalGas
B. PROJECT SUMMARY			
Table Instructions: Table B shows which building components are included in the performance calculation. If indicated as not included, the project must show compliance prescriptively if within permit application.			
Building Components Complying via Performance		Building Components Complying Prescriptively	
Envelope	<input checked="" type="checkbox"/> Performance	Covered Process: Commercial Kitchens	<input type="checkbox"/> Performance
	<input type="checkbox"/> Not Included		<input checked="" type="checkbox"/> Not Included
Mechanical	<input checked="" type="checkbox"/> Performance	Covered Process: Computer Rooms	<input type="checkbox"/> Performance
	<input type="checkbox"/> Not Included		<input checked="" type="checkbox"/> Not Included
Domestic Hot Water	<input type="checkbox"/> Performance	Covered Process: Laboratory Exhaust	<input type="checkbox"/> Performance
	<input checked="" type="checkbox"/> Not Included		<input checked="" type="checkbox"/> Not Included
Lighting (Indoor Conditioned)	<input type="checkbox"/> Performance	Mandatory Measures	
	<input checked="" type="checkbox"/> Not Included	Electrical power systems, commissioning and solar ready requirements are mandatory and should be documented on the NRCC form listed if applicable (i.e. compliance will not be shown on the NRCC-PRF-E.)	
Solar Thermal Water Heating	<input type="checkbox"/> Performance	Electrical Power Distribution S110.11	
	<input checked="" type="checkbox"/> Not Included	Commissioning S120.8	
		Solar Ready S110.10	

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-04282020-6206 Report Generated at: 2020-12-22 10:38:12

Project Name:	Heritage High School New Classroom Building B	NRCC-PRF-01-E	Page 2 of 17
Project Address:	101 American Avenue Brentwood 94513	Calculation Date/Time:	10:36, Tue, Dec 22, 2020
Input File Name:	Heritage HS Classroom Bldg B.cibd19x		
C1. COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual TDV Energy Use, kBtu/ft²-yr)			
COMPLIES			
Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV)¹
Space Heating	23.68	33.45	-9.77
Space Cooling	90.92	83.04	7.88
Indoor Fans	134.96	67.82	67.14
Heat Rejection	--	--	--
Pumps & Misc.	--	--	--
Domestic Hot Water	12.82	12.82	--
Indoor Lighting	40.65	40.65	--
ENERGY STANDARDS COMPLIANCE TOTAL	303.03	237.78	65.25 (21.5%)
¹ Notes: The number in parenthesis following the Compliance Margin in column 4, represents the Percent Better than Standard.			
C2. RESULTS FOR 'ABOVE CODE' QUALIFICATIONS¹			
<input type="checkbox"/> This project is pursuing CalGreen Tier 1		<input type="checkbox"/> This project is pursuing CalGreen Tier 2	
Miscellaneous Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV)¹
Receptacle	78.99	78.99	--
Process	--	--	--
Other Ltg	1.13	1.13	--
Process Motors	--	--	--
COMPLIANCE TOTAL PLUS MISCELLANEOUS COMPONENTS	383.15	317.90	65.3 (17.0%)
¹ Notes: This table is used to document compliance with programs OTHER THAN Title 24 Part 6, if applicable.			

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-04282020-6206 Report Generated at: 2020-12-22 10:38:12

Project Name:	Heritage High School New Classroom Building B	NRCC-PRF-01-E	Page 7 of 17										
Project Address:	101 American Avenue Brentwood 94513	Calculation Date/Time:	10:36, Tue, Dec 22, 2020										
Input File Name:	Heritage HS Classroom Bldg B.cibd19x												
K1. Dry System Equipment (furnaces, air handling units, heat pumps, VRF, etc.)													
Dry System Equipment¹ (Fan & Economizer info included below in Table N)													
1	2	3	4	5	6	7	8	9	10				
Equipment Name	Equipment Type	Qty	Heating			Cooling			Status²				
			Total Heating Output (kBtu/h)	Supp Heat Source (V/N)	Supp Heat Output (kBtu/h)	Efficiency	Total Cooling Output (kBtu/h)	Efficiency					
			FC-B7	SZHP (Split3Phase)	1	46	No	0		HSPF-8.20	42	SEER-13.00 / EER-12.20	N
			FC-B8	SZHP (Split3Phase)	1	46	No	0		HSPF-8.20	42	SEER-13.00 / EER-12.20	N
			FC-B9	SZHP (Split3Phase)	1	46	No	0		HSPF-8.20	42	SEER-13.00 / EER-12.20	N
FC-B10	SZHP (Split3Phase)	1	46	No	0	HSPF-8.20	42	SEER-14.00 / EER-12.20	N				
¹ Status: N – New, A – Altered, E – Existing													
K2. ECONOMIZER & FAN SYSTEMS SUMMARY §140.4¹													
1	2	3	4	5	6	7	8	9	10	11	12	13	
Name or Item Tag	System Type packaged, DOAS, etc.	Design OA	Supply Fan				Return Fan				Economizer Type (if present)	Status²	
			CFM	CFM	BHP	Watts	Control	CFM	BHP	Watts			Control
FC-B1	SZHP	397	1400	0.542	472.7	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N	
SFC-B2	SZHP	0	593	0.038	33.0	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N	
FC-B2	SZHP	387	1400	0.542	472.7	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N	
FC-B3	SZHP	382	1400	0.542	472.7	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N	
FC-B4	SZHP	387	1400	0.542	472.7	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N	
FC-B5	SZHP	387	1400	0.542	472.7	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N	
SFC-B1	SZHP	0	593	0.038	33.0	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N	
FC-B6	SZHP	397	1400	0.542	472.7	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N	
FC-B7	SZHP	387	1400	0.542	472.7	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N	
FC-B8	SZHP	382	1400	0.542	472.7	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N	
FC-B9	SZHP	387	1400	0.542	472.7	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N	

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-04282020-6206 Report Generated at: 2020-12-22 10:38:12

Project Name:		Heritage High School New Classroom Building B				NRCC-PRF-01-E		Page 8 of 17				
Project Address:		101 American Avenue Brentwood 94513				Calculation Date/Time:		10:36, Tue, Dec 22, 2020				
Input File Name:		Heritage HS Classroom Bldg B.cibd19x										
K2. ECONOMIZER & FAN SYSTEMS SUMMARY §140.4¹												
1	2	3	4	5	6	7	8	9	10	11	12	13
Name or Item Tag	System Type packaged, DOAS, etc.	Design OA	Supply Fan				Return Fan			Economizer Type (if present)	Status²	
			CFM	CFM	BHP	Watts	Control	CFM	BHP			Watts
FC-B10	SZHP	387	1400	0.542	472.7	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
² Status: N – New, A – Altered, E – Existing												
K3. EXHAUST FAN SUMMARY												
This Section Does Not Apply												
K4. Wet System Equipment(boilers,chillers,cooling towers,etc.)												
This Section Does Not Apply												
K5. SYSTEM FEATURES §120.2												
1	2	3	4	5	6							
System Name	Optimum Start	Window Interlocks per §140.4(n)	Evaporative Cooling	Heat Recovery	Other Controls							
FC-B1	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control							
SFC-B2	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control							
FC-B2	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control							
FC-B3	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control							
FC-B4	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control							

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-04282020-6206 Report Generated at: 2020-12-22 10:38:12

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Input File Name:	Heritage HS Classroom Bldg B.cibd19x		

K5. SYSTEM FEATURES §120.2					
1	2	3	4	5	6
System Name	Optimum Start	Window Interlocks per §140.4(n)	Evaporative Cooling	Heat Recovery	Other Controls
FC-B5	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
SFC-B1	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FC-B6	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FC-B7	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FC-B8	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FC-B9	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control
FC-B10	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	No DCV Controls, No DDC No Economizer No Supply Air Temp. Control

Notes: This table includes controls related to the performance path only. For projects using the prescriptive path, mandatory and prescriptive controls requirements are documented on the NRCC-MCH-E.

K6. MECHANICAL VENTILATION AND REHEAT §120.1									
1	2	3	4	5	6	7	8	9	
Zone Name	Ventilation Function	Mechanical Ventilation			Supply OA CFM	Exhaust CFM	Conditioned Area (sf)	DCV or Occupant Sensor Controls, or Both	
		# hotel rooms	# of people	# of bedrooms					
1-Classroom B101 Zone	Education - Classrooms (ages 9-18)	0	26.12	0	397	0	1045	NA	
3-Machine Room B108 Zone	General - Unoccupied	0	0.09	0	0	0	63	NA	

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SIGNED: MAY 10, 2021

HERITAGE HIGH SCHOOL

NEW CLASSROOM BUILDINGS INCREMENT 2 OF 2

101 AMERICAN AVENUE,
BRENTWOOD, CA 94513

LIBERTY UNION HIGH SCHOOL DISTRICT

DSA APP NO. 01-119268	
ARCH PROJECT NO: 1870.00	
DRAWN BY:	
DRAWING SCALE:	
PTN: 61721-77	FILE NO: 7-H4
BID SET	
MAY 10, 2021	
SHEET TITLE	

BLDG B TITLE 24 ENERGY CALCS

SHEET NUMBER

T-1.3

Project Name:	Heritage High School New Classroom Building B	NRCC-PRF-01-E	Page 10 of 17
Project Address:	101 American Avenue Brentwood 94513	Calculation Date/Time:	10:36, Tue, Dec 22, 2020
Input File Name:	Heritage HS Classroom Bldg B.cibd19x		

1	2	3	4	5	6	7	8	9
Zone Name	Mechanical Ventilation							DCV or Occupant Sensor Controls, or Both
	Ventilation Function	# hotel rooms	# of people	# of bedrooms	Supply OA CFM	Exhaust CFM	Conditioned Area (sf)	
4-Classroom B102 Zone	Education - Classrooms (ages 9-18)	0	25.45	0	387	0	1018	NA
5-Classroom B103 Zone	Education - Classrooms (ages 9-18)	0	25.15	0	382	0	1006	NA
6-Classroom B104 Zone	Education - Classrooms (ages 9-18)	0	25.45	0	387	0	1018	NA
8-Classroom B106 Zone	Education - Classrooms (ages 9-18)	0	25.45	0	387	0	1018	NA
9-Elec Tele B107 Zone	General - Unoccupied	0	0.17	0	0	0	112	NA
10-Classroom B201 Zone	Education - Classrooms (ages 9-18)	0	26.12	0	397	0	1045	NA
11-Classroom B202 Zone	Education - Classrooms (ages 9-18)	0	25.45	0	387	0	1018	NA
12-Classroom B203 Zone	Education - Classrooms (ages 9-18)	0	25.15	0	382	0	1006	NA
13-Classroom B204 Zone	Education - Classrooms (ages 9-18)	0	25.45	0	387	0	1018	NA
15-Classroom B206 Zone	Education - Classrooms (ages 9-18)	0	25.45	0	387	0	1018	NA

K7. DISTRIBUTION SUMMARY \$120.4/140.4(I)
This Section Does Not Apply

Multifamily or Hotel/Motel Occupancy? (If "Yes", see DOMESTIC/SERVICE HOT WATER SYSTEM SUMMARY)	No
Does the Project include Zonal Systems?	No

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Input File Name:	Heritage HS Classroom Bldg B.cibd19x		

L. DOMESTIC/SERVICE HOT WATER SYSTEM SUMMARY
L1. DHW EQUIPMENT SUMMARY
This Section Does Not Apply
L2. MULTI-FAMILY CENTRAL DHW SYSTEM DETAILS
This Section Does Not Apply
L3. SOLAR HOT WATER HEATING SUMMARY
This Section Does Not Apply
M. COVERED PROCESS SUMMARY \$140.9
This Section Does Not Apply
N. INDOOR LIGHTING SUMMARY \$140.6
This Section Does Not Apply

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Input File Name:	Heritage HS Classroom Bldg B.cibd19x		

P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE					
Table Instructions: Selections shall be made by Documentation Author to indicate which Certificates of Acceptance must be submitted for the features to be recognized for compliance. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/					
Building Component	YES	NO	Form/Title	Field Inspector	
				Pass	Fail
Mechanical	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCA-MCH-02-A Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap	<input type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCA-MCH-03-A Constant Volume Single Zone HVAC	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-04(a)-H Air Distribution Duct Leakage - HERS Verification required	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-04(b)-A Air Distribution Duct Leakage - ATT only	<input type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-05-A Air Economizer Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-06-A Demand Control Ventilation Systems Acceptance must be submitted for all systems required to employ demand controlled ventilation (refer to §120.16(3)) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO2) concentration setpoints	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-07-A Supply Fan Variable Flow Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-08-A Valve Leakage Test	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-09-A Supply Water Temperature Reset Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-10-A Hydronic System Variable Flow Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-11-A Automatic Demand Shed Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-12-A FDD for Packaged Direct Expansion Units	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-13-A Automatic FDD for Air Handling Units and Zone Terminal Units Acceptance	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-14-A Distributed Energy Storage DX AC Systems Acceptance	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-15-A Thermal Energy Storage (TES) System Acceptance	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-16-A Supply Air Temperature Reset Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-17-A Condenser Water Temperature Reset Controls	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-18 Energy Management Control Systems	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCA-MCH-19 Occupancy Sensor Controls	<input type="checkbox"/>	<input type="checkbox"/>

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PRF-01-E-04282020-6206 Report Generated at: 2020-12-22 10:38:12

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Project Address:	101 American Avenue Brentwood 94513	Calculation Date/Time:	10:36, Tue, Dec 22, 2020
Input File Name:	Heritage HS Classroom Bldg B.cibd19x		

1	2	3	4	5	6	7	8	9	10	11	12
System ID	Zone Name	System Type	Rated Capacity (kBtu/h)		Airflow (cfm)			Fan			
			Heating	Cooling	Design	Min.	Min. Ratio	BHP	Watts	Cycles	ECM Motor
1-Classroom B101 Zone-Trm	1-Classroom B101 Zone	Uncontrolled	NA	NA	1400	NA	0.00	NA	NA	NA	<input type="checkbox"/>
3-Machine Room B108 Zone-Trm	3-Machine Room B108 Zone	Uncontrolled	NA	NA	593	NA	0.00	NA	NA	NA	<input type="checkbox"/>
4-Classroom B102 Zone-Trm	4-Classroom B102 Zone	Uncontrolled	NA	NA	1400	NA	0.00	NA	NA	NA	<input type="checkbox"/>
5-Classroom B103 Zone-Trm	5-Classroom B103 Zone	Uncontrolled	NA	NA	1400	NA	0.00	NA	NA	NA	<input type="checkbox"/>
6-Classroom B104 Zone-Trm	6-Classroom B104 Zone	Uncontrolled	NA	NA	1400	NA	0.00	NA	NA	NA	<input type="checkbox"/>
8-Classroom B106 Zone-Trm	8-Classroom B106 Zone	Uncontrolled	NA	NA	1400	NA	0.00	NA	NA	NA	<input type="checkbox"/>
9-Elec Tele B107 Zone-Trm	9-Elec Tele B107 Zone	Uncontrolled	NA	NA	593	NA	0.00	NA	NA	NA	<input type="checkbox"/>
10-Classroom B201 Zone-Trm	10-Classroom B201 Zone	Uncontrolled	NA	NA	1400	NA	0.00	NA	NA	NA	<input type="checkbox"/>
11-Classroom B202 Zone-Trm	11-Classroom B202 Zone	Uncontrolled	NA	NA	1400	NA	0.00	NA	NA	NA	<input type="checkbox"/>
12-Classroom B203 Zone-Trm	12-Classroom B203 Zone	Uncontrolled	NA	NA	1400	NA	0.00	NA	NA	NA	<input type="checkbox"/>
13-Classroom B204 Zone-Trm	13-Classroom B204 Zone	Uncontrolled	NA	NA	1400	NA	0.00	NA	NA	NA	<input type="checkbox"/>
15-Classroom B206 Zone-Trm	15-Classroom B206 Zone	Uncontrolled	NA	NA	1400	NA	0.00	NA	NA	NA	<input type="checkbox"/>

K9. EVAPORATIVE COOLER SUMMARY
This Section Does Not Apply

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Input File Name:	Heritage HS Classroom Bldg B.cibd19x		

O. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION					
Table Instructions: Selections shall be made by Documentation Author to indicate which Certificates of Installation must be submitted for the features to be recognized for compliance. These documents must be retained and provided to the building inspector during construction and can be found online at: https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/					
Building Component	YES	NO	Form/Title	Field Inspector	
				Pass	Fail
Envelope	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCI-ENV-01-E - Must be submitted for all buildings	<input type="checkbox"/>	<input type="checkbox"/>
Mechanical	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCI-MCH-01-E - Must be submitted for all buildings	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCI-PLB-01-E - Must be submitted for all buildings	<input type="checkbox"/>	<input type="checkbox"/>
Plumbing	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCI-PLB-02-E - Must be submitted for high-rise residential and hotel/ motel central hot water distribution systems to be recognized for compliance	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCI-PLB-03-E - Must be submitted for high-rise residential and hotel/motel single dwelling unit hot water system distribution systems to be recognized for compliance	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCI-PLB-21-E - Must be HERS verified for central systems in high-rise residential hotel/ motel application	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCI-PLB-22-E - Must be HERS verified for single dwelling unit systems in high-rise residential, hotel/motel application	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCI-STH-01-E - Must be submitted for solar hot water heating systems	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCI-LTI-01-E - Must be submitted for all buildings	<input type="checkbox"/>	<input type="checkbox"/>
Indoor Lighting	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCI-LTI-02-E - Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS) to be recognized for compliance	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCI-LTI-04-E - Must be submitted for two interlocked systems serving an auditorium, a convention center, a conference room, a multipurpose room, or a theater to be recognized for compliance	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCI-LTI-05-E - Must be submitted for a Power Adjustment Factor (PAF) to be recognized for compliance	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCI-LTI-06-E - Must be submitted for additional wattage installed in a video conferencing studio to be recognized for compliance	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCI-PRC-01-E - Must be submitted for all Covered Processes	<input type="checkbox"/>	<input type="checkbox"/>
Covered Process	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

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Project Address:	101 American Avenue Brentwood 94513	Calculation Date/Time:	10:36, Tue, Dec 22, 2020
Input File Name:	Heritage HS Classroom Bldg B.cibd19x		

Q. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION					
Table Instructions: Selections shall be made by Documentation Author to indicate which Certificates of Verification must be submitted for the features to be recognized for compliance. These documents must be retained and provided to the building inspector during construction and can be found online at: https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/					
Building Component	YES	NO	Form/Title	Field Inspector	
				Pass	Fail
Mechanical	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCV-MCH-04-H Duct Leakage Test	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCV-MCH-24-H Enclosure Air Leakage	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCV-MCH-27 Indoor Air Quality & Mechanical Ventilation	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCV-MCH-32-H Local Mechanical Exhaust	<input type="checkbox"/>	<input type="checkbox"/>
Plumbing	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCV-PLB-21-H - HERS verified central systems in high-rise residential, hotel/motel application	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NRCV-PLB-22-H - HERS verified single dwelling unit systems in high-rise residential, hotel/motel application	<input type="checkbox"/>	<input type="checkbox"/>
R. UNMET LOAD HOURS					
This Section Does Not Apply					

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Project Address:	101 American Avenue Brentwood 94513	Calculation Date/Time:	10:36, Tue, Dec 22, 2020
Input File Name:	Heritage HS Classroom Bldg B.cibd19x		

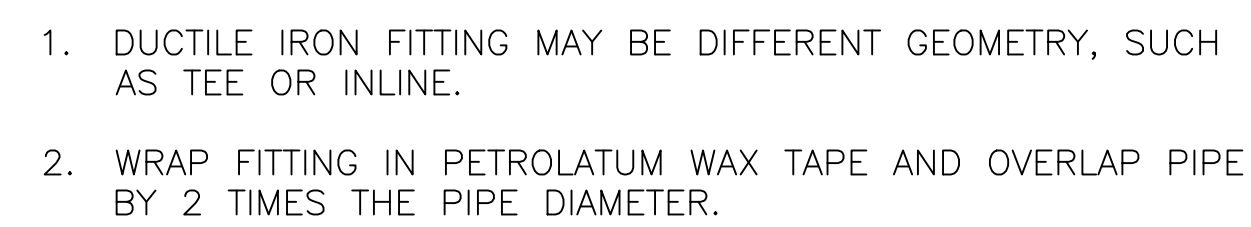
1	2	3	4	5	6	7	8	9	10	11	12
System ID	Zone Name	System Type	Rated Capacity (kBtu/h)		Airflow (cfm)			Fan			
			Heating	Cooling	Design	Min.	Min. Ratio	BHP	Watts	Cycles	ECM Motor
1-Classroom B101 Zone-Trm	1-Classroom B101 Zone	Uncontrolled	NA	NA	1400	NA	0.00	NA	NA	NA	<input type="checkbox"/>
3-Machine Room B108 Zone-Trm	3-Machine Room B108 Zone	Uncontrolled	NA	NA	593	NA	0.00	NA	NA	NA	<input type="checkbox"/>
4-Classroom B102 Zone-Trm	4-Classroom B102 Zone	Uncontrolled	NA	NA	1400	NA	0.00	NA	NA	NA	<input type="checkbox"/>
5-Classroom B103 Zone-Trm	5-Classroom B103 Zone	Uncontrolled	NA	NA	1400	NA	0.00	NA	NA	NA	<input type="checkbox"/>
6-Classroom B104 Zone-Trm	6-Classroom B104 Zone	Uncontrolled	NA	NA	1400	NA	0.00	NA	NA	NA	<input type="checkbox"/>
8-Classroom B106 Zone-Trm	8-Classroom B106 Zone	Uncontrolled	NA	NA	1400	NA	0.00	NA	NA	NA	<input type="checkbox"/>
9-Elec Tele B107 Zone-Trm	9-Elec Tele B107 Zone	Uncontrolled	NA	NA	593	NA	0.00	NA	NA	NA	<input type="checkbox"/>
10-Classroom B201 Zone-Trm	10-Classroom B201 Zone	Uncontrolled	NA	NA	1400	NA	0.00	NA	NA	NA	<input type="checkbox"/>
11-Classroom B202 Zone-Trm	11-Classroom B202 Zone	Uncontrolled	NA	NA	1400	NA	0.00	NA	NA	NA	<input type="checkbox"/>
12-Classroom B203 Zone-Trm	12-Classroom B203 Zone	Uncontrolled	NA	NA	1400	NA	0.00	NA	NA	NA	<input type="checkbox"/>
13-Classroom B204 Zone-Trm	13-Classroom B204 Zone	Uncontrolled	NA	NA	1400	NA	0.00	NA	NA	NA	<input type="checkbox"/>
15-Classroom B206 Zone-Trm	15-Classroom B206 Zone	Uncontrolled	NA	NA	1400	NA	0.00	NA	NA	NA	<input type="checkbox"/>

K9. EVAPORATIVE COOLER SUMMARY
This Section Does Not Apply

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Input File Name:	Heritage HS Classroom Bldg B.cibd19x		

P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE					
Table Instructions: Selections shall be made by Documentation Author to indicate which Certificates of Acceptance must be submitted for the features to be recognized for compliance. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/					
Building Component	YES	NO	Form/Title	Field Inspector	
				Pass	Fail
Envelope	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRCA-ENV-02-F - NRFC label verification for fenestration	<input type="checkbox"/>	<input type="checkbox"/>
		<input checked="" type="checkbox"/>	NRCA-ENV-03-F - Daylighting Design PAFs	<input type="checkbox"/>	<input type="checkbox"/>
Indoor Lighting		<input checked="" type="checkbox"/>	NRCA-LTI-02-A - Occupancy Sensors and Automatic Time Switch Controls	<input type="checkbox"/>	<input type="checkbox"/>
		<input checked="" type="checkbox"/>	NRCA-LTI-03-A - Automatic Daylight Controls	<input type="checkbox"/>	<input type="checkbox"/>
		<input checked="" type="checkbox"/>	NRCA-LTI-04-A - Demand Responsive Lighting Controls	<input type="checkbox"/>	<input type="checkbox"/>
		<input checked="" type="checkbox"/>	NRCA-LTI-05-A - Institutional Tuning Power Adjustment Factor (PAF)	<input type="checkbox"/>	<input type="checkbox"/>
Covered Process		<input checked="" type="checkbox"/>	NRCA-PRC-02-F - Kitchen Exhaust	<input type="checkbox"/>	<input type="checkbox"/>
		<input checked="" type="checkbox"/>	NRCA-PRC-03-F - Garage Exhaust	<input type="checkbox"/>	<input type="checkbox"/>
		<input checked="" type="checkbox"/>	NRCA-PRC-12-F - Elevator Lighting and Ventilation Controls		
		<input checked="" type="checkbox"/>	NRCA-PRC-13-F - Escalator and Moving Walkways Speed Control		
		<input checked="" type="checkbox"/>	NRCA-PRC-14-F - Lab Exhaust Ventilation System		
		<input checked="" type="checkbox"/>	NRCA-PRC-15-F - Fume Hood Automatic Sash Closures System		

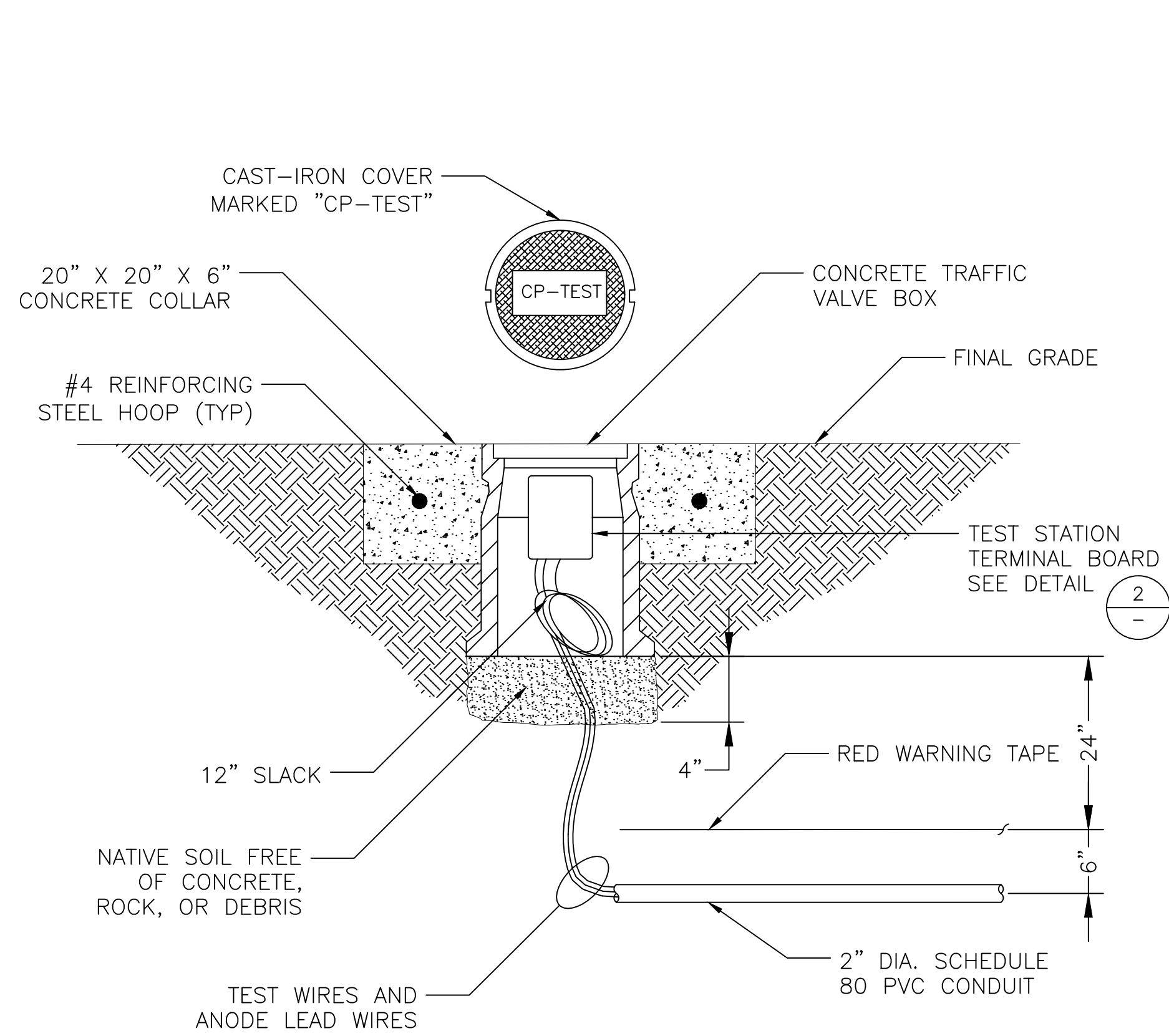


1. TOP OF ANODE SHALL BE AT OR BELOW PIPE INVERT.

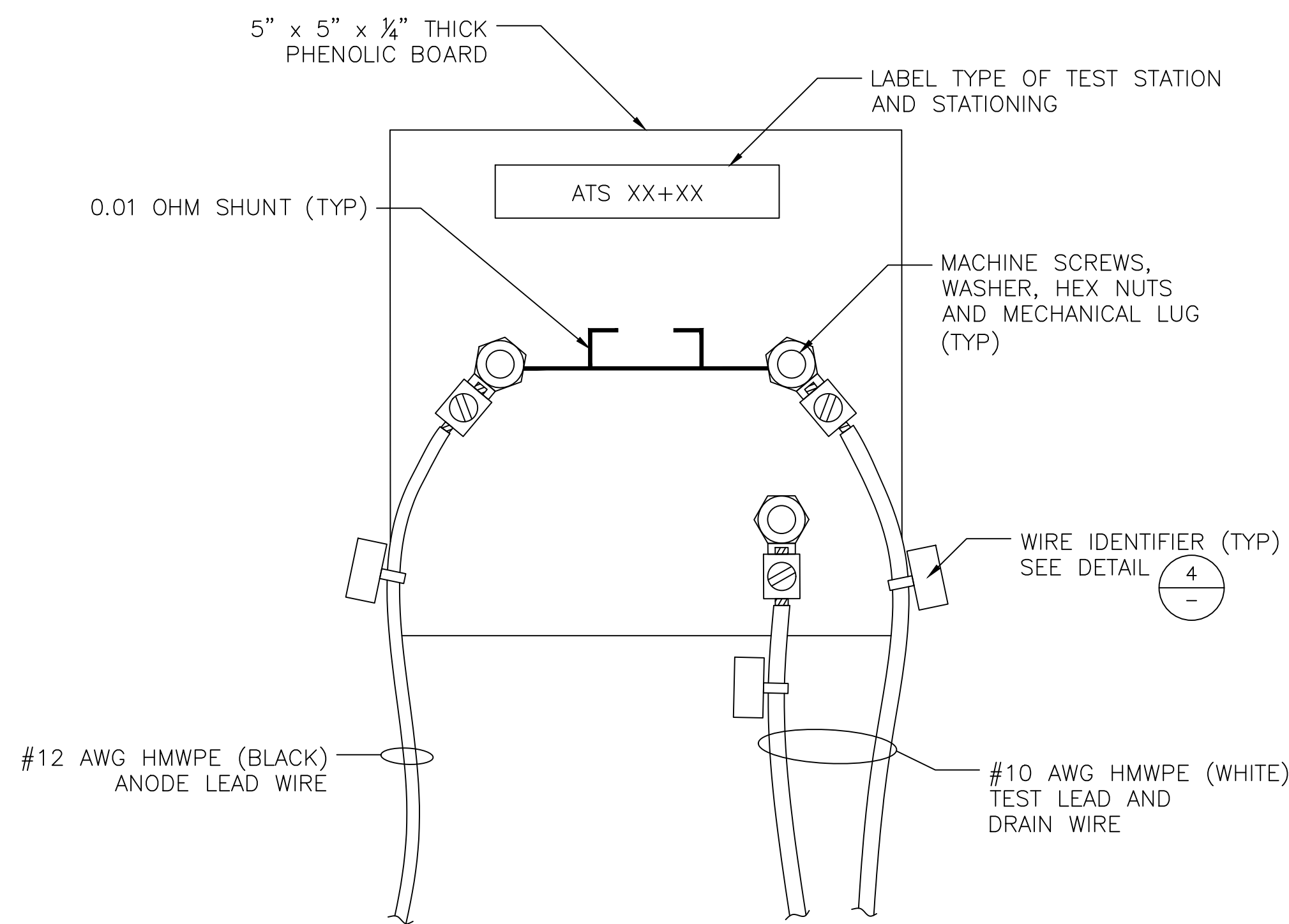
1. IF RISER IS DUCTILE IRON, BOND PIPE AND FITTINGS. RISER MAY HAVE 90 DEGREE ELBOW OR TEE. DUCTILE IRON PIPE AND FITTINGS SHALL HAVE POLYETHYLENE ENCASEMENT.
2. IF RISER IS STAINLESS STEEL, WRAP IN PETROLATUM WAX TAPE.

1. PETROLATUM WAX TAPE SHALL OVERLAP PIPE BY 2 TIMES THE PIPE DIAMETER.
2. ENCASE FITTING AND PETROLATUM WAX TAPE IN CONCRETE WITH 2-INCH COVER AT MINIMUM

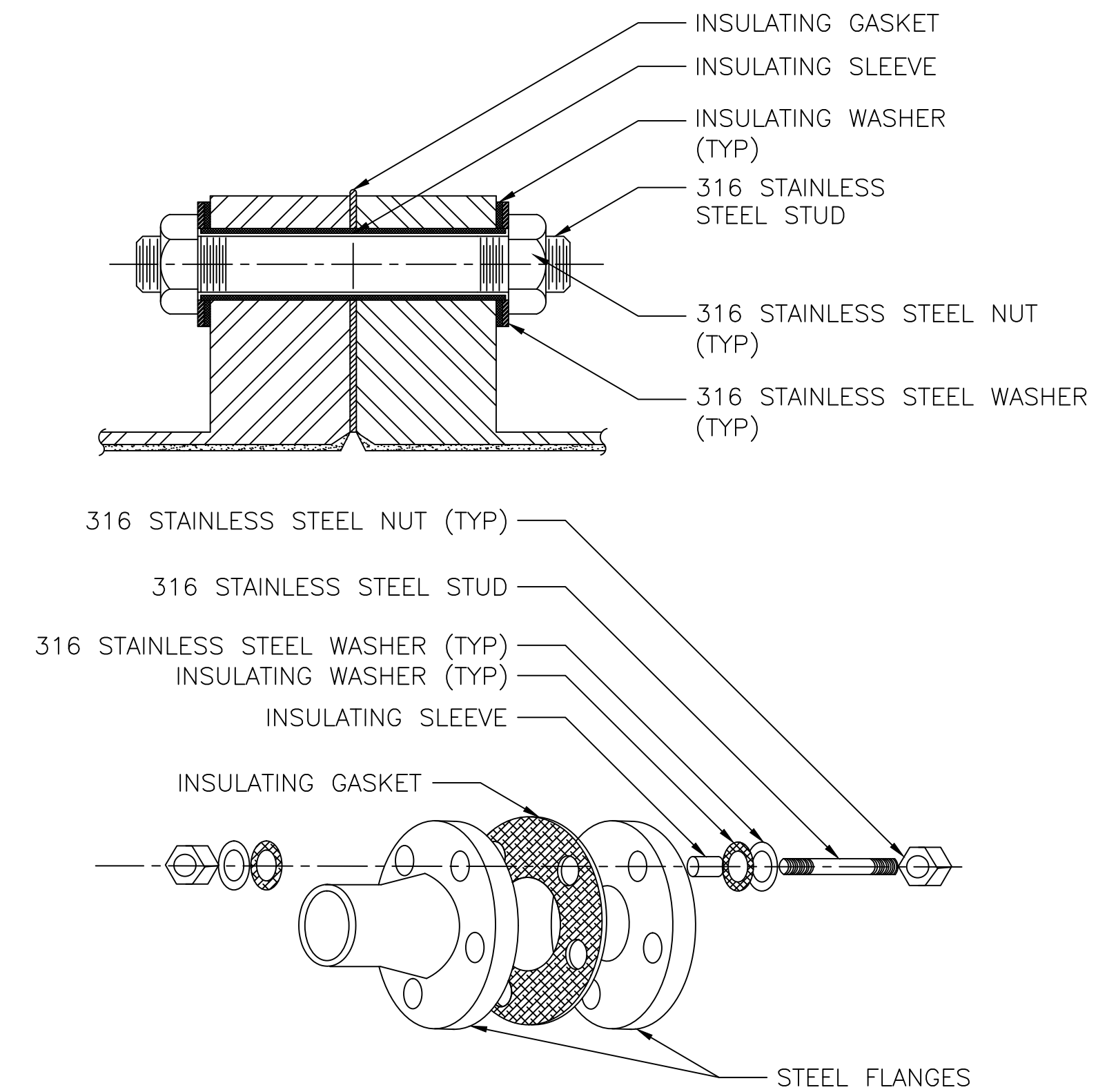
CP-1.2



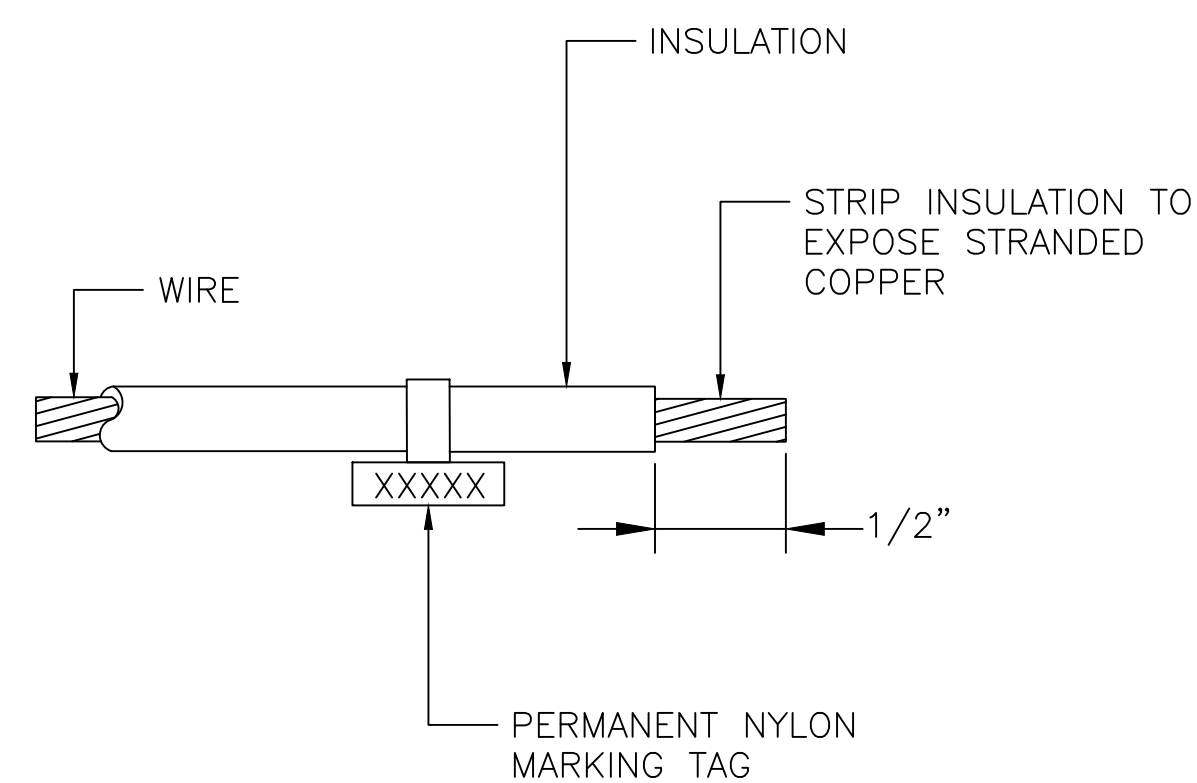
FLUSH MOUNTED TEST STATION DETAIL (1) NTS



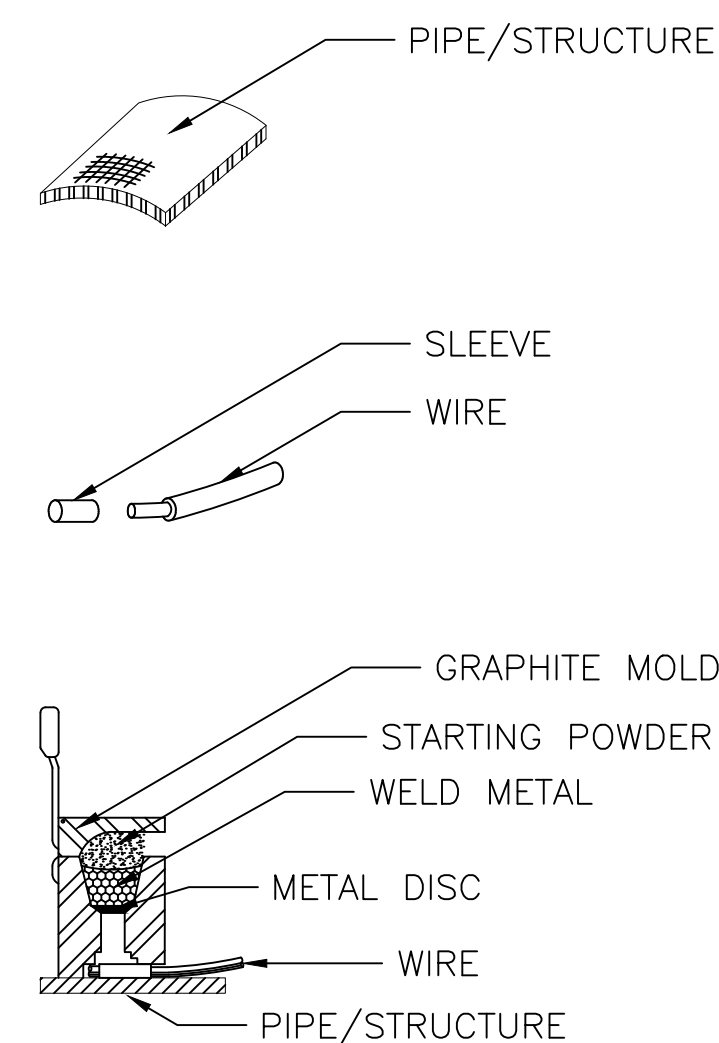
FLUSH-MOUNTED ANODE TEST STATION (ATS) TERMINAL BOARD DETAIL (2) NTS



DIELECTRIC INSULATING FLANGE KIT DETAIL WITH SECTION VIEW (3) NTS



WIRE IDENTIFIER DETAIL (4) NTS



EXOTHERMIC WELD DETAIL FOR DUCTILE IRON AND STEEL PIPE (5) NTS

1. ALL WELDS SHALL BE 6" APART AT MINIMUM.
2. GRIND PIPE/STRUCTURE TO BARE METAL AND CLEAN SURFACE. GROUND AREA SHALL BE LARGE ENOUGH FOR EXOTHERMIC WELD AND SMALL ENOUGH TO BE COMPLETELY COVERED BY WELD CAP.
3. STRIP INSULATION FROM WIRE AND ATTACH SLEEVE.
4. HOLD MOLD FIRMLY WITH OPENING AWAY FROM OPERATOR. IGNITE WITH FLINT GUN. REMOVE SLAG FROM CONNECTION WITH CHIPPING HAMMER. TEST WELD WITH 22 OZ HAMMER.
5. COVER CONNECTION WITH WELD CAP WITH INTEGRATED PRIMER. REPAIR ALL DAMAGE TO COATING AND LINING IN ACCORDANCE WITH COATING AND LINING MFG RECOMMENDATIONS.

QUATTROCCHI KWOK ARCHITECTS
Main: 636 Fifth Street, Santa Rosa, CA 95404
East Bay: 55 Harrison Street, Suite 525, Oakland, CA 94607
(707) 576-0829

V&A
1000 Broadway, Suite 320
Oakland, CA 94607
Tel. (510) 903-6600, Fax (510) 903-6601
Project No. 18-0151

REGISTERED PROFESSIONAL ENGINEER
GLENN H. WILLSON
NO. CR1076
CORROSION
OF CALIFORNIA
05/07/2021
Glenn H. Willson

HERITAGE HIGH SCHOOL

**NEW CLASSROOM BUILDINGS
INCREMENT 2 OF 2**

101 AMERICAN AVE,
BRENTWOOD, CA 94513

LIBERTY UNION
HIGH SCHOOL
DISTRICT

REVISIONS		

DSA APP NO. 01-119268
ARCH PROJECT NO. 1870.00
DRAWN BY: ACR
DRAWING SCALE: NTS
PTN: 61721-77 FILE NO. 7-H4

BID SET
MAY 10, 2021
SHEET TITLE

CATHODIC PROTECTION

SHEET NUMBER
CP-1.3