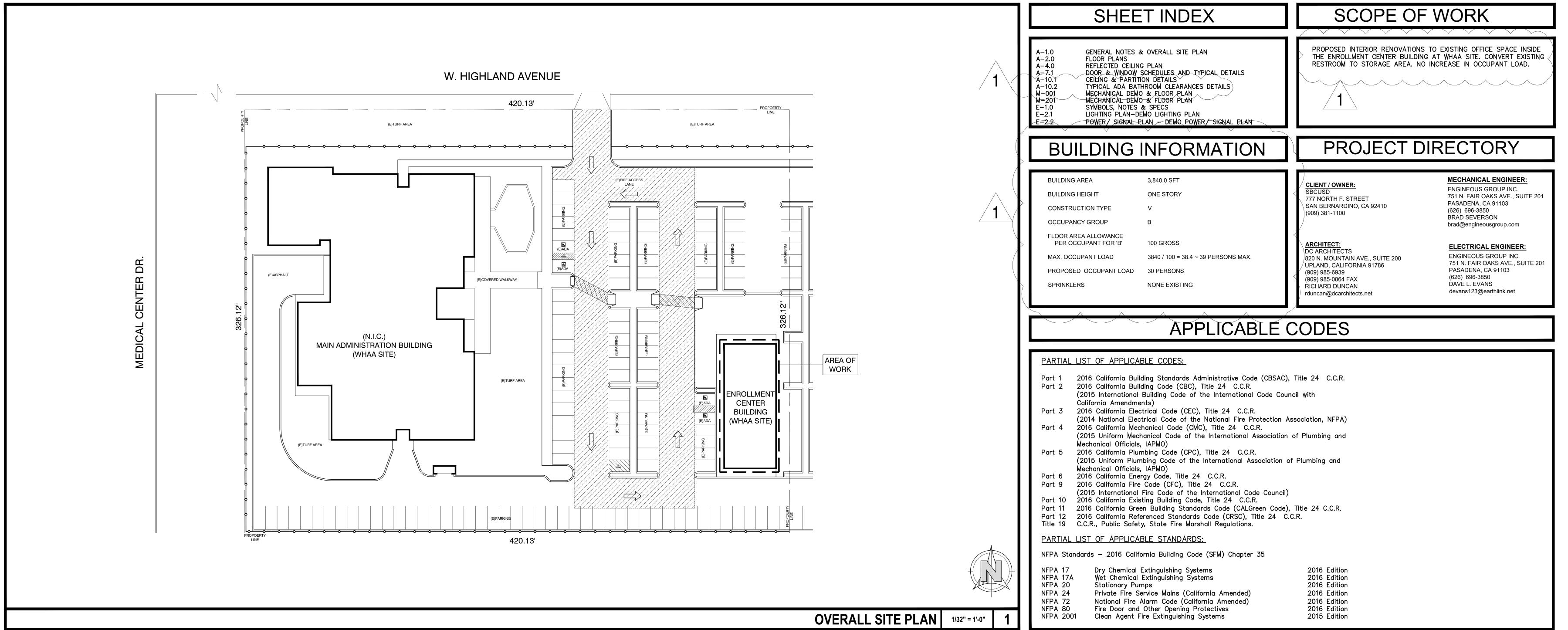
WEST HIGHLAND ADMIN. ANNEX BUILDING INTERIOR RENOVATIONS @ ENROLLMENT CENTER BUILDING

1535 W. HIGHLAND AVE, SAN BERNARDINO, CA 92411

SAN BERNARDINO CITY UNIFIED SCHOOL DISTRICT



ABBREVIATIONS

OPP OPT

PKG

PLAS

PLYWD

PROP

PT

RA

RAD

PNL

MARKERBOARD

MISCELLANEOUS

NOT APPLICABLE

OUTSIDE DIAMETER

OWNER FURNISHED,

OWNER INSTALLED

POST INDICATOR VALVE

POUNDS PER SQUARE FOOT

POLYVINYLCHLORIDE

PERFORATED

PROPERTY LINE

PACKAGE

PLANTER

PLASTER

PLUMBING

PLYWOOD

PANEL

PREFAB PREFABRICATED

PREFINISHED

PROPERTY

RETURN AIR

RADIUS

PRELIMINARY

PAIR

OVAL HEAD WOOD SCREW

OPPOSITE HAND

NOT TO SCALE

ON CENTER

OPENING

OPPOSITE

OPTIONAL

ORIGINAL

MOUNTED

MOUNTING

MULLION

ROUGH OPENING

SPLASH BLOCK

SEMI GLOSS ENAMEL

SOLID CORE

SECTION

SEGMENT

SINGLE

SHOWER

SIMILAR

SQUARE

STREET

SPECIFICATION

SERVICE SINK

STAGGERED

STANDARD

STIFFENER

STIRRUP

STORAGE

TOP & BOTTOM

TACKBOARD

TELEPHONE

TEMPERED

THICKNESS

THRESHOLD

TOP OF WALL

TOP OF PAVING

TYPICAL NOTED

THROUGH

VINYL TILE

WOOD

WDW WINDOW

TERMINAL

TOP OF CURB

TONGUE & GROOVE

STEEL

STRUCT STRUCTURAL

SUSP SUSPENDED

SINK

SECT SEG SGE

SGL SHR SHTG SIM

SQ SSK

STD STIF STIR

STOR

TERM

THICK

THRES

TOW

POUNDS PER SQUARE INCH UNO UNLESS OTHERWISE

EQUIP EST

EXIST

ESTIMATED

EXISTING

EXISTING

EXTERIOR

FINISH

FIXTURE

FACE OF FINISH

FACE OF STUD

FOOT OR FEET

GL GLASS GLB GLUE LAMINATED BEAM GR BM GRADE BEAM

H&CW HOT & COLD WATER

HEADER

HEATER

HYDRÂNT

INCH

HARDWARE

HORIZONTAL

HOT WATER

INSULATION

KNOCK DOWN

KNOCK OUT

LAMINATED

LINEAR FOOT

LAVATORY

INTERIOR

INVERT

INSIDE DIAMETER

HDR

HR

HTR

 HYD

INT

LAV

HOSE BIB ADA

HOLLOW METAL

GYPSUM

FLOOR SINK

EXPANSION

ARCHITECTURAL

BETWEEN

BLOCKING

воттом

BOTH SIDES

ABINET

CEMENT

CERAMIC

CHALKBOARD

CURB FACE

CAST IRON

CENTERLINE

CLEANOUT

COMPOSITION

CONNECTION

CONTINUOUS

COUNTERSINK

DECOMPOSED

DEMOLITION

DEPARTMENT

DETAIL

ELEVATION

ELEV

CONTROL PANEL

CONCRETE

CONSTR CONSTRUCTION

COLUMN

CEILING

CAST IRON PIPE

CONSTRUCTION JOINT

CONCRETE MASONRY UNIT

VICINITY MAP

Porter St W Alexander Ave W 26th St W 25th St W 24th St W 24th St W Highland A Stater Bros. N W 21st St W 20th St W 19th St W 19th St Dignity Health -Community Hospital of... W 17th St W 17th St Ballard Rehabilitation 👩 -W-Trenton St Hospital

W 16th St

W 16th St

SHIRRELLS

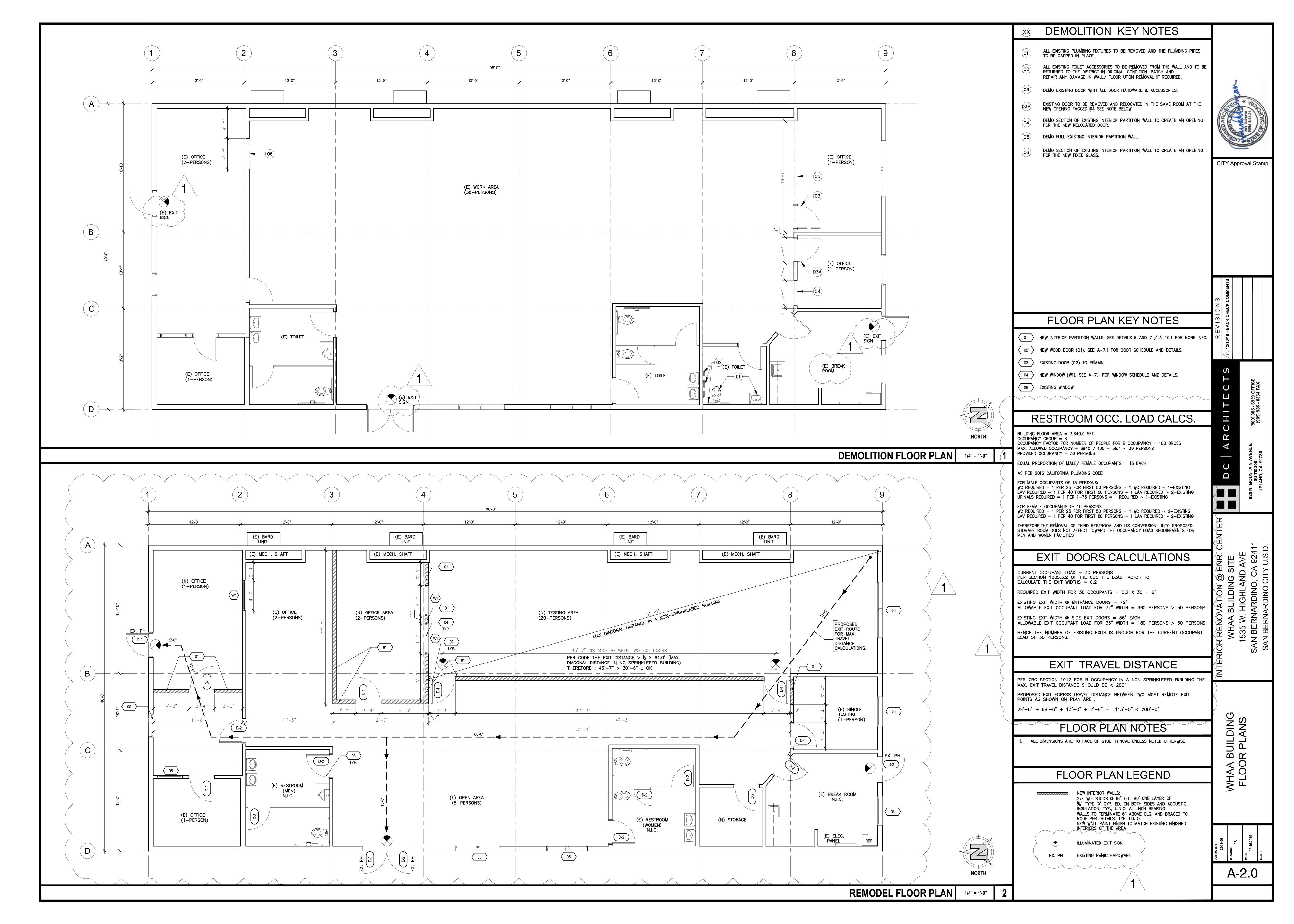
GENERAL NOTES

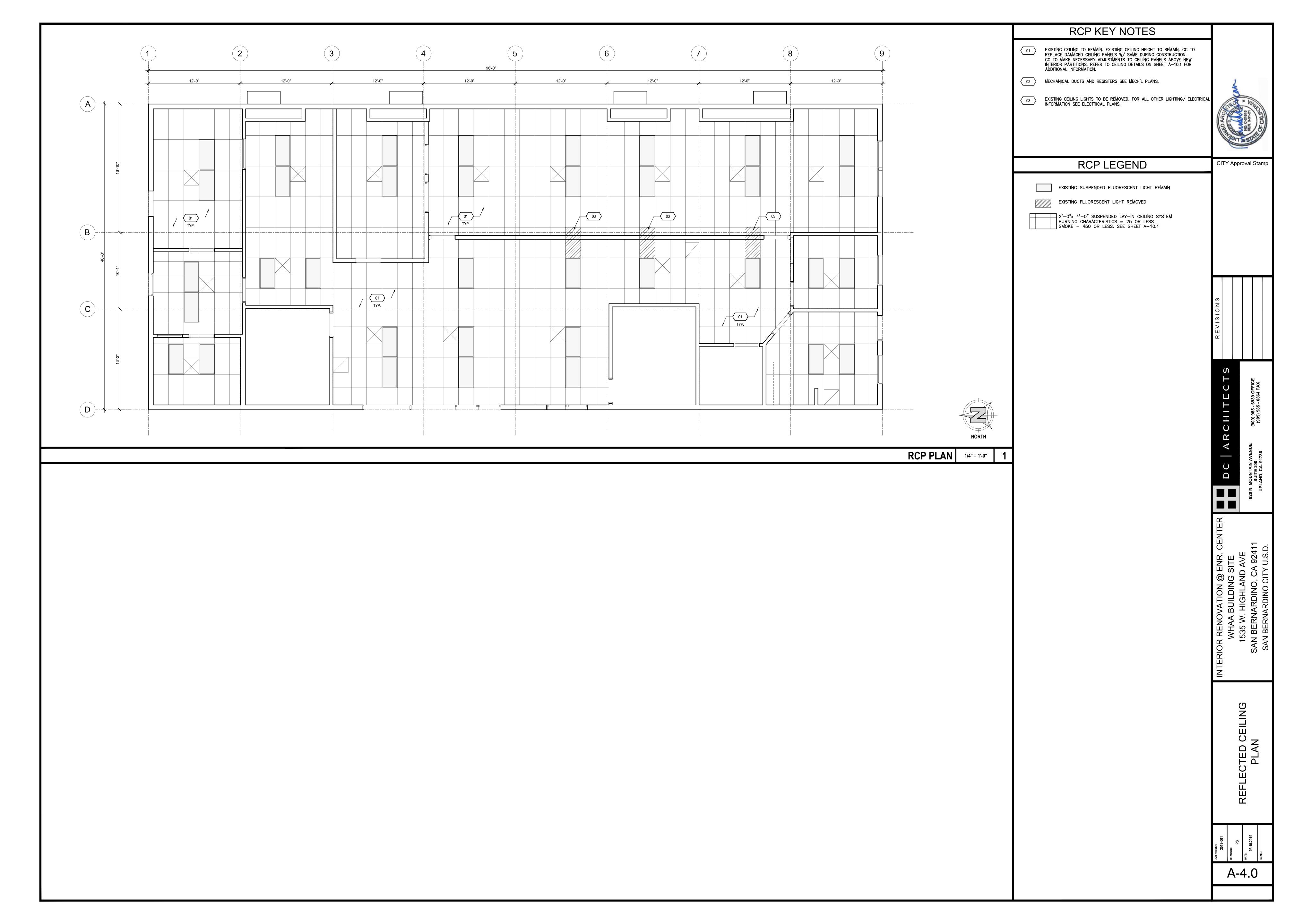
- CONTRACTOR AND ALL SUBCONTRACTORS SHALL BE RESPONSIBLE FOR BEING FAMILIAR WITH AND ENSURING THAT ALL WORKMANSHIP AND/OR MATERIALS MEET C.B.C. STANDARDS OF THE LATEST 2016 EDITION, AS WELL AS, CODES, ACCESSIBILITY ORDINANCES, AND STANDARDS OF THE DIVISION OF THE STATE ARCHITECT
- CONTRACTOR SHALL BE RESPONSIBLE FOR PAYING & OBTAINING BUILDING PERMITS AS REQUIRED BY THE LOCAL BUILDING AND SAFETY DEPARTMENT.
- CONTRACTOR SHALL BE RESPONSIBLE FOR FILING NECESSARY APPLICATIONS FOR PERMITS AFFECTING THE TRADES REQUIRED BY THE RESPONSIBLE JURISDICTIONAL AGENCY. EACH SUBCONTRACTOR SHALL PROVIDE ANY ADDITIONAL DRAWINGS, SKETCHES, SCHEDULES, CALCULATIONS, ETC. AS REQUIRED BY SUCH AGENCIES.
- ALL DIMENSIONS SHALL BE VERIFIED ON THE JOB SITE BY EACH SUBCONTRACTOR AND/OR SUPPLIER WHICH AFFECTS THE WORK. EACH SUBCONTRACTOR SHALL BE RESPONSIBLE FOR BEING FAMILIAR AND COMPLYING WITH FOR CORRECT INSTALLATION AND USE OF ALL MATERIALS. ALL MATERIALS SHALL BE NEW AND OF FIRST QUALITY. NO USED MATERIALS MATERIALS OR SECONDS WILL BE PERMITTED UNLESS RE-USE OF EXISTING FIXTURES/ MATERIAL ARE NOTED ON THE
- NO CHANGES OR VARIATIONS FROM THESE PLANS MAY BE MADE EXCEPT UPON WRITTEN APPROVAL BY THE ARCHITECT OR OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF THE BUILDING DURING CONSTRUCTION AND SHALL PROVIDE ADEQUATE SHORING, DURING CONSTRUCTION, SAFETY AND BRACING REQUIREMENTS SHALL BE IN ACCORDANCE WITH ALL NATIONAL, STATE, AND LOCAL SAFETY ORDINANCES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES AND SHALL CHECK ALL DIMENSIONS. ALL DISCREPANCIES SHALL BE CALLED TO ATTENTION OF THE ARCHITECT AND BE RESOLVED BEFORE PROCEEDING WITH THE WORK.
- ALL INFORMATION SHOWN ON THE DRAWINGS RELATIVE TO EXISTING CONDITIONS IS GIVEN AS THE BEST PRESENT KNOWLEDGE BUT WITHOUT GUARANTEE OF ACCURACY. WHERE ACTUAL CONDITIONS CONFLICT WITH THE DRAWINGS, THEY SHALL BE REPORTED TO THE ARCHITECT SO THAT THE PROPER REVISIONS CAN BE MADE. MODIFICATIONS OF DETAILS OF CONSTRUCTION SHALL NOT BE MADE WITHOUT WRITTEN APPROVAL OF THE ARCHITECT OR OWNER.
- 8. THESE PLANS ARE THE EXCLUSIVE PROPERTY OF THE ARCHITECT. ANY REPRODUCTION OR USE WITHOUT THE EXPRESS WRITTEN PERMISSION OF THE ARCHITECT IS PROHIBITED. THE ARCHITECT ASSUMES NO LIABILITY FOR THE UNAUTHORIZED USE OF THESE PLANS.
- 9. ALL WORK SHALL CONFORM TO TITLE 24, CALIFORNIA CODE OF REGULATIONS 2016 CBC.
- 10. SUBSTITUTIONS SHALL BE CONSIDERED CONSTRUCTION CHANGE DOCUMENT AND SHALL BE APPROVED BY THE OWNER AND ARCHITECT PRIOR TO FABRICATION.
- 13. CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY AN ADDENDUM OR A CONSTRUCTION CHANGE DOCUMENT SHALL BE SUBMITTED TO AND APPROVED BY THE OWNER BEFORE PROCEEDING WITH THE WORK.

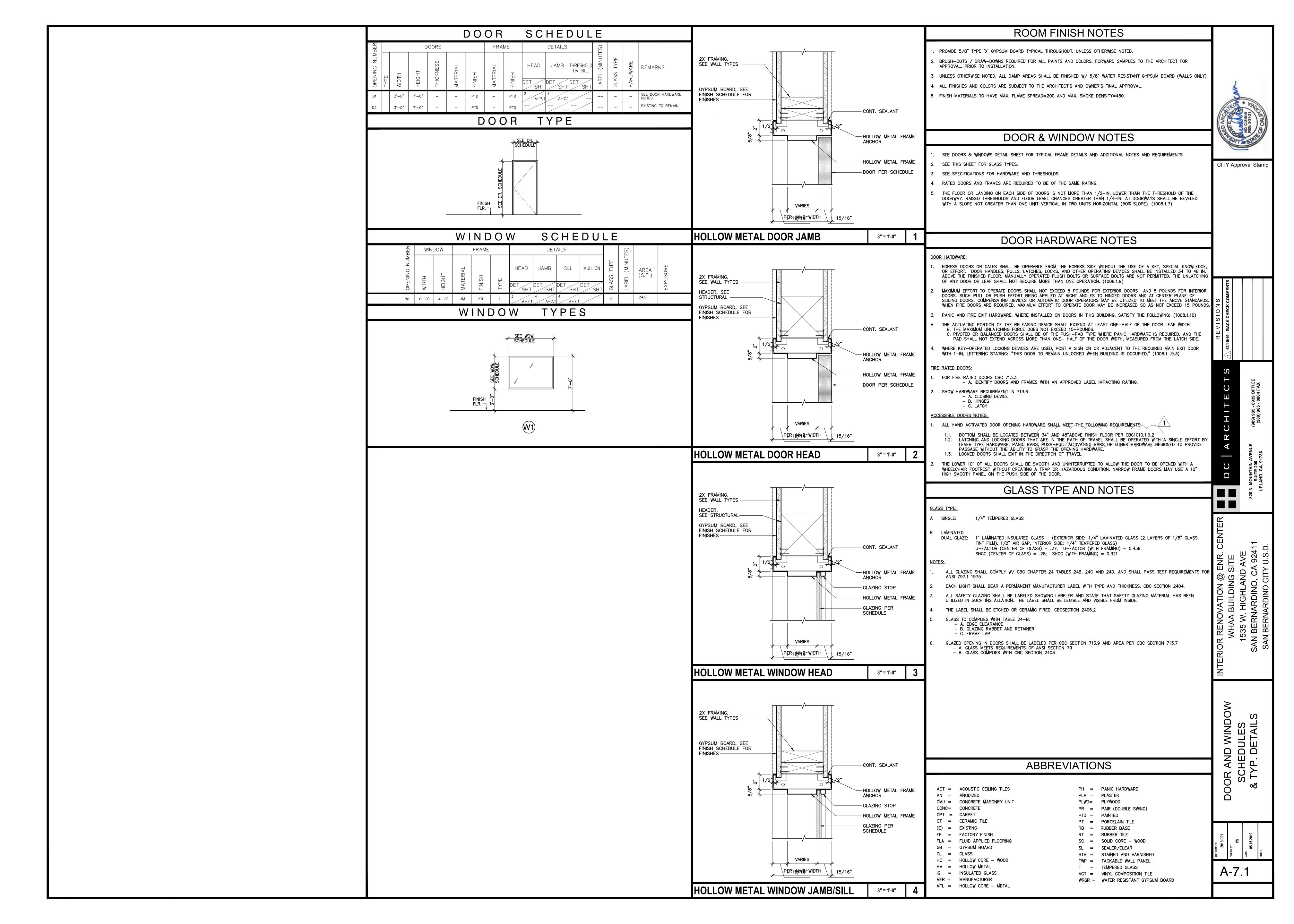
CITY Approval Stamp

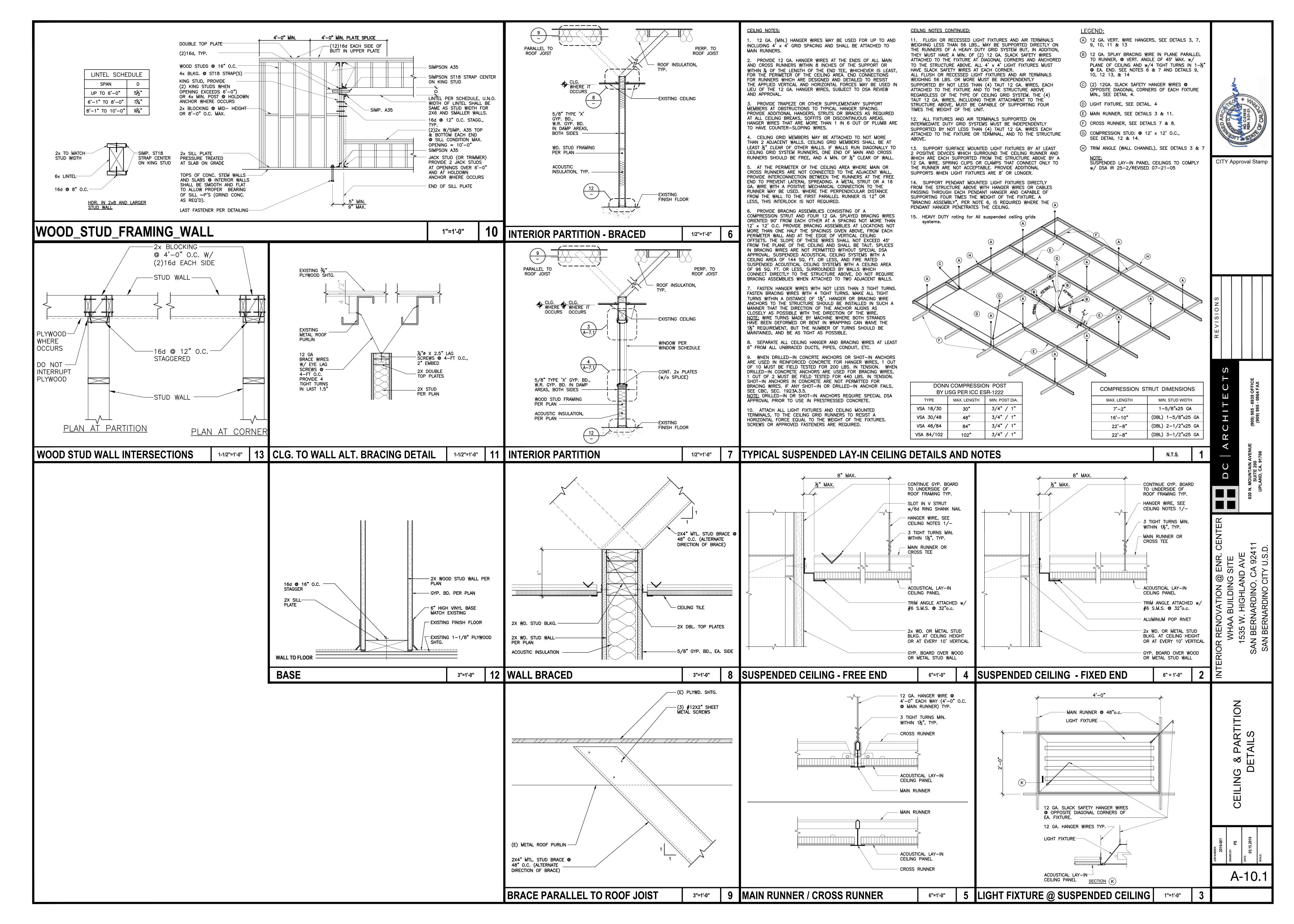
R RENOVATIC WHAA BUILI

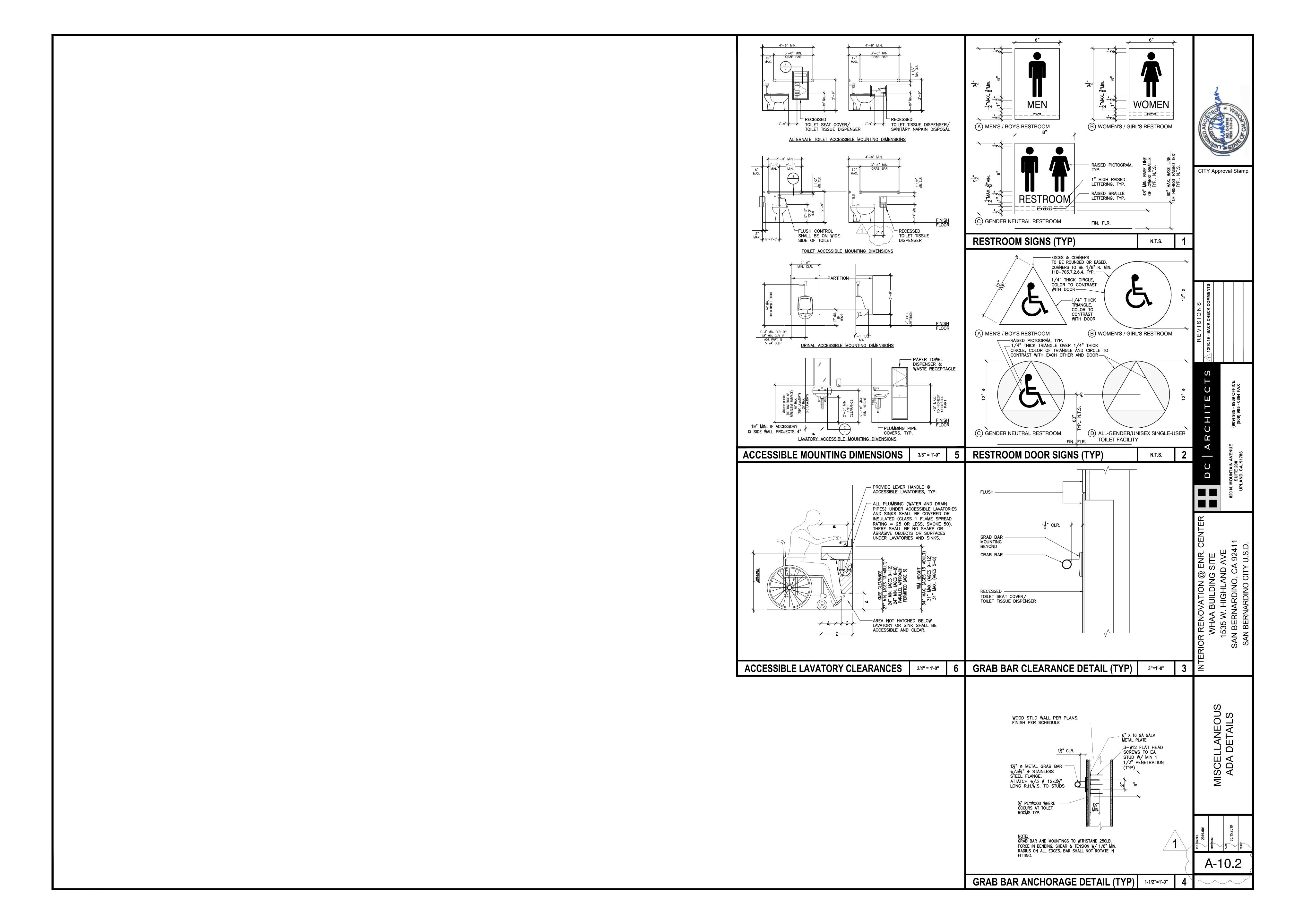
Z

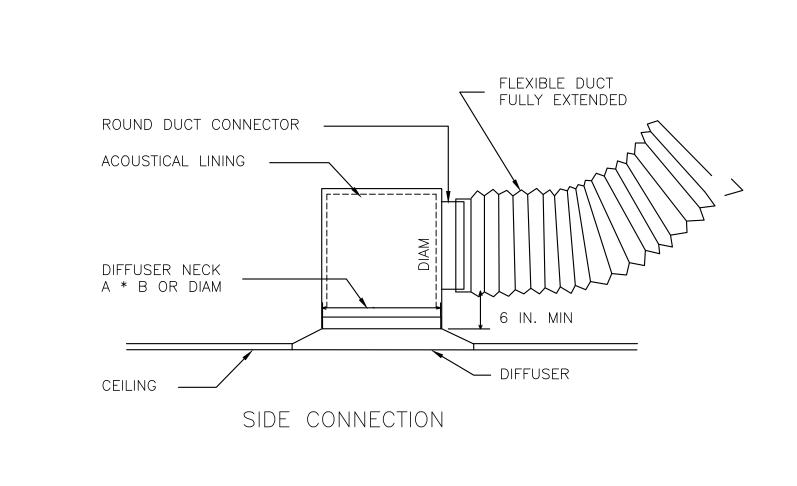






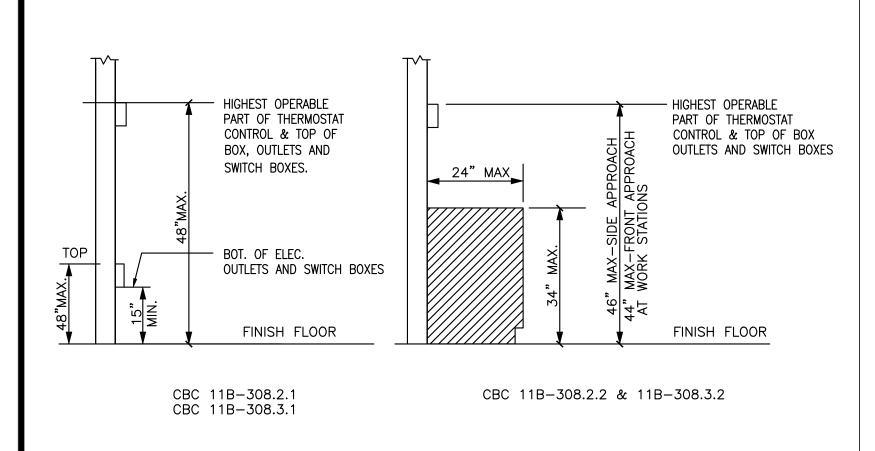






DIFFUSER CONNECTION DETAIL

SCALE NONE



THERMOSTAT MOUNTING DETAIL

SCALE NONE

SCALE

NONE

AIR CONDITIONING REQUIREMENTS

ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CALIFORNIA MECHANICAL CODE, 2001 EDITION TITLE 24 PART 5

A. FURNISH ALL LABOR, SUPERVISION, MATERIALS, EQUIPMENT AND FACILITIES NECESSARY TO FURNISH, FABRICATE, DELIVER, AND STORE AND INSTALL ALL WORK NOTED ON THE DRAWINGS AND/OR SPECIFIED HEREIN.
 B. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL WORK NECESSARY TO MAKE A COMPLETE SYSTEM WHETHER OR NOT SUCH DETAILS ARE MENTIONED IN THESE SPECIFICATIONS OR SHOWN ON THE PLANS. BUT WHICH ARE OBVIOUSLY NECESSARY TO MAKE A COMPLETE SYSTEM. EXCEPTING ONLY THOSE PORTIONS THAT ARE SPECIFICALL MENTIONED HEREIN OR PLAINLY MARKED ON THE ACCOMPANYING DRAWINGS AS BEING INSTALLED UNDER ANOTHER SECTION OF THE SPECIFICATIONS.

2. WORKMANSHIP: THE WORK SHALL BE ACCOMPLISHED IN A THOROUGH AND WORKMAN—LIKE MANNER SATISFACTORY TO AND MEETING THE APPROVAL OF THE OWNER AND ARCHITECT.

3. MATERIALS: ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND THE BEST OF THEIR RESPECTIVE KIND. FREE FROM ALL DEFECTS AND OF THE MAKE AND QUALITY SPECIFIED.

4. SITE INSPECTION: CONTRACTOR SHALL VISIT THE SITE OF WORK PRIOR TO SUBMISSION OF HIS BID AND THOROUGHLY FAMILIARIZE HIMSELF WITH THE WORKING CONDITIONS & EXACT NATURE OF THE WORK. SUBMISSION OF A BID ACKNOWLEDGES FULL RESPONSIBILITY FOR FURNISHING A COMPLETE AND FUNCTIONAL SYSTEM. NO CHANGES IN CONTRACT WILL BE MADE TO ACCOMMODATE OR ALLOW EXTRA FUNDS FOR ANY OMISSION WHICH RESULTS FROM A FAILURE TO THOROUGHLY MAKE THE EXAMINATION.

5. CODES AND PERMITS: ALL MECHANICAL EQUIPMENT, INSTALLATION, ETC., SHALL CONFORM WITH ALL

APPLICABLE CODES AND ORDINANCES AS INTERPRETED BY THE LOCAL AUTHORITY HAVING JURISDICTION. INCLUDING CALIFORNIA TITLE 24. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND INSPECTIONS. COPIES OF ALL PERMITS AND INSPECTION REPORTS SHALL BE SUBMITTED TO THE ARCHITECT.

6. AS-BUILTS: CONTRACTOR SHALL PROVIDE A COMPLETE SET OF AS-BUILTS TRANSPARENCIES WITH ALL

CHANGES NOTED THEREON AT THE COMPLETION OF THE PROJECT AND PRIOR TO FINAL ACCEPTANCE AND

7. GUARANTEE: CONTRACTOR SHALL UNCONDITIONALLY GUARANTEE ALL LABOR AND MATERIALS ON ALL WORK AGAINST DEFECTS IN WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE YEAR AFTER COMPLETION.

8. SUBMITTALS: CATALOG INFORMATION AND CUTS OF ALL EQUIPMENT AND DEVICES SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW (SIX COPIES OF EACH).

9. COORDINATION: THE DRAWINGS ARE DIAGRAMMATIC AND INTENDED TO SHOW SCOPE. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES TO PROVIDE BEST ARRANGEMENT OF ALL DUCTS, PIPES, CONDUIT, ETC. LOCATION OF EXISTING PIPING AND DUCTWORK SHOWN IS APPROXIMATE: CONTRACTOR SHALL VERIFY THEIR LOCATION PRIOR TO BEGINNING WORK OF THIS SECTION AND SHALL MAKE MODIFICATIONS AND ADJUSTMENTS REQUIRED TO INSTALL THE WORK OF THIS SECTION.

10. CUTTING AND PATCHING: ALL CUTTING AND PATCHING REQUIRED OF THE STRUCTURE (NEW OR EXISTING) SHALL BE PROVIDED UNDER OTHER SECTIONS OF THE WORK. PROVIDE NECESSARY REQUIREMENTS TO THE PROJECT SUPERINTENDENT.

11. CLEANUP: UPON COMPLETION OF THE WORK UNDER THIS SECTION, THE CONTRACTOR SHALL REMOVE ALL SURPLUS MATERIALS, EQUIPMENT AND DEBRIS INCIDENTAL TO THIS WORK AND LEAVE THE PREMISES CLEAN AND ORDERLY

12. DUCTWORK:

A. DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH THE UNIFORM MECHANICAL CODE (LATEST ADOPTED VERSION) AND SMACNA STANDARDS.

C. DOUBLE THICKNESS TURNING VANES SHALL BE USED ON ALL DUCT TURNS OF 90°.

D. ALL DUCT JOINTS SHALL BE SEALED AIR TIGHT WITH APPROVED DUCT SEALER AND DUCT TAPE.

E. FLEXIBLE DUCT USED FOR CONDITIONED AIR SHALL BE U.L. APPROVED, VINYL COATED, WIRE REINFORCED FIBERGLASS, WITH MAXIMUM CONDUCTANCE OF .30 AND A MAXIMUM LENGTH OF FIVE FEET.

13. FILTERS SHALL BE U.L. RATED AND APPROVED.14. INSULATION:

B. DUCTWORK SHALL BE GALVANIZED STEEL.

A. INSULATION SHALL BE U.L. LISTED IN COMPLIANCE WITH FLAME—SPREAD RATING OF NOT MORE THAN 25 AND SMOKE DENSITY NOT EXCEEDING 50. PER THE UNIFORM MECHANICAL CODE. INSTALLATION SHALL BE IN ACCORDANCE WITH THE STATE OF CALIFORNIA ENERGY COMMISSION AND UMC REQUIREMENTS.

B. INSULATE ALL INTERIOR CONDITIONED SUPPLY AND RETURN AIR DUCTWORK WITH 1 1/2" THICK, .75 LB. PER CU. FT. DENSITY FIBERGLASS INSULATION WITH VAPOR BARRIER (MINIMUM R-VALUE = 4.0 AT 75'F MEAN

C. CONDITIONED SUPPLY AND RETURN AIR DUCTWORK EXPOSED TO THE WEATHER SHALL BE INTERNALLY LINED WITH 1-1/2" THICK, 1.5 LB. PER CU. FT. DENSITY FIBERGLASS

DUCT LINER (MINIMUM R-VALUE = 6.3). 16. VOLUME DAMPERS SHALL BE PROVIDED IN EACH BRANCH DUCT TO EACH DIFFUSER AND REGISTER, AND SHALL BE LOW LEAKAGE OPPOSED BLADE ADJUSTABLE TYPE. AND SHALL PROVIDE THREE COPIES OF MAINTENANCE AND OPERATING MANUALS TO THE OWNER. 18. EACH MECHANICAL VENTILATION SYSTEM (SUPPLY AND/OR EXHAUST) SHALL BE EQUIPPED WITH A MEANS OF SHUT-OFF WHEN VENTILATION IS NOT REQUIRED. AND BACKDRAFT DAMPERS WHICH CAN BE CLOSED ON FAN SHUTDOWN SHALL BE PROVIDED FOR AIR INTAKES AND/OR DISCHARGES. 19. EACH GRAVITY VENTILATION SYSTEM, EXCEPT FOR COMBUSTION AIR OPENINGS, SHALL BE PROVIDED WITH AUTOMATIC DAMPERS IN ALL OPENINGS TO THE OUTSIDE. 20. EACH AIR HANDLING SYSTEM ABOVE 2000 CFM SHALL BE PROVIDED WITH SUITABLE SMOKE DETECTORS IN THE SUPPLY DUCT PER UMC. INTERLOCKED WITH FAN STARTER(S) FOR AUTOMATIC SHUT-OFF. 21. TEMPERATURE CONTROL DEVICES: EACH HVAC SYSTEM SHALL BE PROVIDED WITH AN AUTOMATIC SPACE TEMPERATURE CONTROL DEVICE THAT SHALL BE CAPABLE OF BEING SET TO MAINTAIN SPACE TEMPERATURE SET POINTS FROM 55°F TO 85°F AND SHALL BE CAPABLE OF OPERATING THE SYSTEM HEATING AND COOLING IN SEQUENCE, CONTROLS SHALL BE ADJUSTED TO PROVIDE A TEMPERATURE RANGE OF AT LEAST 5°F AND UP TO 10'F BETWEEN FULL HEATING AND COOLING, AND HAVE A CAPABILITY OF TERMINATING ALL HEATING AT A TEMPERATURE OF NO MORE THAN 70°F AND COOLING AT A TEMPERATURE NOT LESS THAN 78°F. 22. THERMOSTATS SHALL HAVE NUMERIC SETPOINTS IN *F, ADJUSTABLE SETPOINT STOPS ACCESSIBLE ONLY TO AUTHORIZED PERSONNEL, AND SHALL BE MOUNTED AT 48" ABOVE FINISHED FLOOR. 23. BALANCING AND ADJUSTING: ALL AIR SYSTEMS SHALL BE ADJUSTED BY AN INDEPENDENT BALANCING CONTRACTOR THAT IS A MEMBER OF THE ASSOCIATED AIR BALANCING COUNCIL (AABC) OR THE NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB). SUBMIT BALANCE REPORT TO OWNER PRIOR TO RECEIVING FINAL PAYMENT. ADDITIONAL BALANCING DAMPERS AND/OR PULLEY CHANGES SHALL BE PROVIDED AS REQUIRED TO BALANCE SYSTEMS AT NO INCREASE IN CONTRACT PRICE.

24. AUTOMATIC CONTROLS WHICH COMPLY WITH TITLE 24 REQUIREMENTS FOR OFF—HOUR CONTROL SHALL BE PROVIDED FOR EACH SYSTEM. CONSISTING OF A 4 HOUR TIMER THAT CAN BE MANUALLY OPERATED TO CONTROL THE OPERATING PERIOD OF THE SYSTEM. CONTROLS SHALL BE PROVIDED THAT TEMPORARILY OPERATE THE SYSTEM AS REQUIRED DURING OFF HOURS TO MAINTAIN A SETBACK HEATING AND COOLING THERMOSTAT SETPOINT.

25. BEFORE STARTING ANY WORK, THE CONTRACTOR FOR THIS SECTION OF THE WORK SHALL EXAMINE A COMPLETE SET OF DRAWINGS FOR ALL TRADES, INCLUDING ARCHITECTURAL, STRUCTURAL, HVAC, ELECTRICAL, FIRE PROTECTION AND PLUMBING. DIMENSIONS, SPACE REQUIREMENTS AND POINTS OF CONNECTION TO ALL EQUIPMENT SHALL BE VERIFIED, AND ANY MINOR ADJUSTMENTS NECESSARY TO AVOID CONFLICT WITH THE BUILDING STRUCTURE AND THE WORK OF THE OTHER TRADES SHALL BE MADE. CONTRACTOR SHALL NOTIFY ARCHITECT IMMEDIATELY IF ANY MAJOR CONFLICTS OCCUR.

26. COORDINATE LOCATIONS OF ALL ROOF AND EXTERIOR WALL OPENINGS WITH ALL RELEVANT TRADES, AND PROVIDE WATERTIGHT FLASHINGS WHEREVER PENETRATIONS OCCUR. EXACT LOCATIONS AND SIZES MAY BE DEPENDENT UPON EQUIPMENT SELECTIONS: COORDINATE SIZES AND LOCATIONS OF ALL OPENINGS WITH APPROPRIATE EQUIPMENT REQUIREMENTS.

27. PERMANENT ACCESS TO EQUIPMENT SHALL BE PROVIDED, AND A MINIMUM OF 30" CLEAR WORKING SPACE IN FRONT OF ACCESS PANELS TO THE COMPRESSOR, BLOWER ASSEMBLY AND AIR FILTER SECTION OF THE EQUIPMENT SHALL BE PROVIDED.

28. ALL EQUIPMENT SHALL BE SECURELY FASTENED TO THE BUILDING STRUCTURE WITH CODE APPROVED EARTHQUAKE RESTRAINTS.

29. GAS-FIRED EQUIPMENT SHALL BE EQUIPPED WITH A PILOTLESS ELECTRONIC INTERMITTENT IGNITION SYSTEM.

30. A 1" MINIMUM CONDENSATE DRAIN FROM EACH AIR CONDITIONING UNIT TO A CODE APPROVED RECEPTOR SHALL BE PROVIDED.

31. COMBINATION SMOKE/FIRE DAMPERS SHALL BE INSTALLED IN DUCTS PASSING THROUGH FIRE WALLS, AND WHERE SHOWN ON DRAWINGS, SMOKE DAMPERS SHALL BE INTERLOCKED WITH THE BUILDING FIRE/LIFE SAFETY SYSTEM. ACCESS TO FUSIBLE LINKS AND/OR DAMPER MOTORS SHALL BE PROVIDED THROUGH ACCESS DOORS. DAMPERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH NFPA 90A, UBC AND UMC REQUIREMENTS, APPROVED BY THE STATE FIRE MARSHAL, AND INSTALLED PER THE MANUFACTURERS U.L. INSTALLATION INSTRUCTIONS.

32. EACH PIECE OF EQUIPMENT AND ALL SYSTEMS SHALL BE ADJUSTED AND RE—ADJUSTED TO INSURE PROPER FUNCTION OF ALL CONTROLS, MAINTENANCE OF TEMPERATURE, ADEQUACY OF FLOWS AND CAPACITIES, ELIMINATION OF NOISE AND VIBRATON, AND SHALL BE LEFT IN PROPER OPERATING CONDITION.

33. MINIUMUM VENTILATION RATES SHALL COMPLY WITH THE LATEST EDITION OF ASHRAE AND CEC

34. FINAL LOCATION OF CEILING DIFFUSERS SHALL BE PER THE ARCHITECTURAL REFLECTED CEILING PLAN OR AS PER FIELD REQUIREMENTS.
35. NO COMBUSTIBLE MATERIALS SHALL BE INSTALLED IN RETURN AIR PLENUMS.
36. ACCESS DOORS: FOR ALL COMBINATION SMOKE/FIRE DAMPERS AND WHERE NECESSARY IN DUCTWORK OR CASINGS, SUITABLE ACCESS DOORS AND FRAMES TO PERMIT INSPECTION, OPERATION AND MAINTENACE OF ALL

REQUIREMENTS. CONTROLS SHALL BE PROVIDED TO ALLOW OUTSIDE AIR DAMPERS OR DEVICES TO BE

OPERATED AT THE REQUIRED VENTILATION RATES.

OR EXCEED ALL APPLICABLE EFFICIENCY REQUIREMENTS.

CONTROLS, MOTOR BEARINGS, OR OTHER APPARATUS CONCEALED BEHIND THE SHEET METAL WORK SHALL BE PROVIDED. ACCESS DOORS IN DUCTS MAY BE OF SINGLE PANEL CONSTRUCTION OF NOT LESS THAN NO. .18 GAUGE, GALVANIZED, AND SHALL HAVE SPONGE RUBBER GASKETS WITH HINGES AND LATCHES.

37. DUCT RUNOUTS TO DIFFUSERS AND DUCT/PIPING CONNECTIONS TO EQUIPMENT SHALL BE SIZED TO MATCH NECK OR EQUIPMENT INTAKE/DISCHARGE SIZES, UNLESS OTHERWISE NOTED.

38. AIR CONDITIONING UNITS SHALL BE STATE OF CAIFORNIA ENERGY COMMISSION LISTED, AND SHALL MEET

HVAC SYMBOL AND ABBREVIATIONS				
	SUPPLY AIR DUCT			
	RETURN, TRANSFER,EXHAUST OR BY-PASS AIR DUC	CT		
OR M	SUPPLY AIR DIFFUSER (4 WAY OR 2 WAY THROW)	S.A		
	RETURN AIR REGISTER	R.A.		
	TRANSFER AIR REGISTER	T.A.		
	EXHAUST AIR REGISTER	E.A		
T)	AC UNIT THERMOSTAT & ZONE			
-]	VOLUME DAMPER	V.D.		
	UNDER CUT DOOR			
D.L.	DOOR LOUVER			
(DD)	DUCT TYPE SMOKE DETECTOR			
\longrightarrow	DUCT TRANSITION			
O.A	OUTSIDE AIR			
C.D.	CEILING DIFFUSER			
F.P.	FILLER PANEL			
R.C.G.	RETURN CEILING GRILLE			
R.C.R.	RETURN CEILING REGISTER			
T.C.G.	TRANSFER CEILING GRILLE			
E.C.G.	EXHAUST CEILING GRILLE			
E.C.R.	EXHAUST CEILING REGISTER			
S.W.G.	SUPPLY WALL GRILLE			
S.W.R.	SUPPLY WALL REGISTER			
R.W.G.	RETURN WALL GRILLE			
R.W.R.	RETURN WALL REGISTER			
T.W.G.	TRANSFER WALL GRILLE			
E.W.G.	EXHAUST WALL GRILLE			
E.W.R.	EXHAUST WALL REGISTER			
— → F.L.F.D.	FUSIBLE LINK FIRE DAMPER			
A.P.	ACCESS PANEL			
U.L.A.P.	U.L. LISTED ACCESS PANEL			
A.C.	AIR CONDITIONING UNIT			
R.E.F.	ROOF EXHAUST FAN			
C.E.F.	CEILING EXHAUST FAN			
I.E.F	IN-LINE EXHAUST FAN			
—	ZONE DAMPER			
— a	BYPASS DAMPER			
P.O.C.	POINT OF CONNECTION			
A.F.F.	ABOVE FINISHED FLOOR			
A	FURNISHED AND INSTALLED UNDER THE ARCHITECTUDIVISION OF THE SPECIFICATIONS.	JRAL		
E	FURNISHED AND INSTALLED UNDER THE ELECTRICAL DIVISION OF THE SPECIFICATIONS.	-		
S	FURNISHED AND INSTALLED UNDER THE STRUCTURA DIVISION OF THE SPECIFICATIONS.	L.		
— ♂ C.S.F.D.	COMBINATION SMOKE/FIRE DAMPER			
=== OR ====	INTERNALLY LINED DUCTWORK			
(CO ₂)	CARBON DIOXIDE SENSOR			
■ OR ■	S.A. OR R.A. DUCT DROPS			
	E.A. DUCT DROP			



Engineous Group, Inc. Group, Inc. Pasadena, CA 91103 Phone: (626) 696-3850

CITY Approval Stamp

REVISIONS

RCHITECTS
(909) 985-6939 OFFICE

BZO N. MOUNTAIN AVENUE

SITE

O AVE

S20 N. MC

A 92411

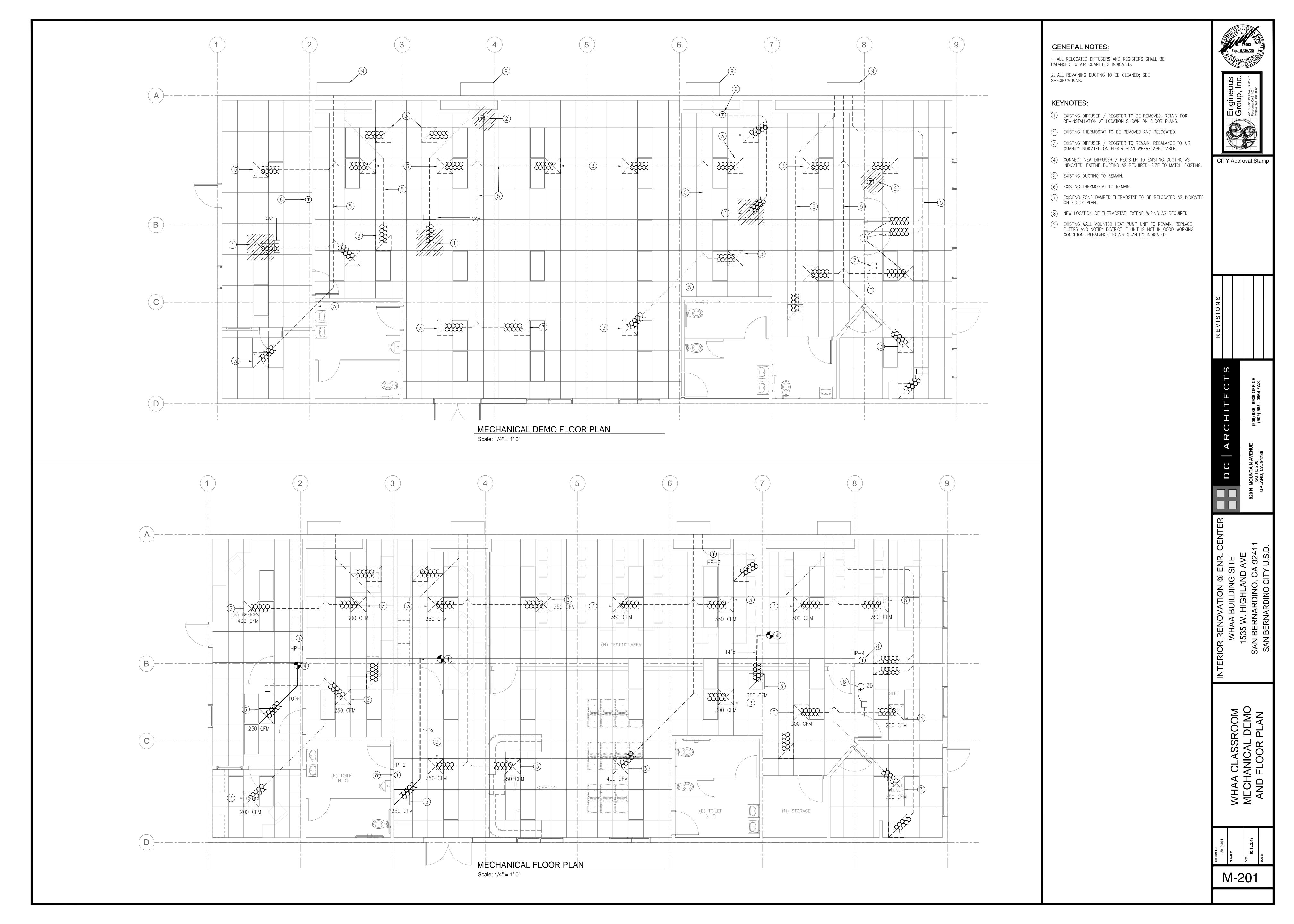
WHAA BUILDING SITE
1535 W. HIGHLAND AVE
SAN BERNARDING, CA 92,

VHAA CLASSROOM MECHANICAL DEMO AND FLOOR PLAN

DRAWN BY:
DATE:
05.15.2019
SCALE:

M-001

SCALE 1



ELEC	CTRICAL SPECIFICATIONS		NINER *
25. CLEAN-UP UPON COMPLETION OF THE WORK, THIS CONTRACTOR SHALL REMOVE FROM THE JOB SITE ALL DEBRIS AND UNUSED MATERIALS, TOOLS AND EQUIPMENT RESULTING FROM THIS WORK.	 CODE COMPLIANCE A. ALL ELECTRICAL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE STATE OF CALIFORNIA CODE OF REGULATIONS, ELECTRICAL REGULATIONS OF THE STATE FIRE MARSHALL AND ALL OTHER GOVERNING CODES. 	CIRCUIT BREAKER (SEE SINGLE LINE DIAGRAM). CONDUIT RUN CONCEALED ABOVE CEILING OR IN WALLS. CONDUIT RUN BELOW GRADE.	Wo. 13592 ★ Exp. 06/30/21 *** CALLENTENTENTENTENTENTENTENTENTENTENTENTENTE
26. DRAWINGS AND SPECIFICATIONS ELECTRICAL DRAWINGS ARE DIAGRAMMATIC IN SOME RESPECTS. SIZES AND LOCA— TION OF EQUIPMENT AND WIRING ARE SHOWN TO SCALE WHERE POSSIBLE, BUT MAY BE DISTORTED FOR CLARITY IN THE DRAWINGS. FINAL LOCATIONS OF OUTLETS AND EQUIPMENT SHALL BE ADJUSTED AS DICTATED BY EXISTING CONDITIONS. IT IS NOT WITHIN THE SCOPE OF DRAWINGS TO SHOW ALL NECESSARY BENDS, OFF— SETS, PULL BOXES AND OBSTRUCTIONS. IT SHALL BE THE RESPONSIBILITY OF	 PERMITS AND FEES SECURE AND PAY FOR ALL PERMITS AND FEES NECESSARY FOR EXECUTION AND COMPLETION OF ELECTRICAL WORK. MATERIAL 	"RGS" CONDUIT RUN EXPOSED ON ROOF. FREE STANDING DISTRIBUTION PANELBOARD. FLUSH MOUNTED PANELBOARD. (SEE SINGLE LINE DIAGRAM). C.O. CONDUIT ONLY. NTS NOT TO SCALE.	n Pointe Dr. sy, CA 93063 1340 Office 2614 Cell
SEIS, PULL BOXES AND OBSTRUCTIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL HIS WORK TO CONFORM TO THE STRUCTURE, PRESERVE HEADROOM AND KEEP OPENINGS AND PASSAGEWAYS CLEAR.	A. ALL EQUIPMENT AND MATERIALS SHALL BE NEW AND LISTED BY THE UNDER— WRITER'S LABORATORIES, INC. MANUFACTURED IN ACCORDANCE WITH U.L., NEMA, ANSI OR IEEE STANDARDS, AND APPROVED BY ALL AUTHORITIES HAVING JURISDICTION. 4. GROUNDING	WP WEATHERPROOF. UON UNLESS OTHERWISE NOTED. GRD. GROUND. CU COPPER. NIC. NOT IN CONTRACT GEL GROUND FAULT INTERRUPTER	5723 Inc Simi Va (805) 52 (818) 32
	A. ALL ELECTRICAL EQUIPMENT, DEVICES AND SYSTEMS SHALL BE GROUNDED IN STRICT COMPLIANCE WITH NATIONAL ELECTRICAL CODE AND ALL STATE AND LOCAL CODES. A GROUNDING CONDUCTOR SHALL BE INSTALLED IN ALL NEW BRANCH CIRCUIT WIRING. 5. ALL CONDUCTORS SHALL BE COPPER TYPE "THWN\THHN" RATED AT 600 VOLTS, UNLESS OTHERWISE NOTED.	Os JUNCTION BOX FLUSH MOUNTED IN CEILING FOR SECURITY SYSTEM MOTION SENSOR. S Φ FLUSH MOUNTED 277V. 20A. RATED SINGLE POLE TOGGLE SWITCH AT +48" U.O.N. α,b,c, etc. INDICATES LIGHTING FIXTURE CONTROL. FLUSH MOUNTED 125V.,2P.,3W.,15 AMP RATED DUPLEX RECEPTACLE	
	 ALL CONDUITS EXPOSED SHALL BE (RGS) RIGID GALVANIZED STEEL. ALL CONDUITS CONCEALED SHALL BE "EMT". UNDERGROUND CONDUITS SHALL BE SCHEDULE 40 PVC. FLEXIBLE STEEL CONDUIT SHALL NOT BE USED. 	MOUNTED AT +18". U.O.N. FLUSH MOUNTED 125V.,2P.,3W.,15 AMP RATED DOUBLE DUPLEX RECEPTACLE MOUNTED AT +18". U.O.N. CLOCK: WALL MOUNTED AT +8'−0" U.O.N. TO MATCH DISTRICT STANDARD WALL MOUNTED AUTOMATIC LIGHTING MOTION SENSOR, +45" A.F.F.	
	10. THE CONTRACTOR SHALL VISIT THE SITE AND VERIFY ALL ELECTRICAL CONDITIONS THAT MAY AFFECT HIS BID AND HE SHALL INCLUDE ALL SUCH COSTS WHEN SUBMITTING HIS BID PROPOSAL. NO EXTRAS WILL BE ALLOWED IF THE CONTRAC— TOR DID NOT VISIT THE EXISTING JOB SITE AND TAKE INTO CONSIDERATION ALL EXISTING ELECTRICAL CONDITIONS.		
	 11. THE CONTRACTOR SHALL EXERCISE CARE AND PRUDENCE WHEN RUNNING CONDUIT BELOW GRADE. ALL DAMAGES INCURRED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. 12. WHERE CONDUITS ARE RUN EXPOSED ON ROOF OR COVERED WALK, USE 2" X 4" REDWOOD BLOCKS AT 5'-0" ON CENTER. USE MASTIC TO SECURE THE BLOCKS TO THE ROOF OR CANOPY, NO SCREWS ALLOWED. 	INDICATES EXISTING TO REMAIN. XR ADJACENT TO LIGHT FIXTURE, OUTLET SYMBOL OR IN CONDUIT RUN INDICATES EXISTING TO BE REMOVED. XRL ADJACENT TO LIGHT FIXTURE OR OUTLET SYMBOL INDICATES EXISTING LIGHT FIXTURE OR OUTLET SHALL BE DISCONNECTED, REMOVED AND REINSTALLED	
	 13. ALL CONDUITS BELOW GRADE SHALL BE PVC SCHEDULE 40 ENCASED IN 3" CONCRETE ENVELOPE (30" BELOW FINISH GRADE). CONCRETE SHALL BE 2500 LBS. P.S.I. WITH PEA GRAVEL MIX. PROVIDE APPROPRIATELY SIZED EQUIPMENT GROUND CONDUCTOR. 14. ALL UNDERGROUND PULL BOXES SHALL BE SEALED AND WATERTIGHT. TRAFFIC 	AT NEW LOCATION NOTED. NL ADJACENT TO LIGHT FIXTURE OR OUTLET SYMBOL INDICATES NEW LOCATION OF RELOCATED LIGHT FIXTURE OR OUTLET. Image: Continuous process Image: C	FICE
	COVERS SHALL BE IDENTIFIED AS "ELECTRICAL" OR "SIGNAL", DEPENDING ON TYPE OF CIRCUIT. NO SPLICING IS PERMITTED IN UNDERGROUND PULL BOXES. 15. WHERE CUTTING OF EXISTING CONCRETE AND ASPHALT IS NECESSARY, THE CONTRACTOR SHALL PATCH THE CONCRETE OR ASPHALT TO MATCH EXISTING SURFACE. 16. ALL TRENCHING AND BACKFILL AREAS SHALL BE PROTECTED SO AS TO PREVENT	CEILING SPACE. FURNISH AND INSTALL 2 DATA JACKS AND 2 CAT 6 CABLES BACK TO MDF. SECURITY ALARM SYSTEM MOTION SENSOR (180° COVERAGE), CEILING MOUNTED. HOMERUN 1#16/2 SHIELDED TWISTED PAIR TO INTRUSION CABINET/CONTROL PANEL INSTALLED EXTERIOR CABINET. D SECURITY ALARM SYSTEM SURFACE MTD MAGNETIC DOOR CONTACT. HOMERUN 1#16/2 SHIELDED TWISTED PAIR TO INTRUSION CABINET/CONTROL PANEL	(909) 985 - 6939 OFF (909) 985 - 0864 F <i>t</i>
	PERSONNEL INJURY. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY INJURY. COORDINATE TRENCHING WITH EACH SCHOOL PRINCIPAL. 17. ALL BACKFILL SHALL BE TAMPED TO MATCH THE EXISTING DENSITY. ANY CRACK—ING OR SAGGING OF ASPHALT OR CONCRETE PAVING WILL BE REPAIRED AT NO ADDITIONAL COST TO THE SCHOOL DISTRICT. DO NOT BACKFILL PRIOR TO INSPECTION OF DUCT BANK. 18. REWORK OF EXISTING SWITCHBOARD	1#16/2 SHIELDED TWISTED PAIR TO INTRUSION CABINET/CONTROL PANEL NSTALLED EXTERIOR CABINET. © SECURITY ALARM SYSTEM SURFACE MTD MAGNETIC WINDOW CONTACT. HOMERUN 1#16/2 SHIELDED TWISTED PAIR TO INTRUSION CABINET/CONTROL PANEL NSTALLED EXTERIOR CABINET. TV FLUSH MOUNTED CATV OUTLET. +80" U.O.N. WITH 1"C.O. STUBBED INTO CEILING SPACE. FURNISH AND INSTALL 1 75 OHMS CONNECTOR AND 1−RG−11 CABLE BACK TO EXTERIOR CABINET.	IOUNTAIN AVENUE SUITE 200 AND, CA. 91786
	WHERE A NEW CIRCUIT BREAKER OR A SWITCH/FUSE ARE CALLED FOR WITHIN EXISTING SWITCHBOARD, THEY SHALL MATCH EXISTING IN ALL ASPECTS. 19. SCHEDULE OF WORK ANY WORK TO BE PERFORMED IN EXISTING BUILDINGS DURING SCHOOL SESSIONS MUST BE PLANNED BY THE CONTRACTOR IN ADVANCE. THE	FLUSH MOUNTED RAULAND 8" CEILING SPEAKER. WITH 3/4"C.O. STUBBED INTO CEILING SPACE AND 1 CAT 3 SPEAKER CABLE BACK INTERCOM/PAGING SYSTEM NEXT TO IDF. FLUSH MOUNTED TELEPHONE OUTLET. +18" U.O.N. WITH 1"C.O. STUBBED INTO CEILING SPACE. FURNISH AND INSTALL 1 TELEPHONE JACK AND 1 CAT 3 CABLE BACK TO TELEPHONE BACKBOARD IN EXTERIOR CABINET.	ω
	SCHEDULING SHALL BE DONE IN COOPERATION WITH THE SCHOOL PRINCIPAL WHO WILL MAKE AVAILABLE TO THE CONTRACTOR FOR THE PERFORMANCE OF THIS WORK, PORTIONS OF BUILDING WHICH MAY NORMALLY BE IN USE. 20. CONTINUITY OF EXISTING ELECTRICAL SYSTEMS A. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR	1 THE ELECTRICAL DRAWINGS INDICATE NEW WORK EVICTING ELECTRICAL SYSTEMS	ID AVE CA 92411 TY U,S.D.
	MAINTENANCE OF POWER, LIGHT COMMUNICATION, SIGNAL, FIRE ALARM AND SECURITY SYSTEM SERVICE TO THE EXISTING BUILDINGS. B. REFRIGERATION MOTORS SHALL BE KEPT OPERATING AT ALL TIMES, EXCEPT FOR PERIODS OF TIME NOT AGGREGATING MORE THAN TWO HOURS IN ANY ONE DAY AND DURING THE VACATION PERIOD. NOTIFY THE DISTRICT BEFORE DISCONNECTING	2. CONSULT WITH THE DISTRICT'S ELECTRICAL INSPECTOR BEFORE STARTING WORK. 3. THE ELECTRICAL PLANS ARE DEVELOPED FROM AS-BUILT DRAWINGS. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE CIRCUIT CONTINUITY FOR A WORKABLE SYSTEM. 4. EACH EMPTY CONDUIT SHALL HAVE A PULL CORD INSTALLED IN IT. 5. ALL ELECTRICAL SYMBOLS SHOWN ON SCHEDULES ARE NOT NECESSARILY USED ON	4 - 0
	REFRIGERATION MOTORS. 21. SCHEDULED POWER OUTAGES COORDINATE AND SCHEDULE ALL OUTAGES WITH THE PRINCIPAL AND SCHOOL DISTRICT'S DIRECTOR OF MAINTENANCE PRIOR TO ANY AND ALL OUTAGES.	THIS PROJECT. 6. VERIFY EXACT LOCATION OF ALL EXISTING ELECTRICAL SWITCHGEAR, SIGNAL CABINETS (TEL/INTERCOM, F.A.,CABLE TV., AND SECURITY) PRIOR TO BID AND INSTALLATION AND NOTIFY SCHOOL DISTRICT OF ANY DISCREPANCY WITH THEIR PLANS. 7. EACH PANELBOARD SHALL BE GROUNDED WITH A 3/4" X 10' LONG COPPER CLAD STEEL GROUND ROD.	1535 V SAN BER SAN BER
	A. SHALL BE SAME MANUFACTURER AS PANELBOARDS WITH REJECTION TYPE FUSE CLIPS AND DUAL ELEMENT TIME RELAY FUSES AS REQUIRED BY THE DRAW—INGS AND LOCKABLE IN THE "OFF" POSITION. HEAVY DUTY TYPE. B. ALL EQUIPMENT SHALL HAVE AN INTERRUPTING RATING AND/OR BRACING GREATER THAN THE AVAILABLE SHORT CIRCUIT CURRENT AT THE LINE TERMINALS OF THAT EQUIPMENT BUT NOT LESS THAN THE RATING INDICAT—	8. MAKE ALL FINAL CONNECTIONS TO PANELBOARDS IN PORTABLE CLASSROOMS.	
	ED. 23. SHOP DRAWINGS A. WITHIN TEN (10) DAYS AFTER RECEIPT OF CONTRACT, SUBMIT TO ARCHI— TECT SEVEN (7) COMPLETE SETS OF DRAWINGS FOR ALL ELECTRICAL EQUIP— MENT AND DEVICES LISTED BELOW. DO NOT DELIVER THESE ITEMS TO THE JOB SITE UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED BY	JLS, NOTES	FICATIONS
	ARCHITECT AND ELECTRICAL ENGINEER. B. SUBMIT DRAWINGS FOR THE FOLLOWING EQUIPMENT: 1) CIRCUIT BREAKERS AND SAFETY SWITCHES 2) SIGNAL\COMMUNICATION DEVICES	SYMBO	AND SPECI
	THIS CONTRACTOR SHALL FURNISH THE OWNER WITH A WRITTEN GUARANTEE FOR THE PERIOD OF ONE YEAR AGAINST FAILURE OF THE ELECTRICAL SYSTEM DUE TO FAULTY MATERIALS OR WORKMANSHIP, GUARANTEE PERIOD SHALL START AT THE DATE OF FINAL ACCEPTANCE BY THE OWNER. ALL SUCH DEFECTS MUST BE REPAIRED OR DEFECTIVE MATERIALS REPLACED BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER.	JOB NUMBER: 2019-001 SRAWN BY: DLE	DATE: 06.20.2019
		E-	E-1.0

