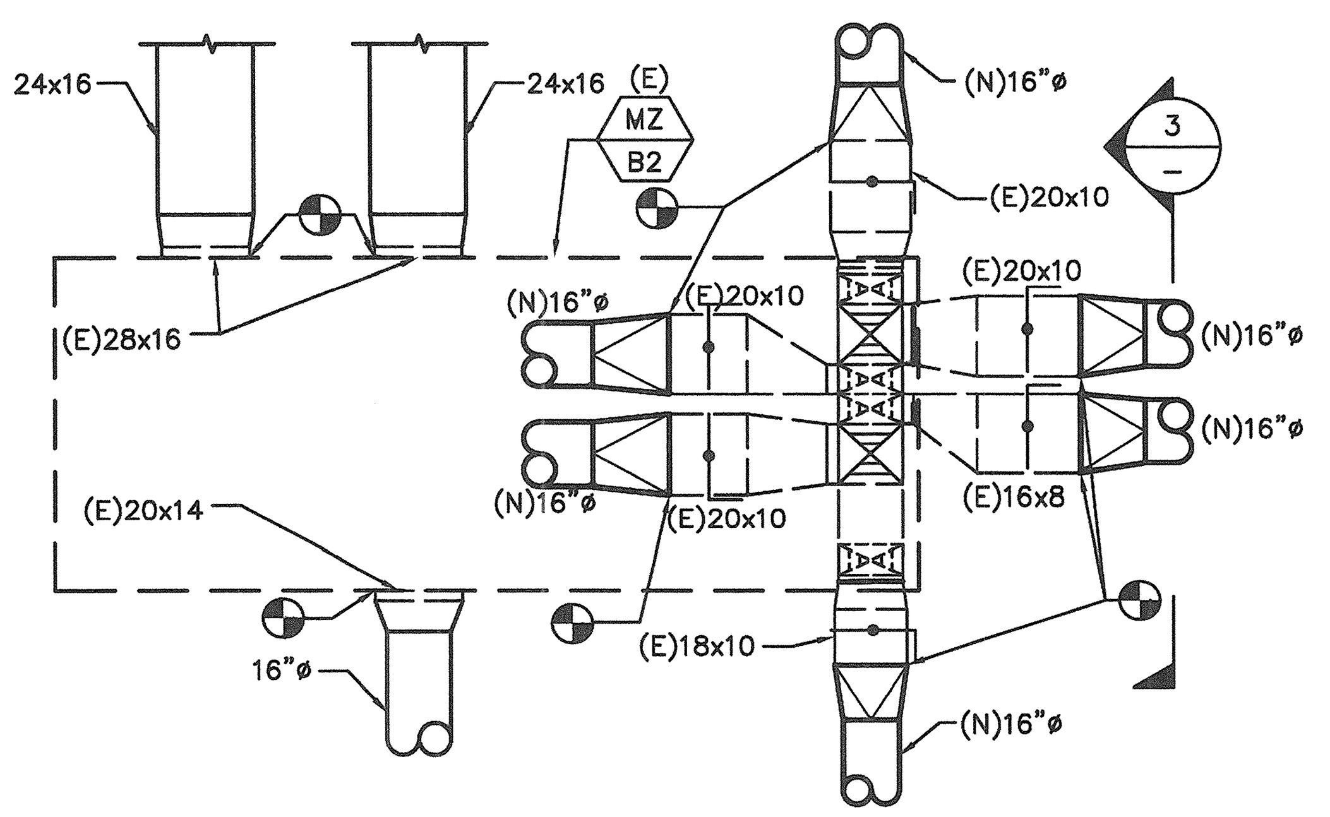
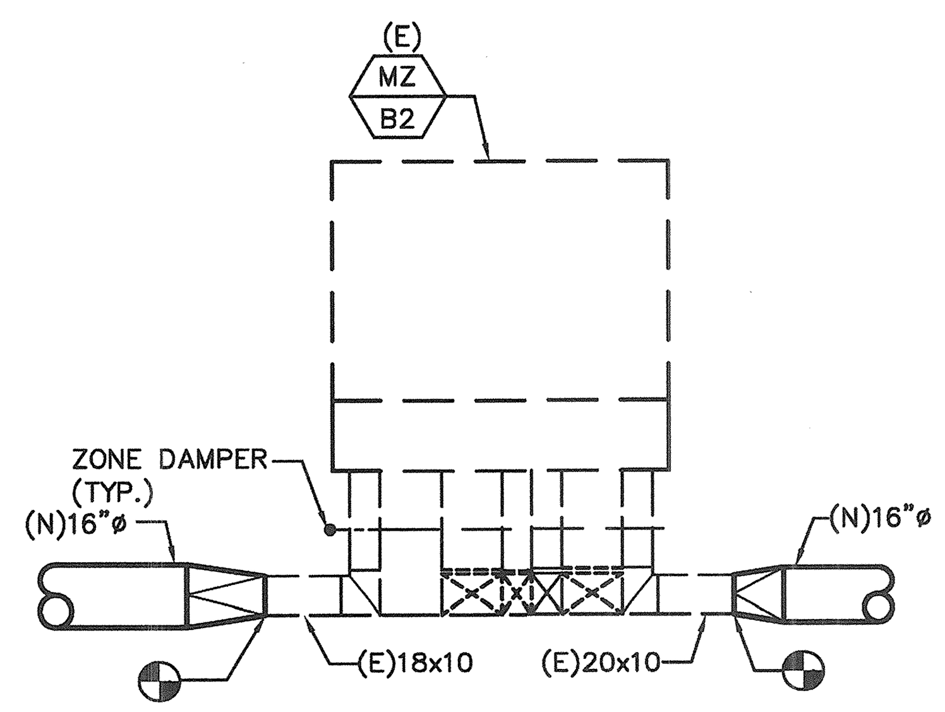
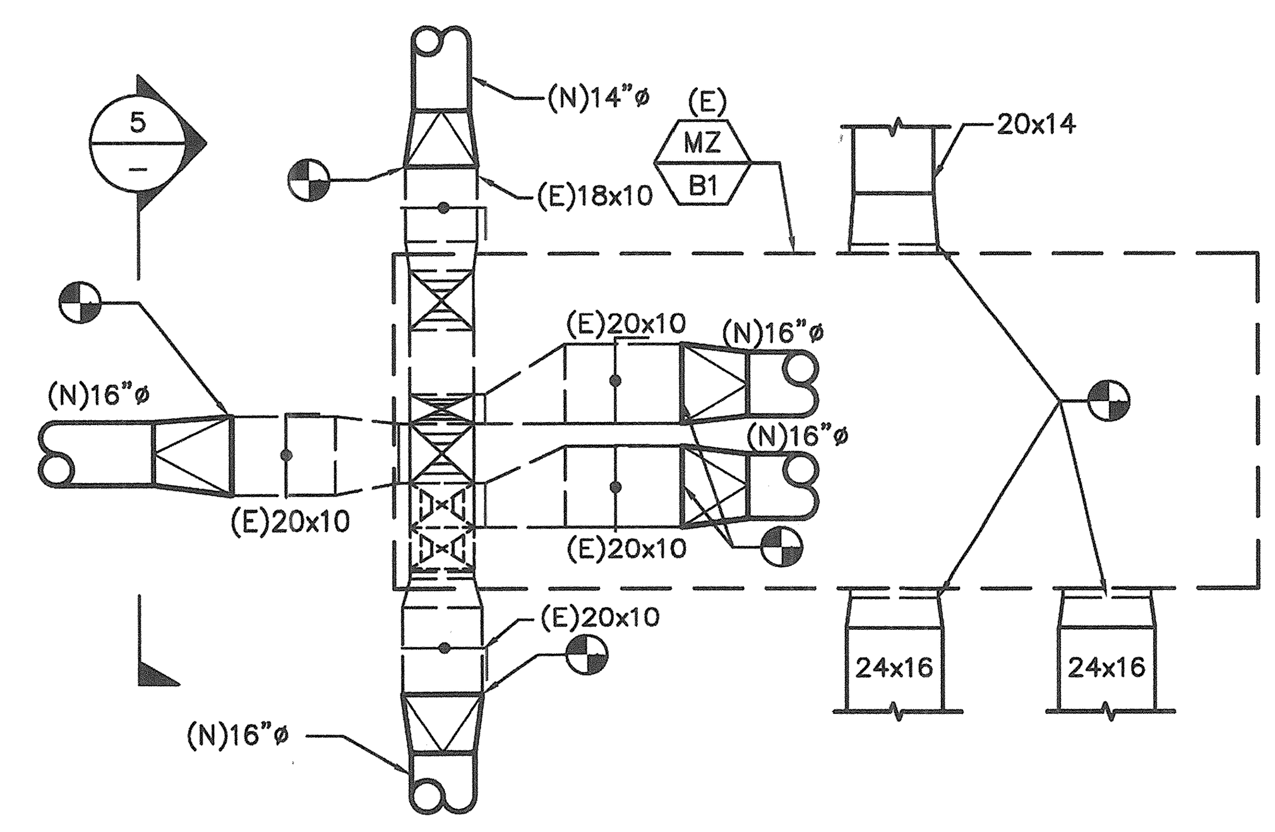


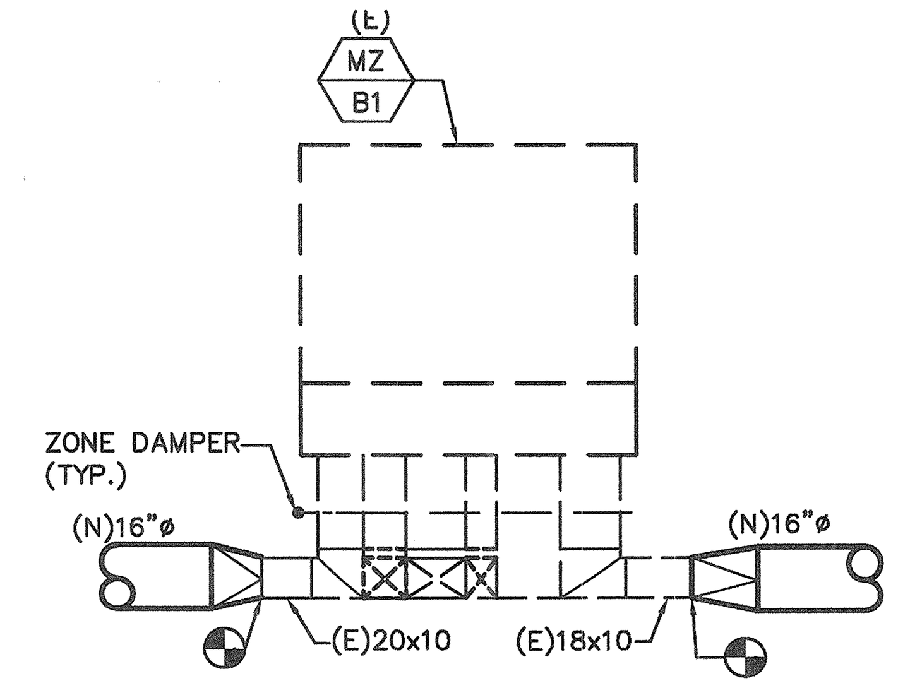
2 ENLARGED PLAN
SCALE: 1/4" = 1'-0" BUILDING B CLASSROOM



3 SECTION PLAN
SCALE: 1/4" = 1'-0" BUILDING B CLASSROOM



4 ENLARGED PLAN
SCALE: 1/4" = 1'-0" BUILDING B CLASSROOM



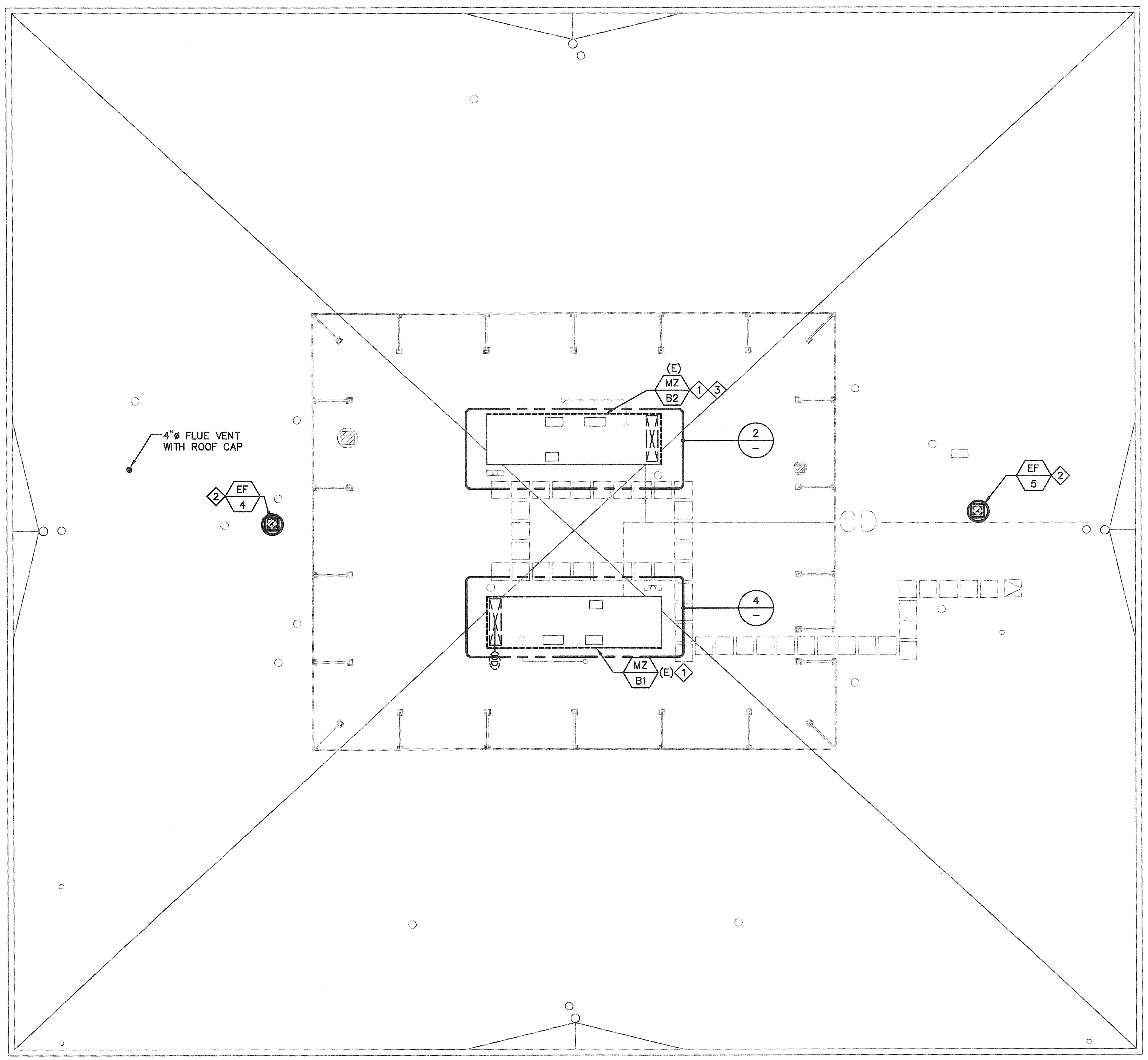
5 SECTION PLAN
SCALE: 1/4" = 1'-0" BUILDING B CLASSROOM

KEY NOTES

1. PROVIDE CLEANING AND REPLACE AIR FILTER AT EXISTING ROOF TOP GAS ELECTRIC MZ UNIT. RECONNECT NEW SUPPLY AND RETURN DUCTWORK TO EXISTING MZ UNIT.
2. PROVIDE NEW EXHAUST FAN ON EXISTING ROOF CURB, FILED VERIFY EXISTING ROOF OPENING AND EXISTING CURB DIMENSIONS PRIOR TO ORDERING EXHAUST FANS.
3. CONNECT SHUT DOWN EXISTING MZ UNIT WITH EXISTING AREA SMOKE DETECTOR.

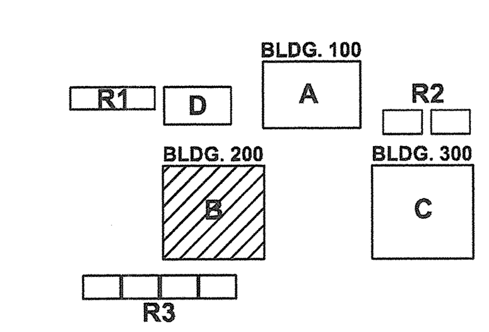
GENERAL NOTES

1. ROOF TOP MULTIZONE UNIT, CONTRACTOR SHALL FIELD VERIFY SUPPLY DUCT WORK SIZES AND EXACT LOCATIONS PRIOR TO FABRICATION.
2. CONTRACTOR TO MODIFY ZONE SUPPLY DUCT AT UNIT DISCHARGE SIDE AS REQUIRED TO MATCH WITH EXISTING FIELD CONDITIONS.
3. EXISTING SARNAFIL PVC COOL ROOF SYSTEM.
4. ROOF UNDER WARRANTY WITH BEST CONTRACTING SERVICES (310)328-6969.



1 REMODEL ROOF PLAN
SCALE: 1/8" = 1'-0" BUILDING B

PLAN NORTH



KEY PLAN

TRUE NORTH

ARCHITECT'S STAMP: LICENSED ARCHITECT DAVID ALEX KINDRED SR. C-19528 STATE OF CALIFORNIA

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DATE:_____

DSA STAMP

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Mechanical Electrical Plumbing | Consulting Engineers
QA/QC BY: _____

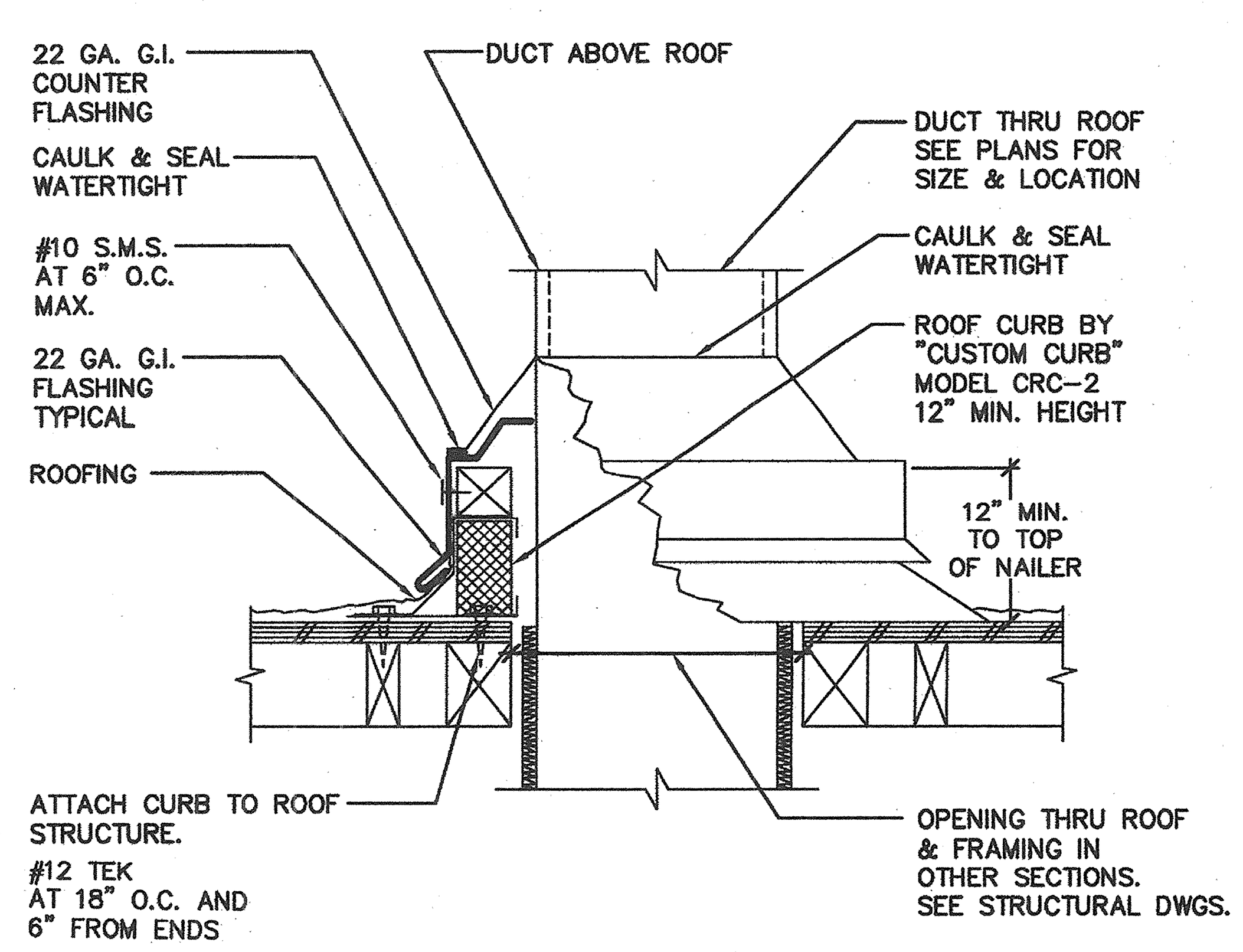
PROJECT NO.: 234808 DATE: 01-07-13

REMODEL ROOF PLAN - BUILDING B

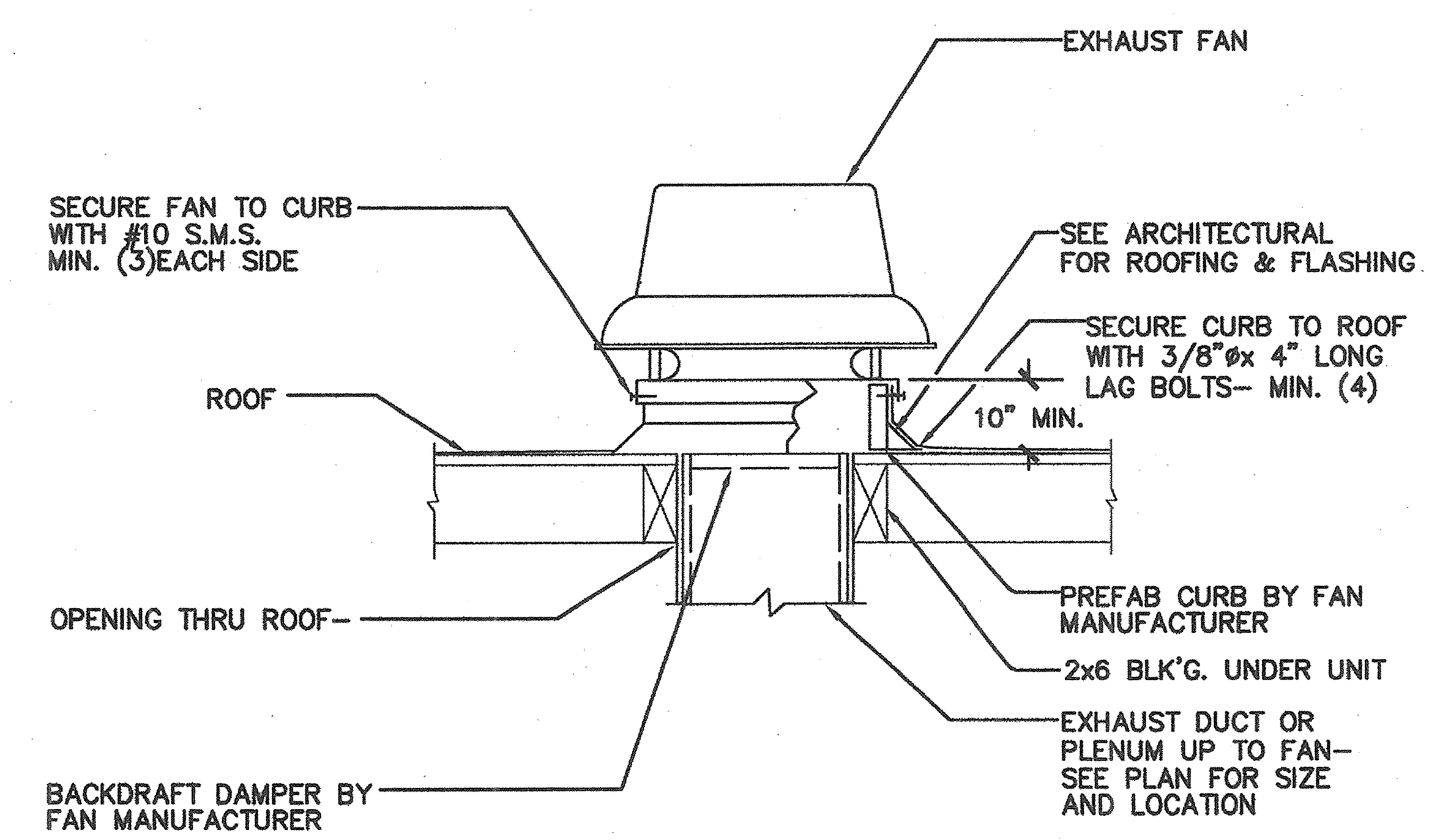
13-01R

AD1-M3.2

P:\2010\2010-014-01\MPE\AD1-M3-2.dwg Feb 06, 2013 - 4:57pm

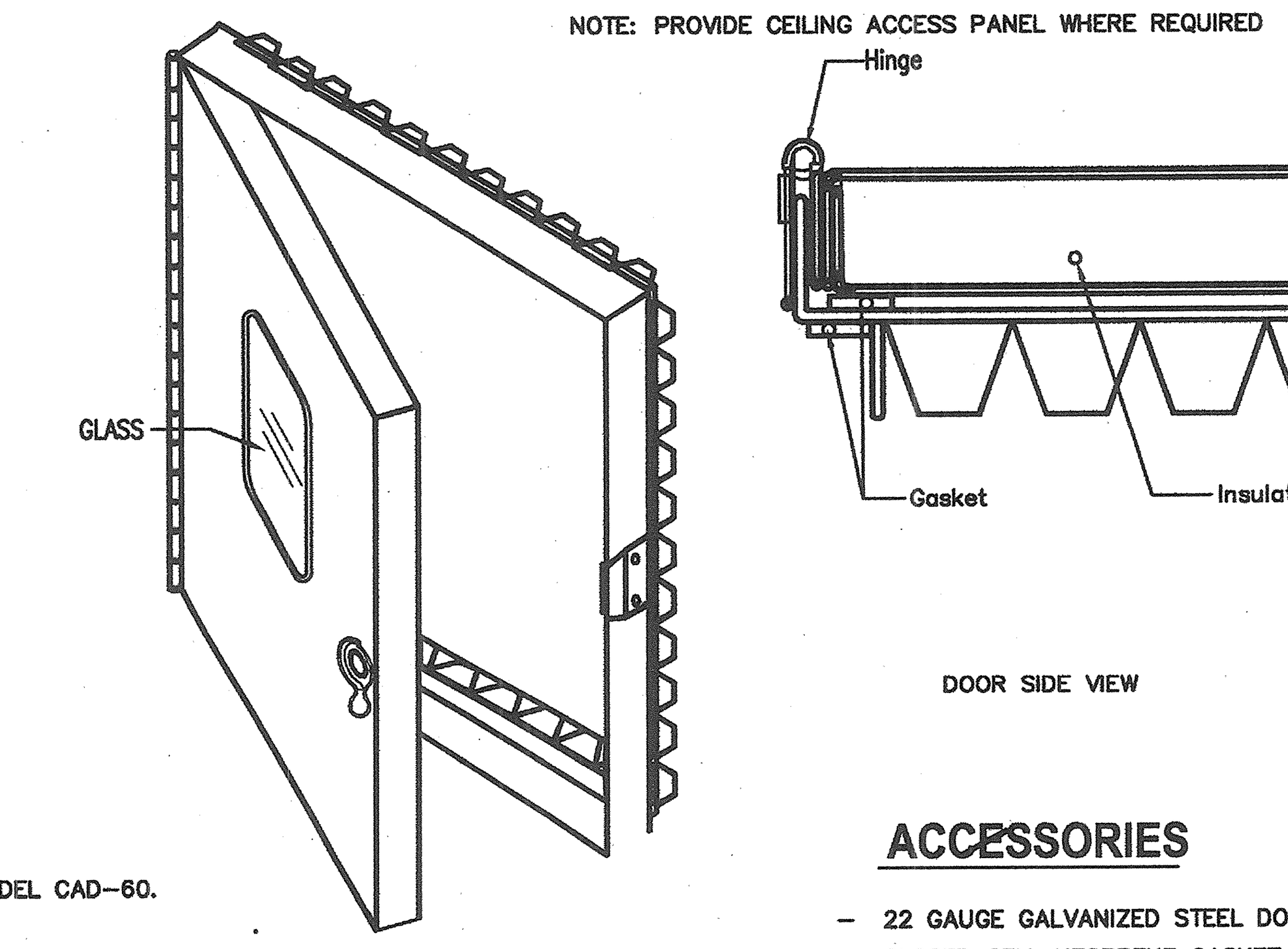


DUCT THRU ROOF DETAIL
NOT TO SCALE | 1



ROOF MOUNTED EXHAUST FAN DETAIL
NOT TO SCALE | 2

NOTE: PROVIDE CEILING ACCESS PANEL WHERE REQUIRED



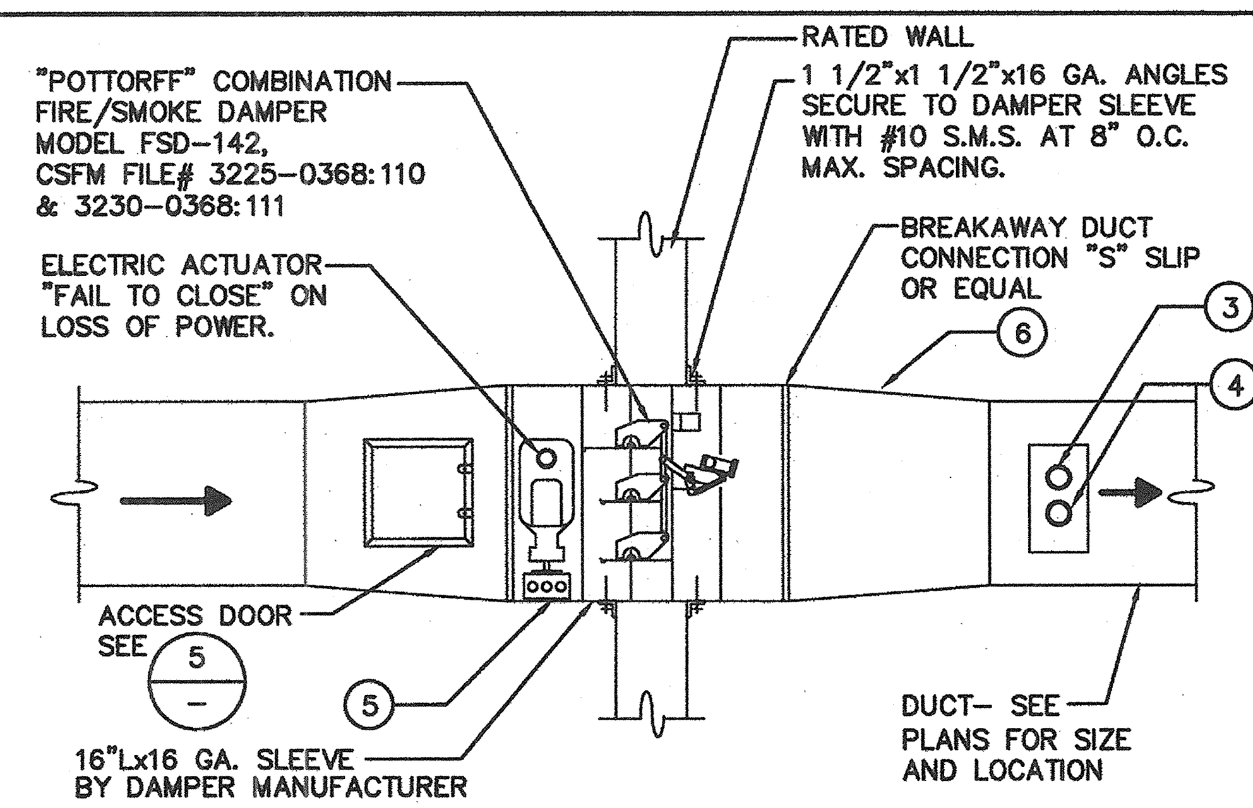
SPECIFICATIONS

- DUCT ACCESS PANEL- POTTORFF MODEL CAD-60.
- 22 GAUGE GALVANIZED STEEL FRAME
- 24 GAUGE GALVANIZED STEEL DOUBLE-WALL DOOR
- 1" THICK FIBERGLASS INSULATION.
- ZINC PLATED CONTINUOUS PIANO TYPE HINGE (HAD MODELS ONLY)
- DOOR-TO-FRAME & FRAME-TO-DUCT FOAM GASKET
- HAD MODELS W/ 'B'<14" HAVE ONE LOCK, DOORS W>14" HAVE TWO LOCKS.
- CAD MODELS W/ 'B'<14" HAVE TWO LOCKS, DOORS WITH B>14" HAVE FOUR LOCKS.
- OUTSIDE FRAME SIZE FITS HOLE 1" SMALLER THAN DOOR SIZE.
- MINIMUM SIZE IS 6"W X 4"H, MAXIMUM SIZE IS 24"W X 24"H

ACCESSORIES

- 22 GAUGE GALVANIZED STEEL DOOR:
- CLOSED CELL NEOPRENE GASKET:
- 1" FLANGED FRAME: HAD-60F
- GLASS (VIEW)

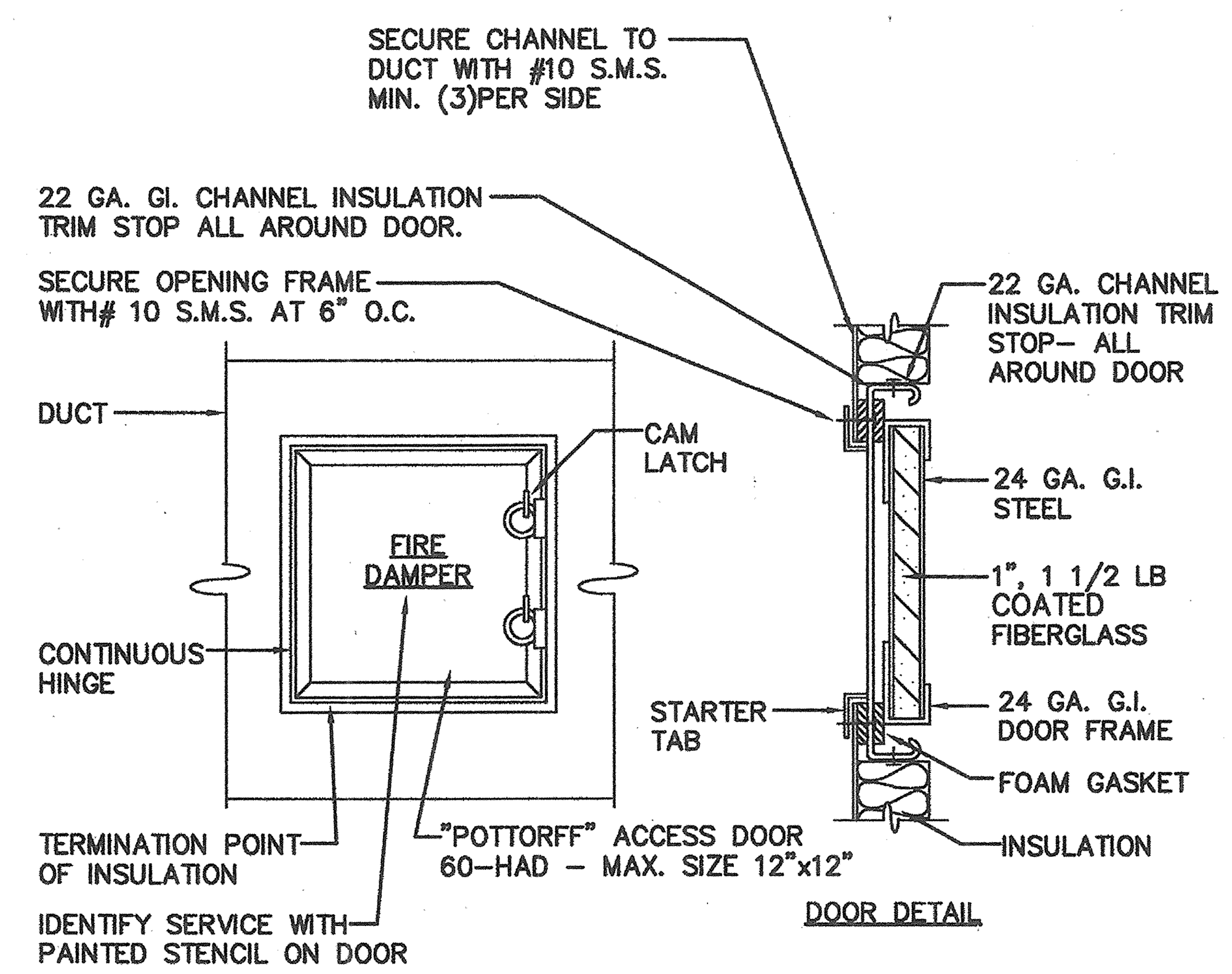
DUCT ACCESS PANEL DETAIL
NOT TO SCALE | 3



DAMPER NOTES:

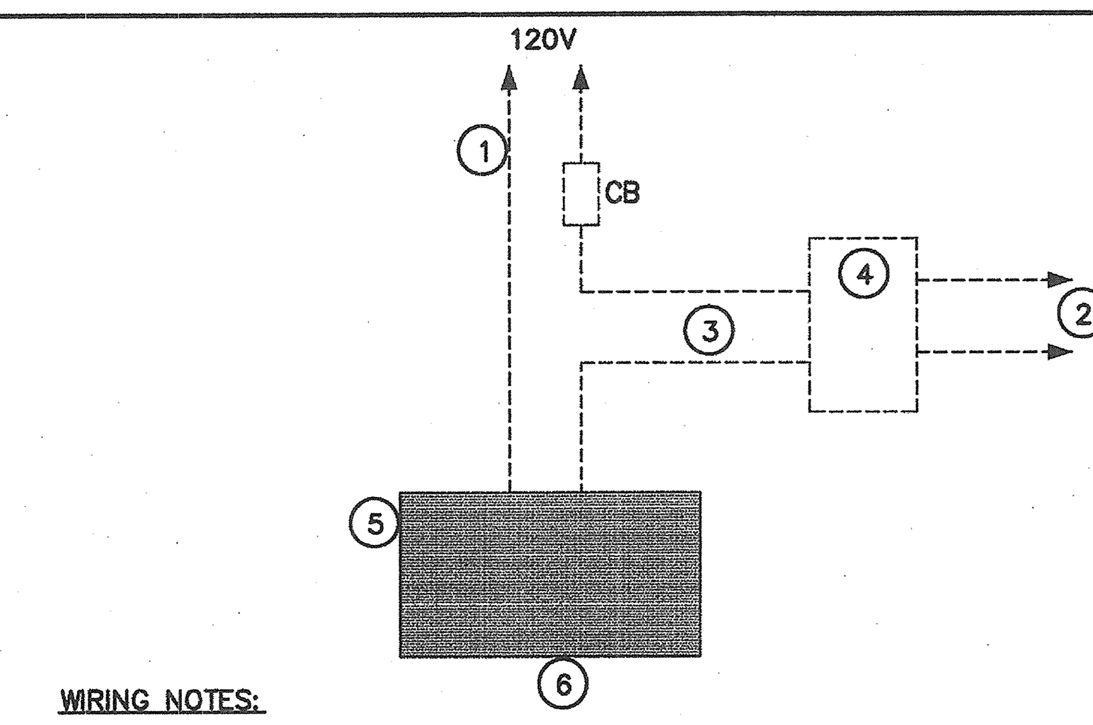
1. FIRE/SMOKE DETAIL IS FOR REFERENCE ONLY. ALL FIRE/SMOKE DAMPERS SHALL BE STATE FIRE MARSHAL APPROVED AND INSTALLED STRICTLY PER THE MANUFACTURERS PRINTED INSTRUCTIONS. THE MANUFACTURERS INSTRUCTIONS SHALL BE MADE AVAILABLE TO THE INSPECTING AUTHORITIES PER CBC 4306(K)
2. SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO INSTALLING.
3. DUCT MOUNTED SMOKE DETECTOR COMPLETE WITH HOUSING FURNISHED AND WIRED BY DIVISION 16000 ELECTRICAL.
4. DUCT SMOKE DETECTOR SAMPLING TUBE AND MOUNTING BASE FURNISHED BY DIVISION 16000 ELECTRICAL AND INSTALLED BY DIVISION 15000 MECHANICAL.
5. ALL FIRE/SMOKE DAMPERS SHALL BE TWO INCHES (2") LARGER THAN THE SPECIFIED DUCT SIZE INDICATED ON THE FLOOR PLANS. REFER TO FLOOR PLANS FOR DUCT SIZES.
6. FURNISH AND INSTALL DUCT TRANSITION FROM THE FIRE/SMOKE DAMPER SLEEVE SIZE AS REQUIRED. TYPICAL TWO (2) TRANSITIONS FOR EACH DAMPER.

COMBINATION FIRE/SMOKE DAMPER DETAIL
NOT TO SCALE | 4



NOTE:
ALL ACCESS DOORS TO BE MIN. 12"x12" OR AS APPROVED

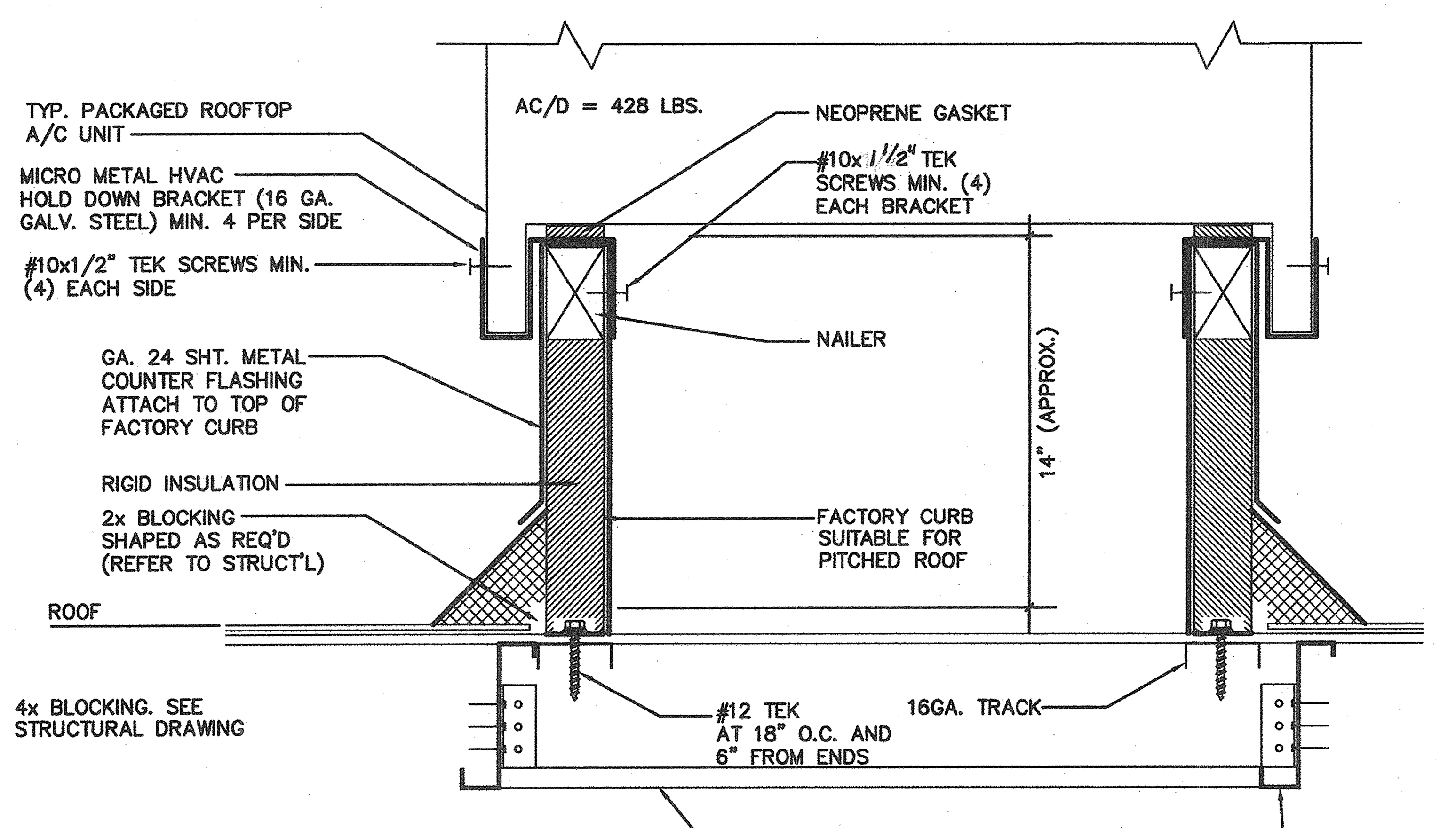
FIRE DAMPER ACCESS DOOR
NOT TO SCALE | 5



WIRING NOTES:

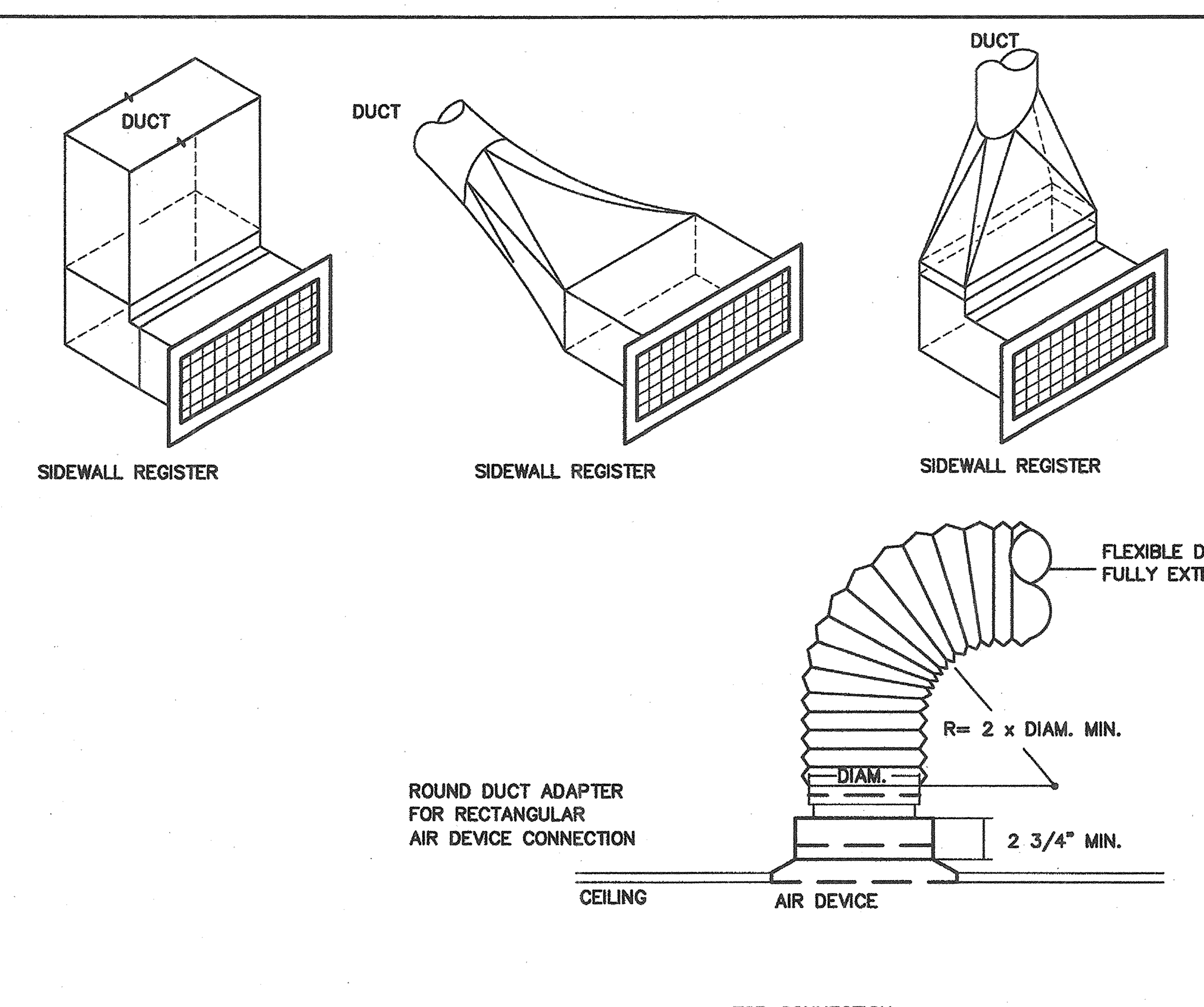
1. ALL WIRING AND EQUIPMENT SHOWN DASHED SHALL BE FURNISHED AND INSTALLED BY THE DIVISION 16000. REFER TO ELECTRICAL DRAWINGS.
2. INTERLOCK WIRING TO FIRE ALARM SYSTEM. ALL FIRE ALARM SIGNAL WIRING SHALL BE FURNISHED AND INSTALLED BY DIVISION 16000. REFER TO ELECTRICAL DRAWINGS.
3. CONNECT WIRING TO AUXILIARY CONTACT IN DUCT SMOKE DETECTOR.
4. DUCT MOUNTED SMOKE DETECTOR FURNISHED AND WIRED BY DIVISION 16000. DUCT DETECTOR SHALL BE MOUNTED DUCTWORK BY DIVISION 15000.
5. 120V. DAMPER OPERATOR MOUNTED ON THE FIRE/SMOKE DAMPER BY THE DAMPER MANUFACTURER.
6. THE FIRE/SMOKE DAMPER ASSEMBLY SHALL OPERATE FROM A SIGNAL FROM THE DUCT MOUNTED SMOKE DETECTOR OR SIGNAL FROM BUILDING FIRE ALARM SYSTEM.

FIRE/SMOKE DAMPER WIRING DIAGRAM
NOT TO SCALE | 6



NOTE:
1. REFER TO ARCHITECTURAL DRAWINGS FOR FURTHER DETAILS.
2. SUBMIT SHOP DRAWINGS FOR APPROVAL

ROOF TOP AC UNIT MOUNTING DETAIL (BUILDING D)
NOT TO SCALE | 7



AIR DEVICE DETAILS
NOT TO SCALE | 8

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REGISTERED PROFESSIONAL ENGINEER JOSE PORTILLA M29029 EXP. 06-30-2012 MECHANICAL STATE OF CALIFORNIA
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Oak Park UNIFIED SCHOOL DISTRICT

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IDENTIFICATION STAMP
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APPL 03-113415
AC ___ FLS ___ SS ___
DATE: 10/20/10
DSA STAMP

PROJECT NO.: 234800 | DATE: 09-02-09

MECHANICAL DETAILS

13-01R

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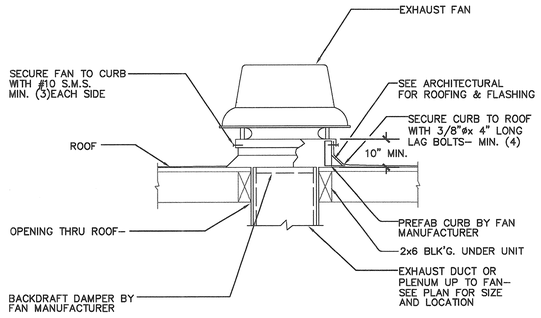
Job No. 2010-014-00
Mechanical and Electrical Consulting Engineers

M4.1

NOT USED

NOT TO SCALE | 1

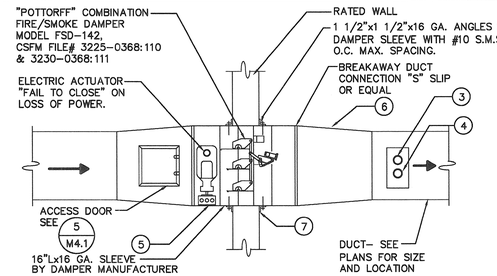
ROOF MOUNTED EXHAUST FAN DETAIL



NOT TO SCALE | 2

NOT USED

NOT TO SCALE | 3



DAMPER NOTES:

1. FIRE/SMOKE DETAIL IS FOR REFERENCE ONLY. ALL FIRE/SMOKE DAMPERS SHALL BE STATE FIRE MARSHAL APPROVED AND INSTALLED STRICTLY PER THE MANUFACTURERS PRINTED INSTRUCTIONS. THE MANUFACTURERS INSTRUCTIONS SHALL BE MADE AVAILABLE TO THE INSPECTING AUTHORITIES PER CBC 4306(K)
2. SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO INSTALLING.
3. DUCT MOUNTED SMOKE DETECTOR COMPLETE WITH HOUSING FURNISHED AND WIRED BY DIVISION 16000 ELECTRICAL.
4. DUCT SMOKE DETECTOR SAMPLING TUBE AND MOUNTING BASE FURNISHED BY DIVISION 16000 ELECTRICAL AND INSTALLED BY DIVISION 15000 MECHANICAL.
5. ALL FIRE/SMOKE DAMPERS SHALL BE TWO INCHES (2") LARGER THAN THE SPECIFIED DUCT SIZE INDICATED ON THE FLOOR PLANS. REFER TO FLOOR PLANS FOR DUCT SIZES.
6. FURNISH AND INSTALL DUCT TRANSITION FROM THE FIRE/SMOKE DAMPER SLEEVE SIZE AS REQUIRED. TYPICAL TWO (2) TRANSITIONS FOR EACH DAMPER.
7. CONTRACTOR SHALL PROVIDE WALL FRAMING PER MANUFACTURE'S RECOMMENDATION.

COMBINATION FIRE/SMOKE DAMPER DETAIL

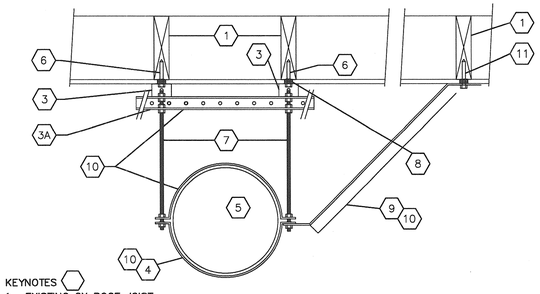
NOT TO SCALE | 4

NOT USED

NOT TO SCALE | 5

NOT USED

NOT TO SCALE | 6



KEYNOTES ⬡

1. EXISTING 2X ROOF JOIST.
2. NOT USED.
3. P1000 UNISTRUT W/ 3/8" DIA. STRUT NUTS, BOLTS AND WASHERS, 8" LONG.
3A. P1000 UNISTRUT SUPPORT AT 10'–0" O.C.
4. 1" X 20 GAUGE STRAP.
5. ROUND DUCTWORK – SEE PLAN FOR SIZES.
6. (2) 1/4" DIA. LAG BOLTS WITH 2–1/2" MIN. EMBEDMENT INTO (E) 2X JOISTS.
7. (2) 3/8" DIA. THREADED ROD AT EACH SUPPORT.
8. STEEL WASHERS OR COMPRESSION RING TO MATCH DEPTH OF EXISTING CEILING MATERIAL AT EACH LAG BOLT.
9. L 2 X 2 X 16GA. BRACE SPACED PER SMACNA SEISMIC RESTRAINT MANUAL ADDENDUM #1.
10. PAINT SUPPORT, BRACE AND DUCT.
11. 1/4" DIA. LAG BOLT WITH 2 1/2" MIN. PENETRATION INTO (E) 2X JOIST.

DUCT SUPPORT

NOT TO SCALE | 7

NOT USED

NOT TO SCALE | 8

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APPL 03-113415
AC.____ FLS.____ SS.____
DATE:____
DSA STAMP

PROJECT NO.: 234808 DATE: 01-07-13

MECHANICAL DETAILS

13-02R

AD1-M4.1a

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Mechanical Electrical Plumbing | Consulting Engineers

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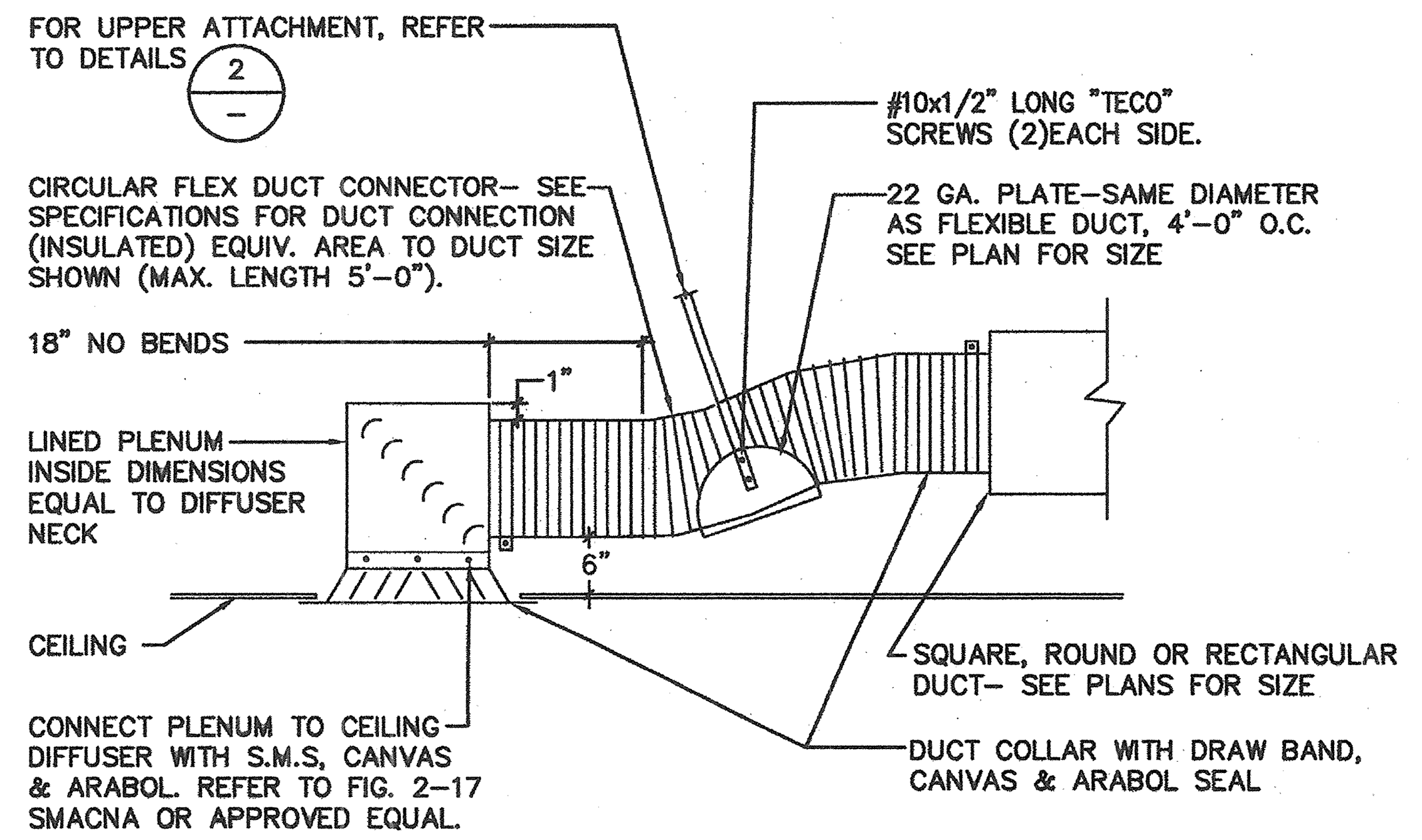
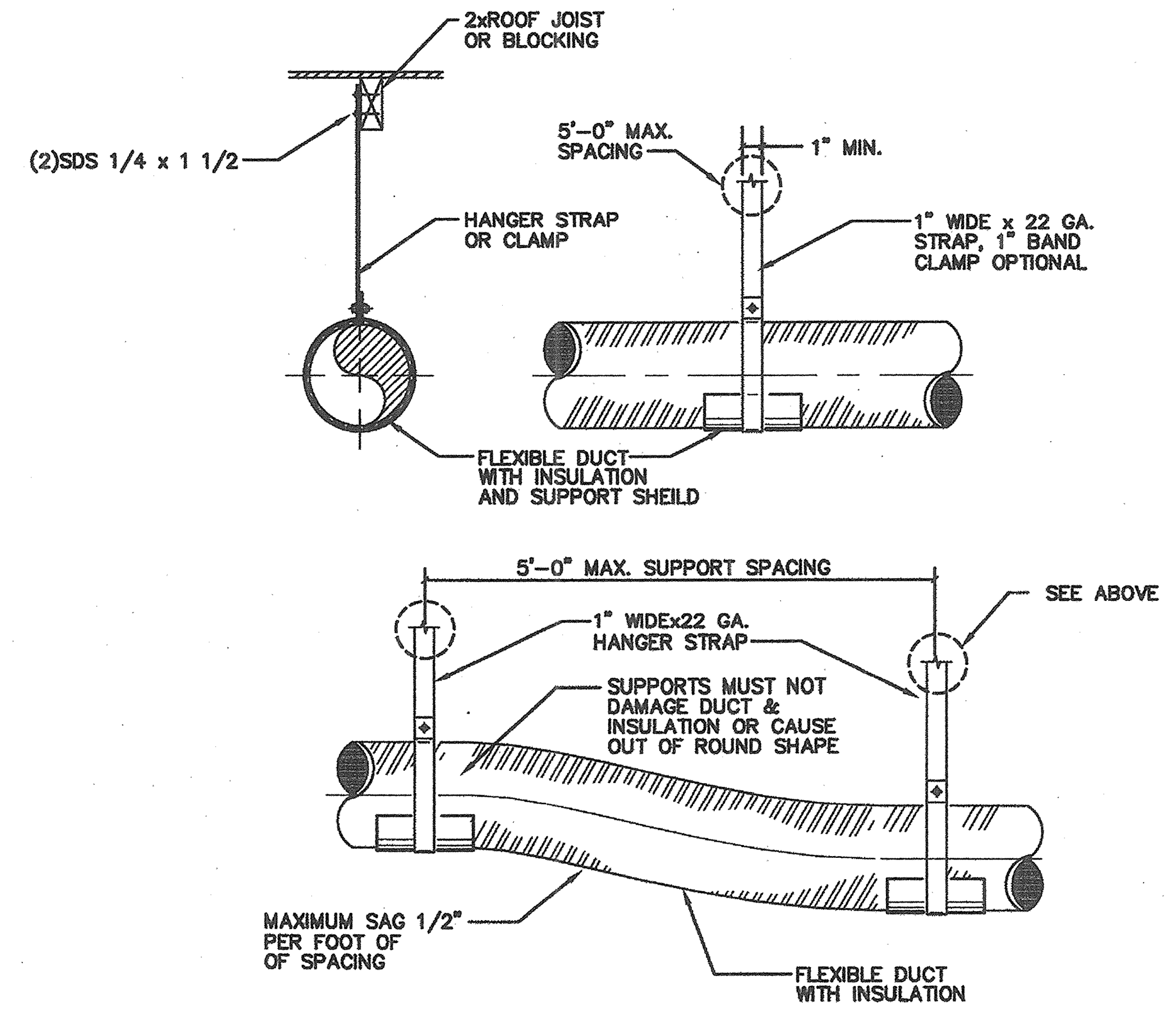


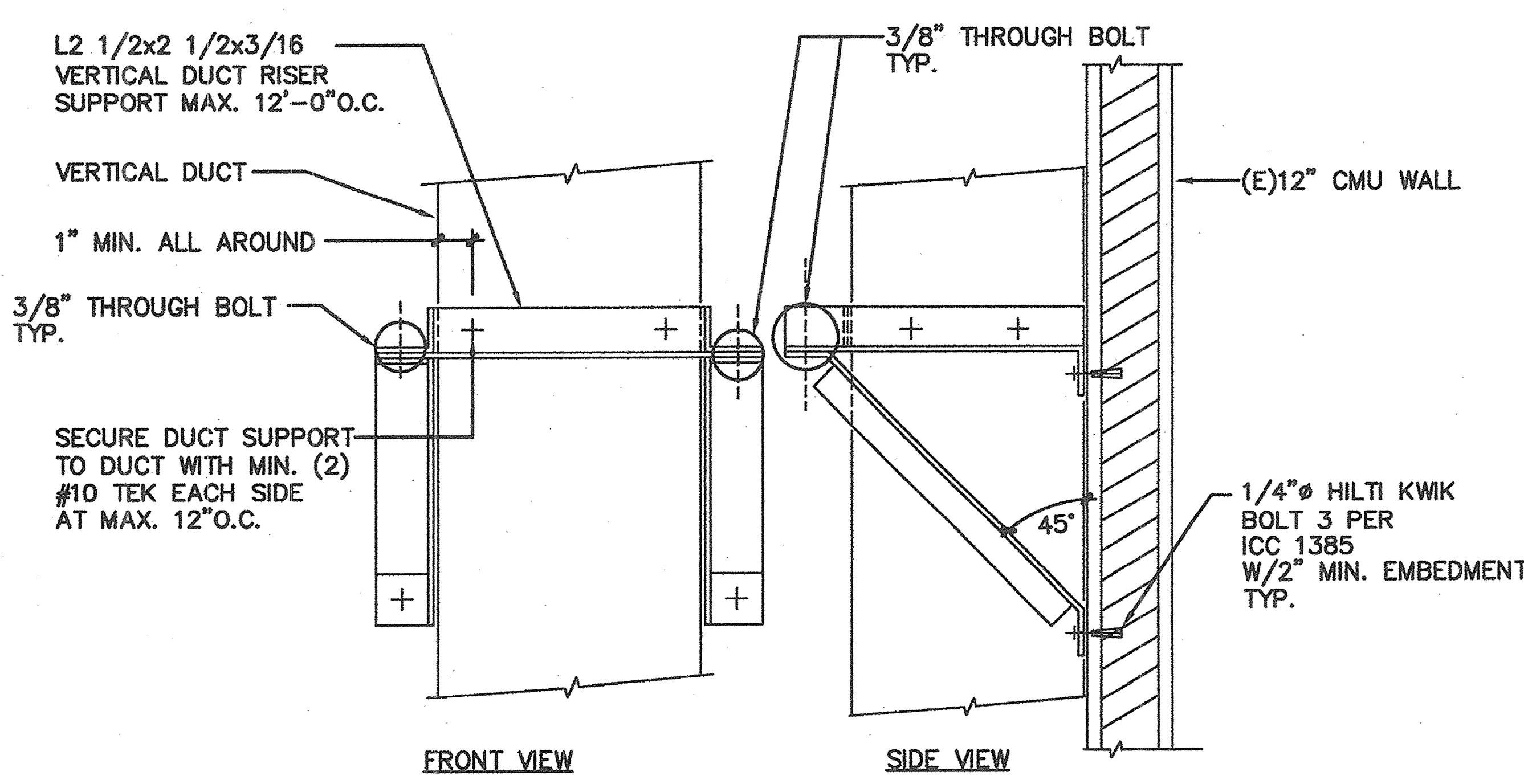
GENERAL NOTE:

1. TYPICAL FOR RETURN AND EXH. REGISTERS
2. ATTACH DIFFUSER LINED PLENUM ON (2) OPPOSITE CORNERS TO STRUCTURE ABOVE. 2/–

CD/CR MOUNTING DETAIL — NOT TO SCALE — 1



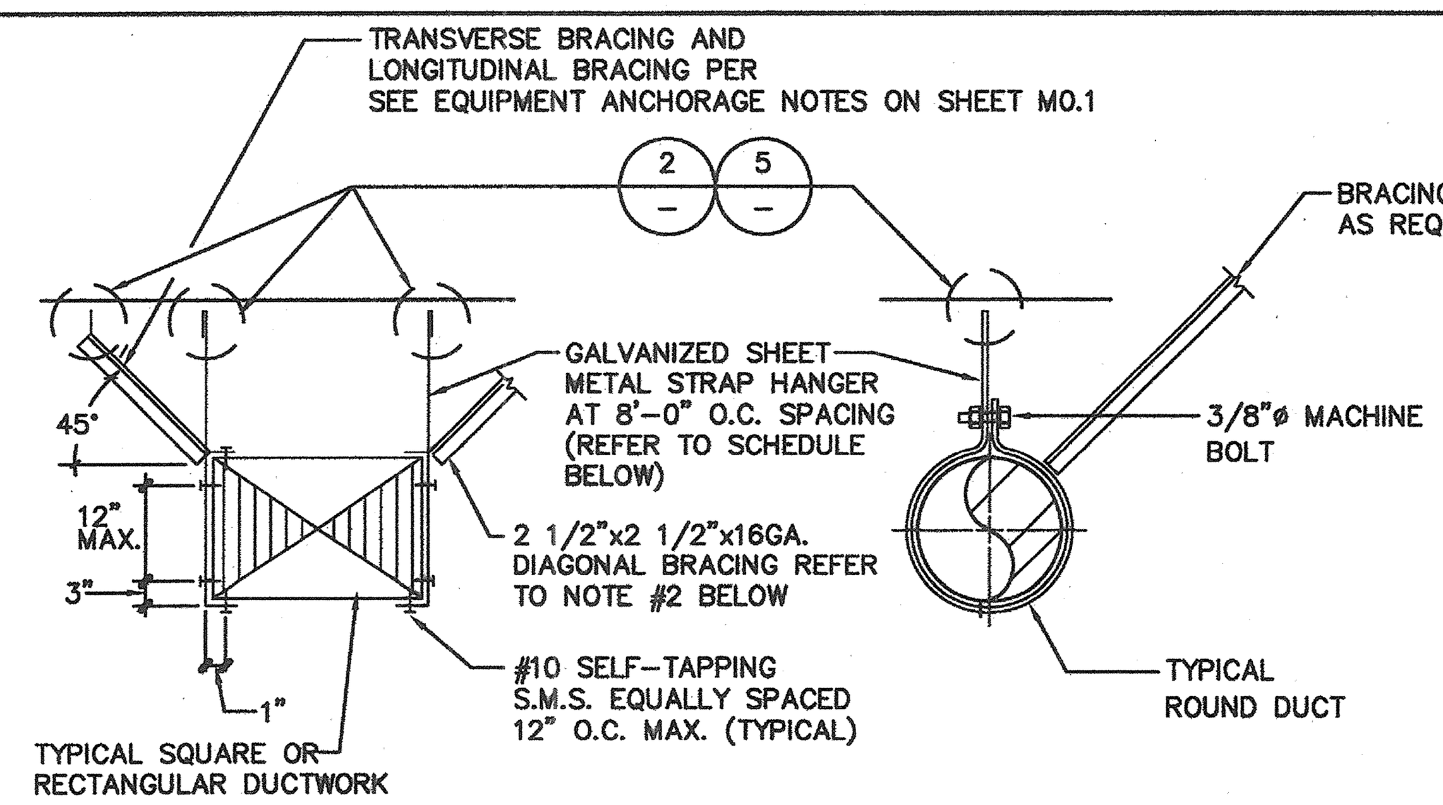
FLEXIBLE DUCT SUPPORT DETAIL — NOT TO SCALE — 2



SUPPORT NOTE:

1. MAX. WT. PER SUPPORT=200 LBS.

VERTICAL DUCT SUPPORT DETAIL — NOT TO SCALE — 3

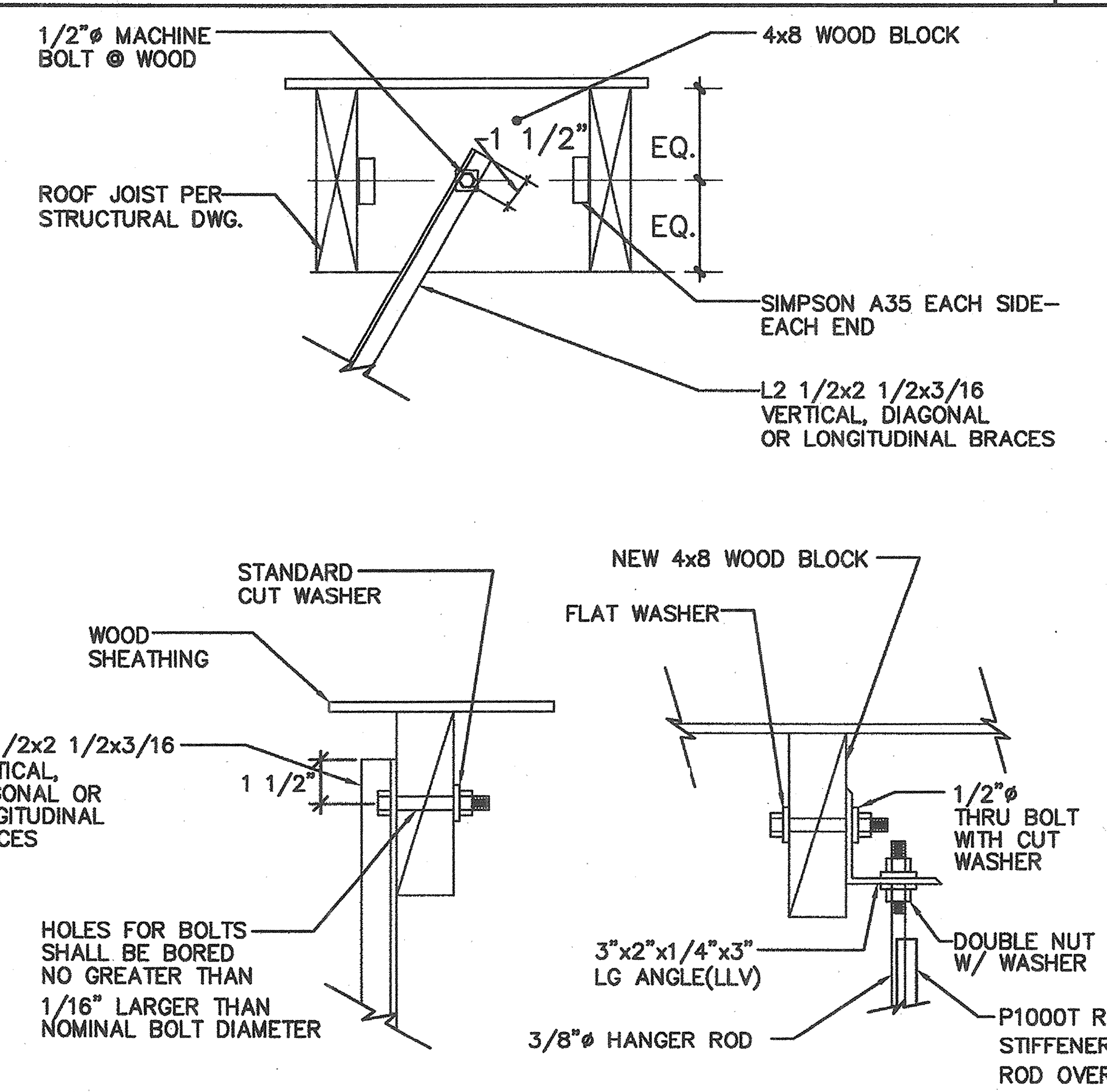


RECTANGULAR DUCT			ROUND DUCT		
MAX. HALF OF DUCT PERIMETER/IN.	PAIR AT 8 FT. SPACING	MAX. LOAD EACH HANGER/LBS.	DIAMETER /INCHES	STRAP AT 12 FT. SPACING	MAX. LOAD EACH HANGER/LBS.
P/2 =72	1"X 20 GA.	320	UP TO 24"	1"X 22 GA.	260
P/2 =96	1"X 18 GA.	420	25" TO 36"	1"X 20 GA.	320

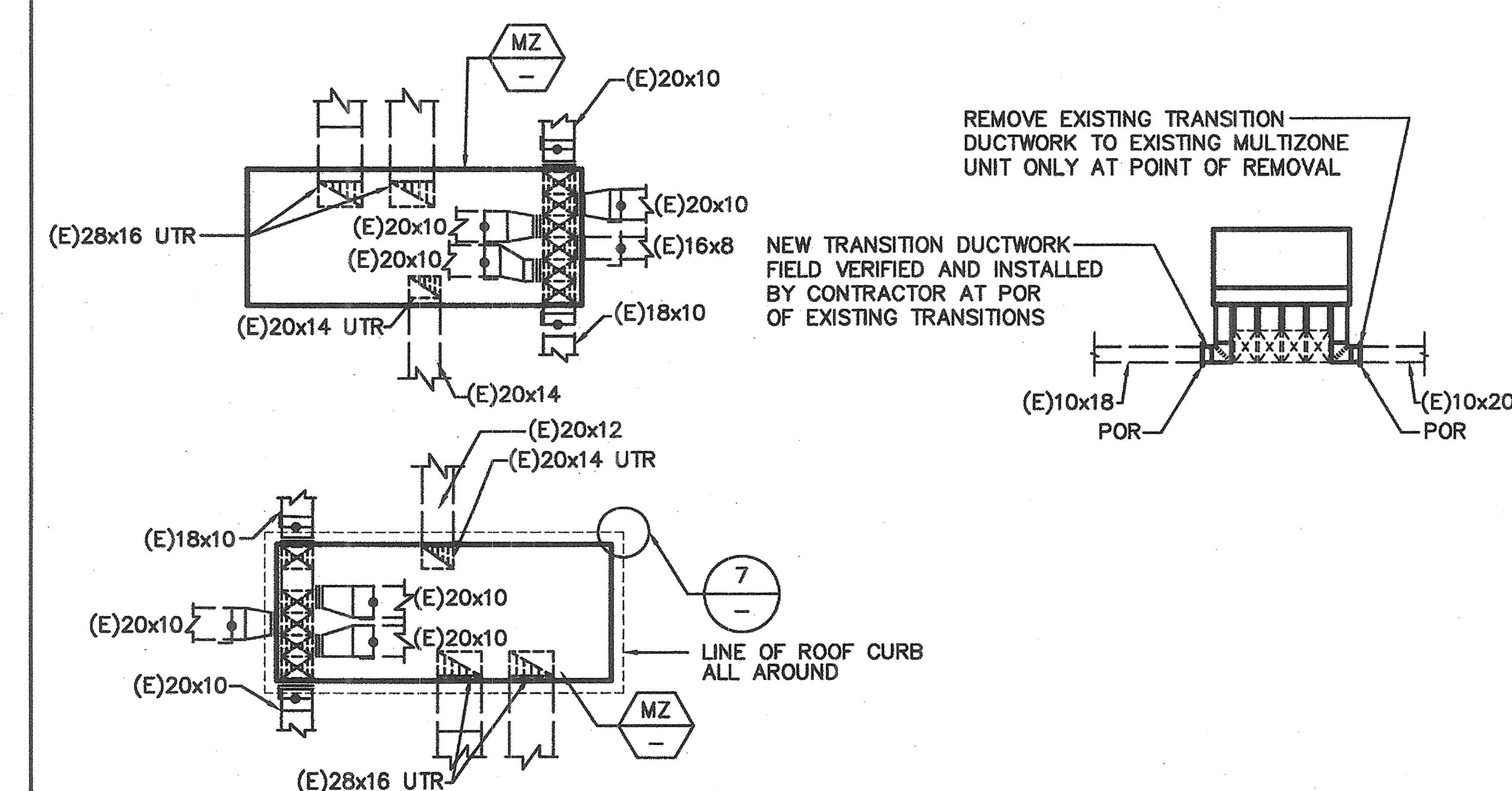
NOTES:

1. EXCERPT FROM TABLES A6-1-A AND A6-1-C OF APPENDIX A, STANDARD 6-1 OF THE 2007 CALIFORNIA MECHANICAL CODE
2. PROVIDE TRANSVERSE BRACING AT 40 FT. AND LONGITUDINAL BRACING AT 80 FT.

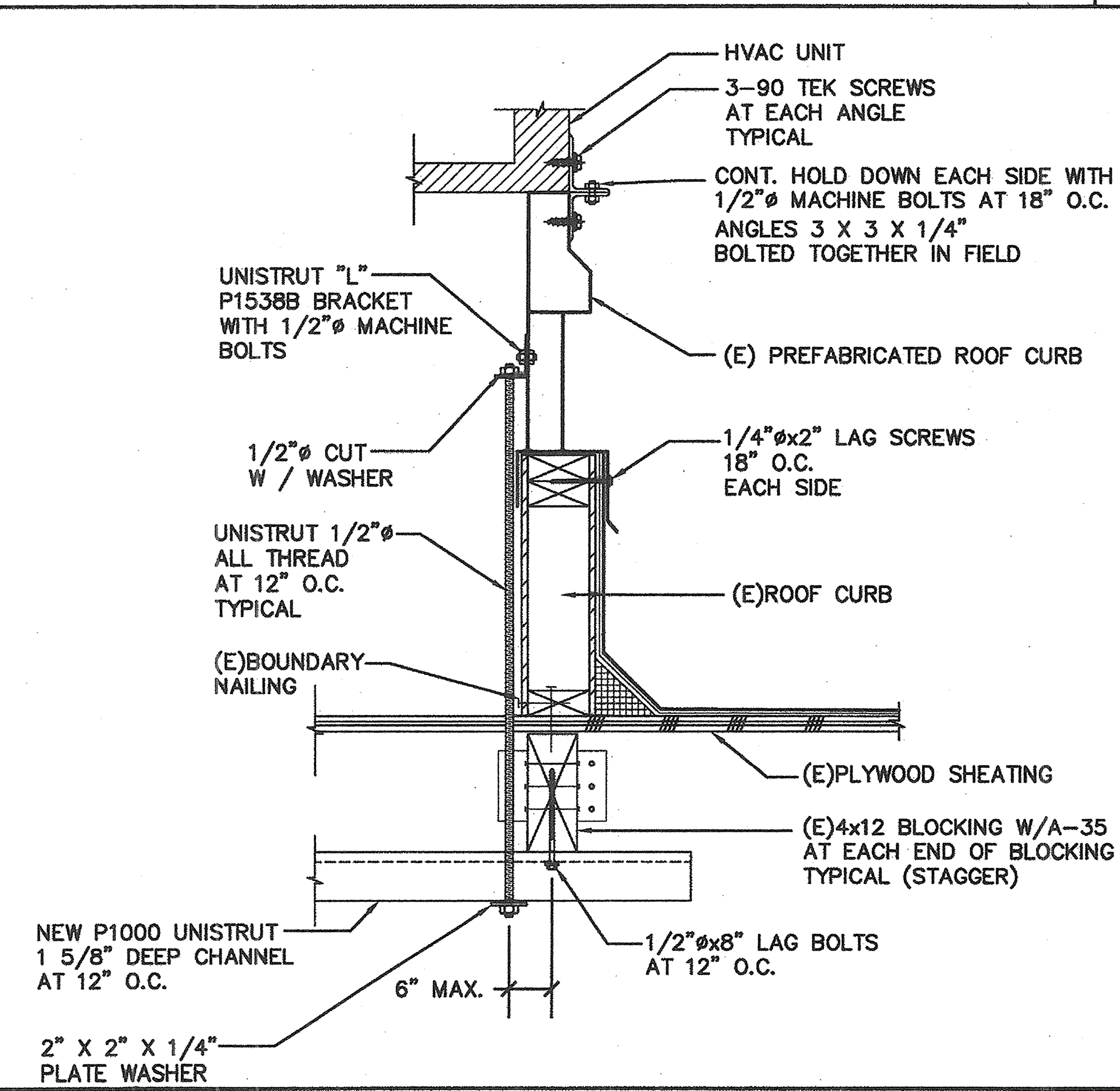
DUCT HANGER DETAIL — NOT TO SCALE — 4



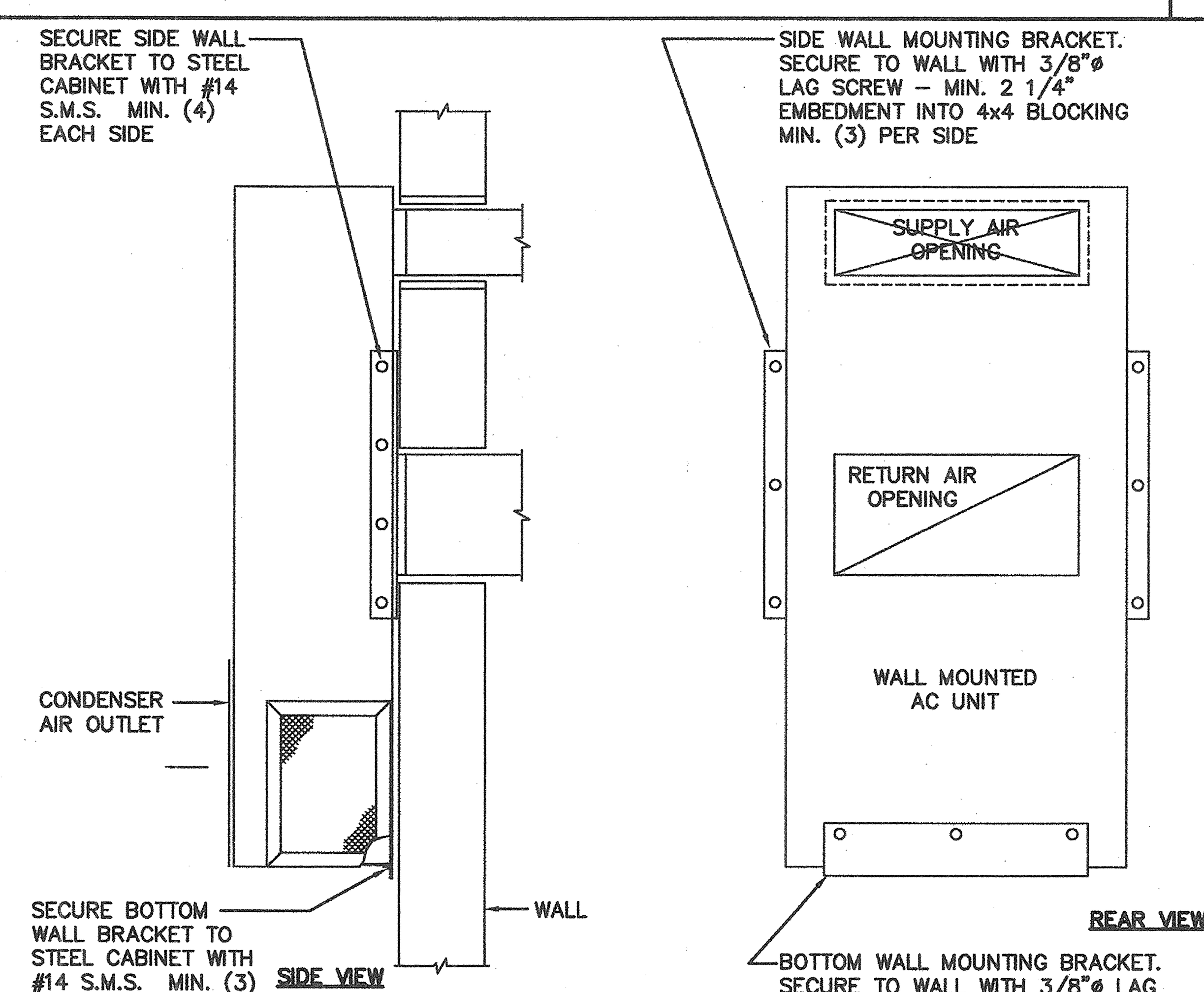
CONNECTION TO STRUCTURE — NOT TO SCALE — 5



MULTI-ZONE AC UNIT AND DUCTWORK CONNECTION — NOT TO SCALE — 6



MULTI-ZONE AC UNIT MOUNTING DETAIL (MZ-A1 & MZ-A2) — NOT TO SCALE — 7



NOTE:

1. WHEN STUDS ARE ENCOUNTERED THRU SUPPLY OR RETURN OPENINGS, HEADER OFF WITH (2) 2x6'S AND BOX OUT FOR SUPPLY & RETURN OPENINGS.

WALL MOUNTED HEAT PUMP DETAIL — NOT TO SCALE — 8

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Mechanical and Electrical Consulting Engineers

PROJECT NO.: 234800 DATE: 09-02-09

MECHANICAL DETAILS

13-02R

M4.2

OAK PARK UNIFIED SCHOOL DISTRICT
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ENGINEER'S STAMP: REGISTERED PROFESSIONAL ENGINEER M29029 STATE OF CALIFORNIA

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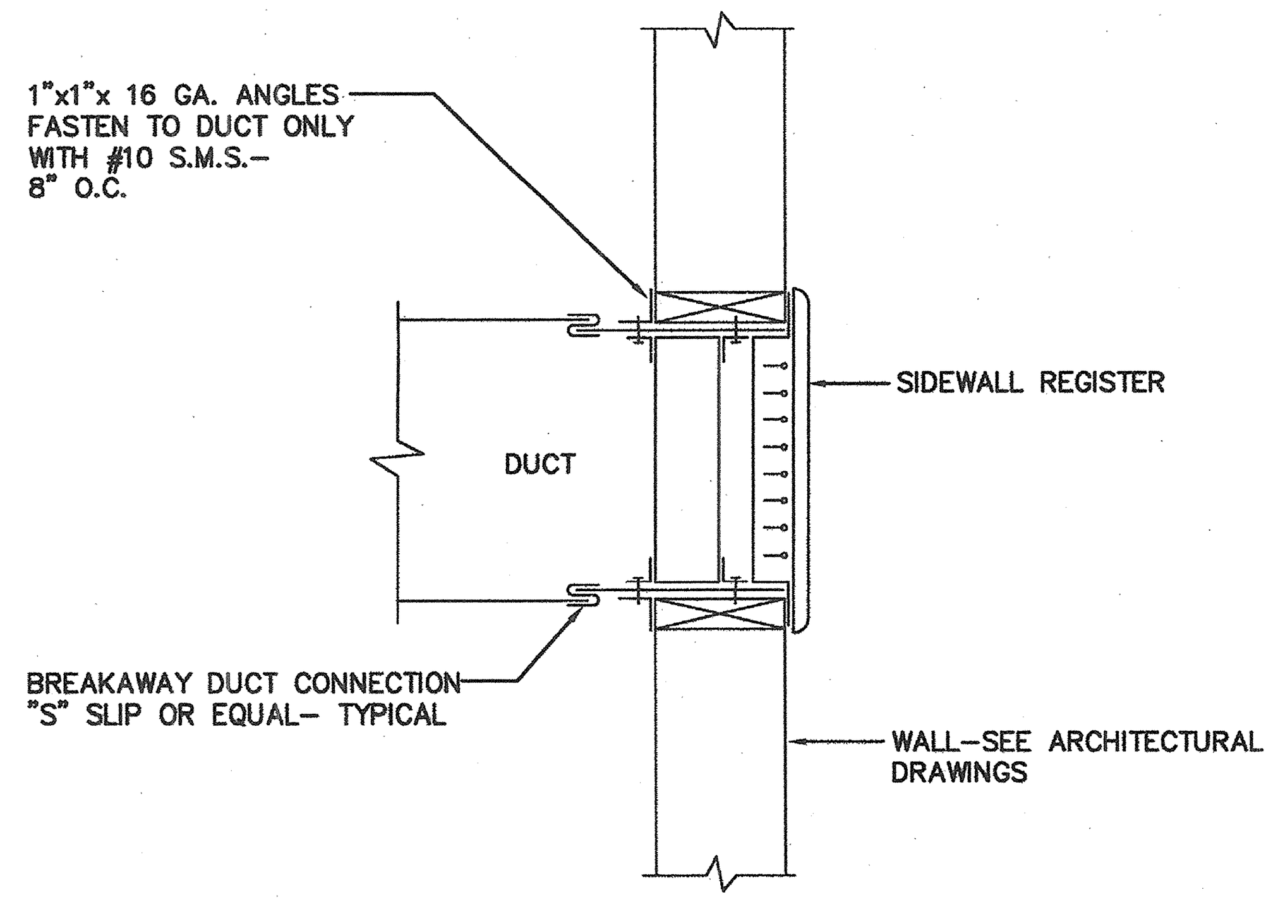


SIDEWALL REGISTER DETAIL

NOT TO SCALE | 1

ALL LINE VOLTAGE CONDUIT, WIRING, AND EQUIPMENT SHOWN DASHED SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL DIVISION 26000.

ALL LOW VOLTAGE WIRING AND CONDUIT SHALL BE FURNISHED AND INSTALLED BY THE MECH. DIVISION. VERIFY THE EXACT REQUIREMENT WITH THE EQUIPMENT MANUFACTURER.

DISCONNECT SWITCHES AND MAGNETIC STARTERS WITH H–O–A, 120V CONTROL TRANSFORMER, AND AUXILIARY CONTACTS INCLUDING RELAYS SHALL BE FURNISHED & INSTALLED BY THE ELECT. DIVISION.

(DD) DUCT SMOKE DETECTORS SHALL BE FURNISHED & WIRED BY THE ELECTRICAL DIVISION AND INSTALLED BY THE MECHANICAL DIVISION.

MECHANICAL EQUIPMENT TO BE FURNISHED AND INSTALLED BY MECHANICAL DIVISION.

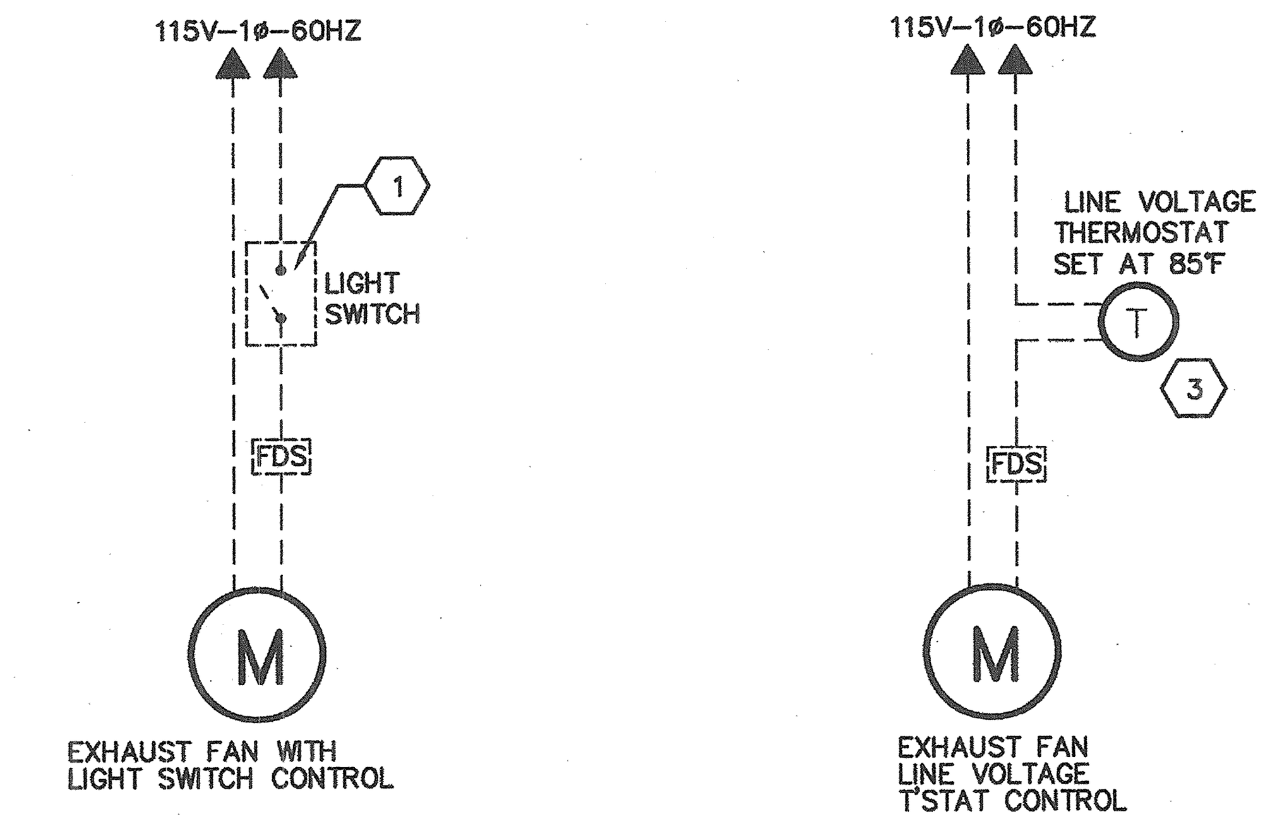
CB OR FDS — CIRCUIT BREAKER OR FUSED DISCONNECT SWITCH

(1) ALL LOW VOLTAGE CONDUIT AND WIRING SHALL BE FURNISHED AND INSTALLED BY DIVISION 23000 – MECHANICAL.

(2) ALL LOW VOLTAGE WIRING (24 VAC.) SHALL COMPLY WITH CLASS 2 WIRING CODE. THE MINIMUM LOW VOLTAGE WIRING CONDUCTOR SIZE SHALL BE 16 AWG COPPER. ALL CONDUCTOR QUANTITIES SHALL BE COORDINATED WITH THE EQUIPMENT MANUFACTURER PRIOR TO INSTALLATION. COORDINATION OF ALL LOW VOLTAGE EQUIPMENT WIRING SHALL BE THE RESPONSIBILITY OF DIVISION 23000 – MECHANICAL.

WIRING NOTES

NOT TO SCALE | 2



DETAIL NOTES:

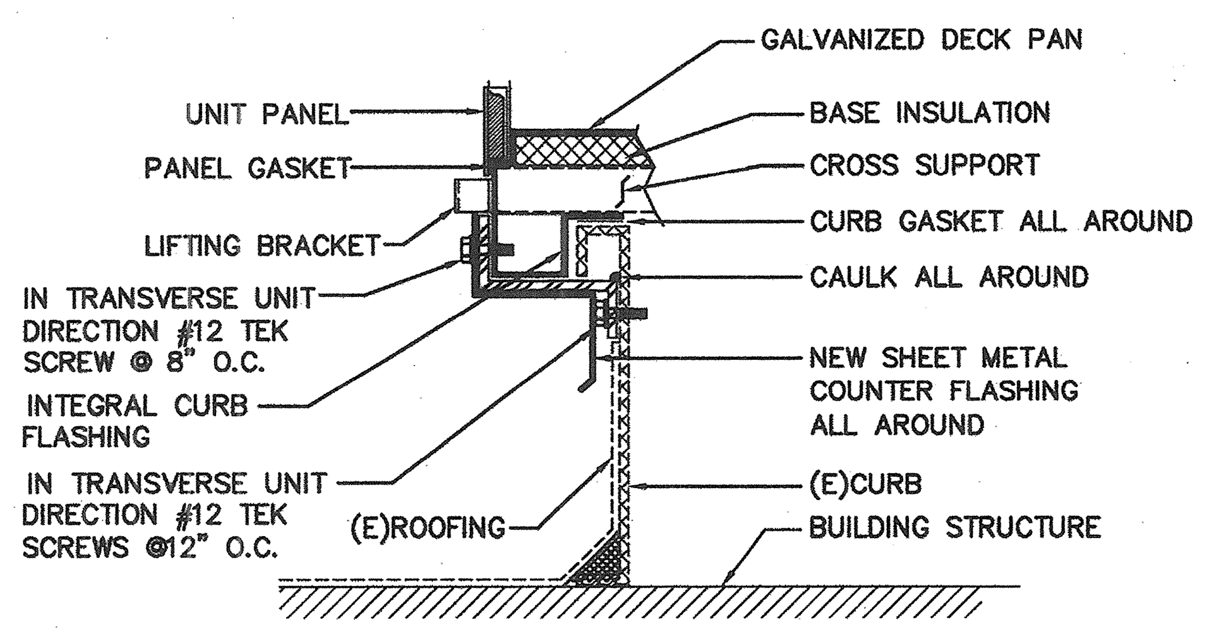
(1) INTERLOCK EXHAUST FAN TO WALL MOUNTED LIGHT SWITCH. REFER TO "EXHAUST FAN INTERLOCK SCHEDULE" FOR DETAILS.

(2) SINGLE POLE SINGLE THROW RELAY FURNISHED, INSTALLED AND WIRED DDC SUB–CONTRACTOR.

(3) WALL MOUNTED LINE VOLTAGE THERMOSTAT SET AT 85°F.

EXHAUST FAN WIRING DIAGRAMS

NOT TO SCALE | 3



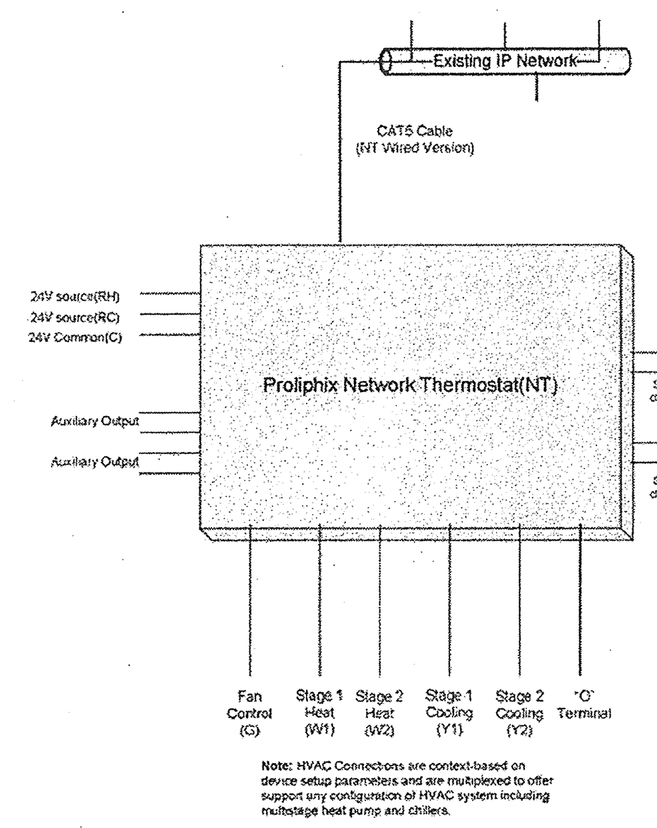
SECTION VIEW

MULTI-ZONE AC UNIT MTG. DETAIL FOR MZ-B1 & MZ-B2

NOT TO SCALE | 4

-

NOT TO SCALE | 5



NETWORK CONTROL DIAGRAM

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LICENSED ARCHITECT DAVID ALEX KINDRED SR. C 19528 4-30-11 STATE OF CALIFORNIA

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REGISTERED PROFESSIONAL ENGINEER PORTILLA M29029 EXP. 06-30-2012 MECHANICAL STATE OF CALIFORNIA

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Job No. 2010-014-00
Mechanical and Electrical Consulting Engineers

PROJECT NO.: 234800 | DATE: 09-02-09

MECHANICAL DETAILS

13-02R

M4.3

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DOMESTIC WATER SIZING

PIPE SIZE	FLOW RATE GPM	VELOCITY (FT / SEC)	FIXTURE UNITS		
			FLUSH VALVE	FLUSH TANK	
			COLD WATER	COLD WATER	HOT WATER
1/2"	2	3.0	0	1	1
3/4"	5	3.0	0	6	6
1"	10	3.0	0	13	13
1-1/4"	17	3.0	0	24	24
1-1/2"	28	3.0	10	47	47
2"	57	3.0	64	158	120
2 1/2"	100	3.0	245	380	246
3"	160	3.0	630	691	412

(BASED ON 3.0 PSI / 100 FT. – TYPE "L" COPPER) ——— MAXIMUM VELOCITY C.W. IS 6 FT. PER SEC.

(BASED ON 3.0 PSI / 100 FT. – TYPE "L" COPPER) ——— MAXIMUM VELOCITY H.W. IS 5 FT. PER SEC.

GENERAL NOTES CONTINUED

26. AFTER ALL REQUIREMENTS OF THE SPECIFICATIONS AND/OR THE DRAWINGS HAVE BEEN FULLY COMPLETED, REPRESENTATIVES OF THE OWNER WILL INSPECT THE WORK. THE CONTRACTOR SHALL PROVIDE COMPETENT PERSONNEL TO DEMONSTRATE THE OPERATION OF ANY ITEM OR SYSTEM, TO THE FULL SATISFACTION OF EACH REPRESENTATIVE. FINAL ACCEPTANCE OF THE WORK WILL BE MADE BY THE OWNER AFTER RECEIPT OF APPROVAL AND RECOMMENDATION OF ACCEPTANCE FROM EACH REPRESENTATIVE.
27. WHEREVER A DISCREPANCY IN QUANTITY OR SIZE OF MECHANICAL EQUIPMENT MATERIAL ARISES ON THE DRAWINGS AND/OR SPECIFICATIONS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL MATERIAL AND SERVICES REQUIRED BY THE STRICTEST CONDITIONS NOTED ON DRAWINGS AND/OR IN THE SPECIFICATION TO ENSURE COMPLETE AND OPERABLE SYSTEMS.
28. ALL PIPING INSULATION AND SEALING MATERIALS SHALL HAVE FLAME SPREAD RATING NOT EXCEEDING 25 AND SMOKE DEVELOPED RATING NOT EXCEEDING 50.
29. BEFORE ORDERING ANY PIECE OF EQUIPMENT, THE CONTRACTOR SHALL PROVIDE EQUIPMENT SUBMITTALS, AND SHOP DRAWINGS WITH EQUIPMENT DIMENSIONS, AND SITE CLEARANCE AVAILABLE. WHERE REQUIRED BY SPACE LIMITATIONS HAVE UNITS SHIPPED IN SECTIONS.
30. ALL PIPE BRANCH CONNECTIONS SHALL OFF-SET. NO "BULL HEAD" CONNECTIONS WILL BE ALLOWED.
31. ALL EXISTING PLUMBING LINES SHOWN ARE TAKEN FROM EXISTING DRAWINGS WHICH INDICATE APPROXIMATE LOCATION ONLY. THE CONTRACTOR IS TO INCLUDE IN HIS BID TO PERFORM FIELD INVESTIGATIONGATION TO PIN POINT THE EXACT LOCATION AS REQUIRED FOR DEMOLITION OR MAKING NEW CONNECTION.
32. INTERRUPTION OF EXISTING SERVICES: THE CONTRACTOR'S ATTENTION IS CALLED TO THE PRESENCE OF EXISTING, CONDUIT, PIPING, ETC. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE PROPER AND APPROVED REPAIR OF ANY AND ALL DAMAGE BY HIM OR HIS CAUSED WORK TO EXISTING BUILDINGS, CONDUIT, PIPING, PLANTS, ETC. NEW WORK AND INSTALLATIONS SHALL BE MADE WITH MINIMAL INTERRUPTIONS OF SERVICES TO EXISTING BUILDINGS ANY INTERRUPTIONS REQUIRED SHALL BE SCHEDULED TO MINIMIZE INCONVENIENCE TO THE OWNER, AND AT TIMES AS APPROVED IN ADVANCE BY THE ARCHITECT. NEW WORK AND INSTALLATIONS SHALL NOT IMPAIR THE PROPER FUNCTIONING OF THE EXISTING FACILITY. THE COMPLETED PROJECT SHALL BE A PROPERLY FUNCTIONING ENTITY THROUGHOUT. FURNISH ALL LABOR AND MATERIALS REQUIRED TO RELOCATE, REMOVE, REINSTALL, RECONNECT, REPLACE, ETC., ANY EXISTING PIPING TO ACCOMMODATE THE WORK. MATERIALS SHALL BE AS SPECIFIED UNLESS OTHERWISE APPROVED I IN WRITTING BY THE ARCHITECT. CONTRACTOR SHALL INCLUDE IN HIS BID ANY EXTRA WORK REQUIRED TO MINIMIZE SHUTDOWN TIME.
33. ALL EXISTING PIPING AND EQUIPMENT THAT IS REMOVED SHALL BE DISPOSED OF AS DIRECTED BY THE OWNER'S REPRESENTIVE.
34. THE CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY, AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED, IN CONNECTION WITH PERFORMANCE OF WORK ON THIS PROJECT.
35. COORDINATE DEMOLITION AND REMODEL PLANS FOR CONTINUITY OF NEW WORK.
36. CONTRACTOR SHALL SAWCUT EXISTING WALL AND FLOOR AS REQUIRED TO INSTALL WASTE , VENT AND WATER PIPING. PATCH WALL, FLOOR AND CEILING TO MATCH EXISTING.
37. UNLESS SPECIFICALLY SHOWN ON THESE PLANS NO STRUCTURAL MEMBER SHALL BE CUT, DRILLED NOR NOTCHED WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE STRUCTURAL ENGINEER AND THE DISTRICT STRUCTURAL ENGINEER FROM THE DIVISION OF THE STATE ARCHITECT.

GENERAL NOTES

1. CONTRACTOR SHALL COORDINATE ALL WORK SHOWN ON THESE DRAWINGS AND SPECIFICATIONS WITH ALL DISCIPLINES AND TRADES PRIOR TO INSTALLATION.
2. THE CONTRACTOR SHALL REFER TO ARCHITECTURAL DRAWINGS FOR DESIGNATED ACCESSIBLE FIXTURES, EXACT LOCATIONS, MOUNTING HEIGHTS AND COLOR.
3. ANY DEVIATIONS FROM THE DRAWINGS OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO INSTALLATION.
4. ALL SERVICE WATER HEATING EQUIPMENT TO BE IN COMPLIANCE WITH THE CALIFORNIA ENERGY COMMISSION (CEC) REQUIREMENTS AND LABELED ACCORDINGLY.
5. ALL PLUMBING WORK SHALL BE INSTALLED SO AS TO AVOID INTERFERENCE WITH ELECTRICAL, MECHANICAL EQUIPMENT AND STRUCTURAL FRAMING.
6. THE CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL CEILING ACCESS PANELS WITH THE ARCHITECTURAL REFLECTED CEILING PLAN AND THE ELECTRICAL LIGHTING LAYOUT.
7. ALL CLEANOUTS SHALL BE INSTALLED WHERE READILY ACCESSIBLE AND LOCATED AS PER CODE REQUIREMENTS. THE CONTRACTOR SHALL COORDINATE ALL CLEANOUT LOCATIONS WITH EQUIPMENT AND CABINETS PRIOR TO INSTALLATION.
8. ALL PLUMBING FIXTURE VENTS TO TERMINATE A MIN. OF 12 INCHES FROM ANY VERTICAL SURFACE AND 10 FEET FROM OR TERMINATED 3'-0" ABOVE ANY OUTSIDE AIR INTAKES.
9. ALL VALVES AND UNIONS SHALL BE LINE SIZE UNLESS OTHERWISE INDICATED ON DRAWINGS.
10. UNIONS SHALL BE PROVIDED AND INSTALLED AFTER EACH THREADED TYPE VALVE AND PRIOR TO EQUIPMENT CONNECTIONS.
11. BEFORE FABRICATION OR INSTALLATION, THIS CONTRACTOR SHALL VERIFY EXACT LOCATIONS OF ALL MECHANICAL EQUIPMENT AND EQUIPMENT PROVIDED UNDER ANOTHER SECTION OF SPECIFICATIONS. EXACT ROUGH-IN LOCATIONS AND REQUIREMENTS SHALL BE COORDINATED IN THE FIELD.
12. ALL PLUMBING FIXTURES, AND FAUCETS SHALL BE CERTIFIED BY THE STATE OF CALIFORNIA ENERGY COMMISSION AS REQUIRED BY THE CALIFORNIA ENERGY EFFICIENCY STANDARDS.
13. THE CONTRACTOR SHALL COORDINATE ALL REQUIREMENTS FOR ALL POINTS OF CONNECTIONS WITH OTHER TRADES PRIOR TO START PIPING INSTALLATION.
14. ALL WASTE AND VENT PIPING SHALL SLOPE AT 2% UNLESS OTHERWISE INDICATED.
15. VERIFY EXACT LOCATION AND SIZE OF ALL EXISTING UTILITIES TO WHICH CONNECTIONS ARE REQ'D.
16. THE CONTRACTOR SHALL PATCH AND REPAIR ALL SURFACE AREAS DAMAGED BY HIS OPERATION.
17. INSTALL WATER HAMMER ARRESTORS IN HOT & COLD WATER SUPPLY TO EACH FIXTURE OR IN THE HEADER SUPPLY TO A BATTERY OF FIXTURES
18. OFFSET PIPES AS REQUIRED TO CLEAR MECHANICAL DUCTWORK.
19. FURNISH AND INSTALL A SHUT-OFF VALVE, PLUG COCK OR STOP AT EACH PIECE OF EQUIPMENT FURNISHED BY OTHERS REQUIRING DRAIN, WASTE, WATER, GAS, ETC.
20. REFER TO MECHANICAL DRAWINGS FOR THE EXACT LOCATION OF ALL A.C. UNITS.
21. UNLESS OTHERWISE NOTED, ALL CONDENSATE AND GAS DROPS SHALL BE CONCEALED IN WALLS.
22. THE DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC TO THE EXTENT THAT ALL OFFSETS, BENDS, SPECIAL FITTINGS AND LOCATIONS ARE NOT EXACTLY LOCATED. THE CONTRACTOR SHALL LOCATE ALL OFFSETS, BENDS, AND SPECIAL FITTINGS TO SUIT JOB SITE CONDITIONS. THEREFORE THE CONTRACTOR SHALL MAKE HIMSELF FULLY AWARE OF ALL EXISTING CONDITIONS AND LOCATE ALL REQUIRED SPECIAL FITTINGS TO SUIT EXISTING CONDITIONS.
23. THIS CONTRACTOR SHALL COMPLY WITH ALL CONTRACT DOCUMENTS IN LAYING OUT HIS WORK AND EQUIPMENT. HE SHALL COORDINATE THE WORK OF THIS SECTION WITH THE WORK OF OTHER TRADES AND ALL JOB CONDITIONS.
24. THE CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, FEES, CHARGES, AND INCIDENTAL COSTS NECESSARY FOR EXECUTION AND COMPLETION OF WORK, INCLUDING ALL CHARGES BY STATE, COUNTY AND LOCAL GOVERNMENT AGENCIES.
25. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL TRADES AT THE SITE. ANY COSTS TO INSTALL WORK TO ACCOMPLISH SAID COORDINATION WHICH DIFFERS FROM THE WORK AS SHOWN ON THE PLANS SHALL BE INCURRED BY THE CONTRACTOR. ANY DISCREPANCIES, AMBIGUITIES OR CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT DURING BID TIME FOR CLARIFICATION. ANY SUCH CONFLICTS NOT CLARIFIED PRIOR TO BID SHALL BE SUBJECT TO THE INTERPRETATION OF THE ARCHITECT AT NO ADDITIONAL COST TO THE OWNER.

CBC ACCESS COMPLIANCE NOTES

1. INSULATE EXPOSED HOT WATER PIPING AND WASTE PIPING AT ACCESSIBLE LAVATORIES WITH NEATLY PRE-FORMED FOAM PIPE INSULATION. THERE SHALL BE NO SHARP OR ABRASIVE EDGES UNDER LAVATORIES
2. FIXTURE MOUNTING HEIGHTS FOR ACCESSIBILITY SHALL CONFORM TO THE STATE OF CALIFORNIA TITLE-24 REGULATIONS.

PLUMBING EQUIPMENT BRACING AND ANCHORAGE

ALL PLUMBING EQUIPMENT AND PIPES SHALL BE INSTALLED WITH SEISMIC RESTRAINTS PER "GUIDELINES FOR SEISMIC RESTRAINTS OF MECHANICAL SYSTEMS AND PLUMBING SYSTEMS" PUBLISHED BY SMACNA AND APPROVED BY DSA.

WHERE BRACING AND ANCHORAGE DETAILS ARE NOT SHOWN ON THE DRAWINGS OR IN THE GUIDELINES, THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT, THE STRUCTURAL ENGINEER, AND THE DSA FIELD ENGINEER.

PIPES, DUCTS AND CONDUITS SHALL BE SUPPORTED AND BRACED PER DSA PRE-APPROVAL No. R-0010, THE SMACNA "GUIDELINE FOR SEISMIC RESTRAINT OF MECHANICAL SYSTEMS AND PLUMBING PIPING SYSTEMS".

SEISMIC ANCHORAGE OF MECHANICAL AND ELECTRICAL EQUPMENTS AS REQUIRES PER SECTION 4-317 (b) PART 1, SECTION 1632A AND TABLE 16A-O PART 2 OF TITLE 24, 2001 EDITION.

PLUMBING LEGEND

SYMBOL	ABBREV.	DESCRIPTION
	C.W.	COLD WATER
	H.W.	HOT WATER
	H.W.R.	HOT WATER RETURN
G	G.	FUEL GAS
CD	C.D.	CONDENSATE DRAIN
V	V	SANITARY VENT
W OR S	W OR S	WASTE OR SEWER
		PIPE TO BE REMOVED/DEMOED
	S.O.V.	SHUT OFF VALVE
	G.C.	GAS COCK
	H.B.	HOSE-BIBB
		PIPE-UP OR RISER
		PIPE-DOWN OR DROP
		UNION
	COYB	CLEANOUT IN YARD BOX
	POC	POINT OF CONNECTION
	COTG	CLEANOUT TO GRADE
	I.E.	INVERT ELEVATION OF PIPE BELOW FLOOR
	CONC.	CONCRETE
	F.C.O.	FLOOR CLEANOUT
	N.T.S.	NOT TO SCALE
	CONT.	CONTINUATION
	FIN.	FINISH
	F.F.E.	FINISH FLOOR ELEVATION
	FLR.	FLOOR
	GR.	GRADE
	LOC.	LOCATION
	ABV.	ABOVE
	BEL.	BELOW
	C.I.	CAST IRON
	CLG.	CEILING
	CONN.	CONNECT OR CONNECTION
	TYP.	TYPICAL
	MECH.	MECHANICAL
XX/X		PLUMBING EQUIPMENT IDENTIFICATION
XX/XX		FIXTURE EQUIPMENT IDENTIFICATION
	W.C.O.	WALL CLEANOUT
	Y.B.	YARD BOX
X		KEY NOTE – REMODEL
X		KEY NOTE – DEMOLITION
	TDL	TOTAL DEVELOPED LENGTH
	RD	ROOF DRAIN
	V.T.R.	VENT THROUGH ROOF
	S.O.V.	SHUT OFF VALVE ON RISER

EQUIPMENT ANCHORAGE NOTES

ALL MECHANICAL AND ELECTRICAL EQUIPMENT SHALL BE ANCHORED OR BRACED TO MEET THE HORIZONTAL AND VERTICAL FORCES PRESCRIBED IN THE 2007 CBC, SECTION 1614A. 13 AND ASCE 7-05 SECTION 13.3, 13.4, 13.6 AND CHAPTER 6.

THE ATTACHMENT OF THE FOLLOWING ITEMS SHALL BE DESIGNED TO RESIST THE FORCES PRESCRIBED ABOVE, BUT NEED NOT BE DETAILED ON THE PLANS.

A. EQUIPMENT WEIGHING LASS THAN 400 POUNDS SUPPORTED DIRECTLY ON THE FLOOR OR ROOF.
B. FURNITURE REQUIRED TO BE ATTACHED IN ACCORDANCE WITH PART 2, TITLE 24, C.C.R.
C. TEMPORARY OR MOVABLE EQUIPMENT .
D. EQUIPMENT WEIGHING LESS THAN 20 POUNDS SUPPORTED BY VIBRATION ISOLATORS.
E. EQUIPMENT WEIGHING LESS THAN 20 POUNDS SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

FOR THOSE ELEMENTS THAT DO NOT REQUIRE DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE MECHANICAL/ELECTRICAL ENGINEER AND THE FIELD REPRESENTATIVE OF THE DIVISION OF THE STATE ARCHITECT.

PIPING , DUCTWORK AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

PIPING, DUCTWORK AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO RESIST THE FORCES PRESCRIBED IN ASCE 7-05 SECTION 13.3 AS DEFINED IN ASCE 7-05 SECTION 13.6.8, 13.6.7, 13.6.5.5 ITEM 6 RESPECTIVELY.

THE BRACING AND ATTACHMENTS TO THE STRUCTURED SHALL COMPLY WITH ONE OF THE OSHPD PRE-APPROVALS WITH AN OPA#, SUCH AS MASON INDUSTRIES (OPA 349) OR ISAT (OPA 485) AS MODIFIED TO SATISFY ANCHORAGE REQUIREMENTS OF ACI 318. APPENDIX D.

COPIES OF THE MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF HANGING AND BRACING OF THE PIPE, DUCTWORK AND ELECTRICAL DISTRIBUTION SYSTEMS.

THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

SHEET INDEX

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PROJECT NO.: 234800 DATE: 09-02-09

PLUMBING NOTES LEGEND & INDEX

13-02R

P0.1

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PLUMBING FIXTURE SCHEDULE

SYMBOL	DESCRIPTION	W	TRAP	V	CW	HW	REMARKS
WC 1	WATER CLOSET AMERICAN STD. # 2599.001 (REGULAR)	4"	INT.	2"	1-1/2"	–	FLOOR MOUNTED, ELONGATED BOWL, 14" HIGH, VITREOUS CHINA, 1 1/2" TOP SPUD, COMPLETE WITH SLOAN REGAL 111 XL FLUSH VALVE WITH ZURN ZERK-CPM SENSOR OPERATION, 1.6 GPF CAPACITY OPEN FRONT LESS COVER BEMIS NO. 1055 HEAVY DUTY TOILET SEAT.
WC 2	WATER CLOSET AMERICAN STD. # 2599.001 (ACCESSIBLE)	4"	INT.	2"	1-1/2"	–	FLOOR MOUNTED, ELONGATED BOWL, 14" HIGH, VITREOUS CHINA, 1 1/2" TOP SPUD, COMPLETE WITH SLOAN REGAL 111 XL FLUSH VALVE WITH ZURN ZERK-CPM SENSOR OPERATION, 1.6 GPF CAPACITY OPEN FRONT LESS COVER BEMIS NO. 1055 HEAVY DUTY TOILET SEAT.
U 1	URINAL FALCON # F-4000	2"	INT.	1-1/2"	–	–	WALL HUNG " WATER FREE URINAL " VITREOUS CHINA TOUCH-FREE OPERATION COMPLETE WITH CARTRIDGE KIT, AND WALL HANGER BRACKETS. INSTALL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. OWNER FURNISHED CONTRACTOR INSTALLED, STUB OUT AND CAP WATER SUPPLY IN WALL FOR FUTURE CONNECTION.
U 2	URINAL FALCON # F-4000 (ACCESSIBLE)	2"	INT.	1-1/2"	–	–	WALL HUNG " WATER FREE URINAL " VITREOUS CHINA TOUCH-FREE OPERATION COMPLETE WITH CARTRIDGE KIT, AND WALL HANGER BRACKETS. INSTALL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. OWNER FURNISHED CONTRACTOR INSTALLED, STUB OUT AND CAP WATER SUPPLY IN WALL FOR FUTURE CONNECTION.
L 1	LAVATORY CRANE PLUMBING # US1412-20V	2"	1-1/4" x 1-1/2"	1-1/2"	1/2"	1/2"	WALL HUNG - 20"x18". 3 HOLE ON 4" CENTERS. PROVIDE J.R. SMITH FLOOR CARRIER # 700. CHICAGO FAUCET #857-E2805-665PSHABCP, # 1017 RIGID SUPPLY AND # 327 GRID STRAINER. MOUNT LAV. AT ACCESSIBLE HEIGHT. PROVIDE TRAP AND SUPPLY INSULATION BY TRUEBRO, INC. (GRAY).
L 2	CECO ENAMEL MODEL # 553 (ACCESSIBLE)	2"	1-1/4" x 1-1/2"	1-1/2"	1/2"	1/2"	WALL HUNG - 20"x18", 3 HOLES ON 4" CENTERS. PROVIDE J.R. SMITH FLOOR CARRIER # 700. CHICAGO FAUCET # 857-E2805-665PSHABCP, # 1017 RIGID SUPPLIES, #E12 AERATOR AND # 327 GRID STRAINER. PROVIDE TRAP AND SUPPLY INSULATION BY TRUEBRO, INC. (GRAY) MOUNT LAV. AT ACCESSIBLE HEIGHT.
DF 1	WATER COOLER ELKAY # EZH20-LZS8WS (ACCESSIBLE)	(2) 2"	(2) 1-1/4" x 1-1/2"	(2) 1-1/2"	1/2"	–	DUAL HEIGHT, WALL MOUNTED, FILTERED COOLER AND BOTTLE FILLING STATION SANITARY, NO TOUCH, SENSOR ACTIVATION WITH AUTOMATIC 30-SECOND SHUT-OFF TIMER. FLEXI-GUARD VANDAL RESISTANT STREAM SAVER BUBBLER. QUICK FILL RATE AT 1.1 GPM REFRIGERATED UNIT.
S 1	SINK JUST STYLE CRA-ADA-1725-A-GR (ACCESSIBLE)	2"	1-1/2"	1-1/2"	3/4"	–	CLASSROOM SINK AND DRINKING FOUNTAIN COMBINATION, SEAMLESS DIE-DRAWN, 18 GAUGE THICK, STAINLESS STEEL TYPE 304, SELF RIMMING TOP MOUNT, VANDAL RESISTANT-SINGLE HOLE FAUCET AND VANDAL RESISTANT BUBBLER AT THE RIGHT SIDE COMPARTMENT: CHICAGO MODEL #350-317VPAABCP & 748-665ABCP
RD 1	ROOF DRAIN	–	–	–	–	–	J. R. SMITH 1010-YRCID, CAST IRON BODY WITH SUMP RECEIVER, UNDERDECK CLAMP AND COMBINED FLASHING CLAMP AND GRAVEL STOP WITH CAST IRON DOME.
OD 1	OVERFLOW DRAIN	–	–	–	–	–	J. R. SMITH 1080-YRCID, CAST IRON BODY WITH SUMP RECEIVER, UNDERDECK CLAMP AND COMBINED FLASHING CLAMP AND GRAVEL STOP WITH CAST IRON DOME. 2" WATER DAM.
FD 1	FLOOR DRAIN J.R. SMITH #2005Y	2"	2"	1-1/2"	*	–	CAST IRON BODY WITH FLASHING COLLAR AND NICKEL BRONZE ROUND ADJUSTABLE STRAINER. *PROVIDE 1/2" TRAP PRIMER CONNECTION

PLUMBING EQUIPMENT SCHEDULE

ITEM	DESCRIPTION
WH 1	GAS FIRED WATER HEATER: "A.O. SMITH", CYCLONE HE 120°F WATER HEATER MODEL NO. BTX-80, 90% THERMAL EFFICIENCY HEATER STORAGE CAPACITY OF 50 U.S. GALS, INPUT RATING OF 76,000 BTUs/HR, RECOVERY RATING OF 83 GPH AT 100°F TEMPERATURE RISE. INSTALL AT EQUIPMENT ROOM B15 TO SERVE BOY'S & GIRL'S RESTROOM LAVATORIES. ELECTRICAL COMPONENTS-120V/5AMP/60HZ.
TP 1	TRAP PRIMER: " PPP " OREGON MODEL # P2-500 FLOOR DRAIN TRAP PRIMER VALVE #316 CHECK VALVE BALL RETAINER MONEL METAL 1/2" NPT CHROME PLATED BRASS AND NEOPRENE STRAINER. (TO PRIME 1 TO 2 FLOOR DRAINS/FLOOR SINKS.)
TMV 1	THERMOSTATIC MIXING VALVE: "SYMMONS" MODEL NO. 6-400B-VST, 3/4" INLETS AND 1" OUTLET, TEMPCONTROL THERMOSTATIC CONTROLLER WITH SWIVEL ACTION CHECK STOPS, REMOVABLE CARTRIDGE WITH STRAINER, VOLUME CONTROL SHUT-OFF VALVE. 16 GAUGE CABINET BODY, 12 GAUGE DOOR WITH CYLINDER LOCK PIPING AND VALVE FINISH-ROUGH BRONZE OR BRASS. 3" BIMETAL DIAL THERMOMETER FACE, RANGE 20°F-240°F.
WHA 1	WATER HAMMER ARRESTOR: PRECISION PLUMBING PRODUCTS MODEL # SC-1250D, 1" NPT BRASS, BARREL FABRICATED OF TYPE "K" HARD DRAWN COPPER, NORMAL OPERATING PRESSURE 0 TO 200 P.S.I.G. AND MAXIMUM SPIKE PRESSURE 400 P.S.I.G.
ET 1	EXPANSION TANK: AMTROL "THERM-X-TROL" MODEL #ST-5C ASME SPECIFICATIONS TOTAL VOLUME=2.1 GALS, 12 5/8 HIGH AND 8" IN DIAMETER, 1/2" NPT, UNIT SHALL COMPLY WITH F.D.A. REGULATIONS. OPERATING WEIGHT= 22 LBS.

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PROJECT NO.: 234808 DATE: 01-07-13

PLUMBING FIXTURE AND EQUIPMENT SCHEDULE

13-01R

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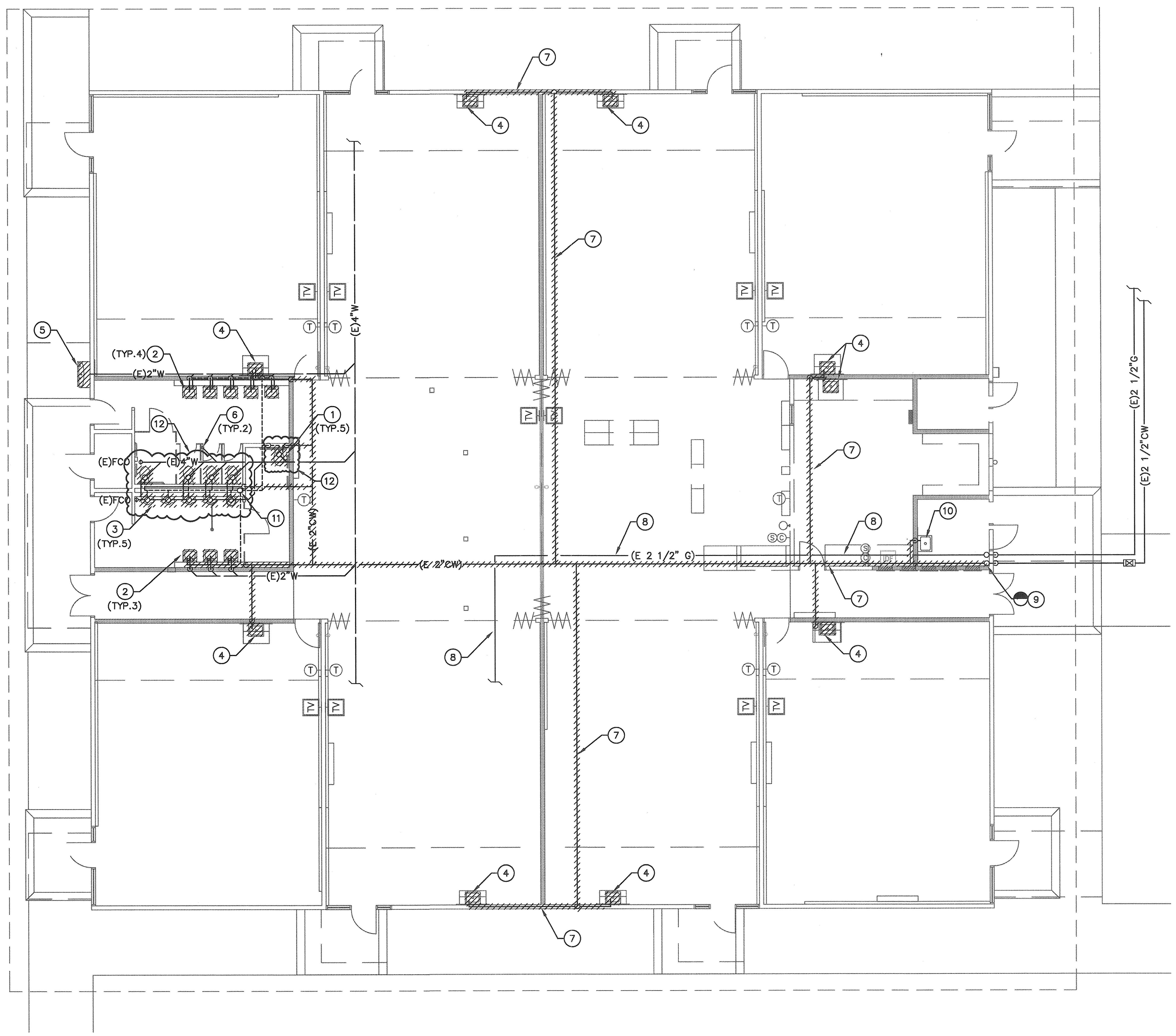

1 PLUMBING DEMOLITION FLOOR PLAN

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

PLAN NORTH

KEY NOTES

1. REMOVE EXISTING WATER CLOSET, TRIMS, AND ACCOMMODATE EXISTING WASTE AND VENT PIPING FOR NEW PLUMBING WORK. REMOVE (E) GALVANIZED WATER PIPING AND REPLACE WITH COPPER.
2. REMOVE EXISTING LAVATORY, FAUCET, TRIMS, AND ACCOMMODATE EXISTING WASTE AND VENT PIPING FOR NEW PLUMBING WORK. REMOVE (E) GALVANIZED WATER PIPING AND REPLACE WITH COPPER.
3. REMOVE EXISTING URINAL, TRIMS, AND ACCOMMODATE EXISTING WASTE AND VENT PIPING FOR NEW PLUMBING WORK. (E) GALVANIZED WATER PIPING TO BE REPLACE WITH COPPER.
4. REMOVE EXISTING CLASSROOM SINK, TRIM, AND ACCOMMODATE EXISTING WASTE AND VENT PIPING FOR NEW PLUMBING WORK. REMOVE (E) GALVANIZED WATER PIPING AND REPLACE WITH COPPER.
5. REMOVE EXISTING DRINKING FOUNTAIN, TRIM, AND ACCOMMODATE EXISTING WASTE AND VENT PIPING FOR NEW PLUMBING WORK. REMOVE (E) GALVANIZED WATER PIPING AND REPLACE WITH COPPER.
6. REMOVE EXISTING FLOOR DRAIN, TRIM, AND ACCOMMODATE EXISTING WASTE AND VENT PIPING FOR NEW PLUMBING WORK.
7. REMOVE EXISTING GALVANIZED WATER PIPING, AND ASSOCIATED SUPPORTS & BRACKETS TO BE REPLACED WITH COPPER PIPE.
8. EXISTING GAS PIPE ABOVE CEILING, PROVIDE SEISMIC BRACING, SPACING SHALL BE AS PER CODE. SEE DETAIL 3/AD1-P4.1.
9. POINT OF DEMOLITION, DISCONNECT (E) 2 1/2" GALVANIZED COLD WATER FROM BELOW FLOOR INCLUDING (E) SHUT-OFF VALVE. POC AT 3' DEPTH.
10. EXISTING MOP SINK TO REMAIN, REPLACE GALVANIZED COLD WATER PIPING WITH COPPER PIPE.
11. EXISTING 4" VENT UP TO VENT THRU ROOF IN CHASE WALL TO REMAIN AND PROTECT IN PLACE.
12. SAWCUT, DEMO AND REMOVE FOR REPLACEMENT FLOOR SECTIONS FOR REMOVAL OF (E) PLUMBING AND INSTALLATION OF NEW PLUMBING AS REQUIRED AT FLOOR AREAS INDICATED. REPLACE FLOOR SECTIONS REMOVED WITH NEW SAND/VAPOR BARRIER+CONCRETE.

ARCHITECT'S STAMP

ENGINEER'S STAMP

OAK PARK UNIFIED SCHOOL DISTRICT
BROOKSIDE ELEMENTARY SCHOOL
BUILDING B/200 (BID AND CA)

Oak Park UNIFIED SCHOOL DISTRICT

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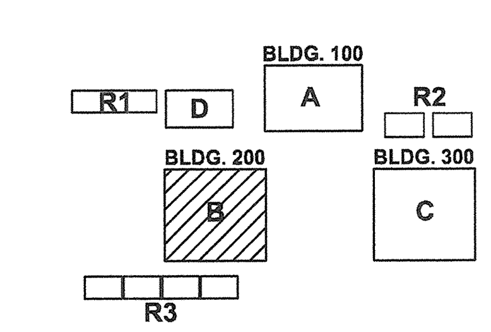

KEY PLAN

TRUE NORTH

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT

APPL 03-113415

AC______ FLS______ SS______
DATE:______

DSA STAMP

PROJECT NO.: 234808 DATE: 01-07-13

PLUMBING DEMOLITION FLOOR PLAN - BUILDING B

13-02R

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T 626.650.0350 F 626.650.0352
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AD1-PD2.2

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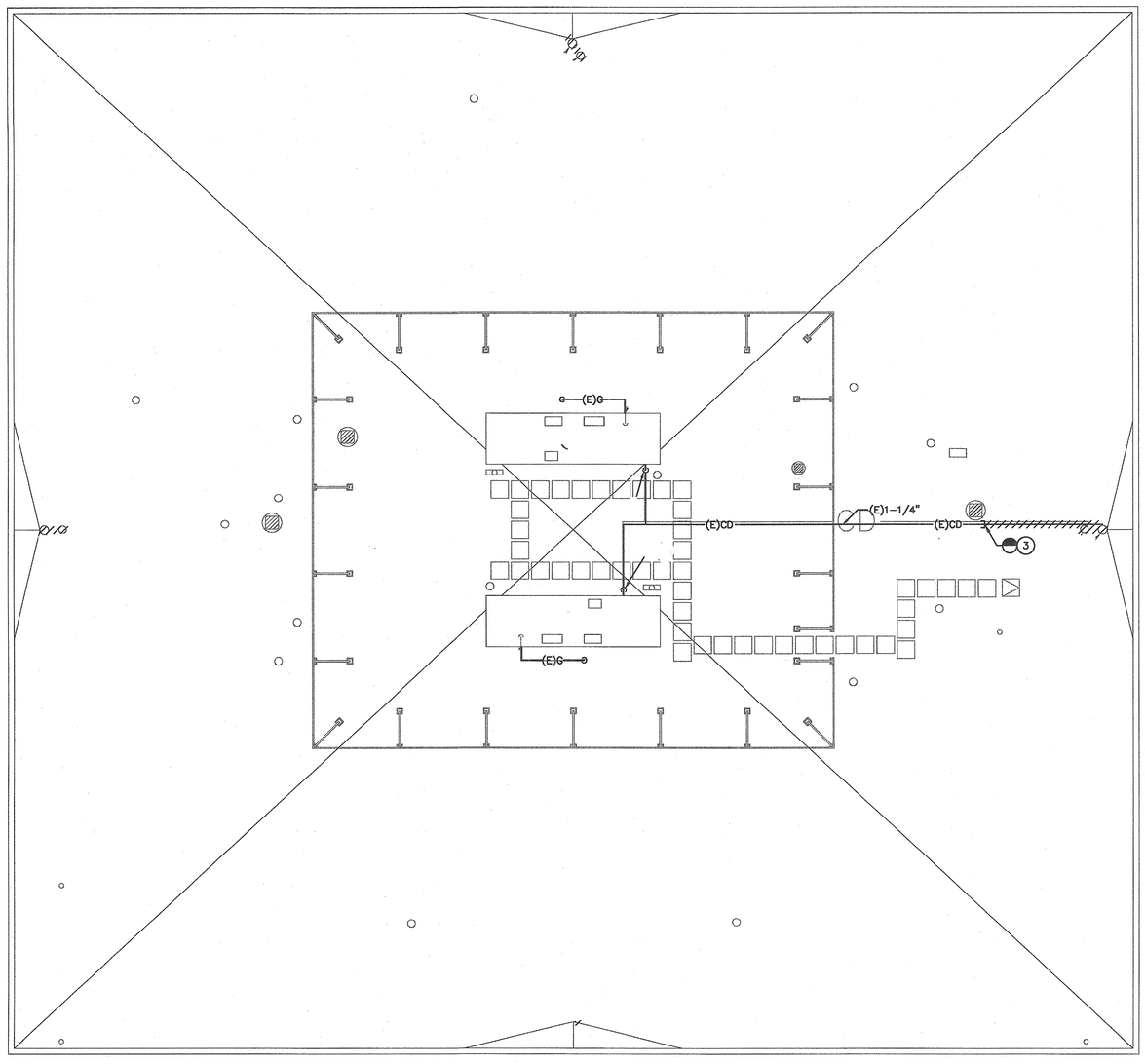

1 PLUMBING DEMOLITION ROOF PLAN

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

PLAN NORTH

KEY NOTES

1. ~~DISCONNECT EXISTING GAS PIPING FROM UNIT.~~
2. ~~DISCONNECT EXISTING CD PIPING FROM UNIT.~~
3. POINT OF DISCONNECTION, CUT & REMOVE EXISTING CD PIPING ON ROOF.
4. ~~REMOVE EXISTING ROOF DRAIN & OVERFLOW DRAIN, & ACCOMODATE FOR NEW DRAIN INSTALLATION.~~
5. ~~EXISTING MECHANICAL UNIT TO BE REMOVED & REPLACED BY OTHERS. SEE MECHANICAL PLANS.~~

LICENSED ARCHITECT DAVID ALEN KINDRED JR. C 19528 STATE OF CALIFORNIA

ARCHITECT'S STAMP

REGISTERED PROFESSIONAL ENGINEER PORTILLA M29029 Exp. 06-30-2012 MECHANICAL STATE OF CALIFORNIA

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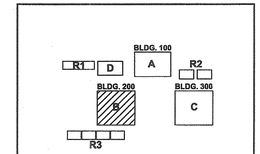

KEY PLAN

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DATE: 10/20/10

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PROJECT NO.: 234800 DATE: 09-02-09

PLUMBING DEMOLITION - ROOF PLAN - BUILDING B

13-01R

PD3.2

FOR PLAN REVIEW ONLY

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Fax:(626) 650-0352
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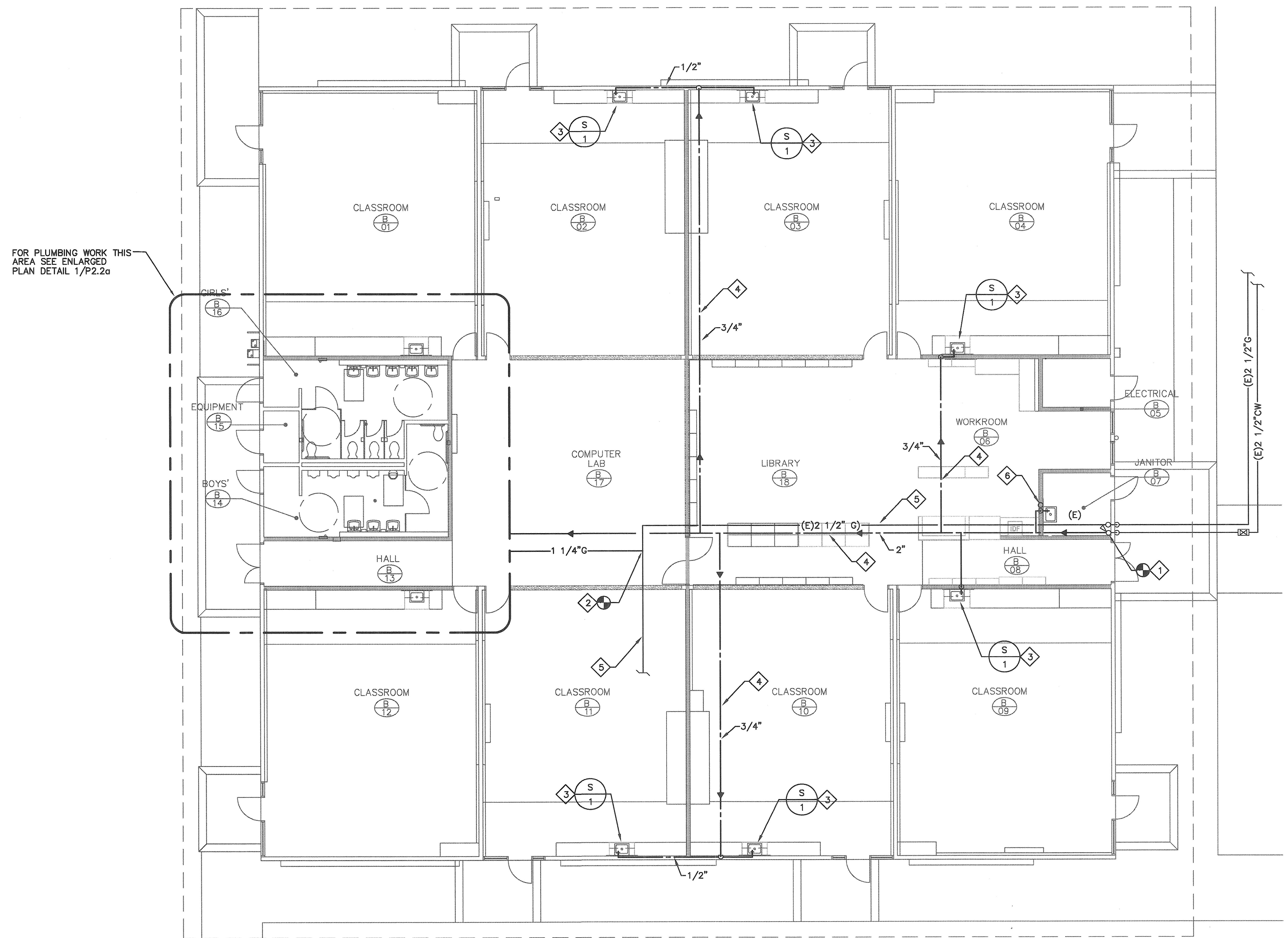

1 PLUMBING FLOOR PLAN

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

PLAN NORTH

KEY NOTES

1. POINT OF CONNECTION, 2 1/2" COLD WATER TO (E) 2 1/2" COLD WATER BELOW FLOOR, PROVIDE LINE SIZE SHUT-OFF VALVE ON PIPE RISE MINIMUM OF 36 INCHES ABOVE FINISHED FLOOR. PATCH BACK CONCRETE AS REQUIRED.
2. POINT OF CONNECTION, 1 1/4" GAS TO (E) 2" GAS ABOVE CEILING AT THIS APPROXIMATE LOCATION, FIELD VERIFY EXACT LOCATION OF POC..
3. POINT OF CONNECTION, CLASSROOM SINK TO (E) WASTE, VENT AND NEW COPPER WATER PIPE. MODIFY PIPING CONNECTION AS REQUIRED, FIELD VERIFY EXACT POC.
4. (N) COPPER WATER PIPE ABOVE CEILING, PROVIDE SEISMIC AND SWAY BRACING SUPPORT AS REQUIRED, SEE DETAIL 3/AD1-P4.1a.
5. (E) GAS PIPING ABOVE CEILING, PROVIDE SEISMIC AND SWAY BRACING SUPPORT AS REQUIRED, SEE DETAIL 3/AD1-P4.1a.
6. 1 1/4" CONDENSATE DRAIN DROP IN WALL FROM AC UNIT ON ROOF AND SPILL INTO (E) SERVICE SINK.

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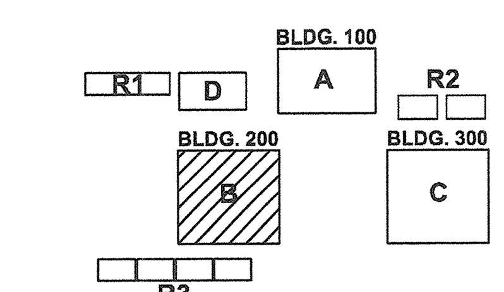

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APPL 03-113415

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DATE:______

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PROJECT NO. : 234808 DATE: 01-07-13

PLUMBING FLOOR PLAN - BUILDING B

13-01R

AD1-P2.2

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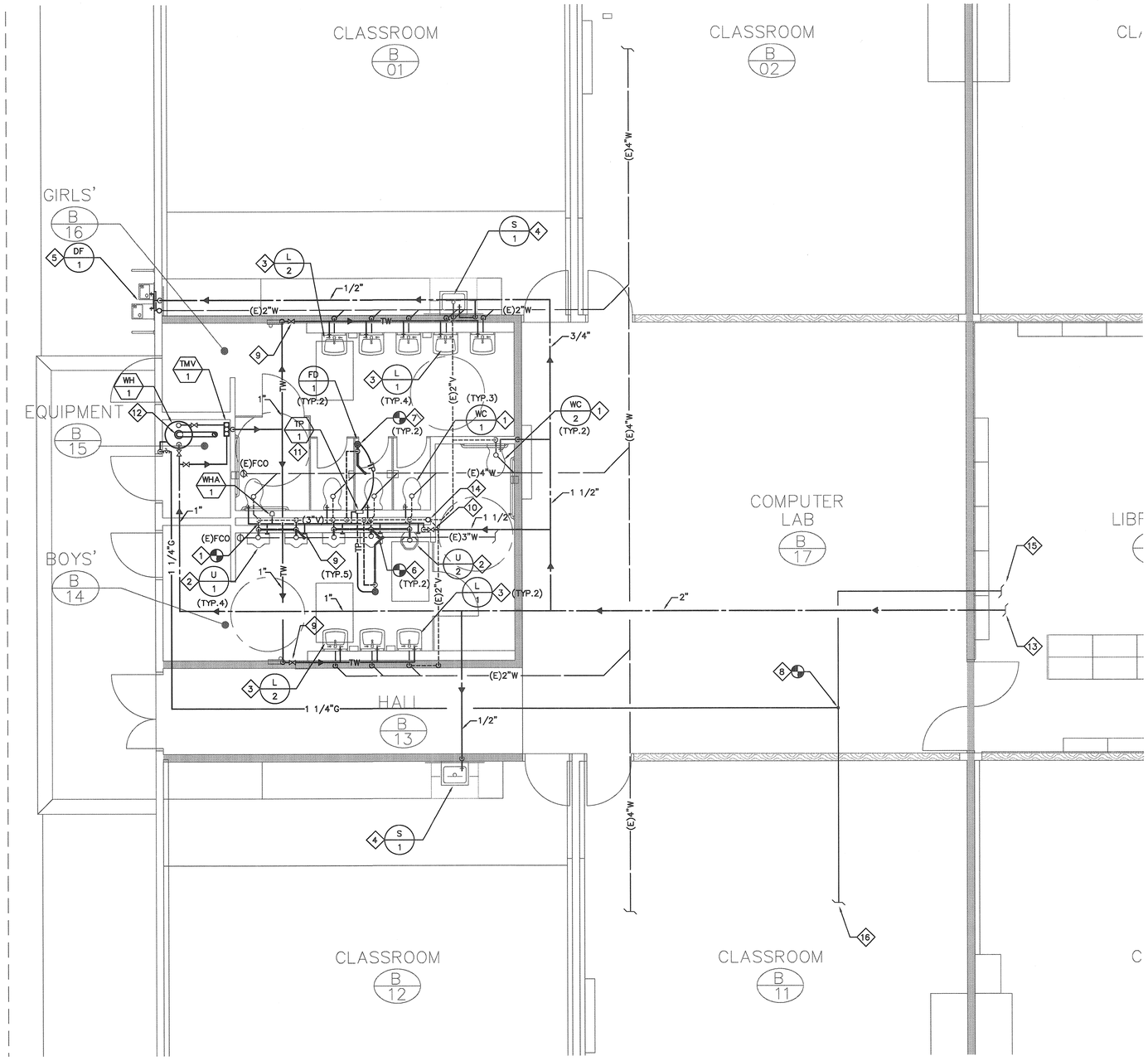

1 PARTIAL ENLARGED PLUMBING FLOOR PLAN

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

KEY NOTES

1. POINT OF CONNECTION, WATER CLOSET TO (E) WASTE, VENT AND (N) COPPER WATER LINE, MODIFY PIPING CONNECTION AS REQUIRED, FIELD VERIFY EXACT LOCATION OF (E) POC.
2. POINT OF CONNECTION, URINAL TO (E) WASTE, (N) VENT TO (E) VENT, MODIFY PIPING CONNECTION AS REQUIRED, FIELD VERIFY EXACT LOCATION OF (E) POC.
3. POINT OF CONNECTION, LAVATORY TO (E) WASTE, VENT AND (N) COPPER WATER LINE, MODIFY PIPING CONNECTION AS REQUIRED, FIELD VERIFY EXACT LOCATION OF (E) POC.
4. POINT OF CONNECTION, CLASSROOM SINK TO (E) WASTE, VENT AND (N) COPPER WATER LINE, MODIFY PIPING CONNECTION AS REQUIRED, FIELD VERIFY EXACT LOCATION OF (E) POC.
5. POINT OF CONNECTION, HI-LO DRINKING FOUNTAIN/WATER COOLER TO (E) WASTE, VENT AND (N) COPPER WATER LINE, MODIFY PIPING CONNECTION AS REQUIRED, FIELD VERIFY EXACT LOCATION OF (E) POC.
6. POINT OF CONNECTION, 2" URINAL WASTE & FLOOR DRAIN TO (E) 3" WASTE BELOW FLOOR. MODIFY PIPING CONNECTION AS REQUIRED, FIELD VERIFY EXACT LOCATION OF (E) POC.
7. POINT OF CONNECTION, (N) 2" FLOOR DRAIN AND WASTE TO (E) WASTE BELOW FLOOR AND 1 1/2" VENT TO (E) VENT IN WALL. MODIFY PIPING CONNECTION AS REQUIRED, FIELD VERIFY EXACT LOCATION OF EXISTING POC.
8. POINT OF CONNECTION, 1 1/4" GAS TO (E) 2" GAS ABOVE CEILING, FILED VERIFY EXACT LOCATION OF POC.
9. PROVIDE 3/4" COLD WATER STUB OUT ON WALL AND CAP OFF FOR FUTURE CONNECTION, PROVIDE ESCUTCHEON PLATE.
10. PROVIDE LINE SIZE SHUT-OFF VALVE IN WALL BEHIND ACCESS PANEL AS REQUIRED.
11. INSTALL TRAP PRIMER TO FLOOR DRAIN BELOW FLOOR AS REQUIRED, PROVIDE ACCESS PANEL IN WALL.
12. 3" FLUE VENT UP TO FLUE VENT THRU ROOF SEE DETAIL 2/AD1-P4.1a.
13. 2" COLD WATER ABOVE CEILING, FOR CONTINUATION SEE AD1-P2.2.
14. EXISTING 4" VENT UP TO VENT THRU ROOF IN CHASE WALL.
15. EXISTING 2" GAS ABOVE CEILING.
16. EXISTING 2" GAS ABOVE CEILING TO (E) AC UNIT ON ROOF.

LICENSED ARCHITECT DAVID ALAN KNOWLES C-19582 STATE OF CALIFORNIA — ARCHITECT'S STAMP

REGISTERED PROFESSIONAL ENGINEER MARK PORTILLA M28029 MECHANICAL STATE OF CALIFORNIA — ENGINEER'S STAMP

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BROOKSIDE ELEMENTARY SCHOOL
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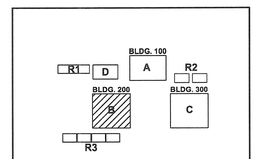

KEY PLAN — TRUE NORTH

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T 626.650.0350 F 626.650.0352
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Mechanical Electrical Plumbing | Consulting Engineers
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PROJECT NO.: 234808 DATE: 01-07-13

PARTIAL ENLARGED PLUMBING FLOOR PLAN - BUILDING B

13-01R

AD1-P2.2a

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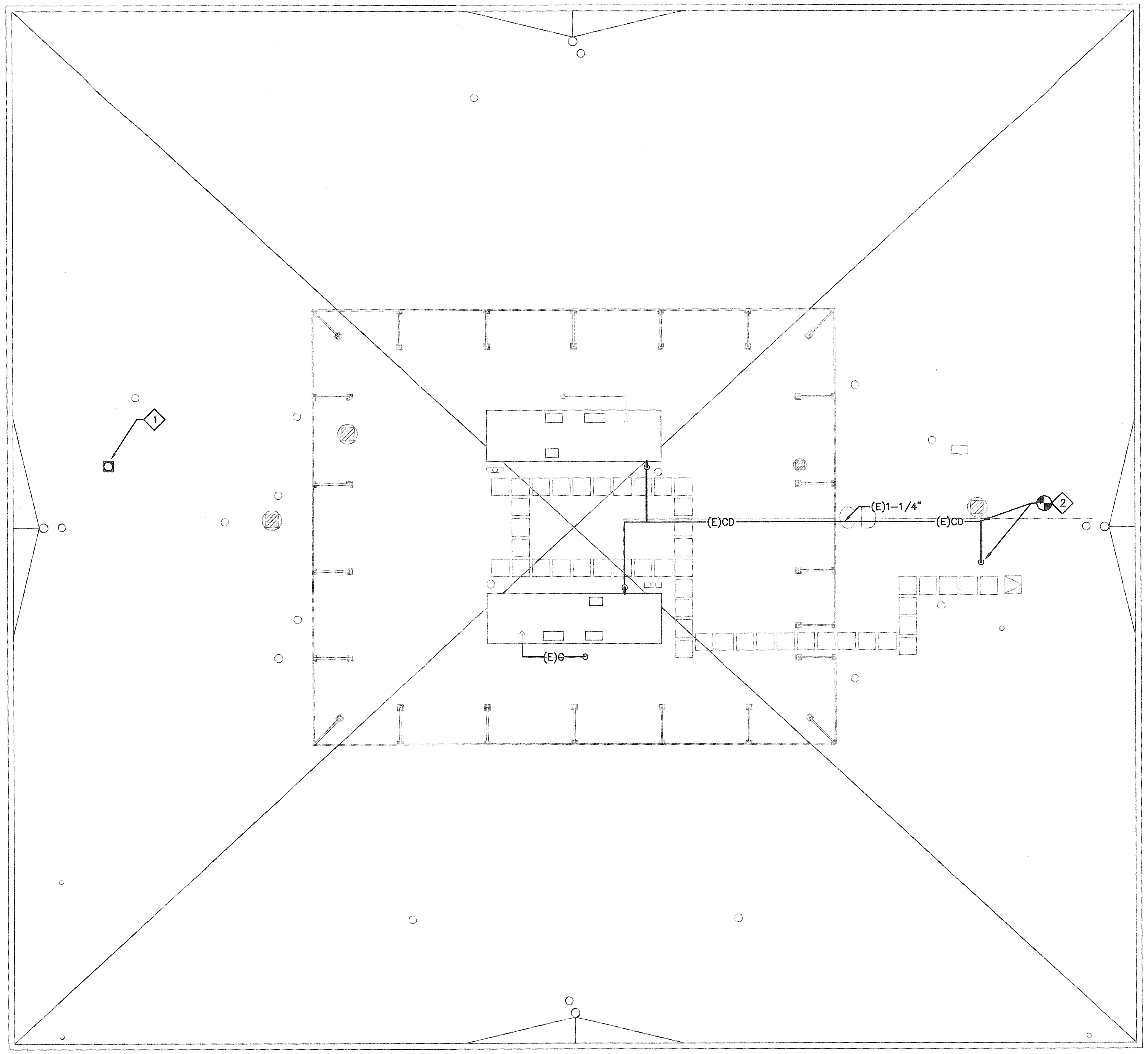
KEY NOTES

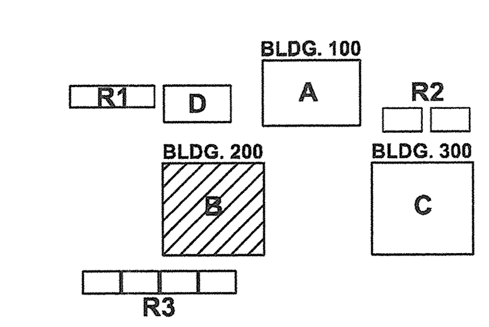
1. (N) FLUE VENT THRU ROOF FROM (N) WATER HEATER BELOW. SEE DETAIL 1 & 2/AD1-P4.1
2. POINT OF CONNECTION. CONNECT 1-1/4" CD TO (E) 1-1/4" CD & DOWN THRU ROOF TO CEILING BELOW.

GENERAL NOTES

1. EXISTING SARNAFIL PVC COOL ROOF SYSTEM.
2. ROOF UNDER WARRANTY WITH BEST CONTRACTING SERVICES (310)328-6969.



1 PLUMBING ROOF PLAN
SCALE: 1/8" = 1'-0" BUILDING B
PLAN NORTH



KEY PLAN
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ARCHITECT'S STAMP

ENGINEER'S STAMP

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BROOKSIDE ELEMENTARY SCHOOL BUILDING B/200 (BID AND CA)

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PROJECT NO.: 234808 DATE: 01-07-13

PLUMBING ROOF PLAN - BUILDING B

13-01R

AD1-P3.2

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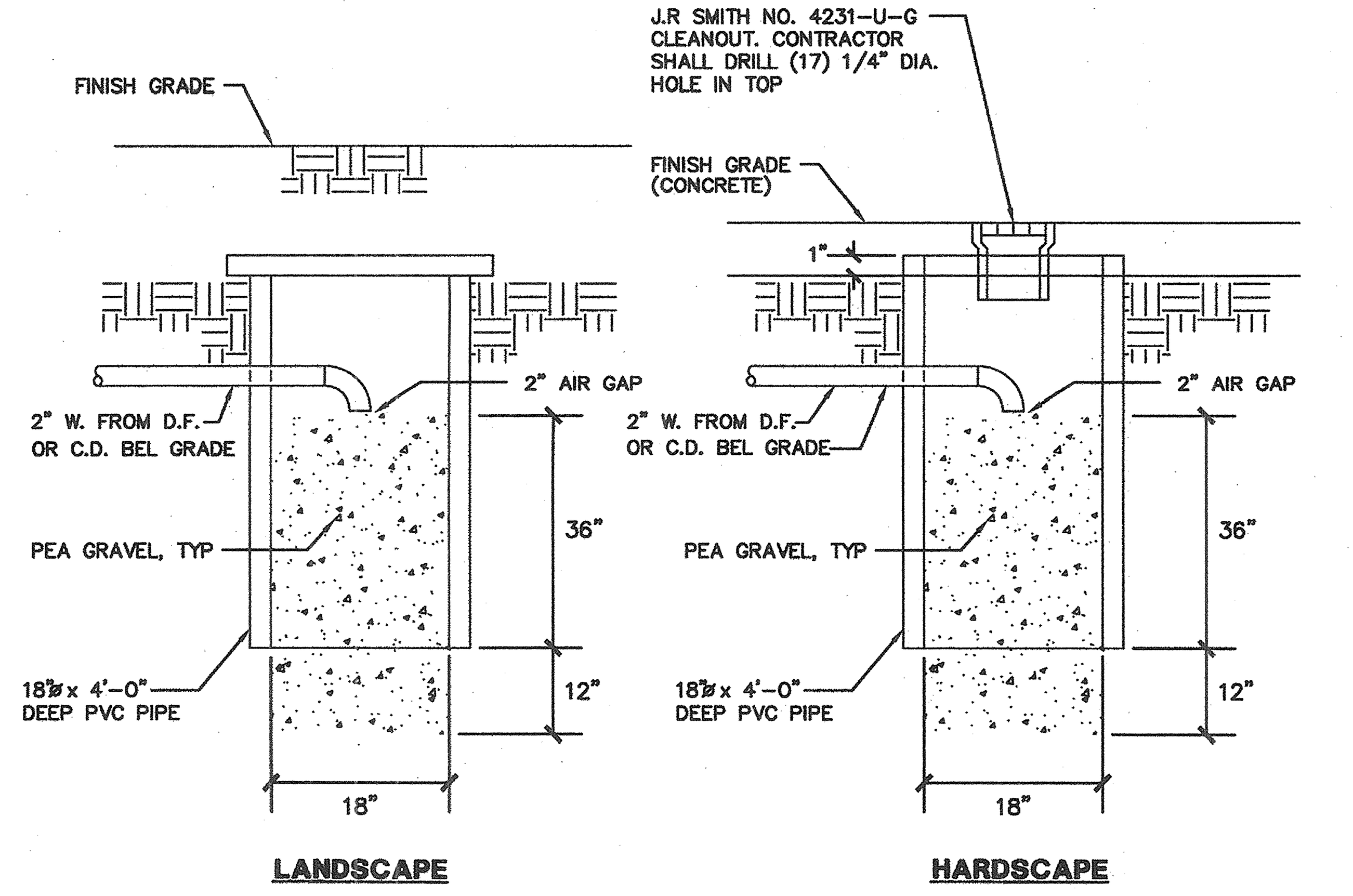
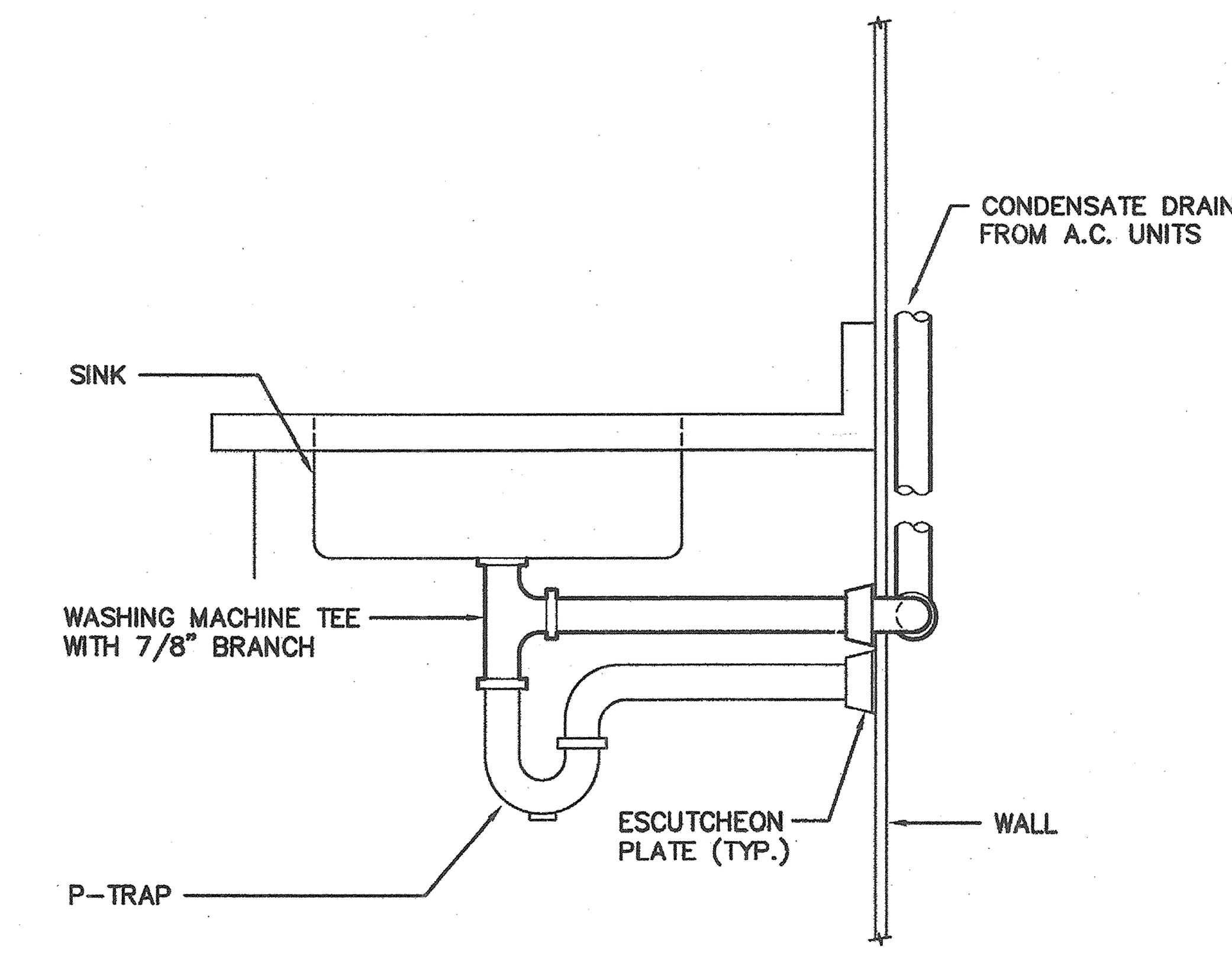


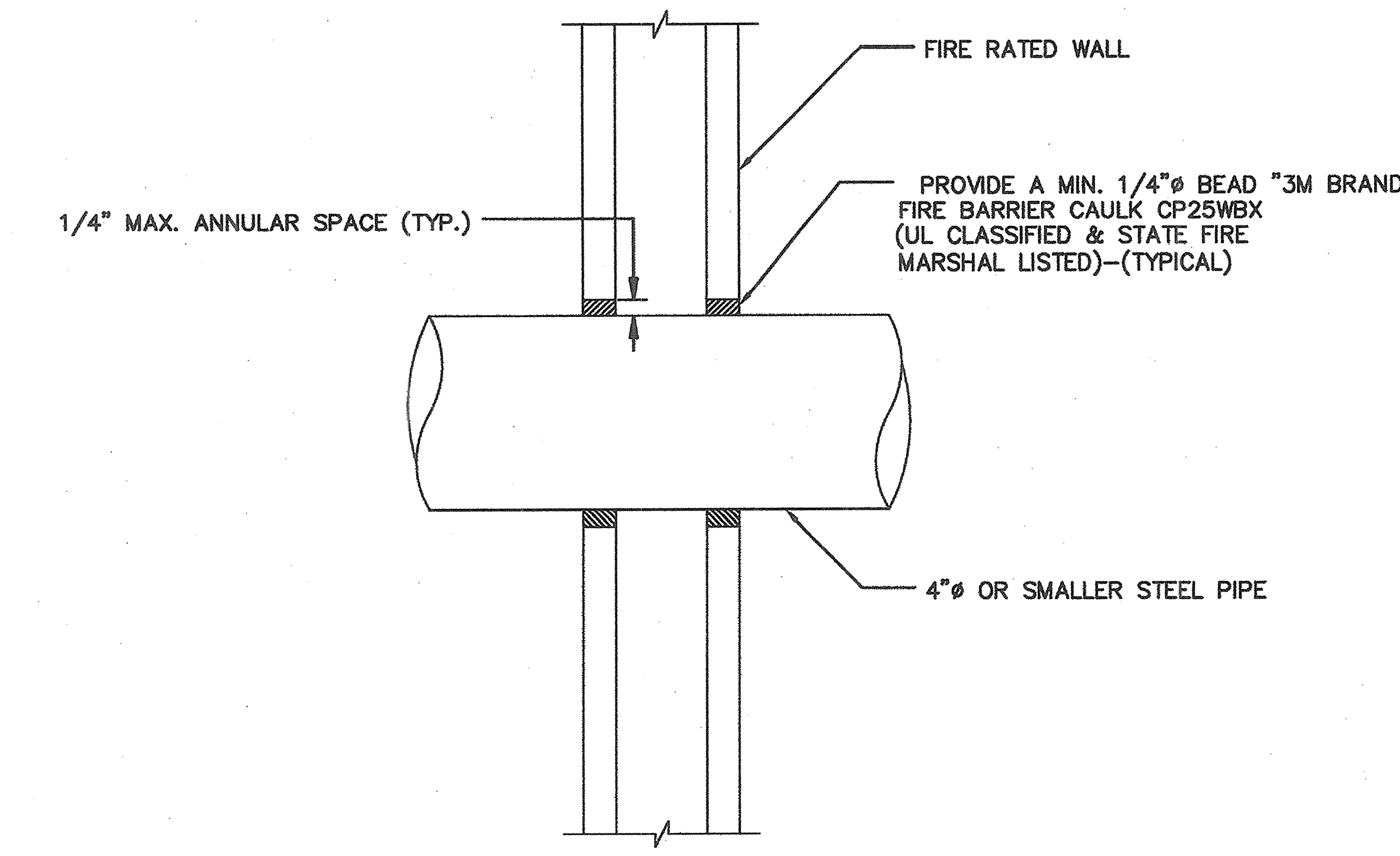
DRYWELL DETAIL

NOT TO SCALE 1



CONDENSATE TO TAILPIECE

NOT TO SCALE 2

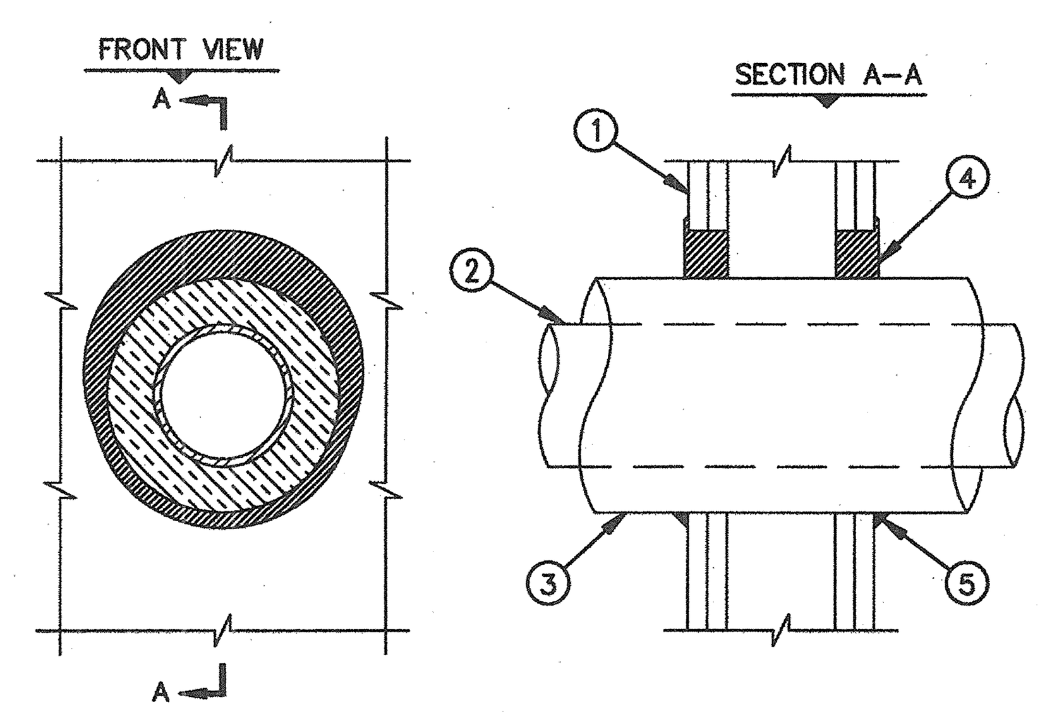


NOTES :
1. INSTALLATION SHALL COMPLY WITH THE U.L. FIRE RESISTANCE DIRECTORY VOL. 2 1997 EDITION, PAGE 624, SYSTEM NO. W-L-1000 THROUGH PENITRATION FIRESTOP SYSTEM.

BARE PIPE THRU FIRE RATED WALL

NOT TO SCALE 3

U.L. SYSTEM NO. WL5029
INSULATED METAL PIPE THROUGH 1-HR. OR 2-HR. GYPSUM WALL ASSEMBLY
F RATING = 1-HR. AND 2-HR.
T RATING = 1/2 HR., 1-HR., AND 1-3/4 HR. (SEE U.L. FIRE RESISTANCE DIRECTORY)
L RATING AT AMBIENT = 4 CFM/SQ. FT.
L RATING AT 400°F = LESS THAN 1 CFM/SQ. FT.



1. GYPSUM WALL ASSEMBLY (1-HR. OR 2-HR. FIRE-RATING)(2-HR. SHOWN).
2. PENETRATING ITEM TO BE ONE OF THE FOLLOWING :
   A. MAXIMUM 10" DIAMETER STEEL PIPE (SCHEDULE 40 OR THINNER).
   B. MAXIMUM 6" DIAMETER COPPER PIPE.
   C. MAXIMUM 4" DIAMETER EMT.
   D. MAXIMUM 4" DIAMETER STEEL CONDUIT.
3. MAXIMUM 2" THICK GLASS FIBER PIPE INSULATION WITH AN ALL SERVICE JACKET.
4. HILTI FS-ONE HIGH PERFORMANCE INTUMESCENT FIRESTOP SEALANT :
   A. MINIMUM 5/8" DEPTH, FOR A 1-HR. FIRE-RATING.
   B. MINIMUM 1-1/4" DEPTH, FOR A 2-HR. FIRE-RATING.
5. MINIMUM 1/2" CROWN HILTI FS-ONE HIGH PERFORMANCE INTUMESCENT FIRESTOP SEALANT AT PIPE INSULATION/WALL INTERFACE.

NOTES : 1. MAXIMUM DIAMETER OF OPENING = 9".
2. ANNULAR SPACE = MINIMUM 0", MAXIMUM 1-1/2".

INSULATED PIPE THRU 1 OR 2-HR GYPS. WALL

NOT TO SCALE 4

NOT USED

NOT TO SCALE 5

NOT USED

NOT TO SCALE 6

NOT USED

NOT TO SCALE 8

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PROJECT NO.: 234800 DATE: 09-02-09

PLUMBING DETAILS

13-02R

P4.1

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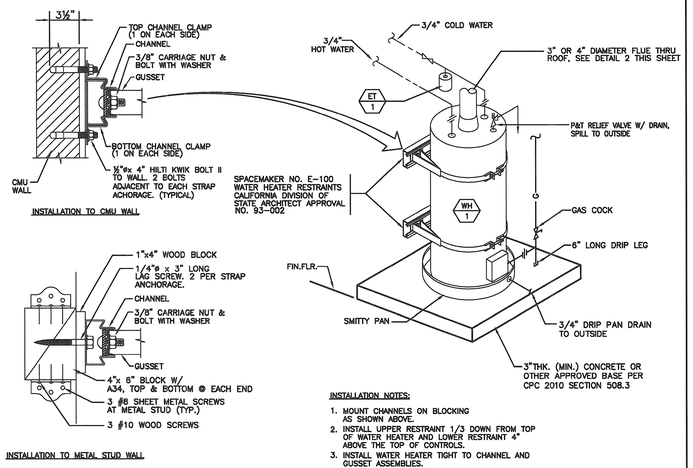
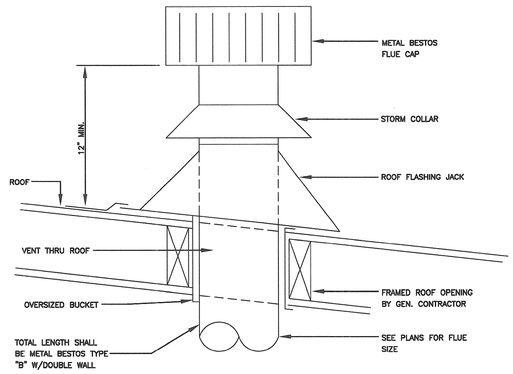
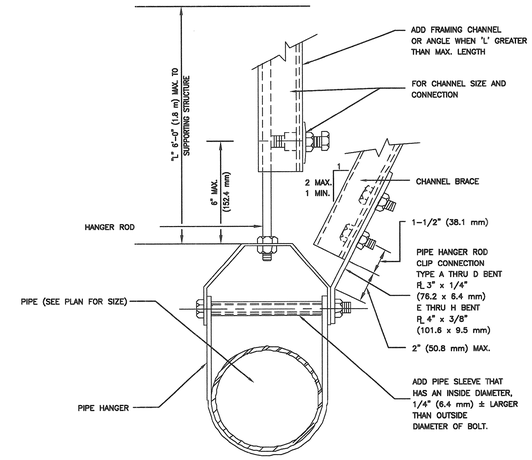


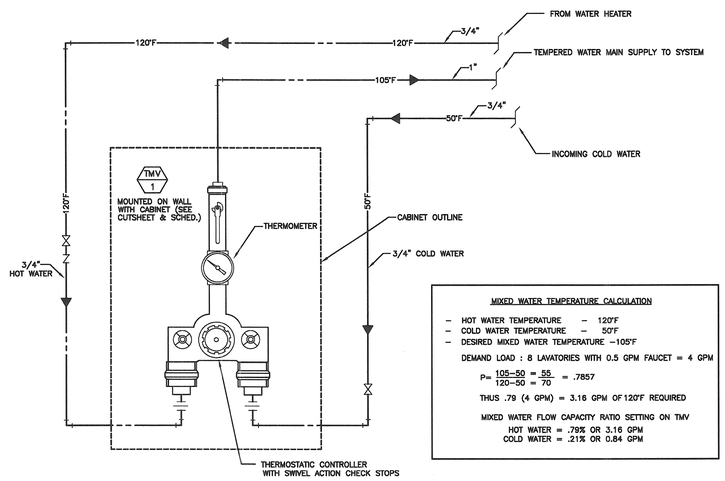
GAS FIRED WATER HEATER — NOT TO SCALE — 1



FLUE THRU ROOF — NOT TO SCALE — 2



SEISMIC AND SWAY BRACING PIPE SUPPORT — NOT TO SCALE — 3



MIXED WATER TEMPERATURE CALCULATION

- HOT WATER TEMPERATURE – 120°F
- COLD WATER TEMPERATURE – 50°F
- DESIRED MIXED WATER TEMPERATURE –105°F

DEMAND LOAD : 8 LAVATORIES WITH 0.5 GPM FAUCET = 4 GPM

$P = \frac{105-50}{120-50} = \frac{55}{70} = .7857$

THUS .79 (4 GPM) = 3.16 GPM OF 120°F REQUIRED

MIXED WATER FLOW CAPACITY RATIO SETTING ON TMV
HOT WATER = .79% OR 3.16 GPM
COLD WATER = .21% OR 0.84 GPM

THERMOSTATIC MIXING VALVE ASSEMBLY — NOT TO SCALE — 4

NOT USED — NOT TO SCALE — 5

NOT USED — NOT TO SCALE — 6

NOT USED — NOT TO SCALE — 7

NOT USED — NOT TO SCALE — 8

LICENSED ARCHITECT DAVID ALAN KINDRED C-19282 STATE OF CALIFORNIA — ARCHITECT'S STAMP

REGISTERED PROFESSIONAL ENGINEER PORTILLA M29029 MECHANICAL STATE OF CALIFORNIA — ENGINEER'S STAMP

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PLUMBING DETAILS

13-02R

AD1-P4.1a

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APPLICABLE CODES

THE CONSTRUCTION OF THIS PROJECT SHALL CONFORM TO THE REQUIREMENTS OF:

TITLE 19 CCR, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS
TITLE 24 CCR, PART 1 – 2007 BUILDING STANDARDS ADMINISTRATIVE CODE
TITLE 24 CCR, PART 2 – 2007 CALIFORNIA BUILDING CODE, VOL. 1 & 2 (CBC) (2006 IBC, AS AMENDED BY CA)
TITLE 24 CCR, PART 3 – 2007 CALIFORNIA ELECTRIC CODE, VOL. 1 & 2 (CEC) (2005 NEC, AS AMENDED BY CA)
TITLE 24 CCR, PART 4 – 2007 CALIFORNIA MECHANICAL CODE, VOL. 1 & 2 (CMC) (2006 IAPMO UMC, AS AMENDED BY CA)
TITLE 24 CCR, PART 5 – 2007 CALIFORNIA MECHANICAL CODE, VOL. 1 & 2 (CMC) (2006 IAPMO UMC, AS AMENDED BY CA)
TITLE 24 CCR, PART 6 – 2008 CALIFORNIA ENERGY CODE
TITLE 24 CCR, PART 7 – 2007 CALIFORNIA ELEVATOR SAFETY CONSTRUCTION CODE
TITLE 24 CCR, PART 8 – 2007 CALIFORNIA HISTORICAL BUILDING CODE
TITLE 24 CCR, PART 9 – 2007 CALIFORNIA FIRE CODE (CFC) (2006 IFC, AS AMENDED BY CA)
TITLE 24 CCR, PART 10 – 2007 EXISTING BUILDING CODE
TITLE 24 CCR, PART 12 – 2007 CALIFORNIA REFERENCED STANDARDS (PARTIAL LIST – SEE CBC CH. 35 AND CFC CH. 45)

- 2002 NFPA 13, INSTALLATION OF SPRINKLER SYSTEMS (CA AMENDED)
- 2007 NFPA 14, INSTALLATION OF STANDPIPE AND HOSE SYSTEMS
- 2002 NFPA 17, DRY CHEMICAL EXTINGUISHING SYSTEMS
- 2002 NFPA 17A, WET CHEMICAL EXTINGUISHING SYSTEMS
- 2003 NFPA 20, INSTALLATION OF STATIONARY PUMPS FOR FIRE PROTECTION
- 2003 NFPA 22, WATER TANKS FOR PRIVATE FIRE PROTECTION
- 2007 NFPA 24, INSTALLATION OF PRIVATE FIRE PROTECTION
- 2006 NFPA 25, INSPECTION, TESTING, MAINTENANCE OF WATER-BASED FIRE PROTECTION SYSTEMS (CA AMENDED)
- 2007 NFPA 27, NATIONAL FIRE ALARM CODE (CA AMENDED); SEE UL STD 1971 FOR "VISUAL DEVICES"
- 2002 ICC 300, BLEACHERS, FOLDING AND TELESCOPIC SEATING AND GRANDSTANDS (ICC/ANSI 300-2002)

GENERAL NOTES

ELECTRICAL NOTES – EDUCATIONAL/STATE

1. THE SEISMIC BRACING AND ANCHORAGE OF ELECTRICAL CONDUITS, BUS DUCT, WIREWAY, AND CABLE TRAY SHALL BE IN ACCORDANCE WITH THE "GUIDELINE FOR SEISMIC RESTRAINTS OF MECHANICAL YSTEMS AND PLUMBING PIPING SYSTEMS," PUBLISHED BY SMACNA AND PPIC, AND APPROVED BY DSA, OCTOBER 13, 1982, DSA PRE-APPROVAL NO. R0010-1A, OR PER DSA PRE-APPROVAL NO. 5003 FOR SUPERSTRUT-SEISMIC RESTRAINT SYSTEM, OR PER DSA PRE-APPROVAL NO. R0071, THE KIN-LINE SEISMIC RESTRAINT SYSTEM.

2. ALL ELECTRICAL PREFABRICATED EQUIPMENT SHALL BE DESIGNED AND CONSTRUCTED IN SUCH A MANNER THAT ALL PORTIONS, ELEMENTS, SUB-ASSEMBLIES AND/OR PARTS OF SAID EQUIPMENT, AND THE EQUIPMENT AS A WHOLE INCLUDING ITS ATTACHMENTS, WILL RESIST A LOAD WHICH EXCEEDS THE FORCE LEVEL USED TO RESTRAIN AND ANCHOR THE EQUIPMENT TO THE SUPPORTING STRUCTURE.

3. ALL ELECTRICAL MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL BE LISTED BY UNDERWRITER'S LABORATORIES (UL) AND BEAR THEIR LABEL, OR LISTED AND CERTIFIED BY A NATIONALLY RECOGNIZED TESTING AUTHORITY WHERE UL DOES NOT HAVE A LISTING. CUSTOM MADE EQUIPMENT SHALL HAVE COMPLETE TEST DATA SUBMITTED BY THE MANUFACTURER ATTESTING TO ITS SAFETY. IN ADDITION, THE MATERIALS, EQUIPMENT, AND INSTALLATION SHALL COMPLY WITH THE REQUIREMENTS OF THE FOLLOWING:

   AMERICAN SOCIETY OF TESTING MATERIALS (ASTM)
   INSULATED POWER CABLE ENGINEERS ASSOCIATION (IPCEA)
   NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)
   AMERICAN STANDARD ASSOCIATION (ASA)
   NATIONAL FIRE PROTECTION AGENCY (NFPA)
   AMERICAN NATIONAL STANDARD INSTITUTE (ANSI)
   CALIFORNIA ELECTRICAL CODE (CEC) – LATEST EDITION
   CALIFORNIA CODE OF REGULATIONS TITLE 24 (CCR)
   INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE)
   ALL LOCAL CODES HAVING JURISDICTION.

   WHERE THE CODES HAVE DIFFERENT LEVELS OF REQUIREMENTS, THE MOST STRINGENT RULE SHALL APPLY.

4. THE CONTRACTOR SHALL VISIT THE SITE INCLUDING ALL AREAS INDICATED ON THE DRAWINGS. HE SHALL THOROUGHLY FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS AND BY SUBMITTING A BID, ACCEPTS THE CONDITIONS UNDER WHICH HE SHALL BE REQUIRED TO PERFORM HIS WORK.

5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN A COMPLETE SET OF CONTRACT DOCUMENTS, ADDENDA, DRAWINGS AND SPECIFICATIONS. HE SHALL CHECK THE DRAWINGS OF THE OTHER TRADES AND SHALL CAREFULLY READ THE ENTIRE SPECIFICATIONS AND DETERMINE HIS RESPONSIBILITIES. FAILURE TO DO SO SHALL NOT RELEASE THE CONTRACTOR FROM DOING THE WORK IN COMPLETE ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS.

6. THE CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, FEES, CHARGES, AND INCIDENTAL COSTS NECESSARY FOR EXECUTION AND COMPLETION OF ELECTRICAL WORK, INCLUDING ALL CHARGES BY STATE, COUNTY AND LOCAL GOVERNMENTAL AGENCIES.

7. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES AT THE SITE. ANY COSTS TO INSTALL WORK TO ACCOMPLISH SAID COORDINATION WHICH DIFFERS FROM THE WORK AS SHOWN ON THE DRAWINGS SHALL BE INCURRED BY THE CONTRACTOR. ANY DISCREPANCIES, AMBIGUITIES OR CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT DURING BID TIME FOR CLARIFICATION. ANY SUCH CONFLICTS NOT CLARIFIED PRIOR TO BID SHALL BE SUBJECT TO THE INTERPRETATION OF THE ARCHITECT AT NO ADDITIONAL COST TO THE OWNER.

8. THE CONTRACTOR SHALL PROVIDE AND KEEP UP-TO-DATE A COMPLETE RECORD SET OF DRAWINGS. THESE PRINTS SHALL BE CORRECTED DAILY AND SHOW EVERY CHANGE FROM THE ORIGINAL DRAWINGS. THIS SET OF DRAWINGS SHALL BE KEPT ON THE JOB SITE AND SHALL BE USED ONLY AS A RECORD SET. THIS SHALL NOT BE CONSTRUED AS AUTHORIZATION FOR THE CONTRACTOR TO MAKE CHANGES IN THE LAYOUT WITHOUT DEFINITE INSTRUCTION IN EACH CASE. UPON COMPLETION OF THE WORK, A SET OF REPRODUCIBLE CONTRACT DRAWINGS SHALL BE OBTAINED FROM THE ARCHITECT, AND ALL CHANGES AS NOTED ON THE RECORD SET OF DRAWINGS SHALL BE INCORPORATED THEREON WITH BLACK INK IN A NEAT, LEGIBLE, UNDERSTANDABLE AND PROFESSIONAL MANNER. FAILURE TO KEEP RECORD DRAWINGS UP-TO-DATE SHALL CONSTITUTE CAUSE FOR WITHHOLDING OF PROGRESS PAYMENTS.

GENERAL NOTES

9. IN SOME INSTANCES, IT MAY BE NECESSARY TO DEFER WORK IN CERTAIN AREAS AND LOCATIONS UNTIL SUCH TIME AS EXISTING FACILITIES CAN BE TEMPORARILY OR PERMANENTLY REARRANGED BY THE OWNER. THEREFORE, WHENEVER IT BECOMES NECESSARY FOR THE CONTRACTOR TO PERFORM WORK UNDER THIS CONTRACT IN EXISTING AREAS IN WHICH THE OWNER'S WORK IS BEING PERFORMED, THE CONTRACTOR SHALL ADVISE THE ARCHITECT AND THE OWNER RELATIVE TO THIS REQUIREMENT AND SHALL FOLLOW CLOSELY THE DIRECTIVE ISSUED BY THE ARCHITECT INSOFAR AS TIME AND PROCEDURE ARE CONCERNED. THE CONTRACTOR SHALL INCLUDE IN HIS BID ALL PREMIUM TIME TO WHICH HE MAY BE SUBJECTED FOR PERFORMING WORK IN SUCH PROCEDURE AND AT SUCH TIMES AS MAY BE NECESSARY TO CAUSE THE LEAST INTERFERENCE WITH THE OPERATIONS OF THE OWNER.

10. ALL INTERRUPTION OF ELECTRICAL POWER SHALL BE KEPT TO A MINIMUM. HOWEVER, WHEN AN INTERRUPTION IS NECESSARY, THE SHUTDOWN MUST BE COORDINATED WITH THE OWNER AND ENGINEER 14 DAYS PRIOR TO THE OUTAGE. ANY OVERTIME PAY SHALL BE INCLUDED IN THE CONTRACTOR'S BID. WORK IN EXISTING SWITCHBOARDS OR PANELBOARDS SHALL BE COORDINATED WITH THE OWNER PRIOR TO REMOVING ACCESS PANELS OR DOORS.

11. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE TEMPORARY POWER FACILITIES AND CONNECTIONS FOR ALL FEEDERS OR SYSTEMS BEING DISCONNECTED IN ORDER TO MAINTAIN SYSTEMS IN OPERATION OR WHERE SAID FEEDERS OR SYSTEMS REQUIRE EMERGENCY STANDBY POWER.

12. SHOP DRAWINGS SHALL BE SUBMITTED WITHIN THIRTY DAYS AFTER AWARD OF THE CONTRACT. THE CONTRACTOR SHALL SUBMIT EIGHT COPIES OF A COMPLETE LIST OF MATERIALS AND EQUIPMENT INCLUDING MANUFACTURER AND MODEL NUMBER PROPOSED FOR THE JOB. SHOP DRAWINGS SHALL INCLUDE JOB DESCRIPTION, ARCHITECT AND ENGINEER IDENTIFICATION, AND ALL DATA WITH CAPACITIES, SIZES, DIMENSIONS, CATALOG NUMBERS, AND MANUFACTURER'S BROCHURES. SHOP DRAWINGS SHALL BE SUBMITTED FOR ITEMS LISTED IN SPECIFICATIONS. PARTIAL, INCOMPLETE, OR UNBOUND SUBMITTALS WILL BE RETURNED WITHOUT REVIEW. CONTRACTOR SHALL SUBMIT A SCHEDULE OF ALL SHOP DRAWINGS AND SUBMITTALS WHICH ARE TO BE REVIEWED WITHIN 15 DAYS OF CONTRACT AWARD.

13. AFTER ALL REQUIREMENTS OF THE SPECIFICATIONS AND/OR THE DRAWINGS HAVE BEEN FULLY COMPLETED, REPRESENTATIVES OF THE OWNER AND THE BUILDING AUTHORITY WILL INSPECT THE WORK. THE CONTRACTOR SHALL PROVIDE COMPETENT PERSONNEL TO DEMONSTRATE THE OPERATION OF ANY ITEM OR SYSTEM TO THE FULL SATISFACTION OF EACH REPRESENTATIVE. FINAL ACCEPTANCE OF THE WORK WILL BE MADE BY THE OWNER AFTER RECEIPT OF APPROVAL AND RECOMMENDATION OF ACCEPTANCE FROM EACH REPRESENTATIVE.

14. THE CONTRACTOR SHALL FURNISH A ONE YEAR WRITTEN GUARANTEE OF MATERIALS AND WORKMANSHIP FROM THE DATE OF SUBSTANTIAL COMPLETION.

15. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW AND TO COORDINATE WITH THE MECHANICAL, FIRE PROTECTION AND PLUMBING DRAWINGS FOR DUCTS, LINES AND EQUIPMENT.

16. ALL EQUIPMENT MOUNTED ON ROOF FOR CONNECTION OF HVAC EQUIPMENT SHALL BE MOUNTED ON UNISTRUT STANDS UTILIZING APPROVED PITCH POCKETS, FLASHING, ETC.

17. ALL FINAL CONNECTIONS TO OWNER FURNISHED EQUIPMENT SHALL BE MADE BY THE CONTRACTOR.

18. COORDINATE WITH OTHER TRADES AS TO THE EXACT LOCATION OF THEIR RESPECTIVE EQUIPMENT. SUPPLY POWER AND MAKE CONNECTION TO MOTORS AND EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS AS INDICATED ON THE SINGLE LINE DIAGRAM, ELECTRICAL DRAWINGS, AND DRAWINGS OF OTHER TRADES. REVIEW THE DRAWINGS OF OTHER TRADES FOR CONTROL DIAGRAMS, SIZE AND LOCATION OF EQUIPMENT. DISCONNECT SWITCHES, STARTERS, WIRING, CONTROLS, AND CONDUIT FOR MECHANICAL AND PLUMBING OPERATIONS SHALL BE PROVIDED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING MANUFACTURER'S SHOP DRAWINGS PRIOR TO ROUGHING IN ALL CONDUIT TO THIS EQUIPMENT.

19. EXACT METHOD AND LOCATION OF CONDUIT PENETRATION AND OPENINGS IN CONCRETE WALLS OR FLOORS OR STRUCTURAL STEEL MEMBERS SHALL BE AS DIRECTED BY THE STRUCTURAL ENGINEER. PERFORM CORING, SAWCUTTING, PATCHING, AND REFINISHING OF EXISTING WALLS AND SURFACES WHEREVER IT IS NECESSARY TO PENETRATE. OPENINGS SHALL BE SEALED IN AN APPROVED METHOD TO MEET THE FIRE RATING OF THE PARTICULAR WALL, FLOOR OR CEILING. EXACT METHOD AND LOCATIONS OF CONDUIT PENETRATIONS AND OPENINGS IN CONCRETE WALLS OR FLOORS SHALL BE UL APPROVED.

20. CONNECTIONS TO VIBRATING EQUIPMENT AND SEISMIC SEPARATIONS:

    LIQUID-TIGHT FLEXIBLE STEEL CONDUIT IN DRY INTERIORLOCATIONS.
    LIQUID-TIGHT FLEXIBLE STEEL CONDUIT IN AREAS EXPOSED TO WEATHER, DAMP LOCATIONS, CONNECTIONS TO TRANSFORMER ENCLOSURES, AND FINAL CONNECTIONS TO MOTORS.

    PROVIDE A SEPARATE INSULATED EQUIPMENT GROUNDING CONDUCTOR IN FLEXIBLE CONDUIT RUNS. MAXIMUM LENGTH SHALL BE SIX FEET UNLESS OTHERWISE NOTED.

21. EQUIPMENT OUTLETS, CONDUIT, WIRE, AND CONNECTION METHODS IN HVAC AIR-PLENUMS SHALL BE APPROVED FOR USE IN PLENUMS AND SHALL CONFORM TO THE CEC.

22. ROUTE EXPOSED CONDUIT AND CONDUIT ABOVE ACCESSIBLE CEILING SPACES PARALLEL AND PERPENDICULAR TO WALLS AND ADJACENT PIPING. ARRANGE CONDUIT TO MAINTAIN HEADROOM AND TO PRESENT A NEAT APPEARANCE.

23. CONDUIT SHALL NOT BE INSTALLED IN ANY FLOOR SLAB. CONDUIT SHALL BE INSTALLED CONCEALED IN THE CEILING SPACE, CONCEALED IN WALLS, OR BELOW SLAB ON GRADE UNLESS NOTED OTHERWISE.

24. ATTENTION IS CALLED TO THE FACT THAT THE CEILING SYSTEMS FOR THE MOST PART ARE CONSIDERED TO BE INACCESSIBLE. THE CONTRACTOR SHALL STRATEGICALLY LOCATE BOXES, ETC., IN AN ACCESSIBLE CEILING SPACE.

25. COORDINATE REQUIRED ACCESS DOORS IN NON-ACCESSIBLE CEILINGS TO SUIT FIELD CONDITIONS. THE EXACT SIZES AND PHYSICAL LOCATIONS SHALL SUIT ACCESSIBILITY AND CONSTRUCTION CONDITIONS. ACCESS DOORS SHALL BE PROVIDED IN OTHER SECTIONS OF THE SPECIFICATIONS. ACCESS DOORS SHALL HAVE A FIRE RATING EQUAL TO THE CEILING ASSEMBLY IN WHICH THEY ARE INSTALLED.

27. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAWCUTTING, TRENCHING, BACKFILLING, COMPACTION AND PATCHING OF CONCRETE AND ASPHALT AS REQUIRED TO PERFORM HIS WORK. ATTENTION IS CALLED TO THE FACT THAT THERE ARE EXISTING UNDERGROUND UTILITY LINES. THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN TRENCHING FOR HIS WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER AND APPROVED REPAIR OF ANY AND ALL DAMAGES CAUSED BY HIM OR HIS WORK

26. WHENEVER A DISCREPANCY IN QUANTITY OR SIZE OF CONDUIT, WIRE, EQUIPMENT DEVICES, CIRCUIT BREAKERS, GROUND FAULT PROTECTION SYSTEMS, ETC. (ALL MATERIALS), ARISES ON THE DRAWINGS OR SPECIFICATIONS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL MATERIAL AND SERVICES REQUIRED BY THE STRICTEST CONDITIONS NOTED ON THE DRAWINGS OR IN THE SPECIFICATIONS TO ENSURE COMPLETE AND OPERABLE SYSTEMS AS REQUIRED BY THE OWNER AND ARCHITECT/ENGINEER.

35. REFER TO SINGLE LINE DIAGRAM AND FEEDER SCHEDULES FOR EXISTING CEILING FIXTURES REMOVED TO ACCOMPLISH THE WORK SHALL BE REINSTALLED AS FOR NEW WORK.

27. STRAIGHT FEEDER, BRANCH CIRCUIT, AND CONDUIT RUNS SHALL BE PROVIDED WITH SUFFICIENT PULL BOXES OR JUNCTION BOXES TO LIMIT THE MAXIMUM LENGTH OF ANY SINGLE CABLE PULL TO 100 FEET. PULL BOXES SHALL BE SIZED PER CODE OR AS INDICATED ON DRAWINGS. LOCATIONS SHALL BE DETERMINED IN THE FIELD OR AS INDICATED ON THE DRAWINGS.

28. MAXIMUM NUMBER OF CONDUCTORS IN OUTLET OR JUNCTION BOXES SHALL CONFORM TO THE CALIFORNIA ELECTRICAL CODE, ARTICLE 370-6, BUT IN NO CASE SHALL CONTAIN MORE THAN THE FOLLOWING NUMBER OF #12 AWG CONDUCTORS FOR THE SIZE OF BOX INDICATED. THE MINIMUM SIZE OUTLET OR JUNCTION BOX PERMITTED IN A WALL IS FOUR INCHES SQUARE BY 1-1/2 INCHES DEEP.

    SQ. BY 1-1/2" D = 9 CONDUCTORS
    SQ. BY 2-1/8" D = 13 CONDUCTORS
    SQ. BY 1-1/2" D = 11 CONDUCTORS
    SQ. BY 2-1/8" D = 18 CONDUCTORS

29. WHERE MULTI-HOMERUNS ARE INDICATED ON DRAWINGS ALL OUTLET BOXES CONTAINING MORE THAN ONE DEVICE SHALL BE GANGED. TWO DEVICES DOUBLE GANGED, MINIMUM.

30. IDENTIFICATION NAMEPLATES SHALL BE MICARTA 1/8 INCH THICK AND OF APPROVED SIZE WITH BEVELLED EDGES AND ENGRAVED WHITE LETTERS A MINIMUM OF 1/4 INCH HIGH ON BLACK BACKGROUND. NAMEPLATES SHALL BE PROVIDED FOR ALL CIRCUITS IN THE SERVICE DISTRIBUTION AND POWER DISTRIBUTION SWITCHBOARDS OR PANELBOARDS, MOTOR CONTROL CENTERS, LIGHTING DISTRIBUTION PANELBOARDS, SEPARATELY MOUNTED STARTING SWITCHES, DISCONNECTING SWITCHES, MOTOR CONTROL PUSHBUTTON STATIONS, SELECTOR SWITCHES, TRANSFORMERS, TERMINAL CABINETS, TELEPHONE CABINETS, ETC. ALL NAMEPLATES SHALL BE ATTACHED WITH SCREWS. PULL BOXES, JUNCTION BOXES, AND DEVICE BOXES SHALL BE MARKED WITH A PERMANENT MARKER.

31. THE EXACT LOCATION OF ALL ELECTRICAL DEVICES AND EQUIPMENT SHALL BE COORDINATED WITH THE ARCHITECTURAL ELEVATIONS, DETAILS, OR SECTIONS PRIOR TO INSTALLATION. ALL ELECTRICAL DEVICES AND EQUIPMENT SHALL BE RECESSED IN WALLS UNLESS OTHERWISE NOTED. OUTLETS NOT INDICATED ON ARCHITECTURAL ELEVATIONS SHALL BE COORDINATED WITH THE ARCHITECT PRIOR TO ROUGH-IN. UNLESS OTHERWISE NOTED, MOUNT ELECTRICAL DEVICES AT THE FOLLOWING HEIGHTS:

WALL SWITCH	+4'-0"	SET VERTICALLY
CONVENIENCE RECEPTACLE	+1'-6"	SET VERTICALLY
TELEPHONE/DATA OUTLETS	+1'-6"	SET VERTICALLY.
OUTLETS AT COUNTERS	+6"	ABOVE COUNTERS WITHOUT SPLASHES OR CENTERED IN SPLASH SET HORIZONTALLY

    REVIEW ARCHITECTURAL ELEVATIONS OF CASEWORK. OUTLETS MOUNTED ABOVE OR BELOW, OR ADJACENT TO CASEWORK SHALL BE COORDINATED WITH THE ARCHITECTURAL DRAWINGS, PRIOR TO FINAL ROUGH-IN. ELECTRICAL DRAWINGS SHALL GOVERN NUMBER AND TYPE OF OUTLETS. HOWEVER, LOCATIONS SHALL BE AS INDICATED ON RCHITECTURAL ELEVATIONS. PROVIDE CONDUIT, WIRES, AND OUTLETS FOR WORK REQUIRED IN CASEWORK INSTALLATIONS. REFERENCE ARCHITECTURAL DETAILS FOR METHOD OF ROUTING CONDUIT WITHIN CASEWORK CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CUT-OUTS IN TILE OR COUNTER SPLASHES WHERE RECEPTACLES, OUTLETS, ETC., OCCUR. PROVIDE BOX EXTENSIONS THROUGH ALL CASEWORK. FINISH FLUSH WITH FACE OF SPLASH, CABINET, ETC.

    MOUNTING HEIGHTS OF ALL DEVICES AND EQUIPMENT ARE FROM FINISHED FLOOR TO CENTER OF DEVICES AND EQUIPMENT UNLESS OTHERWISE NOTED. BOXES INSTALLED IN LOCATIONS NOT APPROVED BY THE ARCHITECT SHALL BE RELOCATED AS DIRECTED BY THE ARCHITECT AT NO ADDITIONAL COST TO THE OWNER.

32. DRAWINGS ARE DIAGRAMMATIC ONLY. ROUTING OF RACEWAYS SHALL BE AT THE OPTION OF THE CONTRACTOR UNLESS OTHERWISE NOTED AND SHALL BE COORDINATED WITH OTHER SECTIONS. DO NOT SCALE THE ELECTRICAL DRAWINGS FOR LOCATIONS OF ANY ELECTRICAL, ARCHITECTURAL, STRUCTURAL, CIVIL, OR MECHANICAL ITEMS OR FEATURES.

33. THE EQUIPMENT GROUNDING CONDUCTOR SHOWN ON CONDUIT RUNS SHALL RUN CONTINUOUS FROM PANEL TO LAST OUTLET. THIS WIRE SHALL BE PIGTAILED IN EACH OUTLET FOR CONNECTION TO BOX AND DEVICE SO THAT IF DEVICE IS REMOVED, GROUND WILL NOT BE INTERRUPTED. ALL EQUIPMENT GROUNDING CONDUCTORS SHALL BE INSULATED GREEN CONDUCTORS – ALTERNATE METHODS OF IDENTIFICATION SHALL NOT BE USED. CONTRACTOR SHALL NOTIFY ELECTRICAL ENGINEER TO EXAMINE CONDUCTOR INSTALLATION PRIOR TO INSTALLATION OF DEVICES.

34. REFERENCE ARCHITECTURE AND STRUCTURAL DRAWINGS FOR HOUSEKEEPING PADS.

35. FURNISH AND INSTALL POWER DISTRIBUTION PANELBOARDS AS INDICATED ON THE DRAWINGS. PANELBOARDS SHALL COMPLY WITH NEMA STANDARD FOR PANELBOARDS AND FEDERAL SPECIFICATION W-P- 115A. PANELBOARDS SHALL BE COMPLETE WITH COPPER BUS BARS AND 40 DEGREE CELSIUS THERMAL MAGNETIC BOLT-ON TYPE CIRCUIT BREAKERS AS INDICATED ON DRAWINGS. PANELBOARDS SHALL BE SQUARE D OR EQUAL BY SIEMENS, ITE, WESTINGHOUSE, OR GENERAL ELECTRIC.

36. DEVICE PLATES SHALL BE NYLON FOR THE NUMBER OF GANGS AND TYPE OF OPENINGS NECESSARY, HUBBELL OR EQUAL BY PASS & SEYMOUR OR GENERAL ELECTRIC.

37. RIGID GALVANIZED STEEL CONDUIT SHALL BE FULL WEIGHT TREADED TYPE ALUMINUM OR STEEL. ELECTRICAL METALLIC TUBING (EMT) MAY BE USED IN WALLS OR CEILING SPACES WHERE NOT SUBJECT TO MECHANICAL DAMAGE. PVC SCHEDULE 40 MAY BE INSTALLED BENEATH SLAB OR BELOW GRADE. FLEXIBLE STEEL CONDUIT MAY BE USED AT FIXTURE AND OUTLET CONNECTIONS WITH NO RUNS LONGER THAN SIX FEET. AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE PROVIDED IN ALL CONDUIT RUNS.

38. RIGID GALVANIZED STEEL CONDUIT FITTINGS SHALL BE THREADED AND THOROUGHLY GALVANIZED. ELECTRICAL METALLIC TUBING (EMT) CONDUIT FITTINGS SHALL BE STEEL, RAINTIGHT THREADLESS COMPRESSION TYPE. DIE CAST, SET SCREW, OR INDENTER TYPES ARE NOT ACCEPTABLE. FLEXIBLE STEEL CONDUIT FITTINGS SHALL BE MALLEABLE IRON CLAMP, SQUEEZE TYPE OR STEEL TWIST-IN TYPE WITH INSULATED THROAT. SET SCREW TYPE IS NOT ACCEPTABLE.

39. FOR SMALL AC MOTORS NOT HAVING BUILT-IN THERMAL OVERLOAD PROTECTION, PROVIDE MANUAL MOTOR STARTERS WITH OVERLOAD HEATER ELEMENTS SIZED TO THE NAMEPLATE CURRENT RATING OF THE MOTOR. SMALL AC MOTORS WITH BUILT-IN THERMAL OVERLOAD PROTECTION, PROVIDE A HORSEPOWER RATED TOGGLE TYPE DISCONNECT SWITCH.

40. SAFETY SWITCHES SHALL BE HEAVY DUTY NEMA TYPE HD BY SQUARE D, SIEMENS, GENERAL ELECTRIC OR WESTINGHOUSE. SWITCHES SHALL BE RATED FOR THE NUMBER OF POLES, VOLTAGE, CURRENT AND HORSEPOWER RATING AS REQUIRED. PROVIDE FUSE PROTECTION BASED ON THE MOTOR NAMEPLATE RATINGS.

41. ALL CONDUCTORS SHALL BE COPPER #12 AWG MINIMUM SIZE, TYPE THHN/THWN THERMOPLASTIC, 600 VOLT, 75 DEGREES CELSIUS WET AND 90 DEGREES CELSIUS DRY AND UL LISTED UNLESS NOTED OTHERWISE. CONDUCTORS #12 AWG AND SMALLER SHALL BE SOLID. CONDUCTORS # 10 AWG AND LARGER SHALL BE STRANDED.

42. JUNCTION AND PULL BOXES: FOR INTERIOR DRY LOCATIONS, BOXES SHALL BE GALVANIZED ONE-PIECE, DRAWN STEEL, KNOCKOUT TYPE WITH REMOVABLE MACHINE SCREW SECURED COVERS. FOR OUTSIDE, DAMP, OR SURFACE LOCATIONS, BOXES SHALL BE HEAVY CAST ALUMINUM OR CAST IRON WITH REMOVABLE, GASKETED, NON-FERROUS MACHINE SCREW SECURED COVERS. BOXES SHALL BE SIZED FOR THE NUMBER AND SIZES OF CONDUCTORS AND CONDUIT ENTERING THE BOX AND EQUIPPED WITH PLASTER EXTENSION RINGS WHERE REQUIRED. BOXES SHALL BE LABELED TO INDICATE PANEL AND CIRCUIT NUMBER, OR TYPE OF SIGNAL OR COMMUNICATIONS SYSTEM.

43. WHERE CONDUIT ENTERS PANEL, PROVIDE GROUNDING CONDUCTOR BONDING CONDUIT GROUNDING BUSHING TO PANEL GROUND.

44. COORDINATE WITH ARCHITECTURAL WALL FINISHES FOR TACKABLE WALL COVER LOCATIONS AND PROVIDE EXTENSION RINGS AS REQUIRED SO THAT FACE OF PLATE IS FLUSH WITH OUTLET BOX.

45. UTILITY PENETRATIONS OF ANY KIND IN FIRE AND SMOKE PARTITIONS AND CEILING ASSEMBLIES, SHALL BE FIRESTOPPED AND SEALED WITH AN APPROVED MATERIAL SECURELY INSTALLED.

    STEEL ELECTRICAL OUTLET BOXES WHICH DO NOT EXCEED 16 SQUARE INCHES IN AREA, NEED NOT BE PROTECTED IN ONE HOUR OR TWO HOUR FIRE RATED WALLS, PARTITIONS, CEILINGS, OR AREA SEPARATION UNLESS THEY:

    OCCUR ON OPPOSITE SIDES OF THE WALL WITHIN 24 INCH HORIZONTAL DISTANCE OF ONE ANOTHER. IN THIS CASE, ONLY ONE OUTLET BOX NEED TO PROTECTED BY AN APPROVED FIRESTOP MATERIAL OR DETAIL TO CORRECT THIS CONDITION.

    OCCUR IN COMBINATION WITH OUTLET BOXES OF ANY SIZE SUCH THAT THE AGGREGATE AREA OF UNPROTECTED OUTLET BOXES EXCEEDS 100 SQUARE INCHES IN ANY 100 SQUARE FEET OF WALL AREA. IN THIS CASE, ONLY A SUFFICIENT NUMBER OF OUTLET BOXES NEED BE PROTECTED BY AN APPROVED MATERIAL OR DETAIL TO DECREASE THE AGGREGATE AREA OF UNPROTECTED UTILITY BOXES TO LESS THAN 100 SQUARE INCHES IN ANY 100 SQUARE FEET OF WALL.

    STEEL ELECTRICAL OUTLET BOXES WHICH EXCEED 16 SQUARE INCHES IN AREA, AND ALL OTHER STEEL UTILITY OUTLET BOXES REGARDLESS OF SIZE, SHALL BE PROTECTED BY AN APPROVED FIRESTOP MATERIAL AS LISTED OR EQUAL.

    FIRESTOPPING MATERIAL: MPP-1 MOLDABLE PUTTY PADS
    3M CONTRACTOR PRODUCTS
    MINNEAPOLIS, MN
    3M TEST REPORT NO. 1167
    DATED AUGUST 21, 1987

    FSP FIRESTOP PUTTY PADS
    HEVI-DUTY NELSON PRODUCTS
    TULSA, OK

    FLAMESAFE FSP 1077 FIRESTOP PADS
    INTERNATIONAL PROTECTIVE
    COATINGS
    OAKHURST, NJ

    STEEL UTILITY BOXES WHICH EXCEED 100 SQUARE INCHES IN AREA SHALL BE PROTECTED BY ENCASEMENT.

    UTILITY AND ELECTRICAL OUTLETS OR BOXES SHALL BE SECURELY FASTENED TO THE STUD OF FRAMING OF THE WALL, PARTITION OR CEILING ASSEMBLY. THE OPENING IN THE GYPSUM BOARD FACING SHALL BE CUT SO THAT THE CLEARANCE BETWEEN THE BOX AND THE GYPSUM BOARD DOES NOT EXCEED 1/8 INCH. IN SMOKE WALLS OR PARTITIONS, THE 1/8 INCH CLEARANCE SHALL BE FILLED WITH AN APPROVED FIRE-RATED SEALANT.

EQUIPMENT ANCHORAGE NOTE

ALL MECHANICAL AND ELECTRICAL EQUIPMENT SHALL BE ANCHORED OR BRACED TO MEET THE HORIZONTAL AND VERTICAL FORCES PRESCRIBED IN THE 2007 CBC, SECTION 1614A. 13 AND ASCE 7-05 SECTION 13.3, 13.4, 13.6 AND CHAPTER 6.

THE ATTACHMENT OF THE FOLLOWING ITEMS SHALL BE DESIGNED TO RESIST THE FORCES PRESCRIBED ABOVE, BUT NEED NOT BE DETAILED ON THE PLANS.

A. EQUIPMENT WEIGHING LASS THAN 400 POUNDS SUPPORTED DIRECTLY ON THE FLOOR OR ROOF.
B. FURNITURE REQUIRED TO BE ATTACHED IN ACCORDANCE WITH PART 2, TITLE 24, C.C.R.
C. TEMPORARY OR MOVABLE EQUIPMENT .
D. EQUIPMENT WEIGHING LESS THAN 20 POUNDS SUPPORTED BY VIBRATION ISOLATORS.
E. EQUIPMENT WEIGHING LESS THAN 20 POUNDS SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

FOR THOSE ELEMENTS THAT DO NOT REQUIRE DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE MECHANICAL/ELECTRICAL ENGINEER AND THE FIELD REPRESENTATIVE OF THE DIVISION OF THE STATE ARCHITECT.

PIPING . DUCTWORK AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

PIPING, DUCTWORK AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO RESIST THE FORCES PRESCRIBED IN ASCE 7-05 SECTION 13.3 AS DEFINED IN ASCE 7-05 SECTION 13.6.8, 13.6.7, 13.6.5.5 ITEM 6 RESPECTIVELY.

THE BRACING AND ATTACHMENTS TO THE STRUCTURED SHALL COMPLY WITH ONE OF THE OSHPD PRE-APPROVALS WITH AN OPA#, SUCH AS MASON INDUSTRIES (OPA 349) OR ISAT (OPA 485) AS MODIFIED TO SATISFY ANCHORAGE REQUIREMENTS OF ACI 318. APPENDIX D.

COPIES OF THE MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF HANGING AND BRACING OF THE PIPE, DUCTWORK AND ELECTRICAL DISTRIBUTION SYSTEMS.

THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

SHEET INDEX

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OAK PARK UNIFIED SCHOOL DISTRICT
BROOKSIDE ELEMENTARY SCHOOL MODERNIZATION

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PROJECT NO.: 234800 DATE: 09-02-09

GENERAL NOTES & SHEET INDEX

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