

CIBARIA INTERNATIONAL

11109 JASMINE ST.
FONTANA, CA. 92337

BUILDING PERMITS ARE NOT VALID FOR "OFF-SITE" IMPROVEMENTS SEPARATE CONSTRUCTION PERMITS ARE REQUIRED FROM THE PUBLIC WORKS DEPARTMENT.

THE ISSUANCE OR GRANTING OF A PERMIT BASED ON THE APPROVAL OF THESE PLANS SHALL NOT BE CONSTRUED TO PERMIT OR APPROVE ANY VIOLATION OF THE APPLICABLE CODES OR ORDINANCES. NO PERMIT PRESUMED TO GIVE AUTHORITY TO VIOLATE OR CANCEL THE PROVISIONS OF SUCH CODES SHALL BE VALID.

REVIEWED BY
[Signature]

OCCUPANCY CHART				
OFFICE=100 RECEPT=15 OPEN=100 CLASS=20 WAREHOUSE=500 COMM=40				
No.	ROOM NAME	SQ. FT.	FACTOR	OCC. LOAD
100	RECEIPT	240	15	14
101	BREAK	167	ACCESSORY	0
102	WORK ROOM	144	100	1
103	MEN'S RESTROOM	52	ACCESSORY	0
104	WOMEN'S RESTROOM	51	ACCESSORY	0
105	OFFICE	260	100	3
106	JANITOR	39	ACCESSORY	0
107	MEN'S RESTROOM	54	ACCESSORY	0
108	DRESSING ROOM	56	ACCESSORY	0
109	HALLWAY	124	ACCESSORY	0
TOTAL		1257		23
200	OPEN OFFICE	718	100	7
201	OFFICE	290	100	3
202	OFFICE	146	100	1
203	OFFICE	154	100	2
TOTAL		1508		13
TOTAL OFFICE AREA		2565		36

OCCUPANCY CHART

BUILDING DEPARTMENT: CITY OF FONTANA
APPLICABLE CODES: 2001 CALIFORNIA BUILDING CODE
2001 C.B.C. (1997 U.B.C.)
2001 C.P.C. (2000 U.P.C.)
2001 C.M.C. (2000 U.M.C.)
2004 C.E.C. (2002 N.E.C.)
2005 ENERGY STANDARDS

BUILDING STORIES: TWO
FLOOR NO. OF AREA OF WORK: 33'-0" V.A. SPRINKLERED
CONSTRUCTION TYPE: 33'-0" V.A. SPRINKLERED
BUILDING HEIGHT: 33'-0" V.A. SPRINKLERED
OCCUPANCY: 33'-0" V.A. SPRINKLERED
BUILDING SPRINKLERED: YES
AREA OF WORK SPRINKLERED: YES

SPRINKLER PLANS SHALL BE SUBMITTED AND APPROVED BY SAN BERNARDINO COUNTY FIRE DEPARTMENT

TOTAL AREA OF WORK: 2565 S.F.

OWNER: KATHY GRISET
TENANT: CIBARIA INTERNATIONAL

TYPE OF BUSINESS: GENERAL OFFICES

SITE INFORMATION

- These notes shall apply unless otherwise noted on plans
- All work shall be in accordance with the latest edition of the California Building Code, and/or local building codes.
 - Design soil bearing is 1000 p.s.f. per table 18-1-A of the C.B.C.
 - All footings shall have a depth below undisturbed ground surface or approved compacted fill of 18" min. for two story and 12" min. for one story.
 - Concrete shall be 2500 p.s.i. at 28 days.
 - Rebar shall be deformed A.S.T.M. A615 grade 40. Splice bars with 25 diameters minimum lap in concrete, and 50 diameters minimum lap in masonry.
 - Concrete block shall be lightweight units conforming to A.S.T.M. Grade 90, special inspection not required, f' = 1500 C.N.O.
 - Mortar mix shall be type "S" per table 21-A U.B.C. or 1 cement, 1/2" lime, 3 1/2 sand by volume.
 - Grout mix shall be by volume 1 cement, 3 sand, and 2 3/8" pea gravel with sufficient water added to produce consistency for pouring without segregation.
 - Lumber shall be grade stamped by an approved agency, W.W.P.A., N.C.L.B., or equal. Unless noted, lumber shall be as follows:
 - 2x4 studs: Stud grade D.F.-L. or #3 D.F.-L.
 - 2x6 studs: Stud grade D.F.-L. or #3 D.F.-L.
 - 2x wall plates: Const. grade D.F.-L. or #2 D.F.-L.
 - 2x rafters and joists: #2 D.F.-L.
 - 4x beams: #2 D.F.-L.
 - 6x posts: Const. grade D.F.-L. or #2 D.F.-L.
 - 6x posts: #1 D.F.-L.
 - Wood plates on slab shall be pressure treated D.F.-L. or Foundation Grade Redwood.
 - Plumwood shall be grade stamped by the A.P.A. or equal in conformance with U.S. Product Standard PS-1-B3, and shall be Structural I, Exposure I.
 - Miscellaneous steel shall conform to A.S.T.M. specification for minimum yield strength of 36,000 p.s.i.
 - All welding shall be done by a certified welder in an approved shop, or in the field with special inspection, unless approved otherwise by Building Official.
 - Hole for bolts in wood shall be bolt diameter + 1/16" max. Holes for bolts in steel shall be bolt diameter + 1/16" max.
 - Metal framing connectors for wood connections shall be Simpson Strong-Tie.
 - Anchor bolts, rebar, post bases, holdowns, etc. shall be accurately located and tied in place prior to pouring of concrete.
 - Nailing of wood members shall be in accordance with Table 23-II-B-1 of the 2001 C.B.C.
 - Bolts shall be A.S.T.M. grade A-307.
 - All framing shall be in accordance with Sect. 2317 - 2326 of the 2001 C.B.C.
 - Plumbing, electrical, and mechanical designs shall be in accordance with the applicable codes.
 - Contractor shall verify all dimensions and conditions as shown on plans. Engineer or Designer shall be notified of any discrepancies.

GENERAL NOTES

I. GENERAL

- ALL WORK SHALL COMPLY WITH THE FOLLOWING:
 - 2001 EDITION OF THE CALIFORNIA BUILDING CODE AND LATEST AMENDMENTS.
 - CALIFORNIA ADMINISTRATIVE CODE TITLES 6, 14 AND 24
 - CITY OF FONTANA
- DO NOT SCALE DRAWINGS. CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AT THE JOB SITE PRIOR TO BIDDING AND START OF CONSTRUCTION. IF DISCREPANCIES ARE FOUND, NOTIFY DESIGNER IMMEDIATELY FOR CLARIFICATIONS.
- SUBSTITUTIONS FOR SPECIFIED MATERIALS REQUIRE THE APPROVAL OF BONALDO DESIGN GROUP.
- BONALDO DESIGN GROUP SHALL BE NOTIFIED IMMEDIATELY OF THE UNAVAILABILITY OF SPECIFIED MATERIALS OR EQUIPMENT WHICH WILL DELAY THE SCHEDULED CONSTRUCTION COMPLETION DATE.
- ALL CONTRACTORS SHALL MAINTAIN THE PREMISES CLEAN AND FREE FROM ALL TRASH AND DEBRIS. THE FIXTURES, EQUIPMENT, GLAZING, FLOORS, ETC. SHALL BE LEFT CLEAN AND READY FOR EITHER THE NEXT TRADE OR OCCUPANCY.
- ANY WORK INSTALLED IN CONFLICT WITH THE CONSTRUCTION DRAWINGS, WITHOUT THE PRIOR APPROVAL OF BONALDO ENGINEERING OR THE OWNER, SHALL BE CORRECTED BY THE CONTRACTOR AT HIS EXPENSE.
- LIGHT, VENTILATION AND SANITATION SHALL COMPLY WITH SECTION 1202 OF THE 2001 CALIFORNIA BUILDING CODE.
- THE TITLE-24 ACCESS REGULATIONS AND THE TITLE-24 ENERGY CONSERVATION STANDARDS FOR NONRESIDENTIAL BUILDINGS HAVE BEEN REVIEWED AND THE DESIGN, DRAWINGS AND CALCULATIONS SUBMITTED CONFORM SUBSTANTIALLY WITH THOSE REGULATIONS. THE BUILDING COMPLES WITH TITLE-24 AND A.D.A. HANDICAP REQUIREMENTS ON ENTRANCE PATH OF TRAVEL TO AREAS BEING REMODELED AND RESTROOMS.
- BUSINESS LICENSE REQUIRED FOR ALL SUB CONTRACTORS PRIOR TO PERMIT ISSUANCE.

II. LIFE SAFETY/FIRE

- ALL ALTERATIONS TO THE SAFETY MUST COMPLY WITH CALIFORNIA ADMINISTRATIVE CODE.
- FIRE DEPARTMENT FINAL INSPECTION REQUIRED. SCHEDULE ALL INSPECTIONS 24 HOURS IN ADVANCE.
- KEY TO BE PROVIDED TO INSPECTOR FOR KNOX BOX.
- FLOOR COVERINGS TO COMPLY WITH U.F.C. APPENDIX IV-A.
- PROVIDE 2" MINIMUM RATED FIRE EXTINGUISHERS LOCATED WITH 15 FEET OF TRAVEL DISTANCE FROM ALL AREAS. EXACT LOCATIONS TO BE APPROVED BY LOCAL FIRE DEPARTMENT.
- NO HAZARDOUS MATERIALS, LIQUIDS OR CHEMICALS SHALL BE STORED PR USED WITHIN THE SUBJECT BUILDING AS TO REQUIRE A HAZARDOUS CLASSIFICATION PER THE UNIFORM BUILDING CODE.
- STORAGE OF FLAMMABLE LIQUIDS IS NOT PERMITTED UNLESS APPROVED BY LOCAL FIRE DEPARTMENT AND IN ACCORDANCE WITH THE FIRE CODE.
- ANY FIRE SPRINKLER ALTERATIONS OR FIRE SPRINKLER PLAN SHALL BE ON A SEPARATE PERMIT.
- IF HVAC IS GREATER THAN 2000 CFM COMBINED, SMOKE DETECTORS SHALL BE PROVIDED AT SUPPLY PLENUM.
- PROVIDE SIGN AT EXIT DOORS THAT "DOORS ARE TO REMAIN UNLOCKED DURING BUSINESS HOURS."
- PROVIDE SUITE NO. AT FRONT AND BACK DOORS.
- TENANT TO COMPLETE CONFIDENTIAL BUSINESS OCCUPANCY INFORMATION FORM PRIOR TO FINAL FIRE INSPECTION.
- EMERGENCY EXIT LIGHTS TO BE PER CODE.

THE MEANS OF EGRESS SERVING ANY OCCUPIED PORTION OF THE BUILDING SHALL BE ILLUMINATED TO AN INTENSITY OF NOT LESS THAN (1) ONE FOOT CANDLE AT THE FOOT LEVEL.

IN THE EVENT OF A POWER OUTAGE, AUTOMATIC ILLUMINATION SHALL BE PROVIDED BY A BATTERY BACK-UP SYSTEM. THIS APPLIES REGARDLESS OF OCCUPANT LOAD. CBC, SECTION 1003.2.8.1

THE TO AND WITHIN EXITS IN A BUILDING SHALL BE IDENTIFIED BY EXIT SIGNS CONFORMING TO THE REQUIREMENTS OF SECTION 1003.2.8 LOCATION OF EXIT SIGNS SHALL BE IN ACCORDANCE WITH CBC, SECTION 1003.2.8.2

III. EXITS/ENTRANCES/DOORS

- INSTALL EMERGENCY EXIT SIGN WHERE INDICATED.
 - ALL EXIT DOORS TO HAVE SELF RELEASING HARDWARE AND BE OPENABLE WITHOUT USE OF KEY OR SPECIAL KNOWLEDGE OR EFFORT (1003.3-1.6). MANUALLY OPERATED EDGE OR SURFACE MOUNTED FLUSH BOLTS AND SURFACE BOLTS ARE PROHIBITED. WHEN EXIT DOORS ARE IN PAIRS AND APPROVED AUTOMATIC FLUSH BOLTS ARE USED, THE DOOR LEAF HAVING THE AUTOMATIC FLUSH BOLTS SHALL HAVE NO DOOR KNOB OR SURFACE MOUNTED HARDWARE. THE UNLATCHING OF ANY LEAF SHALL NOT REQUIRE MORE THAN ONE OPERATION.
 - FIRE RATED DOOR AND FRAME ASSEMBLIES SHALL BE LABELED AND EQUIPPED WITH SELF CLOSURES OR SMOKE AND HEAT ACTUATED AUTOMATIC CLOSURES. DOOR HEADS, JAMBS AND SILLS SHALL HAVE CONTINUOUS SEALS, ASTRAGALS OR BAFFLES.
 - GLASS DOORS SHALL HAVE MINIMUM 1/2 INCH THICK FULLY TEMPERED GLASS COMPLYING WITH APPLICABLE CODES.
 - ALL EXTERIOR DOORS SHALL COMPLY WITH SECTION 1003.2.4-14.15 (D) OF THE TITLE 24, PART 6, DIVISION 20, CHAPTER 2, SUBCHAPTER 4, ARTICLE 2 OF THE CALIFORNIA ADMINISTRATIVE CODE.
 - DOOR HEADS, SILLS AND JAMBS MUST HAVE SEALS, ASTRAGALS OR BAFFLES.
 - SWING DOORS MUST BE WEATHER STRIPPED.
 - DOORS MOUNTED BETWEEN THE JAMBS MUST HAVE A CONTINUOUS SEAL OR BAFFLE AT EACH JAMB.
 - HAND ACTIVATED DOOR OPENING HARDWARE TO BE MOUNTED 90" TO 44" A.F.F. AND BE OPENABLE WITH A SINGLE EFFORT BY LEVER TYPE HARDWARE.
 - MAXIMUM EFFORT TO OPERATE DOORS SHALL NOT EXCEED 8.5 POUNDS FOR EXTERIOR DOORS AND 5 POUNDS FOR INTERIOR DOORS.
 - THE BOTTOM 10" OF ALL DOORS (EXCEPT SLIDING AND AUTOMATIC) SHALL HAVE A SMOOTH UNTEXTURED SURFACE.
 - MAXIMUM HEIGHT OF THRESHOLD TO BE 1/2". MAXIMUM VERTICAL CHANGE AT EDGES IS 1/4" WITH A MAXIMUM BEVEL OF 45 DEGREES.
 - THE FLOOR ADJACENT TO A DOORWAY SHALL BE LEVEL AND CLEAR FOR A MINIMUM DEPTH OF 60" IN THE DIRECTION OF THE DOOR SWINGS AND 44" IF SWINGING AWAY. THE FLOOR SHALL EXTEND BEYOND THE STRIKE EDGE 24" FOR EXTERIOR DOORS AND 18" FOR INTERIOR DOORS.
 - ALL PIN-TYPE HINGES WHICH ARE ACCESSIBLE FROM OUTSIDE THE SECURED AREA WHEN THE DOOR IS CLOSED SHALL HAVE NON-REMOVABLE HINGE PINS. IN ADDITION, THEY SHALL HAVE A MINIMUM 1/4" DIAMETER STEEL JAMB STUD WITH 1/4" MINIMUM PROJECTION UNLESS THE HINGES ARE SHAPED TO PREVENT REMOVAL OF THE DOOR IF THE HINGE PINS ARE REMOVED.
- * 12. CITY INSPECTOR TO VERIFY EXISTING FACILITIES ARE PROVIDED TO ACCESS AREA COVERED UNDER THIS APPROVED PLAN.

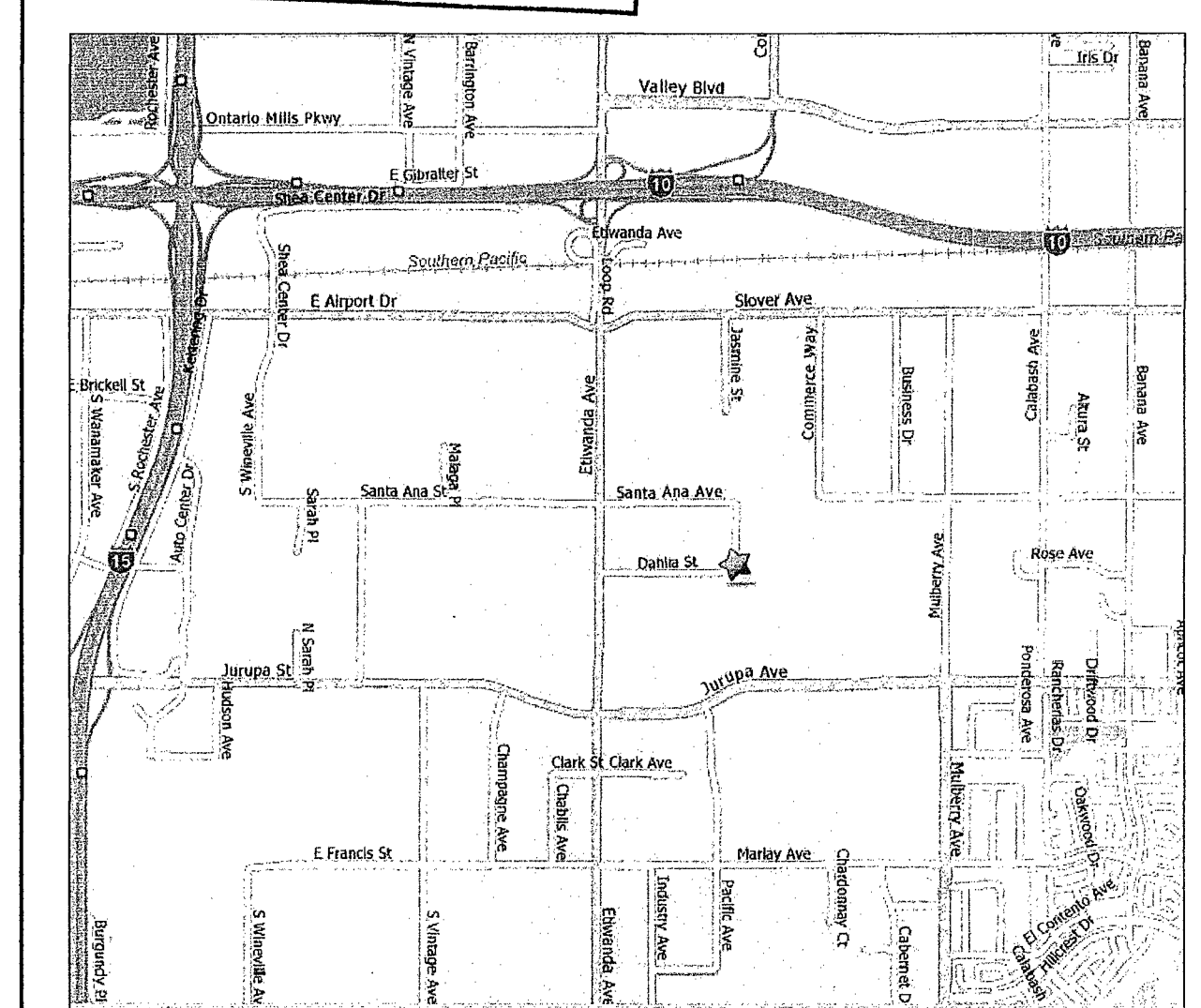
IV. WALLS/FINISHES

- METAL FRAMING, STUDS, ETC. SHALL BE AS MANUFACTURED BY "METAL STUD MANUFACTURERS ASSOCIATION" I.C.B.O. REPORT 4443
- POWDER DRIVEN SELF DRILL OR SLEEVED FASTENERS SHALL BE AS MANUFACTURED BY ITM RAMSET/RED-HEAD I.C.B.O. REPORT #1312 OR "HILTI" I.C.B.O. REPORT #2388 OR APPROVED EQUAL.
- GYPSUM WALLBOARD SHALL BE ATTACHED TO METAL STUDS/BRACINGS AS FOLLOWS:
 - NON-FIRE RATED PARTITION: 1" (MIN) TYPE S, DRYWALL SCREWS AT MINIMUM 7" ON CENTER ALONG HORIZONTAL AND VERTICAL EDGES AND 12" ON CENTER AT INTERMEDIATE SUPPORTS.
 - ONE HOUR FIRE RATED PARTITION: 1" (MIN) TYPE S, DRYWALL SCREWS AT MINIMUM 7" ON CENTER ALONG HORIZONTAL AND VERTICAL EDGES AND 12" ON CENTER MINIMUM ALONG INTERMEDIATE SUPPORTS.
- INTERIOR PARTITIONS TO COMPLY WITH STRENGTH AND DEFLECTION CRITERIA SPECIFIED IN U.B.C. 1611.5
- INTERIOR FINISH SHALL CONFORM WITH TITLE 19 OF CALIFORNIA ADMINISTRATIVE CODE AND CHAPTER 9 OF THE UNIFORM BUILDING CODE FOR FLAME SPREAD RATING.

SHEET	DESCRIPTION
TI-1	DRAWING INDEX, NOTES & SITE PLAN
2/11	SITE PLAN- FOR REFERENCE ONLY
TI-2	PROPOSED FLOOR PLAN
TI-3	REFLECTED CEILING PLAN
TI-4	DETAILS
TI-5	CABINET ELEVATIONS
TI-6	ACCESSIBILITY NOTES
TI-7	FIRE NOTES
S-1	FOUNDATION PLAN
S-2	FLOOR FRAMING PLAN
S-3	HVAC ROOF FRAMING PLAN
S-4	STAIR SECTIONS AND DETAILS
SD-1	DRAWING INDEX, NOTES & SITE PLAN
SS-B	REFERENCE SHEET
SD-4	REFERENCE SHEET
E-1	ELECTRICAL FRONT SHEET
E-2	LIGHTING PLAN
E-3	POWER & SIGNAL PLAN
E-4	TITLE 24 AND PANEL SCHEDULE
E-5	ELECTRICAL SPECIFICATIONS
M-1	HVAC NOTES, DETAILS AND SCHEDULES
M-2	HVAC PLANS & TITLE 24 FORMS
M-3	MANDATORY FEATURES
P-1	PLUMBING NOTES DETAILS & SCHEDULES
P-2	PLUMBING PLANS
P-3	1ST FLOOR WATER PLAN

DRAWING INDEX

FIRE SPRINKLERS REQUIRED PER CITY ORDINANCE



SHEET	DESCRIPTION
2	VICINITY MAP

EXISTING SITE PLAN

SCALE	7
N.T.S.	

SCALE	6
N.T.S.	

BUILDING NOTES

SCALE	3
N.T.S.	

VICINITY MAP

SCALE	2
N.T.S.	

BONALDO DESIGN GROUP
TRAVEL IMPROVEMENT PLANS
ADDRESS: 11109 JASMINE ST.
PERMIT #: PMT07-05632
APN: 023811340000
BUILD PERMIT TYPE: Building Plans
COMMENT: 2.565 SF

CIBARIA INTERNATIONAL
11109 JASMINE ST.
FONTANA, CA. 92337

SITE PLAN, INDEX, AND NOTES

DATE: 04-26-07
SCALE: AS NOTED
DRAWN BY: L. CUBIT
JOB No.: 10524
SHEET No.: TI-1

APPROVED
SEP 04 2007
BUILDING & SAFETY
CITY OF FONTANA

APPROVED
FILE COPY

REGISTRED PROFESSIONAL ENGINEER
SECE 1, BONALDO
NO. 43811
EXP. 6-30-07
P.C. CORRECTIONS

PC 07-03374

FOR REFERENCE ONLY

CONSTRUCTION NOTES:

1. INSTALL 3.0" THK. A.C. PAVING OVER 3.0" THK. COMPACTED CLH AGGR. BASE (TENTATIVE SECTION).
2. INSTALL 3.5" THK. A.C. PAVING OVER 5.5" THK. COMPACTED CLH AGGR. BASE (TENTATIVE SECTION).
3. CONCRETE SLAB DESIGN & CONSTRUCTION PER STRUCTURAL ENGINEER'S PLANS.
4. CONSTRUCT TYPE A1-150(6) CURB (6" CURB ONLY) PER A.P.W.A. STD. NO. 120-1 ON SHEET 8.
5. CONSTRUCT TYPE A2-150(6) CURB (6" CURB AND GUTTER) PER A.P.W.A. STD. NO. 120-1 ON SHEET 8.
6. CONSTRUCT 4" RIBBON GUTTER PER DETAIL "A" ON SHEET 7.
7. CONSTRUCT THICKENED EDGE ON CONCRETE PAVING PER DETAIL "B" ON SHEET 7.
8. SAW CUT EXISTING CONCRETE CURB, GUTTER AND/OR AC PAVEMENT.
9. REMOVE EXISTING CONCRETE CURB, GUTTER AND/OR AC PAVEMENT.
10. PAINT 4" WIDE WHITE PARKING STALL STRIPING.
11. WALL DESIGN & CONSTRUCTION PER WALL PLANS, (UNDER SEPARATE PERMIT).
12. REMOVE EXISTING CHAIN LINK FENCE.
13. CONSTRUCT CONC. DRIVEWAY (WIDTH = PER PLAN) PER CITY OF FONTANA STD. DETAIL NO. 1005A.
14. SIDEWALKS, HANDICAP RAMPS AND/OR STAIRS PER ARCHITECT'S PLANS.
15. PAINT 4" WIDE BLUE STRIPE AND ADA SYMBOLS PER ARCHITECT'S PLANS.
16. INSTALL HC SIGN PER ARCHITECT'S PLANS.
17. INSTALL HC DRIVEWAY ENTRANCE SIGN PER DETAIL "E" ON SHEET 7.
18. INSTALL WHEEL STOPS PER ARCHITECT'S PLAN.
19. CONSTRUCT CONCRETE CHANNEL PER DETAIL "K" ON SHEET 7.
20. CONSTRUCT 4" CONCRETE SIDEWALK PER CITY OF FONTANA REQUIREMENTS.
21. CONSTRUCT TRASH ENCLOSURE PER ARCHITECT'S PLANS.
22. SAND/GRAVEL FILTER WITH 1.5"-2.5" ROCK 14" MINIMUM THICK. AND 4" SAND PER DETAIL "F" ON SHEET 8.
23. INSTALL FULL DEPTH ASPHALT PAVING.

PAVING LEGEND

- 1. PARKING
- 2. TRUCK AISLE
- 3. CONCRETE

NOTE: ALL PAVING SECTIONS ARE TENTATIVE. FINAL SECTIONS WILL BE DETERMINED DURING ROUGH GRADING.

APPROVED
MAY 03 2005
BUILDING & SAFETY
CITY OF FONTANA

CURVE DATA				
CURVE	RADIUS	DELTA	LENGTH	TANGENT
1	7.50	90°00'00"	11.78	7.50
2	7.50	90°00'00"	11.78	7.50
3	3.00	90°00'00"	4.71	3.00
4	5.00	90°00'00"	7.85	5.00
5	5.00	85°13'11"	7.44	4.60
6	2.50	90°00'00"	3.93	2.50
7	2.50	180°00'00"	7.85	INFINITE
8	10.00	90°00'00"	15.71	10.00
9	3.00	94°46'48"	4.96	3.26

LEGEND

- POWER POLE
- STREET LIGHT
- FIRE HYDRANT
- TREE
- BUSHES
- BLOCKWALL
- BW BACK OF WALK
- CB CATCH BASIN
- CHAFI CHAIN LINK FENCE
- DI DROP INLET
- ETR ELECTRIC TRANSFORMER
- EPB ELECTRIC PULL BOX
- EALV ELECTRIC VAULT
- FL FLOW LINE
- ONE OVERHEAD ELECTRICAL
- PL PROPERTY LINE
- RRS RAILROAD SWITCH
- SMH SEWER MANHOLE
- TG TOP OF GRATE
- TE TRASH ENCLOSURE
- TC TOP OF CURB
- FF FINISHED FLOOR
- FS FINISHED SURFACE
- FG FINISHED GRADE
- GB GRADE BREAK
- CF CURB FACE
- TR TOP OF RAIL
- WV WATER VALVE
- BOR BEGIN CURB RETURN
- ECR END CURB RETURN
- BC BEGIN CURVE
- MOC MIDDLE OF CURVE
- ECV END CURVE
- BVC BEGIN VERTICAL CURVE
- MVC MIDDLE VERTICAL CURVE
- EVC END VERTICAL CURVE
- TW TOP OF WALL
- TF TOP OF FOOTING
- TOS TOP OF SEWER
- BOS BOTTOM OF SEWER
- TOW TOP OF WATER
- BOW BOTTOM OF WATER
- BIV BIVERT
- TOSD TOP OF STORM DRAIN
- BOSD BOTTOM OF STORM DRAIN

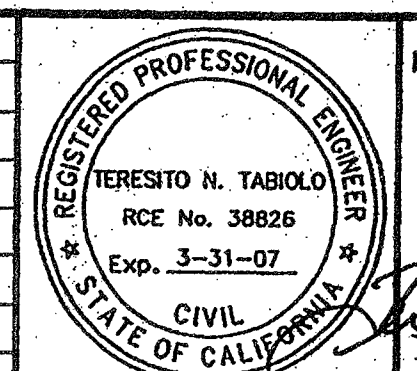
APPROVED
BUILDING & SAFETY
CITY OF FONTANA

APPROVED
REVIEWED BY DATE 4-25-05
Approval of these plans shall not be construed to be a permit for, or an approval of any violation of any of the provisions of the state or local laws. One set of approved plans must be kept on the job until completion.

APR 12 2005

CITY OF FONTANA, CALIFORNIA
PARCEL MAP NO. 16613

DRAWN BY: ND	DESIGNED BY: MM	CHECKED BY: TV	APPROVED BY: CITY ENGINEER R.C.E. 25126
CONSTRUCTION AND HORIZONTAL CONTROL PLAN DESIGN REVIEW NO. 04-022			SCALE: 09/03/04
DATE: 4-13-05			DWG. NO.: 2

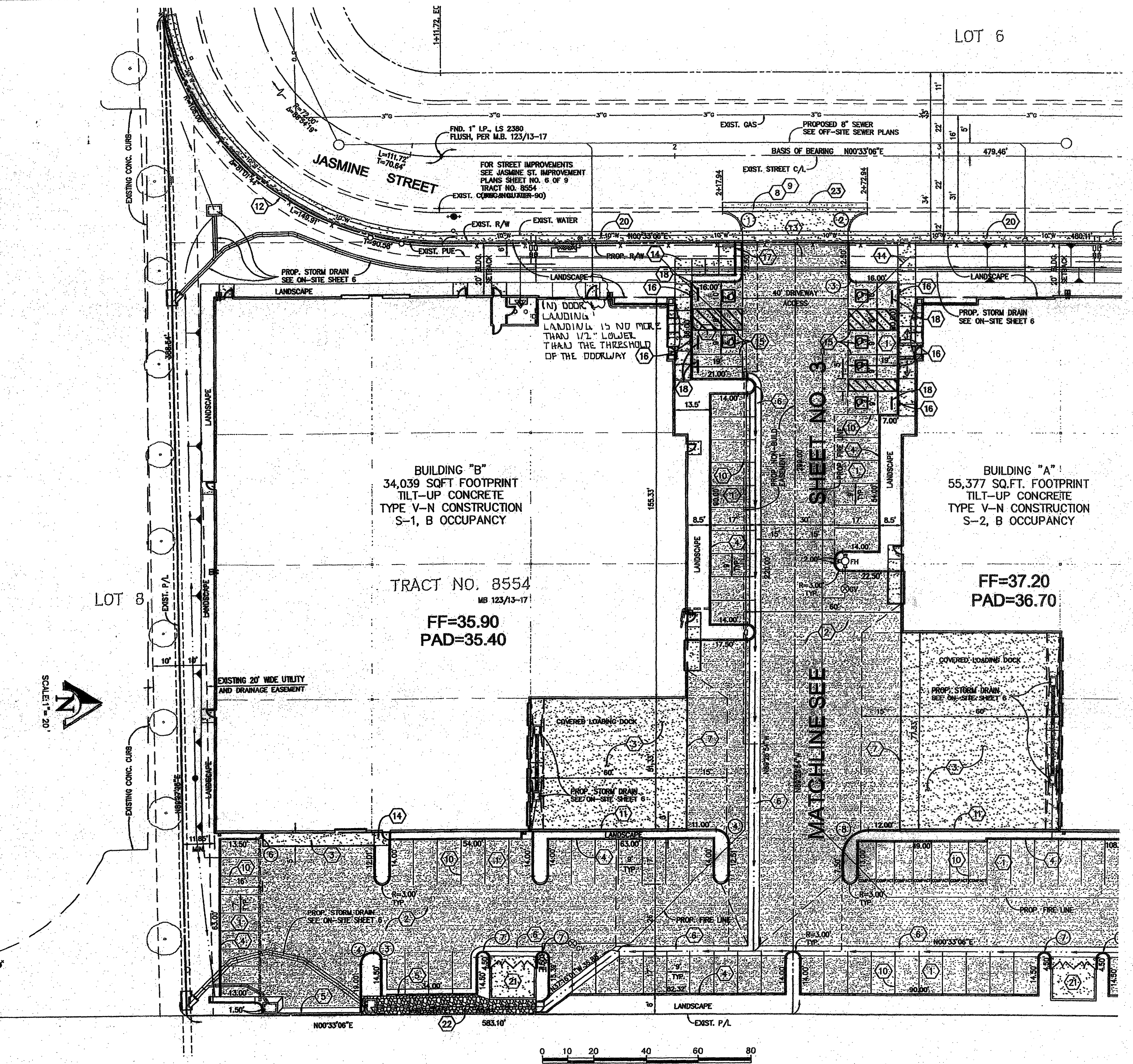


Prepared Under The Supervision Of:
TERESITO N. TABOALA R.C.E. 38826 EXP. 03-31-07

KCT CONSULTANTS, INC.
Civil Engineers - Surveyors - Planners
P.O. Box 6705 Riverside, CA 92517-5705
4344 Latham St., Suite 200, Riverside, CA 92501
Phone: 951-541-8940 Fax: 951-541-8945
e-mail: kctinc@kctconsultants.com

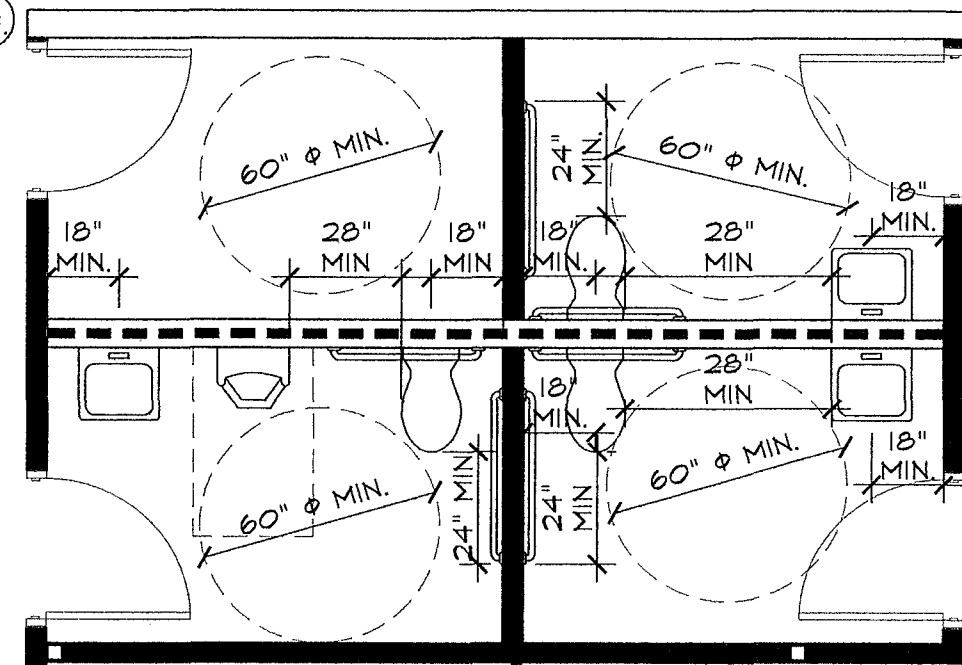
Underground Service Alert
Call: TOLL FREE
1-800
227-2600
TWO WORKING DAYS BEFORE YOU DIG

NOTE:
PAVEMENT SECTIONS ARE TENTATIVE. AT THE COMPLETION OF ROUGH GRADE, THE SOILS ENGINEER SHALL DETERMINE THE FINAL PAVEMENT STRUCTURAL SECTIONS.



SCALE: 1 INCH = 20 FEET

NOTES:
RESTROOM FLOOR TO HAVE A SMOOTH, HARD NONABSORBENT FINISH MATERIAL WHICH EXTENDS UPWARD ONTO THE WALLS AT LEAST 5 INCHES.
FRP @ WALLS TO 48" A.F.F.



ENLARGED RESTROOM PLAN

SCALE
1/4" = 1'-0"

4

PLUMBING TABULATION

(2001 C.P.C. TABLE 4-1, 4-2, 4-3, 4-4)

BUILDING AREA:	2565
LESS ACCESSORY AREAS:	550
TOTAL	2007
2007 / 200 (GROUP B) (OFFICE & PUBLIC BLDG'S) 1 PER 15	
REQUIRED	
1 MALE 1 W.C. 1 LAV.	
1 FEMALE 1 W.C. 1 LAV.	
PROVIDED	
MALE: 2 W.C., 1 URINAL, 2 LAVS	
FEMALE: 1 W.C., 1 LAV.	

NOTES

- CONTRACTOR TO CONTACT DESIGNER FOR ANY DISCREPANCIES BETWEEN THIS PLAN AND ELECTRICAL PLAN.
- THE MEANS OF EGRESS SERVING ANY OCCUPIED PORTION OF THE BUILDING SHALL BE ELIMINATED TO AN INTENSITY OF NOT LESS THAN (1) ONE FOOT CANDLE AT THE FOOT LEVEL. IN THE EVENT OF A POWER FAILURE, AUTOMATIC ILLUMINATION SHALL BE PROVIDED BY A BATTERY BACK-UP SYSTEM. THIS APPLIES REGARDLESS OF OCCUPANT LOAD. CBC, SECTION 1003.2.8.1; CMC SECTION 15.04.140.
- THE PATH OF EXIT TRAVEL TO AND WITHIN EXITS IN A BUILDING SHALL BE IDENTIFIED BY EXIT SIGNS CONFORMING TO THE REQUIREMENTS OF SECTION 1003.2.8. LOCATION OF EXIT SIGNS SHALL BE IN ACCORDANCE WITH CBC, SECTION 1003.2.8.2
- MEANS OF EGRESS SYSTEM SHALL HAVE CLEAR HEIGHT OF NOT LESS THAN 7' MEASURED VERTICALLY FROM THE WALKING SURFACE TO THE LOWEST PROJECTION FROM THE CEILING OR OVERHEAD STRUCTURE (SEC. 1003.2.4)
- EXIT SIGNS SHALL BE LOCATED AS NECESSARY TO CLEARLY INDICATE THE DIRECTION OF EGRESS TRAVEL.
- EXIT SIGNS SHALL BE READILY VISIBLE FROM ANY DIRECTION OF APPROACH.
- EXIT SIGNS SHALL BE INTERNALLY OR EXTERNALLY ILLUMINATED. WHEN THE FACE OF THE EXIT SIGN IS ILLUMINATED FROM AN EXTERNAL SOURCE IT SHALL HAVE AN INTENSITY OF NOT LESS THAN 5 FOOT CANDLES FROM EITHER OF TWO ELECTRIC LAMPS. INTERNALLY ILLUMINATED SIGNS SHALL PROVIDE EQUIVALENT LUMINANCE AND BE LISTED FOR THE PURPOSE.

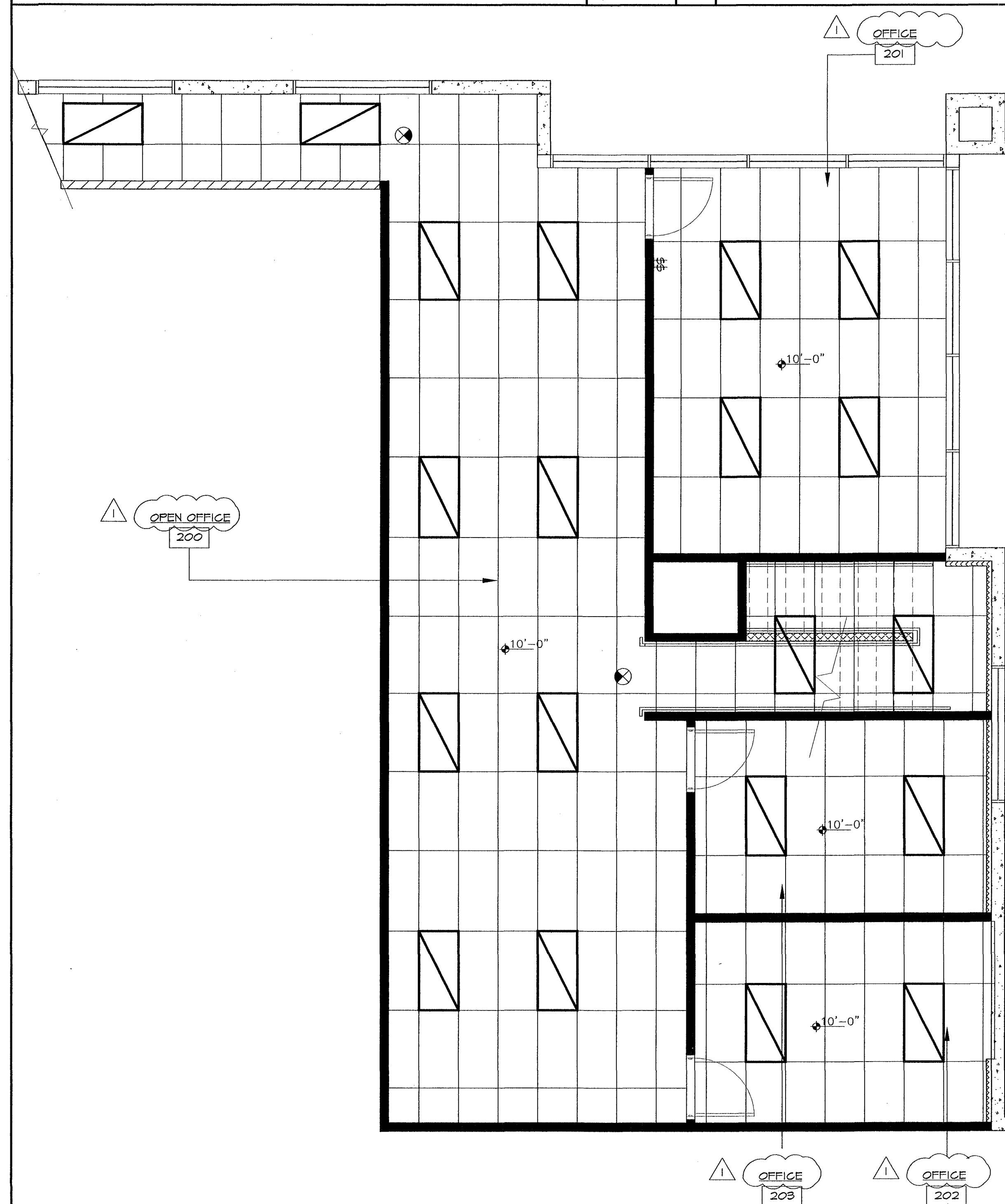
LEGEND

- EXISTING TILT-UP WALL
- NEW 2x6 WOOD STUD WALL
- NEW 6" MTL STUD PLUMBING WALL
- NEW 3 5/8" 25 GA MTL STUD WALL
- 3-1/2" FURRED WALL
- 1-HOUR FIRE RATED WALL
- LOW WALL
- 2'x4' SUSPENDED CEILING SYSTEM
- NEW 2'x4' FLUORESCENT FIXTURE W/ PRISMATIC LENS
- NEW 1'x4' SURFACE MOUNTED CLOUDLINE TYP.
- ILLUMINATED EXIT SIGN WITH 90 MIN. BATTERY BACK-UP
- EXHAUST FAN TO PROVIDE 5 AIR CHANGES PER HOUR
- SWITCH TO LIGHT, VENT THRU ROOF
- VANITY LIGHT

NOTES / LEGENDS

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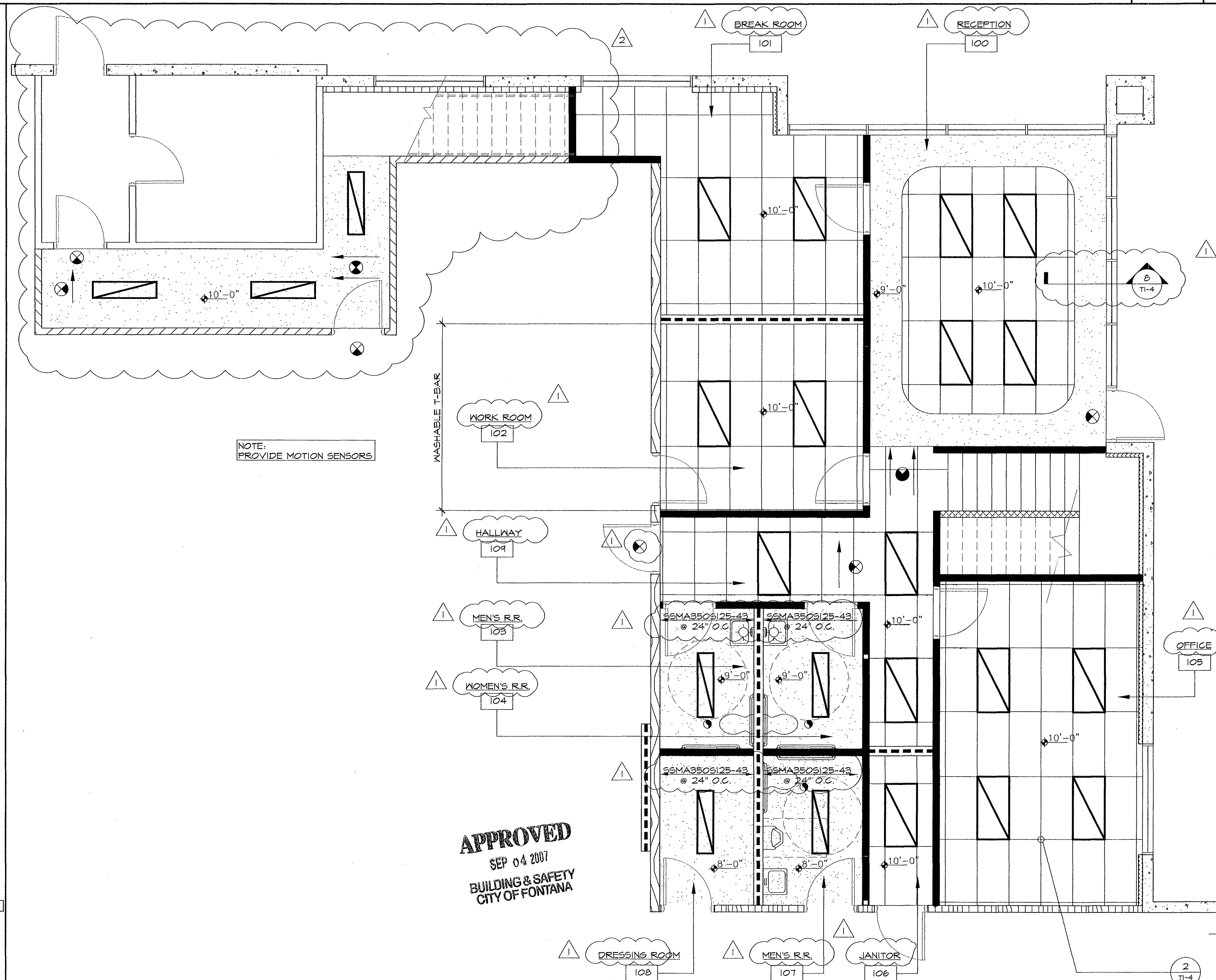
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SECOND FLOOR REFLECTED CEILING PLAN

SCALE
1/4" = 1'-0"

3



FIRST FLOOR REFLECTED CEILING PLAN

SCALE
1/4" = 1'-0"

2

BONALDO DESIGN GROUP

TENANT IMPROVEMENT PLANS

1024-B TRADEMARK ST.
RANCHO CUCAMONGA, CALIFORNIA 91750

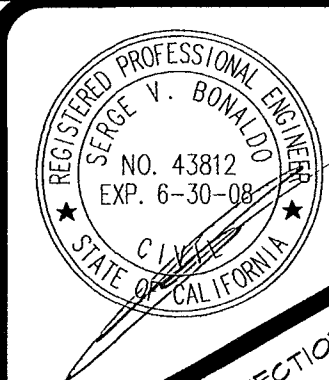
(909) 945-5451 FAX: (909) 944-4882

PROJECT: CIBARIA INTERNATIONAL

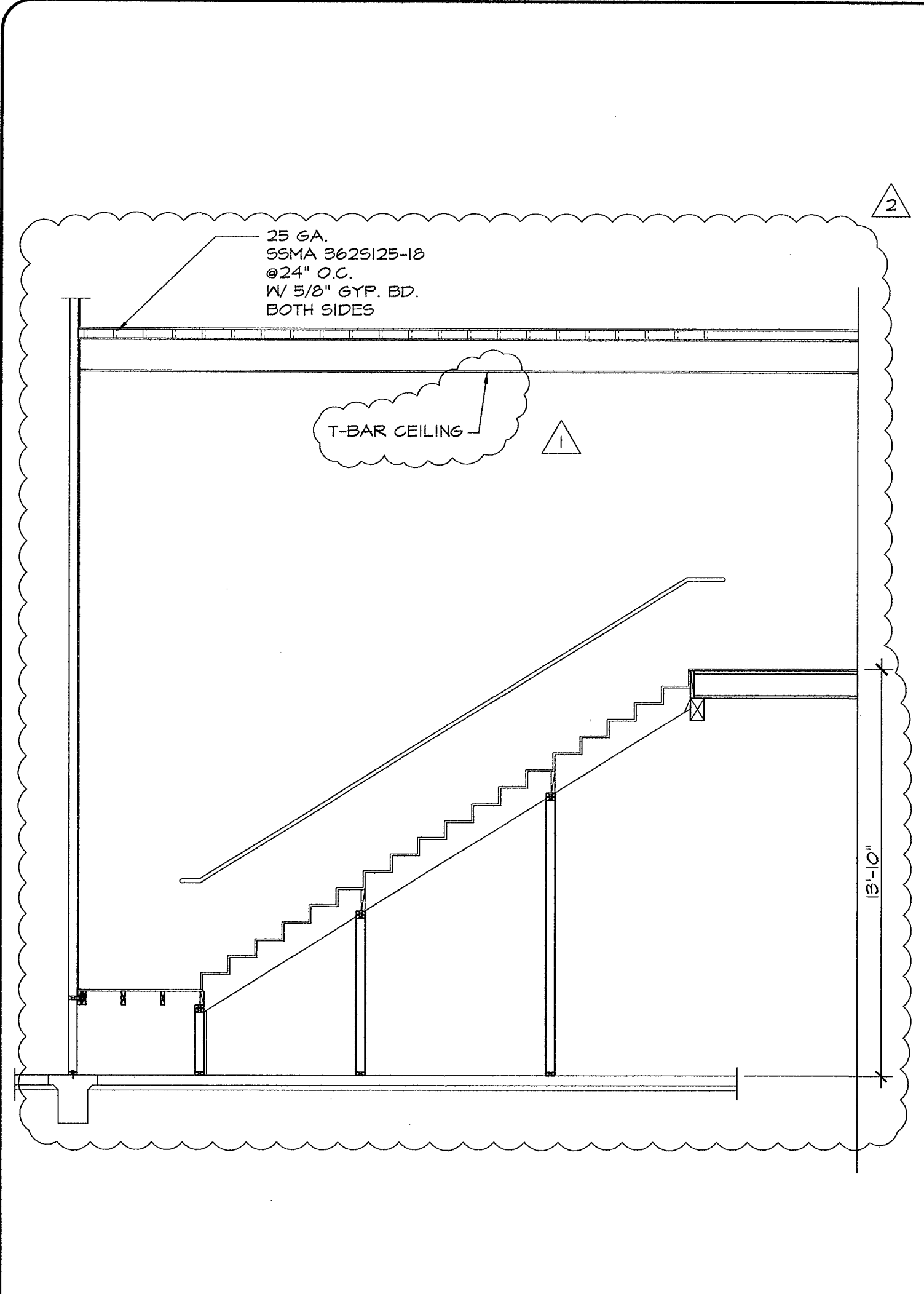
1109 JASMINE ST.
FONTANA, CA 92337

SHEET TITLE: REFLECTED CEILING PLAN / DETAILS

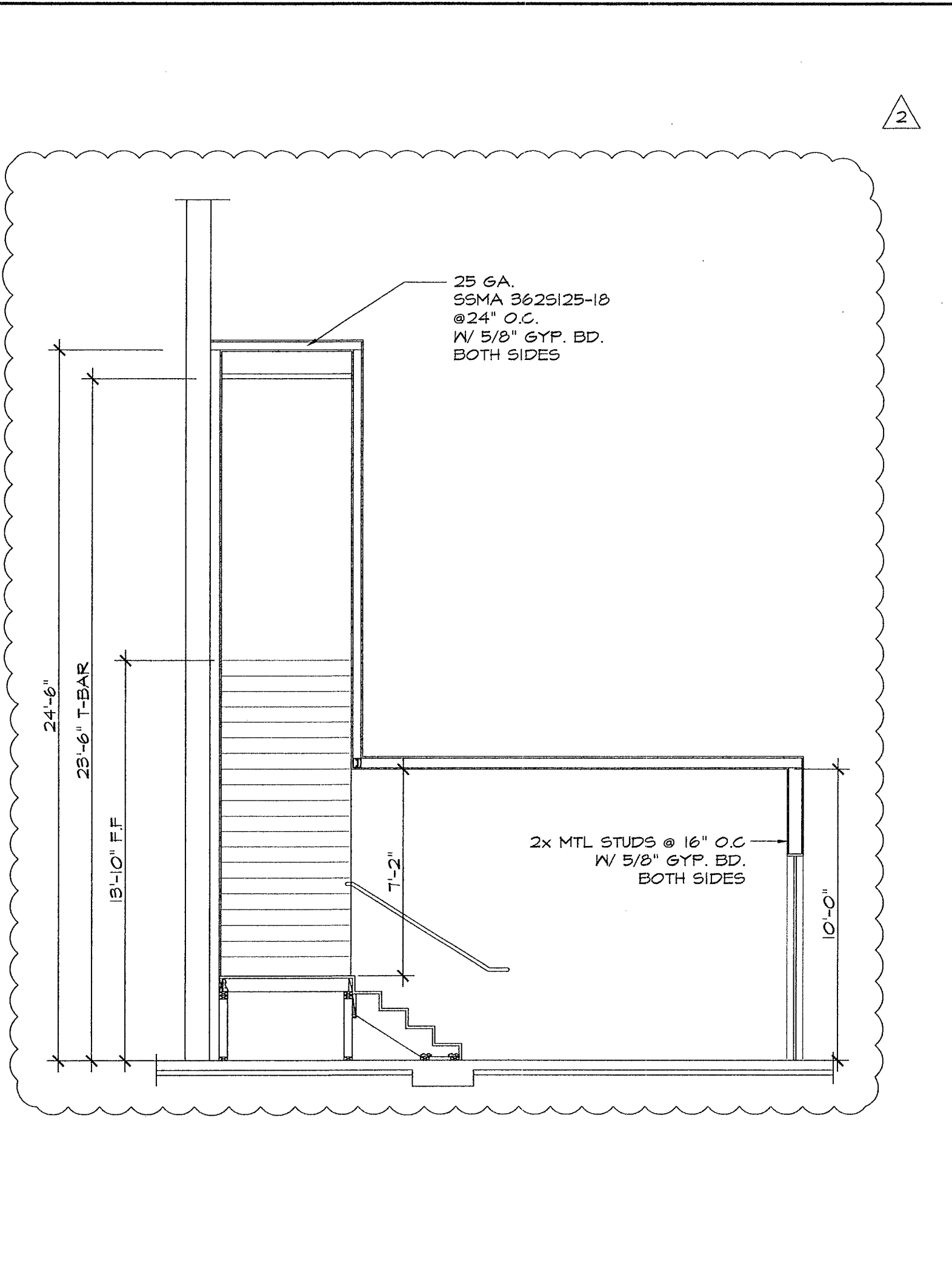
DATE: 04-26-07
SCALE: AS NOTED
DRAWN BY: L. CUBITT
JOB NO: 1024-B
SHEET No.: TI-3



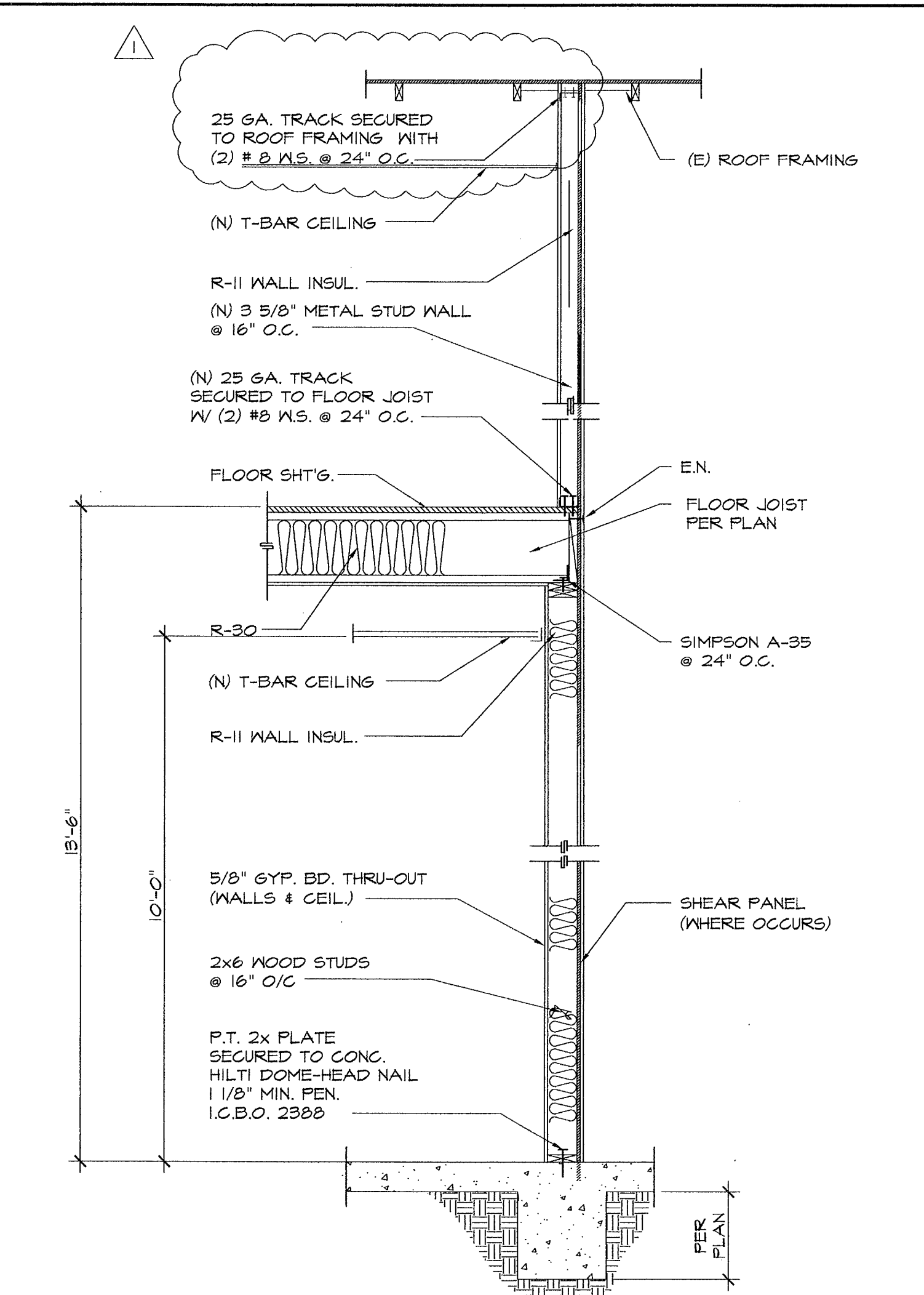
P.C. CORRECTION
2. 07-24-07



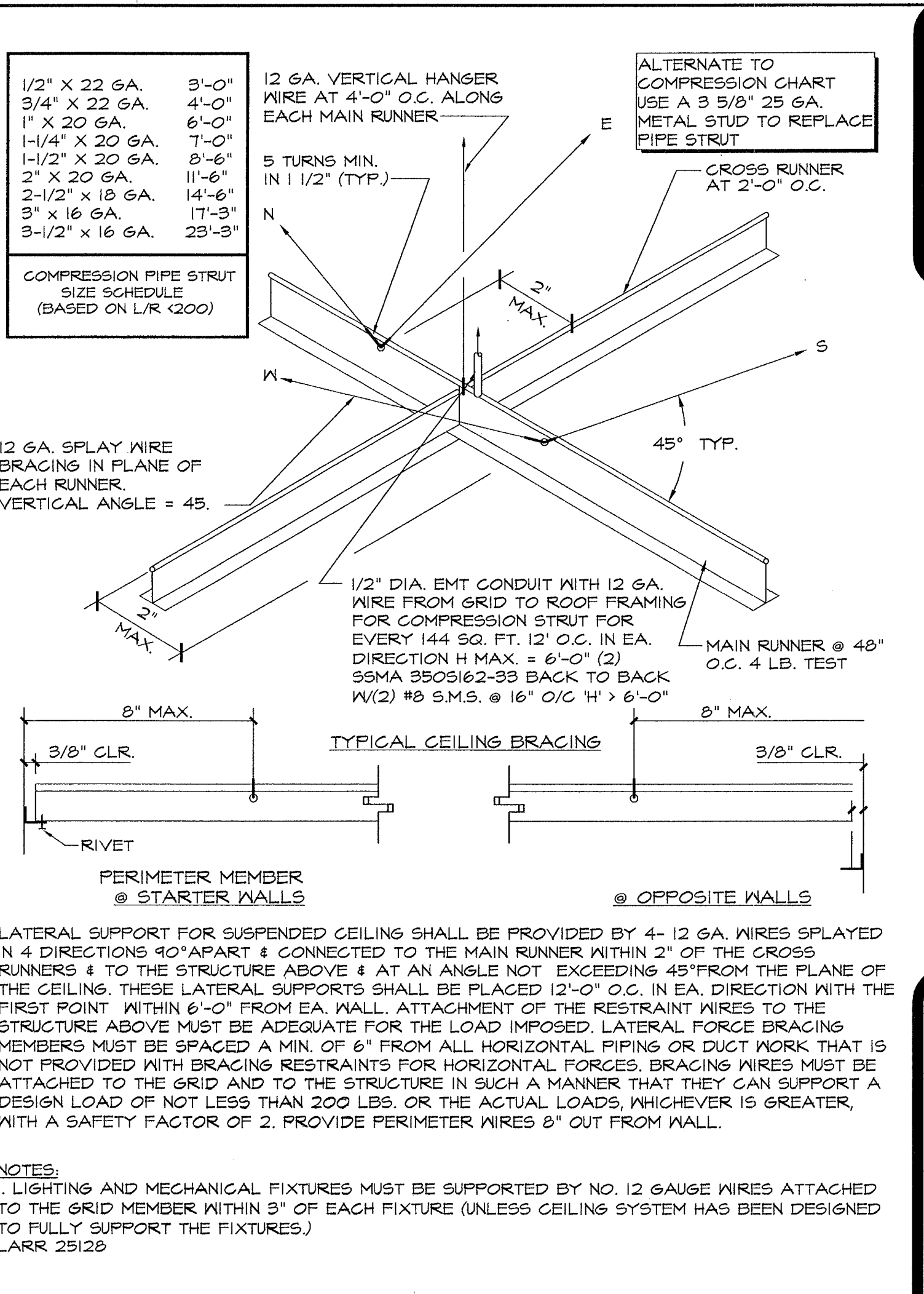
WALL SECTIONS • ONE-HR CORRIDOR



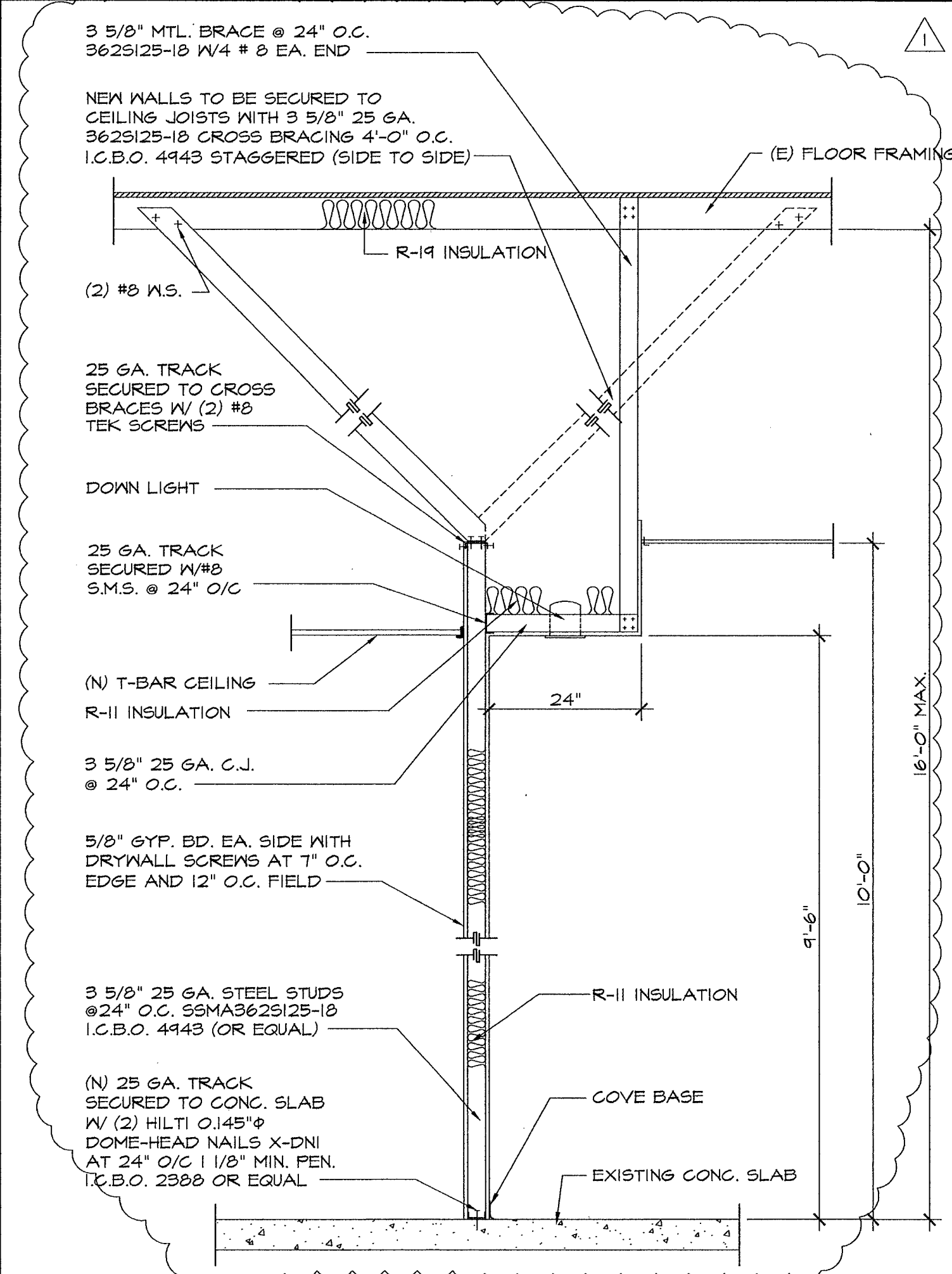
WALL SECTIONS • ONE-HR CORRIDOR



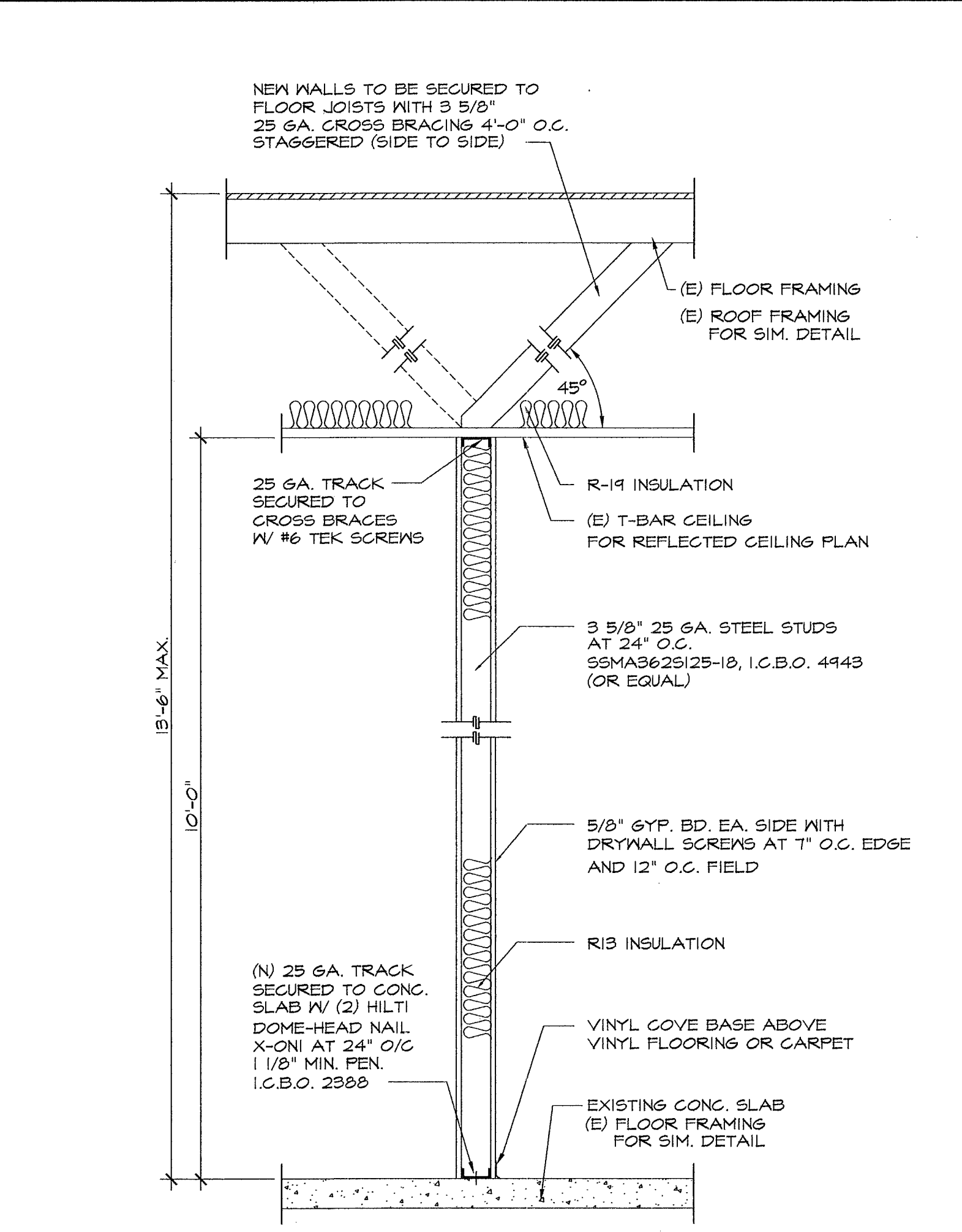
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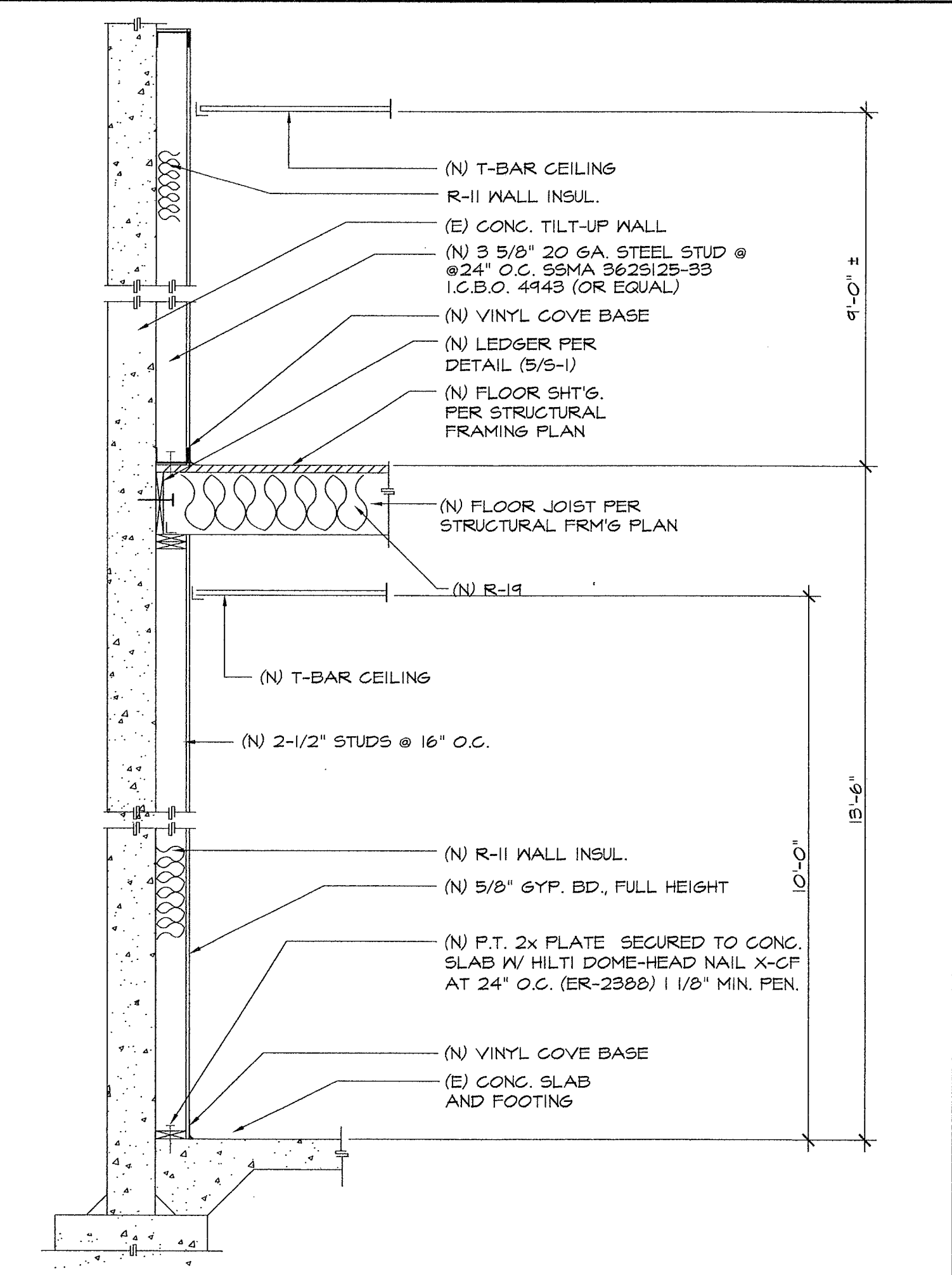
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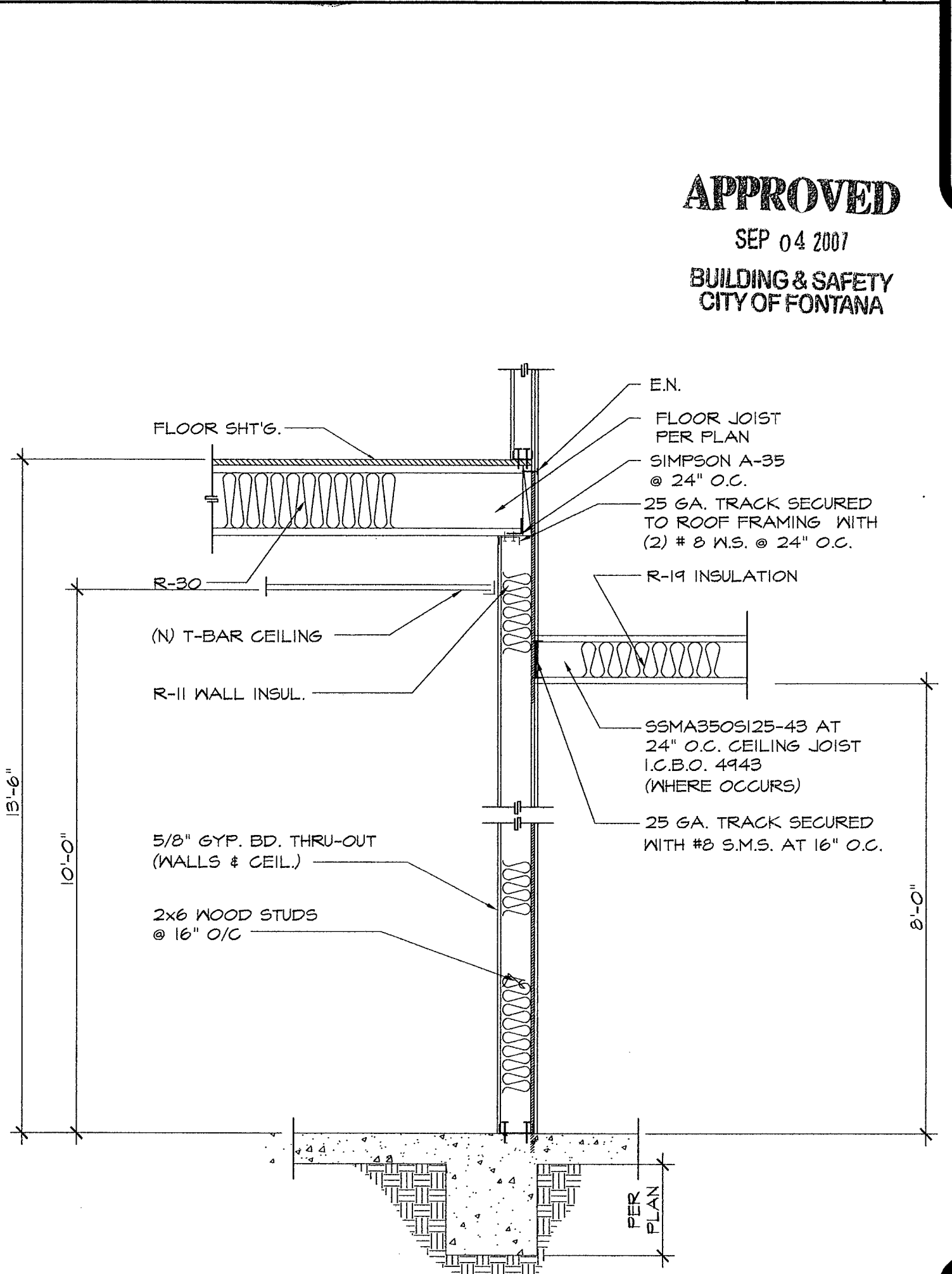
SOFFIT DETAIL



TYP. INTERIOR WALL



WALL FURRING



TYP. WALL SECTION AT RESTROOM

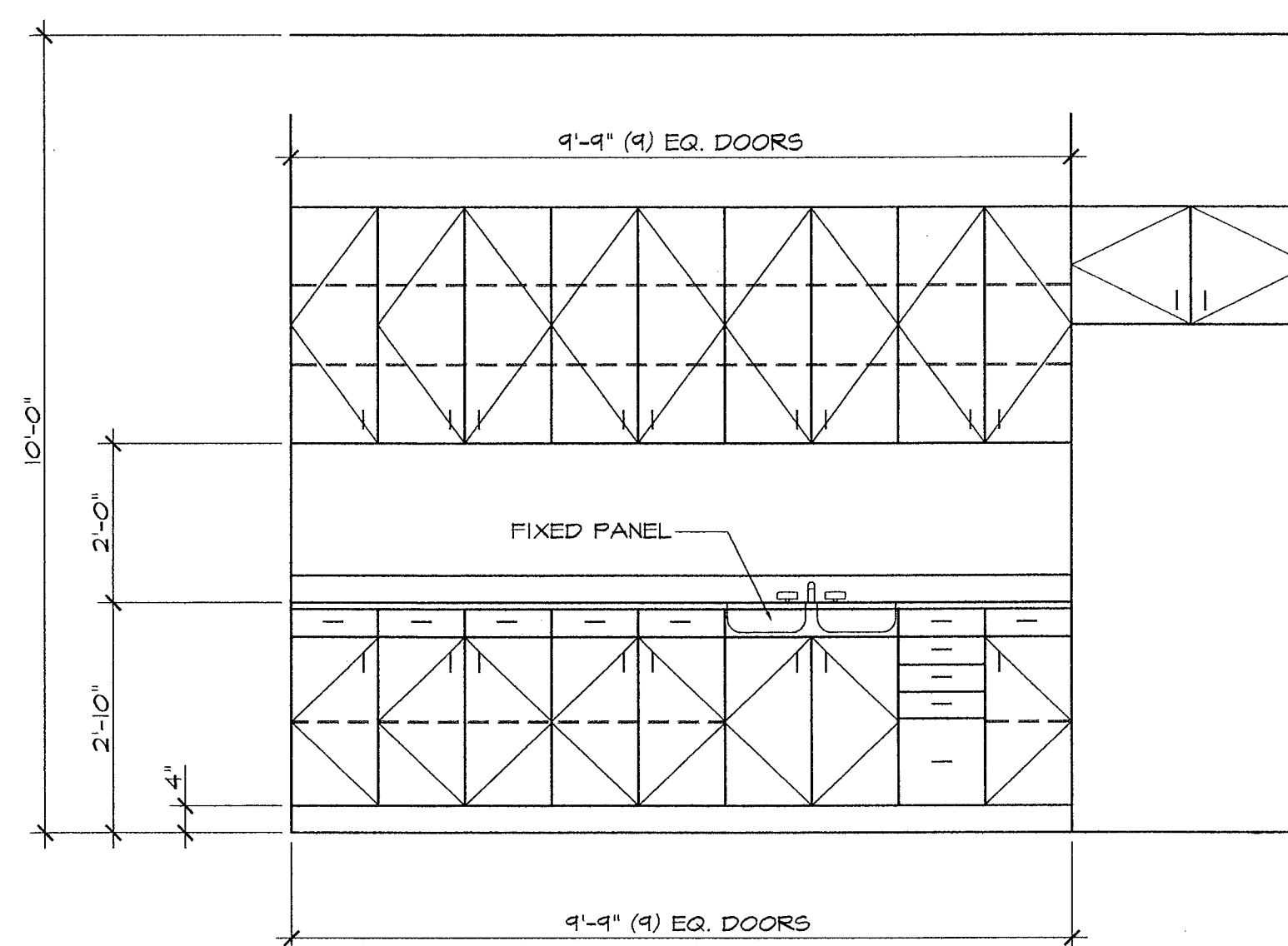
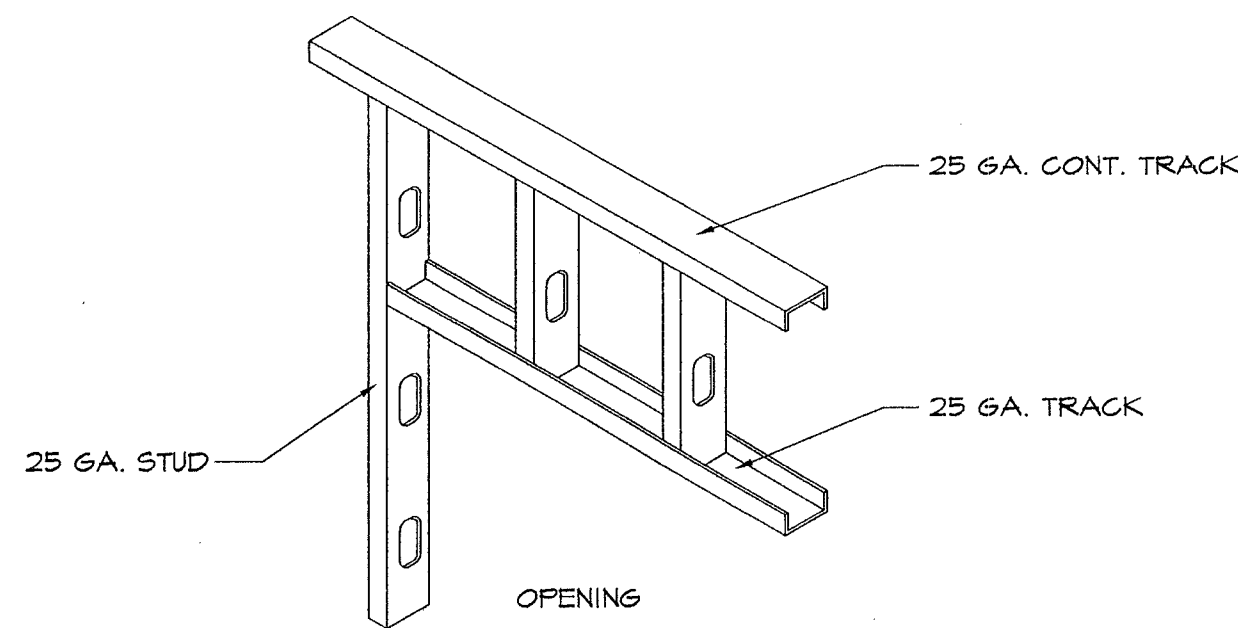
BONALDO DESIGN GROUP
 TENANT IMPROVEMENT PLANS
 1024-B TRADEMARK ST.
 RANCHO CUCAMONGA, CALIFORNIA 91750
 (909) 944-4837 FAX (909) 944-4832

APPROVED
 SEP 04 2007
 BUILDING & SAFETY
 CITY OF FONTANA

CIBARIA INTERNATIONAL
 1109 JASMINE ST.
 FONTANA, CA 92337

REFLECTED CEILING PLAN / DETAILS

PROJECT: **DATE: 04-26-07**
 SCALE: **AS NOTED**
 DRAWN BY: **L. CUBIT**
 JOB No.: **10224**
 SHEET No.: **TI-4**



1. ALL DIMENSIONS TO BE FIELD VERIFIED BY MILLWORK CONTRACTOR PRIOR TO FABRICATION.
2. ALL WORK SHALL MEET CURRENT M.I.C. STANDARDS.
3. PROVIDE SUPPORT IN WALLS AS REQUIRED FOR CABINET INSTALLATION.
4. CABINETS TO BE CONSTRUCTED OF 3/4" HIGH DENSITY PARTICLE BOARD WITH PLASTIC LAMINATE ON EXTERIOR SURFACE AND WHITE MALAMINE OR KORTON ON INTERIOR SURFACES UNLESS NOTED OTHERWISE.
5. INSTALL CABINETS LEVEL AND SECURE TO WALLS.
6. WHERE ADJUSTABLE SHELVES OCCUR, PROVIDE RECESSED STANDARDS.
7. PROVIDE CONCEALED HINGES ON CABINET DOORS & FULL EXTENSION BALL BEARING GLIDES ON DRAWERS (ACCURIDE DRAWER SLIDES #CB800 OR EQUAL.)
8. TOE KICK TO HAVE 4" RUBBER BASE AS SPECIFIED ON PLAN, U.N.O.
9. DRAWER AND DOOR HANDLES TO BE 4" WIRE PULLS, POLISHED CHROME..
10. WHERE COUNTER(S) OCCUR WITHOUT CABINETS BELOW ARE TO BE SECURED TO WALL WITH ANGLE IRONS ATTACHED TO STUDS PRIOR TO GYP. BD. INSTALLATION.
11. WHERE GROMMETS OCCUR, PROVIDE DOUG MOCKETT & CO. OR EQUAL, EDP SERIES, COLOR TBD.

TYP. HEADER DETAIL

SCALE
1/4" = 1'-0"

7

BREAK ROOM CABINET ELEVATIONS

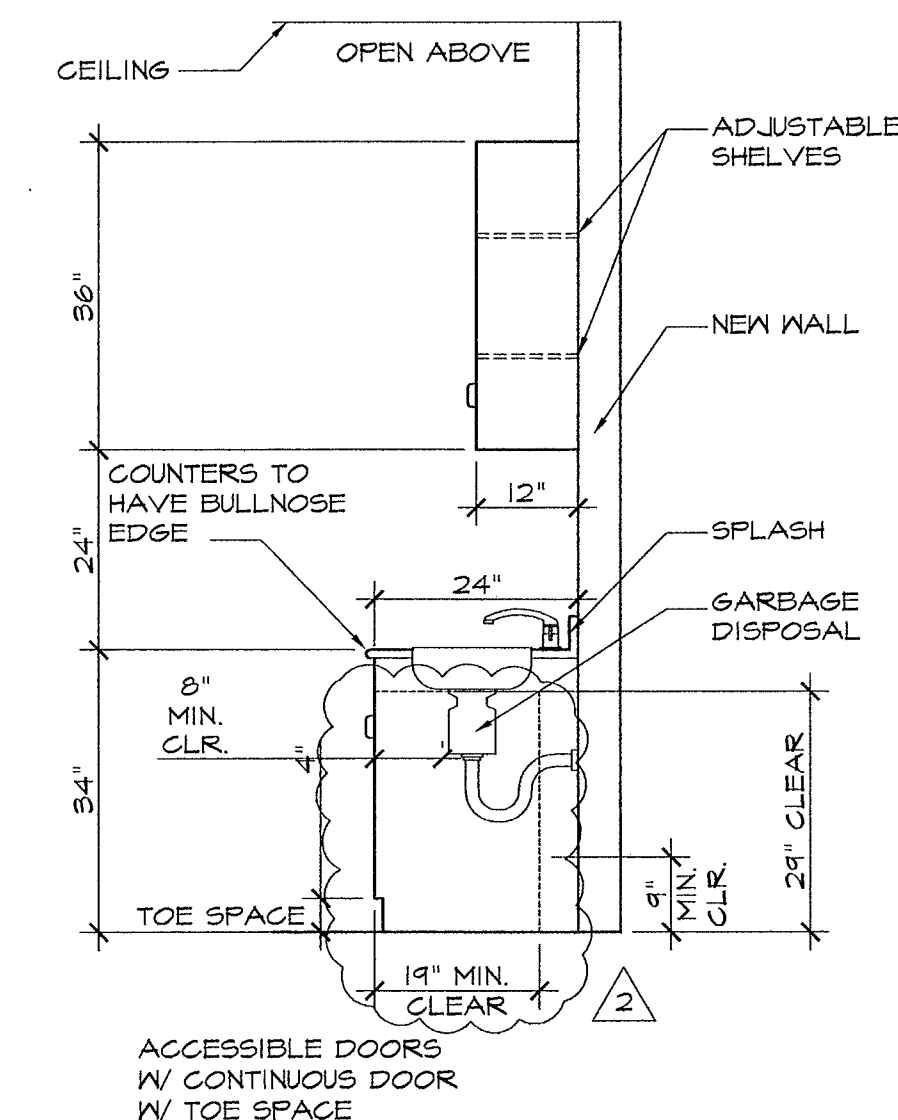
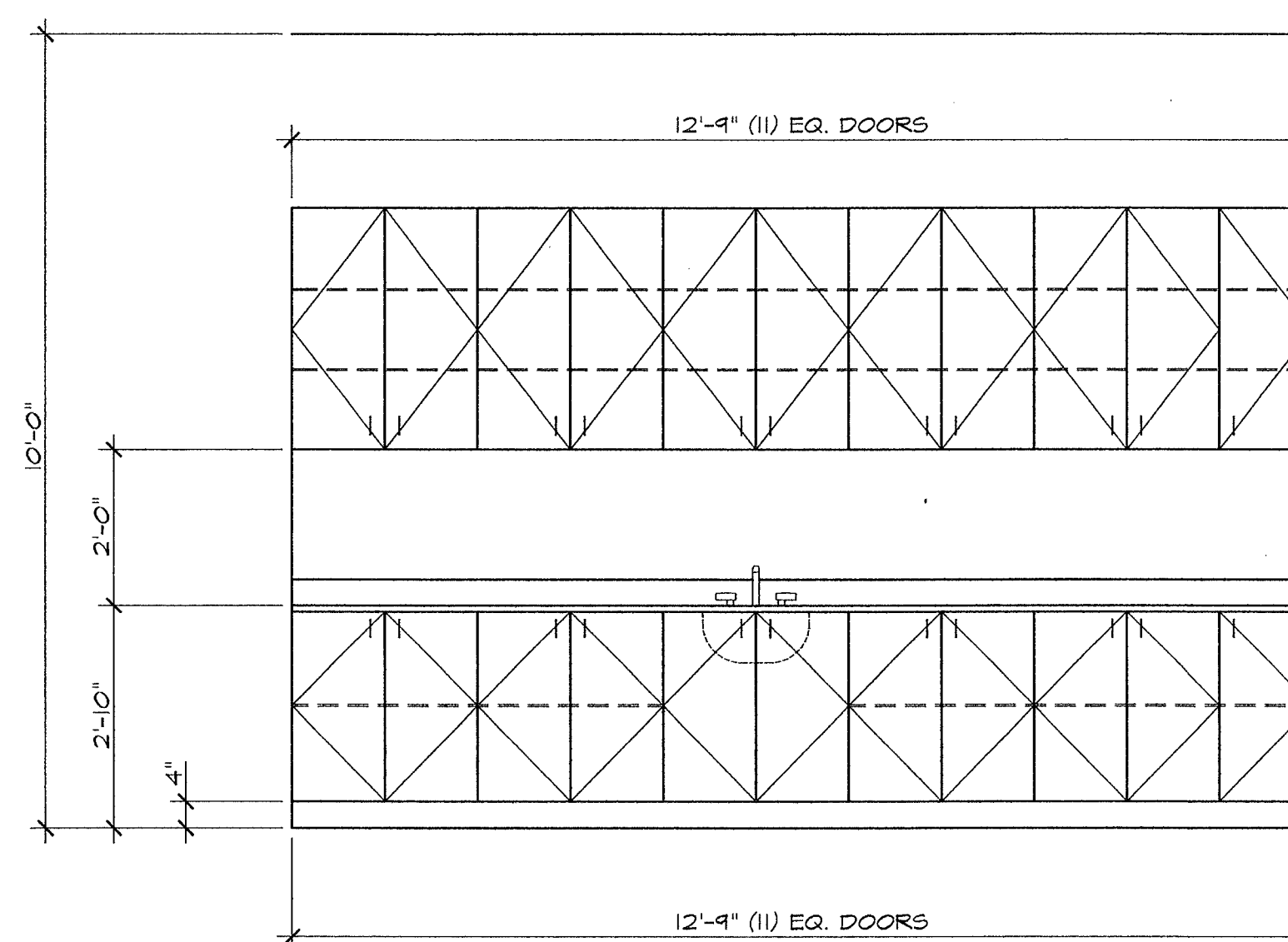
SCALE
1/4" = 1'-0"

4

CABINET NOTES

SCALE
N.T.S.

1

SCALE
1/4" = 1'-0"

8

WORK ROOM CABINET ELEVATIONS

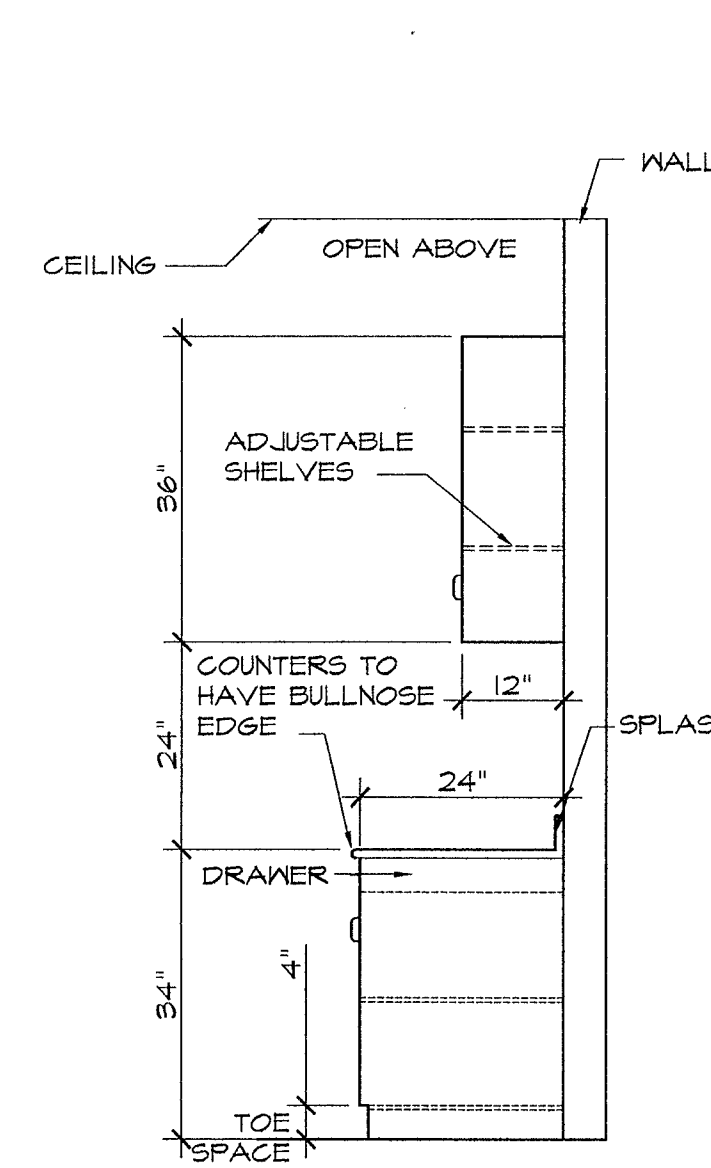
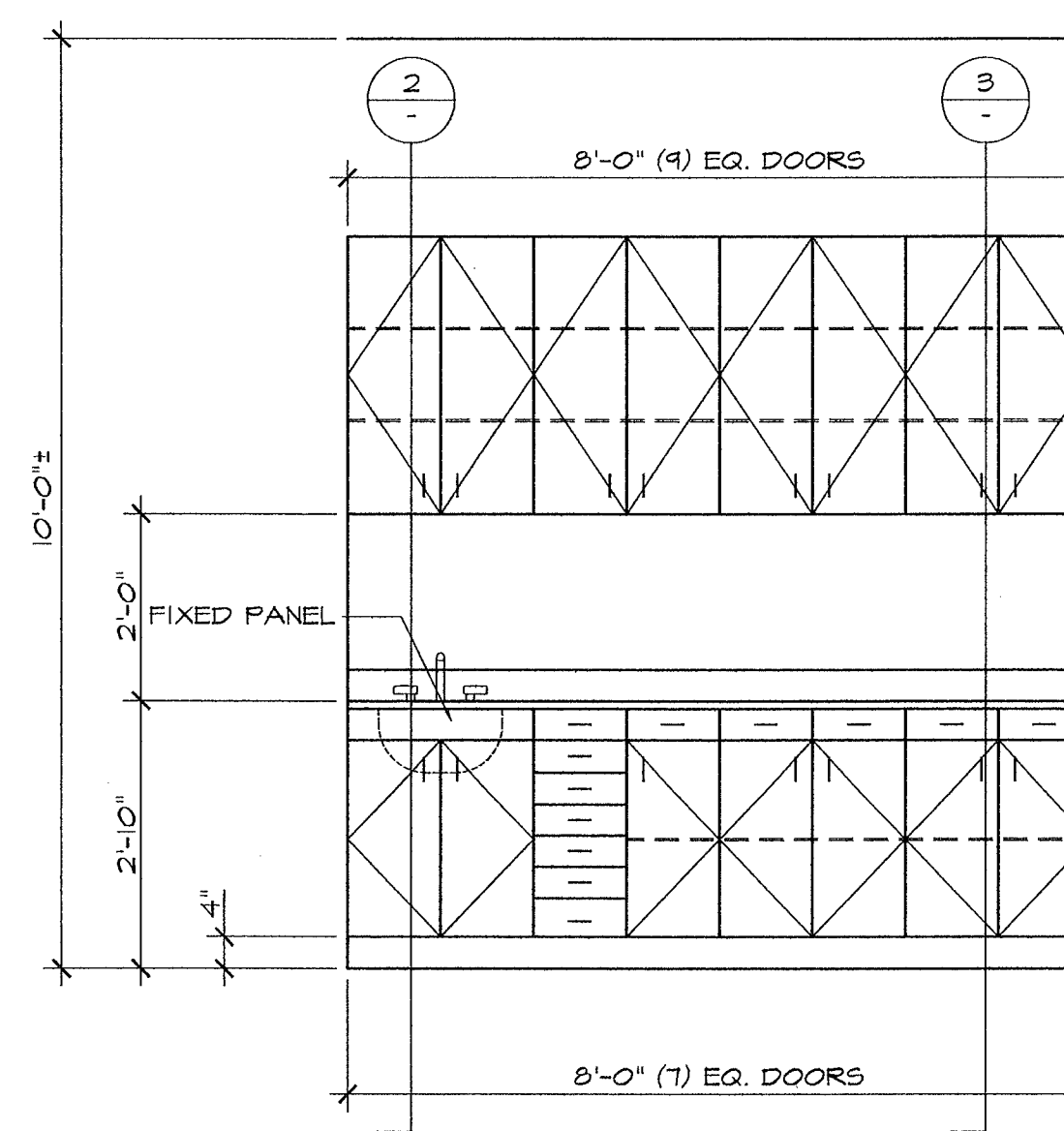
SCALE
1/4" = 1'-0"

5

CABINET DETAILS

SCALE
N.T.S.

2



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SEP 04 2007
BUILDING & SAFETY
CITY OF FONTANA

SCALE
1/4" = 1'-0"

9

WAREHOUSE CABINET ELEVATIONS

SCALE
1/4" = 1'-0"

6

CABINET DETAILS

SCALE
N.T.S.

3

BONALDO DESIGN GROUP
TENANT IMPROVEMENT PLANS
10045 TRADMARK ST.
RANCHO CUCAMONGA, CALIFORNIA 91750
(909) 945-5437 FAX: (909) 944-4552

PROJECT: **CIBARIA INTERNATIONAL**
11009 JASMINE ST.
FONTANA, CA 92337

DATE: 04-26-07
SCALE: AS NOTED
DRAWN BY: L. CUBIT
JOB NO.: T0224
SHEET NO.: TI-5

REFLECTED CEILING PLAN / DETAILS

ARTICLE 87 - FIRE SAFETY DURING CONSTRUCTION,
ALTERATION OR DEMOLITION OF A BUILDING

NOTES: WHERE APPLICABLE

- A. BEFORE MAKING A REQUEST FOR FINAL FIRE INSPECTION, PLEASE READ AND COMPLY WITH THE APPLICABLE FIRE PREVENTION DEPARTMENT NOTES.
- B. A FIRE INSPECTION AND FINAL APPROVAL IS REQUIRED BEFORE THE BUILDING DEPARTMENT WILL ACCEPT A BUILDING FINAL INSPECTION REQUEST. PLEASE CALL FIRE CONSTRUCTION SERVICES (FCS) TO REQUEST ALL FIRE INSPECTIONS AT
- C. A KNOX BOX MUST EXIST ON THE BUILDING OR A KNOX BOX MUST BE PURCHASED AND INSTALLED IN ACCORDANCE WITH FIRE PREVENTION DEPARTMENT POLICY BEFORE FINAL INSPECTION. (EXISTING)
- D. THE KEY TO THE BUILDING OR SUITE MUST BE GIVEN TO THE FIRE INSPECTOR AT THE TIME OF FINAL INSPECTION. THE KEY WILL BE LOCKED IN THE KNOX BOX FOR FIRE DEPARTMENT EMERGENCY ACCESS.
- E. FIRE EXTINGUISHERS MUST BE INSTALLED PER FIRE PREVENTION DEPARTMENT FIRE EXTINGUISHER POLICY. START THE PLACEMENT OF FIRE EXTINGUISHER NEAR THE EXTERIOR EXIT DOORS. MOUNT THE FIRE EXTINGUISHER IN A VISIBLE AND ACCESSIBLE LOCATION, 3 1/2' T 5' ABOVE THE FINISH FLOOR TO THE HANDLE. BUILDING WITH MULTIPLE FLOORS MUST HAVE AT LEAST ONE FIRE EXTINGUISHER PER FLOOR.
- LIGHT HAZARD (OFFICES, CLASSROOMS, CHURCHES, ASSEMBLY ROOMS, RESIDENTIAL) OCCUPANCIES REQUIRE "2A0BC" FIRE EXTINGUISHERS. THE MAXIMUM COVERAGE AREA IS 5,000 SQ.FT. PER EXTINGUISHER AND THE MAXIMUM TRAVEL DISTANCE IS 75'.
- ORDINARY HAZARD (RETAIL STORAGE AND DISPLAY, LIGHT MANUFACTURING, WAREHOUSES WITHOUT HPS) OCCUPANCIES REQUIRE "3A40BC" FIRE EXTINGUISHERS. THE MAXIMUM COVERAGE AREA IS 4,000 SQ.FT. PER EXTINGUISHER AND THE MAXIMUM TRAVEL DISTANCE IS 75'.
- EXTRA HAZARD (AUTO REPAIR, WAREHOUSING WITH HPS, FLAMMABLE LIQUID USAGE) OCCUPANCIES REQUIRE "4A60BC" FIRE EXTINGUISHERS. THE MAXIMUM COVERAGE AREA IS 4,000 SQ.FT. PER EXTINGUISHER AND THE MAXIMUM TRAVEL DISTANCE IS 50'.
- COMMERCIAL KITCHENS REQUIRE "K" FIRE EXTINGUISHER WITH A MAXIMUM TRAVEL DISTANCE OF 30'.
- F. A CARPET CERTIFICATE MUST BE PRESENTED TO THE FIRE INSPECTOR UPON FINAL INSPECTION FOR NON-SPRINKLERED BUILDINGS AND BUILDINGS OTHER THAN A "B" OCCUPANCY. THE CARPET MUST MEET A MINIMUM FIRE RETARDANT CLASSIFICATION OF CLASS II OR BETTER BASED ON THE OCCUPANCY AND THE LOCATION OF THE CARPET INSTALLATION WITH THE BUILDING.
- G. A CONFIDENTIAL BUSINESS INFORMATION FORM MUST BE FILLED OUT BY THE OCCUPANT/ OWNER PRIOR TO FINAL INSPECTION AND BE PROVIDED TO THE FIRE INSPECTOR. THE FORM IS AVAILABLE FROM THE FIRE CONSTRUCTION SERVICES (FCS) COUNTER.
- H. THE FIRE SPRINKLER SYSTEM MODIFICATIONS REQUIRE A SEPARATE PLAN CHECK SUBMITTAL AND APPROVAL. WORK SHALL NOT COMMENCE UNTIL A PERMIT IS OBTAINED. INSPECTION OF THE ROUGH PIPING MUST BE PERFORMED PRIOR TO CONCEALMENT; A LIFT IS REQUIRED FOR MOST INSPECTIONS. CEILING TILES MUST NOT BE INSTALLED UNLESS APPROVED BY THE FIRE INSPECTOR.
- I. THE FIRE ALARM AND/OR FIRE SPRINKLER MONITORING MODIFICATIONS REQUIRE A SEPARATE PLAN CHECK SUBMITTAL AND APPROVAL. WORK SHALL NOT COMMENCE UNTIL A PERMIT IS OBTAINED.
- J. IN OCCUPANCY GROUPS "A-3, "B, "F, "M, & "S" BUILDINGS, IT IS REQUIRED THAT A SIGN BE PLACED ABOVE THE MAIN ENTRANCE DOOR STATING: THIS DOOR MUST REMAIN UNLOCKED DURING BUSINESS HOURS'.
- K. ALL THE DOORS DESIGNATED AS EXIT, EXCEPT FOR THE MAIN ENTRANCE IN "A-3, "B, "F, "M, & "S" OCCUPANCIES MUST BE EQUIPPED WITH COMMON KNOWLEDGE LEVER TYPE SINGLE ACTION HARDWARE, UNLESS PANIC HARDWARE IS SPECIFICALLY REQUIRED.
- L. ADDITIONAL EXIT SIGNS MAY BE REQUIRED AT THE TIME OF FINAL INSPECTION, IF THE ONE SHOWN ON THE PLANS DO NOT MEET THE INTENT OF THE CODE.
- M. IF AS-BUILT PLANS ARE REQUIRED, ADDITIONAL FEES WILL BE DUE DOOR THE REVIEW OF ONE OF THE AS-BUILT PLANS.
- N. THE GENERAL CONTRACTOR, THE OWNER OR THE TENANT MUST CONFIRM THAT THE 5-YEAR CERTIFICATION OF THE FIRE SPRINKLER SYSTEM IS CURRENT. IF THE SYSTEM IS NOT CERTIFIED, THE RESPONSIBLE PARTY MUST CONTACT A QUALIFIED COMPANY, PRIOR TO FINAL INSPECTION, TO CERTIFY THE SYSTEM. THE SYSTEM RISER MUST BEAR THE LABEL OF THE COMPANY THAT HAS ISSUED THE FIVE-YEAR CERTIFICATION. THE 5-YEAR CERTIFICATION MUST BE IN ACCORDANCE TO THE RCFPD STANDARDS. THE SPRINKLER CONTRACTOR MUST CONTACT THE FIRE SAFETY DIVISION AT (909) 411-2710 FOR THE REQUIRED FORMS.
- O. THE SUITE ADDRESS DESIGNATION MUST BE INSTALLED ON OR NEAR ALL EXTERIOR DOORS OF THE SUITE IN 3-INCH HIGH NUMBERS OR LETTERS CONTRASTING THE BACKGROUND.
- P. THE BUILDING ADDRESS NUMBERS MUST BE READILY VISIBLE, AUTOMATICALLY ILLUMINATED AND FACING THE STREET FROM WHICH THEY ARE ADDRESSED.
- Q. IF EMERGENCY ILLUMINATION IS EXISTING AND/OR REQUIRED, ADDITIONAL FIXTURES MAY BE REQUIRED TO BE INSTALLED (VERIFY THE REQUIREMENT WITH THE PLANS). THE LIGHTING MUST PROVIDE A MINIMUM OF ONE-FOOT CANDLE AT THE FLOOR LEVEL THROUGHOUT THE EXIT PATH. TESTING OF THE FIXTURES WILL BE REQUIRED AT FINAL INSPECTION. THE FIRE INSPECTOR MAY REQUEST A NIGHTTIME TEST AT HIS DISCRETION TO CONFIRM THE MINIMUM REQUIREMENT OF ONE-FOOT CANDLE AT FLOOR LEVEL.
- R. SMOKE DUCT DETECTORS FOR HVAC SHUT DOWN, WHEN REQUIRED, MUST BE INTERCONNECTED TO THE FIRE ALARM (IF THE BUILDING IS EQUIPPED WITH A FIRE ALARM OR A SPRINKLER MONITORING SYSTEM); A SEPARATE PLAN CHECK SUBMITTAL AND PERMIT IS REQUIRED FOR THE ALARM WORK.
- S. FIRE/ SMOKE DAMPERS, WHEN REQUIRED, MUST BE INTERCONNECTED TO THE FIRE ALARM (IF THE BUILDING IS EQUIPPED WITH A FIRE ALARM OR FIRE SPRINKLER MONITORING SYSTEM); A SEPARATE PLAN CHECK SUBMITTAL AND PERMIT IS REQUIRED FOR THE ALARM WORK.

SECTION 8701-SCOPE

BUILDING UNDERGOING CONSTRUCTION, ALTERATION OR DEMOLITION SHALL BE IN ACCORDANCE WITH ARTICLE 87.

SECTION 8702-PERMITS

FOR PERMITS TO CONDUCT ASBESTOS-REMOVAL OPERATIONS REGULATED BY SECTION 8707, SEE SECTION 105, PERMIT 6.4.

SECTION 8703-APPROVALS

APPROVAL OF THE SAFETY PRECAUTIONS REQUIRED FOR BUILDINGS BEING CONSTRUCTED, ALTERED OR DEMOLISHED MAY BE REQUIRED BY THE CHIEF IN ADDITION TO OTHER APPROVALS REQUIRED FOR SPECIFIC OPERATIONS OR PROCESSES ASSOCIATED WITH SUCH CONSTRUCTION, ALTERATION OR DEMOLITION.

EXCEPTION: BUILDINGS DESIGNATED AS GROUP R, DIVISION 3 OR GROUP U DO NOT REQUIRE APPROVAL OF SAFETY PRECAUTIONS.

SECTION 8704-FIRE SAFETY DURING CONSTRUCTION

8704.1 GENERAL. BUILDINGS UNDER CONSTRUCTION SHALL BE IN ACCORDANCE WITH SECTION 8704.

8704.2 ACCESS ROADS. FIRE DEPARTMENT ACCESS ROADS SHALL BE ESTABLISHED AND MAINTAINED IN ACCORDANCE WITH SECTION 902.

EXCEPTION: WHEN APPROVED, TEMPORARY ACCESS ROADS OF A WIDTH, VERTICAL CLEARANCE AND SURFACE WHICH PROVIDE ACCESS FOR FIRE DEPARTMENT APPARATUS ARE ALLOWED TO BE USED UNTIL PERMANENT ROADS ARE INSTALLED.

8704.3 WATER SUPPLY. WATER MAINS AND HYDRANTS SHALL BE INSTALLED AND OPERATIONAL IN ACCORDANCE WITH SECTION 903.

EXCEPTION: WHEN APPROVED, A TEMPORARY WATER SUPPLY FOR FIRE PROTECTION SYSTEMS ARE INSTALLED.

8704.4 FIRE PROTECTION

8704.4.1 GENERAL. DURING THE CONSTRUCTION OF A BUILDING AND UNTIL THE PERMANENT FIRE EXTINGUISHING SYSTEM HAS BEEN INSTALLED AND IS IN SERVICE, FIRE PROTECTION SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 8704.

8704.4.2 FIRE EXTINGUISHERS. FIRE EXTINGUISHERS SHALL BE PROVIDED FOR BUILDING UNDER CONSTRUCTION WHEN REPAIRED BY THE CHIEF. THE NUMBER AND TYPE OF EXTINGUISHERS SHALL BE AS REPAIRED BY THE CHIEF, AND THE TYPE OF EXTINGUISHER SHALL BE SUITABLE FOR THE TYPE OF FIRE ASSOCIATED WITH THE HAZARDS PRESENT.

8704.4.3 STANDPIPES.

8704.4.3.1 WHERE REQUIRED, EVERY BUILDING FOUR STORIES OR MORE IN HEIGHT SHALL BE PROVIDED WITH NOT LESS THAN ONE STANDPIPE FOR USE DURING CONSTRUCTION. SUCH STANDPIPES SHALL BE INSTALLED WHEN THE PROGRESS OF CONSTRUCTION IS NOT MORE THAN 35 FEET (10 668 MM) IN HEIGHT ABOVE THE LOWEST LEVEL OF FIRE DEPARTMENT ACCESS. SUCH STANDPIPE SHALL BE PROVIDED WITH FIRE DEPARTMENT HOSE CONNECTIONS AT ACCESSIBLE LOCATIONS ADJACENT TO USABLE STAIRS AND THE STANDPIPE OUTLETS SHALL BE LOCATED ADJACENT TO SUCH USABLE STAIRS. SUCH STANDPIPE SYSTEMS SHALL BE EXTENDED AS CONSTRUCTION PROGRESSES TO WITHIN ONE FLOOR OF THE HIGHEST POINT OF CONSTRUCTION HAVING SECURED DECKING OR FLOORING. ON EACH FLOOR THERE SHALL BE PROVIDED A 2 1/2" (63.5MM) VALVE OUTLET FOR FIRE DEPARTMENT USE. WHERE CONSTRUCTION HEIGHT REQUIRED INSTALLATION OF A CLASS III STANDPIPE, FIRE PUMPS AND WATER MAIN CONNECTIONS SHALL BE PROVIDED TO SERVE THE STANDPIPE.

8704.4.3.2 TEMPORARY STANDPIPES. TEMPORARY STANDPIPES ARE ALLOWED TO BE PROVIDED IN PLACE OF PERMANENT SYSTEMS IF THEY ARE DESIGNED TO FURNISH 500 GALLONS (1893 L) OF WATER PER MINUTE AT 50 POUNDS PER SQUARE INCH (345 KPA) PRESSURE WITH A STANDPIPE SIZE OF NOT LESS THAN 4 INCHES (101.6MM). ALL OUTLETS SHALL NOT BE LESS THAN 2 1/2 INCHES (63.5MM). PUMPING EQUIPMENT SUFFICIENT TO PROVIDE THIS PRESSURE AND VOLUME SHALL BE AVAILABLE AT ALL TIMES WHEN A CLASS II STANDPIPE SYSTEM IS REQUIRED.

8704.4.3.3 DETAILED REQUIREMENTS. STANDPIPE SYSTEMS FOR BUILDINGS UNDER CONSTRUCTION SHALL BE INSTALLED AS REQUIRED FOR PERMANENT STANDPIPE SYSTEMS.

8704.5 COMBUSTIBLE DEBRIS. COMBUSTIBLE DEBRIS SHALL NOT BE ACCUMULATED WITHIN BUILDINGS. COMBUSTIBLE DEBRIS, RUBBISH AND WASTE MATERIAL AND TRASH SHALL NOT BE BURNED ON THE SITE UNLESS APPROVED.

8704.6 MOTOR EQUIPMENT. INTERNAL COMBUSTION POWERED CONSTRUCTION EQUIPMENT SHALL BE USED IN ACCORDANCE WITH THE FOLLOWINGS:

1. EQUIPMENT SHALL BE LOCATED SO THAT EXHAUSTS DO NOT DISCHARGE AGAINST COMBUSTIBLE MATERIAL,
2. WHEN POSSIBLE, EXHAUSTS SHALL BE PIPED TO THE OUTSIDE OF THE BUILDING,
3. EQUIPMENT SHALL NOT BE REFUELED WHILE IN OPERATION, AND
4. FUEL FOR EQUIPMENT SHALL BE STORED IN AN APPROVAL AREA OUTSIDE THE BUILDING.

8704.7 HEATING DEVICES. TEMPORARY HEATING DEVICES SHALL BE OF AN APPROVED TYPE, LOCATED AWAY FROM COMBUSTIBLE MATERIALS, AND ATTENDED AND MAINTAINED BY COMPETENT PERSONNEL.

8704.8 SMOKING. SMOKING SHALL BE PROHIBITED, EXCEPT IN THOSE AREAS APPROVED. WHEN REQUIRED BY THE CHIEF, A SUITABLE NUMBER AND TYPE OF NO SMOKING SIGNS SHALL BE POSTED.

8704.9 CUTTING AND WELDING. CUTTING AND WELDING OPERATIONS SHALL BE IN ACCORDANCE WITH ARTICLE 44.

8704.10 FLAME-PRODUCING EQUIPMENT. THE USE OF TORCHES OR FLAME-PRODUCING DEVICES FOR THE SWEATING OF PIPE JOINTS SHALL BE IN ACCORDANCE WITH WITH ARTICLE 44.

8704.11 FLAMMABLE LIQUIDS. THE STORAGE, USE AND HANDLING OF FLAMMABLE LIQUIDS SHALL BE IN ACCORDANCE WITH ARTICLE 74. VENTILATION SHALL BE PROVIDED FOR OPERATIONS UTILIZING THE APPLICATION OF MATERIALS CONTAINING FLAMMABLE SOLVENTS.

8704.12 OPEN FLAME DEVICES. OPEN-FLAME DEVICES AND OTHER SOURCES OF IGNITION SHALL NOT BE COATED IN AREAS WHERE FLAMMABLE MATERIALS ARE BEING USED.

8704.13 ASPHALT AN TAR KETTLES. ASPHALT AND TAR KETTLES SHALL BE LOCATED AND OPERATED IN ACCORDANCE WITH SECTION 1103.

8704.14 TEMPORARY ELECTRICAL WIRING. TEMPORARY ELECTRICAL WIRING SHALL BE IN ACCORDANCE WITH SECTION 8503.

8704.15 BUILDING ACCESS. WHEN REQUIRED BY THE CHIEF, ACCESS TO BUILDINGS FOR THE PURPOSE OF FIRE FIGHTING SHALL BE PROVIDED. CONSTRUCTION MATERIAL SHALL NOT BLOCK ACCESS TO BUILDINGS, HYDRANTS OF FIRE APPLIANCES.

8704.16 EMERGENCY TELEPHONE. WHEN REQUIRED BY THE CHIEF, A FIRE-PROTECTION PLAN SHALL BE ESTABLISHED.

SECTION 8705-ALTERATIONS OF BUILDINGS

8705.1 GENERAL. ALTERATIONS OF BUILDINGS SHALL BE IN ACCORDANCE WITH THE BUILDING CODE, APPLICABLE PROVISIONS OF SECTION 8704 AND SECTION 8705.

8705.2 FIRE PROTECTION SYSTEMS. WHEN THE BUILDING IS PROTECTED BY FIRE-PROTECTION SYSTEMS, SUCH SYSTEMS SHALL BE MAINTAINED OPERATIONAL AT ALL TIMES DURING ALTERATION

WHEN ALTERATIONS REQUIRE MODIFICATION OF A PORTION OF A FIRE PROTECTION SYSTEM, THE REMAINDER OF THE SYSTEM SHALL BE KEPT IN SERVICE. WHEN IT IS NECESSARY TO SHUT DOWN THE ENTIRE SYSTEMS, A FIRE WATCH SHALL BE KEPT ON SITE UNTIL THE SYSTEM IS RETURNED TO SERVICE.

8705.3 MEANS OF EGRESS. REQUIRED MEANS OF EGRESS COMPONENTS SHALL BE MAINTAINED IN ACCORDANCE WITH ARTICLE 12.

EXCEPTION: APPROVED TEMPORARY MEANS OF EGRESS SYSTEM OR FACILITIES.

8705.4 FIRE-RESISTIVE ASSEMBLIES AND CONSTRUCTION. FIRE-RESISTIVE ASSEMBLIES AND CONSTRUCTION SHALL BE MAINTAINED IN ACCORDANCE WITH SECTION 1111.

SECTION 8706-FIRESAFETY DURING DEMOLITION

8706.1 GENERAL. DEMOLITION OF BUILDINGS SHALL BE IN ACCORDANCE WITH SECTION 8706 AND, WHERE APPLICABLE, SECTIONS 8704 AND 8705.

8706.2 AUTOMATIC SPRINKLER SYSTEM. WHEN A BUILDING TO BE DEMOLISHED CONTAINS A SPRINKLER SYSTEM, SUCH SYSTEM SHALL NOT BE RENDERED INOPERATIVE WITHOUT APPROVAL OF THE CHIEF.

8706.3 FIRE HOSE. SUITABLE FIRE HOSE, AS REQUIRED BY THE CHIEF, SHALL NOT BE MAINTAINED AT THE DEMOLITION SITE. SUCH HOSE SHALL BE CONNECTED TO AN APPROVED SOURCE OF WATER AND SHALL NOT IMPEDE FIRE DEPARTMENT USE OF HYDRANTS.

8706.4 CUTTING AND WELDING. DEMOLITION OPERATIONS INVOLVING CUTTING AND WELDING SHALL BE IN ACCORDANCE WITH ARTICLE 44.

8706.5 BURNING OF COMBUSTIBLE WASTE. COMBUSTIBLE WASTE MATERIAL, TRASH AND RUBBISH SHALL NOT BE BURNED AT THE DEMOLITION SITE, UNLESS APPROVED. ACCUMULATIONS OF SUCH MATERIAL SHALL BE REMOVED FROM THE SITE AS OFTEN AS NECESSARY TO MINIMIZE THE HAZARDS THEREFROM.

8706.6 FIRE WATCH. WHEN REQUIRED BY THE CHIEF FOR BUILDING DEMOLITION WHICH IS HAZARDOUS IN NATURE, QUALIFIED PERSONNEL SHALL BE PROVIDED TO SERVE A SN ON-SITE FIRE WATCH. THE SOLE DUTY OF FIRE WATCH PERSONNEL SHALL BE TO WATCH FOR THE OCCURRENCE OF FIRE.

SECTION 8707-ASBESTOS REMOVAL

8707.1 GENERAL. OPERATIONS INVOLVING REMOVAL OF ASBESTOS OR ASBESTOS-CONTAINING MATERIALS FROM BUILDINGS SHALL BE IN ACCORDANCE WITH SECTION 8707.

EXCEPTION: SECTION 8707 DOES NOT APPLY TO THE REMOVAL OF ASBESTOS FROM:

1. PUMPS, VALVES, GASKETS AND SIMILAR EQUIPMENT
2. PIPES, DUCTS, GIRDERS, OR BEAMS WHICH HAVE A LENGTH LESS THAN 21 LINEAR FEET (6400MM)
3. WALL OR CEILING PANELS WHICH HAVE AN AREA OF LESS THAN 10 SQUARE FEET (0.93M2) OR A DIMENSION OF LESS THAN 10 LINEAR FEET (3048MM).
4. FLOOR TILES WHEN THE DURATION OF WORK CAN BE COMPLETED IN LESS THAN FOUR HOURS.
5. GROUP R, DIVISION 3 OCCUPANCIES.

8707.2 NOTIFICATION. THE CHIEF SHALL BE NOTIFIED 24 HOURS PRIOR TO THE COMMENCEMENT AND CLOSURE OF ASBESTOS-REMOVAL OPERATIONS.

THE PERMIT APPLICANT SHALL NOTIFY THE BUILDING OFFICIAL WHEN ASBESTOS ABATEMENT INVOLVES THE REMOVAL OF MATERIALS WHICH WERE USED AS A FEATURE OF THE BUILDING'S FIRE RESISTANCE.

8707.3 PLASTIC FILM. PLASTIC FILM IS INSTALLED ON BUILDING ELEMENTS SHALL BE FLAME RESISTANT AS REQUIRED FOR COMBUSTIBLE DECORATIVE MATERIAL IN ACCORDANCE WITH SECTION 1103.3.

8707.4 SIGN. APPROVED SIGNS SHALL BE POSTED AT THE ENTRANCE, EXIT AND EXIT-ACCESS DOOR, DECONTAMINATION AREAS AND WASTE-DISPOSAL AREAS FOR ASBESTOS-REMOVAL OPERATIONS. THE SIGNS SHALL STATE THAT ASBESTOS IS BEING REMOVED FROM THE AREA, THAT ASBESTOS IS A SUSPECTED CARCINOGEN ANT THAT PROPER RESPIRATORY PROTECTION IS REQUIRED. SIGNS SHALL BE A REFLECTIVE SURFACE AND LETTERING SHALL BE A MINIMUM OF 2 INCHES (51MM) HIGH.



BONALDO DESIGN GROUP

TENANT IMPROVEMENT PLANS
10241-B TRADEMARK ST.
RANCHO CUCAGONA, CALIFORNIA 91750
(909) 945-6437 FAX: (909) 944-4892

PROJECT: CIBARIA INTERNATIONAL

1109 JASMINE ST.
FONTANA, CA 92337

SHEET TITLE: FIRE PREVENTION DEPARTMENT NOTES

DATE: 04-26-07
SCALE: AS NOTED
DRAWN BY: L. CIBIT
JOB NO.: 10334
SHEET NO.: 11-7

S-1

NEW FOOTING

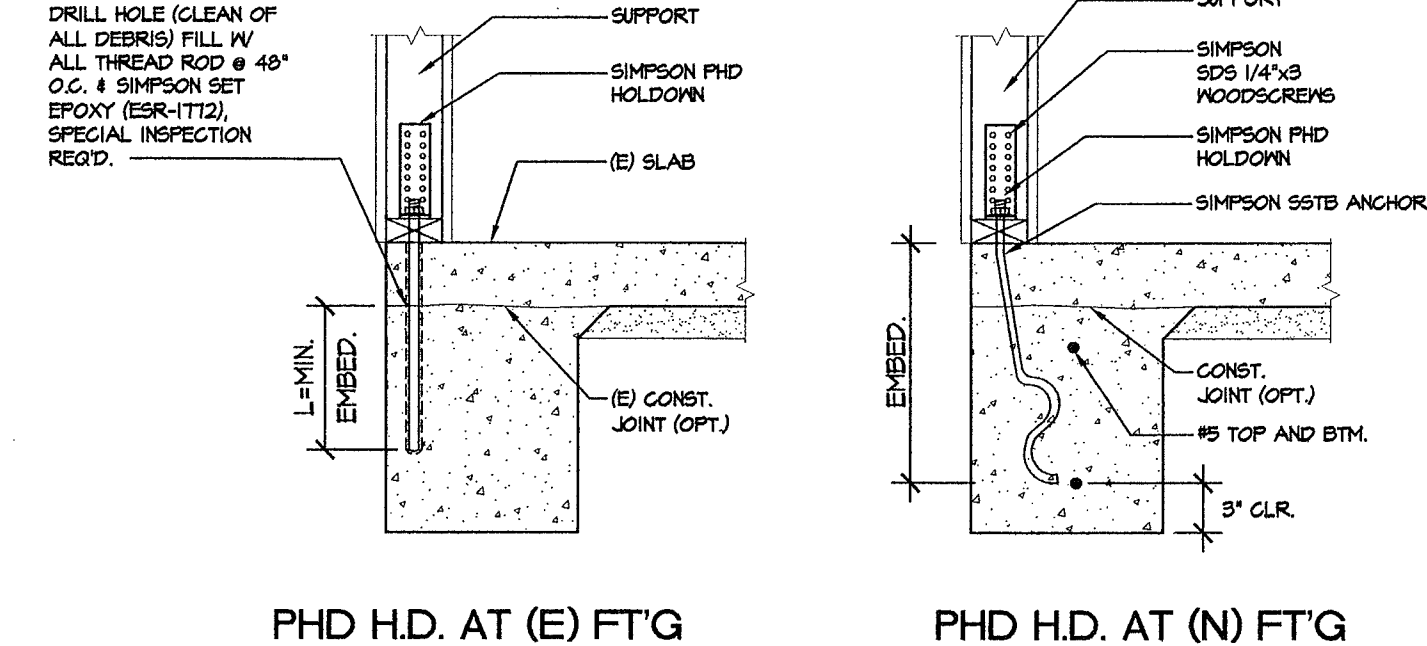
EXISTING FOOTING

1. ALL REBAR, ANCHOR BOLTS AND HOLDINGS ARE TO BE IN PLACE PRIOR TO FOUNDATION INSPECTION.
2. PROVIDE MINIMUM TWO ANCHOR BOLTS PER SHEARWALL SEGMENT.
3. ANCHOR BOLTS AT SILL PLATES TO BE @ 48" O.C. MIN. AND 4 3/8" MIN. OR 12" MAX. FROM ENDS.
4. SEE SHEET 5-2 FOR SHEARWALL LOCATIONS.
5. ALL FOOTINGS TO HAVE 5/8"Ø ANCHOR BOLTS WITH 2"x2"x3/16" WASHERS AT 48" O.C. (U.N.O.)
6. ALL FOUNDATION EXCAVATIONS TO BEAR ON LIKE MATERIAL.
7. AT EXISTING WALLS AND FOOTINGS, IF ADDITIONAL ANCHOR BOLTS ARE NEEDED TO MEET REQUIRED SPACING, ADD 5/8"Ø ALL THREAD ANCHORS PER DETAIL (4/SD-1).

NOTE:

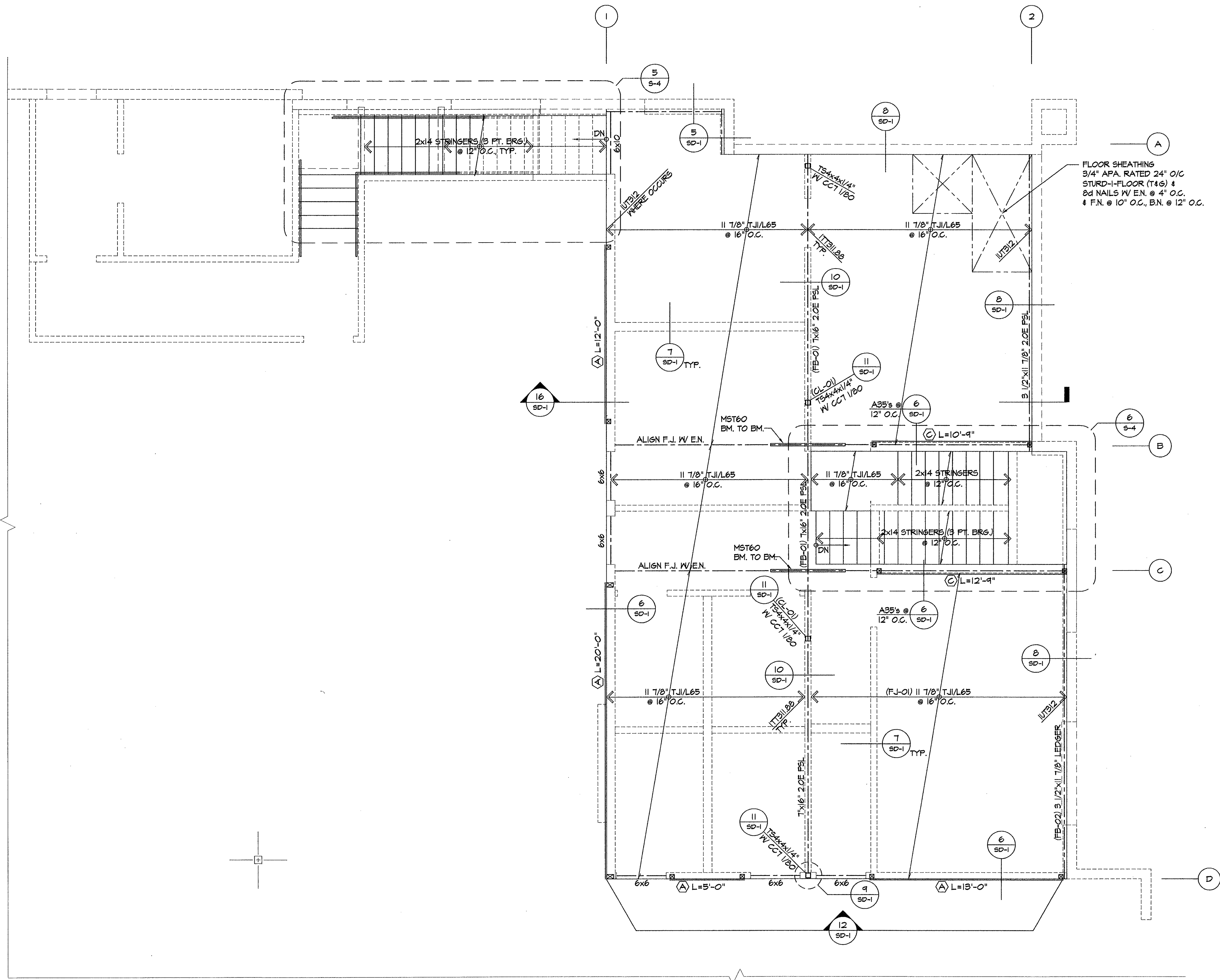
- (1) SUPPORT MEMBERS MUST BE D.F.
- (2) HOLLOWDOWN TYPES MAY BE SUBSTITUTED WITH ANOTHER TYPE FROM THE SCHEDULE WHICH MEETS OR EXCEEDS THE ALLOWABLE LOAD REQUIRED BY THE ORIGINAL HOLLOWDOWN SPECIFIED.
- (3) IF STEM WALL IS USED, MIN. WIDTH OF STEM WALL MUST BE 8"
- (4) USE 4x6 POST MIN. IN 2x4 WALL; 6x6 POST MIN. IN 2x6 WALL.
- (5) USE 4x8 POST MIN. IN 2x4 WALL; 6x8 POST MIN. IN 2x6 WALL.

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SEP 04 2007
BUILDING & SAFETY
CITY OF FONTANA



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FLOOR FRAMING PLAN



FRAMING NOTES:

- CONTRACTOR TO VERIFY ALL ROOF TRUSS LENGTHS, PITCH, AND HEEL HEIGHTS, PRIOR TO ORDERING TRUSSES.
- TRUSS CALCULATIONS SHALL BE APPROVED BY ENGINEER OF RECORD AND BY BUILDING DEPARTMENT PRIOR TO FABRICATION.
- ROOF TRUSSES SHALL BE FABRICATED BY A LICENSED TRUSS MANUFACTURING COMPANY STAMPED WITH THE MANUFACTURER'S NAME, DESIGN, LOAD, AND REQUIRED SPACING.
A) IDENTITY OF THE COMPANY MANUFACTURING THE TRUSS
B) DESIGN LOADS
C) SPACING OF THE TRUSSES
- TRUSSES SHALL NOT BE CUT OR DRILLED.
- TRUSSES SHALL BE BRACED PER MANUFACTURER'S SPECIFICATIONS.
- EACH TRUSS SHALL BE LEGIBLY BRANDED, MARKED, OR OTHERWISE PERMANENTLY AFFIXED THERE TO THE FOLLOWING INFORMATION LOCATED WITHIN 2 FEET OF THE CENTER OF THE SPAN ON THE FACE OF THE BOTTOM CHORD:
A) IDENTITY OF THE COMPANY MANUFACTURING THE TRUSS
B) DESIGN LOADS
C) SPACING OF THE TRUSSES
- ALL TOP PLATES ALONG SHEAR WALL LINES TO BE CONTINUOUS OR SPLICED PER DETAIL (5/SD-1)
- INDIVIDUAL WOOD STRUCTURAL PANEL SEGMENTS IN SHEAR WALLS MUST BE 16" WIDE, MINIMUM.
- SHEAR PANELS TO BE MAINTAINED 3" FROM ROUGH OPENINGS.
- SHEAR PANEL INSPECTION REQUIRED PRIOR TO CONCEALMENT, NAIL SIDING PER THE APPROVED PRODUCT LISTING. IF THE DESIGN REQUIRES UNDERLAP NAILING, SCHEDULE SHEAR PANEL INSPECTIONS WITH THE CONCURRENT OF THE INSPECTOR.
- ALL INTERIOR NON-BEARING HEADERS TO BE PER SPANS LISTED BELOW:
0-4 FT. SPAN: 4x4
6-10 FT. SPAN: 4x6
- ALL LUMBER, GLUE-LAMINATED BEAMS, STRUCTURAL PANELS OR OTHER COMPONENTS SHALL BE IDENTIFIED WITH THE GRADE MARK OR CERTIFICATE OF AN APPROVED AGENCY.
- SQUASH BLOCKS TO MATCH, SHALL BE PROVIDED BETWEEN POSTS FROM UPPER AND LOWER LEVELS.
- PLACE HOLDOWN STRAPS ON FINISH SIDE OF WALL FRAMING WHEN WALL WIDTH BELOW DIFFERS.

SHEARWALL SCHEDULE (1) (2) (3) (4) (5) (6) (7) (8)						
CODE	VALLOM #/1	WALL COVERING	ONE SIDE	TWO SIDE	NAILING EDGE o/c FIELD o/c	SPN 16d COMMON * O.C.
(A)	260	3/8" W.S.P. BLOCKED	X		8d @ 6" 8d @ 12"	4"
(B)	350	3/8" W.S.P. BLOCKED	X		8d @ 4" 8d @ 12"	4"
(C) (3)	380	3/8" W.S.P. BLOCKED	X		8d @ 4" 8d @ 12"	4"
(D) (3)	440	3/8" W.S.P. BLOCKED	X		8d @ 3" 8d @ 12"	3"
(E)	---	---	---	---	---	---
(F) (3)	550	3/8" STRUCT. I W.S.P. BLCKD.	X		8d @ 3" 8d @ 12"	3"
(G) (3)	600	15/32" STRUCT. I W.S.P. BLCKD.	X		10d @ 3" 10d @ 12"	2 1/2"
(H) (4)	665	15/32" STRUCT. I W.S.P. BLCKD.	X		10d @ 3" 10d @ 12"	4" (3)
(I) (4)	730	3/8" STRUCT. I W.S.P. BLCKD.	X		8d @ 2" 8d @ 12"	4" (3)
(J) (4)	870	15/32" STRUCT. I W.S.P. BLCKD.	X		10d @ 2" 10d @ 12"	3 1/2" (3)
(K) (3)	480	3/8" W.S.P. BLOCKED		X	8d @ 3" 8d @ 12"	3" (3)
(M) (3)	1010	3/8" STRUCT. I W.S.P. BLCKD.		X	8d @ 3" 8d @ 12"	3" (3)

- MAX. HEIGHT/WIDTH RATIO IS 2 : 1
- STUDS @ 16" O.C. (UNO.)
- ALL FRAMING AT ADJOINING PANEL EDGES, EXCEPT FOR BOTTOM PLATES SHALL BE 3" NOM. OR WIDER, JOINT AND SILL PLATE NAILING SHALL BE STAGGERED.
- ALL FRAMING AT ADJOINING PANEL EDGES, INCLUDING BOTTOM PLATES SHALL BE 3" NOM. OR WIDER, JOINT AND SILL PLATE NAILING SHALL BE STAGGERED.
- WHERE SHEAR PANELS ARE APPLIED ON BOTH SIDES OF WALL AND NAILING IS LESS THAN 6" O.C. PANEL JOINTS SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS, OR FRAMING SHALL BE 3" NOMINAL OR THICKER AND NAILS ON EACH SIDE SHALL BE STAGGERED.
- CONNECTION OF ROOF BLOCKING TO TOP PLATE SHALL BE SIMPSON A35 @ 24" O.C. (UNO.) CONNECTION OF SECOND FLOOR WALL TO RIM JOIST TO BE 16d PER SPAN SHOWN ABOVE, AND SIMPSON A35 @ 24" O.C. (UNO.) FROM RIM JOIST TO TOP PLATE.
- ALL NAILS TO BE COMMON OR GALVANIZED (HOT-DIPPED OR TUMBLE).
- USE SIMPSON SDS 1/4x6 LAG SCREW IN PLACE OF 16d SPN AT THE ABOVE GIVEN O.C. SPACINGS.
- WSP: WOOD STRUCTURAL PANEL

APPROVED
SEP 04 2007
BUILDING & SAFETY
CITY OF FONTANA

REGISTERED PROFESSIONAL ENGINEER
SERGE V. BOMALDO
NO. 43812
EXP. 6-30-10
STATE OF CALIFORNIA

REVISIONS
A.P.C. REV. 6/24/07

PROJECT: CIBARIA INTERNATIONAL
1109 JASMYNE STREET
FONTANA, CA 92337

SHEET TITLE: FLOOR FRAMING PLAN

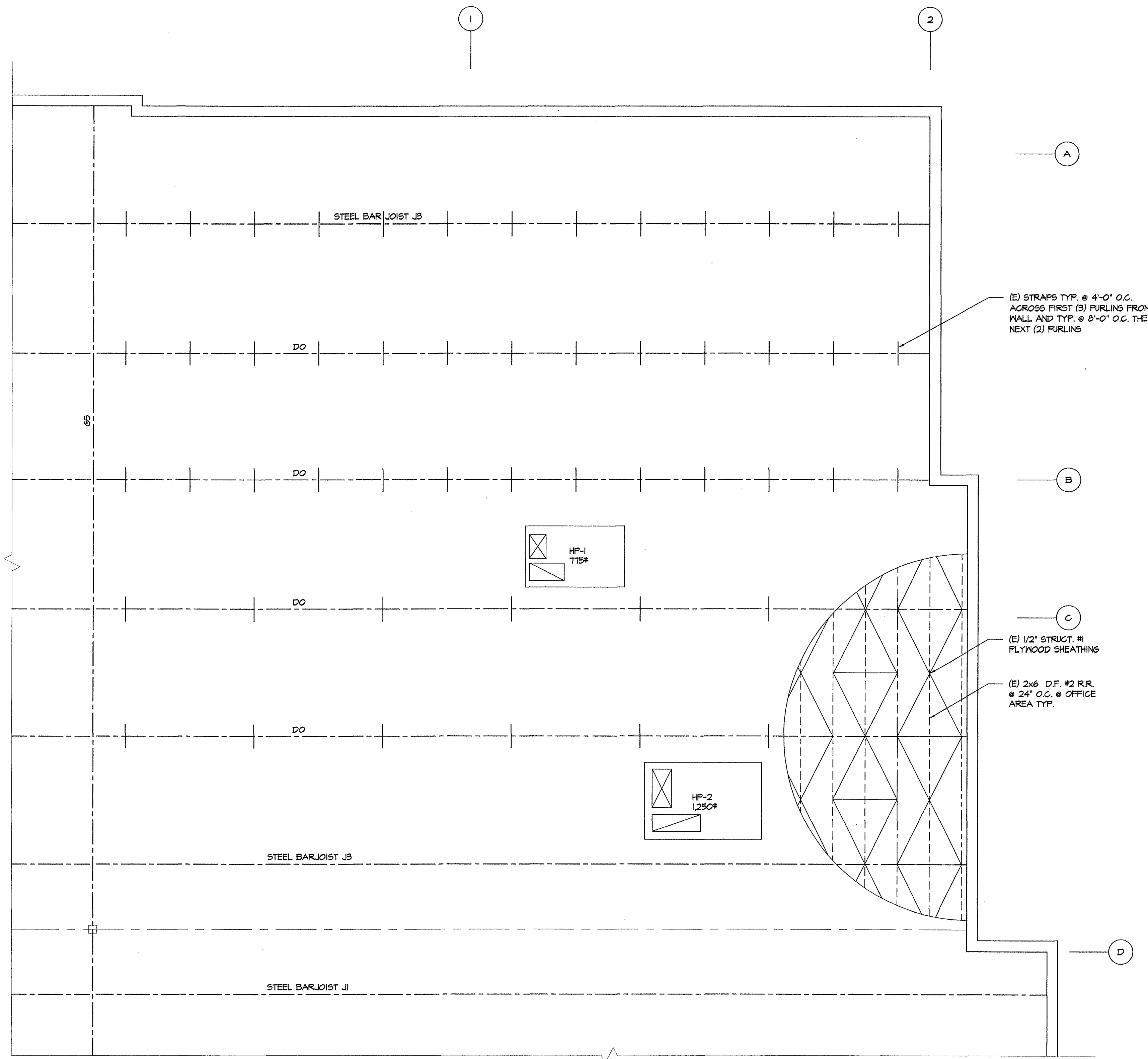
DATE: MAY 3, 2007
SCALE: AS NOTED
DRAWN BY: DAVID C.
JOB NO.: 04-24-344B
SHEET NO.: S-2

SCALE
1/4" = 1'-0"

1

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HVAC ROOF FRAMING PLAN

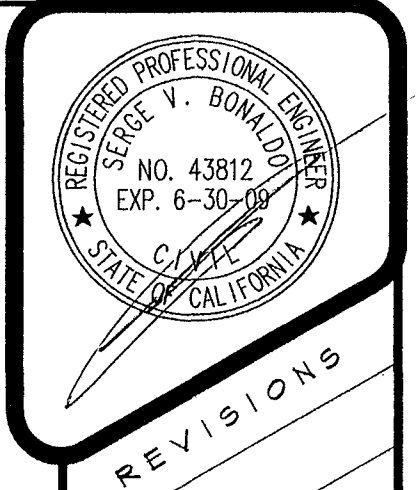


REFERENCE DETAIL (10/SD-4) ON PREVIOUSLY APPROVED ARA INC. STRUCTURAL DRAWING (ENCLOSED) FOR ROOF TOP UNIT SUPPORT. ALSO SEE SHEET S-3B ROOF NOTES #9.A.(g) FOR ALLOWABLE LOADS.

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CITY OF FONTANA

PROJECT: **CIBARIA INTERNATIONAL**
11001 JASMINE STREET
FONTANA CA 92337

BONALDO ENGINEERING
STRUCTURAL ENGINEERING & BUILDING DESIGN
10241 TRADEMARK ST. SUITE B
RANCHO CUCAGONA, CALIFORNIA 91750
(909) 944-9992



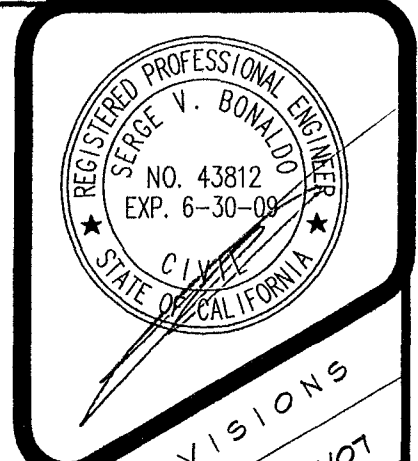
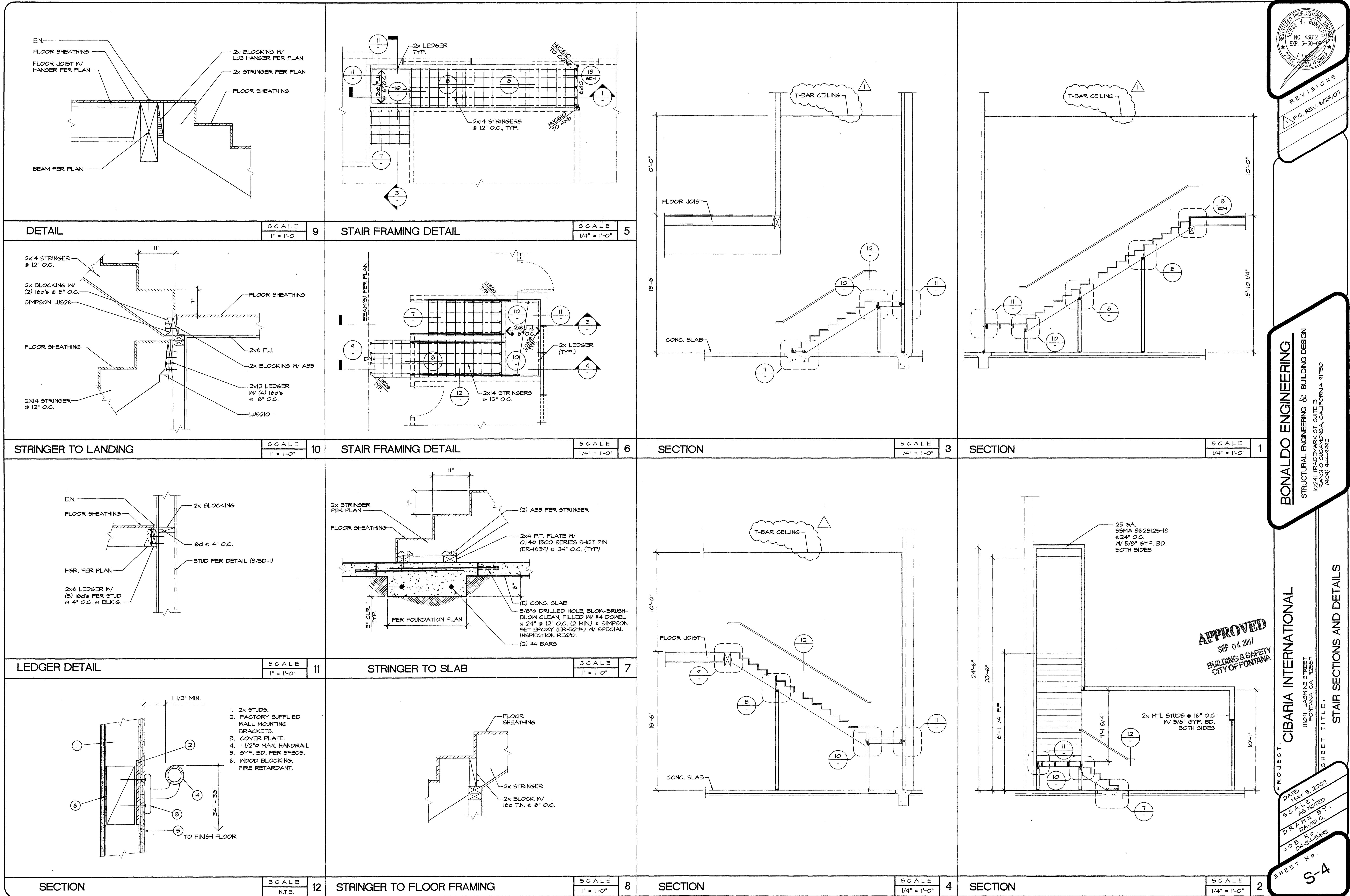
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JOB NO.: 04-349349B
SHEET No. **S-3**

SHEET TITLE: **HVAC ROOF FRAMING PLAN**

SCALE
1/4" = 1'-0"

1

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REVISIONS
1. P.C. REV. 6/22/07

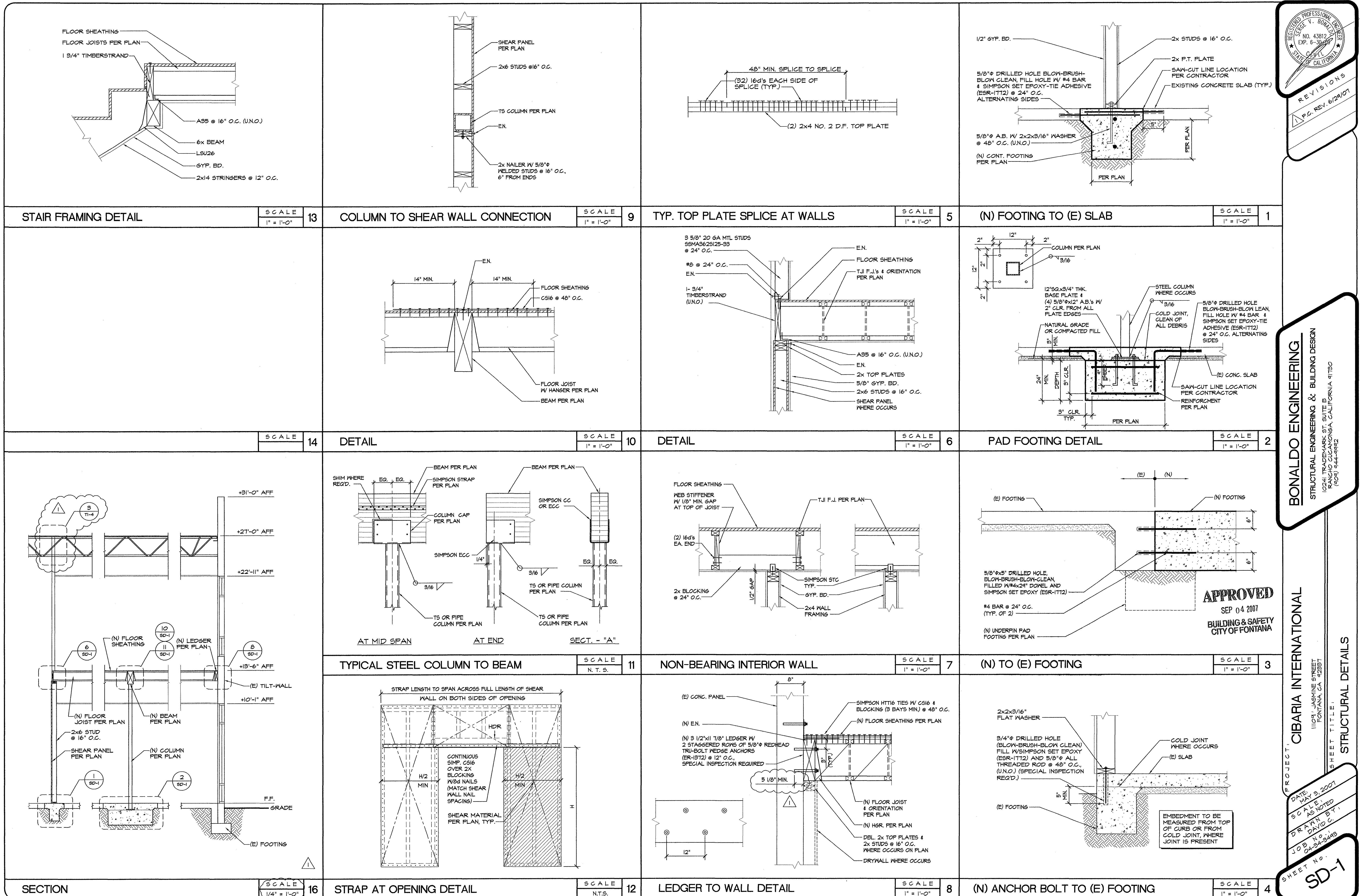
BONALDO ENGINEERING
STRUCTURAL ENGINEERING & BUILDING DESIGN
10241 TRADEMARK ST., SUITE B
RANCHO CUCAMONGA, CALIFORNIA 91750
(909) 444-4412

PROJECT: **CIBARIA INTERNATIONAL**
11020 LASAVIA STREET
FONTANA, CA 92337
SHEET TITLE: **STAIR SECTIONS AND DETAILS**

DATE: MAY 3, 2007
SCALE: AS NOTED
DRAWN BY: DAVID C.
JOB NO.: 04-54-2425
SHEET No. **S-4**

APPROVED
SEP 04 2007
BUILDING & SAFETY
CITY OF FONTANA

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REGISTERED PROFESSIONAL ENGINEER
SERGE V. BOMBOYER
NO. 43812
EXP. 6-30-2010
STATE OF CALIFORNIA

REVISIONS
P.C. REV. 6/24/07

BONALDO ENGINEERING

STRUCTURAL ENGINEERING & BUILDING DESIGN
10241 TRADEMARK ST, SUITE B
RANCHO CUCAGONA, CALIFORNIA 91750
(909) 544-5512

PROJECT: CIBARIA INTERNATIONAL

DATE: MAY 3, 2007

SCALE: AS NOTED

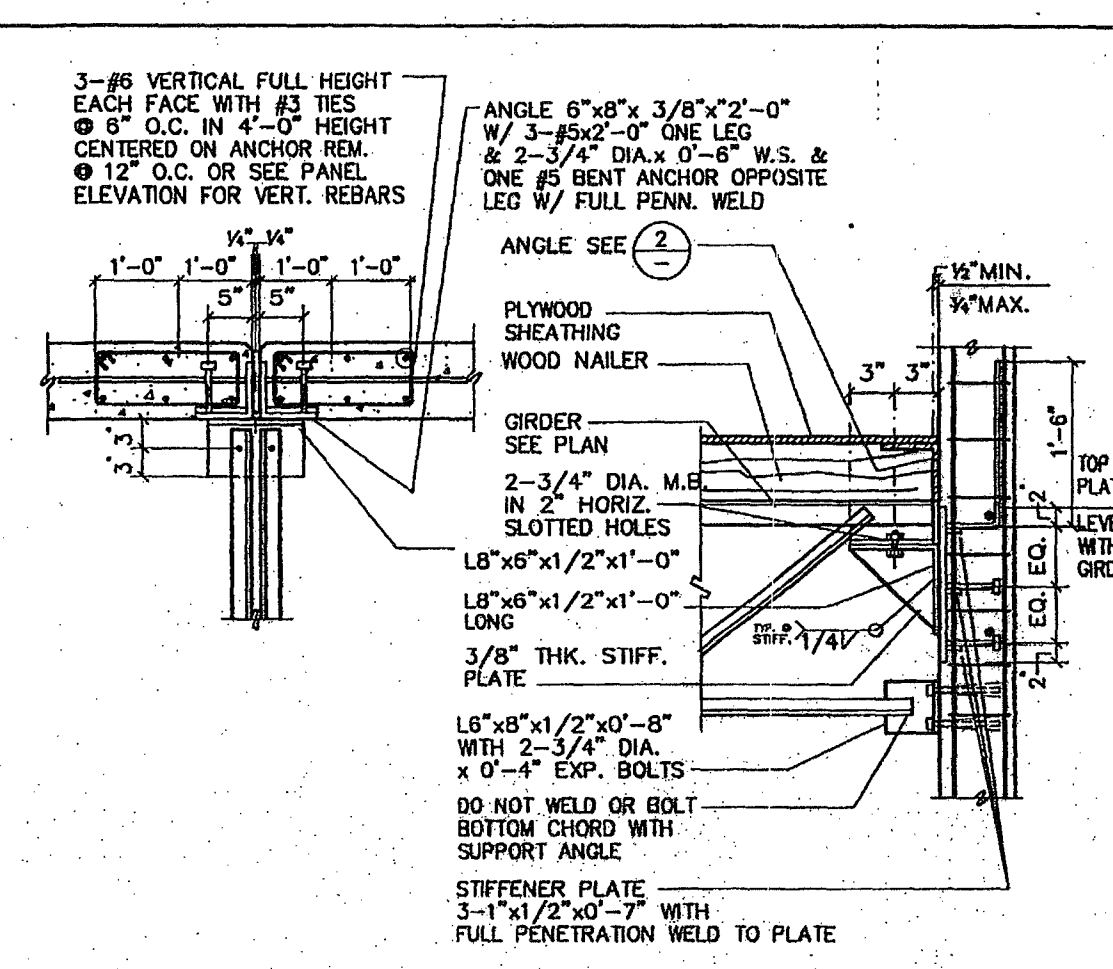
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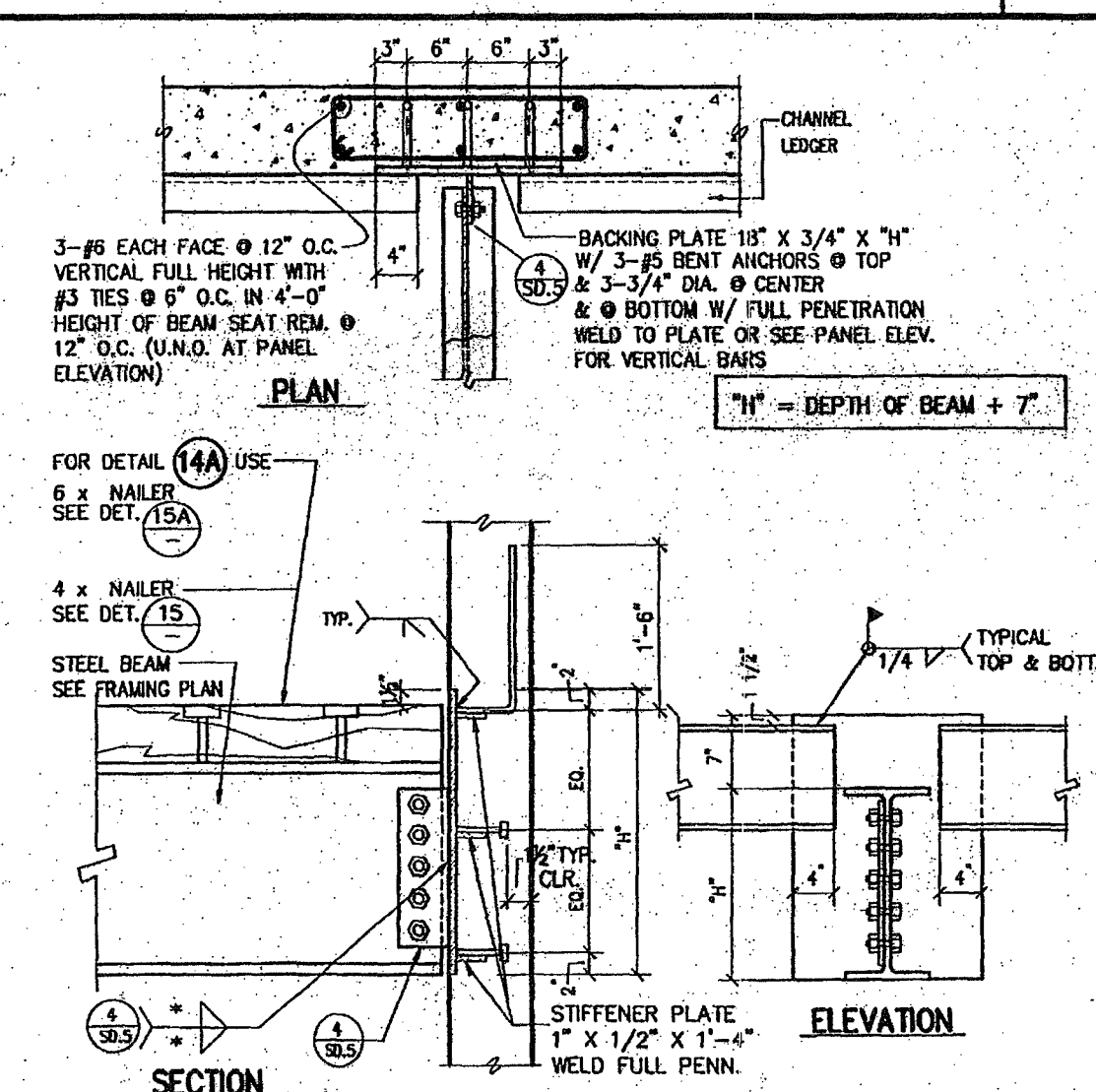
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STRUCTURAL DETAILS

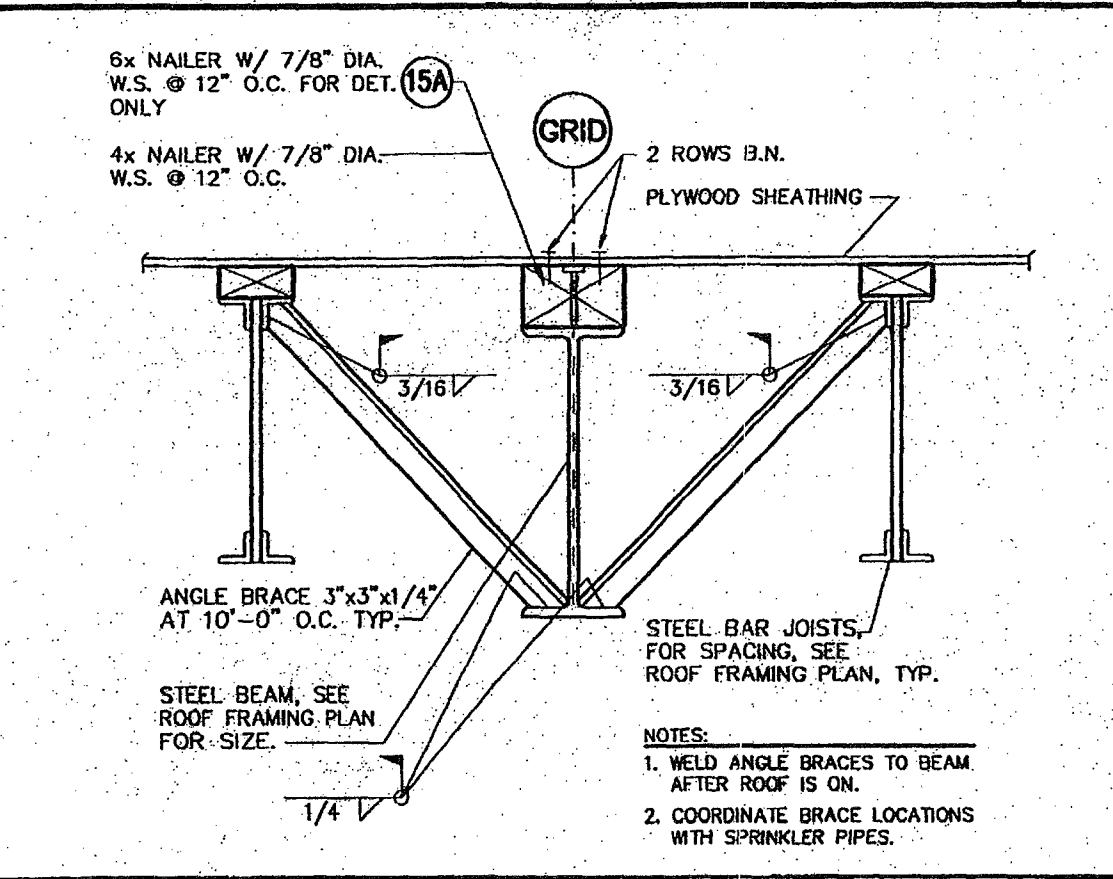
		<p>Douglas Franz Architects</p> <p>4120 Birch Street, Newport Beach, CA 92660 949.553.0825 Phone 949.553.0569 Fax doug@dfarchitects.com</p> <p>Architect's License No. C-27835</p>		License Renewal Date: 31 March 2005											
		<p>ARAAmit S. Randhawa & Associates CONSULTING STRUCTURAL ENGINEERS INC. 10708 Valley View Avenue Suite 270 Van Nuys, CA 91411 Tel: (714) 622-2611 Fax: (714) 622-1149 E-Mail: randhawa@aramanila.com</p> <p>ARA PROJECT NO. 04-218</p>													
		<table border="1"> <thead> <tr> <th>REVISIONS</th> <th></th> </tr> </thead> <tbody> <tr> <td>BID SET</td> <td>01-20-05</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table>		REVISIONS		BID SET	01-20-05								
REVISIONS															
BID SET	01-20-05														
Jasmine Street A Project for: Panattoni Development		11027 Jasmine Street Fontana, California													
BUILDING "B"		DATE: 01-20-05													
ROOF NAILING DIAGRAM		SCALE:		J.O.											
		DRAWN BY:													
		PROJECT NO:		04-218											
S-3B															



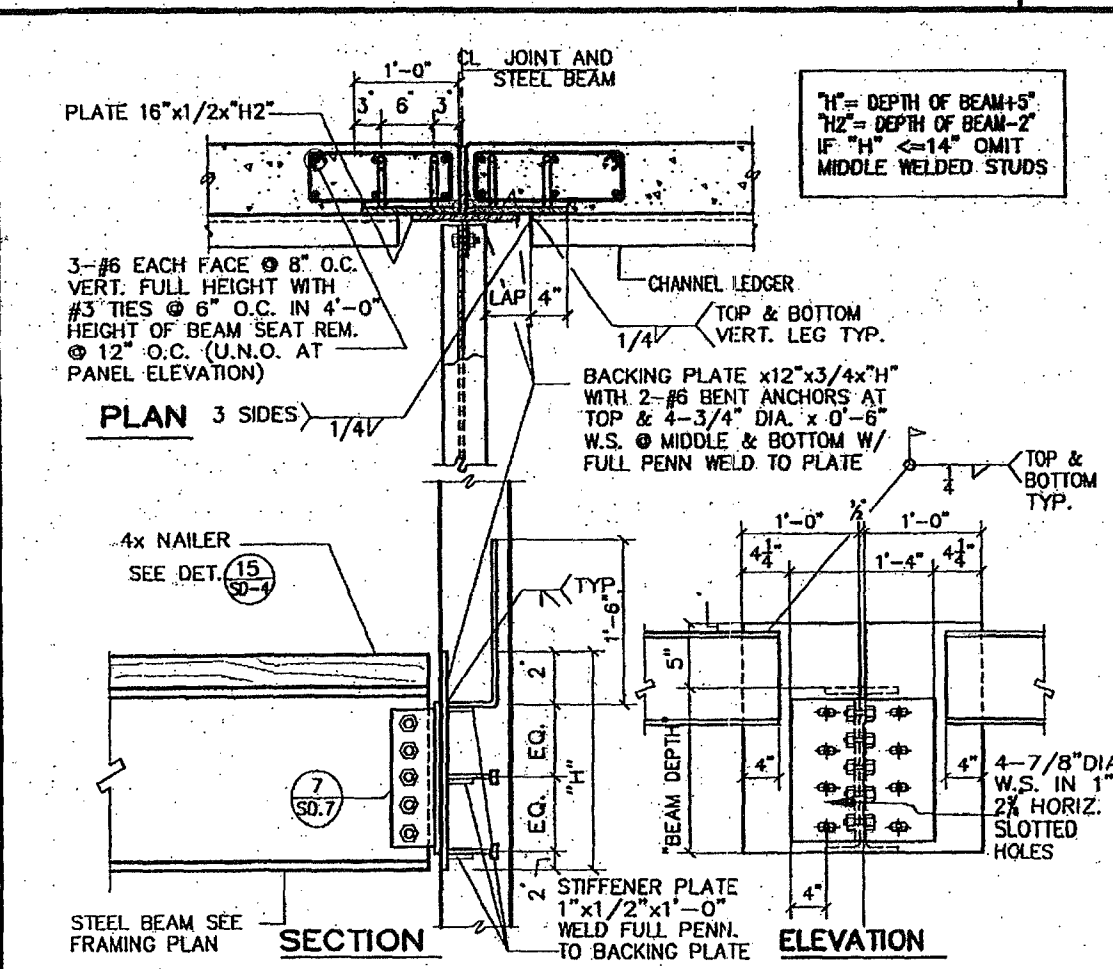
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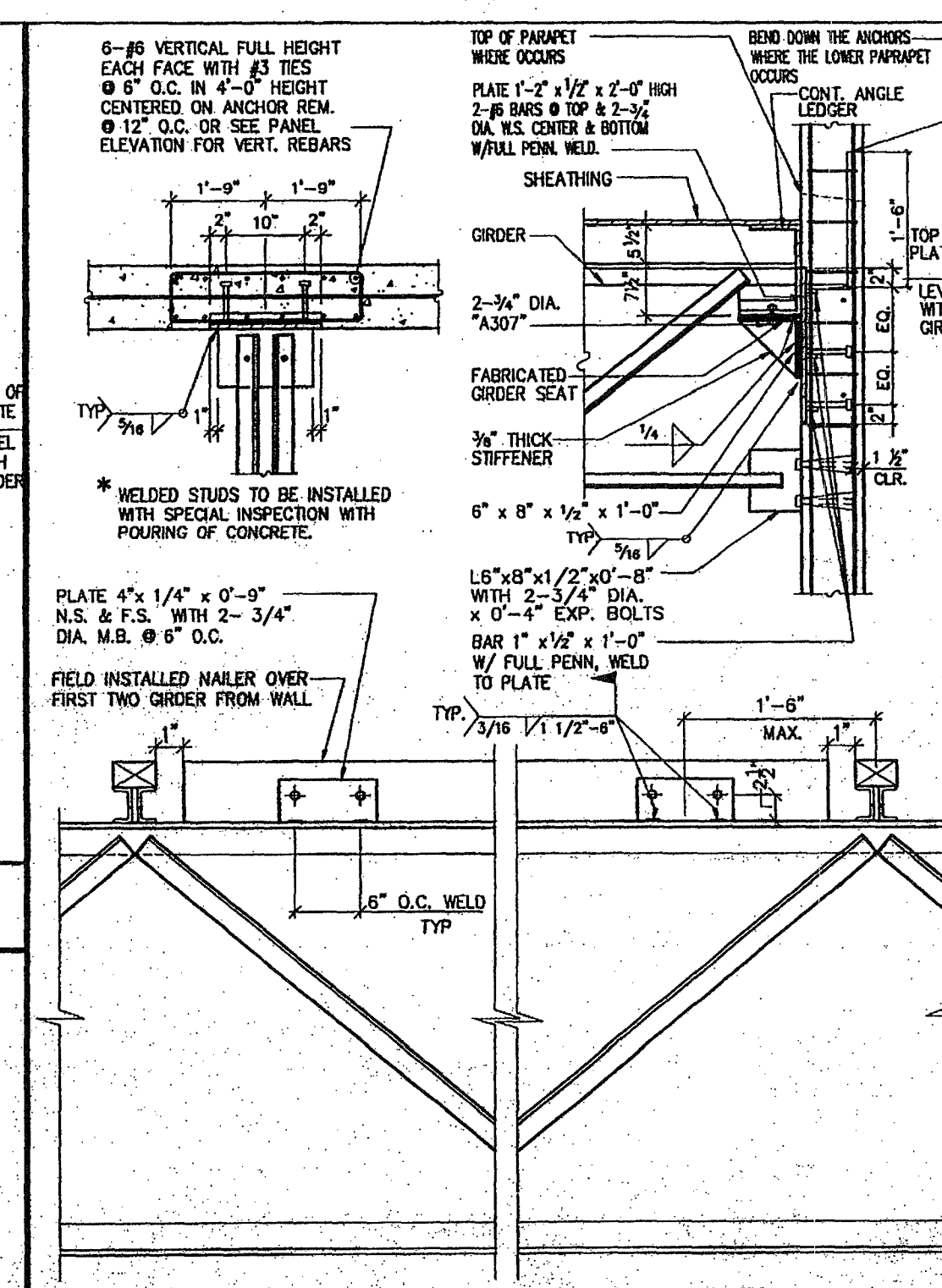
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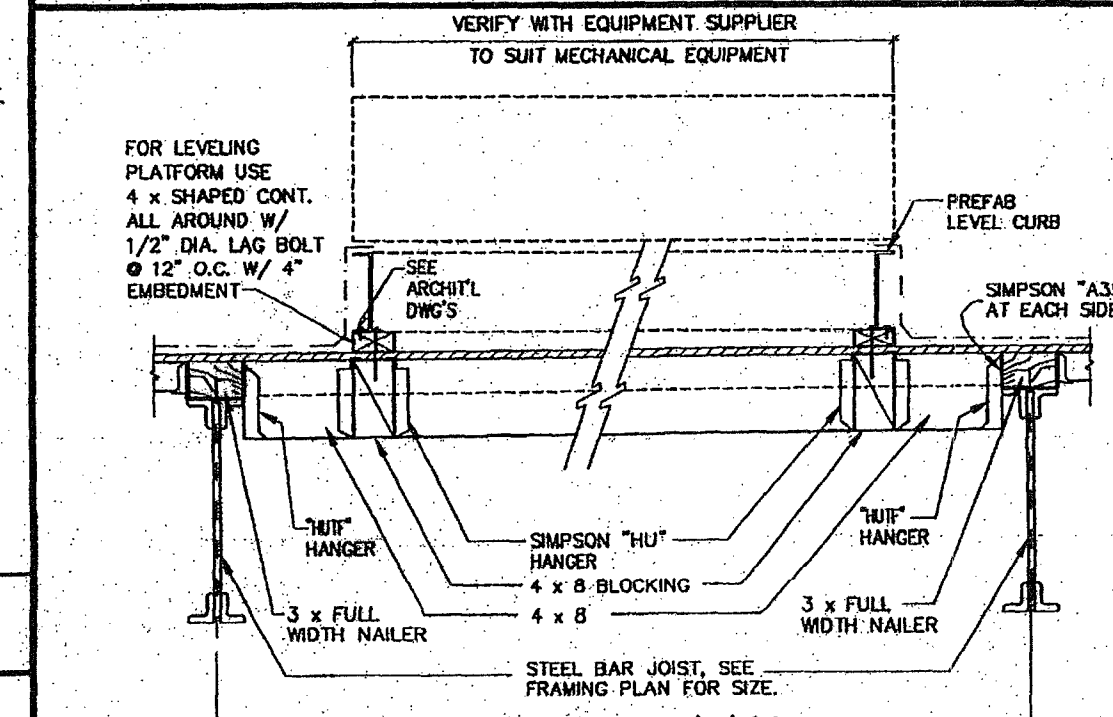
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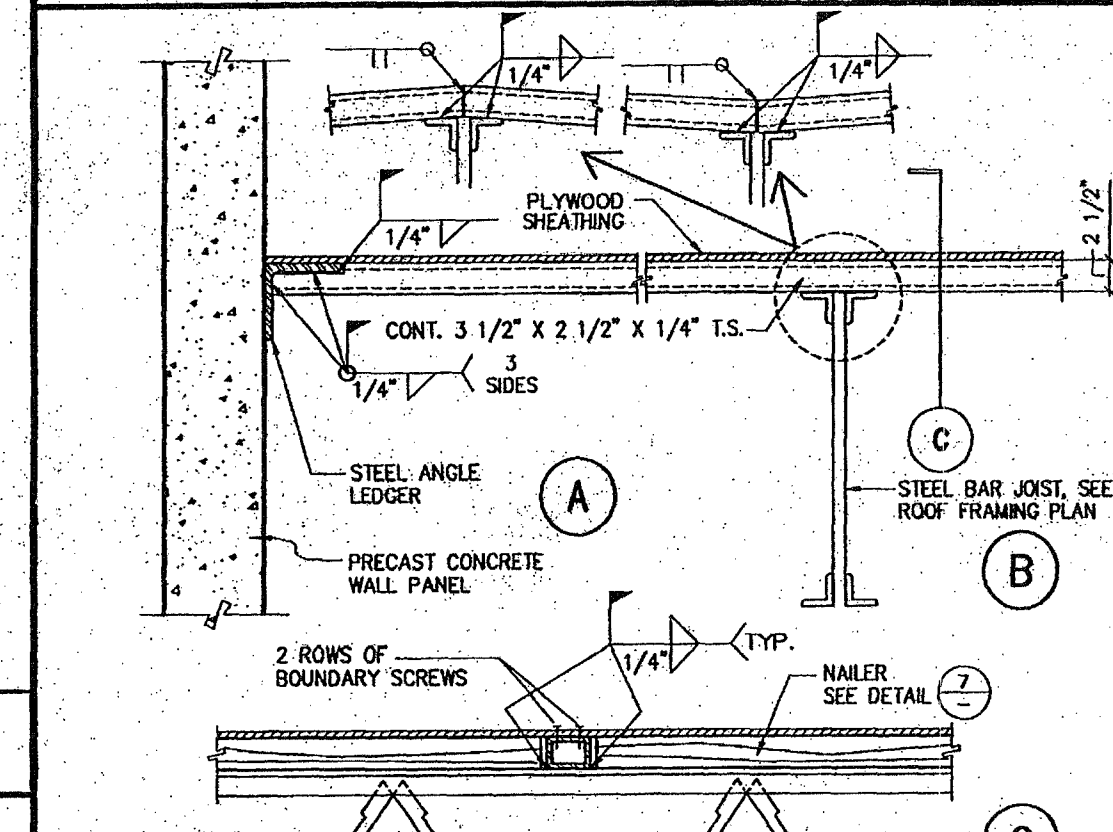
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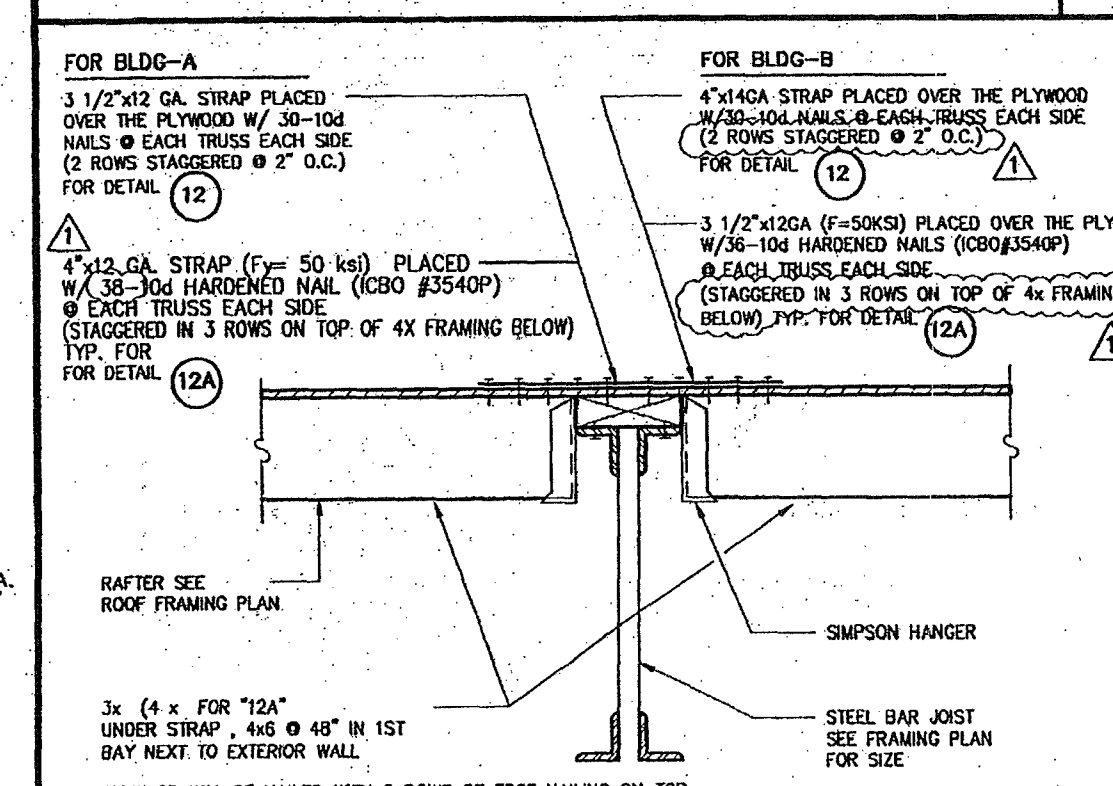
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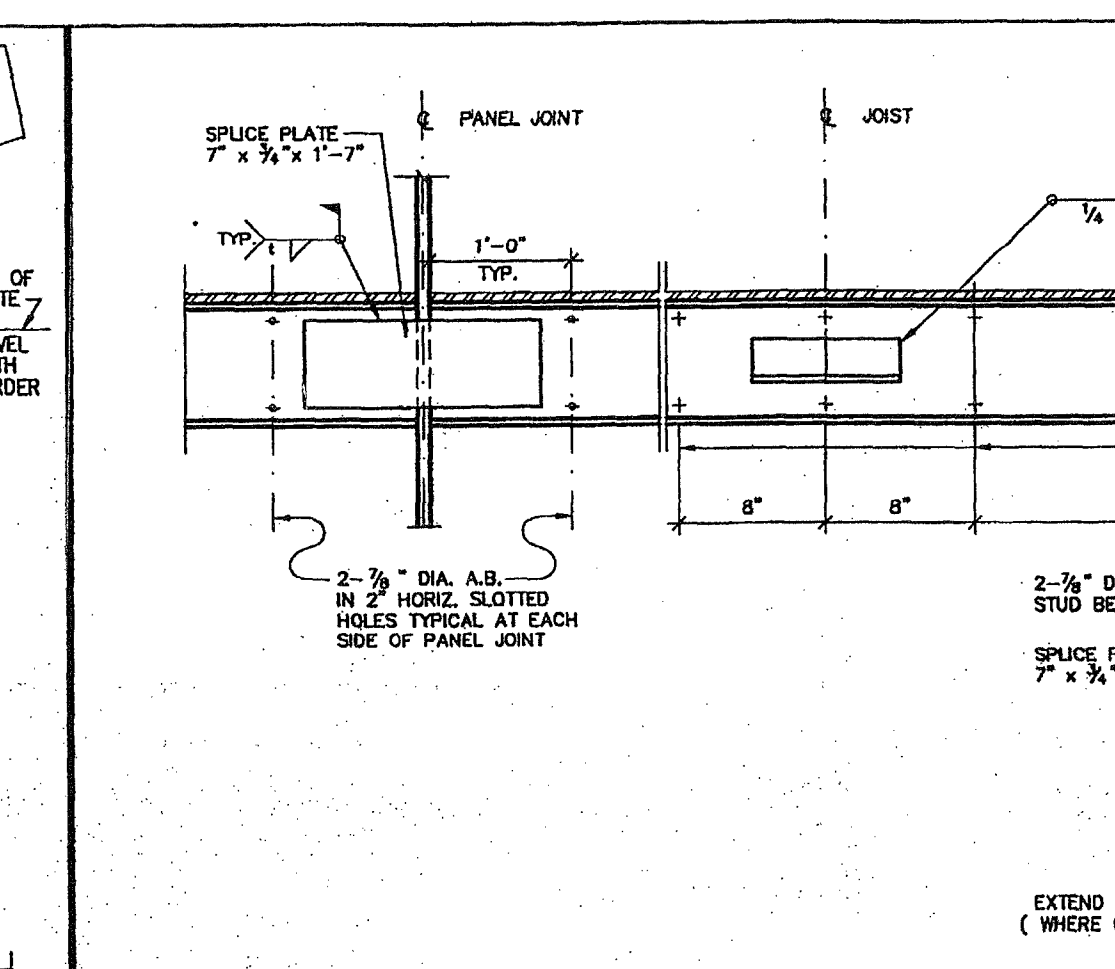
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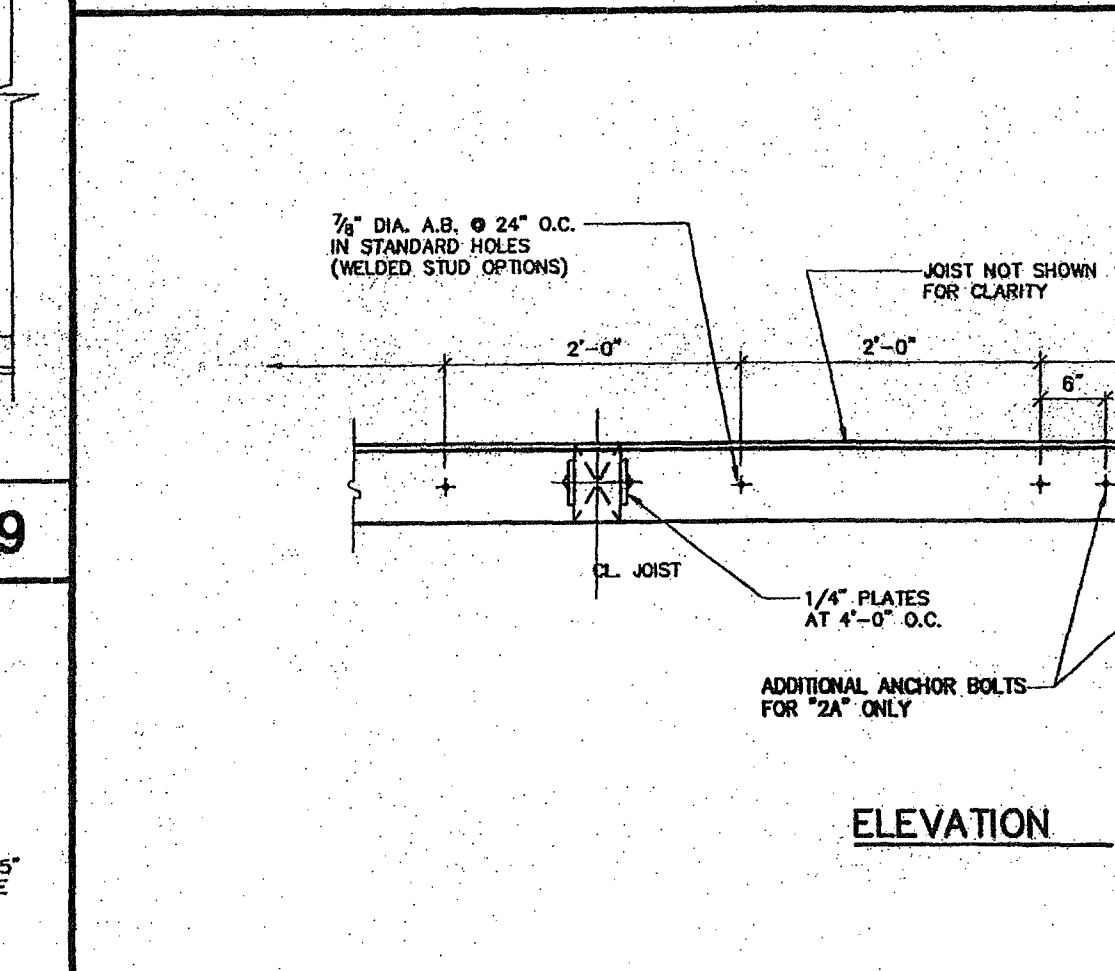
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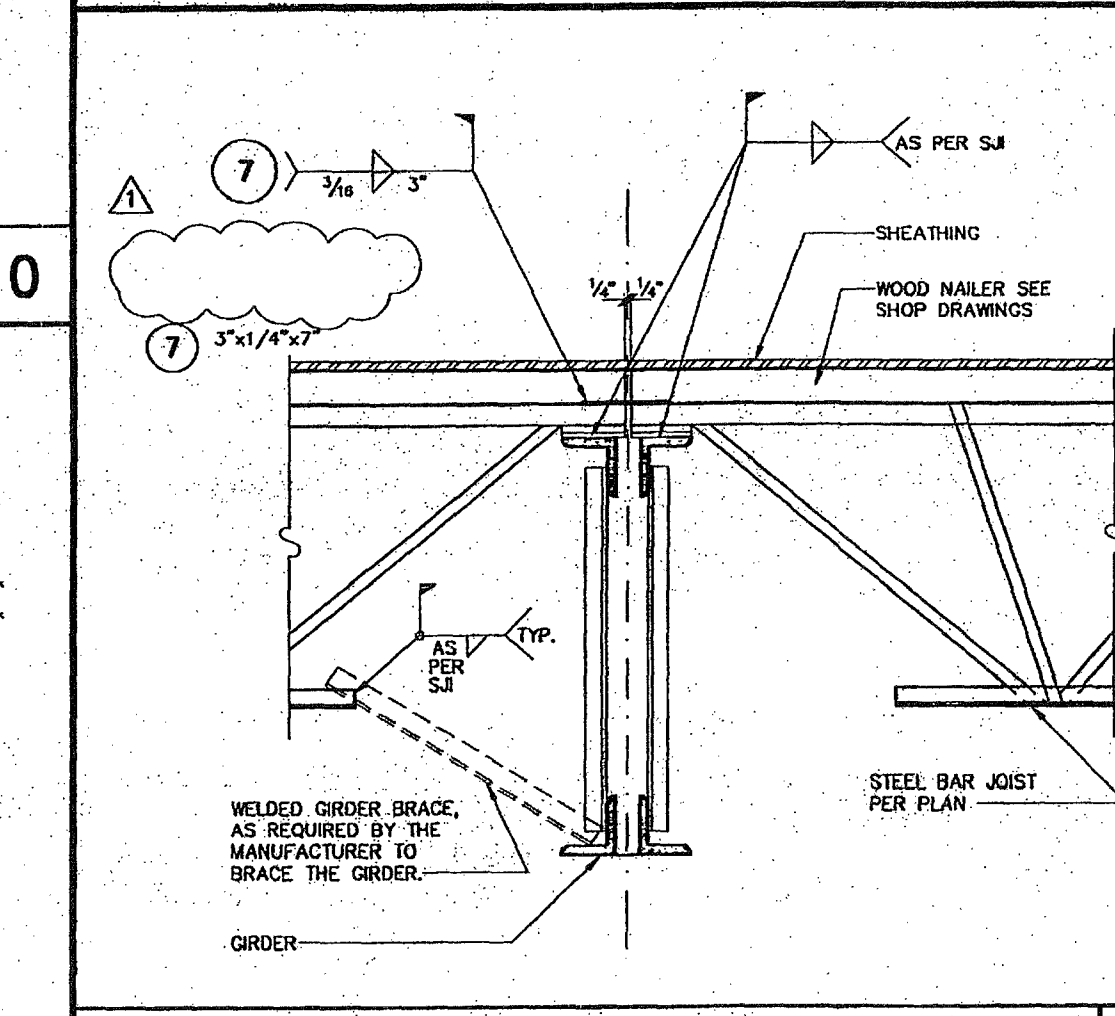
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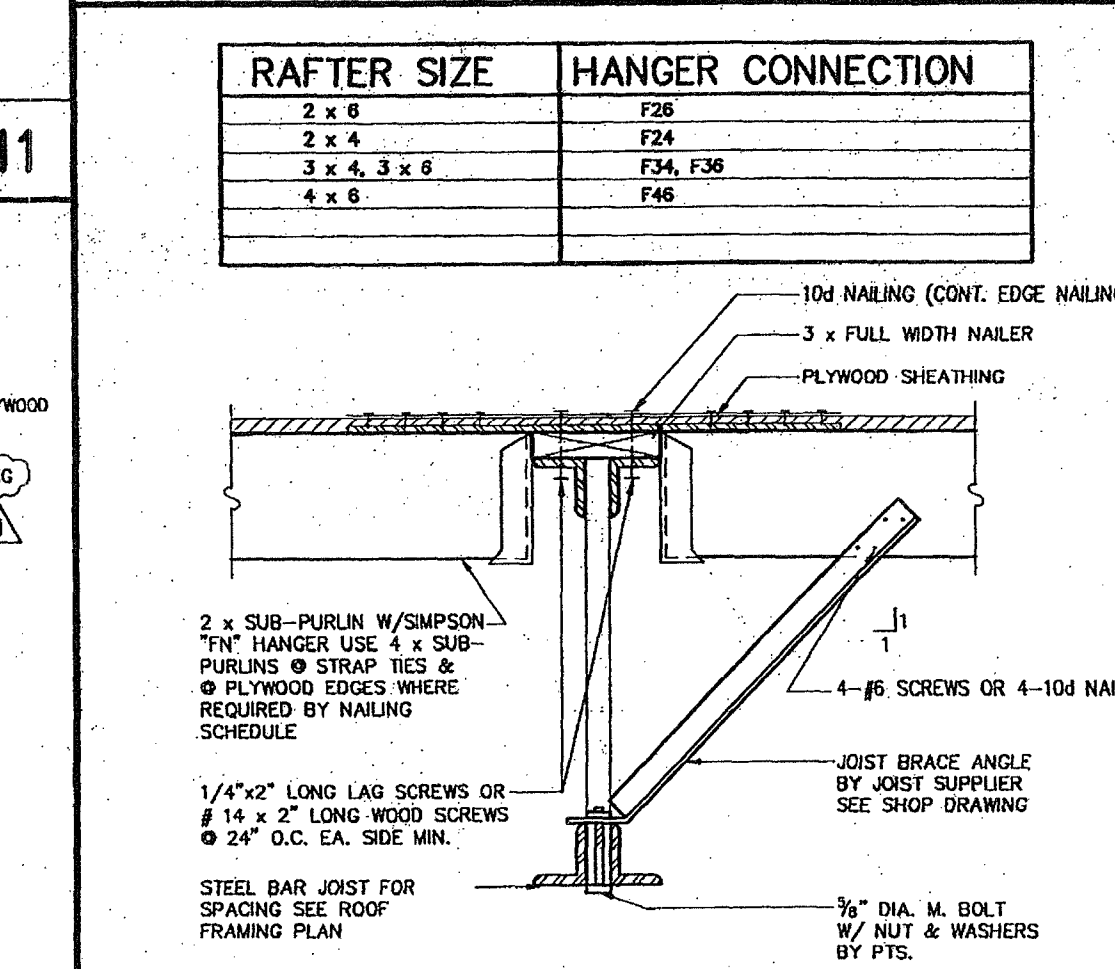
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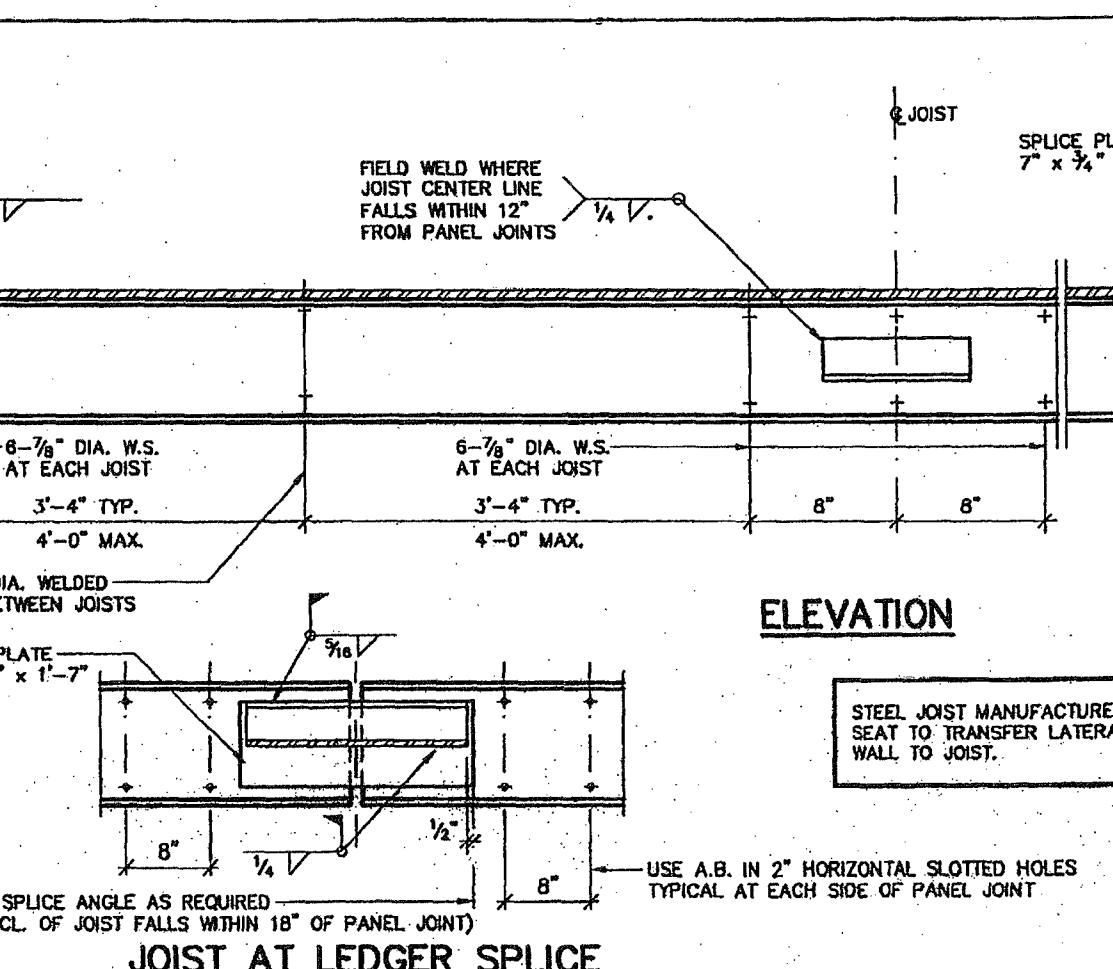
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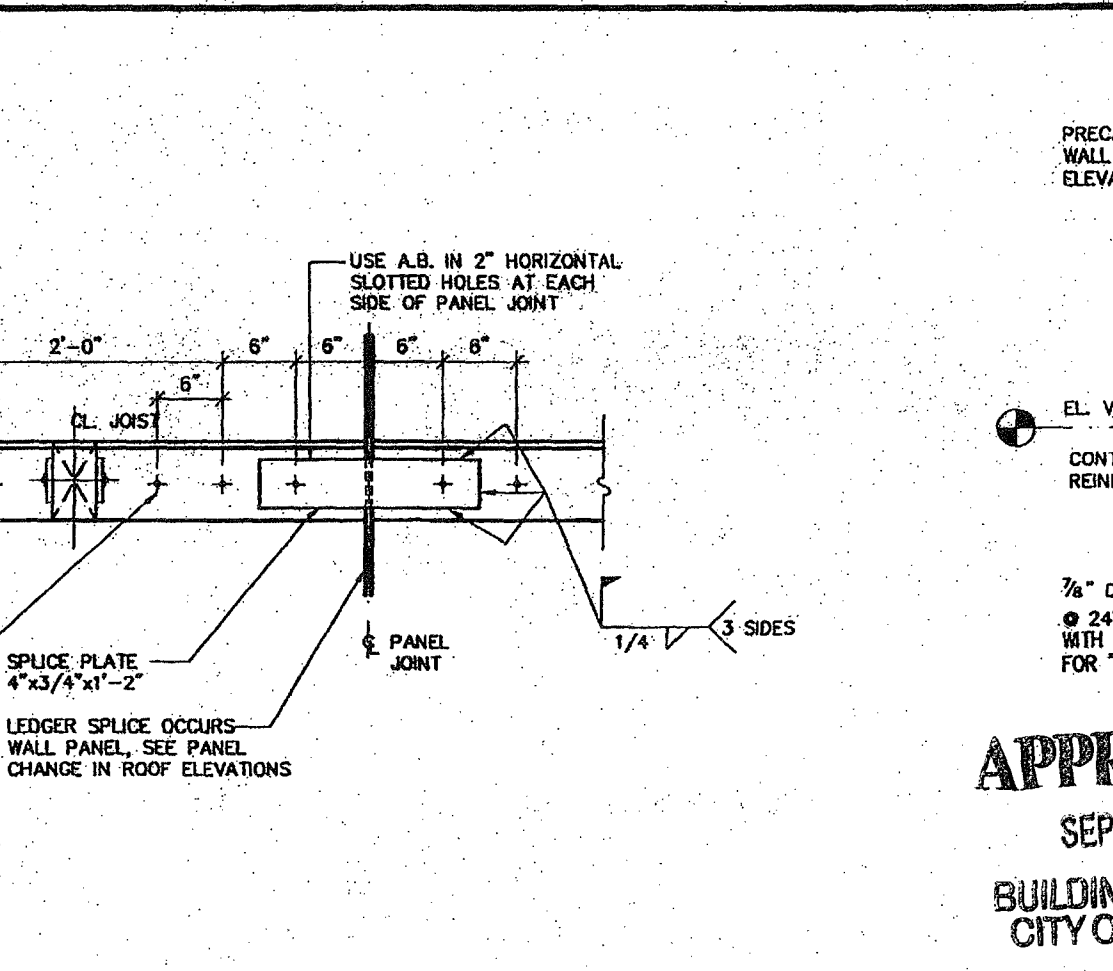
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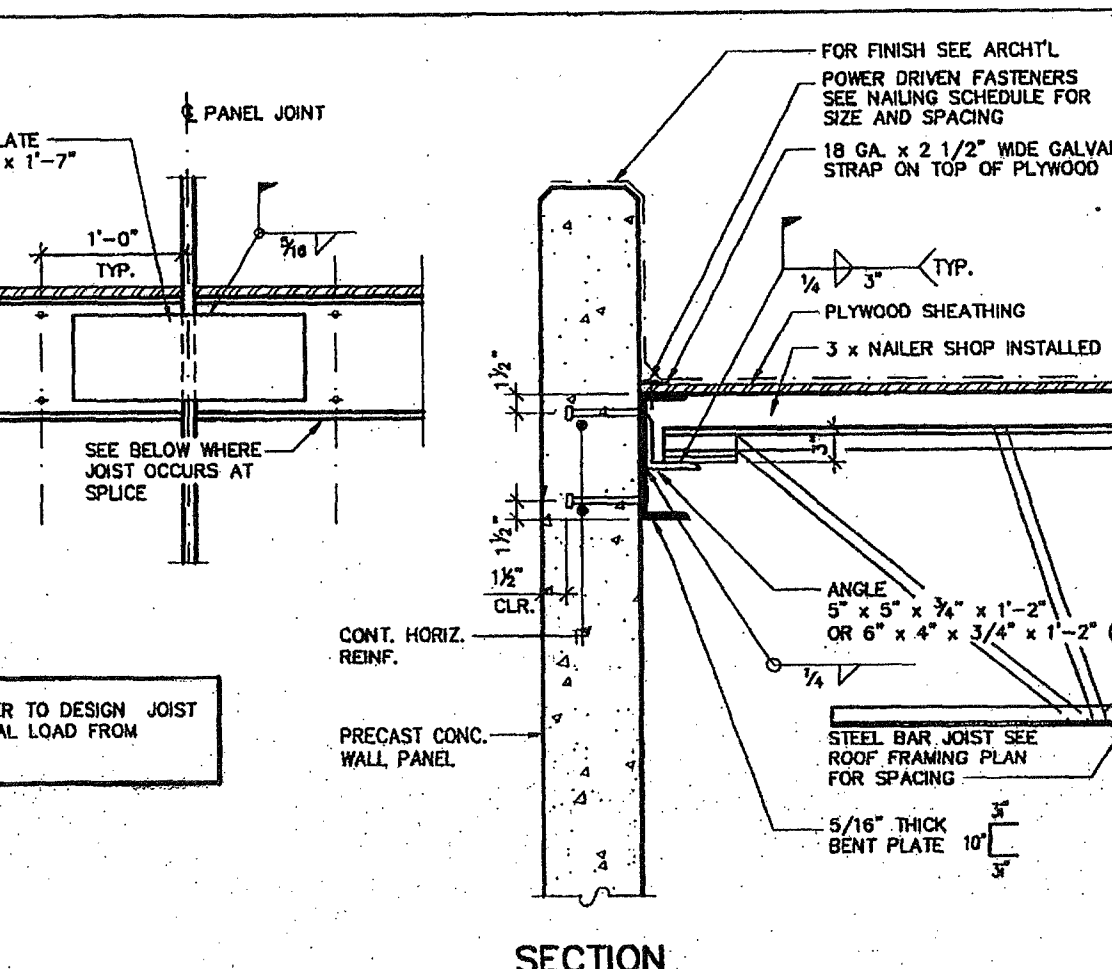
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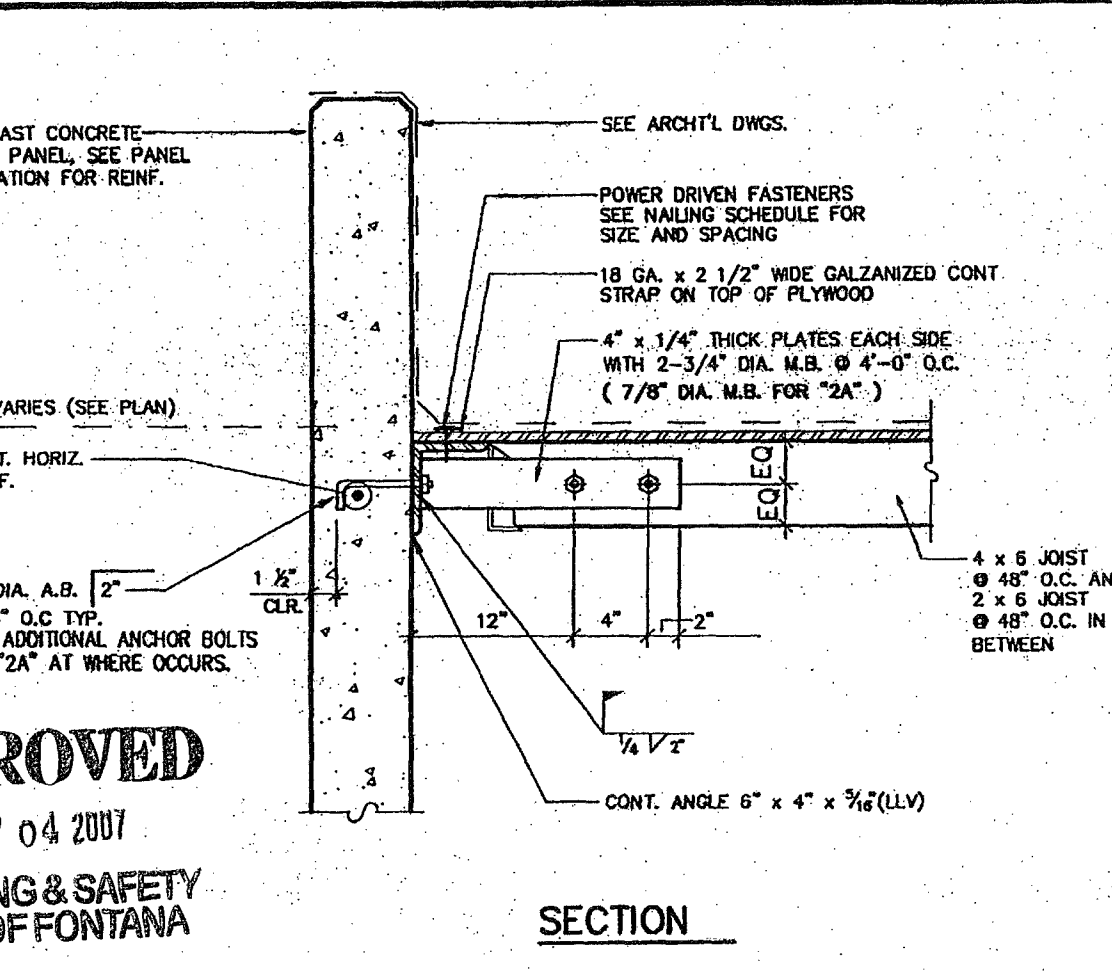
TYPICAL SKYLIGHT OPENING



GIRDER TO COLUMN



TYP. ROOF OPENING DETAIL



PANELIZED ROOF DETAIL

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License Renewal Date: 31 March 2005

Douglas Franz Architects
4120 Birch Street, Newport Beach, CA 92660
949.553.0025 Phone 949.553.0020 Fax
doug@douglasfranz.com

ARA AMIT S. RANDHAVA
CONSULTING STRUCTURAL ENGINEERS INC.
10700 Valley Blvd., Suite 270
Van Nuys, CA 91411
Tel: 818.708.1149
E-Mail: PROJECTS@RANDHAVA.COM

ARA PROJECT NO. 04-218

REVISIONS

NO.	DESCRIPTION	DATE
1	1/20/05 - BID SET & PLANCHICK REVISIONS	
2	4/18/05 - CLIENT REQUESTED REVISIONS	

Jasmine Street
A Project for: Panatoni Development

11027 Jasmine Street
Fontana, California

BUILDING 'A' & 'B' ROOF FRAMING DETAILS

DATE: 01-20-05
SCALE: N.T.S.
DRAWN BY: J.Q.
PROJECT NO: 04-218

SD-4

ELECTRICAL SYMBOL LIST

LIGHTING FIXTURE SCHEDULE

GENERAL NOTES

SYMBOL	DESCRIPTION
	CONDUIT HOMERUN TO BOARD/PANEL, LETTER AND NUMERAL(S) INDICATE BOARD/PANEL AND CIRCUIT NUMBER(S)
	CONDUIT RUN, CONCEALED IN CEILING, WALLS OR UNDER FLOOR
	CROSS LINES ON CONDUIT INDICATE NUMBER OF #12 AWG, 600V, CONTAINED THEREIN. TWO #12'S ARE INDICATED WHEN CROSS LINES ARE NOT SHOWN. NUMERAL AT CROSS LINES INDICATES THE SIZE OF CONDUCTOR(S) IN LIEU OF #12. CODE SIZE CONDUIT. CROSS LINE IN ELLIPSE INDICATES GROUND, #12 UNLESS NOTED OTHERWISE.
	CONDUIT STUB WITH CAP (THREADED FOR RIGID)
	EXISTING PANEL DESIGNATION
	BRANCH CIRCUIT PANEL, SURFACE MOUNTED (+6"-0" A.F.F. TO TOP)
	JUNCTION BOX
	DUPLEX GROUNDING TYPE RECEPTACLE (+16" A.F.F. TO CENTER, UNLESS NOTED OTHERWISE)
	DUPLEX GROUNDING TYPE RECEPTACLE (+16" A.F.F. TO CENTER, UNLESS NOTED OTHERWISE) COMPLETE WITH GROUND FAULT INTERRUPTER.
	DUPLEX ISOLATED GROUND TYPE RECEPTACLE (+16" A.F.F. TO CENTER, UNLESS NOTED OTHERWISE), HUBBELL #65362 OR EQUAL
	DUPLEX GROUNDING TYPE RECEPTACLE (+16" A.F.F. TO CENTER, UNLESS NOTED OTHERWISE), SHADING INDICATES HALF SWITCHED
	DOUBLE DUPLEX GROUNDING TYPE RECEPTACLE (+16" A.F.F. TO CENTER, UNLESS NOTED OTHERWISE)
	LIGHTING FIXTURE IDENTIFICATION SYMBOL, LETTER IN UPPER HALF OF HEXAGON INDICATES FIXTURE TYPE, NUMERAL IN LOWER HALF OF HEXAGON INDICATES FIXTURE WATTAGE. NUMERAL OUTSIDE TOP OF HEXAGON INDICATES NUMBER OF FIXTURES REQUIRED, NUMBER OUTSIDE BOTTOM OF HEXAGON INDICATES MOUNTING HEIGHT FROM FLOOR TO BOTTOM OF FIXTURE. OMISSION OF MOUNTING HEIGHT INDICATES CEILING MOUNTED.
	FLUORESCENT LIGHT FIXTURE OUTLET, NUMERAL(S) INDICATE CIRCUIT NUMBER(S). 1st LOWER CASE LETTER INDICATES CONTROLLING SWITCH FOR OUTBOARD LAMPS, 2nd FOR INBOARD LAMP(S). SHADED JUNCTION BOX INDICATES FIXTURE CONTAINS AN EMERGENCY BALLAST. "NL" INDICATES NIGHT LIGHT.
	EXIT LIGHT FIXTURE, EACH SHADED QUARTER SEGMENT INDICATES A FACE, WITH DIRECTIONAL ARROWS AS INDICATED. "LL" INDICATES LOW LEVEL EXIT SIGN MOUNTED ADJACENT TO DOOR WITH CLOSEST EDGE WITHIN 4" OF DOOR FRAME AND BOTTOM OF SIGN NOT LESS THAN 6" OR MORE THAN 8" ABOVE FLOOR LEVEL.
	SINGLE POLE 20A SWITCH (+48" A.F.F. TO TOP, UNLESS NOTED OTHERWISE), LOWER CASE LETTER AT BOTTOM INDICATES OUTLETS CONTROLLED, NOTATION AT TOP INDICATES TYPE: K=KEY CONTROLLED; P=PILOT LIGHT; 2= TWO POLE; 3=THREE WAY; 4=FOUR WAY
	MANUAL MOTOR STARTER SWITCH, SINGLE POLE, WITH OVERLOAD ELEMENT(S): 2= TWO POLE; 3=THREE POLE
	DISCONNECT SWITCH, SIZED AS NOTED, F=FUZED, (+4"-6" TO HANDLE, UNLESS NOTED OTHERWISE) FUSES SHALL COMPLY WITH EQUIPMENT MANUFACTURERS RECOMMENDATIONS, UNLESS NOTED OTHERWISE. ALL DISCONNECT SWITCH FUSES, FOR MOTOR LOADS, SHALL COMPLY WITH NEC 430-152.
	WALL MOUNTED MOTION SENSOR (+48" A.F.F. TO TOP, UNLESS NOTED OTHERWISE)
	CEILING MOUNTED MOTION SENSOR
	CIRCUIT BREAKER, AMPERE RATING AND NUMBER OF POLES AS NOTED
	CURRENT TRANSFORMERS
	CONDUCTORS CONNECTED
	KILOWATT HOUR METER
	TRANSFORMER, DESCRIPTION AS NOTED
	GROUND
	COMBINATION TELEPHONE/COMPUTER DATA OUTLET (+16" A.F.F. TO CENTER, UNLESS NOTED OTHERWISE) WITH 3/4" CONDUIT ONLY STUBBED INTO ACCESSIBLE CEILING SPACE, VERIFY EXACT REQUIREMENTS WITH OWNER
	EXISTING EQUIPMENT TO REMAIN
	REMOVE EXISTING EQUIPMENT
	NEW EQUIPMENT
	EXISTING RELOCATED EQUIPMENT
	REMOVE AND RELOCATE EXISTING EQUIPMENT
	EXISTING EQUIPMENT TO BE REMOVED AND JUNCTION BOX TO BE COVERED WITH BLANK PLATE
	SINGLE PHASE FRACTIONAL OR INTEGRAL HORSEPOWER MOTOR
	THERMOSTAT OUTLET (+54" A.F.F. TO TOP, UNLESS NOTED OTHERWISE)

TYPE	DESCRIPTION	FINISH	LAMP(S)	REMARKS	MFR. & NO.
A 60	10-5/16" x 48" SURFACE CEILING MOUNT FLUORESCENT WITH ACRYLIC PRISMATIC WRAPAROUND LENS	WHITE	(2) 32W, T8, R.S., 4100K.	COMPLETE WITH 120 VOLT, 2-LAMP ELECTRONIC BALLAST	DAY-BRITE #CAN232-120-1/2-EB OR APPROVED EQUAL
B 60	2' x 4' STATIC FLUORESCENT TROFFER WITH FLAT ALUMINUM DOOR AND ACRYLIC PRISMATIC LENS .125" THICK	WHITE	(2) 32W, T8, R.S., 4100K.	COMPLETE WITH 277 VOLT, 2-LAMP ELECTRONIC BALLAST	DAY-BRITE #ZDG232-FA21-277-1/2-EB OR APPROVED EQUAL
C 60	2' x 4' STATIC FLUORESCENT TROFFER WITH FLAT ALUMINUM DOOR AND ACRYLIC PRISMATIC LENS .125" THICK	WHITE	(2) 32W, T8, R.S., 4100K.	COMPLETE WITH 277 VOLT, 2-LAMP ELECTRONIC BALLAST AND SELF-CONTAINED EMERGENCY POWER PACK (DEB-5)	DAY-BRITE #ZDG232-FA21-277-1/2-EB-E5 OR APPROVED EQUAL
D 89	2' x 4' STATIC FLUORESCENT TROFFER WITH FLAT ALUMINUM DOOR AND ACRYLIC PRISMATIC LENS .125" THICK	WHITE	(3) 32W, T8, R.S., 4100K.	COMPLETE WITH 277 VOLT, 2-LAMP AND 1-LAMP ELECTRONIC BALLASTS	DAY-BRITE #ZDG332-FA21-277-1/21-EB OR APPROVED EQUAL
E 89	2' x 4' STATIC FLUORESCENT TROFFER WITH FLAT ALUMINUM DOOR AND ACRYLIC PRISMATIC LENS .125" THICK	WHITE	(3) 32W, T8, R.S., 4100K.	COMPLETE WITH 277 VOLT, 2-LAMP AND 1-LAMP ELECTRONIC BALLASTS AND SELF-CONTAINED EMERGENCY POWER PACK (DEB5)	DAY-BRITE #ZDG332-FA21-277-1/21-EB-E5 OR APPROVED EQUAL
F -	SINGLE FACED SELF-ILLUMINATING EXIT SIGN	GREEN TRIM, GREEN STENCIL & WHITE LETTERS	N/A	SHALL BE RATED FOR 20 YEAR LIFE	EVENLITE #SL-20-1-G-W OR APPROVED EQUAL
G 60	10-5/16" x 48" SURFACE CEILING MOUNT FLUORESCENT WITH ACRYLIC PRISMATIC WRAPAROUND LENS	WHITE	(2) 32W, T8, R.S., 4100K.	COMPLETE WITH 277 VOLT, 2-LAMP ELECTRONIC BALLAST	DAY-BRITE #CAN232-277-1/2-EB OR APPROVED EQUAL
H 60	10-5/16" x 48" SURFACE CEILING MOUNT FLUORESCENT WITH ACRYLIC PRISMATIC WRAPAROUND LENS	WHITE	(2) 32W, T8, R.S., 4100K.	COMPLETE WITH 277 VOLT, 2-LAMP ELECTRONIC BALLAST AND SELF-CONTAINED EMERGENCY POWER PACK (DEB5)	DAY-BRITE #CAN232-277-1/2-EB-E5 OR APPROVED EQUAL
J -	DOUBLE FACED SELF-ILLUMINATING EXIT SIGN	GREEN TRIM, GREEN STENCIL & WHITE LETTERS	N/A	SHALL BE RATED FOR 20 YEAR LIFE	EVENLITE #SL-20-2-G-W OR APPROVED EQUAL

ABBREVIATIONS

A. A.F. A.F.C. A.F.F. A.F.G. A.I.C. AL. APPROX. ARCH. A.T. AWG. BC. BD. BLDG. C. CAB. CAT. NO. C/B C.C.R. C.E.C. C.F.C.I.	AMPERE AMPERE FRAME AVAILABLE FAULT CURRENT ABOVE FINISHED FLOOR ABOVE FINISHED GRADE AMPERE INTERRUPTING CAPACITY ALUMINUM APPROXIMATE ARCHITECT AMPERE TRIP AMERICAN WIRE GAUGE BARE COPPER BOARD BUILDING CONDUIT CABINET CATALOG NUMBER CIRCUIT BREAKER CALIFORNIA CODE OF REGULATIONS CALIFORNIA ELECTRICAL CODE CONTRACTOR FURNISHED CONTRACTOR INSTALLED O.K.T. Q.L.G. C.O. COL. CONC. CONT. CONTR. C.S.F.M. CU. DIA. DISC. DISTR.	DTL. DWC. ELEC. EMT EOL EQUIP. EXIST. EXT. FA. FATC FLR. FT. GFI H.O.A. HP. HPS HV. Hz. INC. J-BOX K.O.M. KVA. KW. LCL. LOC. LPS LTG. LV. MAX. MECH. MFR. M.H.	DETAIL DRAWING ELECTRICAL ELECTRICAL METALLIC TUBING END OF LINE RESISTOR EQUIPMENT EXISTING EXTERIOR FIRE ALARM FIRE ALARM TERMINAL CABINET FLOOR FOOT OR FEET GROUND FAULT INTERRUPTED GROUND HIGH INTENSITY DISCHARGE HAND-OFF-AUTOMATIC HORSEPOWER HIGH PRESSURE SODIUM HIGH VOLTAGE HERTZ INCANDESCENT JUNCTION BOX THOUSAND CIRCULAR MILS KILOWATT AMPERE KILOWATTS LONG CONTINUED LOAD LOCATION LOW PRESSURE SODIUM LIGHTING LOW VOLTAGE MAXIMUM MECHANICAL MANUFACTURER METAL HALIDE	MIN. M.L.O. MTD. MTG. M.V. NEC NEMA N.I.C. NL. N.T.S. O.A.E. OC OFCL OFCL P. PA. PH. P.N.L. P.O.C. PVC. PWR. RM. SHT. SPEC. SW. SWBD. T24 TC. TEL. TIB	MINIMUM WARY LIVES ONLY MOUNTING MERCURY VAPOR NATIONAL ELECTRICAL CODE NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION NOT IN CONTRACT NIGHT LIGHT NOT TO SCALE OR APPROVED EQUAL ON CENTER OWNER FURNISHED CONTRACTOR INSTALLED OWNER FURNISHED OWNER INSTALLED POLE PUBLIC ADDRESS PHASE PANEL POINT OF CONNECTION POLYVINYL CHLORIDE POWER ROOM SHEET SPECIFICATION SWITCH SWITCHBOARD CALIFORNIA CODE OF REGULATIONS TITLE 24 TIME CLOCK TELEPHONE TELEPHONE TERMINAL BOARD	TELEPHONE TERMINAL CABINET TYPICAL UNDERGROUND UNDERWRITERS LABORATORIES UNLESS NOTED OTHERWISE VERIFY ON JOB VOLTAGE DROP WATTS WITH WITHOUT WEATHERPROOF TRANSFORMER
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DEMOLITION NOTES

- IN GENERAL, PLANS MAY NOT SHOW ALL EXISTING ELECTRICAL EQUIPMENT, OUTLETS, LIGHTING, ETC. THAT IS TO BE REMOVED. ELECTRICAL EQUIPMENT SHOWN ON DRAWINGS OR NOT, LOCATED IN REMOVED WALLS OR CEILINGS, SHALL BE REMOVED UNLESS NOTED OTHERWISE.
- EXISTING CONDUIT MAY BE REUSED IF ADEQUATELY SIZED AND IN GOOD PHYSICAL CONDITION. EXISTING CONDUCTORS SHALL NOT BE REUSED, UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL MAINTAIN THE CONTINUITY OF ALL ELECTRICAL SYSTEMS. MAINTAINING CONTINUITY CONSISTS OF PROVIDING CONDUIT AND CONDUCTORS TO AND FROM EXISTING ELECTRICAL EQUIPMENT REMAINING IN SERVICE OR OUTSIDE PROJECT SCOPE.
- EXISTING CONDUIT FEEDS UP THROUGH FLOOR SHALL BE CUT OFF AND PLUGGED FLUSH WITH FLOOR WHERE EXISTING WALLS, ETC. ARE REMOVED. REMOVE CONDUCTORS, FROM THIS POINT, BACK TO LAST OUTLET REMAINING IN SERVICE.
- CIRCUIT NUMBERS AND/OR CONDUIT HOMERUNS INDICATED ON PLANS WERE OBTAINED FROM "ON-SITE" INVESTIGATION AND/OR RECORD DRAWINGS. CONTRACTOR SHALL VERIFY LOCATIONS OF HOMERUNS AND AVAILABILITY OF CIRCUITS. IF CIRCUITS SHOWN ON REMODEL PLANS ARE NOT NEW OR EXISTING "SPARES", REUSE CIRCUITS WHICH BECOME AVAILABLE DURING DEMOLITION.
- IN THE PREPARATION OF THESE DOCUMENTS, CERTAIN ASSUMPTIONS ARE MADE REGARDING EXISTING CONDITIONS. SOME OF THESE ASSUMPTIONS MAY NOT BE VERIFIABLE WITHOUT EXPENDING ADDITIONAL SUMS OF MONEY OR DESTROYING OTHERWISE ADEQUATE OR SERVICEABLE PORTIONS OF EXISTING BUILDINGS AND/OR EQUIPMENT, THEREFORE THE ENGINEER SHALL NOT BE HELD RESPONSIBLE FOR ANY CHANGES OR ADDITIONAL COSTS INCURRED DUE TO THESE ASSUMPTIONS OR EXISTING CONDITIONS.
- PROVIDE COMPLETE, ACCURATE, TYPED CIRCUIT DIRECTORIES FOR ALL EXISTING PANEL AND DISTRIBUTION BOARDS. DIRECTORIES SHALL REFLECT EXISTING CIRCUITS AND LOADS, OBTAINED THROUGH "ON-SITE" VERIFICATION AND RECORD DRAWINGS, AS WELL AS CIRCUITING CHANGES REQUIRED, IN THE FIELD, TO BALANCE PHASE LOADS.

- ELECTRICAL EQUIPMENT AND MATERIALS SHALL BE LISTED, LABELED, AND INSTALLED PER A RECOGNIZED ELECTRICAL TESTING LABORATORY.
- CONTRACTOR SHALL INSTALL CONDUIT AND/OR ELECTRICAL EQUIPMENT IN LOCATIONS WHICH CAUSE AS LITTLE INTERFERENCE AS POSSIBLE WITH INSTALLATION AND MAINTENANCE OF ANY NEW OR EXISTING MECHANICAL AND/OR PLUMBING DUCTS, LINES AND EQUIPMENT.
- FINAL CONNECTIONS TO OWNER-FURNISHED EQUIPMENT SHALL BE MADE BY CONTRACTOR, UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL VERIFY TYPES OF CEILING AND INSULATION SYSTEMS AND FURNISH APPROVED LIGHTING FIXTURES OF THE TYPE REQUIRED FOR MOUNTING IN SUBJECT CEILINGS. FIXTURES RECESSED IN DRYWALL OR PLASTER CEILINGS, SHALL BE COMPLETE WITH NECESSARY MOUNTING HARDWARE AND PLASTER FRAMES. FIXTURE CATALOG NUMBERS ON PLANS ARE NOT INTENDED TO INDICATE CEILING TYPES.
- EXACT LOCATION OF CEILING MOUNTED LIGHTING FIXTURES AND EQUIPMENT SHALL BE AS INDICATED ON ARCHITECTURAL REFLECTED CEILING PLANS.
- NUMERAL(S) SHOWN OUTSIDE TOP HALF OF LIGHT FIXTURE IDENTIFICATION SYMBOL, INDICATING QUANTITY OF LIGHT FIXTURES REQUIRED, SHALL NOT BE USED FOR QUANTITY TAKEOFF AT BIDDING OR FOR DETERMINATION OF FIXTURE QUANTITIES TO BE INSTALLED. CONTRACTOR SHALL PROVIDE ALL LIGHT FIXTURES SHOWN ON DRAWINGS.
- OUTLET LOCATIONS SHALL BE COORDINATED WITH ARCHITECTURAL ELEVATIONS PRIOR TO INSTALLATION. DO NOT MOUNT RECEPTACLES BACK TO BACK. RECEPTACLES MOUNTED IN COMMON WALL SHALL BE SPACED HORIZONTALLY A MINIMUM OF 24" ON CENTER. RECEPTACLES MOUNTED ON OPPOSITE SIDES OF A COMMON FIRE RATED WALL SHALL BE SEPARATED BY A STUD.
- DRAWINGS ARE DIAGRAMMATIC ONLY. EXACT ROUTING OF CONDUIT SHALL BE DETERMINED BY CONTRACTOR. ANY ADDITIONAL COST REQUIRED TO ROUTE CONDUIT DIFFERENTLY THAN IS INDICATED ON THESE DRAWINGS SHALL BE INCURRED BY THE CONTRACTOR.
- CONTRACTOR SHALL BE RESPONSIBLE FOR CUT-OUTS IN TILE OR COUNTER SPLASHES WHERE RECEPTACLES, OUTLETS, ETC. OCCUR. COORDINATE EXACT LOCATIONS AND MOUNTING ORIENTATION WITH ARCHITECT PRIOR TO MAKING OPENINGS.
- CONTRACTOR SHALL STRATEGICALLY LOCATE BOXES, ETC. IN AREAS CONSIDERED ACCESSIBLE.
- CONTRACTOR SHALL VISIT THE SITE, THOROUGHLY FAMILIARIZE HIMSELF WITH EXISTING CONDITIONS AND ACCEPT THOSE CONDITIONS UNDER WHICH HE WILL BE REQUIRED TO WORK.
- WHEREVER A DISCREPANCY IN SIZE OF CONDUIT, WIRE OR EQUIPMENT ARISES ON THE DRAWINGS, CONTRACTOR SHALL INFORM THE ARCHITECT AND BE RESPONSIBLE FOR INSTALLING THE LARGEST INDICATED SIZE OF ITEMS IN QUESTION.
- IN SOME INSTANCES, IT MAY BE NECESSARY TO DEFER WORK IN CERTAIN AREAS OR LOCATIONS UNTIL EXISTING OPERATIONS CAN BE RELOCATED OR REARRANGED BY THE OWNER. WHENEVER IT BECOMES NECESSARY TO PERFORM WORK IN AREAS WHICH WOULD DISRUPT OWNER'S OPERATIONS, ADVISE THE OWNER RELATIVE TO THIS REQUIREMENT. FOLLOW CLOSELY ANY DIRECTIVE ISSUED BY THE OWNER CONCERNING TIME AND PROCEDURES. ALLOW OWNER FORTY EIGHT (48) HOURS PRIOR NOTICE. WORK SHALL BE ARRANGED TO PROVIDE ABSOLUTE MINIMUM DOWN TIME.
- CONTRACTOR SHALL SUPPLY POWER AND MAKE CONNECTION TO MOTORS AND EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS. IN ADDITION, CONTRACTOR SHALL REVIEW THE DRAWINGS OF THE MECHANICAL AND PLUMBING SECTIONS FOR CONTROL DIAGRAMS, SIZE, LOCATION OF EQUIPMENT AND ANY ADDITIONAL REQUIREMENTS. ALL CONDUIT, WIRING, CONTROL ITEMS, ETC. REQUIRED FOR MECHANICAL AND PLUMBING OPERATION SHALL BE PROVIDED, UNLESS NOTED OTHERWISE.
- REFERENCE SINGLE LINE DIAGRAM(S) FOR CONDUIT AND/OR CONDUCTOR SIZES TO PANELS, TRANSFORMERS, MOTOR CONTROL CENTERS, MECHANICAL EQUIPMENT, ETC.
- IT SHALL BE UNDERSTOOD THAT ANY SUBSTITUTION(S) OF SPECIFIED PRODUCTS ARE DONE FOR THE PURPOSE OF COST SAVINGS TO THE OWNER. THEREFORE, ANY MATERIAL SUBSTITUTIONS OR DEVIATIONS, PROPOSED BY THE CONTRACTOR, SHALL BE INCLUDED WITH THE INITIAL BID AND SHALL SHOW A LINE ITEM CREDIT TO THE OWNER FOR EACH ITEM SUBSTITUTED IN LIEU OF SPECIFIED PRODUCTS. THE CONTRACTOR SHALL GUARANTEE SUBSTITUTE ITEM AS BEING EQUAL IN ALL RESPECTS TO THE SPECIFIED ITEM.
- RECESSED LIGHT FIXTURES LOCATED IN SUSPENDED ACOUSTICAL CEILINGS SHALL BE SUPPORTED DIRECTLY FROM THE FIXTURE HOUSING TO THE STRUCTURE ABOVE WITH A MINIMUM OF TWO 12 GAGE WIRES. LEVELING AND POSITIONING OF FIXTURE MAY BE PROVIDED BY THE CEILING GRID. FIXTURE SUPPORT WIRES SHALL BE SLIGHTLY LOOSE TO ALLOW FIXTURE TO PROPERLY SEAT IN GRID SYSTEM.
- SURFACE MOUNTED FIXTURES ON DRYWALL OR PLASTER CEILINGS SHALL BE MOUNTED WITH TWO 3/8" RODS ON EACH SIDE OF 4" OF FIXTURE LENGTH, UP THROUGH CEILING AND BOLTED TO 1-1/2" CHANNELS ATTACH CHANNELS TO MAIN CHANNELS OF CEILING SYSTEM. SURFACE FIXTURES ON SUSPENDED CEILINGS SHALL BE MOUNTED TO SAME EXCEPT THAT EACH CHANNEL SHALL BE SUPPORTED WITH TWO 12 GAGE WIRES TO THE STRUCTURE ABOVE. SURFACE MOUNTED LIGHTING FIXTURES SHALL BE APPROVED FOR DIRECT MOUNTING ON LOW DENSITY COMBUSTIBLE CEILINGS.
- CONTRACTOR SHALL PROVIDE TANDEM BALLASTS AND WIRING FOR (1) AND (3) LAMP FLUORESCENT FIXTURES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR CORING, CUTTING, PATCHING AND REFINISHING OF SURFACES WHEREVER IT IS NECESSARY TO PENETRATE FOR HIS WORK. OPENINGS SHALL BE SEALED TO MEET THE FIRE RATING OF THE PARTICULAR WALL, FLOOR OR CEILING. COORDINATE WITH, AND OBTAIN APPROVAL FROM ARCHITECT PRIOR TO CUTTING INTO THE STRUCTURE. DO NOT CORE, CUT OR PENETRATE STRUCTURAL STEEL MEMBERS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR SAWCUTTING, TRENCHING, BACKFILLING, COMPACTING AND PATCHING AS REQUIRED TO PERFORM HIS WORK. ATTENTION IS CALLED TO THE FACT THAT THERE MAY BE EXISTING UNDERGROUND UTILITY LINES. CONTRACTOR SHALL COORDINATE WITH THE OWNER AND SHALL USE CAUTION WHEN TRENCHING FOR HIS WORK. CONTRACTOR SHALL REPAIR ANY DAMAGES CAUSED BY HIM OR HIS WORK, AT NO ADDITIONAL COST TO THE OWNER.
- WHEN CORING FOR CONDUITS, INSTALLING DRILLED-IN ANCHORS AND/OR POWDER DRIVEN PINS IN EXISTING NON-PRESTRESSED REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING EXISTING REINFORCING BARS. FOR PRESTRESSED CONCRETE (PRE- OR POST-TENSIONED), LOCATE THE PRESTRESSED TENDONS BY USING A NON-DESTRUCTIVE METHOD AND MAINTAIN A MINIMUM CLEARANCE OF ONE INCH BETWEEN THE REINFORCEMENT AND ANY ANCHORS OR PINS.
- DRAWINGS INDICATE PORTIONS OF EXISTING ELECTRICAL SYSTEMS TO REMAIN, BE REMOVED, OR MODIFIED AS PART OF WORK. CONCEALED FEATURES ARE DERIVED FROM ONE OR ALL OF THE FOLLOWING SOURCES: SITE VISIT; ARCHITECT'S BEST JUDGEMENT; RECORD DRAWINGS; NO GUARANTEE IS MADE AS TO THEIR CORRECTNESS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSPECT EXISTING INSTALLATION AND DETERMINE WORK REQUIRED TO PROVIDE COMPLETE INSTALLATION WITH INTENT OF CONTRACT DOCUMENTS.
- ITEMS RELATED TO ELECTRICAL POWER, TELEPHONE AND/OR OTHER SERVICE(S); (i.e. SPECIAL INSTALLATION REQUIREMENTS, MATERIALS, LABOR, PERMITS, FEES, ETC.), SHALL BE VERIFIED WITH THE RESPECTIVE SERVING UTILITY COMPANY PRIOR TO SUBMISSION OF A BID. THE ACT OF SUBMITTING A BID SHALL CONSTITUTE FULL RESPONSIBILITY OF THE CONTRACTOR TO INSTALL SERVICE(S) IN COMPLIANCE WITH THE REQUIREMENTS OF THE SERVING UTILITY COMPANY AND THE ELECTRICAL ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CHARGES LEVIED BY THE SERVING UTILITY COMPANY EXCEPTING THE FIRST BILLING DEPOSIT.
- THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.

SEISMIC NOTES

- THE SEISMIC BRACING AND ANCHORAGE OF ELECTRICAL CONDUIT SHALL BE IN ACCORDANCE WITH THE SEISMIC RESTRAINT MANUAL: GUIDELINES FOR MECHANICAL AND PLUMBING SYSTEMS, SEPTEMBER 2000, PUBLISHED BY SMACNA, AND APPROVED BY CALIFORNIA BUILDING CODE AND TITLE 24, PART 2.
- ANCHORAGE OF EQUIPMENT WEIGHING LESS THAN 400 POUNDS AND SUPPORTED DIRECTLY ON THE FLOOR OR ROOF STRUCTURE NEED NOT BE DETAILED ON THE PLANS (UNIFORM BUILDING CODE, SECTION 2336(c)). HOWEVER, SUCH EQUIPMENT MUST BE ANCHORED AND THE ANCHORAGE SHALL BE APPROVED BY THE ARCHITECT. THE INSPECTOR OF RECORD SHALL ASSURE THAT THE ABOVE REQUIREMENTS ARE ENFORCED.
- ALL ELECTRICAL EQUIPMENT WEIGHING LESS THAN 1000 POUNDS SHALL BE BRACED AND/OR ANCHORED TO RESIST A HORIZONTAL FORCE ACTING IN ANY DIRECTION USING THE FOLLOWING CRITERIA:
- | | |
|--|-------------------------|
| FIXED EQUIPMENT ON GRADE | 20% OF OPERATING WEIGHT |
| FIXED EQUIPMENT ON STRUCTURE | 30% OF OPERATING WEIGHT |
| EMERGENCY POWER & COMMUNICATION EQUIPMENT ON GRADE | 50% OF OPERATING WEIGHT |
| EMERGENCY POWER & COMMUNICATION EQUIPMENT ON STRUCTURE | 75% OF OPERATING WEIGHT |
- FOR FLEXIBLY MOUNTED EQUIPMENT - USE 4 x THE ABOVE VALUE
SIMULTANEOUS VERTICAL FORCE - USE 1/3 x THE HORIZONTAL FORCE
- FOR ALL ELECTRICAL EQUIPMENT WEIGHING OVER 1000 POUNDS, CONTRACTOR SHALL PROVIDE BRACING AND ANCHORAGE CALCULATIONS BY A REGISTERED (STATE OF CALIFORNIA) STRUCTURAL ENGINEER, AND THE CALCULATIONS SHALL MEET THE REQUIREMENTS OF TITLE 24 AND ANY OTHER STATE REQUIREMENTS.
- ANCHORAGE DETAILS NOT SHOWN ON DRAWINGS SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT AND THE PROJECT INSPECTOR OF RECORD FOR THE FIELD INSTALLATION.

06-28-07

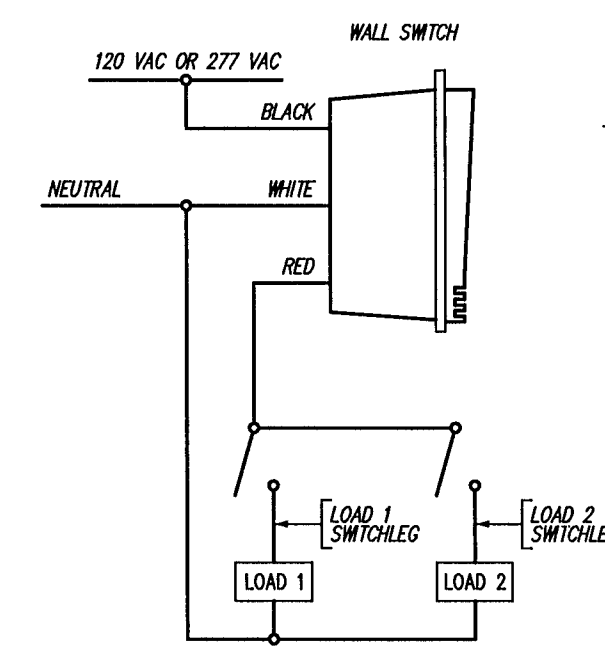
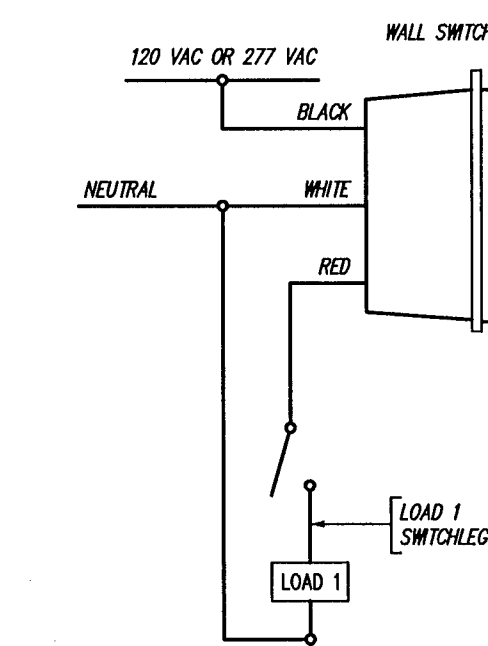
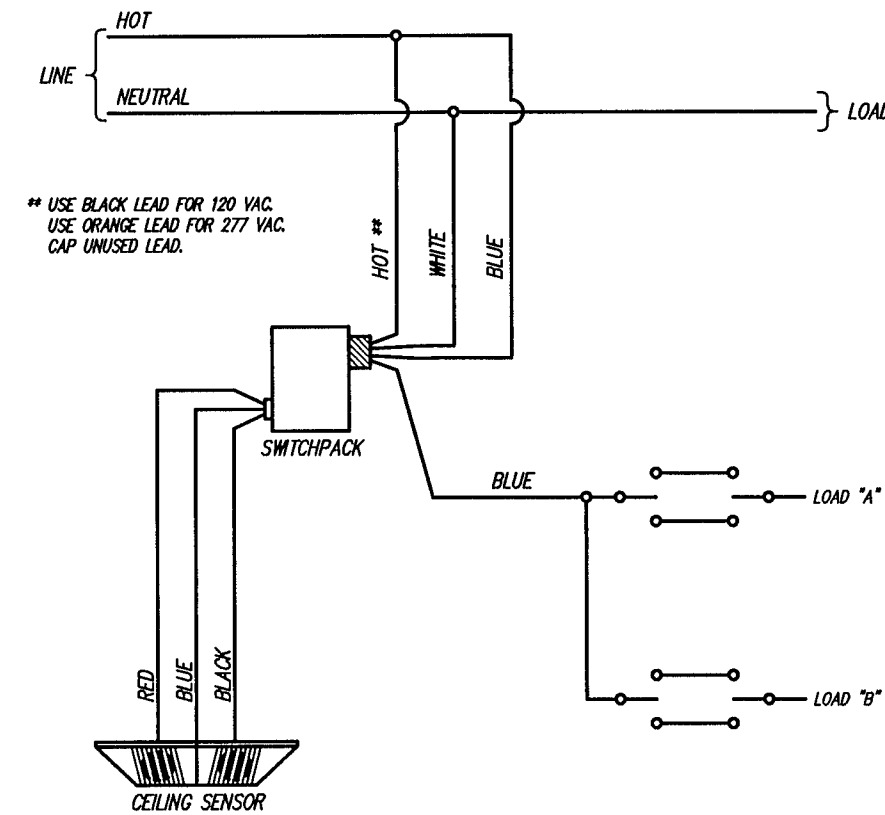
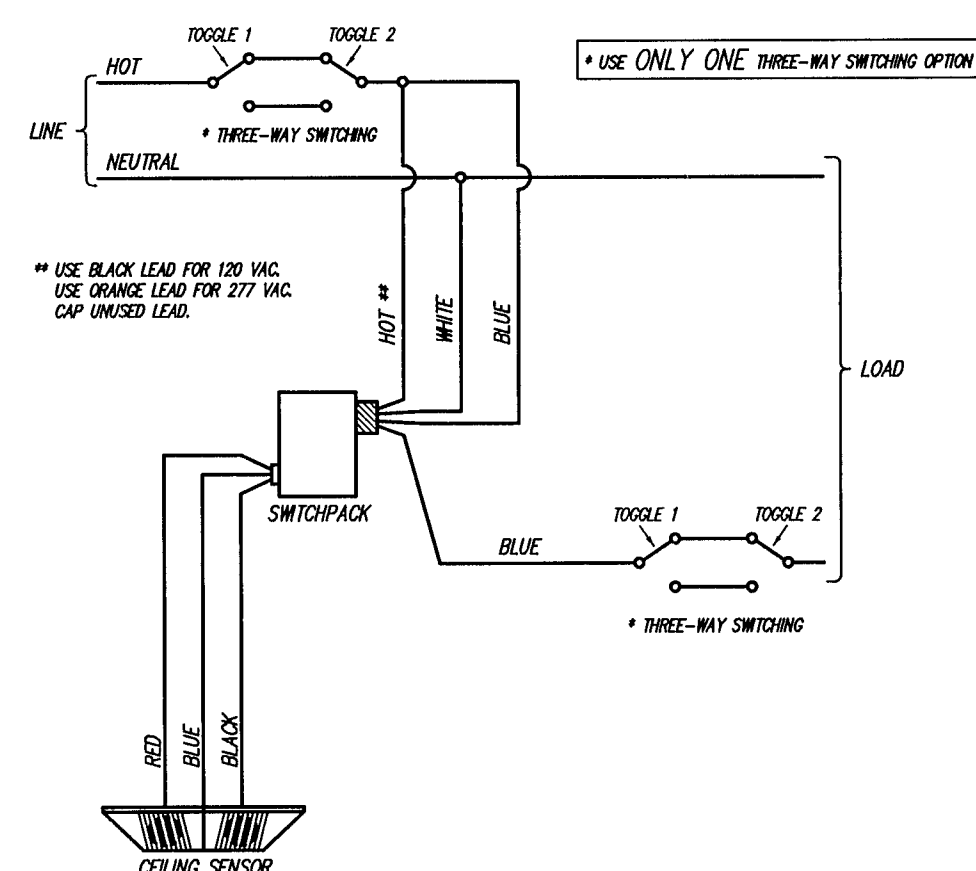
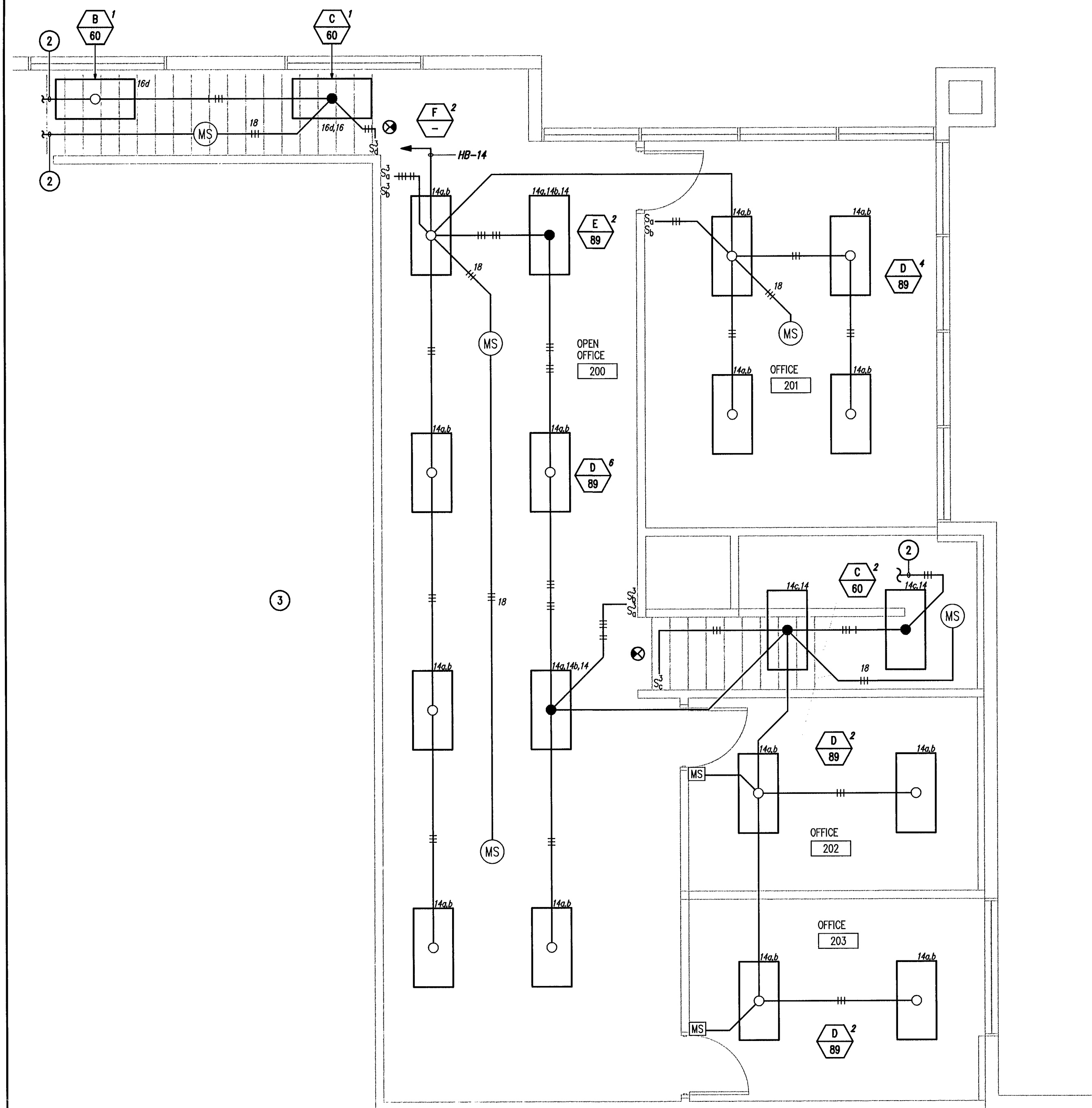
BONALDO DESIGN GROUP
TEWANT MPROBENT PLANS
10240 REDLANDS AVE., SUITE 100, FONTANA, CA 92337
(909) 945-8437 FAX: (909) 944-4882

PROJECT: **CIBARIA INTERNATIONAL**
11109 JASMINE STREET
FONTANA, CA 92337

SHEET TITLE: **ELECTRICAL FRONT SHEET**

DATE: _____
SCALE: AS NOTED
DRAWN BY: _____
JOB NO.: _____
SHEET NO.: **E-1**

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CONSULTING ENGINEERS
ELECTRICAL • MECHANICAL • PLUMBING
525 NEW JERSEY STREET, SUITE "A"
REDLANDS, CALIFORNIA 92373
PHONE: (909) 792-0811 FAX: (909) 792-6568



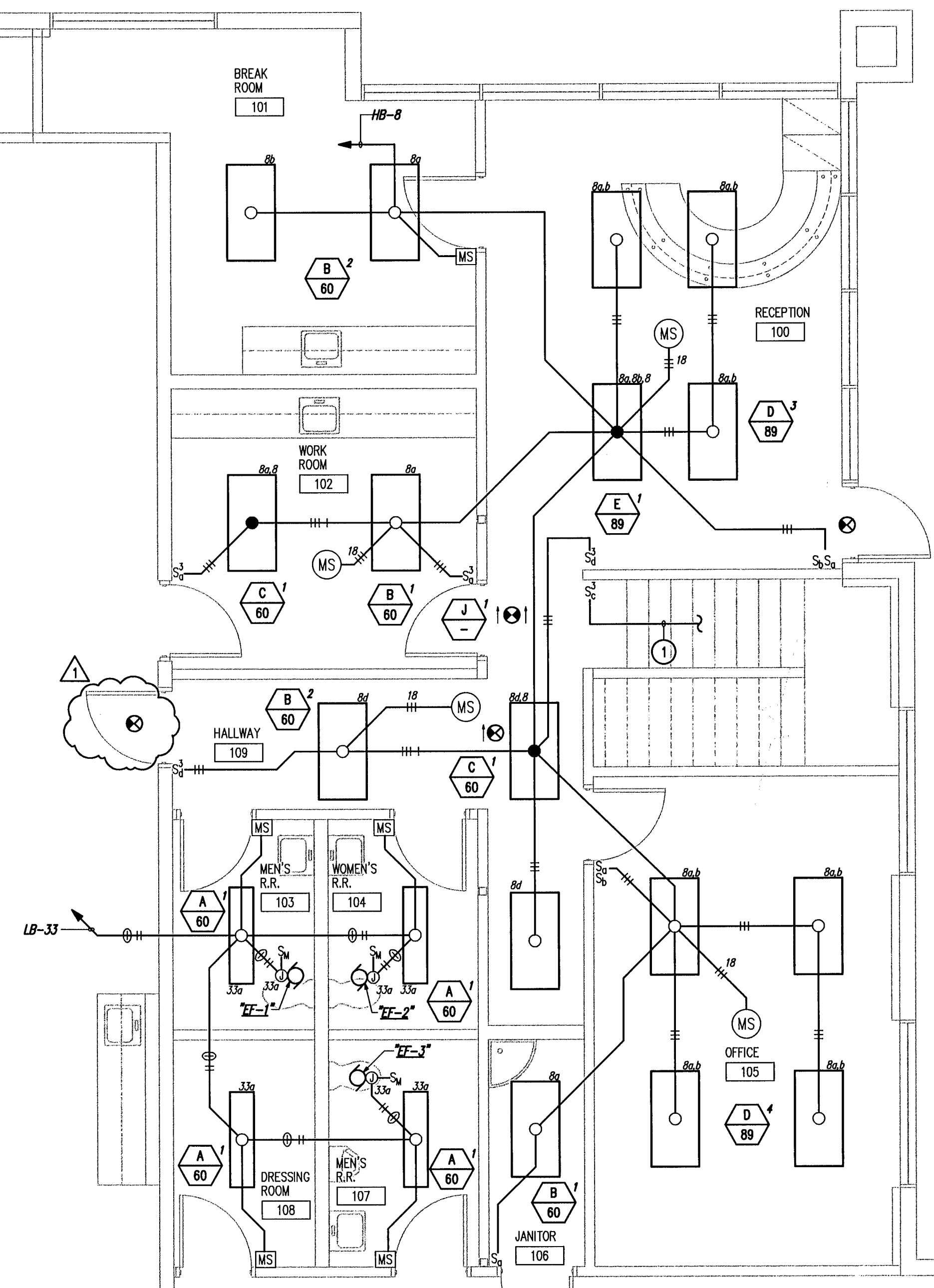
KEYNOTES:

NOTES:

MANUFACTURERS REPRESENTATIVE:
NOVITAS, INC.
TEL. (714) 516-1316
FAX (714) 516-1328
email: dcrumlich@cooperwiringdevices.com
REPRESENTATIVE: DOUGLAS CRUMLICH

NOTES:

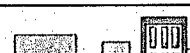
MANUFACTURERS REPRESENTATIVE:
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TEL. (714) 516-1316
FAX (714) 516-1328
email: dcrumlich@cooperwiringdevices.com
REPRESENTATIVE: DOUGLAS CRUMLICH



APPROVED
SEP 04 2007
BUILDING & SAFETY
CITY OF FONTANA



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REDLANDS, CALIFORNIA 92373
PHONE: (909) 792-0611 FAX: (909) 792-05

LIGHTING PLAN

SCALE
AS NOTED

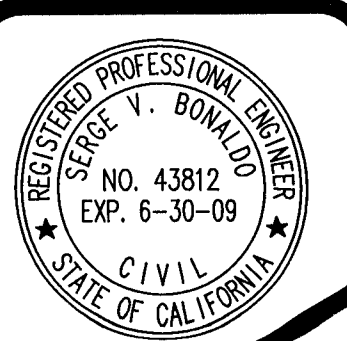
BONALDO DESIGN GROUP

TENANT IMPROVEMENT PLANS
10241 TRADEMARK ST. SUITE B
RANCHO CUCAMONGA, CALIFORNIA 91730
(909) 945-8437 FAX: (909) 944-4882

CT:
CIBARIA INTERNATIONAL

PROJECT TITLE: LIGHTING PLAN

DATE: _____
SCALE: AS NOTED
DRAWN BY: AWH
JOB No.: _____
SHEET No. **E-2**



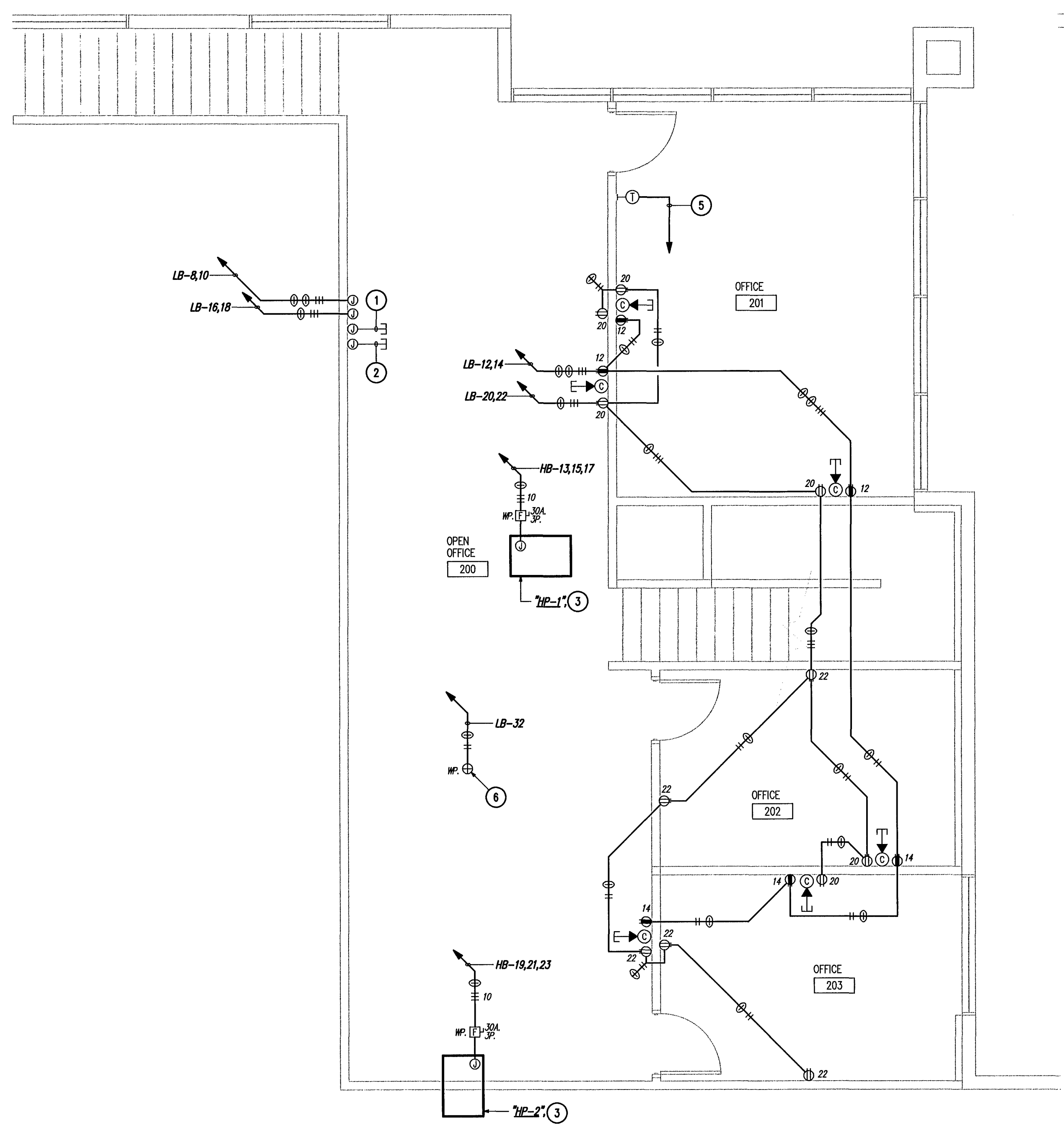
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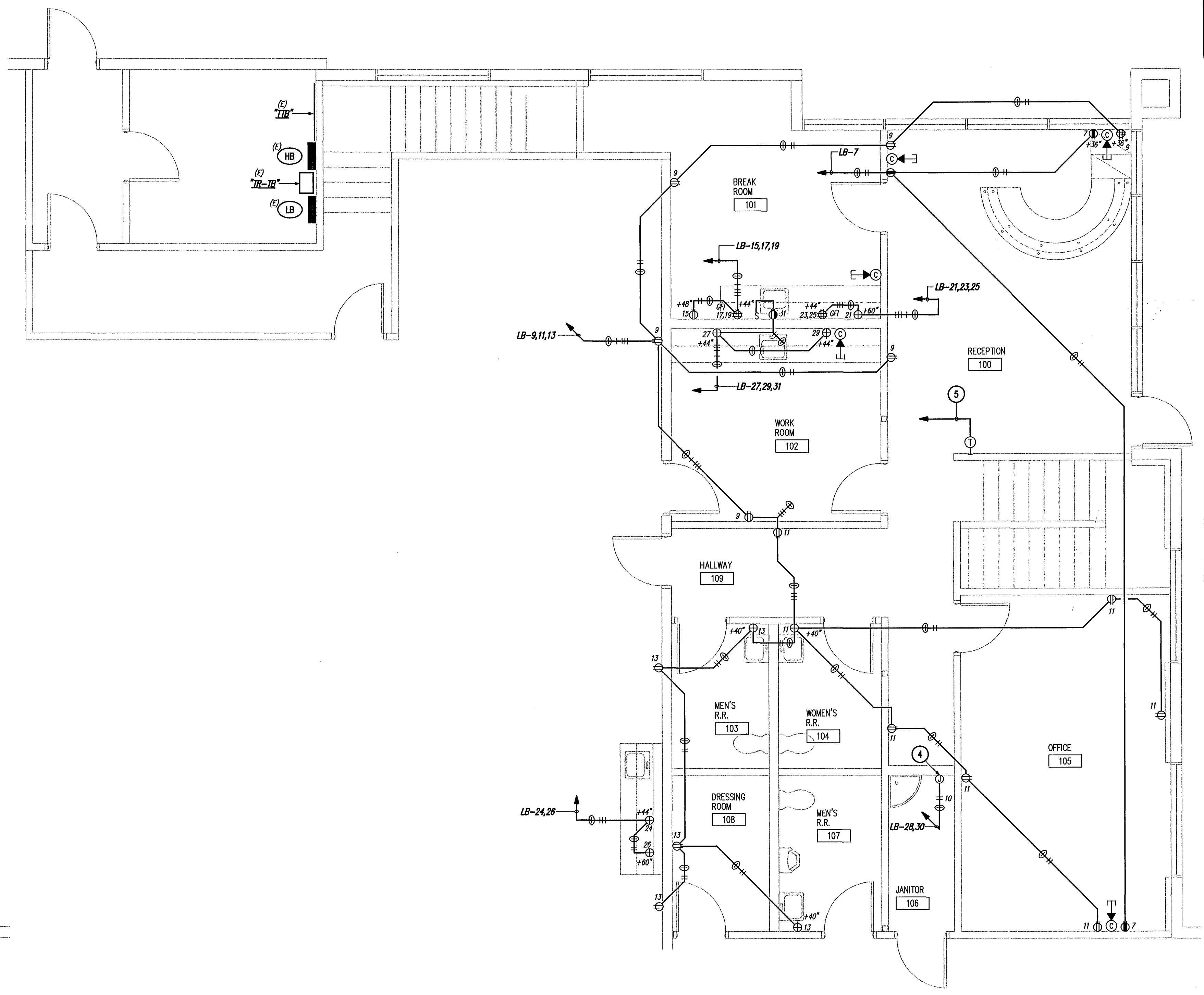
REGISTERED PROFESSIONAL ENGINEER
SERGE V. BONALDO
NO. 43812
EXP. 6-30-09
CIVIL
STATE OF CALIFORNIA
06-28-07

BONALDO DESIGN GROUP
TENANT IMPROVEMENT PLANS
10241 TRADEMARK ST. SUITE B
RANCHO CUCAMONGA, CALIFORNIA 91730
(909) 945-8437 FAX: (909) 944-4882

PROJECT: **CIBARIA INTERNATIONAL**
11109 JASMINE STREET
FONTANA, CA 92337
DATE: **SEP 04 2007**
SCALE: **AS NOTED**
DRAWN BY: **AS NOTED**
JOB NO.: **AS NOTED**
SHEET TITLE: **POWER AND SIGNAL PLAN**
SHEET NO.: **E-3**

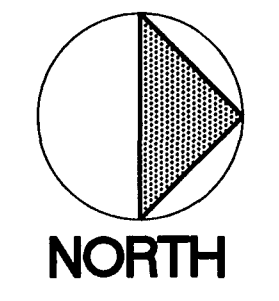


POWER AND SIGNAL PLAN SECOND FLOOR
SCALE: 1/4" = 1'-0"



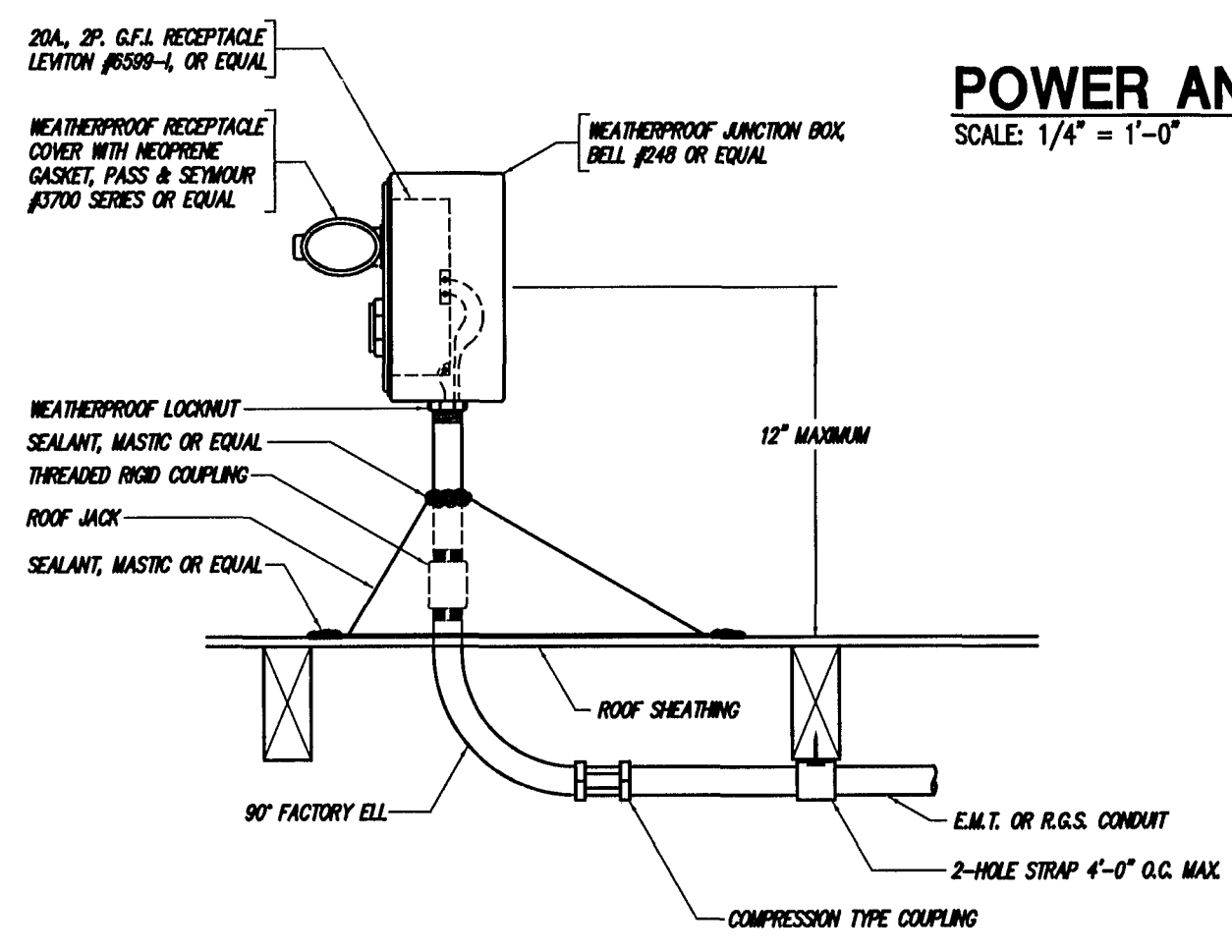
POWER AND SIGNAL PLAN FIRST FLOOR
SCALE: 1/4" = 1'-0"

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KEYNOTES:

- ① JUNCTION BOX FOR COMPUTER/DATA CONNECTION.
- ② JUNCTION BOX FOR PHONE CONNECTION.
- ③ UNIT LOCATED ON ROOF, REFERENCE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
- ④ JUNCTION BOX FOR WATER HEATER "WH-1".
- ⑤ 1/2" CONDUIT ONLY TO CORRESPONDING HEAT PUMP.
- ⑥ RECEPTACLE LOCATED ON ROOF, REFERENCE DETAIL "ROOF MOUNTED RECEPTACLE" THIS SHEET FOR ADDITIONAL INFORMATION.



ROOF MOUNTED RECEPTACLE
N.T.S.

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REDLANDS ENGINEERING COMPANY, INC.
CONSULTING ENGINEERS
ELECTRICAL • MECHANICAL • PLUMBING
505 NEW JERSEY STREET, SUITE "A"
REDLANDS, CALIFORNIA 92373
PHONE: (909) 792-8811 FAX: (909) 792-8598



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DATE: 06-08-07

ELECTRICAL SPECIFICATIONS

SECTION 16100

BASIC ELECTRICAL REQUIREMENTS

PART 1 - PRODUCTS

1.01 DESCRIPTION

A. THE GENERAL CONDITIONS, THE SUPPLEMENTARY GENERAL CONDITIONS AND DIVISION 1 GENERAL REQUIREMENTS APPLY TO THIS SECTION.

B. PROVIDE ALL LABOR, MATERIALS, AND EQUIPMENT REQUIRED TO COMPLETE THE ELECTRICAL WORK SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN.

C. A BRIEF OUTLINE OF THESE REQUIREMENTS INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:

1. UNDERGROUND CONDUITS, PULLBORES, PADS, VAULTS, ETC. FOR POWER, TELEPHONE, CABLE TV, SERVICES PER REQUIREMENTS OF EACH SERVING UTILITY COMPANY INCLUDING FEES AND PERMITS WHERE APPLICABLE.
2. MAIN ELECTRICAL SERVICE AND DISTRIBUTION EQUIPMENT, INCLUDING SWITCHGEAR, PULL SECTION, TEST BLOCKS, METERING, ETC.
3. COMPLETE INTERIOR AND EXTERIOR LIGHTING, POWER, TELEPHONE, AND CABLE TV SYSTEMS INCLUDING BRANCH CIRCUIT DISTRIBUTION AS INDICATED.

1.02 LISTINGS AND CODES. ALL ELECTRICAL MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL BE LISTED BY UNDERWRITERS LABORATORIES (UL) AND BEAR THEIR LABEL, OR LISTED AND CERTIFIED BY A NATIONALLY RECOGNIZED TESTING AUTHORITY WHERE UL DOES NOT HAVE A LISTING. IN ADDITION, THE MATERIALS, EQUIPMENT, AND INSTALLATION SHALL COMPLY WITH THE REQUIREMENTS, WHERE APPLICABLE, OF THE LATEST EDITION OF THE FOLLOWING:

- A. NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)
- B. AMERICAN STANDARD ASSOCIATION (ASA)
- C. NATIONAL FIRE PROTECTION AGENCY (NFPA)
- D. AMERICAN NATIONAL STANDARD INSTITUTE (ANSI)
- E. CALIFORNIA CODE OF REGULATION, TITLE 24 (CCR)
- F. NATIONAL ELECTRICAL CODE (NEC)
- G. ALL LOCAL AND STATE CODES HAVING JURISDICTION

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

1.03 SHOP DRAWINGS

A. CONTRACTOR SHALL SUBMIT TO THE ARCHITECT FOR APPROVAL SIX (6) SETS OF A COMPLETE LIST AND CATALOG CUTS OF ALL MATERIALS HE PROPOSES TO PROVIDE FOR THE ELECTRICAL SYSTEMS COVERED BY THESE SPECIFICATIONS. EACH ELECTRICAL ITEM SHALL BE IDENTIFIED BY THE MANUFACTURER AND TRADE NAME OF THE ITEM AS WELL AS THE DESCRIPTION GIVEN ON THE ELECTRICAL ENGINEERS PLANS. UNLESS OTHERWISE SPECIFICALLY AUTHORIZED BY THE ELECTRICAL ENGINEER, MAKE ALL SUBMITTALS IN GROUPS CONTAINING ALL ASSOCIATED ITEMS. THE ELECTRICAL ENGINEER MAY REJECT PARTIAL SUBMITTALS AS NOT COMPLYING WITH THE PROVISIONS OF THIS SECTION. NO MATERIALS SHALL BE DELIVERED TO THE JOB UNTIL THE LIST HAS BEEN APPROVED BY THE ARCHITECT. ACCEPTANCE OR REJECTION OF SUBSTITUTE MATERIALS SHALL BE AT THE DISCRETION OF THE ARCHITECT.

B. MAKE ALL SUBMITTALS IN ACCORDANCE WITH THE GENERAL CONTRACTOR'S SCHEDULE OF SHOP DRAWINGS AND FAR ENOUGH IN ADVANCE OF SCHEDULED DATES OF INSTALLATION TO PROVIDE REQUIRED TIME FOR REVIEW. SECURING NECESSARY APPROVALS, POSSIBLE REVISION AND RESUBMITTAL, INCLUDING PLACING ORDERS AND SECURING DELIVERY.

C. SUBMIT FOR APPROVAL, COMPLETE DETAILS IN ACCORDANCE WITH A. AND B. ABOVE FOR THE FOLLOWING ITEMS:

1. LIGHTING FIXTURES AND LAMPS
2. PANELBOARDS, TRANSFORMERS AND DISTRIBUTION EQUIPMENT
3. MIRROR DEVICES
4. PULL BOXES AND VAULTS
5. NAMEPLATES FOR EQUIPMENT
6. COMMUNICATION SYSTEMS EQUIPMENT
7. FIRE ALARMS EQUIPMENT

1.04 LOCATIONS AND ACCESSIBILITY. WORK SPECIFIED AND NOT CLEARLY DEFINED BY THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ELECTRICAL ENGINEER PRIOR TO INSTALLATION SO THAT IT MAY BE INSTALLED AND ARRANGED IN A SATISFACTORY MANNER.

1.05 TESTING AND ADJUSTMENT. UPON COMPLETION OF ELECTRICAL WORK, ADJUST AND TEST CIRCUITS, LIGHTS AND OTHER ELECTRICAL ITEMS TO INSURE PROPER OPERATION OF ALL ELECTRICAL EQUIPMENT.

A. CHECK SERVICE VOLTAGES UNDER MAXIMUM OBTAINABLE LOADS. EQUIPMENT, FIXTURES, AND PARTS FOUND TO BE IN NEED OF CORRECTION DURING SUCH TESTING SHALL BE IMMEDIATELY REPAIRED OR REPLACED WITH NEW EQUIPMENT AND THAT PART OF THE SYSTEM SHALL BE RETESTED. SUCH REPAIRS OR REPAIR SHALL BE DONE AT NO ADDITIONAL COST TO THE OWNER.

B. ALL FAILURES SHALL BE CORRECTED IN A MANNER SATISFACTORY TO THE ENGINEER. THE CONTRACTOR SHALL FURNISH ALL NECESSARY COSTS OF RETESTING EQUIPMENT AND CORRECTING FAILURES.

C. ALL ELECTRICAL TESTS SHALL BE WITNESSED BY AN INSPECTOR THAT SHALL HAVE EXPERIENCE IN ELECTRICAL WORK, EQUAL TO THAT OF AN ELECTRICIAN HAVING AT LEAST FIVE (5) YEARS EXPERIENCE AS AN ILEW. JOURNEYMAN.

1.06 LAYOUT AND INSTALLATION

A. LAYOUT AND INSTALLATION OF ELECTRICAL WORK SHALL BE COORDINATED WITH THE OVERALL CONSTRUCTION SCHEDULE AND WORK SCHEDULE OF VARIOUS TRADES, TO PREVENT DELAY IN THE COMPLETION OF THE PROJECT. COMPLETE DRAWINGS AND SPECIFICATIONS FOR THE ENTIRE PROJECT SHALL BE AVAILABLE AT THE JOB SITE. IT SHALL BE OBLIGATORY TO THOROUGHLY CHECK THESE DOCUMENTS BEFORE ORGANIZING THE ELECTRICAL WORK SCHEDULE OR INSTALLING MATERIAL AND EQUIPMENT.

1. WHERE OUTLETS ARE PLACED IN A WALL, THEY SHALL BE LOCATED AT THE SAME HEIGHT WITH RESPECT TO EACH OTHER AND OTHER FEATURES AND/OR FINISHES ON THE WALL.

2. LOCATIONS SHOWN ON ARCHITECTURAL, REFLECTED CEILING PLANS, OR ON WALL ELEVATIONS SHALL TAKE PRECEDENCE OVER ELECTRICAL PLAN LOCATIONS.

3. REVIEW EXACT LOCATIONS OF EACH OUTLET INDICATED AND COORDINATE WITH THE ARCHITECTURAL DRAWINGS. MAKE RELOCATIONS SHALL BE MADE WITHOUT INCURRING ADDITIONAL COST TO OWNER.

4. THE ARCHITECTURAL, STRUCTURAL, ELECTRICAL, PLUMBING AND MECHANICAL DRAWINGS AND SPECIFICATIONS, TAKEN TOGETHER INDICATE THE WORK TO BE DONE UNDER THIS PROJECT. THE WORK SHALL BE EXECUTED IN ACCORDANCE WITH THESE DRAWINGS AND ANY DETAIL SCALE DRAWINGS WHICH MAY BE FURNISHED BY THE ARCHITECT DURING THE PROGRESS OF THE WORK. THE CONTRACTOR SHALL EXAMINE ALL ARCHITECTURAL, STRUCTURAL, ELECTRICAL, PLUMBING AND MECHANICAL DRAWINGS IN ORDER TO BE FULLY INFORMED AS TO THE SCOPE AND DETAIL OF THE WORK WHICH WILL BE REQUIRED.

5. THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC IN NATURE AND INDICATE THE PREFERRED LOCATIONS OF OUTLETS AND EQUIPMENT, AND ARE TO BE FOLLOWED AS CLOSELY AS POSSIBLE. IT IS NOT WITHIN THE SCOPE OF THE DRAWINGS TO SHOW ALL BENDS, OFFSETS, PULLBOXES, AND OBSTRUCTIONS AND IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INCLUDE SUCH IN THE BID. THE DRAWINGS ARE NOT INTENDED TO BE SCALED, AND THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR DIMENSIONS AND LIMITATIONS OF THE BUILDING STRUCTURE, AND TO THE MECHANICAL DRAWINGS FOR THE LOCATION OF EQUIPMENT REQUIRING ELECTRICAL SERVICE AND CONNECTIONS.

6. IN THE EVENT THAT CHANGES IN THE INDICATED LOCATIONS OR ARRANGEMENTS ARE NECESSARY DUE TO FIELD CONDITIONS, SUCH CHANGES SHALL BE MADE BY THE CONTRACTOR WITHOUT EXTRA COSTS, PROVIDING THE CHANGE HAS BEEN APPROVED BY THE ARCHITECT BEFORE THE WORK HAS BEEN COMMENCED AND NO ADDITIONAL MATERIALS ARE REQUIRED. THE CONTRACTOR SHALL ADVISE THE ARCHITECT OF ANY REQUIRED ADDITIONAL COSTS AND HAVE APPROVAL OF SAME BEFORE PROCEEDING.

1.07 OPERATION AND MAINTENANCE INSTRUCTIONS. FULLY INSTRUCT AND DEMONSTRATE TO THE OWNER'S OPERATING PERSONNEL THE PERFORMANCE, OPERATION AND MAINTENANCE OF EQUIPMENT. THE TIME ALLOWED FOR SAID INSTRUCTION SHALL BE INCLUDED AS PART OF THESE CONTRACT DOCUMENTS.

1.08 WARRANTY. ALL MATERIALS AND EQUIPMENT FURNISHED AND INSTALLED UNDER THIS SECTION SHALL BE WARRANTED IN WRITING BY THE CONTRACTOR FOR A PERIOD OF ONE YEAR (EXCEPT BALLASTS FOR LIGHTING FIXTURES SHALL HAVE A TWO YEAR GUARANTEE) FROM DATE OF ACCEPTANCE OF THE WORK. SHOULD ANY TROUBLE DEVELOP DURING THIS PERIOD, DUE TO DEFECTIVE MATERIALS OR FAULTY WORKMANSHIP, THE CONTRACTOR SHALL FURNISH ALL NECESSARY LABOR AND MATERIALS TO CORRECT THE TROUBLE AT NO EXTRA COST TO THE OWNER.

1.09 FINAL REVIEW AND ACCEPTANCE. UPON STATED COMPLETION OF CONTRACT, WORK SHALL BE SUBJECT TO REVIEW BY REPRESENTATIVES OF OWNER, ARCHITECT AND ENGINEER FOR ADHERENCE TO CONTRACT DRAWINGS AND SPECIFICATIONS. ANY CHANGES REQUIRED TO BRING WORK INTO SUBSTANTIAL CONFORMANCE WITH DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

1.10 RECORD DRAWINGS. PROVIDE AND MAINTAIN IN GOOD ORDER A COMPLETE SET OF ELECTRICAL CONTRACT PRINTS. ALL CHANGES SHALL BE CLEARLY RECORDED ON THIS SET OF PRINTS. AT THE END OF THE PROJECT, THE CONTRACTOR SHALL TRANSFER ALL CHANGES TO ONE SET OF MTLAR TRANSFERS FOR SUBMISSION TO THE ARCHITECT. MYLARS SHALL BE PROVIDED BY THE CONTRACTOR TO THE ARCHITECT WHEN REQUESTED AND AT COST OF PROVIDING. UPON COMPLETION OF THE WORK, DELIVER TO THE ARCHITECT ONE COMPLETE SET OF FINAL PRINTS OF THE MYLARS AND THE MYLARS THEMSELVES WITH COMPLETE INSTALLATION AND CHANGES IN THE WORK INDICATED THEREON. ALL SHEETS SHALL BE INITIALED BY THE CONTRACTOR AS BEING A CORRECT AND ACCURATE RECORD OF THE INSTALLATION.

END OF SECTION

SECTION 16100

GENERAL MATERIALS FOR ELECTRICAL WORK

PART 1 - PRODUCTS

1.01 MAIN SERVICE EQUIPMENT AND PANELBOARDS

MAIN SERVICE SHALL CONSIST OF PULL, METER AND MAIN SECTIONS PER REQUIREMENTS OF THE SERVING UTILITY COMPANY AND RATED AS INDICATED ON THE DOCUMENTS.

A. MAIN DISCONNECT SWITCHES SHALL BE SIZED AS INDICATED ON THE DRAWINGS, HEAVY DUTY TYPE WITH CLASS R SELECTING CLIPS. SWITCHES SHALL BE UL APPROVED FOR USE AS A SERVICE ENTRANCE.

B. FUSES, IF SPECIFIED SHALL BE DUAL-ELEMENT, CURRENT LIMITING TYPE, UNLESS NOTED OTHERWISE.

C. SERVICE ENTRANCE EQUIPMENT SHALL BE ADEQUATE FOR A SHORT CIRCUIT DUTY AVAILABLE AT THE SITE AS VERIFIED BY THE SERVING UTILITY COMPANY.

D. PANELBOARDS SHALL BE FLUSH OR SURFACE MOUNTED AS INDICATED ON PLANS AND SHALL CONFORM TO THE REQUIREMENTS OF THE UL. FRONTS SHALL BE FINISHED TO RESIST CORROSION WITH NOT LESS THAN ONE PRIME COAT AND ONE FINISHING COAT. EXPOSED PARTS OF TRIM AND DOORS SHALL BE PAINTED BY OTHERS AFTER INSTALLATION. ALL BRANCH CIRCUIT PANELBOARD LOGS SHALL BE "TIE KEYS" WITH THREE KEYS FURNISHED TO OWNER. ADJACENT POLES OF SINGLE POLE DEVICES SHALL BE OF A DIFFERENT PHASE WITH SPLIT PHASE Bussing. CIRCUITS SHALL BE NUMBERED FROM TOP TO BOTTOM WITH ODD NUMBERS ON THE LEFT AND EVEN NUMBERS ON THE RIGHT. A HEAVILY TYPED CIRCUIT DIRECTORY WITH A PLASTIC COVER SHALL BE PROVIDED IN A HOLDER MOUNTED INSIDE THE CABINET DOOR. BREAKERS SHALL BE BOLT-ON OR FLUSH-IN TYPE AS INDICATED ON PANEL SCHEDULES WITH RATINGS AS SHOWN ON THE DRAWINGS WITH A MINIMUM SHORT CIRCUIT RATING OF 10,000 AMPS SYMMETRICAL. THE FRONT SHALL INCLUDE FLUSH HINGED DOOR WITH LOCK, COVERING ALL BREAKERS.

E. IDENTIFICATION NAMEPLATES SHALL BE PROVIDED OF MCARTY 1/8" THICK, OF APPROVED SIZE, WITH BEVELED EDGES AND ENGRAVED WHITE LETTERS 1/4" HIGH MINIMUM ON BLACK BACKGROUND. THESE NAMEPLATES SHALL BE PROVIDED FOR ALL CIRCUITS IN THE SERVICE DISTRIBUTION AND POWER DISTRIBUTION BOARDS, MOTOR CONTROL CENTERS, LIGHTING DISTRIBUTION PANELBOARDS, SEPARATELY MOUNTED STARTING SWITCHES, DISCONNECT SWITCHES, MOTOR CONTROL PUSH-BUTTON STATIONS, SELECTOR SWITCHES, TRANSFORMERS, TERMINAL CABINETS, TELEPHONE CABINETS ETC. THESE NAMEPLATES SHALL HAVE THE SAME IDENTIFICATION NAMES AS INDICATED ON THE PLANS.

1.02 CONDUITS AND RACEWAYS. ALL CONDUITS AND RACEWAYS SHALL CONFORM TO UL STANDARDS AS APPLICABLE.

A. ELECTRICAL METALLIC TUBING (EMT), NO LESS THAN 1/2" TRADE SIZE, 2" MAXIMUM TRADE SIZE. EMT MAY BE USED IN DRY LOCATIONS ONLY. ALLOY, COLE-FLEX, ROBOROY OR EQUAL.

B. RIGID GALVANIZED STEEL CONDUIT (RGS) SHALL BE STEEL, GALVANIZED OR ZINC COATED FULL WEIGHT, NO LESS THAN 1/2" TRADE SIZE. ALLOY, CONDUX INTERNATIONAL, V.A.W. OR EQUAL.

C. LIQUID-TIGHT FLEXIBLE CONDUIT, NO LESS THAN 1/2" TRADE SIZE, FLEXIBLE, GALVANIZED STEEL CORE COMPLETELY ENCASED IN A POLYETHYLENE CHLORIDE JACKET. AFC, ALLEX, CAROL CABLE OR EQUAL.

D. NON-METALLIC POLYVINYL CHLORIDE (PVC), NO LESS THAN 3/4" TRADE SIZE, SCHEDULE #40 UNLESS NOTED OTHERWISE. SLOUGHT RESISTANT AND RATED FOR 90C CONDUCTORS. CAROL, CANTEX, CAL DUCT OR EQUAL.

E. FLEXIBLE METALLIC CONDUIT, NO LESS THAN 1/2" TRADE SIZE, STEEL, FORMED FROM CONTINUOUS STRIP AND ZINC COATED. AFC, COLE-FLEX, ROBOROY OR EQUAL.

1.03 FITTINGS. FITTINGS AND OUTLETS FOR CONDUIT SYSTEMS SHALL CONFORM TO THE FOLLOWING:

A. FITTINGS FOR ELECTRICAL METALLIC TUBING (EMT) FOR SIZES 1/2" THROUGH 2" SHALL BE WRENCH TIGHTENED COMPRESSION TYPE, WHICH SHALL PROVIDE PULL-ON FORCE RESISTANCE. ELECTRICAL CONDUIT TYPE AS REQUIRED BY UL. NO ADJUSTING FITTINGS OR ADJUSTABLE SET SCREW TYPE FITTINGS SHALL BE USED. 0-2 GENEY, THOMAS & BETTS, RACO OR EQUAL.

B. FITTINGS FOR RIGID GALVANIZED STEEL CONDUIT (RGS) SHALL BE STEEL, THREADED FITTINGS ONLY. SPLIT AND "SET SCREW" TYPE FITTINGS ARE NOT ACCEPTABLE. 0-2 GENEY, THOMAS & BETTS, RACO OR EQUAL.

C. FITTINGS FOR LIQUID-TIGHT FLEXIBLE CONDUIT SHALL BE OF THE COMPRESSION TYPE WITH THREADED FERRULE, SEALING RING AND SUITABLE FOR MET LOCATIONS. 0-2 GENEY, THOMAS & BETTS, RACO OR EQUAL.

D. FITTINGS FOR PVC SHALL BE NON-METALLIC, SLOUGHT RESISTANT, AND OF THE SAME COMPOUND AS THE CONDUITS WHICH THEY ARE BEING UTILIZED WITH. CAROL, CANTEX, CAL DUCT OR EQUAL.

E. FITTINGS FOR FLEXIBLE METALLIC CONDUIT SHALL BE OF THE "SQUEEZE" TYPE WITH EITHER ONE (1) OR TWO (2) SCREWS, CAST OR MALLEABLE STEEL, CHAMFER OR ZINC COATED. 0-2 GENEY, THOMAS & BETTS, RACO OR EQUAL.

1.04 CONDUCTORS. CONDUCTOR SIZES ARE SPECIFIED BY AMERICAN WIRE GAUGE (AWG). CONDUCTORS SHALL BE COPPER, WIRE SIZES #10 AND SMALLER SHALL BE SOLID CONDUCTOR. HOWEVER, CONTROL AND SIGNAL SYSTEMS MAY BE WIRED WITH #14 STRANDED. INSULATION FOR WIRING SHALL BE 600 VOLT TYPE "THIN", 75C, RATED FOR DRY OR WET LOCATIONS OR TYPE "THIN", 90C, RATED FOR DRY LOCATIONS. ALUMINUM CONDUCTORS SHALL BE ALLOWED FOR MAIN SERVICE FEEDERS ONLY.

A. CONDUCTOR SIZES SHALL BE AS INDICATED. WHERE SIZES ARE NOT INDICATED THEY SHALL BE AS REQUIRED BY CODE. ALL WIRING SHALL BE COLOR CODED FOR PHASE IDENTIFICATION AS FOLLOWS:

120/200V, 3-4-W	277/480V, 3-4-W
1. PHASE A = BLACK	PHASE A = BROWN
PHASE B = RED	PHASE B = ORANGE
PHASE C = BLUE	PHASE C = YELLOW
NEUTRAL = WHITE	NEUTRAL = WHITE
GROUND = GREEN	GROUND = GREEN

B. MAKE SPLICES FOR CONDUCTORS #8 AND SMALLER WITH STEEL OR COPPER SPRING INSULATED WIRE NUTS. SPLICES FOR CONDUCTORS #8 OR LARGER SHALL BE WITH SPLIT BOLTS OR "KEYWAYS" WHICH WHEN USED SHALL BE THOROUGHLY INSULATED.

C. THE GREEN GROUND WIRE SHOWN ON CONDUIT RUNS SHALL RUN CONTINUOUS FROM PANEL TO LAST OUTLET. THIS WIRE SHALL BE INSTALLED IN EACH OUTLET FOR CONNECTION TO BOX AND DEVICE SO THAT IF THE DEVICE IS REMOVED, THE GROUND WILL NOT BE INTERRUPTED.

1.05 OUTLET BOXES. ALL BOXES SHALL BE SIZED FOR THE NUMBER AND SIZE OF CONDUCTORS AND CONDUITS ENTERING THE BOX AND EQUIPPED WITH PLASTER/EXTENSION RINGS WHERE REQUIRED. ALL BOXES SHALL BE LABELED TO INDICATE PANEL AND CIRCUIT NUMBER. CONDUCTORS CONTAINED WITHIN IN NO CASE SHALL ANY BOX BE LESS THAN 4" ROUND OR SQUARE, UNLESS SPECIFICALLY NOTED OTHERWISE. OUTLET BOXES FOR CONCEALED WORK SHALL BE GALVANIZED OR SHEARDED, ONE PIECE, PRESSED STEEL, WITH KNOCKOUTS AS REQUIRED.

A. LIGHT OUTLETS SHALL BE 4" OCTAGON, 4" SQUARE OR LARGER PER NEC 370-6 (a) AND SHALL BE EQUIPPED WITH A RAISED PLASTER RING OF DEPTH REQUIRED TO PROVIDE A FLUSH MOUNTING CONDITION. PLASTER RING SHALL HAVE A 3" ROUND OPENING WITH TWO THREADED MOUNTING HOLES. RACO OR EQUAL.

B. SWITCH OUTLETS SHALL BE 4" SQUARE BOX FOR SINGLE AND TWO GANG APPLICATIONS. SPECIAL MULTI-GANG BOXES SHALL BE UTILIZED FOR MORE THAN TWO SWITCHES COMPLETE WITH PLASTER RING FOR MOUNTING SWITCHES. RACO OR EQUAL.

C. RECEPTACLE, TELEPHONE AND COMPUTER/DATA OUTLETS SHALL BE 4" SQUARE OR LARGER BOX PER NEC 370-6(c), WITH SINGLE GANG OR LARGER PLASTER RING TO SUIT THE DEVICE(S) INSTALLED, UNLESS SPECIAL BOXES ARE SPECIFIED (FLUSH CLOCK, ETC.) OR OTHERWISE REQUIRED FOR A PARTICULAR DEVICE. RACO OR EQUAL.

D. FLOOR BOXES, MOUNTED IN CONCRETE, FOR RECEPTACLE, TELEPHONE AND COMPUTER/DATA OUTLETS SHALL BE ROUND OR SQUARE, SINGLE OR MULTI-GANG AS REQUIRED. BOXES SHALL BE PRESSED STEEL OR CAST IRON AS SPECIFIED ON DRAWINGS, BUT IN NO CASE OF LESS THAN 20 CUBIC INCH OF CAPACITY. BOXES SHALL HAVE THE CAPABILITY OF VERTICAL AND HORIZONTAL ADJUSTMENT. THE DEVICE MOUNTING PLATE AFTER PRE-PREPARED ADJUSTING LEGS SHALL BE PROVIDED ON ALL FOUR CORNERS. INTERNAL BARBERS SHALL BE PROVIDED WHERE BOTH LINE AND LOW VOLTAGE SYSTEMS ARE IN THE SAME BOX. HUBBELL OR EQUAL.

E. WHERE INDICATED BY "WP", THE CONTRACTOR SHALL PROVIDE CAST METAL BOXES AND COVERPLATES WITH GASKET(S) AS REQUIRED TO OBTAIN A "WEATHERPROOF" INSTALLATION.

1.06 PULL BOXES. SIZES AS INDICATED ON THE DRAWINGS AND PER UTILITY COMPANY REQUIREMENTS, BUT IN NO CASE OF LESS SIZE OR MATERIAL THICKNESS THAN REQUIRED BY THE GOVERNING CODE. PULL BOXES LOCATED IN OR AROUND VERTICAL TRAPED AREAS SHALL BE PROVIDED WITH TRAPED RATED COVERS. ALL COVERS SHALL BE PERMANENTLY IDENTIFIED AS TO THE TYPE OF SERVICE CONTAINED THEREIN (E. G. SIZE, COMMUNICATIONS, ETC.). BOXES LOCATED IN DAMP OR WET AREAS SHALL BE RATED NEMA 3R. EXTERIOR PULL BOXES SHALL BE PLACED TO AVOID SURFACE WATER FLOW AREAS.

1.07 SWITCHES. LIGHTING SWITCHES SHALL BE SPECIFICATION GRADE, SINGLE POLE, 3-WAY TOGGLE TYPE AS INDICATED, 20 AMP, 120/277V, A.C. RATING FOR FULL CAPACITY OF CONTACTS FOR LAMP LOADS, HUBBELL OR EQUAL BY APPROV HART OR EAGE.

1.08 DISCONNECTS

A. MANUAL MOTOR STARTER SWITCHES SHALL BE TOGGLE TYPE ON/OFF, AS REQUIRED FOR CONTROL OF SINGLE AND THREE PHASE MOTORS AND RESISTANCE HEATER LOADS. SWITCHES SHALL BE SIDE WIRE AND BE COMPLETE WITH OVERSIZE SILVER CONTACTS. PASS & SEMOUR, HUBBELL, EAGE OR EQUAL.

B. SAFETY SWITCHES SHALL BE HEAVY-DUTY INDUSTRIAL TYPE. SWITCHES SHALL BE FUSED OR NONFUSED AS INDICATED ON THE DRAWINGS. ENCLOSURES SHALL BE RATED EITHER NEMA 1 OR NEMA 3R AS REQUIRED BY INSTALLATION. UNITS SHALL BE QUICK MAKE-BREAK HANGER WITH OPERATING HANDLE IN THE "OFF" POSITION. FINISH SHALL BE A STANDARD LIGHT GRAY ENAMEL. SWITCHES SHALL HAVE ATTACHED TO COVERS, A NAMEPLATE INDICATING WHAT ITEM IS CONTROLLED BY SWITCH.

1. FUSES SHALL BE OF CORRECT RATING FOR EACH INSTALLATION, AND SHALL BE EITHER CURRENT LIMITING OR MULTI-ELEMENT TYPE DELAY AS REQUIRED BY EQUIPMENT MANUFACTURERS' RECOMMENDATION. ROSSMAN, CHASE-SHAWMUT, GOLD OR EQUAL.

1.09 RECEPTACLES

A. DUPLEX RECEPTACLES SHALL BE RATED 20 AMP, 125V, A.C., 3 WIRE GROUNDING TYPE AND UNLESS OTHERWISE INDICATED, CONFIGURATION SHALL BE NEMA 5-20R. A BONDING JUMPER SHALL BE PROVIDED FOR GROUNDING BETWEEN THE GROUNDED OUTLET BOX AND THE RECEPTACLE GROUND TERMINAL. GROUNDING THROUGH THE RECEPTACLE MOUNTING STRIPS IS NOT ACCEPTABLE. HUBBELL, #342-1 OR EQUAL BY SERRA OR LEVITON.

B. CLOCK OUTLETS SHALL BE 15 AMP, 125V, A.C., 3 WIRE GROUNDING TYPE RECESSED RECEPTACLES WITH CLOCK HANGER SUPPORT AND INTEGRAL PLASTIC PLATE. EAGE #775 OR EQUAL BY LEVITON OR PASS & SEMOUR.

C. GROUND FAULT TYPE DUPLEX RECEPTACLE SHALL PROVIDE 20A, FEED THROUGH RATING AND 0.025 SECOND, NOMINAL TRIP TIME PER UL STANDARD. LEVITON 6899-1 OR EQUAL BY PASS & SEMOUR OR HUBBELL.

D. ISOLATED GROUND RECEPTACLES SHALL BE 15 AMP, 125V, 3 WIRE GROUNDING TYPE, ORANGE IN COLOR. RECEPTACLE SHALL NOT GROUND THROUGH MOUNTING STRIP, BUT ONLY THROUGH THE GROUND SCREW WHEN CONNECTED TO AN INDEPENDENT GROUNDING CONDUCTOR. LEVITON #636-10 OR EQUAL BY PASS & SEMOUR OR HUBBELL.

1.10 PLATES. PROVIDE PLATES FOR EVERY SWITCH, RECEPTACLE, AND TELEPHONE/DATA OUTLET.

A. ALL INTERIOR PLATES SHALL BE WHITE COLORED SMOOTH NYLON OR PHENOLIC PLASTIC FOR ALL OUTLET LOCATIONS, UNLESS SPECIFICALLY NOTED OTHERWISE. LEVITON, HUBBELL, PASS AND SEMOUR OR EQUAL.

B. ALL EXTERIOR CORNERS SHALL BE WEATHERPROOF PER NEC 410-57(b) THERMOPLASTIC, WITH CLEAR POLYCARBONATE TOP HINGED COVER AND PLATE GASKET. PASS AND SEMOUR #700 SERIES OR EQUAL BY TAYMAC OR HUBBELL.

C. PLATES FOR ISOLATED GROUND RECEPTACLES SHALL BE ORANGE COLORED, SMOOTH NYLON OR PHENOLIC PLASTIC, UL/ULC #80703-10 OR EQUAL BY PASS AND SEMOUR OR HUBBELL.

1.11 LIGHT FIXTURES. FURNISH ALL LIGHT FIXTURES, LIGHTING EQUIPMENT AND COMPONENTS SHOWN ON THE PLANS, LISTED IN THE FIXTURE SCHEDULE AND SPECIFIED HEREIN.

A. BALLASTS FOR FLUORESCENT FIXTURES SHALL BE HIGH POWER FACTOR, ENERGY SAVING TYPE, COMPATIBLE WITH LAMPS AND THEIR DESIGN. CONSTRUCTION SHALL CONFORM TO C.E.C. OR OTHER LOCAL STANDARDS WHERE APPLICABLE. GENERAL ELECTRIC "WATT-MISER", ADVANCE "MARK II", UNIVERSAL "WATT REDUCER" OR EQUAL.

B. FLUORESCENT LAMPS SHALL BE ENERGY SAVING, COOL WHITE AND OF THE LENGTH AND WATTAGE TO FIT THE FIXTURE IN WHICH USED. ALL 4" RAPID START LAMPS SHALL BE 34W, GENERAL ELECTRIC, SYLVANIA OR EQUAL.

C. INCANDESCENT LAMPS SHALL BE OF THE INSIDE FROSTED TYPE, WITH A RATING OF 120V, AND SCREW BASE, UNLESS NOTED OTHERWISE. GENERAL ELECTRIC, SYLVANIA, PHILLIPS OR EQUAL.

D. HIGH INTENSITY DISCHARGE (HID) BALLASTS SHALL BE HIGH POWER FACTOR AND RATED OF START-UP AT 20° F. ON ALL OUTDOOR FIXTURES. LAMPS AND BALLASTS SHALL BE COMPATIBLE WITH BALLASTS MULTI-VOLTAGE RATED.

E. LIGHTING FIXTURE DIFFUSERS: ALL PLASTIC DIFFUSERS FOR FLUORESCENT FIXTURES SHALL BE ACRYLIC. THEY SHALL BE 100% PURE VIRGIN ACRYLIC, MINIMUM THICKNESS .125" OVERALL.

1.12 PULL WIRES. INSTALL AN UNPLACED PULL LINE IN ALL EMPTY CONDUITS. PULL LINE SHALL BE A 3/16" BRAIDED POLYPROPYLENE LINE.

1.13 GROUND RODS. PROVIDE STEEL CENTERED CROWD CLAD GROUND RODS AS REQUIRED PER NEC 250. MINIMUM LENGTH SHALL BE 3/4" X 8', DRIVEN NEARLY FULL LENGTH INTO THE EARTH WITH NO MORE THAN 2' LEFT ABOVE GRADE FOR PROPER CONNECTION TO THE GROUNDING CONDUCTOR(S).

1.14 TRANSFORMER(S). TRANSFORMERS SHALL BE DRY-TYPE, NEMA-1 FOR DRY LOCATIONS OR NEMA 3R FOR WET OR DAMP LOCATIONS. TRANSFORMERS SHALL HAVE VENTILATED CORE AND COIL ASSEMBLIES MOUNTED ON RUBBER ISOLATION PADS TO MINIMIZE THE SOUND LEVEL. (b) 2-1/2X FULL CAPACITY TAPS WITH (2) ABOVE AND (4) BELOW SHALL BE PROVIDED AT 150° C. RISE, UNLESS NOTED OTHERWISE.

1.15 TIME SWITCHES

A. TIME SWITCH(S) FOR CONTROLLING MECHANICAL EQUIPMENT, SIGNS, DISPLAYS, ETC. SHALL BE A 7 DAY TYPE, SPOT, ADJUSTABLE WITH RESERVE POWER, 120V, WITH (3) 20 AMP CONTACTS AND PHOTOELECTRIC INTERCONNECTION TERMINALS. TORK #750L OR EQUAL BY INTRAMATIC OR PARAGON.

B. TIME SWITCHES FOR CONTROLLING EXTERIOR LIGHTING, DUTY CYCLING, VENTILATING FANS, ETC. SHALL BE A 7 DAY COMPRESSION TYPE, WITH MANUAL BY-PASS SWITCHES, RESERVE POWER 120V, WITH (3) 20 AMP CONTACTS. TORK #7M-300 SERIES OR EQUAL BY INTRAMATIC OR PARAGON.

1.16 PHOTOCONTROLS. PHOTOCONTROLS SHALL BE OUTDOOR TYPE, 120V, 2000W CURRENT RATING, ADJUSTABLE, TORK #7101 OR EQUAL.

1.17 LOCATIONS. EQUIPMENT OUTLETS, LIGHTING FIXTURES, CONDUIT, WIRE, AND CONNECTION METHODS IN HVAC AIR-PLenums SHALL BE APPROVED FOR SUCH USE.

END OF SECTION

SECTION 16105

INSTALLATION OF ELECTRICAL WORK

PART 1 - EXECUTION

1.01 GENERAL. REQUIREMENTS OF SECTIONS 16100 AND 16100 APPLY TO THIS SECTION. ANY CUTTING, PATCHING OR FINISH REPAIR OF THE WORK OR WORK OF OTHER TRADES NECESSARY FOR THE INSTALLATION OF THE ELECTRICAL WORK SHALL BE PROVIDED UNDER THIS SECTION.

1.02 MISCELLANEOUS

A. PROVIDE TRENCHING, CONCRETE ENCASEMENT WHEN REQUIRED, BACKFILLING AND COMPACTION FOR ALL UNDERGROUND CONDUITS AND/OR STRUCTURES.

B. PROVIDE FOOTINGS FOR ALL POST AND/OR POLE-MOUNTED LIGHTING FIXTURES. CONCRETE SHALL CONFORM TO THE APPLICABLE SECTIONS OF THIS SPECIFICATION AND LOCAL CODES HAVING JURISDICTION.

C. STRUCTURAL AND MISCELLANEOUS STEEL USED IN CONNECTION WITH ELECTRICAL WORK AND LOCATED OUT-OF-DOORS OR IN DAMP LOCATIONS SHALL BE GALVANIZED UNLESS NOTED OTHERWISE. INCLUDED ARE UNDERGROUND PULLBOX COVERS, UNSTRUT BRACING AND SIMILAR ELECTRICAL ITEMS.

D. FLASHINGS SHALL BE PROVIDED AT ALL POINTS WHERE CONDUIT OR OTHER ELECTRICAL COMPONENTS PENETRATE THE ROOF. FLASHINGS SHALL EXTEND A MINIMUM OF 5" ABOVE THE SURROUNDING ROOF SURFACE WITH WEATHERPROOF MASTIC APPLIED, TO PREVENT MOISTURE OR DUST FROM ENTERING THE OPENING. FLASHINGS SHALL BE DELIVERED TO THE ROOFING CONTRACTOR FOR INSTALLATION. THE CORRECT LOCATION OF ALL SUCH PENETRATIONS SHALL BE VERIFIED BY THE CONTRACTOR.

E. PROVIDE SLEEVES UNDER WALLS, CONCRETE FOOTINGS AND FOUNDATIONS. SLEEVES SHALL HAVE AN INSIDE DIAMETER OF NOT LESS THAN 1" LARGER THAN THE OUTSIDE DIAMETER OF CONDUIT CONTAINED THEREIN.

1.03 CONDUIT. CONDUIT FOR LINE VOLTAGE WIRING SHALL BE CONCEALED WITHIN FINISHED WALLS, CEILINGS AND UNDER/FLOOR. EXPOSED CONDUITS ABOVE CEILINGS AND SURFACE MOUNTED IN MECHANICAL AND SERVICE AREAS SHALL BE INSTALLED PARALLEL OR PERPENDICULAR TO THE BUILDING WALLS. RIGHT ANGLE TURNS SHALL CONSIST OF CONDUIT BOXES OR SYMMETRICAL BENDS. ALL CONDUITS SHALL BE PROPERLY SECURED WITH COMPONENTS SPECIFICALLY MANUFACTURED FOR THIS USE. ALL CONDUITS SHALL BE SIZED IN ACCORDANCE WITH FULL CAPACITY SET FORTH IN NEC ARTICLE 348. ALL CONDUIT RUNS SHALL BE INSTALLED TO AVOID TRAPPED CONDENSATION.

A. ELECTRICAL METALLIC TUBING (EMT), DO NOT EMBED EMT IN CONCRETE OR BELOW GRADE. EMT MAY BE USED WHERE CONCEALED OR WHERE NOT SUBJECT TO DAMAGE.

B. RIGID GALVANIZED STEEL CONDUIT (RGS) SHALL BE USED IN MECHANICAL ROOMS, WHERE CONDUIT PASSES THROUGH CONCRETE SLABS ON GRADE AND WHERE SUBJECT TO PHYSICAL DAMAGE.

C. FLEXIBLE METALLIC CONDUIT SHALL BE USED FOR FINEAL CONNECTIONS TO ALL VIBRATING AND MECHANICAL EQUIPMENT. A CODE GAUGE GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED IN SUCH CONDUITS. FLEXIBLE CONDUIT MAY BE USED IN LENGTHS OF LESS THAN 6' FOR CONNECTING FIXTURES, PROVIDED THAT A CODE GAUGE INSULATED GROUNDING CONDUCTOR IS PROVIDED. LIQUID-TIGHT FLEXIBLE CONDUIT SHALL BE USED FOR ALL DAMP OR WET LOCATIONS.

D. POLYETHYLENE CHLORIDE CONDUIT (PVC) SHALL ONLY BE USED UNDERGROUND AT A MINIMUM OF 30" BELOW FINISHED GRADE, WHEN NOT INSTALLED UNDER A CONCRETE SLAB OR FOOTING. PROVIDE A CODE GAUGE GREEN GROUND WIRE IN ALL PVC RUNS. ALL UNDERGROUND CONDUIT RUNS SHALL SLOPE TO DRAIN TO EACH END AND TERMINATE WITH PRE-MANUFACTURED BELL ENDS AT ALL MANHOLES AND PULL BOXES.

E. CONDUIT ENDS SHALL BE CUT SQUARE AND SHALL BE CAREFULLY REAMED OUT TO FULL SIZE WITH A TAPERED BURRING REAMER AND SHOULD BE TO THE FITTINGS.

F. BENDS IN CONDUIT SHALL BE MADE SO THAT THE CONDUIT WILL NOT BE DAMAGED, AND THAT THE INTERNAL DIAMETER OF THE CONDUIT WILL NOT BE EFFECTIVELY REDUCED. THE RADIUS OF THE CURVE OF THE INNER EDGE SHALL NOT BE LESS THAN SHOWN IN TABLE 346-10 OF THE NEC.

6. CONDUIT SUPPORTS SHALL BE PROVIDED FOR ALL ABOVE GROUND SYSTEMS. CONDUIT SHALL BE SECURELY SUPPORTED AND FASTENED WITHIN 3 FEET OF ANY TERMINATION POINT AND AT A MAXIMUM OF EVERY 10 FEET ALONG LENGTH OF RUN.

H. CLEARANCE. CONDUIT SHALL NOT RUN CLOSER THAN 6" TO ANY HOT WATER PIPE, STEAM PIPE, HEATER FLUE, OR VENT.

I. CONDUITS SHALL BE USED WHERE CONDUIT RUNS MUST GO AROUND OUTSIDE CORNERS OF WALLS, BEAMS, EQUIPMENT, ETC. ALL CONDUIT COVERS SHALL BE ACCESSIBLE.

1.04 CONDUCTORS AND TERMINATIONS. WIRE AND CABLE SHALL BE CONTINUOUS FROM OUTLET TO OUTLET, WITH THE SPLICES ONLY IN JUNCTION BOXES, OUTLETS, EQUIPMENT OR OTHER APPROVED LOCATIONS.

A. MAKE SPLICES, JOINTS, TAPS AND CONNECTIONS TO EQUIPMENT WITH APPROVED SOLDERLESS LUGS SIZED FOR THE WIRE OR CONDUCTOR INVOLVED.

B. IDENTIFY POWER AND LIGHTING FEEDERS WITH PERMANENT TAGS AT PANELS, PULL BOXES AND POINTS WHERE CONDUIT RUN IS BROKEN.

C. INSTALLATION. THOROUGHLY CLEAN CONDUIT AND WIREWAYS TO INSURE ALL PARTS ARE PERFECTLY DRY BEFORE PULLING WIRES. USE APPROVED WIRE PULLING COMPOUND FOR SIZES #2 OR LARGER, AND ON LONG RUNS.

D. WIRE OR CABLE BENDS IN JUNCTION AND/OR PULLBOXES SHALL BE MADE WITH A LONG RADIUS. BENDS FOR CABLE SHALL HAVE A RADIUS OF NOT LESS THAN 8 TIMES THE DIAMETER OF THE CABLE. PER N.E.C. SECTION 300.

E. CONDUCTORS #12 AND SMALLER SHALL BE PROVIDED WITH EYE OR FORKED TYPE COMPRESSION SET CONNECTORS WHEN CONDUCTORS ARE TERMINATED ON A SET SCREW TYPE TERMINAL.

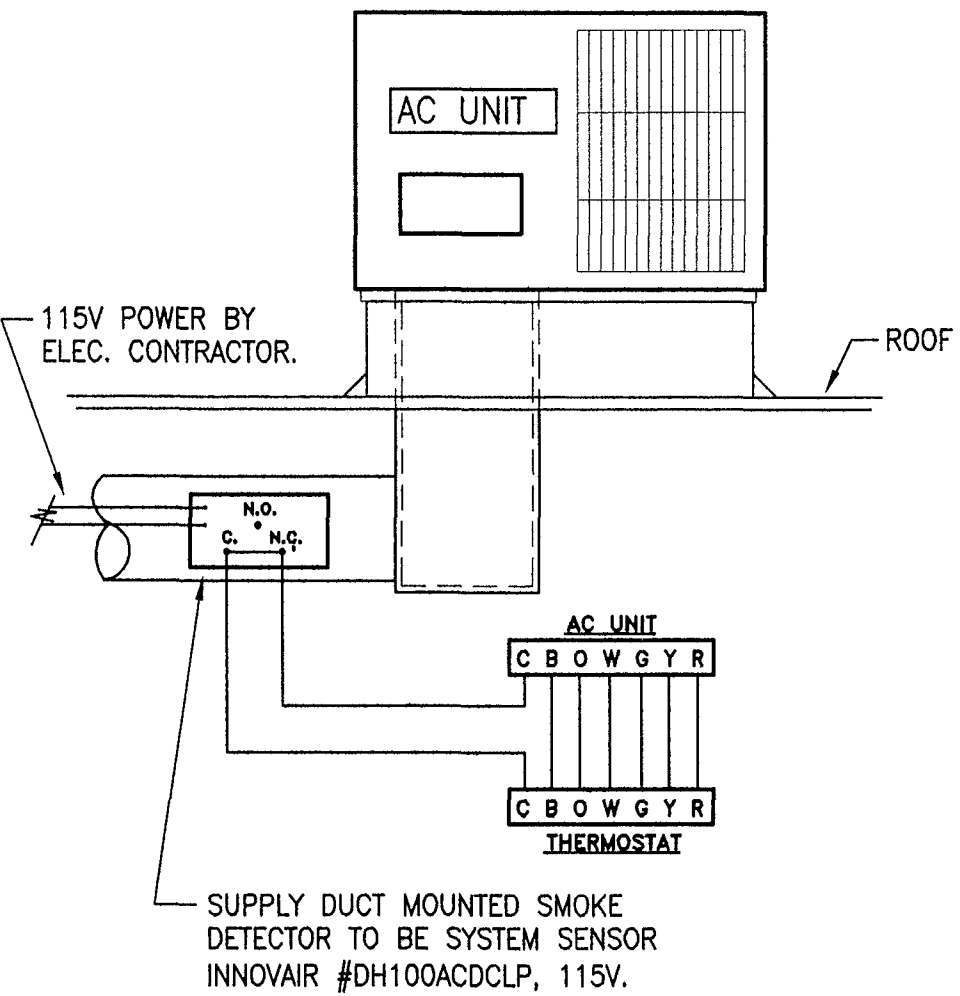
1.05 DEVICE AND JUNCTION BOXES

A. CONCEALED OUTLET BOXES SHALL BE ACCURATELY PLACED, FLUSH WITH THE FINISHED SURFACE OF WALL OR CEILING, UNLESS OTHERWISE INDICATED. THEY SHALL BE PLUMB AND PROPERLY FASTENED TO THE STRUCTURE, INDEPENDENT OF THE CONDUIT, BY A BAR HANGER OR STRAP APPROVED FOR THAT PARTICULAR USE.

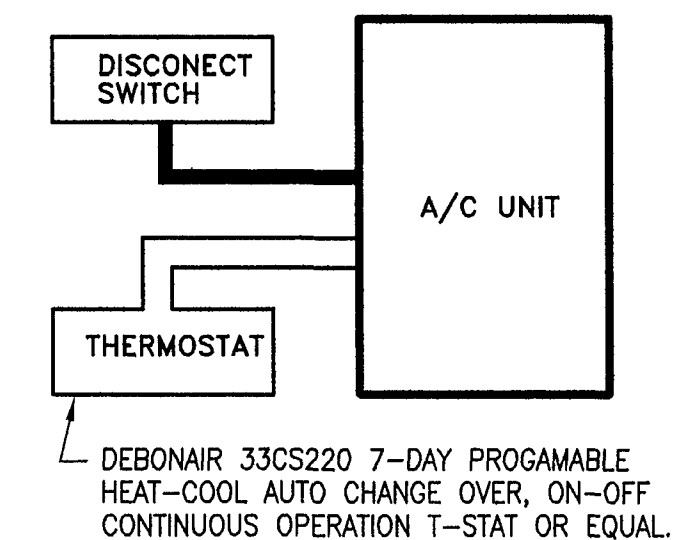
B. OUT

HEAT PUMP SCHEDULE																	
	MAKE AND MODEL	COOLING		HEATING		SUPPLY AIR FAN				MIN. O.S.A. CFM	ELECTRICAL				WEIGHT (lbs.)	ACCESSORIES	
		BTUH	SEER EER	BTUH	HSPF COP	CFM	S.P.	RPM	H.P.		DRIVE	VOLT	Ph	MCA			FUSE
HP 1	Carrier 50HQ007-5	71,000	— 10.5	69,000	— 3.4	2400	0.6"	1302	2.0	BELT	250	460	3	17.4	20	775	ROOF CURB, OUT SIDE AIR HOOD WITH 1/4" SCREEN AND BDD, SMOKE DETECTOR.
HP 2	Carrier 50HQ008-6	88,000	— 10.3	85,000	— 3.3	3000	0.6"	756	2.0	BELT	300	460	3	21.4	25	1250	ROOF CURB, ECONOMIZER AND SMOKE DETECTOR.

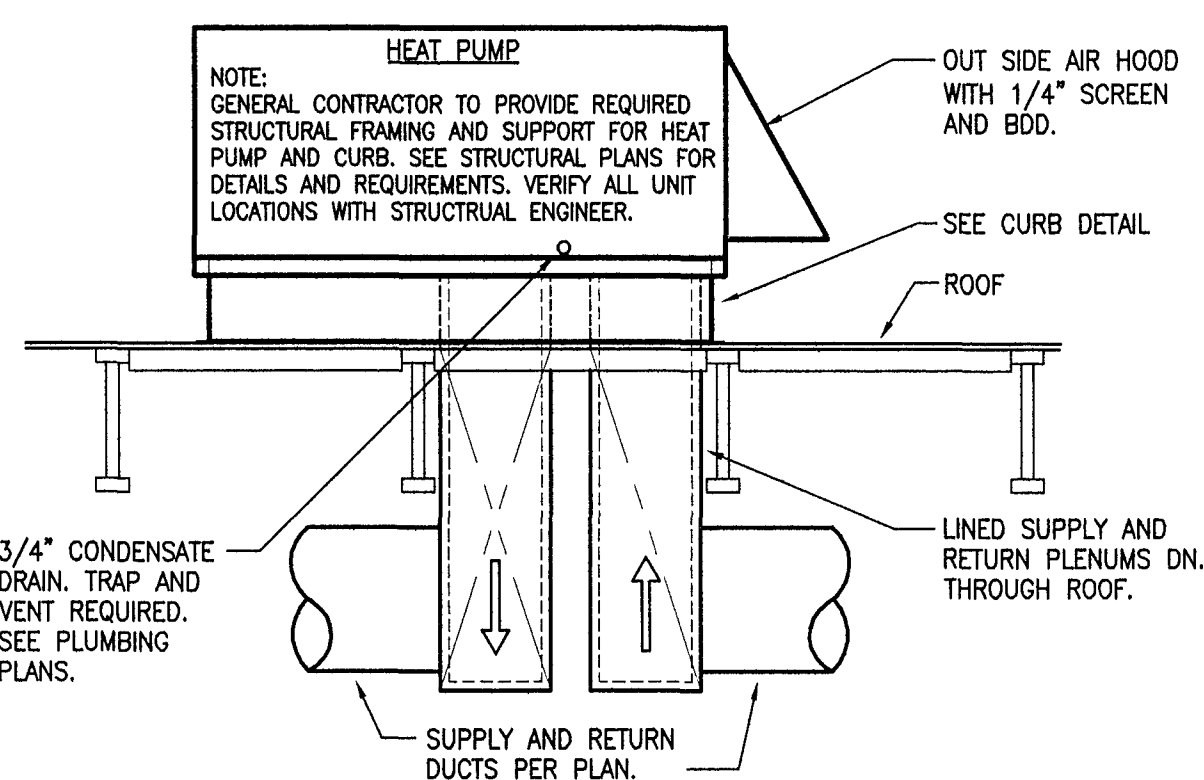
EXHAUST FAN SCHEDULE													
	MAKE AND MODEL	CAPACITY		FAN MOTOR			ELECTRICAL			WEIGHT (lbs.)	ACCESSORIES		
		CFM	S.P.	RPM	H.P.	DRIVE	VOLT	Ph	MCA				
EF 1	BROAN L100	100	.20"	650	-	DIRECT	115	1	1.1	23	1/4" SCREEN AND BDD. ELECTRICAL CONTRACTOR TO INTERLOCK WITH REST ROOM LIGHTS.		
EF 2	BROAN L100	100	.20"	650	-	DIRECT	115	1	1.1	23	1/4" SCREEN AND BDD. ELECTRICAL CONTRACTOR TO INTERLOCK WITH REST ROOM LIGHTS.		
EF 3	BROAN L100	100	.20"	650	-	DIRECT	115	1	1.1	23	1/4" SCREEN AND BDD. ELECTRICAL CONTRACTOR TO INTERLOCK WITH REST ROOM LIGHTS.		



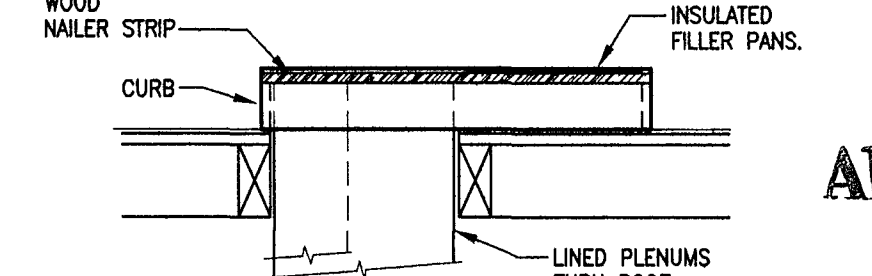
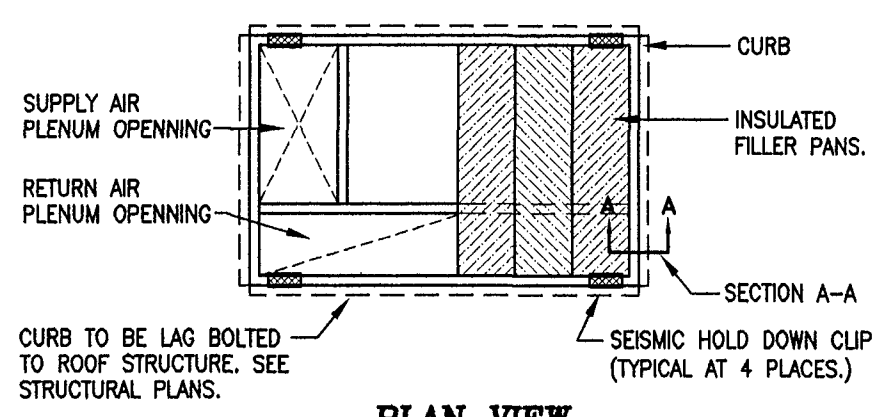
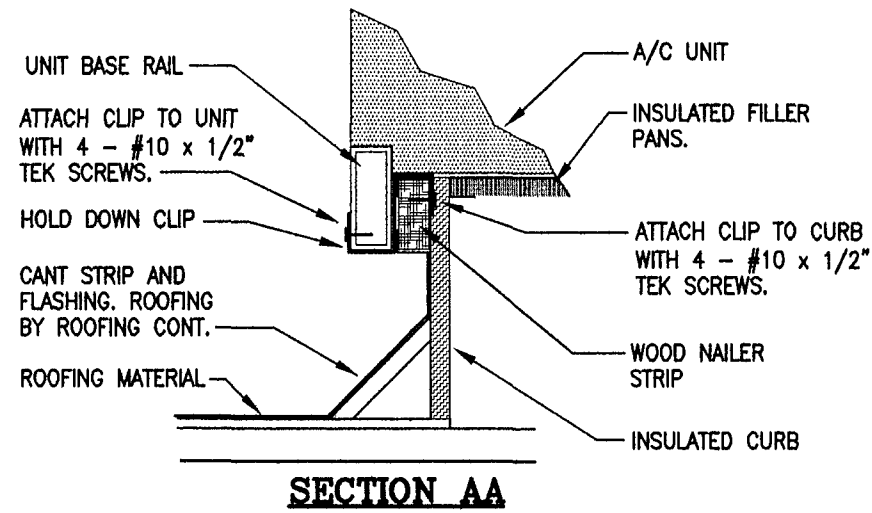
SMOKE DETECTOR DETAIL



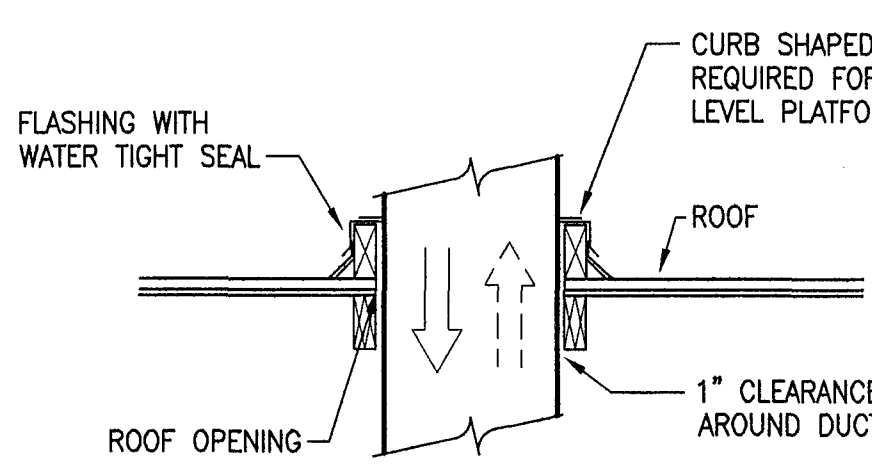
T-STAT WIRING DIAGRAM



HEAT PUMP DETAIL



CURB MOUNTING DETAIL



ROOF DUCT PENETRATION DETAIL

GENERAL NOTES

- PART 1**
- MECHANICAL CONTRACTOR SHALL FURNISH ALL LABOR AND MATERIALS, EQUIPMENT AND ACCESSORIES FOR COMPLETE AND FULLY OPERATING SYSTEM(S) INCLUDING (BUT NOT LIMITED TO): CONTROLS, DUCT, ACCESSORIES AND ALL REQUIRED FEES, WORK SPECIFIED ELSEWHERE AND BY OTHERS TO INCLUDE ELECTRICAL CONDUIT, LINE VOLTAGE WIRING, CARPENTRY AND PLATFORMS, CUTTING, BLOCKING, CORING AND DRILLING BY OTHERS.
 - JOB CONDITIONS: VERIFY ELECTRICAL POWER REQUIREMENTS ON JOB SITE. MAINTAIN CONTINUITY OF SERVICE TO ANY EXISTING SYSTEMS. VISIT SITE PRIOR TO BIDDING TO UNDERSTAND CONDITIONS AFFECTING INSTALLATION OF THE PROPOSED SYSTEMS. COORDINATE WORK WITH ALL TRADES. ALL WORK SHALL COMPLY WITH ALL CODES, REGULATIONS AND JURISDICTIONS HAVING AUTHORITY.
- PART 2**
- GENERAL: USE ONLY NEW MATERIALS, EQUIPMENT AND MATERIALS SHALL CONFORM TO REQUIREMENTS OF THE A.G.A. STATE FIRE MARSHALL AND SHALL BE UL LISTED AND MEET ALL LOCAL AND STATE CODE REQUIREMENTS.
 - DUCTS: ALL DUCT WORK TO BE INSTALLED AND ASSEMBLED PER CHAPTER 6 OF THE 2001 M.C.C. AND SHALL COMPLY WITH SMACNA REQUIREMENTS.
 - ALL EXPOSED DUCT ON ROOF TO BE USGG GALVANIZED STEEL DUCT WITH 1 1/2" 1.5 LB/CU.FT. DENSITY INSULATION LINER. ALL DUCTS EXPOSED TO WEATHER ARE TO BE SEALED WATER TIGHT WITH ARMO. AND CANVAS. GLEN COAT OR APPROVED EQUAL. SUPPORT ALL DUCTS ON ROOF ON STRUCTURAL ANGLE FRAMES OR SLEEPERS OR BLOCKING. BASE PLATES AND BLOCKING TO BE SET IN MASTIC. VERIFY WITH ARCHITECT AND ROOFING CONTRACTOR.
 - DUCTS RUN IN ATTICS, GARAGES OR CRAWL SPACES TO BE CLASS 1 ALUMINUM, GALVANIZED SPIRAL DUCT OR GALVANIZED RECTANGULAR DUCT. HEATING AND COOLING DUCTS TO HAVE MIN. 1" (R-4.2) 1.5 LB/CU.FT. DENSITY FIBERGLASS INSULATION AND VAPOR BARRIER TO MEET THE REQUIREMENTS FOR TITLE 24.
 - EXPOSED HEATING AND COOLING DUCTS RUN IN CONDITIONED SPACE MAY BE UNINSULATED.
 - ALL FITTINGS FOR DUCT WORK TO BE GALVANIZED STEEL WITH REQUIRED 1" (R-4.2) INSULATION AND A 2" OVERLAP AND SECURED WITH 18 GAUGE GALVANIZED ANNEALED WIRE 12" O.C. OR AS NEEDED TO SECURE INSULATION. ALL JOINTS TO BE SEALED AIR TIGHT WITH APPROVED TIES OR PRESSURE SENSITIVE TAPE WHERE ALLOWED. VERIFY WITH LOCAL JURISDICTION.
 - ALL FLEX DUCT TO BE SUPPORTED BY MIN. 1 1/2" GALVANIZED STEEL STRAPPING AND HANGER WIRES EVERY 6 FEET FOR FLEX DUCT, 8' FOR GALVANIZED STEEL DUCT OR AS NEEDED TO KEEP DUCT SUSPENDED TIGHT AND IN PROPER ALIGNMENT SO AS NOT TO RESTRICT AIR FLOW.
 - ALL BRANCH SUPPLY DUCTS TO HAVE MANUAL VOLUME DAMPERS AT "T" OR REGISTER TO BALANCE SYSTEM. AND FLAG DAMPER FOR IDENTIFICATION.
 - FINAL 8' OF DUCT TO REGISTERS AND GRILLES TO BE CLASS 1 FLEXIBLE DUCT INSTALLED NOT TO RESTRICT AIR FLOW.
 - ALL EQUIPMENT IS TO BE NEW UNLESS NOTED OTHERWISE. ALL ROOF TOP EQUIPMENT IS TO BE SET ON FACTORY CURBS, PLATFORMS OR 4x4 SLEEPERS. SEE PLANS. ALL ROOF PENETRATIONS TO BE FLASHED AND SEALED WATER TIGHT. ALL PACKAGE ROOF TOP SYSTEMS ARE TO HAVE OUTSIDE AIR HOODS WITH 1/4" SCREEN AND BACKDRAFT DAMPER OR ECONOMIZER. SEE SCHEDULE FOR REQUIREMENTS. ROOF TOP EXHAUST FANS TO HAVE BACKDRAFT DAMPERS THAT AUTOMATICALLY CLOSE DURING PERIODS OF NON-USE. EACH SYSTEM SUPPLYING IN EXCESS OF 2,000 CFM SHALL BE EQUIPPED WITH SMOKE DETECTORS INSTALLED IN THE SUPPLY AIR DUCT.
 - ALL SPACE CONDITIONING SYSTEMS ARE TO BE INDIVIDUALLY CONTROLLED BY THERMOSTATS OR SENSORS LOCATED WITHIN THAT UNIT'S ZONE. THERMOSTATS TO BE PROGRAMMABLE. SMOKE DETECTOR BY MECHANICAL CONTRACTOR. LOW VOLTAGE WIRING, CONDUITS AND LINE VOLTAGE WIRING BY ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL ALL REQUIRED DISCONNECTS, TRANSFORMERS, RELAYS, INTERLOCKS, SWITCHES, TIME CLOCKS AND GLOBAL SHUT DOWN IF REQUIRED.
 - FREON LINES FROM CONDENSING UNITS TO INDOOR UNITS TO BE TYPE "L" COPPER WITH SILVER BRAZED FITTINGS AND SIZED PER MANUFACTURERS SPECIFICATIONS. LINE SETS TO BE TRAPPED EVERY 10 FEET FOR VERTICAL RISERS. ROOF PENETRATIONS TO BE FLASHED AND SEALED WATER TIGHT. SUCTON LINES TO BE INSULATED WITH 1/2" ARMAFLEX OR EQUAL.
 - PROVIDE A MINIMUM OF 15 CFM OUT SIDE AIR PER OCCUPANT. SEE EQUIPMENT SCHEDULE FOR REQUIRED OUT SIDE AIR. OUT SIDE AIR HOOD TO HAVE 1/4" SCREEN AND BACKDRAFT DAMPER.
 - ALL INTERIOR EXHAUST FANS TO BE DUCTED THROUGH ROOF OR EXTERIOR WALL PER PLAN. PROVIDE COVERED FLASHING OR EYEBROW WITH 1/4" SCREEN AND BACKDRAFT DAMPER SEALED WATER TIGHT.
 - CONDENSATE DRAINS BY PLUMBING CONTRACTOR UNLESS NOTED OTHERWISE. ALL CONDENSATE DRAINS TO HAVE TRAP AND VENT. CONDENSATE DRAINS TO SLOPE 2% MINIMUM AND DRAIN TO APPROVED RECEPTACLE PER PLUMBING PLANS.
 - ALL FAN COILS TO HAVE SECONDARY DRAIN PANS AND SECONDARY CONDENSATE DRAINS TO VISIBLE LOCATIONS.
 - GENERAL CONTRACTOR TO PROVIDE PERMANENT ROOF ACCESS.
 - ALL AC UNITS AND FAN COILS AND CORRESPONDING THERMOSTAT CONTROLS TO BE PERMANENTLY LABELED WITH UNIT NUMBER.
 - ALL MATERIALS AND INSULATION EXPOSED WITHIN OR APPLIED TO DUCT WORK OR PLENUMS EITHER ON SITE OR FROM MANUFACTURERS, IS TO HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE DEVELOPMENT RATING OF NOT MORE THAN 50.
 - ALL MECHANICAL EQUIPMENT AND DUCT WORK SHALL BE ANCHORED TO RESIST SEISMIC FORCES. THE SEISMIC BRACING AND ANCHORAGE OF DUCTS AND EQUIPMENT SHALL BE IN ACCORDANCE WITH "GUIDELINES FOR SEISMIC RESTRAINTS OF MECHANICAL AND PLUMBING SYSTEMS", PUBLISHED BY S.M.A.C.N.A. AND P.P.I.C.
 - ALL EQUIPMENT ABOVE OR ADJACENT TO HABITABLE SPACE SHALL HAVE SUFFICIENT SOUND DAMPENING AT POINT OF ANCHORAGE PER U.B.C., AND CBC.
 - THE TEMPERATURE CONTROL AND WIRING DIAGRAMS SHOWN HEREON ARE FOR THE PURPOSE OF INDICATING THE FUNCTIONAL OPERATION OF THE MECHANICAL EQUIPMENT ONLY.
 - COORDINATE THE LOCATION OF ALL CEILING DIFFUSERS, REGISTERS, GRILLES, ETC., WITH THE ARCHITECTURAL REFLECTED CEILING PLAN.
 - FLEXIBLE CONNECTIONS SHALL BE PROVIDED FOR ALL DUCT WORK ATTACHED TO AIR MOVING EQUIPMENT MOUNTED ON OR SUSPENDED FROM VIBRATION ISOLATORS. FLEXIBLE CONNECTIONS SHALL BE CODE APPROVED NEOPRENE TYPE.
 - ELECTRICAL AND PLUMBING CONTRACTORS SHALL PROVIDE FLEXIBLE CONNECTIONS AT ALL MECHANICAL EQUIPMENT MOUNTED ON VIBRATION ISOLATORS AND OR SUSPENDED VIBRATION HANGERS.
 - ALL GAS PIPING, PURGING AND FINAL CONNECTIONS AND WATER PIPING TO INCLUDE FINAL CONNECTIONS BY PLUMBING CONTRACTOR.
 - GREASE HOOD EXHAUST DUCT TO CONFORM WITH LOCAL MECHANICAL AND FIRE CODES FOR GREASE DUCT INSTALLATION.
 - GALVANIZED SPIRAL DUCT PER TABLE 6-2 FOR STATIC PRESSURES LESS THAN 2".
- | DUCT SIZE | 0-9" | 10"-14" | 16"-22" | 24"-36" | 38"-50" | 52"-60" | 62"-84" |
|-----------|------|---------|---------|---------|---------|---------|---------|
| GAGE | 26 | 26 | 24 | 22 | 20 | 18 | 16 |
- GAS BURNING APPLIANCES TO BE INSTALLED IN ACCORDANCE WITH A.G.A. APPROVAL CONDITIONS AND MANUFACTURERS REQUIREMENTS. WHERE APPLIANCES ARE INSTALLED IN CONFINED SPACES COMBUSTION AIR SHALL BE PROVIDED PER CODE.
 - DOORS AT REST ROOMS AND OTHER ROOMS WITH EXHAUST TO HAVE EITHER 12" x 6" LOUVERS OR UNDERCUT DOOR 2" IF DOOR OPENS TO A NON-FIRE RATED AREA BY GENERAL CONTRACTOR. UNLESS OTHERWISE NOTED.
 - ACCESS DOORS OTHER THAN IN DUCT BY OTHERS. UNLESS NOTED OTHERWISE, DUCT ACCESS DOORS TO BE DOUBLE WALL TYPE WITH GASKET SEAL AND SASH LOCK. INSULATE PER APPLICATION.
 - ATTIC VENTILATION AND GENERAL SHEET METAL BY OTHERS UNLESS OTHERWISE NOTED.
 - WHEN REQUIRED GENERAL CONTRACTOR TO PROVIDE BURGLAR BARS, COUNTER FLASHING, RAIN HOODS, ROOF JACKS, AND ROOF OPENINGS WITH CURBING AS PER LOCAL CODES UNLESS OTHERWISE NOTED. ALL EXTERIOR BUILDING PENETRATIONS TO BE SEALED WATER TIGHT.
 - HEAT RECLAIM VALVE TYPE AND NUMBER TO BE SPECIFIED BY REFRIGERATION CONTRACTOR WHERE APPLICABLE.
 - ONE HOUR BEFORE BUILDING OCCUPANCY THE ENERGY MANAGEMENT SYSTEM OR THE PROGRAMMABLE THERMOSTATS SHALL START THE AIR HANDLER SUPPLY FANS TO PURGE THE BUILDING.
 - PROVIDE A MINIMUM OF 10 AIR CHANGES PER HOUR EXHAUST FROM ALL TOILET ROOMS, JANITOR CLOSETS AND INTERROOMS. FANS TO BE INTERLOCKED WITH LIGHTS OR SWITCHED ON WALL. VERIFY.
 - MOTORS TO BE OPEN DRIP PROOF TYPE PER NEMA STANDARDS. INSTALL EXPLOSION PROOF MOTORS WHERE INDICATED OR WHEN A HAZARDOUS CONDITION EXISTS.
 - VERIFY ELECTRICAL POWER REQUIREMENTS ON SITE. MAINTAIN SERVICE TO ALL EXISTING EQUIPMENT AND SYSTEMS DURING CONSTRUCTION. PERFORM A SITE INVESTIGATION PRIOR TO BIDDING TO VERIFY ALL CONDITIONS AND CONNECTIONS. CONTRACTOR SHALL INSTALL COMPLETE AND OPERATING SYSTEM(S) TO INCLUDE ANY ITEMS THAT MAY NOT BE SPECIFICALLY NOTED ON PLANS.
- PART 3**
- VERIFY LOCATION OF ALL EQUIPMENT AND COORDINATE WITH APPROVED STRUCTURAL AND ARCHITECTURAL PLANS. ALL DUCTS AND PIPING TO BE INSTALLED TO MAINTAIN REQUIRED CLEARANCES FROM STRUCTURE AND UTILITIES. PROVIDE OFFSETS, BEAM BOXES, TRANSITIONS AND FITTINGS AS REQUIRED. MAINTAIN ALL MINIMUM REQUIRED EQUIPMENT SERVICE CLEARANCES AND ACCESS. ALL EQUIPMENT TO BE INSTALLED PER MANUFACTURERS SPECIFICATIONS.
 - COORDINATE WORK WITH ALL TRADES TO AVOID CONFLICTS. ALL WORK TO COMPLY WITH APPLICABLE CODES AND REGULATIONS.
 - CONTRACTOR TO AIR BALANCE ALL SYSTEMS PER PLAN.
 - CONTRACTOR TO PROVIDE OWNER WITH OPERATING AND MAINTENANCE MANUALS FOR ALL EQUIPMENT AND TO INSTRUCT THE OWNER IN PROPER OPERATION AND REQUIRED MAINTENANCE OF EQUIPMENT.
 - ALL OUTSIDE AIR INTAKES SHALL BE 10 FEET AWAY FROM OR 3 FEET BELOW EXHAUST OR PLUMBING VENTS THROUGH ROOF.
- PART 4**
- MATERIALS AND EQUIPMENT PROVIDED AND INSTALLED SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE WORK BY THE OWNER. LABOR FOR MECHANICAL EQUIPMENT REPAIR WILL BE COVERED FOR 90 DAYS.

APPROVED
SEP 04 2007
BUILDING & SAFETY
CITY OF FONTANA



BONALDO DESIGN GROUP

TENANT IMPROVEMENT PLANS

10241 TRADEMARK ST. SUITE B
FONTANA, CA 91730
(909) 945-8437 FAX: (909) 944-4882

CIBARIA INTERNATIONAL

11109 JASMINE STREET
FONTANA, CA 92337

PROJECT: HVAC NOTES DETAILS & SCHEDULES

DATE: 5-11-07

SCALE: NONE

JOB NO. 8592

SHEET NO. M-1

REVISIONS

B-20-07

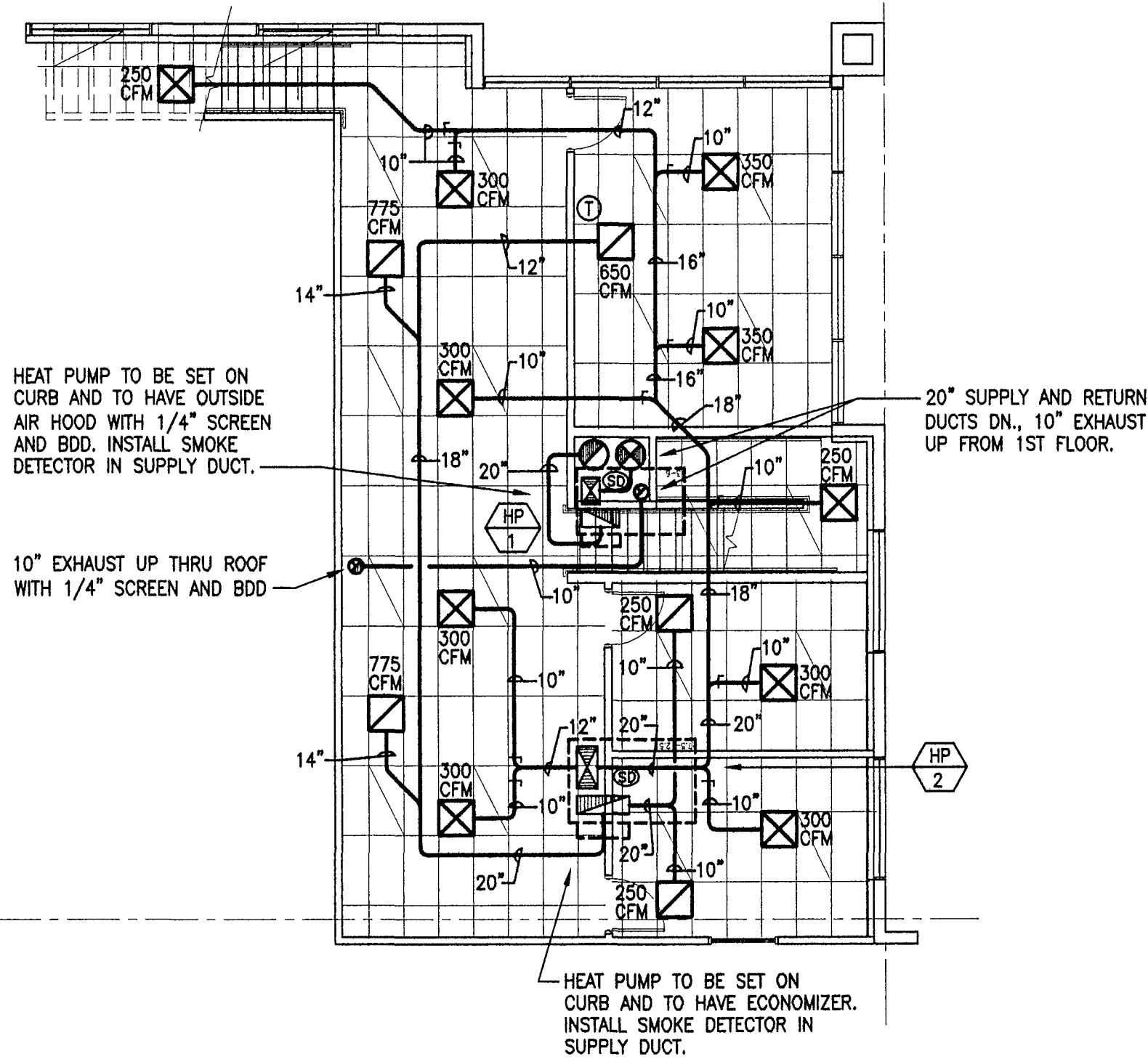
R.E.O. ENGINEERING

17777 Sterling Avenue, Suite H
Fontana, CA 92337
(951) 345-0880 (951) 345-0881 Fax

These plans represent a schematic layout of the mechanical system(s). Ceiling, lighting, fire sprinkler and structural framing plans were not provided and/or available or may not represent any changes that were made after these documents were prepared. Contractor to review the approved architectural, structural, electrical, civil and fire sprinkler plans for conflicts. Field coordination and verification, to include electrical voltage and phase, prior to start of work is required. These plans may not indicate all materials that will be required for the entire system. Duct alterations from design shall be approved prior to installation. No equipment substitutions shall be made without written approval from the Mechanical Engineer. Failure to do so constitutes design change and the contractor will be liable for the entire system.

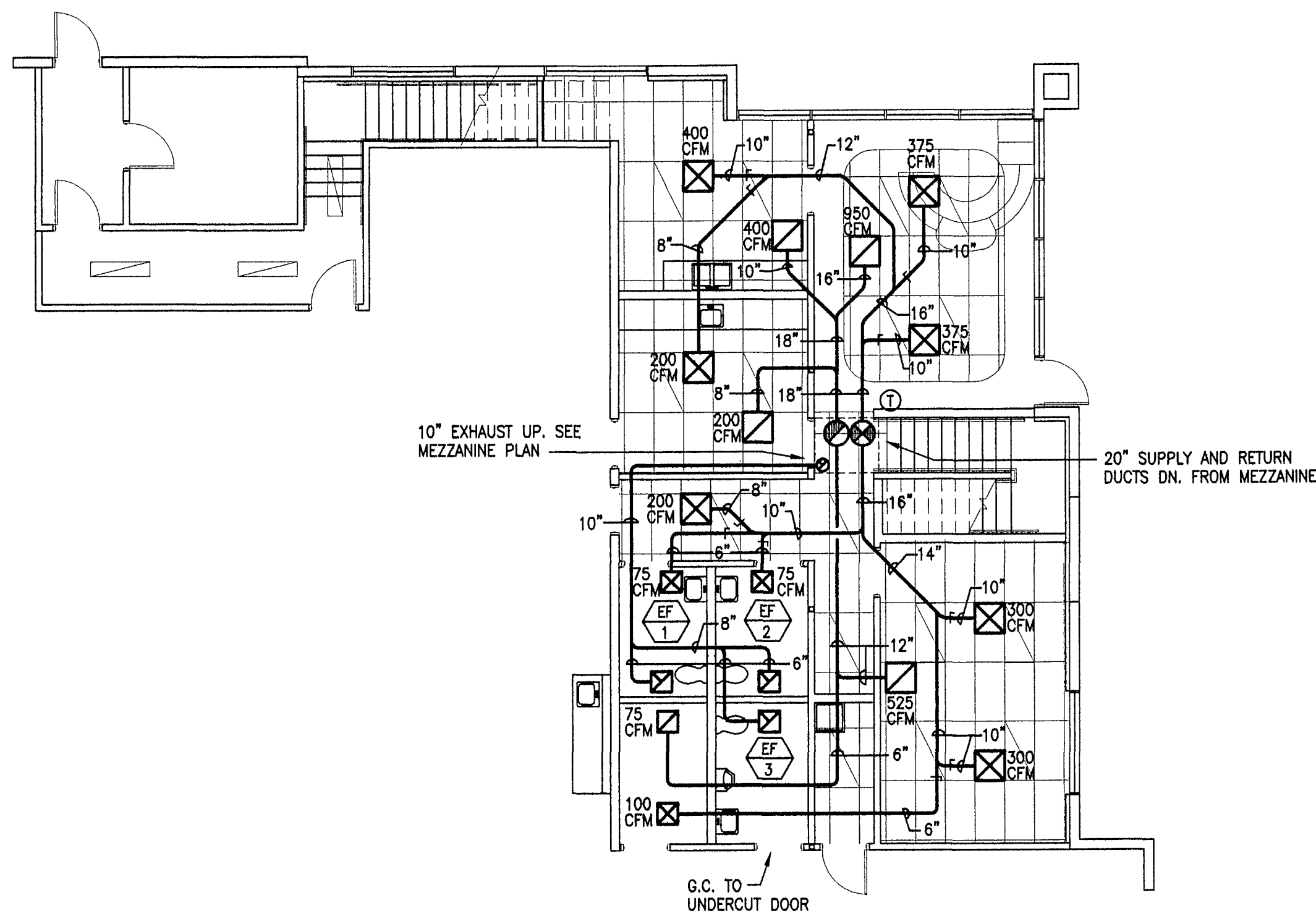
EQUIPMENT NOTES

1. PROVIDE THE MINIMUM REQUIRED OUTSIDE AIR PER TITLE 24 COMPLIANCE REPORT. INTAKE TO HAVE 1/4" SCREEN AND BACKDRAFT DAMPER. KEEP A MINIMUM OF 10 FEET FROM EXHAUST AND PLUMBING VENT TERMINATIONS.
2. ALL EXHAUST FANS TO BE VENTED THROUGH BUILDING EXTERIOR PER PLANS. ALL PENETRATIONS SHALL BE FLASHED AND SEALED WATER TIGHT AND HAVE 1/4" SCREEN AND BACKDRAFT DAMPER. KEEP A MINIMUM OF 10 FEET FROM FRESH AIR INTAKES AND OPENINGS INTO THE BUILDING.
3. CONDENSATE DRAINS TO BE INSTALLED BY PLUMBING CONTRACTOR UNLESS NOTED OTHERWISE. RUN CONDENSATE TO SINK TAILPIECE OR OTHER APPROVED FIXTURE. CONDENSATE TO HAVE TRAP AND VENT. BE OF APPROVED MATERIALS AND INSTALLED SLOPED PER ALL CODE REQUIREMENTS. ALL FAN COILS TO HAVE SECONDARY DRAIN PAN AND CONDENSATE DRAIN TO VISIBLE LOCATION. (FIELD VERIFY LOCATION)
4. COORDINATE AND CONFIRM PLACEMENT, MOUNTING AND STRUCTURAL SUPPORT OF EQUIPMENT WITH STRUCTURAL ENGINEER AND GENERAL CONTRACTOR. SEE STRUCTURAL PLANS AND CALCULATIONS FOR REQUIRED ROOF SUPPORT AND APPROVED LOCATIONS FOR EQUIPMENT.
5. GENERAL CONTRACTOR TO PROVIDE PERMANENT ACCESS TO ROOF MOUNTED EQUIPMENT FOR REPAIR AND SERVICE.
6. ELECTRICAL CONTRACTOR TO PROVIDE 115 V RECEPTACLE WITHIN 25 FEET OF EQUIPMENT AND A DISCONNECT ADJACENT TO AND IN SIGHT FROM THE EQUIPMENT SERVED.
7. MECHANICAL CONTRACTOR TO FIELD VERIFY AND REVIEW ELECTRICAL PLANS AND MECHANICAL EQUIPMENT SCHEDULES FOR ACCURACY AND TO COORDINATE AND VERIFY POWER (VOLTAGE & PHASE) REQUIREMENTS FOR ALL MECHANICAL EQUIPMENT PRIOR TO THE ORDERING OF EQUIPMENT. REPORT ALL CONFLICTS TO ARCHITECT/MECHANICAL ENGINEER.
8. SEE ARCHITECTURAL/STRUCTURAL PLANS FOR ROOF SCREENING REQUIREMENTS. GENERAL CONTRACTOR INSTALL ROOF SCREENS IF REQUIRED.
9. CONTRACTOR TO PERFORM ALL REQUIRED ACCEPTANCE TESTING AND DOCUMENTATION PER TITLE 24 COMPLIANCE REPORT CERTIFICATE OF COMPLIANCE FORM MECH-1-C (PAGE 7).



MEZZANINE HVAC PLAN

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



FIRST FLOOR HVAC PLAN

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

REGISTERS/GRILLES TO BE:

REGISTERS AT T-BAR CEILING TO BE METAL AIRE #7900-6 PERFORATED FACE MODULAR CORE T-BAR LAY-IN REGISTER WITH 4-WAY ADJUSTABLE AIR PATTERN, SQUARE TO ROUND TRANSITION, OPPOSED BLADE DAMPER WITH STANDARD WHITE FINISH. RETURN GRILLES AT T-BAR CEILINGS TO BE METAL AIRE #7900R MATCHING RETURN GRILLES.

REGISTERS AT GYP. CEILINGS TO BE METAL AIRE #9000-1 SQUARE MODULAR CORE WITH 4-WAY ADJUSTABLE AIR PATTERN, SQUARE TO ROUND TRANSITION, OPPOSED BLADE DAMPER IN STANDARD WHITE FINISH.

RETURN GRILLES AT GYP. CEILINGS AND EXHAUST GRILLES TO BE METAL AIRE RH BAR TYPE WITH WHITE FINISH.

AIR SYSTEM REQUIREMENTS Part 1 of 2 MECH-2-C

PROJECT NAME: Ciberia DATE: 5/11/2007

SYSTEM FEATURES	1st Floor Office	2nd Floor Office
Number of Systems	1	1

MANDATORY MEASURES	T-24 Section	Reference on Plans or Specification
Heating Equipment Efficiency	112(a)	3.40 COP
Cooling Equipment Efficiency	112(a)	10.9 EER
Heat Pump Thermostat	112(b)	Yes
Furnace Controls	112(c), 115(a)	n/a
Natural Ventilation	121(b)	Yes
Minimum Ventilation	121(b)	215 cfm
VAV Minimum Position Control	121(c)	No
Demand Control Ventilation	121(c)	No
Time Control	121(c), 122(a)	Programmable Switch
Setback and Setpoint Control	122(a)	Heating & Cooling Required
Outdoor Damper Control	122(b)	Gravity
Isolation Zones	122(c)	n/a
Pipe Insulation	123	
Duct Insulation	124	R-4.2

PRESCRIPTIVE MEASURES	144 (a & b)	144 (a & b)
Calculated Heating Capacity	n/a	n/a
Proposed Heating Capacity	47,882 btuh	86,086 btuh
Calculated Sensible Cooling Capacity	n/a	n/a
Proposed Sensible Cooling Capacity	63,884 btuh	79,019 btuh
Fan Control	144 (c)	Constant Volume
DP Sensor Location	144 (d)	
Supply Pressure Reset (DDC only)	144 (e)	No
Simultaneous Heat/Cool	144 (f)	No
Economizer	144 (g)	No Economizer
Heating Air Supply Reset	144 (h)	Constant Temp
Cooling Air Supply Reset	144 (i)	Constant Temp
Duct Sealing for Prescriptive Compliance	144 (j)	No

1. For each control and single zone air system (or group of similar units) fill in the reference to sheet number and/or specification section and paragraph number where the required features are documented. If a requirement is not applicable, put "N/A" in the column.

2. Not required for hydronic heating and cooling. Either enter a value here or put in reference of plans and specifications per footnote 1.

3. Enter "Yes" if system is: Constant Volume, Single Zone, Server < 4000 sq ft, New > 25% duct in unconditioned spaces. Duct sealing is required for Prescriptive Compliance, see PERP-1 for performance method and duct sealing requirements.

NOTES TO FIELD - For Building Department Use Only

Run Initiation Time: 05/11/07 09:17:19 Run Code: 117800239
EnergyPro 4.2 by EnergySoft User Number: 2298 Job Number: 9992 Page: 8 of 20

CERTIFICATE OF COMPLIANCE MECH-1-C

PROJECT NAME: Ciberia DATE: 5/11/2007

Designer: This form is to be used by the designer and attached to the plans. Listed below are all the acceptance tests for mechanical systems. The designer is required to check the boxes by all acceptance tests that apply and list all equipment that requires an acceptance test. If all equipment of a certain type requires a test, list the equipment description and the number of systems to be tested in parentheses. The NJ number designates the Section in the Appendix of the Nonresidential ACM Manual that describes the test. Also indicate the person responsible for performing the tests (i.e., the installing contractor, design professional or an agent selected by the owner). Since this form will be part of the plans, completion of this section will allow the responsible party to budget for the scope of work appropriately.

Building Departments:
SYSTEM ACCEPTANCE: Before an occupancy permit is granted for a newly constructed building or space, or a new space-conditioning system serving a building or space is operated for normal use, all control devices serving the building or space shall be certified as meeting the Acceptance Requirements for Code Compliance.
In addition a Certificate of Acceptance, MECH-1-A Form shall be submitted to the building department that certifies plans, specifications, installation, and operating and maintenance information meet the requirements of Section 10-103(b) and Title 24 Part 6.

STATEMENT OF COMPLIANCE

☒ MECH-2-A: Ventilation System Acceptance Document
-Variable Air Volume Systems Outdoor Air Acceptance
-Constant Air Volume Systems Outdoor Air Acceptance
Equipment requiring acceptance testing

Test required on all new systems both New Construction and Retrofit.

☒ MECH-3-A: Packaged HVAC Systems Acceptance Document
Equipment requiring acceptance testing

Test required on all new systems both New Construction and Retrofit.

☒ MECH-4-A: Air-Side Economizer Acceptance Document
Equipment requiring acceptance testing

Test required on all new systems both New Construction and Retrofit. Only with economizers that are installed at the factory and certified with the manufacturer do not require equipment testing but do require construction inspection.

☐ MECH-5-A: Air Distribution Acceptance Document
Equipment requiring acceptance testing

This test required if the unit serves 5,000 sq ft of space or less and 25% or more of the ducts are in unconditioned or semi-conditioned spaces that are not fully conditioned. New systems that meet the above requirements. Retrofit systems that meet the above requirements and either retrofit ducts, replace ducts or replace the package unit.

☐ MECH-6-A: Demand Control Ventilation Acceptance Document
Equipment requiring acceptance testing

All new DDC controls installed on new or existing packaged systems must be tested.

☐ MECH-7-A: Supply Fan Variable Flow Control Acceptance Document
Equipment requiring acceptance testing

All new VAV fan systems installed on new or existing systems must be tested.

☐ MECH-8-A: Hydronic System Control Acceptance Document

-Variable Flow Controls
-Automatic Isolation Controls
-Supply Water Temperature Reset Controls
-Water-Loop Heat Pump Controls
-Variable Frequency Controls

Applies to new controls for chilled and hot water systems that have a design capacity greater than or equal to 800,000 btuh.

Applies to all new water-loop heat pump systems where the condenser loop pumps are greater than 5 hp.

Applies to all new distribution pumps on new variable flow chilled, hydronic heat pump or condenser water systems where the pump systems are greater than 5 hp.

Equipment requiring acceptance testing

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EnergyPro 4.2 by EnergySoft User Number: 2298 Job Number: 9992 Page: 7 of 20

PERFORMANCE CERTIFICATE OF COMPLIANCE Part 1 of 3 PERF-1

PROJECT NAME: Ciberia DATE: 5/11/2007

PROJECT ADDRESS: Fontana
PRINCIPAL DESIGNER - ENVELOPE: Bonaldo Design Group
DOCUMENTATION AUTHOR: R.E.O. Engineering

GENERAL INFORMATION
DATE OF PLANS: BUILDING CONDITIONED FLOOR AREA: 3,070 sq. ft. CLIMATE ZONE: 10
BUILDING TYPE: ☒ NONRESIDENTIAL ☐ HIGH RISE RESIDENTIAL ☐ HOTEL/MOTEL GUEST ROOM
PHASE OF CONSTRUCTION: ☒ NEW CONSTRUCTION ☐ ADDITION ☐ EXISTING + ADDITIONAL/ALTERATION

STATEMENT OF COMPLIANCE

This Certificate of Compliance into the building features and performance specifications needed to comply with Title 24, Parts 1 and 6 of the California Code of Regulations. This certificate applies only to a building using the performance compliance approach.

The documentation prepared hereby certifies that the documentation is accurate and complete.

DOCUMENTATION AUTHOR: R Evers

The Principal Designer hereby certifies that the proposed building design represented in this set of construction documents is consistent with the other compliance forms and worksheets, with the specifications, and with any other calculations submitted with this permit application. The proposed building as designed meets the energy efficiency requirements contained in sections 110, 116, through 118, and 140, 142, 143 or 149 of Title 24, Part 6.

ENV. LTD. MECH.

☒ 1. I hereby affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code to sign this document as the person responsible for its preparation; and that I am licensed in the State of California as a civil engineer, mechanical engineer, or I am a licensed architect.

☐ 2. I affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code Section 5537.2 or 5737.3 to sign this document as the person responsible for its preparation; and that I am a licensed contractor performing this work.

☐ 3. I affirm that I am eligible under Division 3 of the Business and Professions Code to sign this document because it pertains to a structure or type of work described as exempt pursuant to Business and Professions Code Sections 5537, 5538, and 5737.1. (These sections of the Business and Professions Code are printed in full in the Nonresidential Manual.)

ENVELOPE COMPLIANCE

Indicate location on plans of Note Block for Mandatory Measures

PRINCIPAL ENVELOPE DESIGNER - NAME: Bonaldo Design Group

PRINCIPAL ENVELOPE DESIGNER - SIGNATURE: [Signature]

PRINCIPAL ENVELOPE DESIGNER - DATE: 5/11/07

LIGHTING COMPLIANCE

Indicate location on plans of Note Block for Mandatory Measures

PRINCIPAL LIGHTING DESIGNER - NAME: [Name]

PRINCIPAL LIGHTING DESIGNER - SIGNATURE: [Signature]

PRINCIPAL LIGHTING DESIGNER - DATE: 5/11/07

MECHANICAL COMPLIANCE

Indicate location on plans of Note Block for Mandatory Measures

PRINCIPAL MECHANICAL DESIGNER - NAME: [Name]

PRINCIPAL MECHANICAL DESIGNER - SIGNATURE: [Signature]

PRINCIPAL MECHANICAL DESIGNER - DATE: 5/11/07

Run Initiation Time: 05/11/07 09:17:19 Run Code: 117800239
EnergyPro 4.2 by EnergySoft User Number: 2298 Job Number: 9992 Page: 3 of 20

APPROVED
SEP 04 2007
BUILDING & SAFETY
CITY OF FONTANA



BONALDO DESIGN GROUP

CIBERIA INTERNATIONAL

DATE: 5/11/07
SCALE: 1/8" = 1'-0"

JOB NO.: 9992
SHEET NO.: M-2

TENANT IMPROVEMENT PLANS
10241 TRADEMARK ST. SUITE B
RANCHO CUCAMONGA, CALIFORNIA 91730
(909) 945-8437 FAX: (909) 944-4882

PROJECT: CIBERIA INTERNATIONAL
11108 JASMINE STREET
FONTANA, CA 92337

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MANDATORY FEATURES

SYSTEMS AND EQUIPMENT -- SECTION 111

ANY APPLIANCE FOR WHICH THERE IS A CALIFORNIA STANDARD ESTABLISHED IN THE APPLIANCE EFFICIENCY REGULATIONS MAY BE INSTALLED ONLY IF THE MANUFACTURER HAS CERTIFIED TO THE COMMISSION, AS SPECIFIED IN THOSE REGULATIONS, THAT THE APPLIANCE COMPLIES WITH THE APPLICABLE STANDARD FOR APPLIANCE. SEE APPENDIX 1-A FOR AVAILABILITY OF DIRECTORIES OF CERTIFIED APPLIANCES. (SEC. 111)

SPACE CONDITIONING EQUIPMENT -- SECTION 112

ANY SPACE-CONDITIONING EQUIPMENT LISTED IN THIS SECTION MAY BE INSTALLED ONLY IF THE MANUFACTURER HAS CERTIFIED THAT THE EQUIPMENT COMPLIES WITH ALL THE APPLICABLE REQUIREMENTS OF THIS SECTION. (SEC. 112)

(A) EFFICIENCY. EQUIPMENT SHALL MEET THE APPLICABLE REQUIREMENTS OF TABLE 112-A THROUGH TABLE 112-M, SUBJECT TO THE FOLLOWING:

1. IF MORE THAN ONE STANDARD IS LISTED IN TABLE 112-A THROUGH TABLE 112-M, THE EQUIPMENT SHALL MEET ALL THE STANDARDS LISTED; AND
2. IF MORE THAN ONE TEST METHOD IS LISTED IN TABLE 112-A THROUGH TABLE 112-M, THE EQUIPMENT SHALL COMPLY WITH THE APPLICABLE STANDARD WHEN TESTED WITH EACH TEST METHOD; AND
3. WHERE EQUIPMENT CAN SERVE MORE THAN ONE FUNCTION, SUCH AS BOTH HEATING AND COOLING, OR BOTH SPACE HEATING AND WATER HEATING, IT SHALL COMPLY WITH ALL THE REQUIREMENTS APPLICABLE TO EACH FUNCTION; AND
4. WHERE A REQUIREMENT IS FOR EQUIPMENT RATED AT ITS "MAXIMUM RATED CAPACITY" OR "MINIMUM RATED CAPACITY," THE CAPACITY SHALL BE AS PROVIDED FOR AND ALLOWED BY THE CONTROLS, DURING STEADY-STATE OPERATION.

EXCEPTION TO SECTION 112(A): WATER-COOLED CENTRIFUGAL WATER-CHILLING PACKAGES THAT ARE NOT DESIGNED FOR OPERATION AT ARI STANDARD 550 TEST CONDITIONS OF 44°F LEAVING CHILLED WATER TEMPERATURE AND 85°F ENTERING CONDENSER WATER TEMPERATURE SHALL HAVE A MINIMUM FULL LOAD COP RATING AS SHOWN IN TABLE 112-H, TABLE 112-I, AND TABLE 112-J, AND A MINIMUM INPUT RATING AS SHOWN IN TABLE 112-K, TABLE 112-L, AND TABLE 112-M. THE TABLE VALUES ARE ONLY APPLICABLE OVER THE FOLLOWING FULL LOAD DESIGN RANGES: LEAVING CHILLER WATER TEMPERATURE: 40° TO 48°F, ENTERING CONDENSER WATER TEMPERATURE: 75° TO 85°F, CONDENSER WATER TEMPERATURE RISE: 5° TO 15°F

(B) CONTROLS FOR HEAT PUMPS WITH SUPPLEMENTARY ELECTRIC RESISTANCE HEATERS. HEAT PUMPS WITH SUPPLEMENTARY ELECTRIC RESISTANCE HEATERS SHALL HAVE CONTROLS:

1. THAT PREVENT SUPPLEMENTARY HEATER OPERATION WHEN THE HEATING LOAD CAN BE MET BY THE HEAT PUMP ALONE; AND
2. IN WHICH THE CUT-ON TEMPERATURE FOR COMPRESSION HEATING HEATING IS HIGHER THAN THE CUT-OFF TEMPERATURE FOR SUPPLEMENTARY HEATING, AND THE CUT-OFF TEMPERATURE FOR COMPRESSION HEATING IS HIGHER THAN THE CUT-OFF TEMPERATURE FOR SUPPLEMENTARY HEATING.

EXCEPTION TO SECTION 112(B): THE CONTROLS MAY ALLOW SUPPLEMENTARY HEATER OPERATION DURING:

1. DEFROST; AND
2. TRANSIENT PERIODS SUCH AS START-UPS AND FOLLOWING ROOM THERMOSTAT SETPOINT ADVANCE, IF THE CONTROLS PROVIDE PREFERENTIAL RATE CONTROL, INTELLIGENT RECOVERY, STAGING, RAMPING OR ANOTHER CONTROL MECHANISM DESIGNED TO PRECLUDE THE UNNECESSARY OPERATION OF SUPPLEMENTARY HEATING.

(C) GAS AND OIL-FIRED FURNACE STANDBY LOSS CONTROLS. GAS FIRED AND OIL FIRED FORCED AIR FURNACES WITH INPUT RATINGS GREATER THAN OR EQUAL TO 225,000 BTU/HR SHALL ALSO HAVE AN INTERMITTENT IGNITION OR INTERRUPTED DEGREE (IID), AND HAVE EITHER POWER VENTING OR A FLUE DAMPER. A VENT DAMPER IS AN ACCEPTABLE ALTERNATIVE TO A FLUE DAMPER FOR FURNACES WHERE COMBUSTION AIR IS DRAWN FROM THE CONDITIONED SPACE. ALL FURNACES WITH INPUT RATINGS GREATER THAN OR EQUAL TO 225,000 BTU/HR, INCLUDING ELECTRIC FURNACES, THAT ARE NOT LOCATED WITHIN THE CONDITIONED SPACE SHALL HAVE JACKET LOSSES NOT EXCEEDING 0.75% OF THE INPUT RATING.

PILT LIGHTS PROHIBITED -- SECTION 115

ANY NATURAL GAS SYSTEM OR EQUIPMENT LISTED BELOW MAY BE INSTALLED ONLY IF IT DOES NOT HAVE CONTINUOUSLY BURNING PILOT LIGHT:

- (A) FAN TYPE CENTRAL FURNACES.
- (B) HOUSEHOLD COOKING APPLIANCES.

EXCEPTION TO SECTION 115(B): HOUSEHOLD COOKING APPLIANCES WITHOUT AN ELECTRICAL SUPPLY VOLTAGE CONNECTION AND IN WHICH EACH PILOT CONSUMES LESS THAN 150 BTU/HR.

- (C) POOL HEATERS.
- (D) SPA HEATERS.

REQUIREMENTS FOR VENTILATION -- SECTION 121

(A) GENERAL REQUIREMENTS:

1. ALL ENCLOSED SPACES IN A BUILDING THAT ARE NORMALLY USED BY HUMANS SHALL BE VENTILATED IN ACCORDANCE WITH THE REQUIREMENTS OF THIS SECTION AND THE CBC.
2. THE OUTDOOR AIR VENTILATION RATE AND AIR DISTRIBUTION ASSUMPTIONS MADE IN THE DESIGN OF THE VENTILATING SYSTEM SHALL BE CLEARLY IDENTIFIED ON THE PLANS REQUIRED BY SECTION 10-103 OF TITLE 24, PART 1.

(B) EVERY SPACE IN A BUILDING SHALL BE DESIGN TO HAVE OUTDOOR AIR VENTILATION ACCORDING TO ITEM 1 OR 2 BELOW:

1. NATURAL VENTILATION.
 - A. NATURALLY VENTILATED SPACES SHALL BE PERMANENTLY OPEN TO AND WITHIN 20 FEET OF OPERABLE WALL OR ROOF OPENINGS TO THE OUTDOORS, THE OPERABLE AREA OF WHICH IS NOT LESS THAN 5% OF THE CONDITIONED FLOOR AREA OF THE NATURALLY VENTILATED SPACE. WHERE OPENINGS ARE COVERED WITH LOUVERS OR OTHERWISE OBSTRUCTED, OPERABLE AREA SHALL BE BASED ON THE FREE UNOBSTRUCTED AREA THROUGH THE OPENING.
 - EXCEPTION TO SECTION 121(B): 1.A. NATURALLY VENTILATED SPACES IN HIGH-RISE RESIDENTIAL UNITS AND HOTEL/MOTEL GUEST ROOMS SHALL BE OPEN TO AND WITHIN 25 FEET OF OPERABLE WALL OR ROOF OPENINGS TO THE OUTDOORS.
2. THE MEANS TO OPEN REQUIRED OPERABLE OPENINGS SHALL BE READILY ACCESSIBLE TO BUILDING OCCUPANTS WHEN EVER THE SPACE IS OCCUPIED.
2. EACH SPACE THAT IS NOT NATURALLY VENTILATED UNDER ITEM 1 ABOVE SHALL BE VENTILATED WITH A MECHANICAL SYSTEM CAPABLE OF PROVIDING AN OUTDOOR AIR RATE NO LESS THAN THE LARGER OF:
 - A. THE CONDITIONED FLOOR AREA OF THE SPACE TIMES THE APPLICABLE VENTILATION RATE FROM TABLE 121-A; OR
 - B. 15 CFM PER PERSON TIMES THE EXPECTED NUMBER OF OCCUPANTS.

FOR MEETING THE REQUIREMENT FOR SECTION 121(B) 2 B FOR SPACES WITHOUT FIXED SEATING, THE EXPECTED NUMBER OF OCCUPANTS SHALL BE EITHER THE EXPECTED SPECIFIED BY THE BUILDING DESIGNER OR ONE HALF THE MAXIMUM OCCUPANT LOAD ASSUMED FOR THE EGRESS PURPOSES IN THE CBC. HOWEVER EVER IS GREATER, FOR SPACES WITH FIXED SEATING, THE EXPECTED NUMBER OF OCCUPANTS SHALL BE DETERMINED IN ACCORDANCE WITH THE CBC.

EXCEPTION TO SECTION 121(B) 2: TRANSFER AIR. THE RATE OF OUTDOOR AIR REQUIRED BY SECTION 121(B) 2 MAY BE PROVIDED FROM OTHER VENTILATED SPACES IF:

- A. NONE OF THE SPACES FROM WHICH THE AIR IS TRANSFER HAVE ANY UNUSUAL SOURCES OF INDOOR AIR CONTAMINANTS; AND
 - B. ENOUGH OUTDOOR AIR IS SUPPLIED TO ALL SPACES COMBINED TO MEET THE REQUIREMENTS OF SECTION 121(B) 2 FOR EACH SPACE INDIVIDUALLY.
- C. OPERATION AND CONTROL REQUIREMENTS FOR MINIMUM QUANTITIES OF OUTDOOR AIR.

1. TIMES OF OCCUPANCY. THE MINIMUM RATE OF OUTDOOR REQUIRED BY SECTION 121(B) 2 SHALL BE SUPPLIED TO EACH SPACE AT ALL TIMES WHEN THE SPACE IS USUALLY OCCUPIED.

EXCEPTION 1 TO SECTION 121(C) 1: DEMAND CONTROL VENTILATION. IN INTERMITTENTLY OCCUPIED SPACES THAT DO NOT HAVE PROCESSES OR OPERATIONS THAT GENERATE DUSTS, FUMES, MISTS, VAPORS OR GASES AND ARE NOT PROVIDED WITH LOCAL EXHAUST VENTILATION (SUCH AS INDOOR OPERATION OF INTERNAL COMBUSTION ENGINES OR AREAS DESIGNATED FOR UNVENTED FOOD SERVICE PREPARATION) THE RATE OF OUTDOOR AIR MAY BE REDUCED IF THE VENTILATION SYSTEM SERVING THE SPACE IS CONTROLLED BY A DEMAND CONTROL VENTILATION DEVICE COMPLYING WITH 121(C) 4.

EXCEPTION 2 TO SECTION 121(C) 1: TEMPORARY REDUCTION. THE RATE OF OUTDOOR AIR PROVIDED TO A SPACE MAY BE REDUCED BELOW THE LEVEL REQUIRED BY 121(B) 2 FOR UP TO FIVE MINUTES EACH HOUR IF THE AVERAGE RATE EACH HOUR IS THE REQUIRED RATE.

NOTE: VAV MUST COMPLY WITH SECTION 121(C) 1 AT MINIMUM SUPPLY AIR FLOW.

2. PREOCCUPANCY. THE LESSER OF THE MINIMUM RATE OF OUTDOOR AIR REQUIRED BY SECTION 121(B)2 OR THREE COMPLETE AIR CHANGES SHALL BE SUPPLIED TO THE ENTIRE BUILDING DURING THE ONE HOUR PERIOD IMMEDIATELY BEFORE THE BUILDING IS NORMALLY OCCUPIED.

3. REQUIRED DEMAND CONTROL VENTILATION. HVAC SINGLE ZONE SYSTEMS WITH THE FOLLOWING CHARACTERISTICS SHALL HAVE DEMAND VENTILATION CONTROLS COMPLYING WITH 121(C)4:

- A. THEY HAVE AN OUTDOOR AIR ECONOMIZER; AND
- B. THEY SERVE A SPACE WITH A DESIGN OCCUPANT DENSITY, OR A MAXIMUM OCCUPANT LOAD FACTOR FOR EGRESS PURPOSES IN THE CBC, GREATER THAN OR EQUAL TO 25 PEOPLE PER 1000 SQUARE FEET (40 SQ.FT./PERSON).

EXCEPTION 1 TO SECTION 121(C) 3 B: CLASSROOMS ARE NOT REQUIRED TO HAVE DEMAND CONTROL VENTILATION.

EXCEPTION 2 TO SECTION 121(C) 3 B: WHERE SPACE EXHAUST IS GREATER THAN THE DESIGN VENTILATION RATE SPECIFIED IN 121(B) 2 B MINUS 0.2 CFM PER SQUARE FOOT OF CONDITIONED AREA.

EXCEPTION 3 TO SECTION 121(C) 3 B: SPACES THAT HAVE PROCESSES OR OPERATIONS THAT GENERATE DUSTS, FUMES, MISTS, VAPORS, OR GASES AND ARE NOT PROVIDED WITH LOCAL EXHAUST VENTILATION (SUCH AS INDOOR OPERATION OF INTERNAL COMBUSTION ENGINES OR AREAS DESIGNATED FOR UNVENTED FOOD SERVICE PREPARATION).

4. DEMAND CONTROL VENTILATION DEVICES.

- A. FOR EACH SYSTEM WITH DEMAND CONTROL VENTILATION, CO2 SENSORS SHALL BE INSTALLED IN EACH ROOM THAT MEETS THE CRITERIA OF 121(C) 3 B;
- B. CO2 SENSORS SHALL BE LOCATED IN THE ROOM BETWEEN 1 FOOT AND 6 FOOT ABOVE THE FLOOR;
- C. DEMAND VENTILATION CONTROLS SHALL MAINTAIN CO2 CONCENTRATIONS LESS THAN OR EQUAL TO 600 PPM PLUS THE OUTDOOR AIR CO2 CONCENTRATION IN ALL ROOMS WITH CO2 SENSORS.

EXCEPTION TO SECTION 121(C) 4 C: THE OUTDOOR AIR VENTILATION RATE IS NOT REQUIRED TO BE LARGER THAN THE DESIGN OUTDOOR AIR VENTILATION RATE REQUIRED BY SECTION 121(B) 2 REGARDLESS OF CO2 CONCENTRATION.

D. OUTDOOR AIR CO2 CONCENTRATION SHALL BE DETERMINED BY ONE OF THE FOLLOWING:

- I. CO2 CONCENTRATION SHALL BE ASSUMED TO BE 400 PPM WITHOUT ANY DIRECT MEASUREMENT; OR
- II. CO2 CONCENTRATION SHALL BE DYNAMICALLY MEASURED USING A CO2 SENSOR LOCATED NEAR THE POSITION OF THE OUTDOOR AIR INTAKE.

E. WHEN THE SYSTEM IS OPERATING DURING HOURS OF EXPECTED OCCUPANCY, THE CONTROLS SHALL MAINTAIN SYSTEM OUTDOOR AIR VENTILATION RATES NO LESS THAN THE RATE LISTED IN TABLE 121-A TIMES THE CONDITIONED FLOOR AREA FOR SPACES WITH CO2 SENSORS, PLUS THE RATE REQUIRED BY 121(B) 2 FOR OTHER SPACES SERVED BY THE SYSTEM, OR THE EXHAUST AIR RATE WHICH EVER IS GREATER;

F. CO2 SENSORS SHALL BE CERTIFIED BY THE MANUFACTURER TO HAVE AN ACCURACY OF NO LESS THAN 75 PPM FACTORY CALIBRATED OR CALIBRATED AT START AND CERTIFIED BY THE MANUFACTURER TO REQUIRE CALIBRATION NO MORE FREQUENTLY THAN ONCE EVERY FIVE YEARS.

5. DEMAND CONTROL VENTILATION ACCEPTANCE. BEFORE AN OCCUPANCY PERMIT IS GRANTED FOR A NEWLY CONSTRUCTED BUILDING OR SPACE, OR A NEW SPACE CONDITIONING SYSTEM SERVING A BUILDING OR SPACE IS OPERATED FOR NORMAL USE, ALL DEMAND CONTROL VENTILATION DEVICES SERVING THE BUILDING OR SPACE SHALL BE CERTIFIED AS MEETING THE ACCEPTANCE REQUIREMENTS FOR CODE COMPLIANCE. A CERTIFICATE OF ACCEPTANCE SHALL BE SUBMITTED TO THE BUILDING DEPT. THAT:

A. CERTIFIES PLANS, SPECIFICATIONS, INSTALLATION CERTIFICATES, AND OPERATING AND MAINTENANCE INFORMATION MEET THE REQUIREMENTS OF PART 6.

B. CERTIFIES THAT THE DEMAND CONTROL VENTILATION DEVICES MEET THE REQUIREMENTS OF SECTION 121(C)4.

D. DUCTING FOR ZONAL HEATING AND COOLING UNITS. WHERE A RETURN PLENUM IS USED TO DISTRIBUTE OUTDOOR AIR TO A ZONAL HEATING OR COOLING UNIT WHICH THEN SUPPLIES THE AIR TO A SPACE IN ORDER TO MEET THE REQUIREMENTS OF SECTION 121(B) 2, THE OUTDOOR AIR SHALL BE DUCTED TO DISCHARGE EITHER:

1. WITHIN FIVE FEET OF THE UNIT; OR
2. WITHIN 15 FEET OF THE UNIT, SUBSTANTIALLY TOWARD THE UNIT AND AT A VELOCITY NOT LESS THAN 500 FEET PER MINUTE.

E. DESIGN AND CONTROL REQUIREMENTS FOR OUTDOOR AIR. ALL MECHANICAL VENTILATION AND SPACE CONDITIONING SYSTEMS SHALL BE DESIGNED WITH AND HAVE INSTALLED DUCTWORK, DAMPERS AND CONTROLS TO ALLOW OUTSIDE AIR RATES TO BE OPERATED AT THE LARGER OF (1) THE MINIMUM LEVELS SPECIFIED IN SECTION 121(B) 2; OR (2) THE RATE REQUIRED FOR MAKE UP OF EXHAUST SYSTEMS THAT ARE REQUIRED FOR A PROCESS FOR CONTROL OF ODORS, OR FOR THE REMOVAL OF CONTAMINANTS WITHIN THE SPACE.

F. VENTILATING SYSTEM ACCEPTANCE. BEFORE AN OCCUPANCY PERMIT IS GRANTED FOR A NEWLY CONSTRUCTED BUILDING OR SPACE, OR A NEW VENTILATING SYSTEM SERVING A BUILDING OR SPACE IS OPERATED FOR NORMAL USE, ALL VENTILATING SYSTEMS SERVING THE BUILDING OR SPACE SHALL BE CERTIFIED AS MEETING THE ACCEPTANCE REQUIREMENTS FOR CODE COMPLIANCE. A CERTIFICATE OF ACCEPTANCE SHALL BE SUBMITTED TO THE BUILDING DEPT. THAT:

1. CERTIFIES PLANS, SPECIFICATIONS, INSTALLATION CERTIFICATES, AND OPERATING AND MAINTENANCE INFORMATION MEET THE REQUIREMENTS OF PART 6; AND
2. CERTIFIES THAT THE DEMAND CONTROL VENTILATION DEVICES MEET THE REQUIREMENTS OF SECTION 121(B) 2; AND
3. CERTIFIES MEASURED OUTSIDE AIR IS WITHIN 10% OF THE MINIMUM VENTILATION RATE SPECIFIED IN THE PLANS AND SPECIFICATIONS.

REQUIRED CONTROLS FOR SPACE CONDITIONING SYSTEMS -- SECTION 122

SPACE CONDITIONING SYSTEMS SHALL BE INSTALLED WITH CONTROLS THAT COMPLY WITH THE APPLICABLE REQUIREMENTS OF SUBSECTIONS (A) THROUGH (H).

(A) THE SUPPLY OF HEATING AND COOLING ENERGY TO EACH SPACE CONDITIONING ZONE OF DWELLING UNIT SHALL BE CONTROLLED BY AN INDIVIDUAL THERMOSTATIC CONTROL THAT RESPONDS TO TEMPERATURE WITHIN THE ZONE AND THAT MEETS APPLICABLE REQUIREMENTS OF SUBSECTION (B).

EXCEPTION TO SECTION 122 (A): AN INDEPENDENT PERIMETER HEATING OR COOLING SYSTEM MAY SERVE MORE THAN ONE ZONE WITHOUT INDIVIDUAL THERMOSTATIC CONTROLS IF:

- (A) ALL ZONES ARE ALSO SERVED BY AN INTERIOR COOLING SYSTEM;
- (B) THE PERIMETER ZONE IS DESIGNED SOLELY TO OFFSET ENVELOPE HEAT LOSSES OR GAINS;
- (C) THE PERIMETER SYSTEM HAS AT LEAST ONE THERMOSTATIC CONTROL FOR EACH BUILDING ORIENTATION OF 50 FEET OR MORE; AND
- (D) THE PERIMETER SYSTEM IS CONTROLLED BY AT LEAST ONE THERMOSTAT LOCATED IN ONE OF THE ZONES SERVED BY THE SYSTEM.

(B) CRITERIA FOR ZONAL THERMOSTATIC CONTROLS. THE INDIVIDUAL THERMOSTATIC CONTROLS REQUIRED BY SUBSECTION (A) SHALL MEET THE FOLLOWING REQUIREMENTS AS APPLICABLE:

1. WHERE USED TO CONTROL COMFORT HEATING, THE THERMOSTATIC CONTROLS SHALL BE CAPABLE OF BEING SET, LOCALLY OR REMOTELY, BY ADJUSTMENT OR SELECTION OF SENSORS, DOWN TO 55°F OR LOWER.
2. WHERE USED TO CONTROL COMFORT COOLING, THE THERMOSTATIC CONTROLS SHALL BE CAPABLE OF BEING SET, LOCALLY OR REMOTELY, BY ADJUSTMENT OR SELECTION OF SENSORS, UP TO 85°F OR HIGHER.
3. WHERE USED TO CONTROL BOTH COMFORT HEATING AND COMFORT COOLING, THE THERMOSTATIC CONTROLS SHALL MEET ITEMS 1 AND 2 AND SHALL BE CAPABLE OF PROVIDING A TEMPERATURE RANGE OR DEAD BAND OF AT LEAST 5°F WITHIN WHICH THE SUPPLY OF HEATING AND COOLING ENERGY TO THE ZONE IS SHUT OFF OR REDUCED TO A MINIMUM.

EXCEPTION TO SECTION 122 (B) 3: SYSTEMS WITH THERMOSTATS THAT REQUIRE MANUAL CHANGE OVER BETWEEN HEATING AND COOLING MODES.

EXCEPTION TO SECTION 122 (B): SYSTEMS SERVING ZONES THAT MUST HAVE CONSTANT TEMPERATURES TO PREVENT DEGRADATION OF MATERIALS, A PROCESS OR PLANTS OR ANIMALS.

(C) HOTEL/MOTEL GUEST ROOMS AND HIGH RISE RESIDENTIAL DWELLING UNIT THERMOSTATS. HOTEL/MOTEL GUEST ROOM THERMOSTATS SHALL HAVE:

1. NUMERIC TEMPERATURE SETPOINTS IN °F; AND
 2. SETPOINT STOPS ACCESSIBLE ONLY TO AUTHORIZED PERSONNEL, TO RESTRICT OVER HEATING AND OVER COOLING.
- HIGH RISE RESIDENTIAL DWELLING UNIT THERMOSTATS SHALL MEET THE CONTROL REQUIREMENTS OF SECTION 150 (I).

(D) HEAT PUMP CONTROLS. ALL HEAT PUMPS WITH SUPPLEMENTARY ELECTRIC RESISTANCE HEATERS SHALL BE INSTALLED WITH CONTROLS THAT COMPLY WITH SECTION 112(B).

(E) SHUT OFF AND RESET CONTROLS FOR SPACE CONDITIONING SYSTEMS. EACH SPACE CONDITIONING SYSTEM SHALL BE INSTALLED WITH CONTROLS THAT COMPLY WITH ITEMS 1 AND 2 BELOW:

1. THE CONTROL SHALL BE CAPABLE OF AUTOMATICALLY SHUTTING OFF THE SYSTEM DURING PERIODS OF NONUSE AND SHALL HAVE:

- A. AN AUTOMATIC TIME SWITCH CONTROL DEVICE COMPLYING WITH SECTION 119(C), WITH AN ACCESSIBLE MANUAL OVERRIDE THAT ALLOWS OPERATION OF THE SYSTEM FOR UP TO FOUR HOURS; OR
- B. AN OCCUPANCY SENSOR; OR
- C. A FOUR HOUR TIMER THAT CAN BE MANUALLY OPERATED.

EXCEPTION TO SECTION 122 (E) 1: MECHANICAL SYSTEMS SERVING RETAIL STORES AND ASSOCIATED MALLS, RESTAURANTS, GROCERY STORES, CHURCHES, AND THEATERS EQUIPPED WITH 7-DAY PROGRAMMABLE TIMERS.

2. THE CONTROL SHALL AUTOMATICALLY RESTART AND TEMPORARILY OPERATE THE SYSTEM AS REQUIRED TO MAINTAIN:

- A. A SETBACK HEATING THERMOSTAT SETPOINT IF THE SYSTEM PROVIDES MECHANICAL HEATING; AND

EXCEPTION TO SECTION 122 (E) 2: THERMOSTAT SETBACK CONTROLS ARE NOT REQUIRED IN AREAS WHERE WHERE THE WINTER MEDIAN OF EXTREMES OUTDOOR AIR TEMPERATURE DETERMINED IN ACCORDANCE WITH SECTION 144(B) 4 IS GREATER THAN 32°F.

B. A SETUP COOLING THERMOSTAT SETPOINT IF THE SYSTEM PROVIDES MECHANICAL COOLING.

EXCEPTION TO SECTION 122 (E) 2 B: THERMOSTAT SETUP CONTROLS ARE NOT REQUIRED IN AREAS WHERE WHERE THE SUMMER DESIGN DRY BULB 0.5% TEMPERATURE DETERMINED IN ACCORDANCE WITH SECTION 144(B) 4 IS LESS THAN 100°F.

EXCEPTION 1 TO SECTION 122 (E): WHERE IT CAN BE DEMONSTRATED TO THE SATISFACTION OF THE ENFORCING AGENCY THAT SYSTEM SERVES AN AREA THAT MUST OPERATE CONTINUOUSLY.

EXCEPTION 2 TO SECTION 122 (E): WHERE IT CAN BE DEMONSTRATED TO THE SATISFACTION OF THE ENFORCING AGENCY THAT SHUTDOWN, SETBACK, AND SETUP WILL NOT RESULT IN A DECREASE IN OVERALL BUILDING SOURCE ENERGY USE.

EXCEPTION 3 TO SECTION 122 (E): SYSTEMS WITH FULL LOAD DEMANDS OF 2 KW OR LESS, IF THEY HAVE A READILY ACCESSIBLE MANUAL SHUT OFF SWITCH.

EXCEPTION 4 TO SECTION 122 (E): SYSTEMS SERVING HOTEL/MOTEL GUEST ROOMS, IF THEY HAVE A READILY ACCESSIBLE MANUAL SHUT OFF SWITCH.

(F) DAMPERS FOR AIR SUPPLY AND EXHAUST EQUIPMENT. OUTDOOR AIR SUPPLY AND EXHAUST EQUIPMENT SHALL BE INSTALLED WITH DAMPERS THAT AUTOMATICALLY CLOSE UPON FAN SHUTDOWN.

EXCEPTION 1 TO SECTION 122 (F): WHERE IT CAN BE DEMONSTRATED TO THE SATISFACTION OF THE ENFORCING AGENCY THAT THE EQUIPMENT SERVES AN AREA THAT MUST OPERATE CONTINUOUSLY.

EXCEPTION 3 TO SECTION 122 (F): AT COMBUSTION AIR INTAKES AND SHAFT VENTS.

EXCEPTION 4 TO SECTION 122 (F): WHERE PROHIBITED BY OTHER PROVISIONS OF LAW.

(G) ISOLATION AREA DEVICES. EACH SPACE CONDITIONING SYSTEM SERVING MULTIPLE ZONES WITH A COMBINED CONDITIONED FLOOR AREA OF MORE THAN 25,000 SQUARE FEET SHALL BE DESIGNED, INSTALLED, AND CONTROLLED TO SERVE ISOLATION AREAS:

1. EACH ZONE, OR ANY COMBINATION OF ZONES NOT EXCEEDING 25,000 SQUARE FEET, SHALL BE A SEPARATE ISOLATION AREA.
2. EACH ISOLATION AREA SHALL BE PROVIDED WITH ISOLATION DEVICES, SUCH AS VALVES OR DAMPERS, THAT ALLOW THE SUPPLY OF HEATING OR COOLING TO BE SETBACK OR SHUT OFF INDEPENDENTLY OF OTHER ISOLATION AREAS.
3. EACH ISOLATION AREA SHALL BE CONTROLLED BY A DEVICE MEETING THE REQUIREMENTS OF SECTION 122(C)1.

EXCEPTION TO SECTION 122 (G): A ZONE NEED NOT BE ISOLATED IF IT CAN BE DEMONSTRATED TO THE SATISFACTION OF THE ENFORCEMENT AGENCY THAT THE ZONE MUST BE HEATED OR COOLED CONTINUOUSLY.

(H) SPACE CONDITIONING CONTROLS ACCEPTANCE. BEFORE AN OCCUPANCY PERMIT IS GRANTED FOR A NEWLY CONSTRUCTED BUILDING OR SPACE, OR A NEW SPACE CONDITIONING OR VENTILATING SYSTEM SERVING A BUILDING OR SPACE IS OPERATED FOR NORMAL USE, ALL SPACE CONDITIONING CONTROLS SERVING THE BUILDING OR SPACE, WHICH IS THE SUBJECT OF THE BUILDING DEPT. PERMIT, SHALL BE CERTIFIED AS MEETING THE ACCEPTANCE REQUIREMENTS FOR CODE COMPLIANCE. A CERTIFICATE OF ACCEPTANCE SHALL BE SUBMITTED TO THE BUILDING DEPARTMENT THAT:

1. CERTIFIES PLANS, SPECIFICATIONS, INSTALLATION CERTIFICATES, AND OPERATING AND MAINTENANCE INFORMATION MEET THE REQUIREMENTS OF PART 6.
2. CERTIFIES THAT THE SPACE CONDITIONING SYSTEM MEETS THE REQUIREMENTS OF SECTIONS 121(C) 1 AND 121(C) 2.
3. CERTIFIES THAT THE SPACE CONDITIONING CONTROLS MEET THE REQUIREMENTS OF SECTION 122(A) THROUGH SECTION 122(G).

REQUIREMENTS FOR PIPE INSULATION -- SECTION 123

THE PIPING FOR ALL SPACE CONDITIONING AND SERVICE WATER HEATING SYSTEMS WITH FLUID TEMPERATURES LISTED IN TABLE 123-A SHALL HAVE THE AMOUNT OF INSULATION SPECIFIED IN SUBSECTION (A) OR (B). INSULATION CONDUCTIVITY SHALL BE DETERMINED IN ACCORDANCE WITH ASTM C 335 AT THE MEAN TEMPERATURE LISTED IN TABLE 123-A, AND SHALL BE ROUNDED TO THE NEAREST 1/100 BTU-INCH PER HOUR PER SQUARE FOOT PER °F.

INSULATION SHALL BE PROTECTED FROM DAMAGE, INCLUDING THAT DUE TO SUNLIGHT, MOISTURE, EQUIPMENT MAINTENANCE, AND WIND, INCLUDING BUT NOT LIMITED TO, THE FOLLOWING:

INSULATION EXPOSED TO WEATHER SHALL BE SUITABLE FOR OUTDOOR SERVICE E.G., PROTECTED BY ALUMINUM, SHEET METAL, PAINTED CANVAS, OR PLASTIC COVER. CELLULAR FOM INSULATION SHALL BE PROTECTED AS ABOVE OR PAINTED WITH A COATING THAT IS WATER RETARDANT AND PROVIDES SHIELDING FROM SOLAR RADIATION THAT CAN CAUSE DEGRADATION OF THE MATERIAL.

INSULATION COVERING CHILLED WATER PIPING AND REFRIGERANT SUCTION PIPING LOCATED OUTSIDE THE CONDITIONED SPACE SHALL INCLUDE A VAPOR RETARDANT LOCATED OUTSIDE THE INSULATION (UNLESS THE INSULATION IS INHERENTLY VAPOR RETARDANT), ALL PENETRATIONS AND JOINTS OF WHICH SHALL BE SEALED.

EXCEPTION 1 TO SECTION 123: FACTORY INSTALLED PIPING WITHIN SPACE CONDITIONING EQUIPMENT CERTIFIED UNDER SECTION 111 OR 112.

EXCEPTION 2 TO SECTION 123: PIPING THAT CONVEYS FLUIDS WITH A DESIGN OPERATING TEMPERATURE RANGE BETWEEN 60°F AND 105°F.

EXCEPTION 3 TO SECTION 123: PIPING THAT SERVES PROCESS LOADS, GAS PIPING, COLD DOMESTIC WATER PIPING, CONDENSATE DRAINS, ROOF DRAINS, VENTS OR WASTE PIPING.

EXCEPTION 4 TO SECTION 123: WHERE THE HEAT GAIN OR HEAT LOSS TO OR FROM PIPING WITHOUT INSULATION WILL NOT INCREASE BUILDING SOURCE ENERGY USE.

EXCEPTION 5 TO SECTION 123: PIPING THAT PENETRATES FRAMING MEMBERS SHALL NOT BE REQUIRED TO HAVE PIPE INSULATION FOR THE DISTANCE OF THE FRAMING PENETRATION. METAL PIPING THAT PENETRATES METAL FRAMING SHALL USE GROMMETS, PLUGS, WRAPPING OR OTHER INSULATING MATERIAL TO ASSURE THAT NO CONTACT IS MADE WITH THE METAL FRAMING.

(A) FOR INSULATION WITH A CONDUCTIVITY IN THE RANGE SHOWN IN TABLE 123-A FOR THE APPLICABLE FLUID TEMPERATURE RANGE, THE INSULATION SHALL HAVE THE APPLICABLE THICKNESS SHOWN IN TABLE 123-A.

(B) FOR INSULATION WITH A CONDUCTIVITY OUTSIDE THE RANGE SHOWN IN TABLE 123-A FOR THE APPLICABLE FLUID TEMPERATURE RANGE, THE INSULATION SHALL HAVE A MINIMUM THICKNESS AS CALCULATED WITH EQUATION 123-A:

EQUATION 123-A INSULATION THICKNESS EQUATION

WHERE: T = MINIMUM THICKNESS FOR MATERIAL WITH CONDUCTIVITY, K, INCHES
PR = PIPE ACTUAL OUTSIDE RADIUS, INCHES
t = INSULATION THICKNESS FROM TABLE 123-A, INCHES
K = CONDUCTIVITY OF ALTERNATE AT THE MEAN RATING TEMPERATURE INDICATED IN TABLE 123-A FOR THE APPLICABLE FLUID TEMPERATURE RANGE, IN BTU-INCH PER HOUR PER SQUARE FOOT PER °F.
k = THE LOWER VALUE OF THE CONDUCTIVITY RANGE LISTED IN TABLE 123-A FOR THE APPLICABLE FLUID TEMPERATURE RANGE, BTU-INCH PER HOUR PER SQUARE FOOT PER °F.

$$T = PR \left[\left(1 + \frac{k}{PR} \right) - 1 \right]$$

TABLE 123-A PIPE INSULATION THICKNESS

TEMPERATURE (°F)	CONDUCTIVITY RANGE (BTU-IN/HR/SF/°F)	MEAN RATING TEMPERATURE	NOMINAL PIPE DIAMETER (IN.) REQUIRED INSULATION (IN.)					
			RUNOUTS UP TO 2"	1" AND LESS	1.25"-2"	2.5"-4"	5"-6"	8" AND LARGER
SPACE HEATING SYSTEMS (STEAM, STEAM CONDENSATE AND HOT WATER)								
ABOVE 350	32-34	250	1.5	2.5	2.5	3.0	3.5	3.5
251-350	29-31	200	1.5	2.0	2.5	2.5	3.5	3.5
201-250	27-30	150	1.0	1.5	1.5	2.0	2.0	3.5
141-200	25-29	125	0.5	1.5	1.5	1.5	1.5	1.5
105-140	24-28	100	0.5	1.0	1.0	1.0	1.5	1.5
SERVICE WATER HEATING SYSTEMS (RECIRCULATING SECTIONS, ALL PIPING IN ELECTRIC TRAC TAP SYSTEMS, AND THE FIRST 8 FEET OF PIPING FROM THE STORAGE TANK FOR NONRECIRCULATING SYSTEMS)								
ABOVE 105	24-28	100	0.5	1.0	1.0	1.5	1.5	1.5
SPACE COOLING SYSTEMS (CHILLED WATER, REFRIGERANT & BRINE)								
40-60	23-27	75	0.5	0.5	0.5	1.0	1.0	1.0
BELOW 40	23-27	75	1.0	1.0	1.5	1.5	1.5	1.5

REQUIREMENTS FOR AIR DISTRIBUTION SYSTEM DUCTS AND PLENUMS -- SECTION 124

(A) CMC COMPLIANCE. ALL AIR DISTRIBUTION SYSTEM DUCTS AND PLENUMS, INCLUDING, BUT NOT LIMITED TO, BUILDING CAVITIES, MECHANICAL CLOSETS, AIR HANDLER BOXES AND SUPPORT PLATFORMS USED AS DUCTS OR PLENUMS, SHALL BE INSTALLED, SEALED AND INSULATED TO MEET THE REQUIREMENTS OF THE 2001 CMC 601, 603, 604, 605, AND STANDARD 6-5, INCORPORATED HEREIN BY REFERENCE. CONNECTIONS OF METAL DUCTS AND THE INNER CORE OF FLEXIBLE DUCTS SHALL BE MECHANICALLY FASTENED. OPENINGS SHALL BE SEALED WITH MASTIC, TAPE, AEROSOL SEALANT, OR OTHER DUCT CLOSURE SYSTEM THAT MEETS THE APPLICABLE REQUIREMENTS OF UL 181, UL 181A, OR UL 181B. IF MASTIC OR TAPE IS USED TO SEAL OPENINGS GREATER THAN 1/4", THE COMBINATION OF MASTIC AND EITHER MESH OR TAPE SHALL BE USED.

PORTIONS OF SUPPLY AIR AND RETURN AIR DUCTS CONVEYING HEATED OR COOLED AIR LOCATED IN ONE OR MORE OF THE FOLLOWING SPACES SHALL BE INSULATED TO A MINIMUM INSTALLED LEVEL OF R-8:

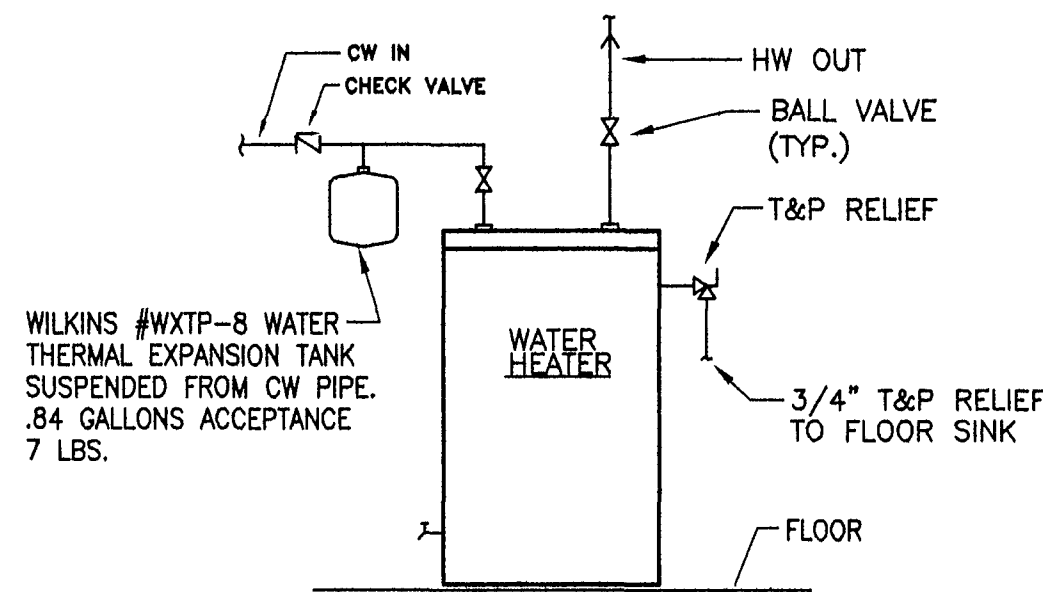
1. OUTDOORS; OR
2. IN A SPACE BETWEEN THE ROOF AND AN INSULATED CEILING; OR
3. IN A SPACE DIRECTLY UNDER A ROOF WITH FIXED VENTS OR OPENINGS TO THE OUTSIDE OR UNCONDITIONED SPACES; OR
4. IN AN UNCONDITIONED CRAWL SPACE; OR
5. IN OTHER UNCONDITIONED SPACES.

PORTIONS OF SUPPLY AIR DUCTS THAT ARE NOT IN ONE OF THESE SPACES SHALL BE INSULATED TO A MINIMUM INSTALLED LEVEL OF R-4.2 (OR ANY HIGHER LEVEL REQUIRED BY CMC SECTION 605) OR BE ENCLOSED IN DIRECTLY CONDITIONED SPACE.

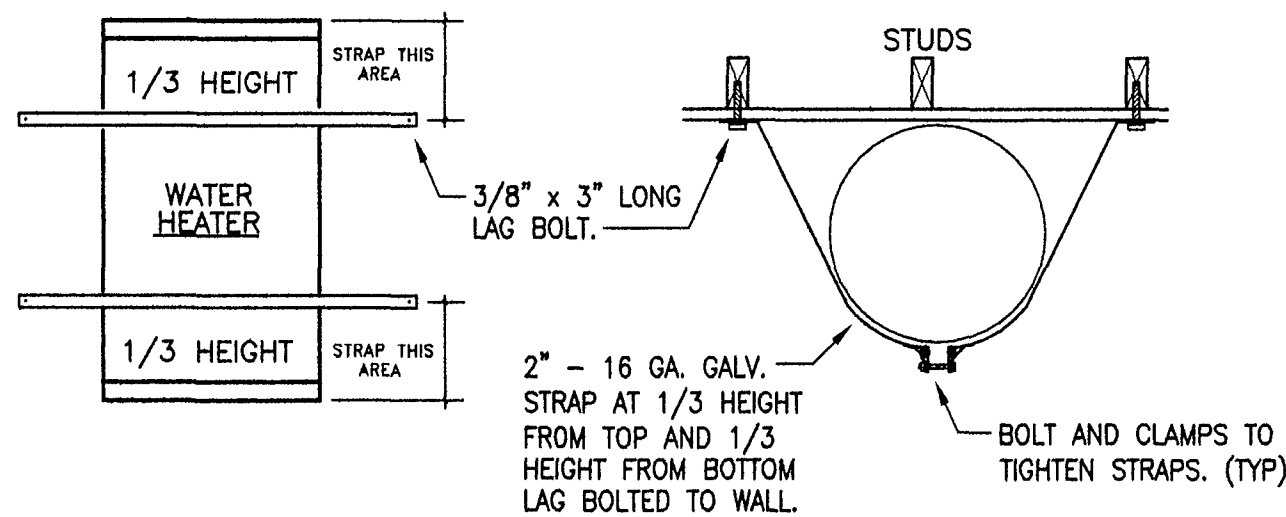
(B) DUCT AND PLENUM MATERIALS.

1. FACTORY FABRICATED DUCT SYSTEMS.

- A. ALL FACTORY FABRICATED DUCT SYSTEMS SHALL COMPLY WITH UL 181 FOR DUCTS AND CLOSURE SYSTEMS, INCLUDING COLLARS, CONNECTIONS AND SPLICES, AND BE UL LABELED.
 - B. ALL PRESSURE SENSITIVE TAPES, HEAT ACTIVATED TAPES, AND MASTICS USED IN THE MANUFACTURE OF RIGID FIBERGLASS DUCTS SHALL COMPLY WITH UL 181.
 - C. ALL PRESSURE SENSITIVE TAPES AND MASTICS USED WITH FLEXIBLE DUCTS SHALL COMPLY WITH UL 181 OR UL 181B.
 - D. JOINTS AND SEAMS OF DUCT SYSTEMS AND THEIR COMPONENTS SHALL NOT BE SEALED WITH CLOTH BACK RUBBER ADHESIVE DUCT TAPES UNLESS SUCH TAPE IS USED IN COMBINATION WITH MASTIC AND DRAWDOWNS.
2. FIELD FABRICATED DUCT SYSTEMS.

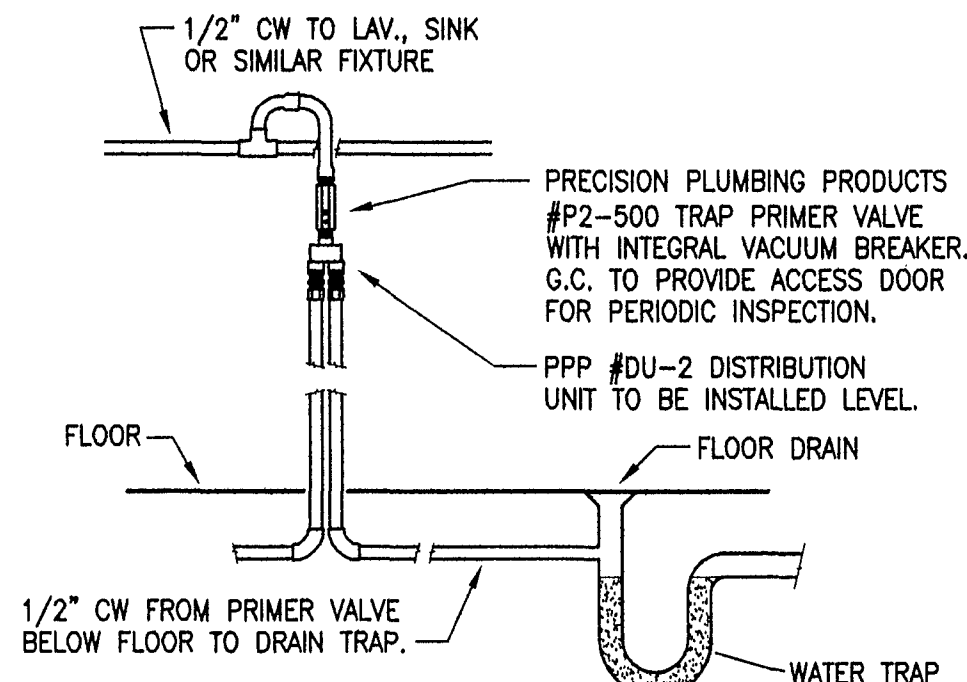


WATER HEATER DETAIL



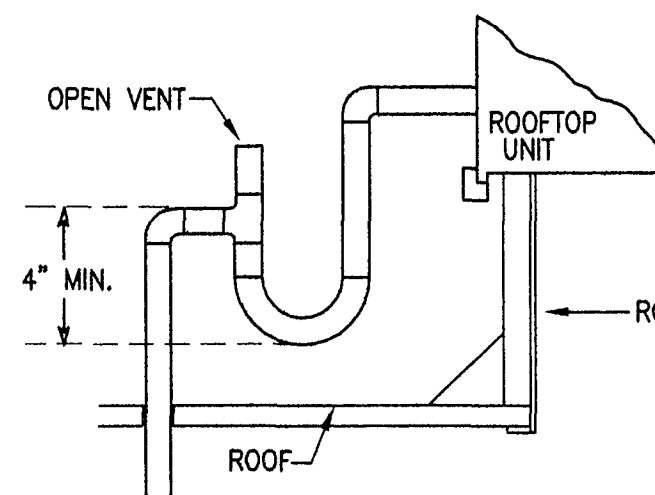
NOTE:
WATER HEATER SEISMIC ANCHORAGE TO BE STATE APPROVED.

WATER HEATER SEISMIC ANCHORAGE

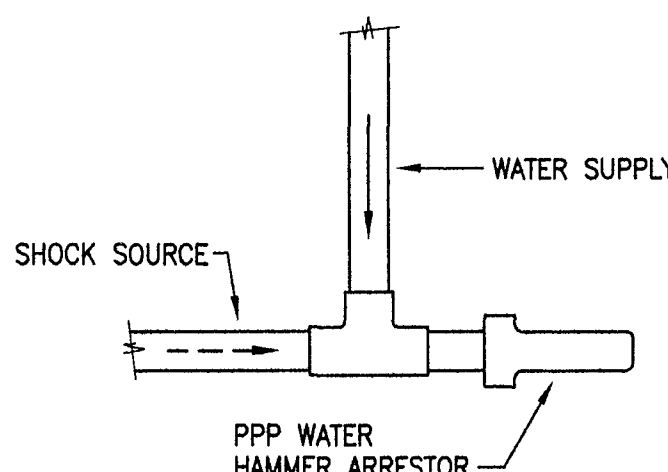


NOTE:
DO NOT DIRECT CONNECT PRIMER VALVE TO WATER LINE.
FIELD VERIFY TRAP PRIMER LOCATION. ACCESS PANEL BY G.C.
TRAP PRIMER VALVE TO BE INSTALLED ONE FOOT ABOVE FINISHED FLOOR FOR EVERY 20 FT. OF PRIMER LINE.

TRAP PRIMER DETAIL



CONDENSATE DRAIN DETAIL



WATER HAMMER ARRESTOR DETAIL

GENERAL NOTES

- All soil piping to be cast iron or ABS where local codes permit. All vent piping may be galvanized steel, cast iron, copper or ABS as local codes permit (verify). Soil and vent piping to slope a minimum of 1/4" per foot.
- Domestic site water piping to be schedule 80 PVC below ground, and type 'L' hard drawn copper above ground. Use wrought copper fittings.
- All materials and equipment shall be new and unused unless specified on plans. Contractor to use only qualified labor and supervision for the installation of materials and equipment.
- All work shall conform with the current UPC and all local codes. No work shall be covered until it has been inspected, tested and approved by inspector.
- Contractor shall make utility connections and provide permits per contract. Any additional fees and permits will be at extra cost.
- Contractor shall verify size, depth, location and adequacy of all utilities including meter location and sewer inverts prior to start of work.
- Contractor shall install cleanouts where indicated on plans and as required by local codes and authorities. Clean out to grade shall be in Brooks box or equal.
- Coordinate work with all trades to avoid conflict and interferences.
- Verify all rough-in heights and locations with general contractor and/or architect.
- All pipes below ground shall be located away from bearing footings or as indicated on structural plans.
- Install reduced pressure backflow preventer as indicated on plans or as required by local codes. Where street pressure exceeds 80 P.S.I. install approved pressure regulating valve with relief valve and strainer per code.
- Contractor shall verify that equipment and fixtures will physically fit in the locations indicated.
- All penetrations of fire rated assemblies shall be made with non-combustible material of an equal fire rating and shall be completely stopped. Refer to architectural plans to identify fire rated assemblies.
- Contractor shall include (but not limited to) all piping, valves, fittings and fixture supports associated with each new fixture.
- Each fixture shall have its own shut off valve(s).
- All gas piping to be schedule 40 black steel with threaded fittings. Final connection to each gas appliance shall be with approved flexible connection and shut off valve. When the gas connection to the appliance is within the appliance cabinet the connection shall be with threaded black steel and shut off valve.
- All valves, unions, etc., shall be the same size as the piping unless otherwise specified. Unions shall be installed after each screw type valve and prior to equipment connections. Install isolation unions at all connections between dissimilar metals.
- All plumbing vents shall terminate not less than ten feet away from or at least 3 feet above any window of door opening, fresh air intake nor less than 1 foot from a verticle surface.
- Insulate all exposed drain piping below lavatories and sinks with "Armaflex."
- Compressed air piping may be copper or galv. steel. Verify with general contractor or owner.
- All pipes discharging to floor sinks shall have the minimum air gap as required by the current UPC and local codes.
- Contractor shall be responsible for the entire scope of work as outlined per the contract. Final testing procedures and connections are to conform to the current codes.
- Contractor shall provide owner with all required manuals for the proper maintenance and operation of equipment.
- These plans are of schematic form and are drawn for maximum clarity. Changes may be necessary for convience, obstructions, economics and efficiency.

WATER HEATER SCHEDULE

WH	MAKE AND MODEL	CAPACITY	ELECTRICAL				Unit Op. Weight (lbs)
			WATTS	VOLTS	AMPS	PH	
1	Bradford White M-1-12UT6SS	12 Gallons	3000	208	15.0	1	150

FIXTURE CONNECTION SCHEDULE

Fixture	Minimum Pipe Size					Description
	Trap	Soil	Vent	C.W.	H.W.	
Handicap Toilet	Int.	4"	2"	1"	-	American Standard Madera #3043.102 ADA approved, 1.6 gpf toilet with Sloan #111 flush valve and Olsnite #95 open front seat less cover or equal.
Urinal	2"	2"	2"	3/4"	-	American Standard Trimbrook #6561.017, 1.0 gallon per flush wall hung urinal with Sloan #186-1 flush valve or equal.
Lavatory	1 1/2"	2"	2"	1/2"	1/2"	American Standard Lucerne #0356 wall hung lavatory with #2385 single handle faucet or equal.
Sink	1 1/2"	2"	2"	1/2"	1/2"	Elkay Dayton #DD2522 single compartment stainless steel sink with Delta #100 faucet. Verify with owner.
Sink	1 1/2"	2"	2"	1/2"	1/2"	Just #DL-2233-A-GR stainless steel double compartment sink with Badger 1 disposal and Delta #100 faucet.
Mop Sink	2"	2"	2"	1/2"	1/2"	Fiat #MSB2424 floor mounted mop sink with Chicago #886-R faucet with vacuum breaker, swing spout and 3/4" hose thread.
Floor Drain	2"	2"	2"	-	-	J.R. Smith #2205-A with 1/2" cold water to trap from trap primer.

MANDATORY FEATURES

- WATER HEATING SYSTEMS AND EQUIPMENT - SECTION 113**
- (A) ANY SERVICE WATER HEATING SYSTEMS OR EQUIPMENT MAY BE INSTALLED ONLY IF THE MANUFACTURER HAS CERTIFIED THAT THE SYSTEM OR EQUIPMENT COMPLIES WITH ALL OF THE REQUIREMENTS OF THIS SUBSECTION FOR THAT SYSTEM OR EQUIPMENT.
- (B) EQUIPMENT SHALL MEET THE APPLICABLE REQUIREMENTS OF THE APPLIANCE EFFICIENCY REGULATIONS AS REQUIRED BY SECTION 111, SUBJECT TO THE FOLLOWING:
- IF MORE THAN ONE STANDARD IS LISTED IN THE APPLIANCE EFFICIENCY REGULATIONS, THE EQUIPMENT SHALL MEET ALL THE STANDARDS LISTED; AND
 - IF MORE THAN ONE TEST METHOD IS LISTED IN THE APPLIANCE EFFICIENCY REGULATIONS, THE EQUIPMENT SHALL COMPLY WITH THE APPLICABLE STANDARD WHEN TESTED WITH EACH TEST METHOD; AND
 - WHERE EQUIPMENT CAN SERVE MORE THAN ONE FUNCTION, SUCH AS BOTH HEATING AND COOLING, OF BOTH SPACE HEATING AND WATER HEATING, IT SHALL COMPLY WITH ALL THE REQUIREMENTS APPLICABLE TO EACH FUNCTION; AND
 - WHERE A REQUIREMENT IS FOR EQUIPMENT RATED AT ITS "MAXIMUM RATED CAPACITY" OR "MINIMUM RATED CAPACITY," THE CAPACITY SHALL BE AS PROVIDED FOR AND ALLOWED BY THE CONTROLS, DURING STEADY-STATE OPERATION.
- (C) ANY SERVICE WATER HEATING SYSTEM OR EQUIPMENT MAY BE INSTALLED ONLY IF THE SYSTEM OR EQUIPMENT COMPLIES WITH ALL OF THE APPLICABLE REQUIREMENTS OF THIS SUBSECTION FOR THE SYSTEM OR EQUIPMENT.
1. ON SYSTEMS THAT HAVE A TOTAL CAPACITY GREATER THAN 157,000 BTU/HR, OUTLETS THAT REQUIRE HIGHER THAN SERVICE WATER TEMPERATURES AS LISTED IN THE ASHRAE HANDBOOK, APPLICATIONS VOLUME, SHALL HAVE SEPARATE REMOTE HEATERS, HEAT EXCHANGERS, OR BOOSTERS TO SUPPLY THE OUTLET WITH THE HIGHER TEMPERATURE.
2. CIRCULATING SERVICE WATER HEATING SYSTEMS SHALL HAVE A CONTROL CAPABLE OF AUTOMATICALLY TURNING OFF THE CIRCULATING PUMP WHEN HOT WATER IS NOT REQUIRED.
- EXCEPTION TO SECTION 113(C) 2: WATER HEATING SYSTEMS SERVING A SINGLE DWELLING UNIT.
3. THE CONTROLS SHALL LIMIT THE OUTLET TEMPERATURE TO 110°F.
4. UNFIRE SERVICE WATER HEATER STORAGE TANKS AND BACKUP TANKS FOR SOLAR WATER-HEATING SYSTEMS SHALL HAVE:
- EXTERNAL INSULATION WITH AN INSTALLED R-VALUE OF AT LEAST R-12; OR
 - INTERNAL AND EXTERNAL INSULATION WITH A COMBINED R-VALUE OF AT LEAST R-16; OR
 - THE HEAT LOSS OF THE TANK SURFACE BASED ON AN 80°F WATER-AIR TEMPERATURE DIFFERENCE SHALL BE LESS THAN 6.5 BTU PER HOUR PER SQUARE FOOT.
5. ANY NEWLY CONSTRUCTED BUILDING CONSTRUCTED BY THE STATE SHALL DERIVE ITS SERVICE HOT WATER HEATING FROM A SYSTEM THAT PROVIDES AT LEAST 60% OF THE ENERGY NEEDED FOR THE SERVICE WATER HEATING FROM SITE SOLAR ENERGY OR RECOVERED ENERGY.
- EXCEPTION TO SECTION 113(C) 5: BUILDINGS FOR WHICH THE STATE ARCHITECT DETERMINES THAT SERVICE WATER HEATING FROM SITE SOLAR ENERGY OR RECOVERED ENERGY IS ECONOMICALLY OR PHYSICALLY INFEASIBLE.
- PILOT LIGHTS PROHIBITED - SECTION 115**
- ANY NATURAL GAS SYSTEM OR EQUIPMENT LISTED BELOW MAY BE INSTALLED ONLY IF IT DOES NOT HAVE CONTINUOUSLY BURNING PILOT LIGHT:
- FAN TYPE CENTRAL FURNACES.
 - HOUSEHOLD COOKING APPLIANCES.
- EXCEPTION TO SECTION 115(B): HOUSEHOLD COOKING APPLIANCES WITHOUT AN ELECTRICAL SUPPLY VOLTAGE CONNECTION AND IN WHICH EACH PILOT CONSUMES LESS THAN 150 BTU/HR.
- POOL HEATERS.
 - SPA HEATERS.

REQUIREMENTS FOR PIPE INSULATION - SECTION 123

THE PIPING FOR ALL SPACE CONDITIONING AND SERVICE WATER HEATING SYSTEMS WITH FLUID TEMPERATURES LISTED IN TABLE 123-A SHALL HAVE THE AMOUNT OF INSULATION SPECIFIED IN SUBSECTION (A) OR (B). INSULATION CONDUCTIVITY SHALL BE DETERMINED IN ACCORDANCE WITH ASTM C 335 AT THE MEAN TEMPERATURE LISTED IN TABLE 123-A, AND SHALL BE ROUNDED TO THE NEAREST 1/100 BTU-INCH PER HOUR PER SQUARE FOOT PER °F.

INSULATION SHALL BE PROTECTED FROM DAMAGE, INCLUDING THAT DUE TO SUNLIGHT, MOISTURE, EQUIPMENT MAINTENANCE, AND WIND, INCLUDING BUT NOT LIMITED TO, THE FOLLOWING:

INSULATION EXPOSED TO WEATHER SHALL BE SUITABLE FOR OUTDOOR SERVICE E.G., PROTECTED BY ALUMINUM, SHEET METAL, PAINTED CANVAS, OR PLASTIC COVER. CELLULAR FOAM INSULATION SHALL BE PROTECTED AS ABOVE OR PAINTED WITH A COATING THAT IS WATER RETARDANT AND PROVIDES SHIELDING FROM SOLAR RADIATION THAT CAN CAUSE DEGRADATION OF THE MATERIAL.

INSULATION COVERING CHILLED WATER PIPING AND REFRIGERANT SUCTION PIPING LOCATED OUTSIDE THE CONDITIONED SPACE SHALL INCLUDE A VAPOR RETARDANT LOCATED OUTSIDE THE INSULATION (UNLESS THE INSULATION IS INHERENTLY VAPOR RETARDANT). ALL PENETRATIONS AND JOINTS OF WHICH SHALL BE SEALED.

EXCEPTION 1 TO SECTION 123: FACTORY INSTALLED PIPING WITHIN SPACE CONDITIONING EQUIPMENT CERTIFIED UNDER SECTION 111 OR 112.

EXCEPTION 2 TO SECTION 123: PIPING THAT CONVEYS FLUIDS WITH A DESIGN OPERATING TEMPERATURE RANGE BETWEEN 60°F AND 100°F.

EXCEPTION 3 TO SECTION 123: PIPING THAT SERVES PROCESS LOADS, GAS PIPING, COLD DOMESTIC WATER PIPING, CONDENSATE DRAINS, ROOF DRAINS, VENTS OR WASTE PIPING.

EXCEPTION 4 TO SECTION 123: WHERE THE HEAT GAIN OR HEAT LOSS TO OR FROM PIPING WITHOUT INSULATION WILL NOT INCREASE BUILDING SOURCE ENERGY USE.

EXCEPTION 5 TO SECTION 123: PIPING THAT PENETRATES FRAMING MEMBERS SHALL NOT BE REQUIRED TO HAVE PIPE INSULATION FOR THE DISTANCE OF THE FRAMING PENETRATION. METAL PIPING THAT PENETRATES METAL FRAMING SHALL USE GROMMETS, PLUGS, WRAPPING OR OTHER INSULATING MATERIAL TO ASSURE THAT NO CONTACT IS MADE WITH THE METAL FRAMING.

(A) FOR INSULATION WITH A CONDUCTIVITY IN THE RANGE SHOWN IN TABLE 123-A FOR THE APPLICABLE FLUID TEMPERATURE RANGE, THE INSULATION SHALL HAVE THE APPLICABLE THICKNESS SHOWN IN TABLE 123-A.

(B) FOR INSULATION WITH A CONDUCTIVITY OUTSIDE THE RANGE SHOWN IN TABLE 123-A FOR THE APPLICABLE FLUID TEMPERATURE RANGE, THE INSULATION SHALL HAVE A MINIMUM THICKNESS AS CALCULATED WITH EQUATION 123-A:

EQUATION 123-A INSULATION THICKNESS EQUATION

WHERE: T = MINIMUM THICKNESS FOR MATERIAL WITH CONDUCTIVITY, K, INCHES
PR = PIPE ACTUAL OUTSIDE RADIUS, INCHES
t = INSULATION THICKNESS FROM TABLE 123-A, INCHES
K = CONDUCTIVITY OF ALTERNATE AT THE MEAN RATING TEMPERATURE INDICATED IN TABLE 123-A FOR THE APPLICABLE FLUID TEMPERATURE RANGE, IN BTU-INCH PER HOUR PER SQUARE FOOT PER °F.
k = THE LOWER VALUE OF THE CONDUCTIVITY RANGE LISTED IN TABLE 123-A FOR THE APPLICABLE FLUID TEMPERATURE RANGE, BTU-INCH PER HOUR PER SQUARE FOOT PER °F.

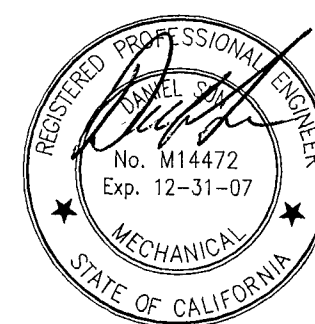
$$T = PR \left[\left(1 + \frac{k}{PR} \right)^{\frac{K}{k}} - 1 \right]$$

TABLE 123-A PIPE INSULATION THICKNESS

FLUID TEMPERATURE RANGE (°F)	CONDUCTIVITY RANGE (BTU-IN/HR/SF/°F)	MEAN RATING TEMPERATURE (°F)	NOMINAL PIPE DIAMETER (IN.)							
			REQUIRED INSULATION (IN.)							
			UP TO 2"	2" AND LESS	2.5"-4"	5"-6"	8" AND LARGER			
SPACE HEATING SYSTEMS (STEAM, STEAM CONDENSATE AND HOT WATER)										
ABOVE 350	32-34	250	1.5	2.5	2.5	3.0	3.5	3.5		
251-350	29-31	200	1.5	2.0	2.5	2.5	3.5	3.5		
201-250	27-30	150	1.0	1.5	1.5	2.0	2.0	3.5		
141-200	25-29	125	0.5	1.5	1.5	1.5	1.5	1.5		
105-140	24-28	100	0.5	1.0	1.0	1.0	1.0	1.5		
SERVICE WATER HEATING SYSTEMS (RECIRCULATING SECTIONS, ALL PIPING IN ELECTRIC TRACE TAPE SYSTEMS, AND THE FIRST 8 FEET OF PIPING FROM THE STORAGE TANK FOR NONRECIRCULATING SYSTEMS)										
ABOVE 105	24-28	100	0.5	1.0	1.0	1.5	1.5	1.5		
SPACE COOLING SYSTEMS (CHILLED WATER, REFRIGERANT & BRINE)										
40-60	23-27	75	0.5	0.5	0.5	1.0	1.0	1.0		
BLEW 40	23-27	75	1.0	1.0	1.5	1.5	1.5	1.5		

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BONALDO DESIGN GROUP
TENANT IMPROVEMENT PLANS
10241 TRADEMARK ST SUITE B
RANCHO CUCAMONGA, CALIFORNIA 91730
(909) 945-8437 FAX: (909) 944-4882

CIBARIA INTERNATIONAL
11109 JASMINE STREET
FONTANA, CA 92337

DATE: 8-11-07
SCALE: NONE
JOB No.: 9502
SHEET No.: P-1

PLUMBING NOTES DETAILS & SCHEDULES

These plans represent a schematic layout of the mechanical system(s). Ceiling, fire sprinkler and structural framing plans were not provided and/or available or may not represent any changes that were made after these documents were prepared. Contractor to review the approved architectural, structural, electrical, civil and fire sprinkler plans for conflicts. Field coordination and verification of all conditions and dimensions shall be the responsibility of the contractor. The contractor shall be responsible for providing complete and operating mechanical system(s). No equipment substitutions shall be made without written approval from the Mechanical Engineer. Failure to do so constitutes design change and the contractor will be liable for the entire system. Best operations from design shall be approved prior to installation.



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BONALDO DESIGN GROUP

TENANT IMPROVEMENT PLANS

10241 TRADEMARK ST., SUITE B
RANCHO CUCAMONGA, CALIFORNIA 91730
(909) 945-8437 FAX: (909) 944-4882

CIBARIA INTERNATIONAL
11109 JASMINE STREET
FONTANA, CA 92337

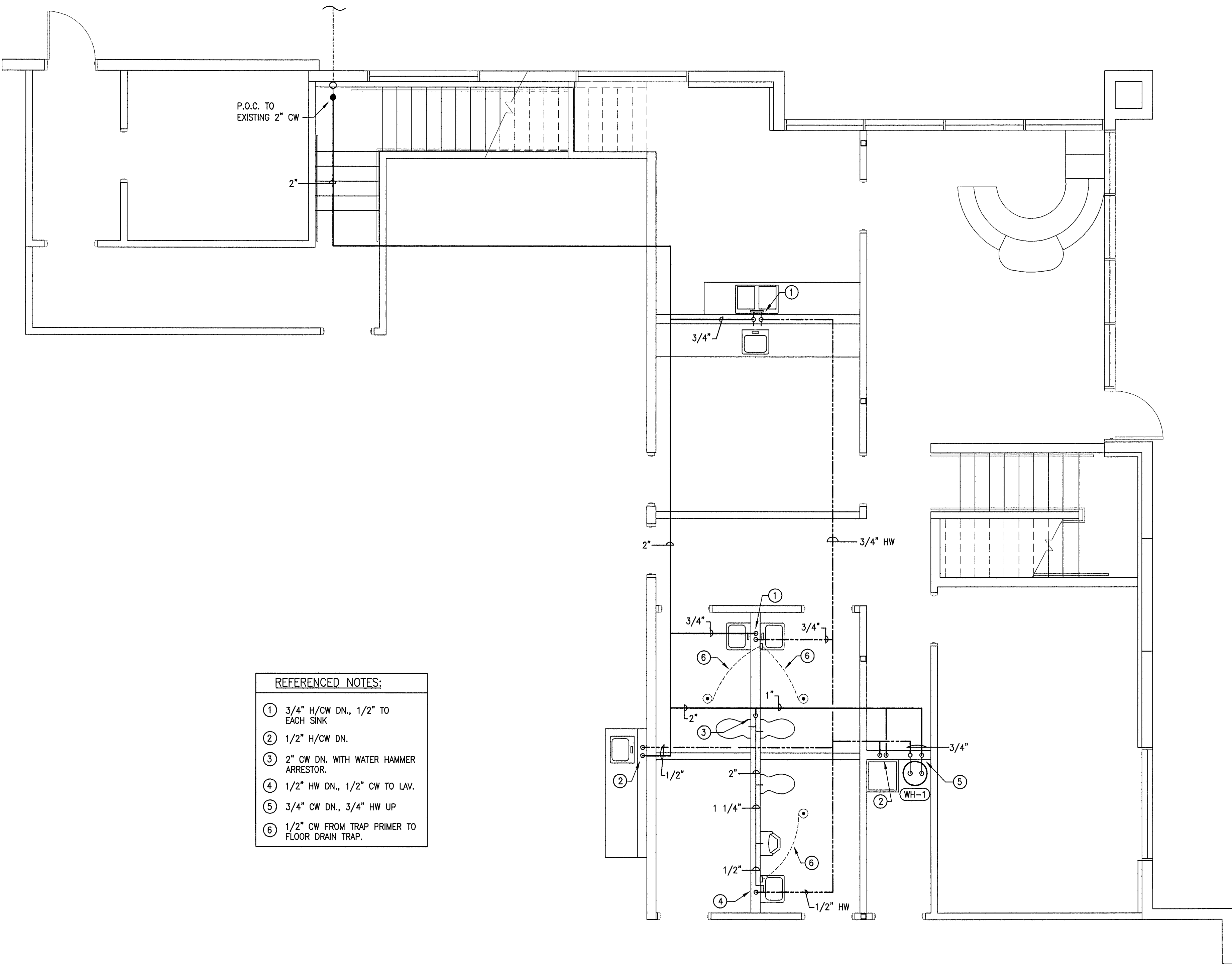
DATE: 5-11-07
SCALE: 1/4" = 1'-0"
JOB No.: 9592
SHEET No. P-2

SHEET NO. P-2

REVISIONS

1 8-20-07

R.E.O. ENGINEERING
11711 Sterling Avenue, Suite H
Riverside, CA 92503
(951) 343-0890 (951) 343-0891 Fax



- REFERENCED NOTES:
- ① 3/4" H/CW DN., 1/2" TO EACH SINK
 - ② 1/2" H/CW DN.
 - ③ 2" CW DN. WITH WATER HAMMER ARRESTOR.
 - ④ 1/2" HW DN., 1/2" CW TO LAV.
 - ⑤ 3/4" CW DN., 3/4" HW UP
 - ⑥ 1/2" CW FROM TRAP PRIMER TO FLOOR DRAIN TRAP.

FIRST FLOOR WATER PLAN
SCALE: 1/4" = 1'-0"

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SEP 04 2007
BUILDING & SAFETY
CITY OF FONTANA



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BONALDO DESIGN GROUP
TENANT IMPROVEMENT PLANS
10244 TRAVERMARK ST. SUITE B
FONTANA, CALIFORNIA 91730
(909) 945-8437 FAX: (909) 944-4892

PROJECT: CIBARIA INTERNATIONAL
11109 JASMINE STREET
FONTANA, CA 92337
SHEET TITLE: 1ST FLOOR WATER PLAN

DATE: 8-11-07
SCALE: 1/4" = 1'-0"
JOB No.: 8592
SHEET No.: P-3

REVISIONS
8-20-07

R.E.O. ENGINEERING
Serving Fontana, CA
17771 RIVERSIDE AVE. SUITE H
FONTANA, CA 92337
(951) 345-0880 (951) 345-0881 Fax