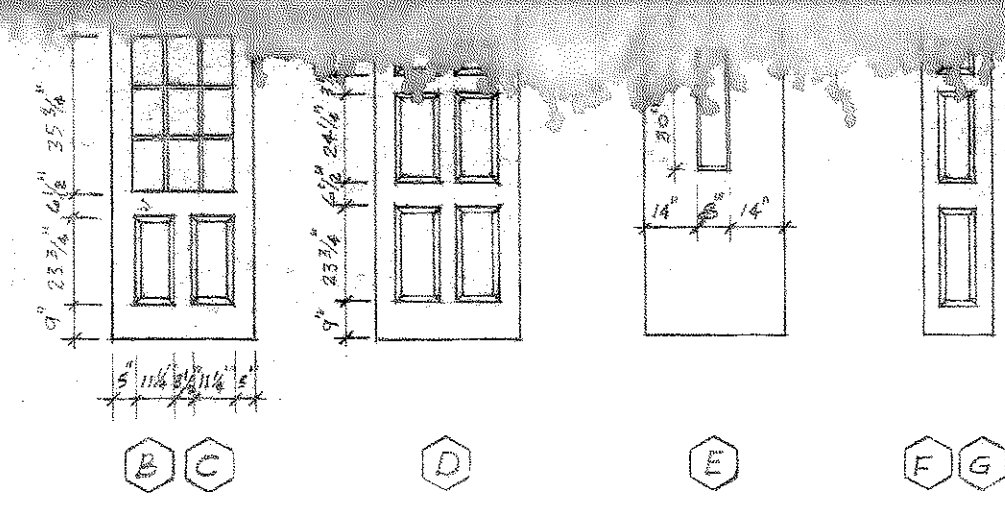


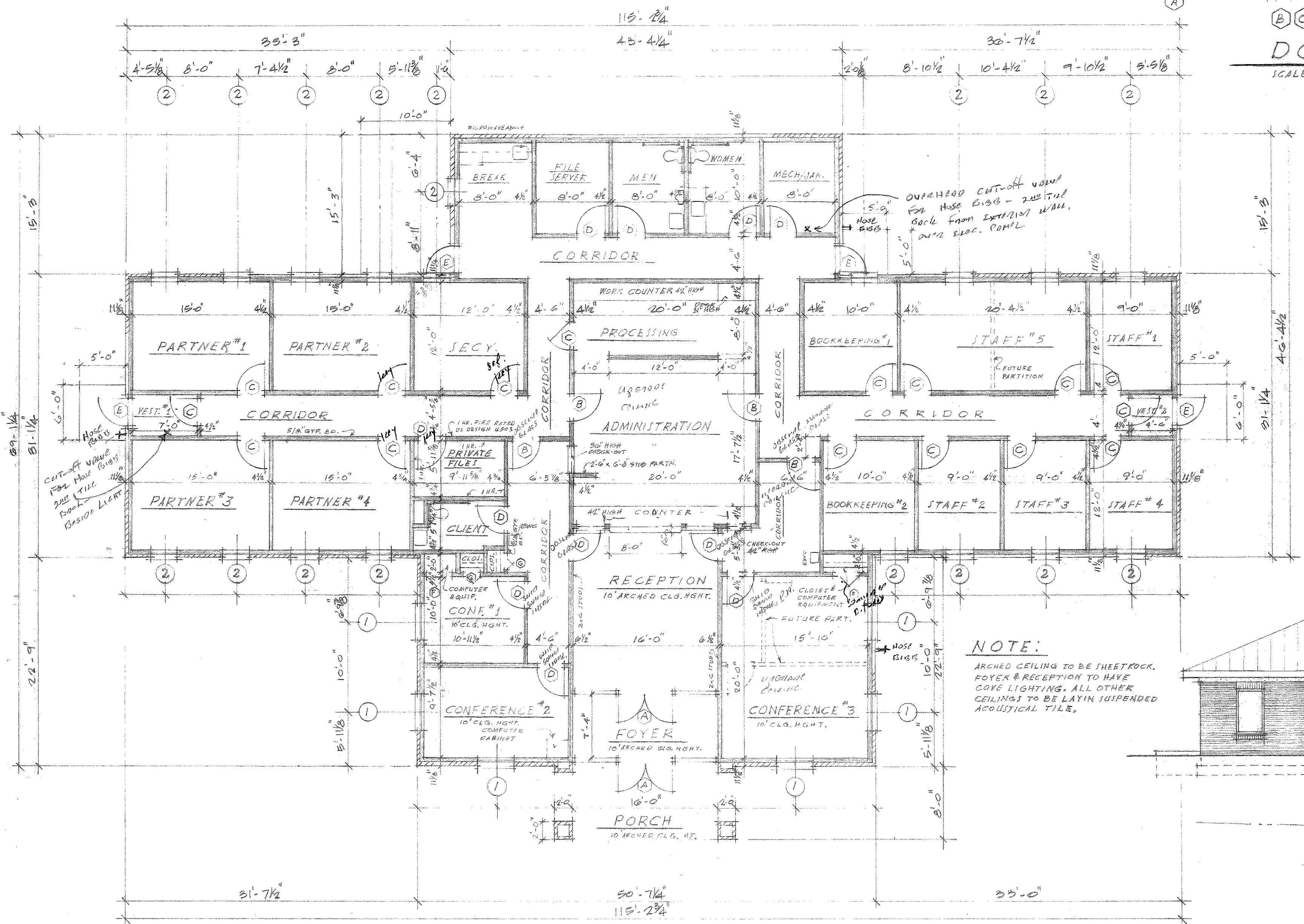
WINDOW	SIZE	REMARK
1	3'-8" x 6'-0"	260 THERMAL ALUM. FRAME, BRONZE FINISH W/ INSULATED, BRONZE FINISH GLASS
2	3'-0" x 5'-0"	

REQUIRE			
(A)	3'-0" x 6'-0"	WOOD	2 PANEL, LIGHT W/ OPAQUE GLASS
(B)	3'-0" x 6'-0"	WOOD	2 PANEL, LIGHT W/ CLEAR GLASS
(C)	3'-0" x 6'-0"	WOOD	2 PANEL
(D)	3'-0" x 6'-0"	METAL	FLUSH, INSULATED
(E)	1'-0" x 6'-0"	WOOD	3 PANEL, BI-FOLD
(F)	1'-0" x 6'-0"	WOOD	3 PANEL, BI-FOLD

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

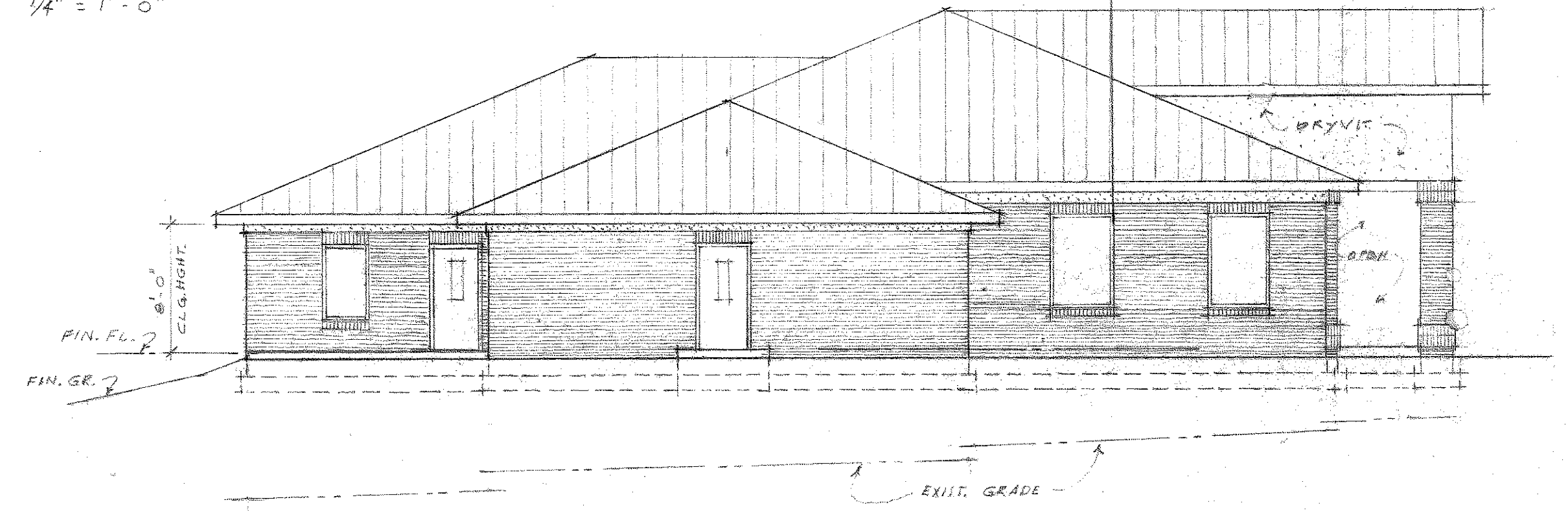


NOTE:
1'0" DOOR AT PRIVATE FILES TO BE 3/4" HR. FIRE DOOR AND FRAME

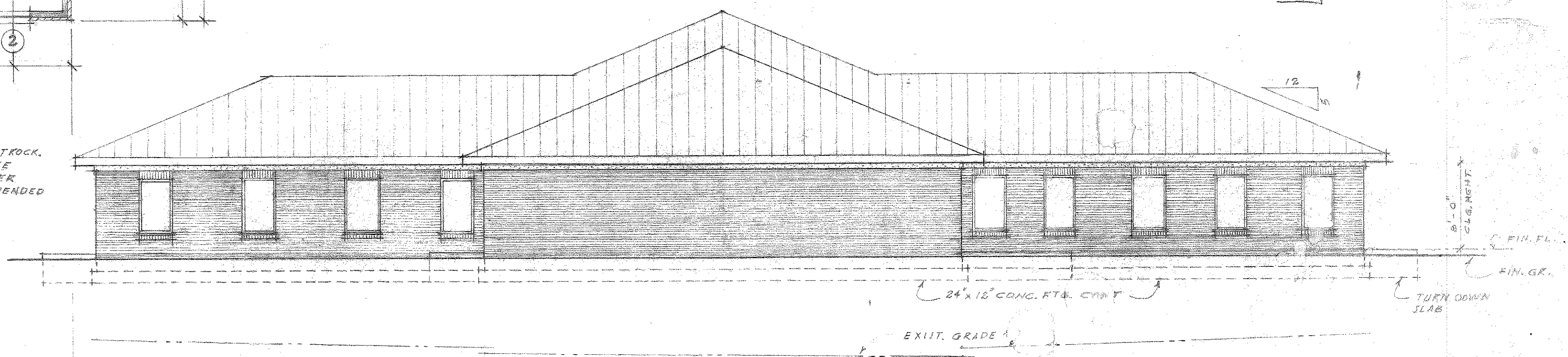


FLOOR PLAN
SCALE: 1/8" = 1'-0"

NOTE:
ARCHED CEILING TO BE SHEETROCK. FOYER & RECEPTION TO HAVE COVE LIGHTING. ALL OTHER CEILINGS TO BE LATH SUSPENDED ACQUITTAL TILE.

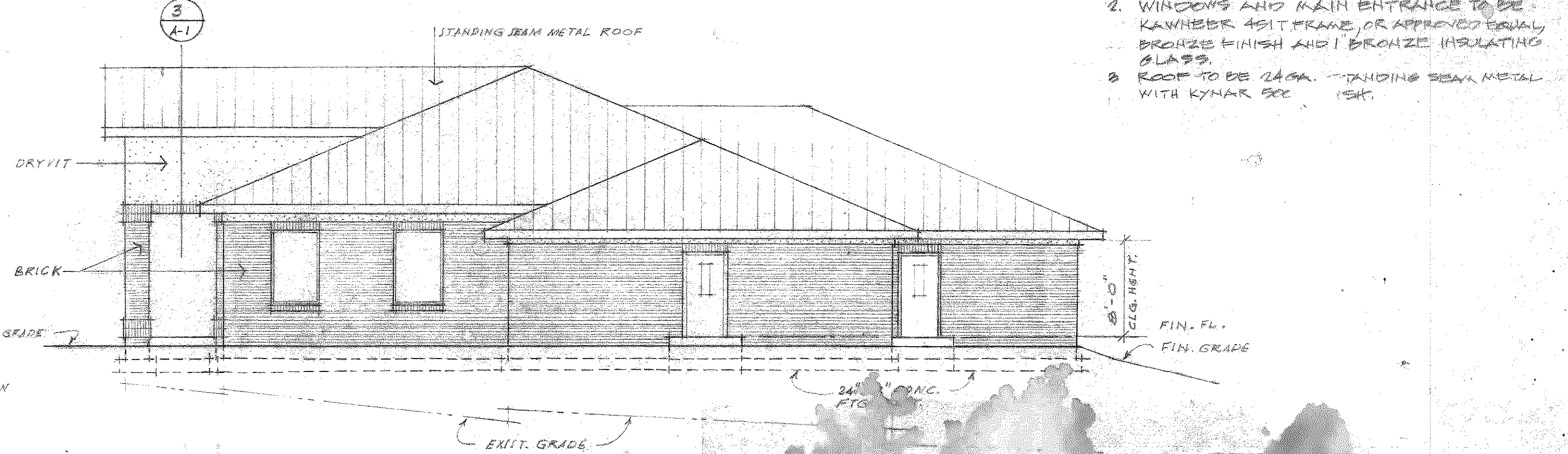
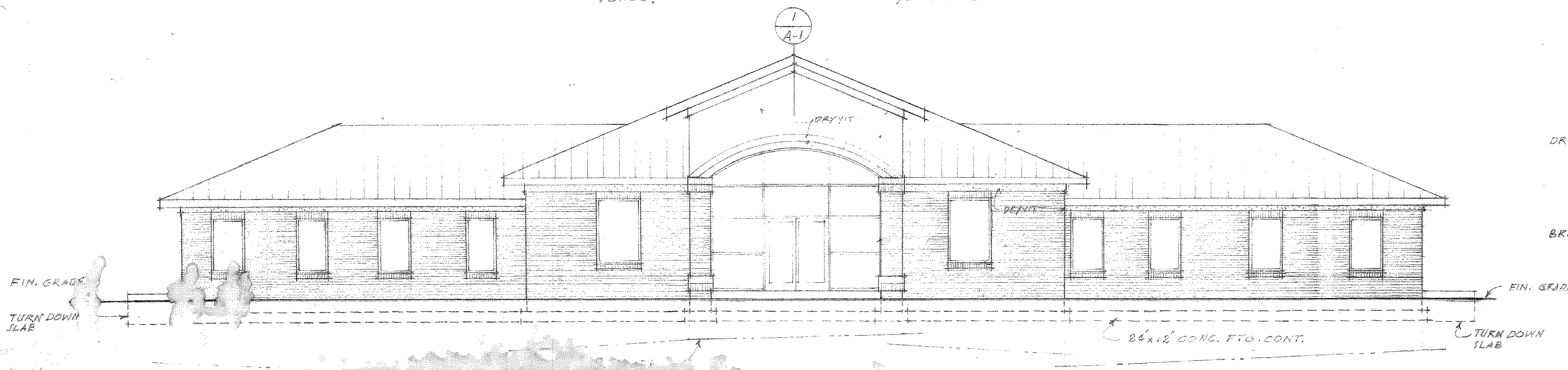


EAST SIDE ELEVATION
SCALE: 1/8" = 1'-0"



SOUTH SIDE ELEVATION
SCALE: 1/8" = 1'-0"

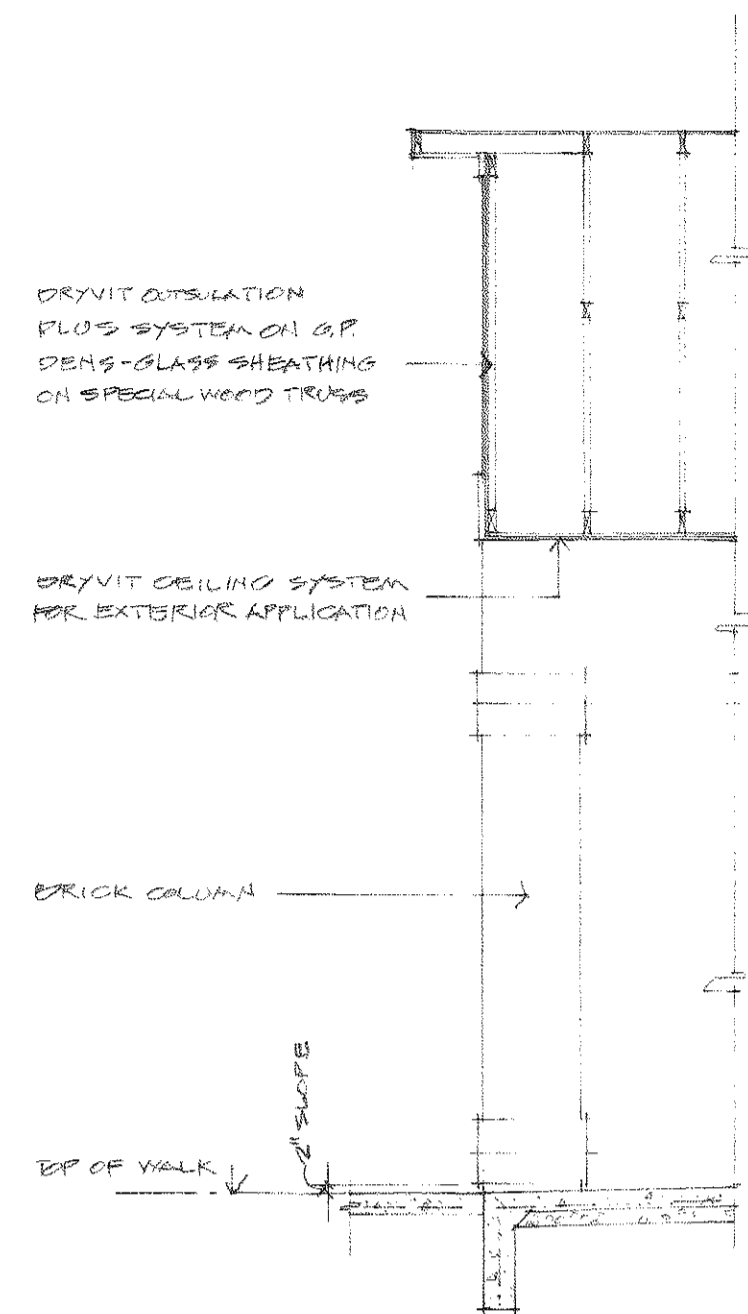
- NOTES**
1. BRICK TO BE GENERAL SHALE BRUNSWICK OR APPROVED EQUAL.
 2. WINDOWS AND MAIN ENTRANCE TO BE KAWNEER 4811 FRAME OR APPROVED EQUAL. BRONZE FINISH AND 1" BRONZE INSULATING GLASS.
 3. ROOF TO BE 24GA. STANDING SEAM METAL WITH KYMAR EX.



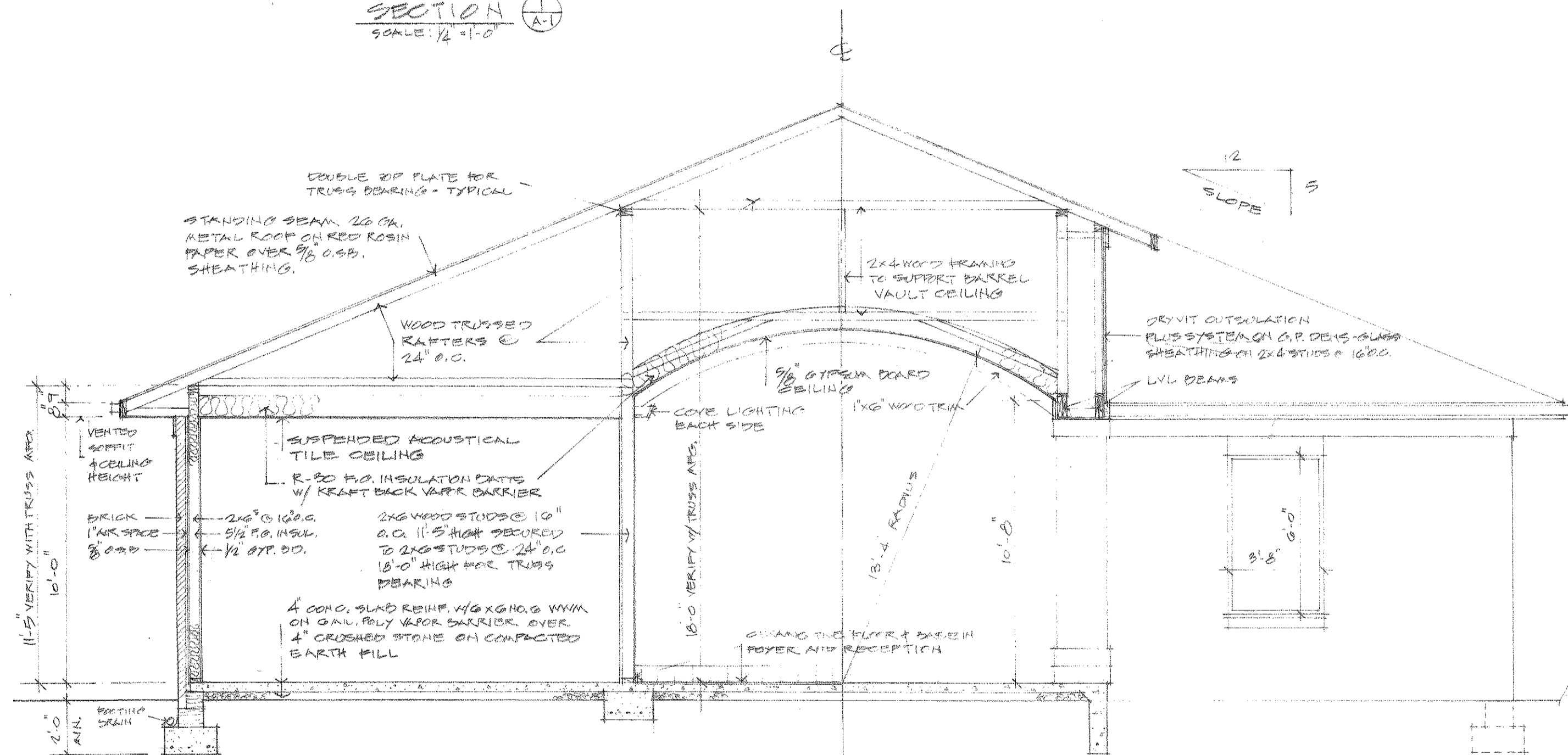
OFFICE BUILDING FOR
SPRINGFIELD BLEVINS CPA, PC
STATION 1000 LOGGY PARK
ABINGDON, VIRGINIA

FEESON & BEESON
ARCHITECTS, INC.
100 BOX 660, ABINGDON, VIRGINIA 22006
CHARLES R. BEESON, PRESIDENT

A-1

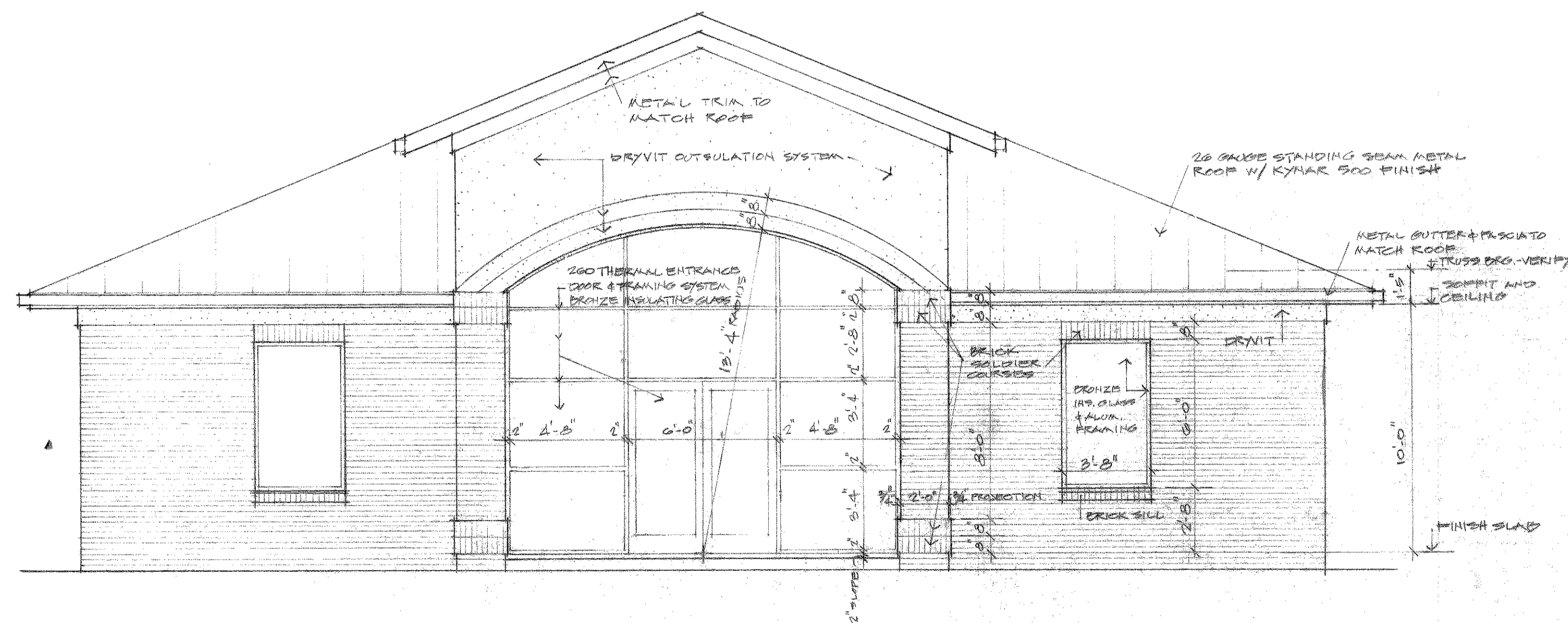


SECTION 1 (A-1)
SCALE 1/4" = 1'-0"



SECTION 2 (A-1)

SECTION 3 (A-1)

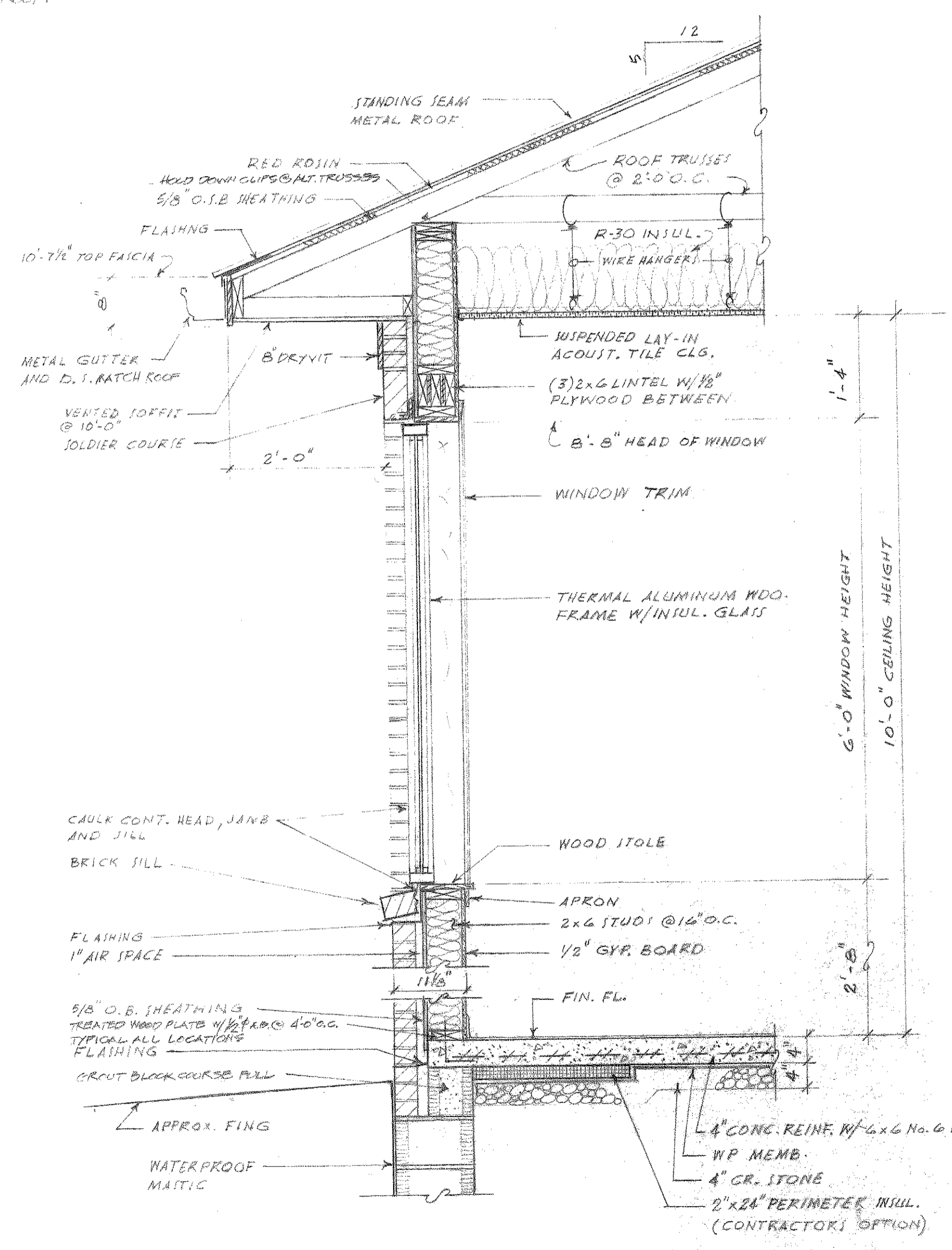
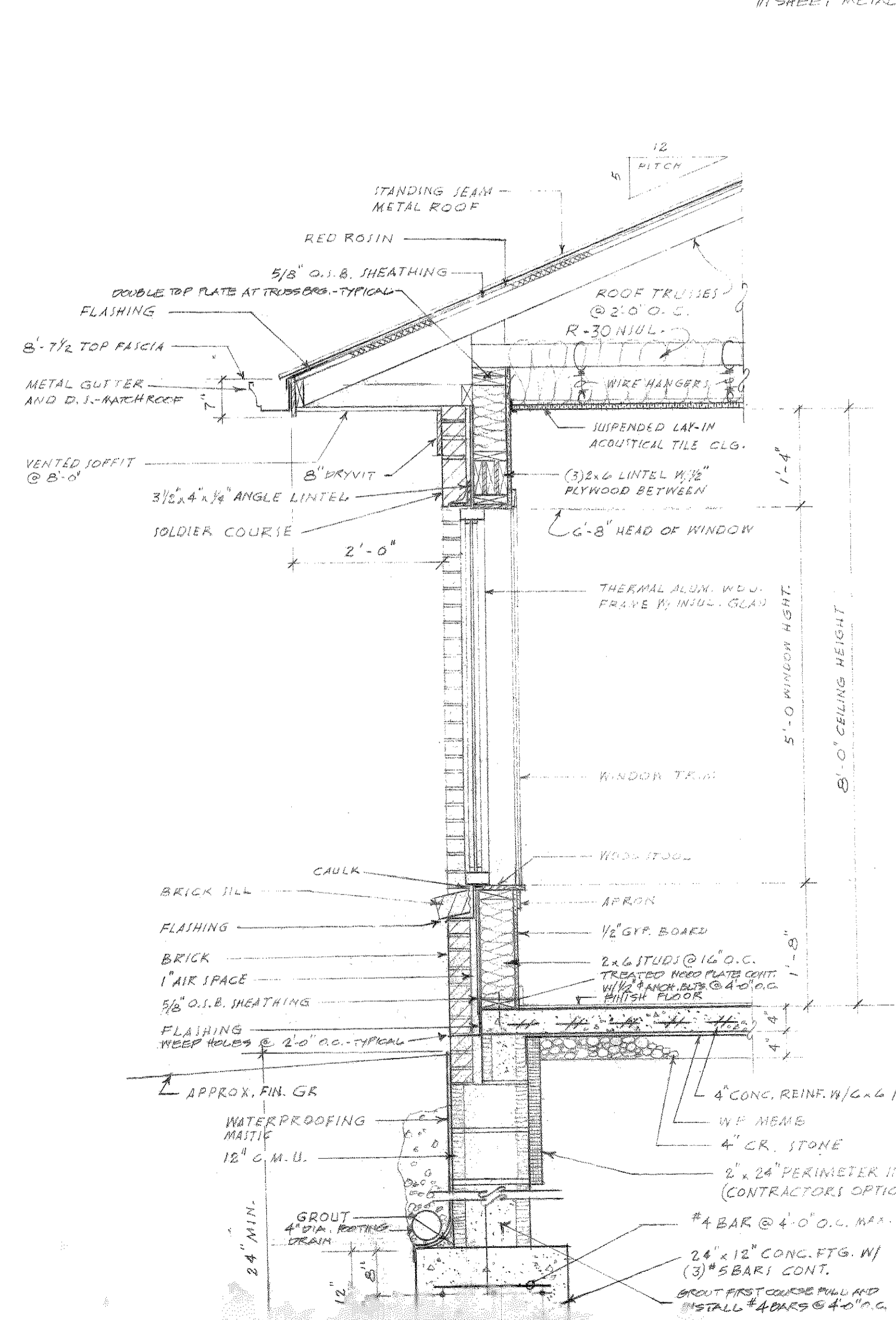


PART FRONT ELEVATION
SCALE 1/4" = 1'-0"

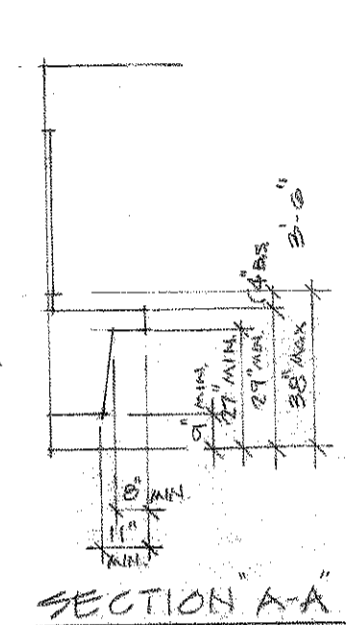
REVISIONS	<p>OF BUILDING FOR ESOP & BLEVIN CPA, PC CONSULTANTS VIRGINIA</p> <p>ESOP & BLEVIN CONSULTANTS 1000 G. ABINGDON VIRGE R. DAY</p>
DATE	FILE NO.
BY	DATE
CHECKED	DATE
DATE	DATE

A-2
SHEET NO.
E-076
FILE NO.

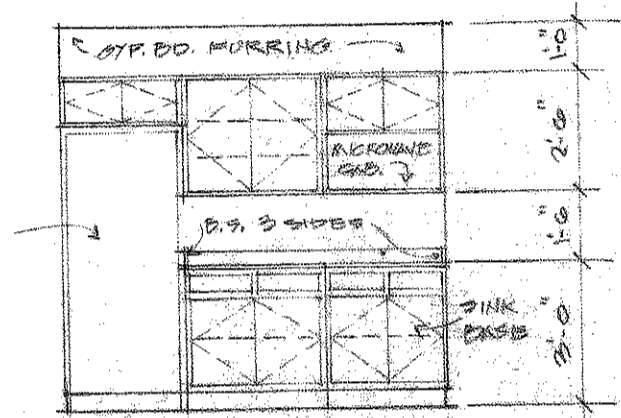
NOTE:
FACIA BOARD TO BE WRAPPED
W/ SHEET METAL TO MATCH ROOF.



WALL SECTION @ 10'-0" CLG. HGHT.
SCALE: 3/4" = 1'-0"

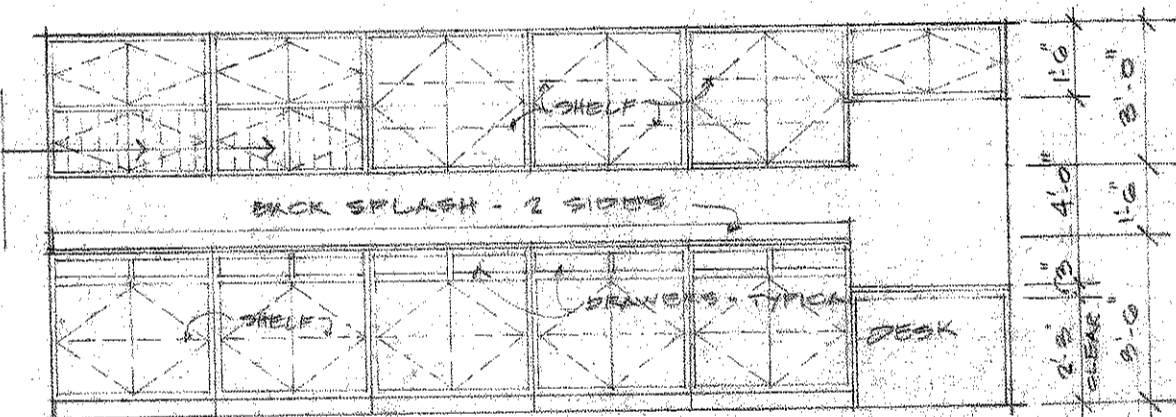


ELEV. WOMEN VANITY

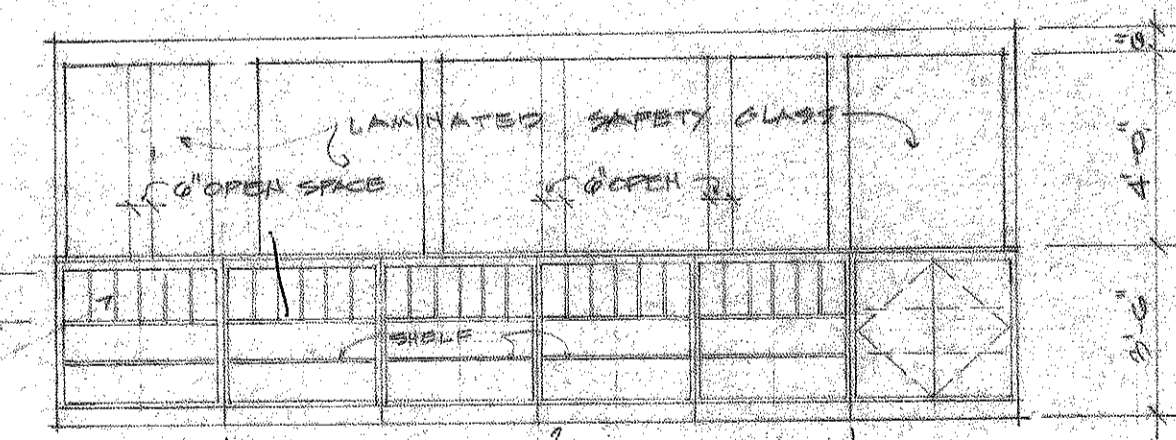


ELEV. BREAK ROOM

FILE DIVIDER INSERTS BY OWNER. CONTRACTOR SHALL VERIFY SIZE WITH OWNER BEFORE FABRICATING WALL CABINETS.



ELEVATION PROCESSING



ELEVATION ADMINISTRATION

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

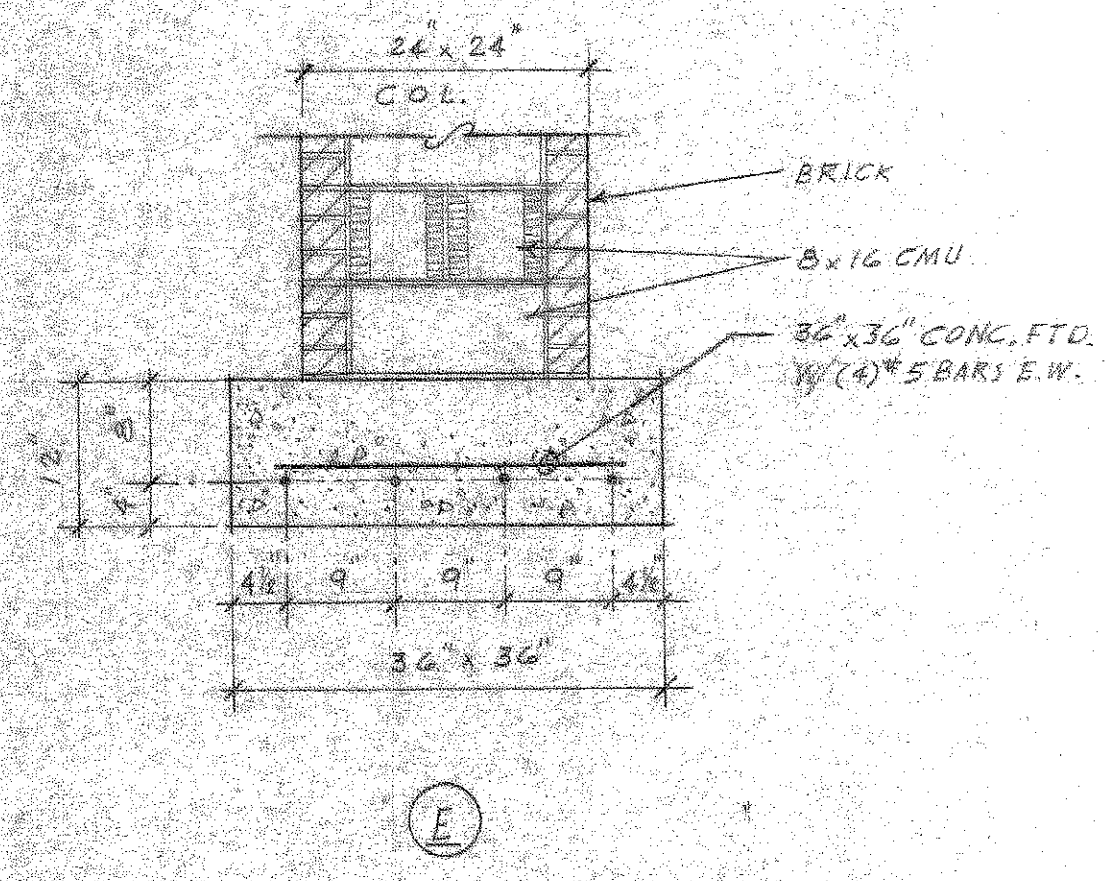
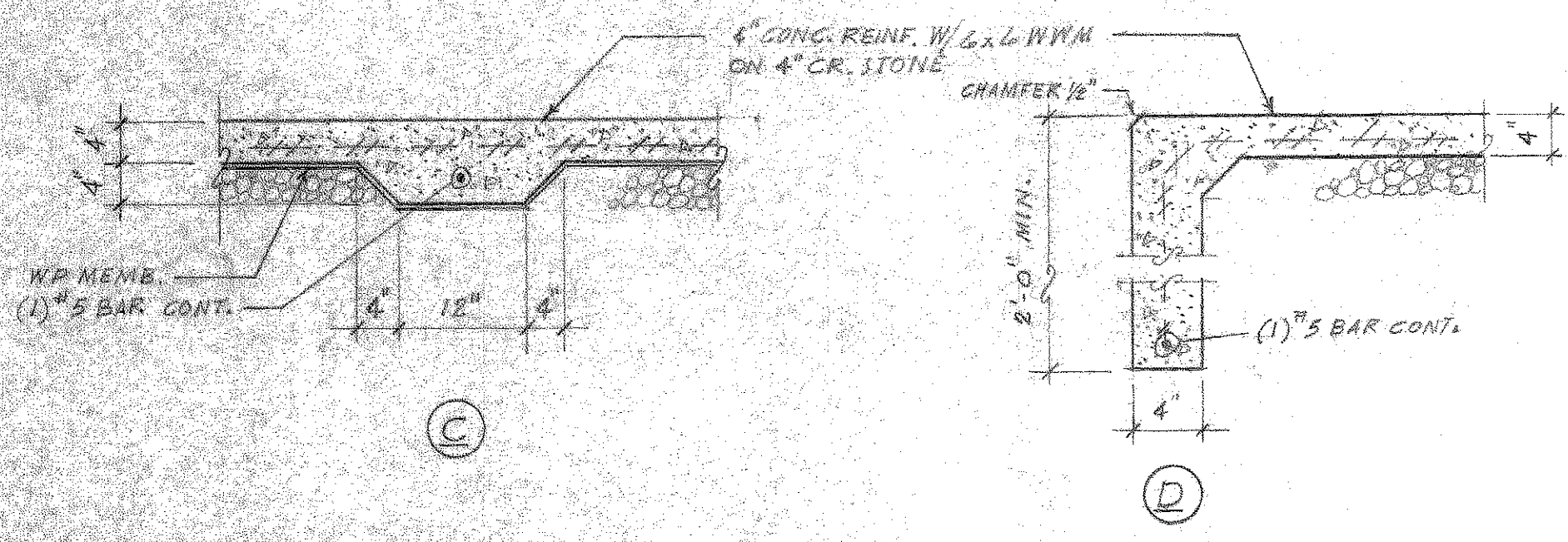
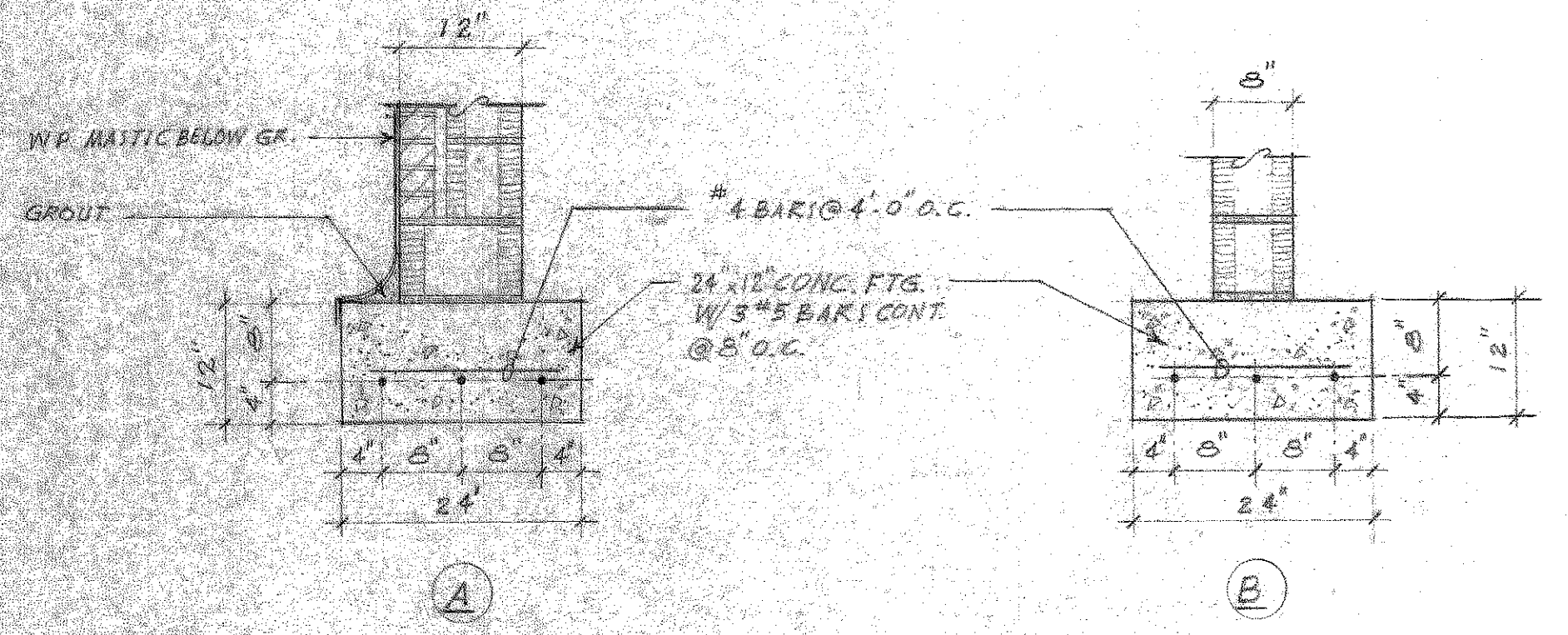
NOTE:
ALL SHELVING IN BASE AND WALL CABINETS TO BE ADJUSTABLE.
ALL COUNTER TOPS TO BE PLASTIC LAMINATE.

NO.	DATE	REVISIONS
1	7-17	
2		
3		
4		
5		

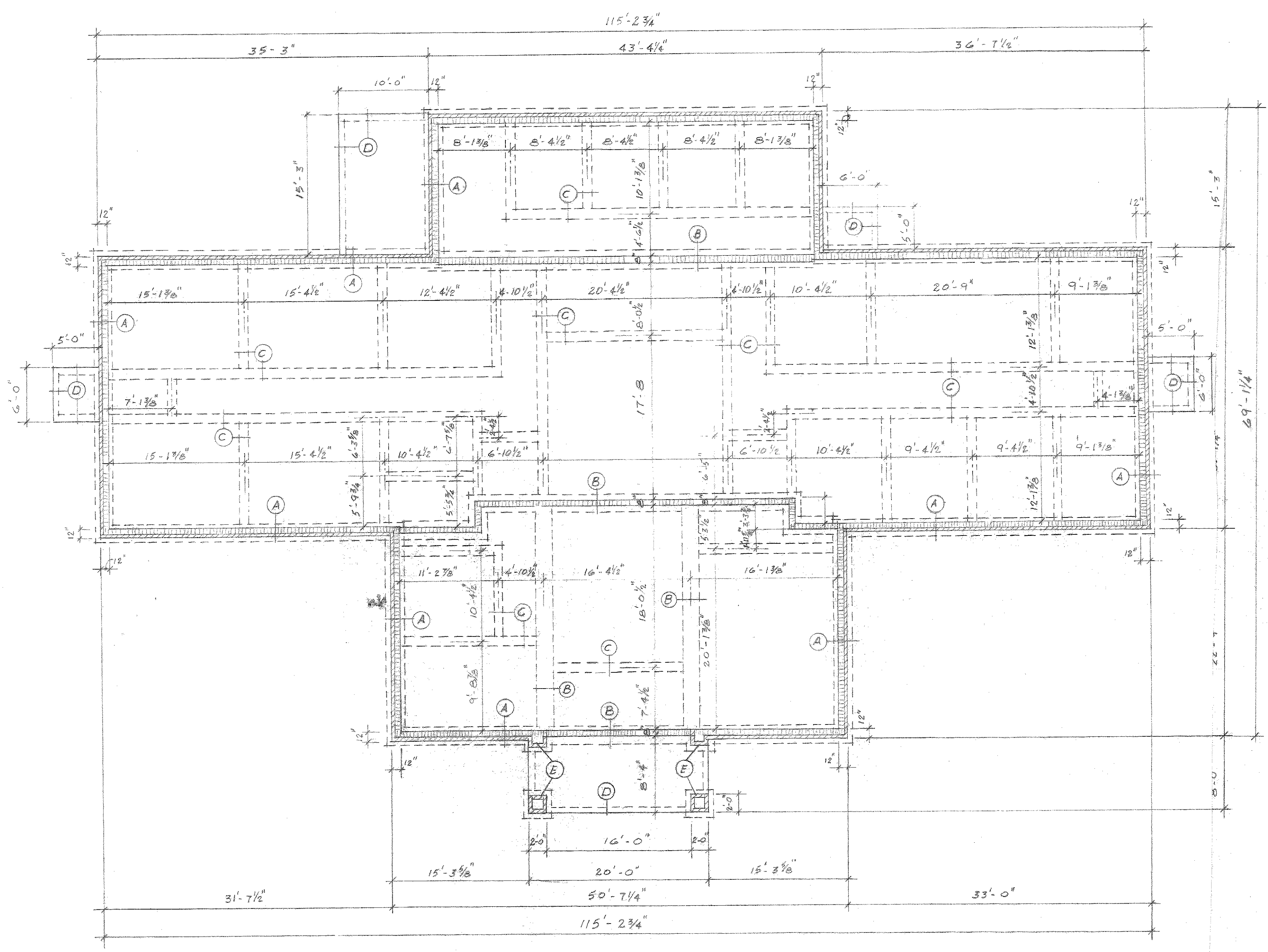
OFFICE BUILDING FOR
SPENCER BLYNN CPA, PC
STRUCTURAL DESIGN OF WALL
AND CEILING DETAILS

REVISIONS
DATE
DRAWN

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



CONC. FOOTING DETAILS
SCALE: 3/4" = 1'-0"



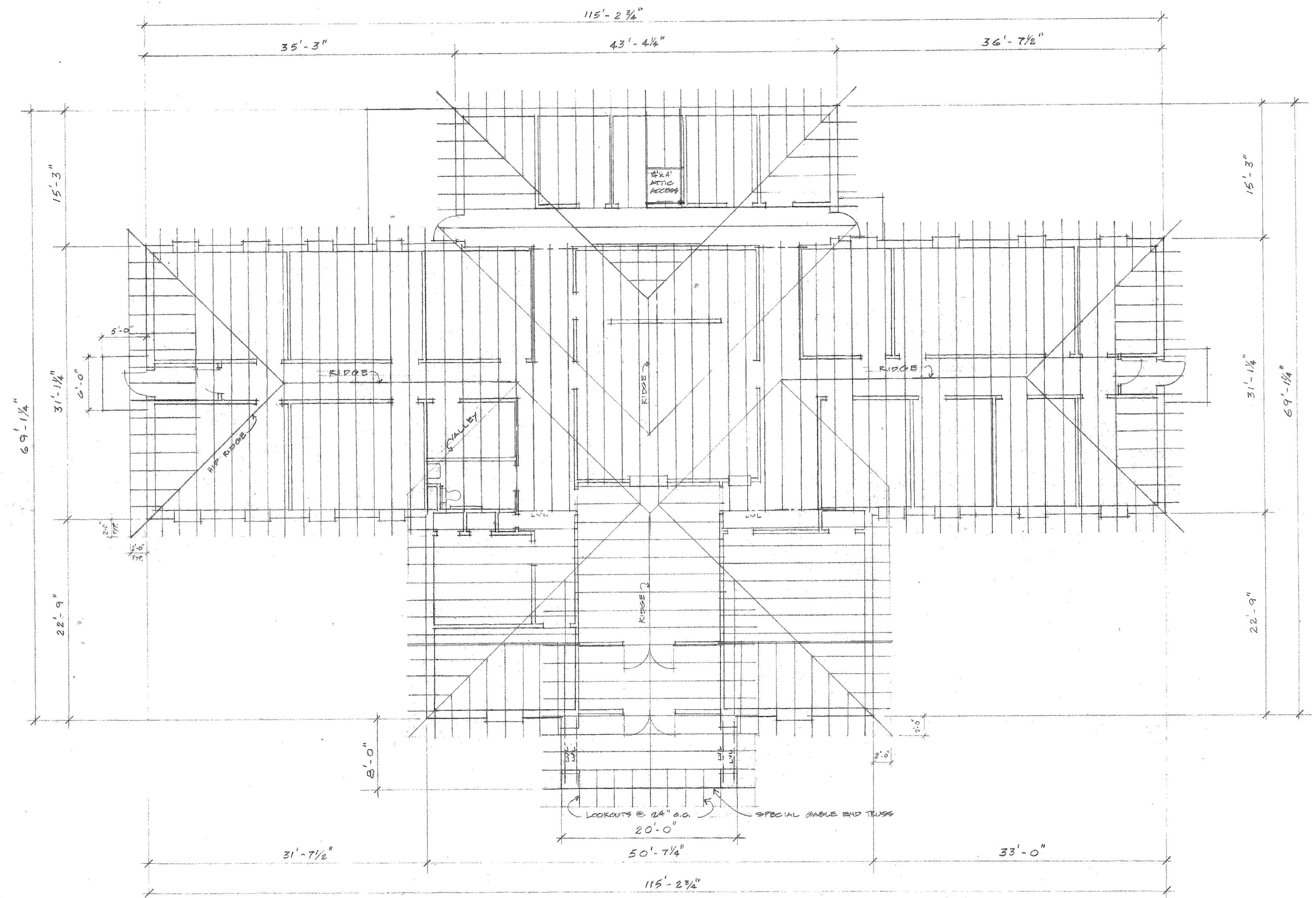
FOUNDATION PLAN
SCALE: 1/8" = 1'-0"

OFFICE BUILDING
 ARCHITECT
 C.P.A., P.C.
 K

STN C

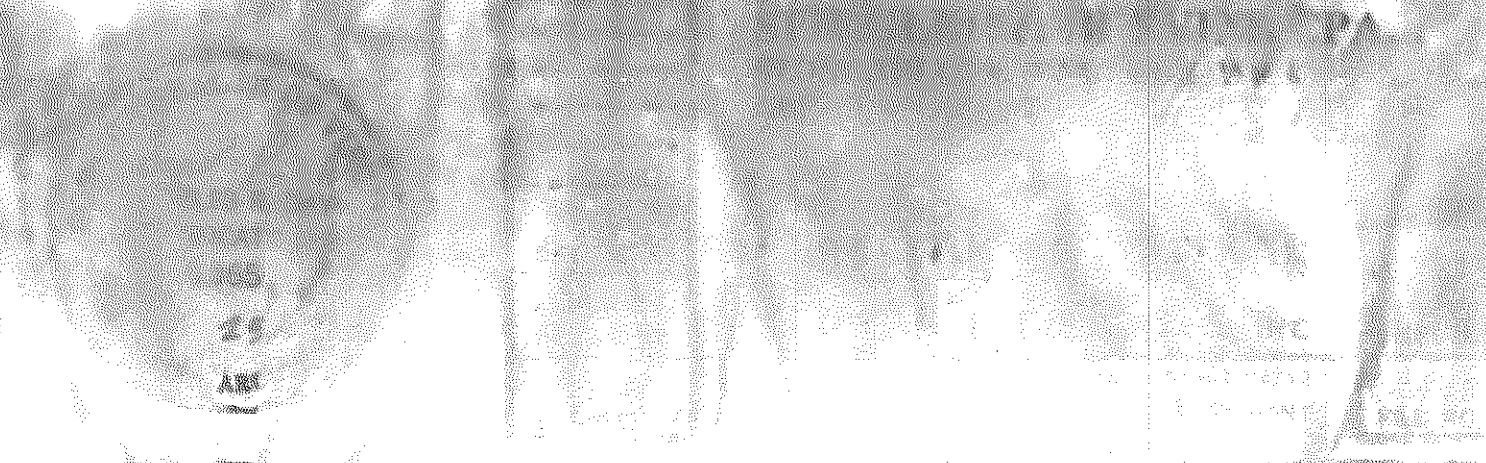
NOTES

1. ALL WOOD TRUSSED RAFTERS TO BE SPACED 24" O.C. MAXIMUM.
2. LOADS: 30 P.S.F. SNOW
10 P.S.F. TOP CHORD DEAD LOAD
10 P.S.F. BOTTOM CHORD DEAD LOAD
3. TRUSSED RAFTERS: SYP. NO. 1
4. BRACING STUDS: SYP. NO. 2
5. SOIL BEARING PRESSURE: 2,000 P.S.F.
6. CONCRETE STRENGTH AT 28 DAYS:
3,000 P.S.I. FOOTINGS
4,000 P.S.I. FLOOR SLAB
7. REINFORCING STEEL: ASTM A 615, GRADE 60
8. FRAMING LUMBER: GRADE MARKED, MOISTURE CONTENT 19%
AIR DRIED OR 15% KILN DRIED
9. SHOP DRAWINGS: SEALED BY A LICENSED VIRGINIA ENGINEER



ROOF FRAMING PLAN

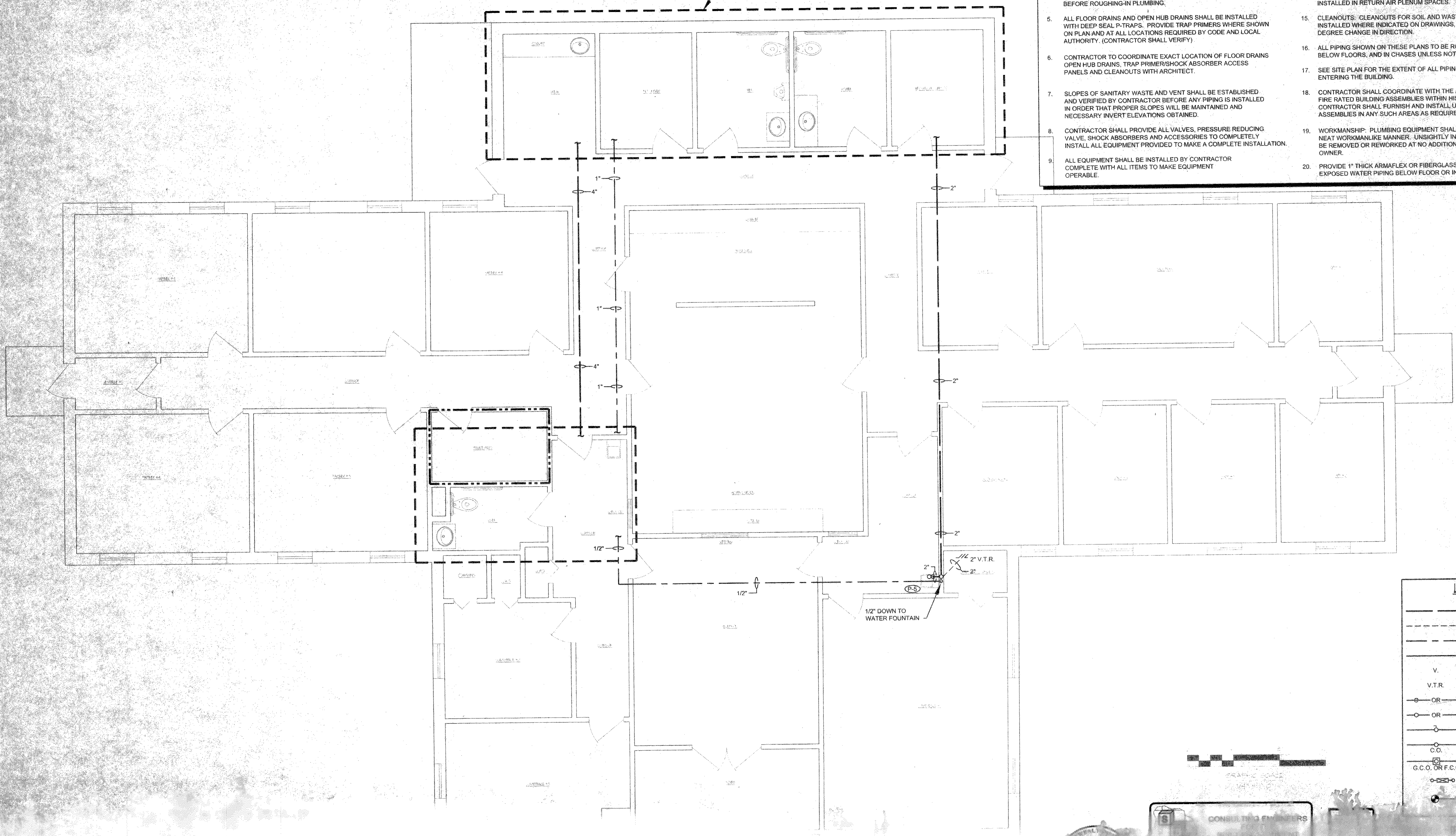
SCALE: 1/8" = 1'-0"



GENERAL PLUMBING NOTES

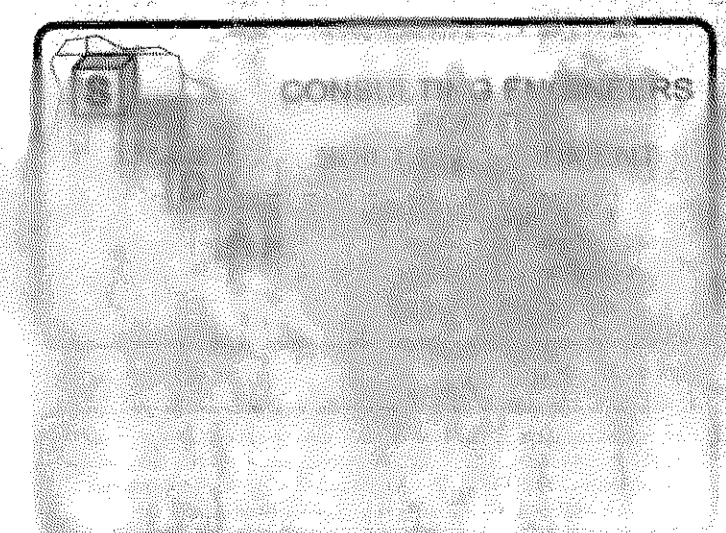
1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH APPLICABLE CITY, COUNTY AND STATE ORDINANCES AND CODE. THE CONTRACTOR SHALL MAKE ANY MINOR ADJUSTMENTS TO MEET THESE REQUIREMENTS AT NO ADDITIONAL COST TO THE OWNER.
2. MINIMUM FIXTURE SUPPLY PIPE SIZES SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE:
 LAVATORY AND SINK 1/2"
 WATER CLOSET (FLUSH TANK) 1/2"
 URINAL AND WALL HYDRANT 3/4"
3. PROVIDE WATER STOP VALVES AT EACH EQUIPMENT ITEM.
4. COORDINATE WITH APPROVED ARCHITECTURAL DRAWINGS BEFORE ROUGHING-IN PLUMBING.
5. ALL FLOOR DRAINS AND OPEN HUB DRAINS SHALL BE INSTALLED WITH DEEP SEAL P-TRAPS. PROVIDE TRAP PRIMERS WHERE SHOWN ON PLAN AND AT ALL LOCATIONS REQUIRED BY CODE AND LOCAL AUTHORITY. (CONTRACTOR SHALL VERIFY)
6. CONTRACTOR TO COORDINATE EXACT LOCATION OF FLOOR DRAINS OPEN HUB DRAINS, TRAP PRIMER/SHOCK ABSORBER ACCESS PANELS AND CLEANOUTS WITH ARCHITECT.
7. SLOPES OF SANITARY WASTE AND VENT SHALL BE ESTABLISHED AND VERIFIED BY CONTRACTOR BEFORE ANY PIPING IS INSTALLED IN ORDER THAT PROPER SLOPES WILL BE MAINTAINED AND NECESSARY INVERT ELEVATIONS OBTAINED.
8. CONTRACTOR SHALL PROVIDE ALL VALVES, PRESSURE REDUCING VALVE, SHOCK ABSORBERS AND ACCESSORIES TO COMPLETELY INSTALL ALL EQUIPMENT PROVIDED TO MAKE A COMPLETE INSTALLATION.
9. ALL EQUIPMENT SHALL BE INSTALLED BY CONTRACTOR COMPLETE WITH ALL ITEMS TO MAKE EQUIPMENT OPERABLE.
10. ALL VENTING OF FIXTURES SHALL COMPLY WITH ALL LOCAL CODES AND ORDINANCES.
11. PROVIDE P-TRAPS, STRAINER, ETC. WHERE REQUIRED.
12. USE DIELECTRIC UNIONS WHERE PIPE OF DIFFERENT METALS ARE JOINED.
13. MAKE PROPER HOT AND COLD WATER, WASTE, VENT, ETC. PIPING CONNECTIONS TO ALL FIXTURES AND EQUIPMENT EVEN THOUGH ALL BRANCH MAINS, ELBOWS, AND CONNECTIONS ARE NOT SHOWN.
14. PVC OR OTHER PLASTIC COMPOSITE PIPING SHALL NOT BE INSTALLED IN RETURN AIR PLENUM SPACES.
15. CLEANOUTS: CLEANOUTS FOR SOIL AND WASTE LINES SHALL BE INSTALLED WHERE INDICATED ON DRAWINGS, AND EVERY 90 DEGREE CHANGE IN DIRECTION.
16. ALL PIPING SHOWN ON THESE PLANS TO BE ROUTED ABOVE CEILINGS, BELOW FLOORS, AND IN CHASES UNLESS NOTED OTHERWISE.
17. SEE SITE PLAN FOR THE EXTENT OF ALL PIPING LEAVING AND ENTERING THE BUILDING.
18. CONTRACTOR SHALL COORDINATE WITH THE ARCHITECT ALL FIRE RATED BUILDING ASSEMBLIES WITHIN HIS WORK AREA. CONTRACTOR SHALL FURNISH AND INSTALL U.L. RATED FIRE-STOP ASSEMBLIES IN ANY SUCH AREAS AS REQUIRED BY CODE.
19. WORKMANSHIP: PLUMBING EQUIPMENT SHALL BE INSTALLED IN A NEAT WORKMANLIKE MANNER. UNSIGHTLY INSTALLATIONS SHALL BE REMOVED OR REWORKED AT NO ADDITIONAL EXPENSE TO THE OWNER.
20. PROVIDE 1" THICK ARMAFLEX OR FIBERGLASS INSULATION ON EXPOSED WATER PIPING BELOW FLOOR OR IN ATTIC.

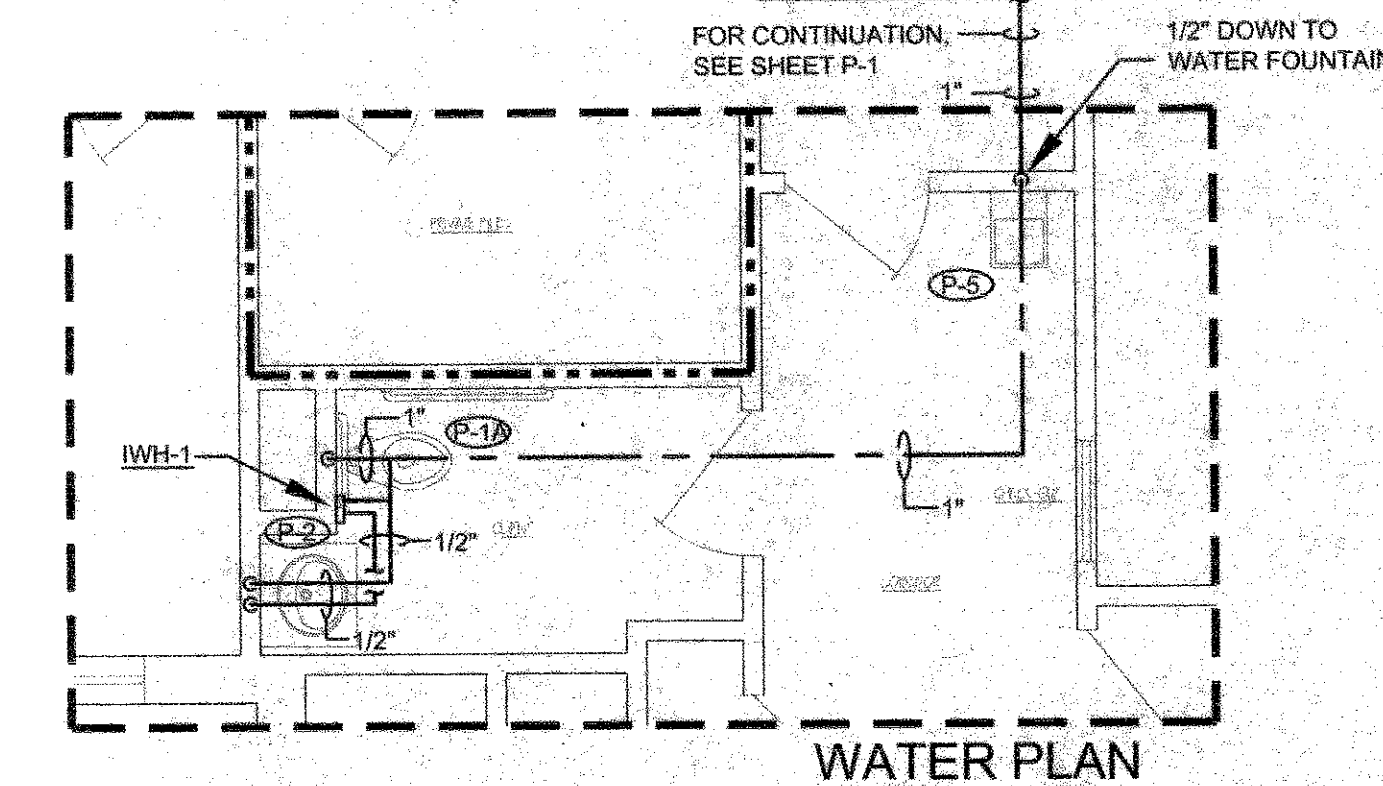
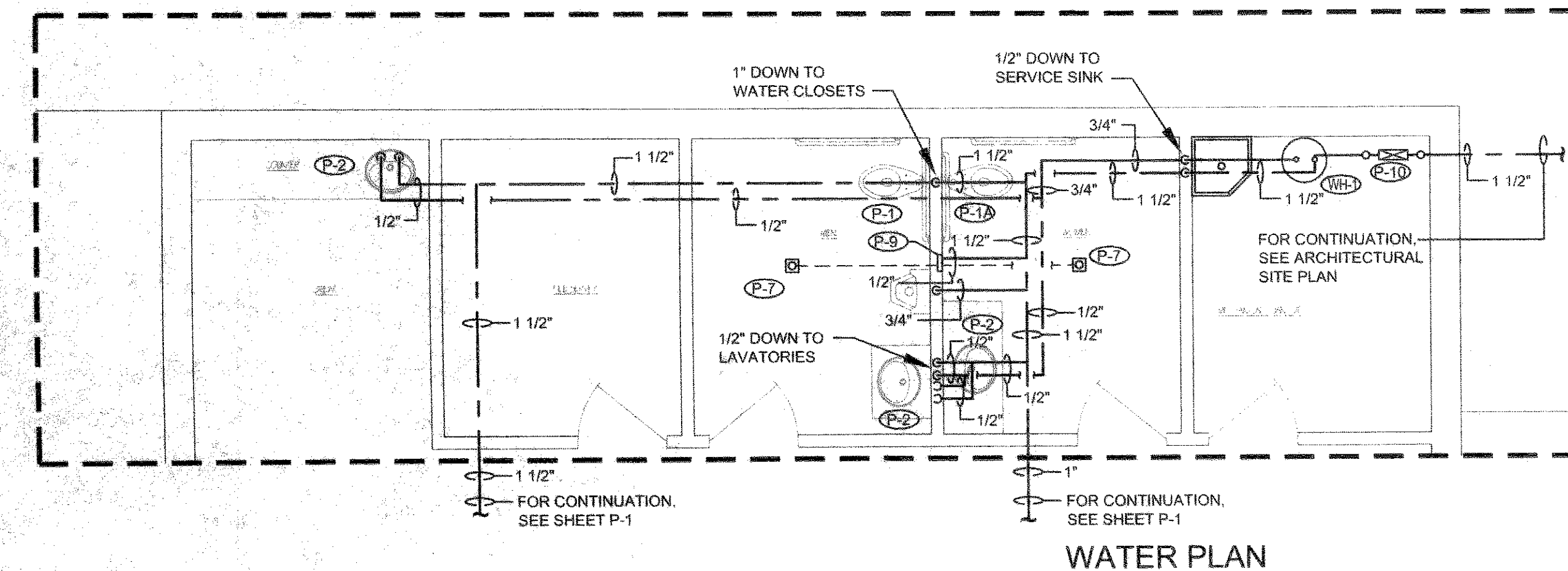
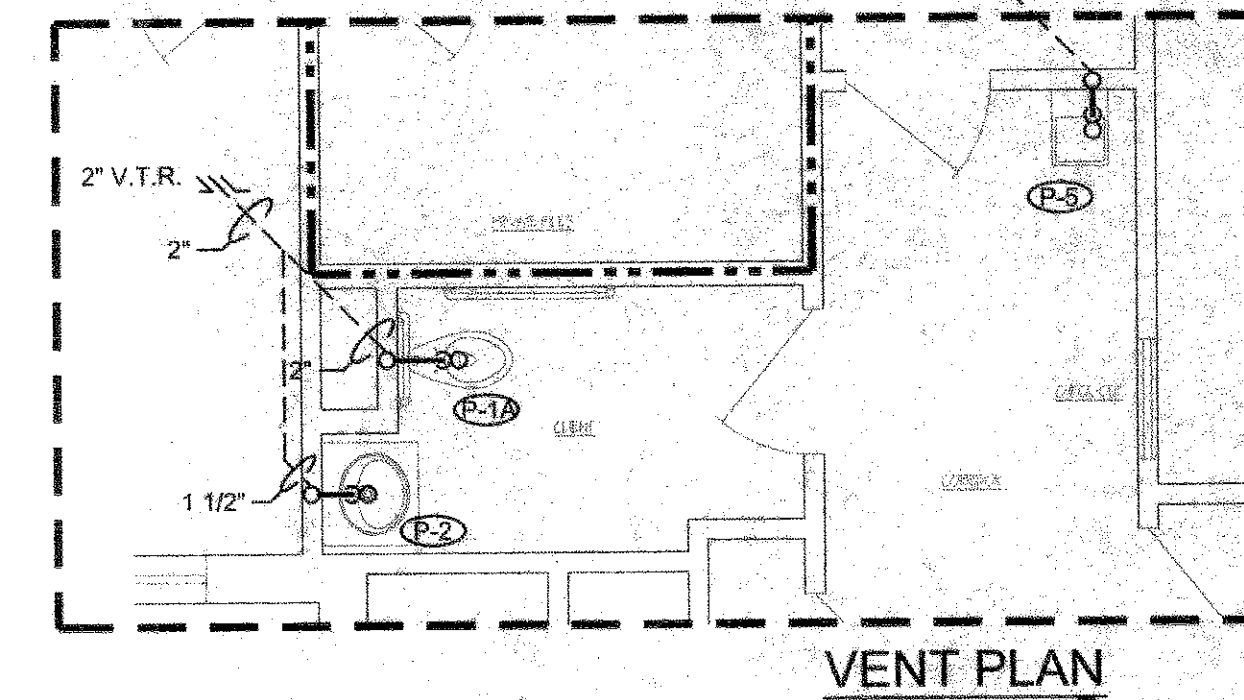
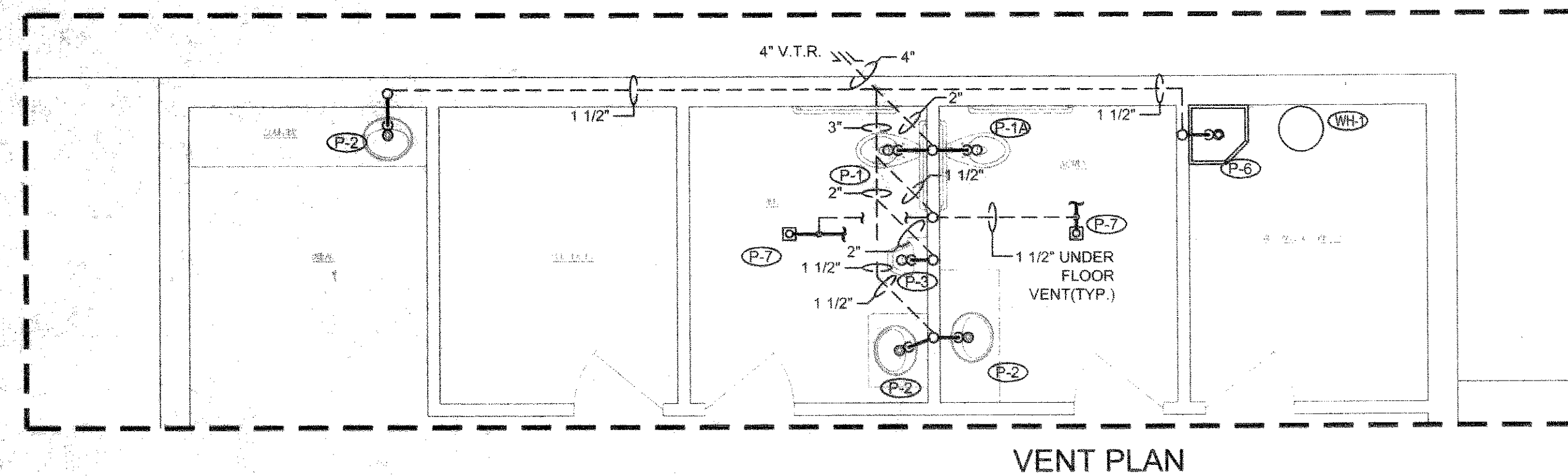
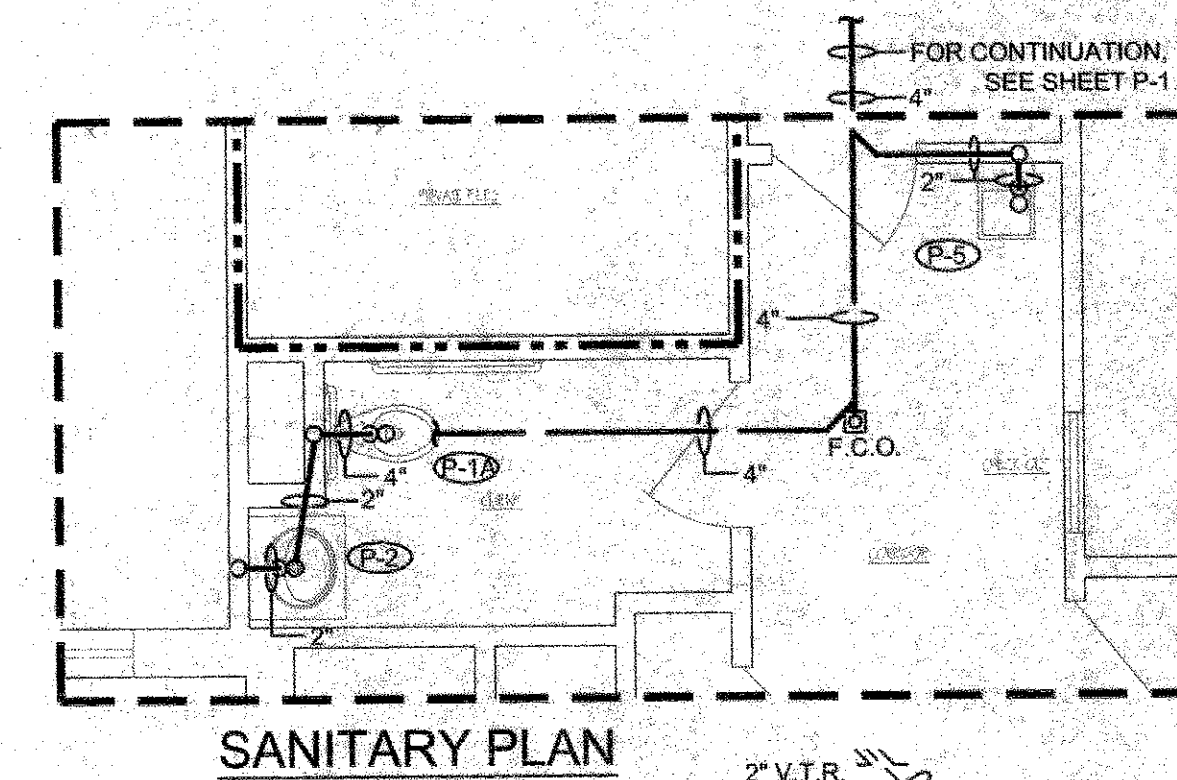
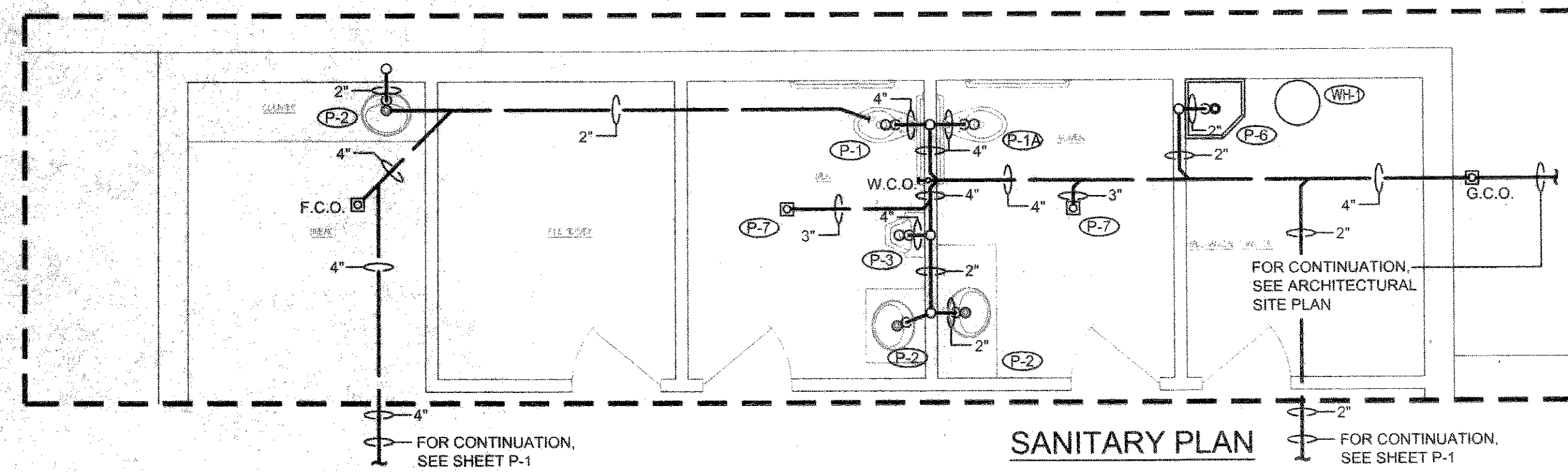
FOR WORK IN THIS AREA, SEE SHEET P-2



LEGEND

	SANITARY
	VENT
	COLD WATER
	HOT WATER
	VENT
	VENT THRU ROOF
	PIPE TURN DOWN
	PIPE TURN UP
	BALL SERVICE VALVE
	CLEANOUT
	GRADE CLEANOUT OR FLOOR CLEANOUT
	BACKFLOW PREVENTER
	POINT OF CONNECTION (NEW TO EXISTING)



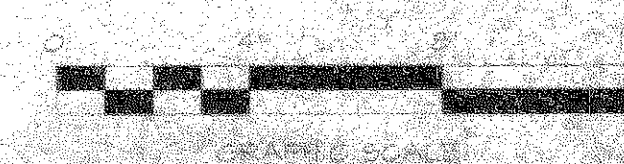


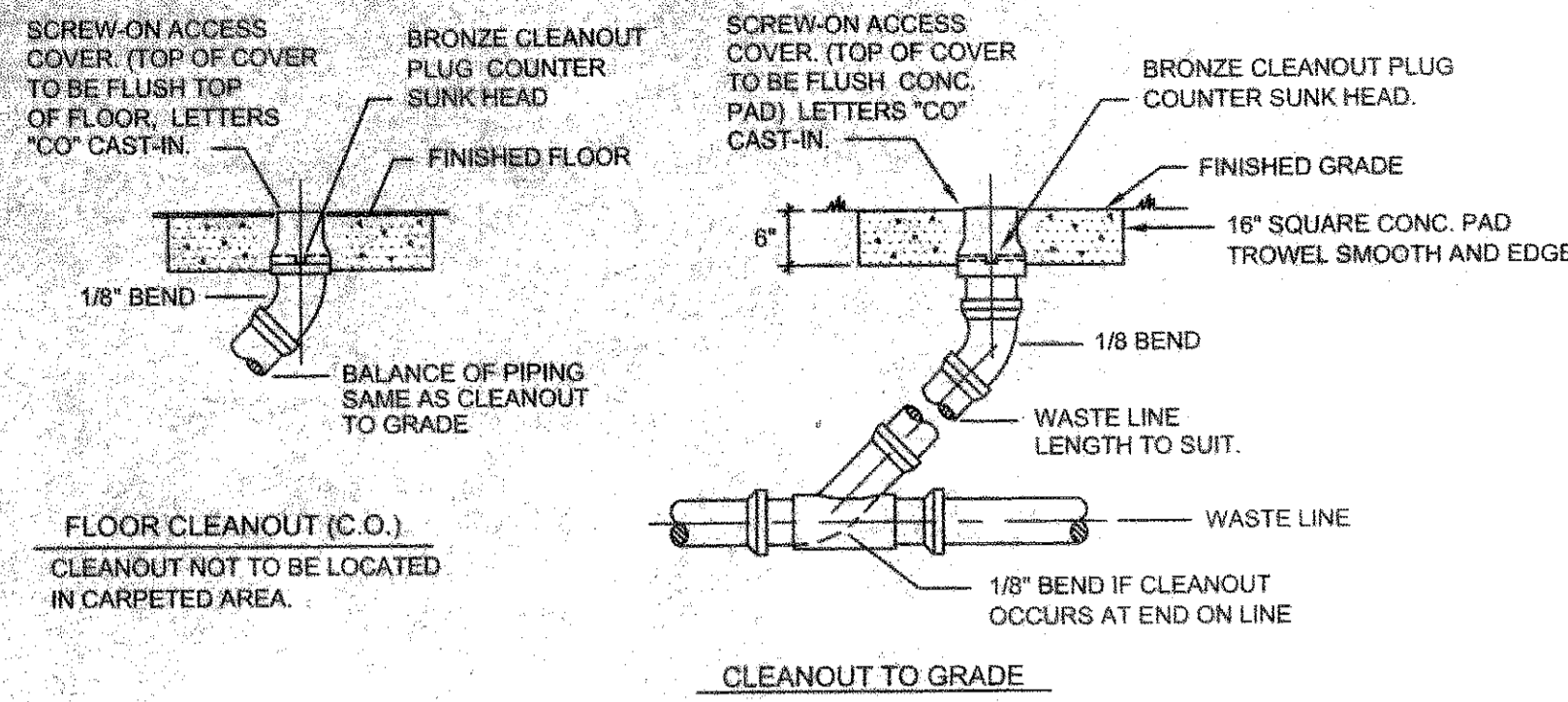
PLUMBING FIXTURE SCHEDULE

(ALL NUMBERS ARE AMERICAN STANDARD UNLESS NOTED OTHERWISE)
PLUMBING FIXTURES AND ALL ACCESSORIES REQUIRED SHALL BE COORDINATED AND VERIFIED WITH THE ARCHITECT

P-1	WATER CLOSET (H.C.) (RIGHT-HANDED)	SEAT SUPPLY	2998.012 "CADET" ELONGATED FLOOR MOUNTED TANK TYPE, 16-1/2" HIGH, 1.6 GALLON FLUSH 295Q CHURCH OPEN FRONT SEAT LESS COVER Z-8804-CR "ZURN" CHROME PLATED BRASS ANGLE STOP WHEEL WITH HANDLE AND CHROME PLATED COPPER RISER
P-1A	WATER CLOSET (H.C.) (LEFT-HANDED)	SEAT SUPPLY	2998.012 "CADET" ELONGATED FLOOR MOUNTED TANK TYPE, 16-1/2" HIGH, 1.6 GALLON FLUSH 295Q CHURCH OPEN FRONT SEAT LESS COVER Z-8804-CR "ZURN" CHROME PLATED BRASS ANGLE STOP WHEEL WITH HANDLE AND CHROME PLATED COPPER RISER
P-2	LAVATORY (H.C.) FAUCET	GRID DRAIN P-TRAP SUPPLY	0476.028 "ACUALYN" WITH 4" CENTERS S-20 SYMMONS CHROME PLATED FAUCET WITH SINGLE LEVER AND 0.5 GPM VANDAL RESISTANT AERATOR Z-8743 "ZURN", 1-1/4" 17 GA. CHROME PLATED BRASS Z-8700 "ZURN" 1-1/4" CHROME PLATED CAST BRASS 17 GAUGE, DIE CAST NUTS, CLEANOUTS AND ESCUTCHEON Z-8604-LR "ZURN" CHROME PLATED BRASS ANGLE STOPS AND 12" FLEXIBLE CHROME PLATED COPPER RISERS
NOTE: PROVIDE INSTITUTIONAL A.D.A. COMPLIANT INSULATORS FOR EXPOSED WASTE, HOT AND COLD WATER. HOT AND COLD WATER STOP/SUPPLIES AND TRAP INSULATOR KIT BY ZURN INDUSTRIES, INC.			
P-3	URINAL (H.C.) VALVE CARRIER		6561.017 "TRIMBROOK 1.0" ZEMS-8001AV-W/S1 "ZURN" HARD-WIRED AUTOMATIC SENSOR ZURN WALL CARRIER
P-4	WALL HYDRANT		Z-1321 "ZURN" ANTI-SIPHON AUTOMATIC DRAINING WALL HYDRANT COMPLETE WITH NON-FREEZE INTEGRAL BACKFLOW PREVENT, COPPER CASING, ALL BRONZE INTERNAL PARTS, 1/2 TURN CERAMIC DISC CARTRIDGE, STAINLESS STEEL FACE PLATE WITH OPERATING KEY LOCK.
P-5	ELECT. WATER COOLER (H.C.) P-TRAP	SUPPLY CARRIER	PRAM "OASIS" WALL HUNG, MOUNT CENTERLINE NOZZLE AT 36" A.F.F. Z-8700 "ZURN" 1-1/4" CHROME PLATED CAST BRASS, 17 GA. DIE CAST NUTS, CLEANOUT, AND ESCUTCHEON Z-8604-LR "ZURN" CHROME PLATED BRASS ANGLE STOPS AND 12" CHROME PLATED COPPER RISERS, ZURN WALL CARRIER
P-6	SERVICE BASIN FAUCET		SBC-1700 "STERN WILLIAMS" 24"x24"x12" WITH STAINLESS STEEL CAP ON THRESHOLD AND BP-3-24 S.S. WALL GUARD 287B DELTA WITH VACUUM BREAKER, INTEGRAL STOPS, PAIL HOOK
P-7	FLOOR DRAIN		T-35 "STERN WILLIAMS" 3/8" RUBBER HOSE AND BRACKET ZN-415P "ZURN" FLOOR DRAIN, DURA-COATED IRON BODY WITH BOTTOM OUTLET, COMBINATION INVERTIBLE MEMBRANE CLAMP AND ADJUSTABLE COLLAR WITH TYPE S ¹ POLISHED, NICKLE BRONZE STRAINER. (PROVIDE AND INSTALL TRAP PRIMER)
P-8	WATER HAMMER ARRESTER		Z-1700 "ZURN" PDI LISTED SIZES PER DRAWINGS
P-9	TRAP PRIMER		PRECISION PLUMBING PRODUCTS, TRAP PRIMER DISTRIBUTION UNIT COMPLETE WITH TRAP PRIMER VALVE AND DISTRIBUTION UNIT. UNIT TO BE COMPLETE WITH MINIMUM 12x12 ACCESS DOOR.
P-10	BACKFLOW PREVENTER AND PRV (MAIN ENTRANCE)		1 1/2" 909NRS "WATTS" REDUCED PRESSURE BACKFLOW PREVENTER WITH AIR GAP AND EPOXY COATED Y-STRAINER, 1 1/2" SERIES 223 "WATTS" FLANGED PRESSURE REDUCING VALVE

NOTE: HANDICAPPED UNITS TO BE MOUNTED CONFORMING TO CURRENT ADA GUIDELINES FOR ACCESSIBILITY.

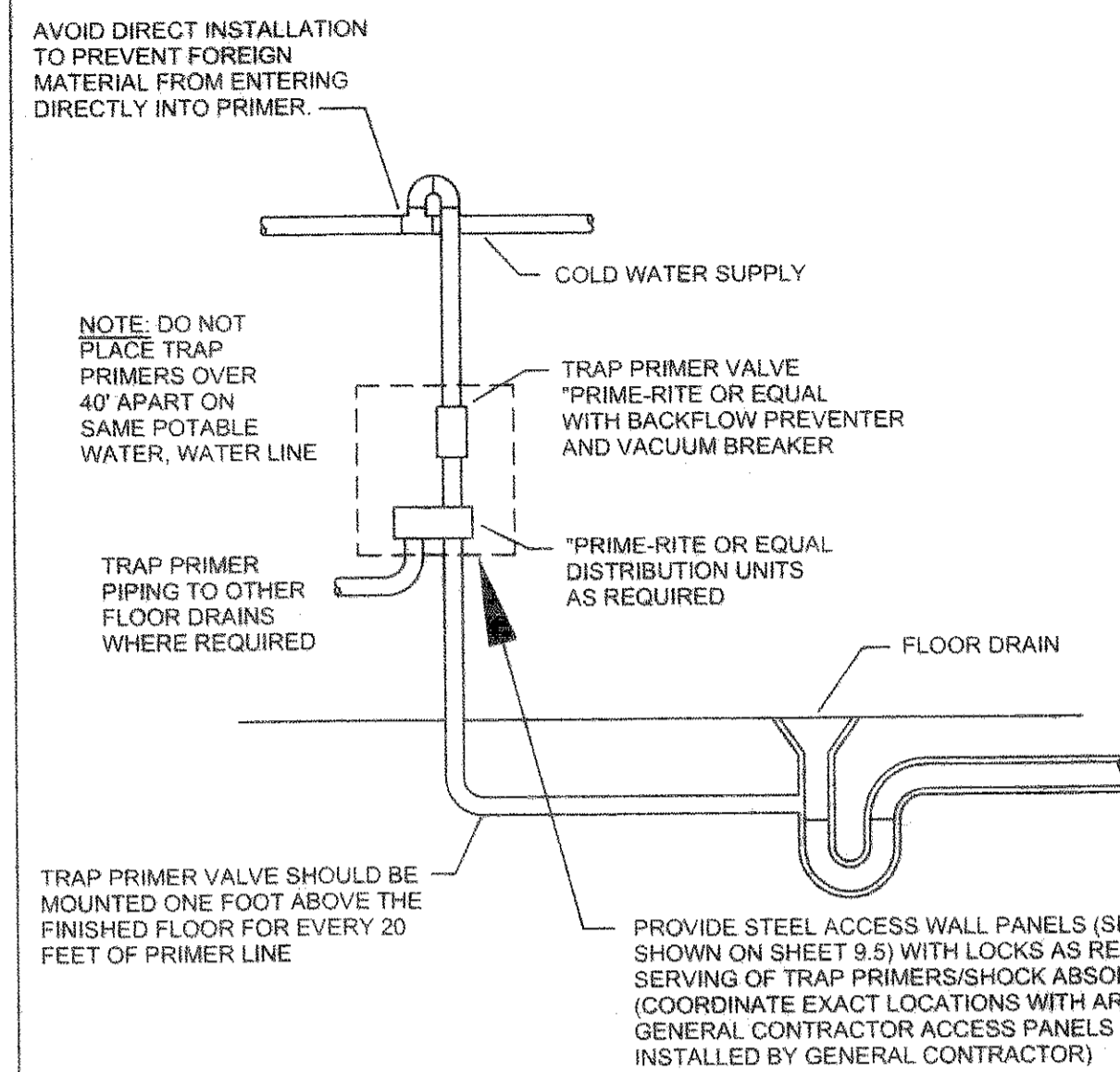




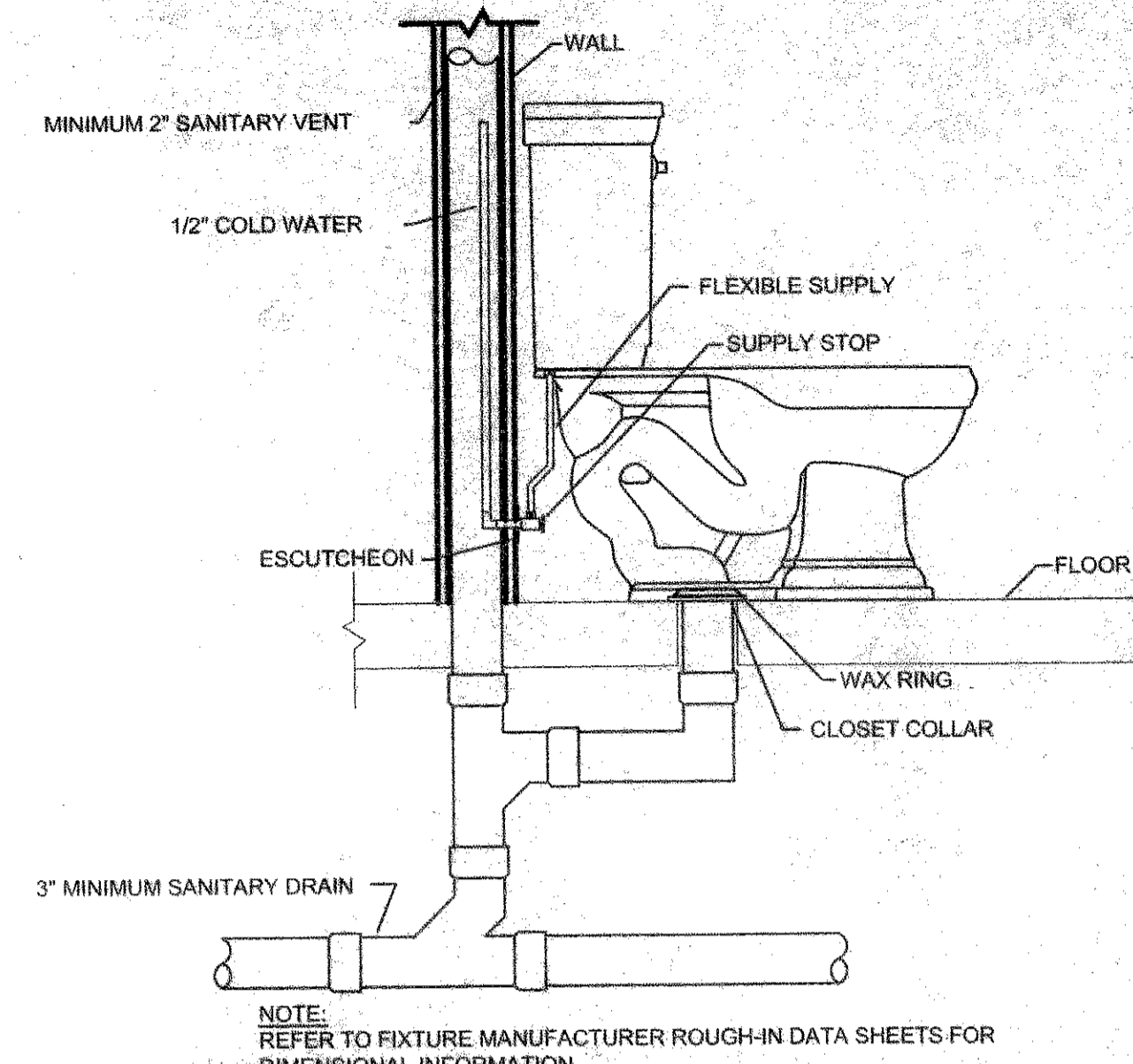
CLEANOUT DETAIL
NOT TO SCALE

CLEANOUT SCHEDULE
(ZURN IS LISTED)

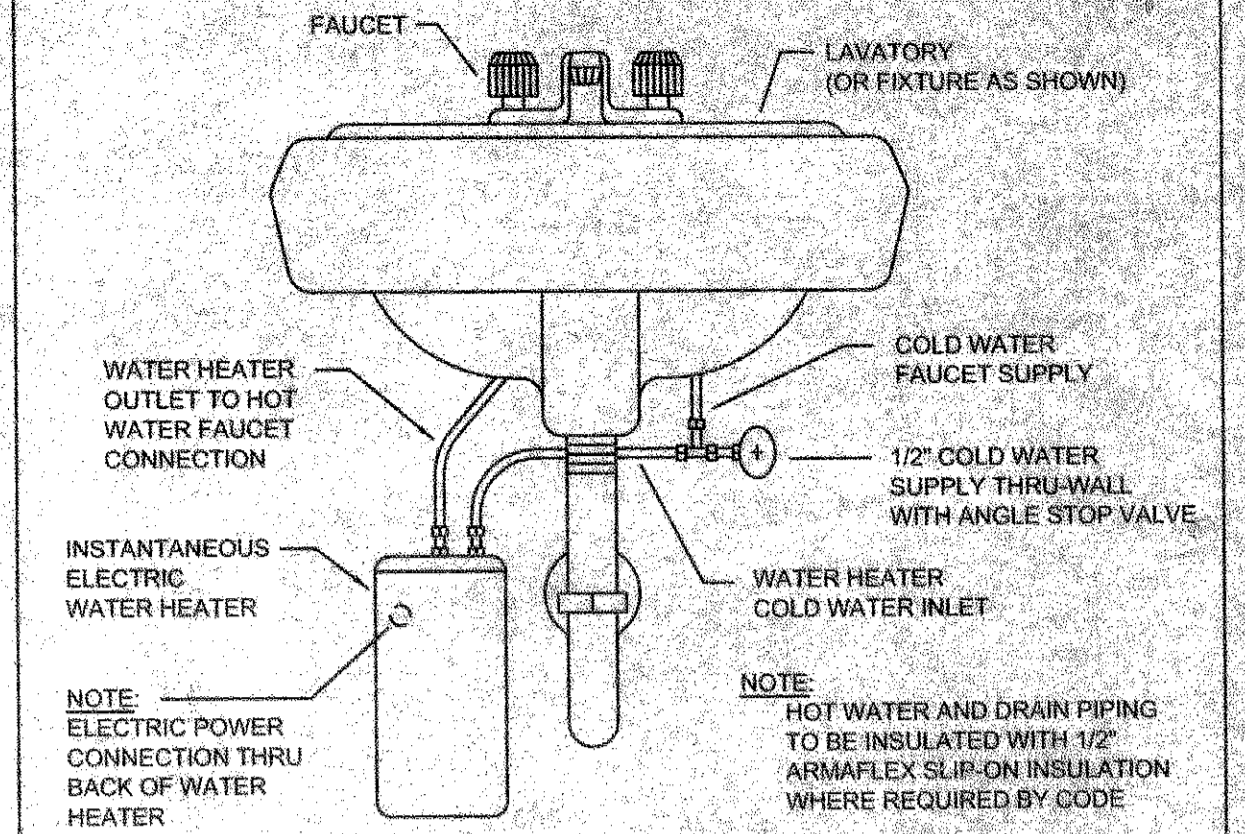
- (1) EXTERIOR (NON-VEHICULAR TRAFFIC AREA) Z-1400 CAST IRON BODY AND ROUND COVER, NEO-LOC NEOPRENE GASKET PIPE CONNECTION
- (2) EXTERIOR (VEHICULAR TRAFFIC AREA) Z-1400HD CAST IRON BODY AND ROUND HEAVY DUTY COVER, NEO-LOC NEOPRENE GASKET PIPE CONNECTION
- (3) INTERIOR (FINISHED CONCRETE FLOORS) ZN-1400 CAST IRON BODY AND ROUND NICKEL BRONZE COVER, NEO-LOC NEOPRENE GASKET CONNECTION
- (4) INTERIOR (CERAMIC TILE FLOORS) ZN-1400-T CAST IRON BODY AND SQUARE NICKEL BRONZE COVER, NEO-LOC NEOPRENE GASKET PIPE CONNECTION
- (5) INTERIOR (RESILIENT TILE FLOORS) ZN-1400-X CAST IRON BODY AND SQUARE NICKEL BRONZE COVER, NEO-LOC NEOPRENE GASKET PIPE CONNECTION
- (6) NOTE: USE CLAMPING DEVICE ON CLEANOUTS THAT OCCUR IN FLOORS HAVING WATERPROOF MEMBRANE.



TRAP PRIMER CONNECTION DETAIL (P-9)
NOT TO SCALE



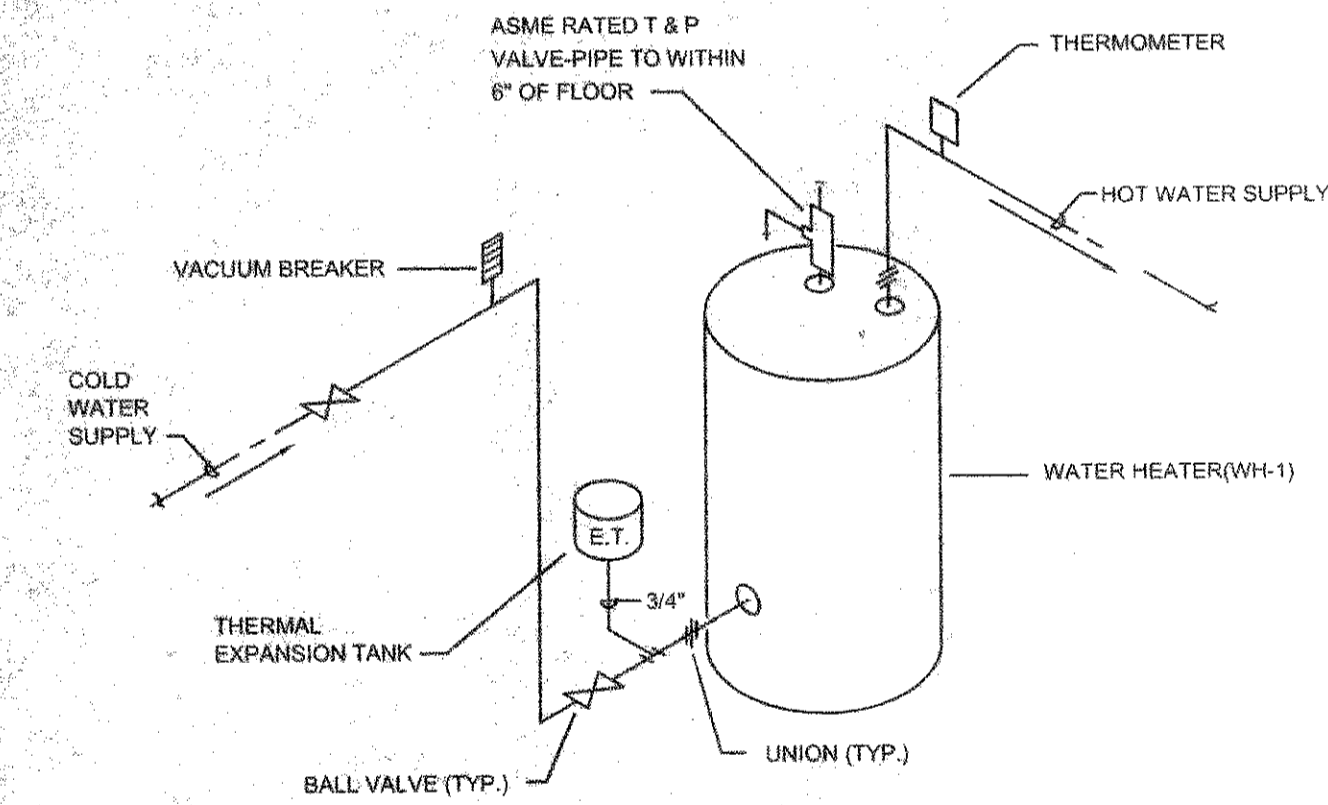
TYPICAL FLUSH TANK TOILET DETAIL (P-1, 1A)
NOT TO SCALE



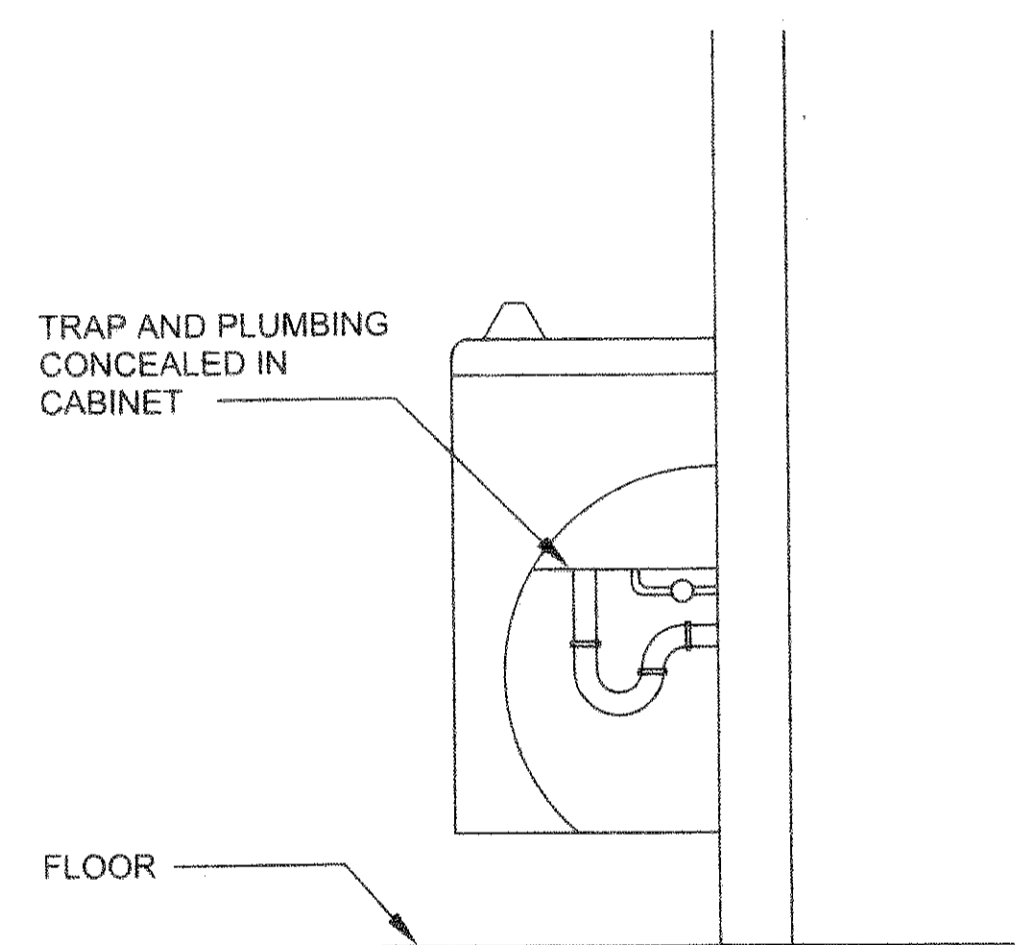
ELECTRIC INSTANTANEOUS WATER HEATER DETAIL (IWH-1)
NOT TO SCALE

FIXTURE CONNECTION SCHEDULE

P* NO.	DESCRIPTION	H.W.	C.W.	TRAP	WASTE	VENT
P-1	WATER CLOSET (H.C.)	-	1/2"	4"	4"	2"
P-1A	WATER CLOSET (H.C.)	-	1/2"	4"	4"	2"
P-2	LAVATORY (H.C.) (COUNTER)	1/2"	1/2"	1 1/4"	2"	1 1/2"
P-3	URINAL (H.C.)	-	3/4"	2"	4"	2"
P-4	WALL HYDRANT	-	3/4"	-	-	-
P-5	ELEC. WATER COOLER (H.C.)	-	1/2"	1 1/4"	2"	1 1/2"
P-6	SERVICE BASIN	1/2"	1/2"	2"	2"	1 1/2"
P-7	FLOOR DRAIN	-	1/2"	4"	4"	1 1/2"
P-8	WATER HAMMER ARRESTER	-	-	-	-	-
P-9	TRAP PRIMER	-	1/2"	-	-	-
P-10	BACKFLOW PREVENTER	-	1 1/2"	-	-	-



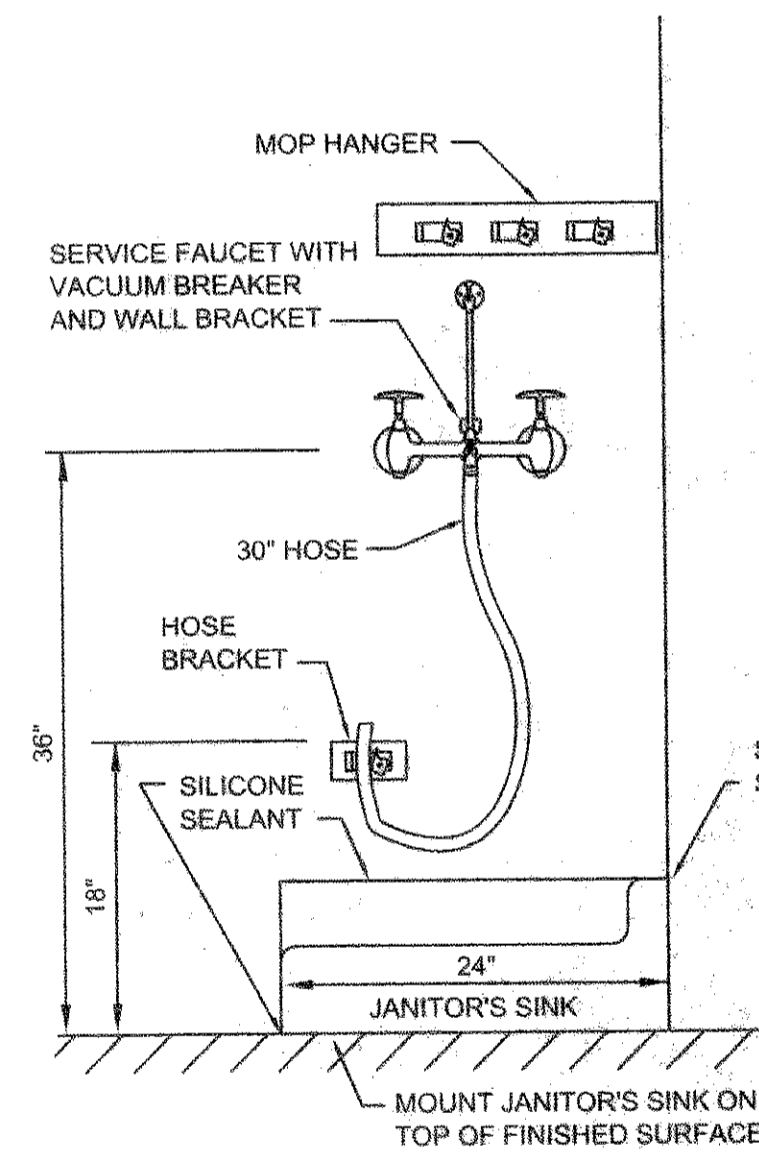
WATER HEATER PIPING DIAGRAM (WH-1)
NOT TO SCALE



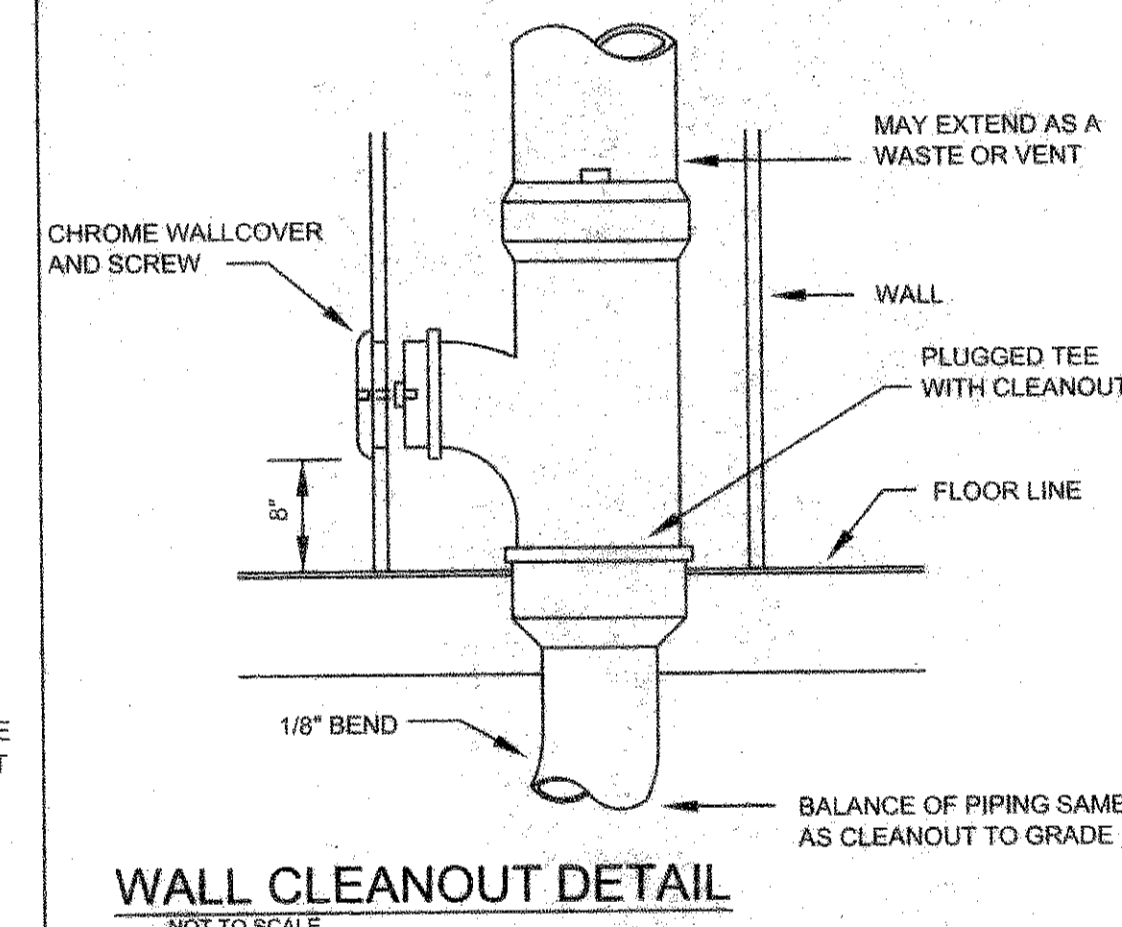
NOTES:
1. INSTALL ACCORDING TO MANUFACTURER'S INSTRUCTIONS.

WALL-HUNG DRINKING WATER COOLER (P-8)

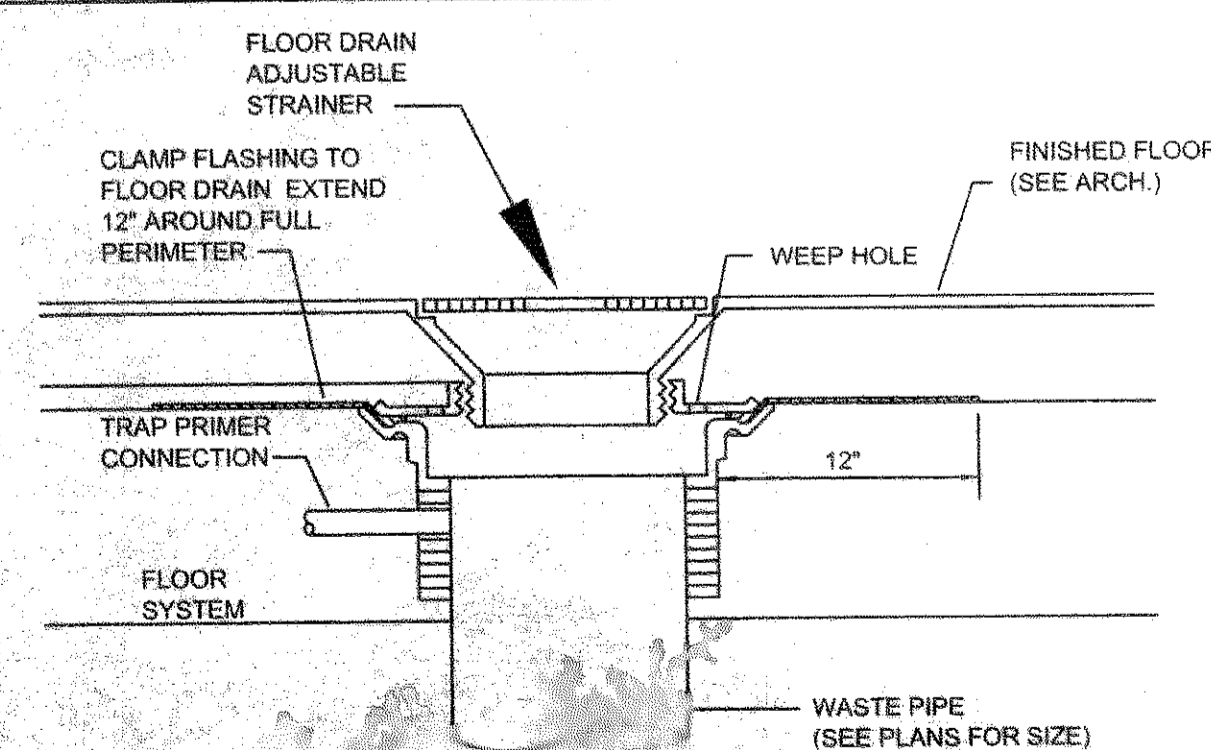
NOT TO SCALE



SERVICE SINK DETAIL (P-6)
NOT TO SCALE



WALL CLEANOUT DETAIL
NOT TO SCALE



TYPICAL FLOOR DRAIN DETAIL (P-7)

WATER HEATER SCHEDULE (WH-1)(QTY: 1)

HEATER NO.	GAL CAP.	GAS B.T.U. INPUT	VOLTAGE	KW	RECOVERY @ 100' RISE	MANUFACTURER AND MODEL NO.	LOCATION	EXPANSION TANK(ET-1)	
								MFR. & MODEL #	CAPACITY
WH-1	30	N/A	208/1	2@4.5	18 GPH	STATE PV-30-20RT	(SEE PLAN)	STATE ETC-5X	4.55

INSTANTANEOUS WATER HEATER SCHEDULE (IWH-1)

MARK	MANUFACTURER & MODEL NO.	WATER TEMPERATURE		CAP. MBH	GPM	WATER PD	MAX VEL FPS	VOLTAGE	KW	LOCATION
		ENT.	LV.							
* IWH-1	EEMAX MODEL SP-3208	55°	110°	-	0.5	-	-	208/1	3.0	BREAKROOM(103)

* INSTANTANEOUS WATER HEATER TO BE SET AT 110°

GRILLES, REGISTERS, AND DIFFUSERS SCHEDULE

15910-1

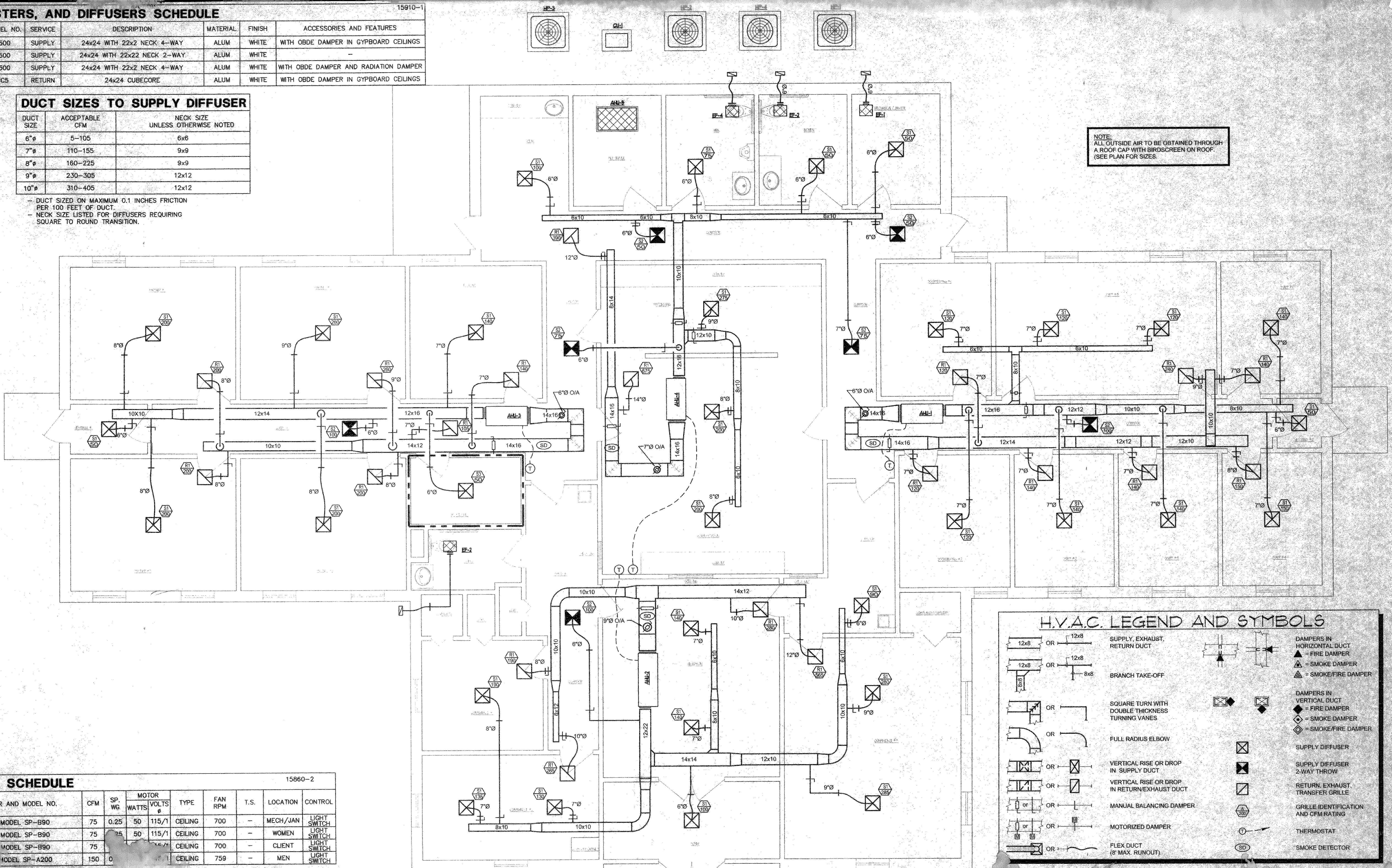
MARK	MANUFACTURER AND MODEL NO.	SERVICE	DESCRIPTION	MATERIAL	FINISH	ACCESSORIES AND FEATURES
S1	METAL-AIRE MODEL 5500	SUPPLY	24x24 WITH 22x22 NECK 4-WAY	ALUM	WHITE	WITH OBDE DAMPER IN GYPBOARD CEILINGS
S2	METAL-AIRE MODEL 5500	SUPPLY	24x24 WITH 22x22 NECK 2-WAY	ALUM	WHITE	---
S3	METAL-AIRE MODEL 5500	SUPPLY	24x24 WITH 22x22 NECK 4-WAY	ALUM	WHITE	WITH OBDE DAMPER AND RADIATION DAMPER
R1	METAL-AIRE MODEL CCS	RETURN	24x24 CUBECORE	ALUM	WHITE	WITH OBDE DAMPER IN GYPBOARD CEILINGS

DUCT SIZES TO SUPPLY DIFFUSER

DUCT SIZE	ACCEPTABLE CFM	NECK SIZE UNLESS OTHERWISE NOTED
6"ø	5-105	6x6
7"ø	110-155	9x9
8"ø	160-225	9x9
9"ø	230-305	12x12
10"ø	310-405	12x12

- DUCT SIZED ON MAXIMUM 0.1 INCHES FRICTION PER 100 FEET OF DUCT.
 - NECK SIZE LISTED FOR DIFFUSERS REQUIRING SQUARE TO ROUND TRANSITION.

NOTE: ALL OUTSIDE AIR TO BE OBTAINED THROUGH A ROOF CAP WITH BIRDSCREEN ON ROOF. (SEE PLAN FOR SIZES.)

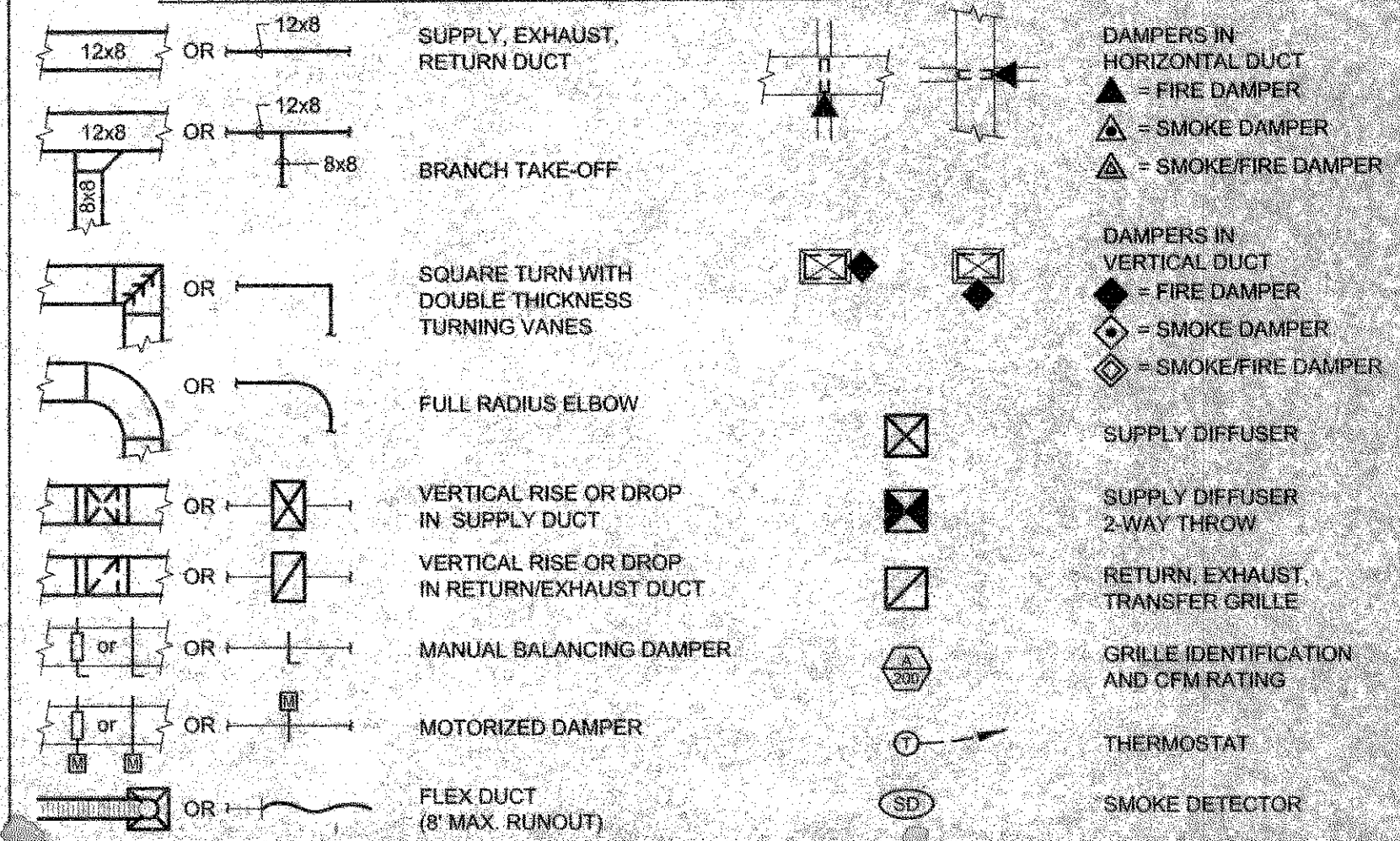


EXHAUST FAN SCHEDULE

15860-2

MARK	MANUFACTURER AND MODEL NO.	CFM	SP. WG	MOTOR		TYPE	FAN RPM	T.S.	LOCATION	CONTROL
				WATTS	VOLTS ø					
EF-1	GREENHECK MODEL SP-B90	75	0.25	50	115/1	CEILING	700	-	MECH/JAN	LIGHT SWITCH
EF-2	GREENHECK MODEL SP-B90	75	0.25	50	115/1	CEILING	700	-	WOMEN	LIGHT SWITCH
EF-3	GREENHECK MODEL SP-B90	75	0.25	50	115/1	CEILING	700	-	CLIENT	LIGHT SWITCH
EF-4	GREENHECK MODEL SP-A200	150	0.5	100	115/1	CEILING	750	-	MEN	LIGHT SWITCH

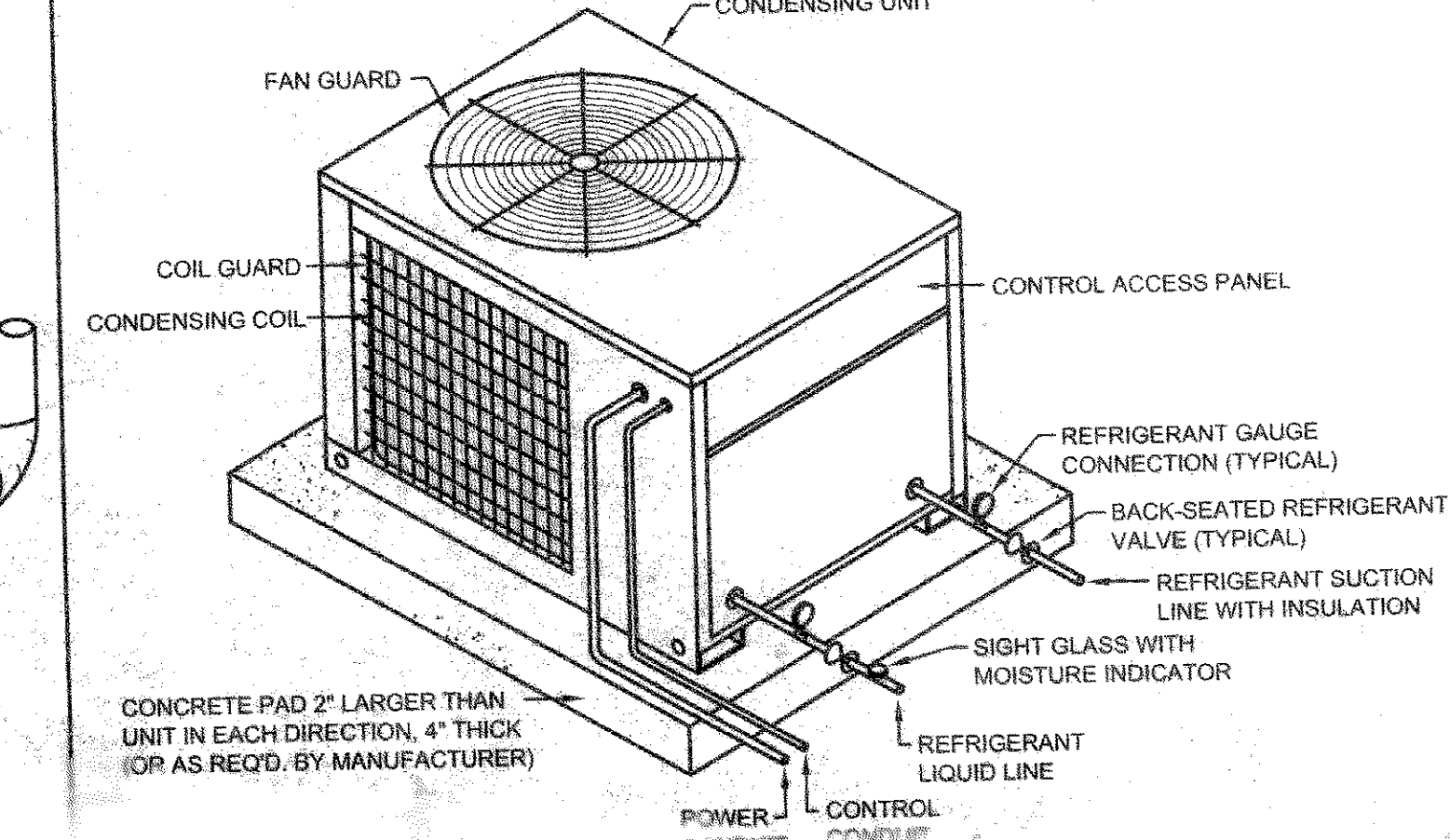
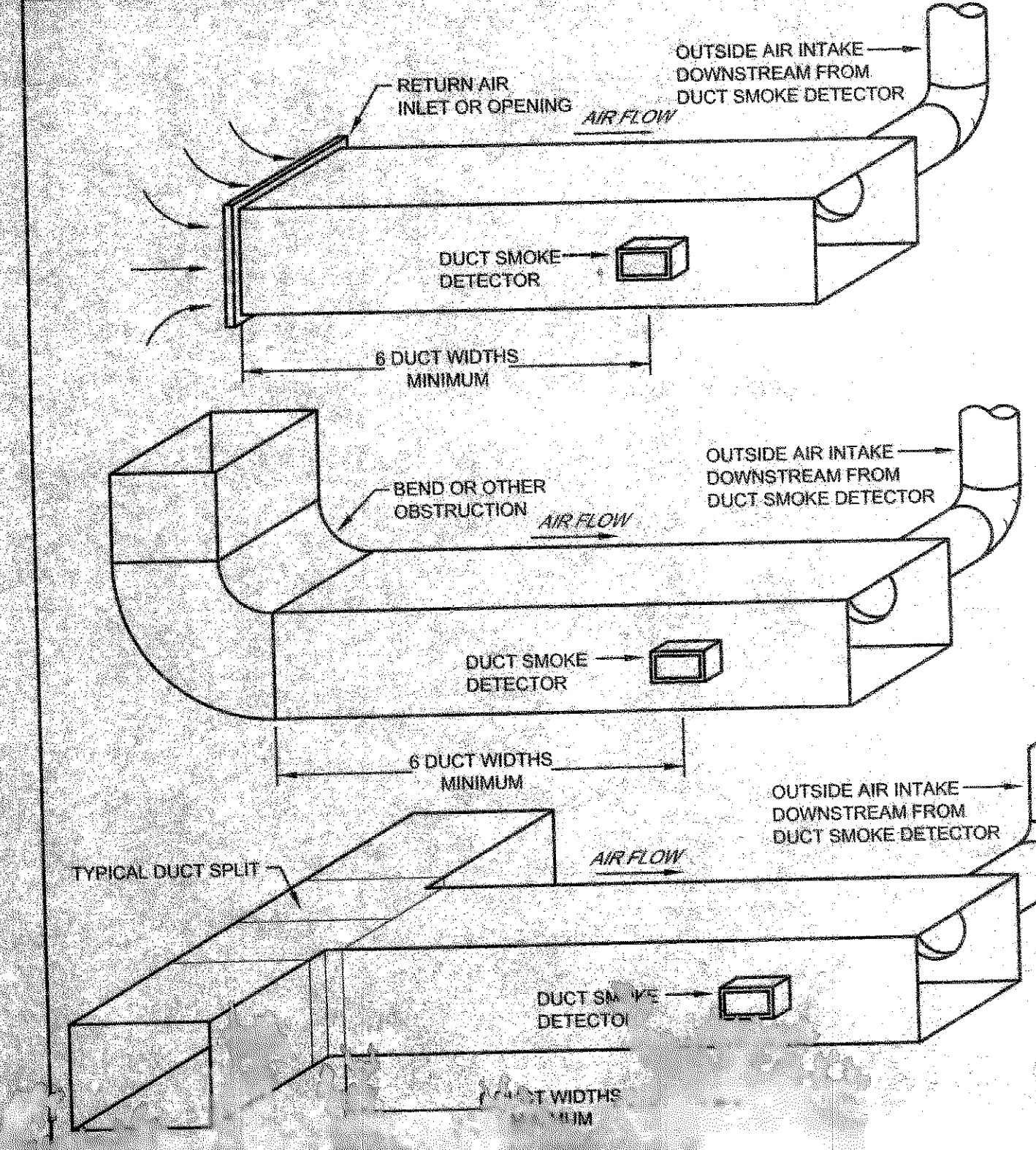
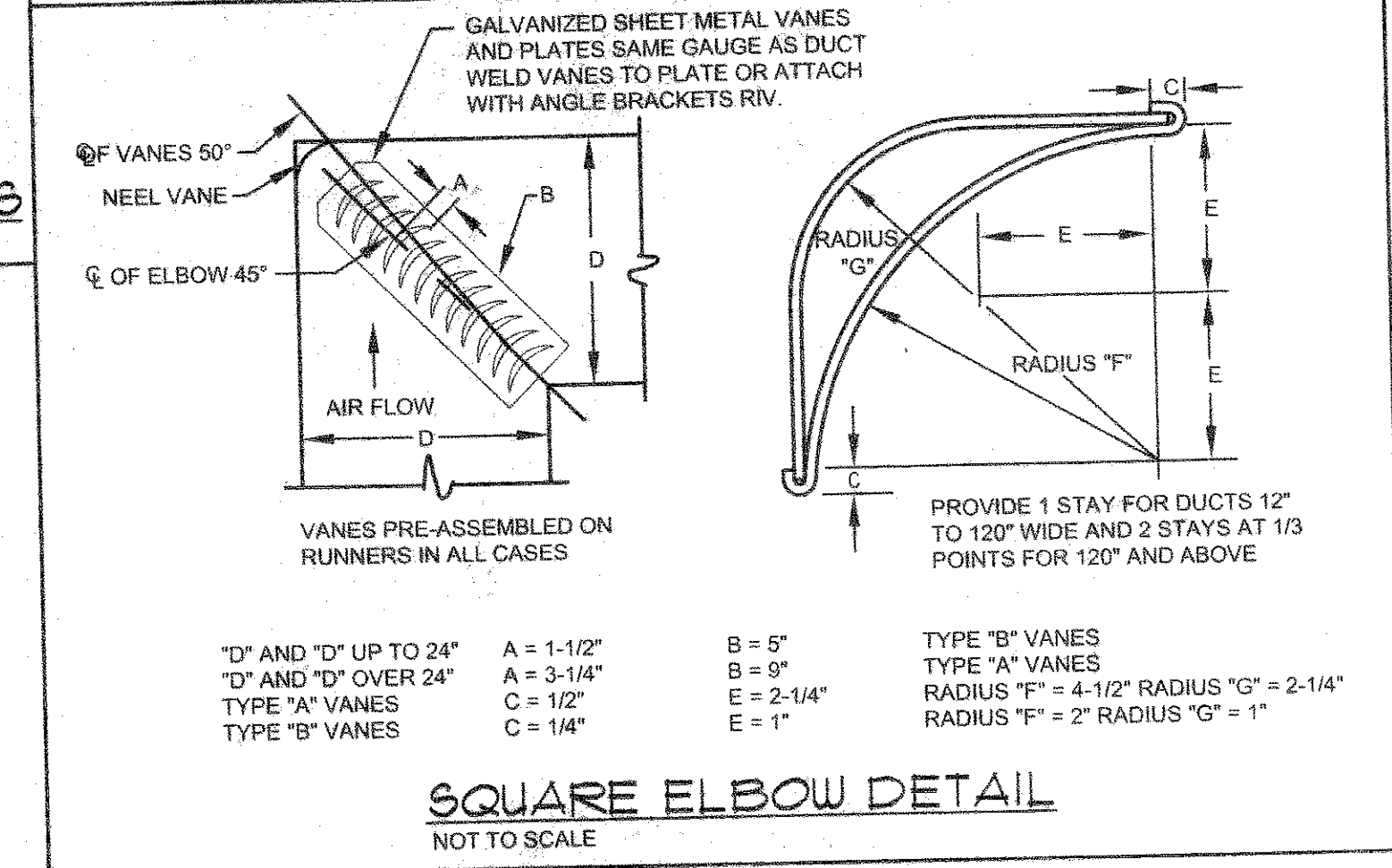
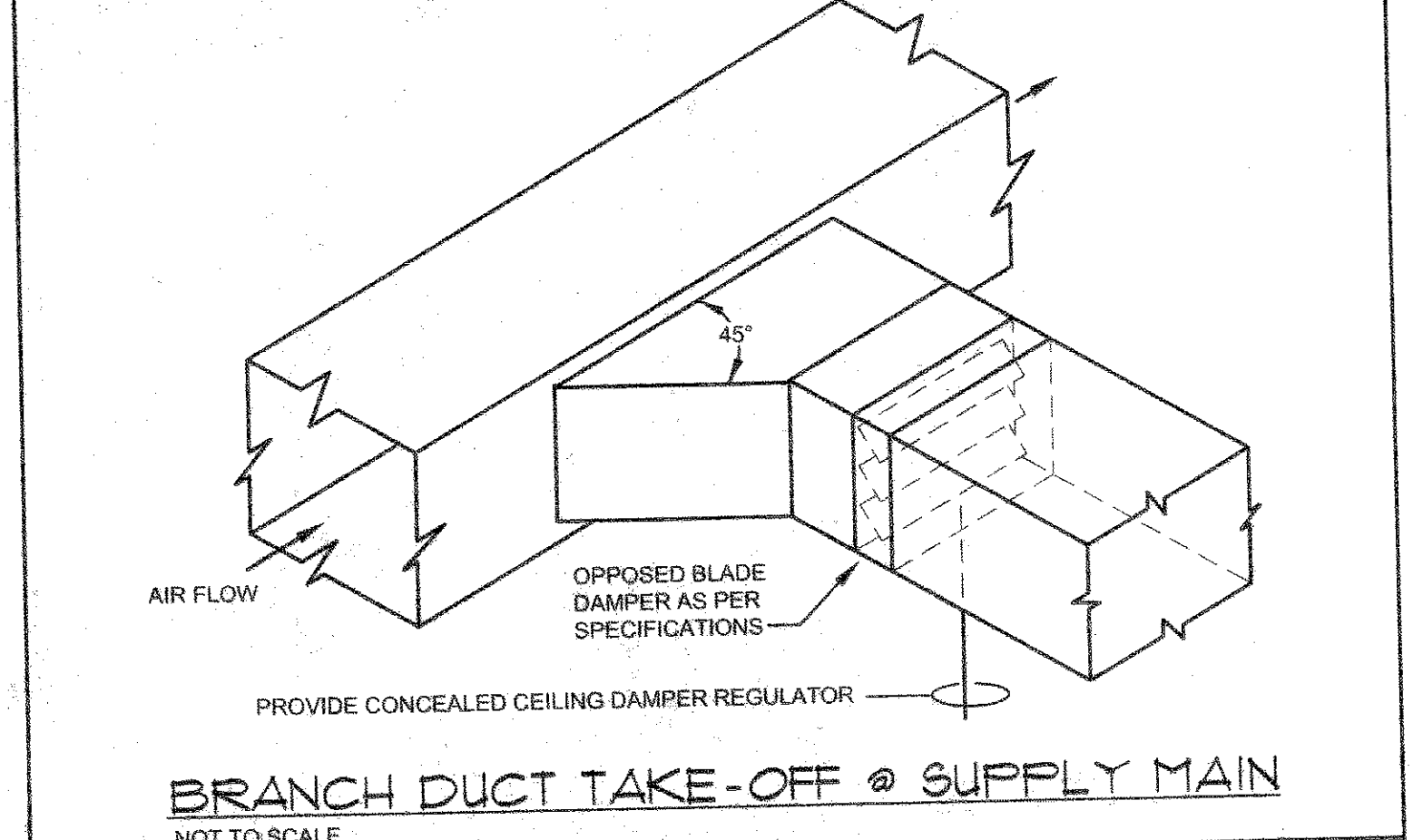
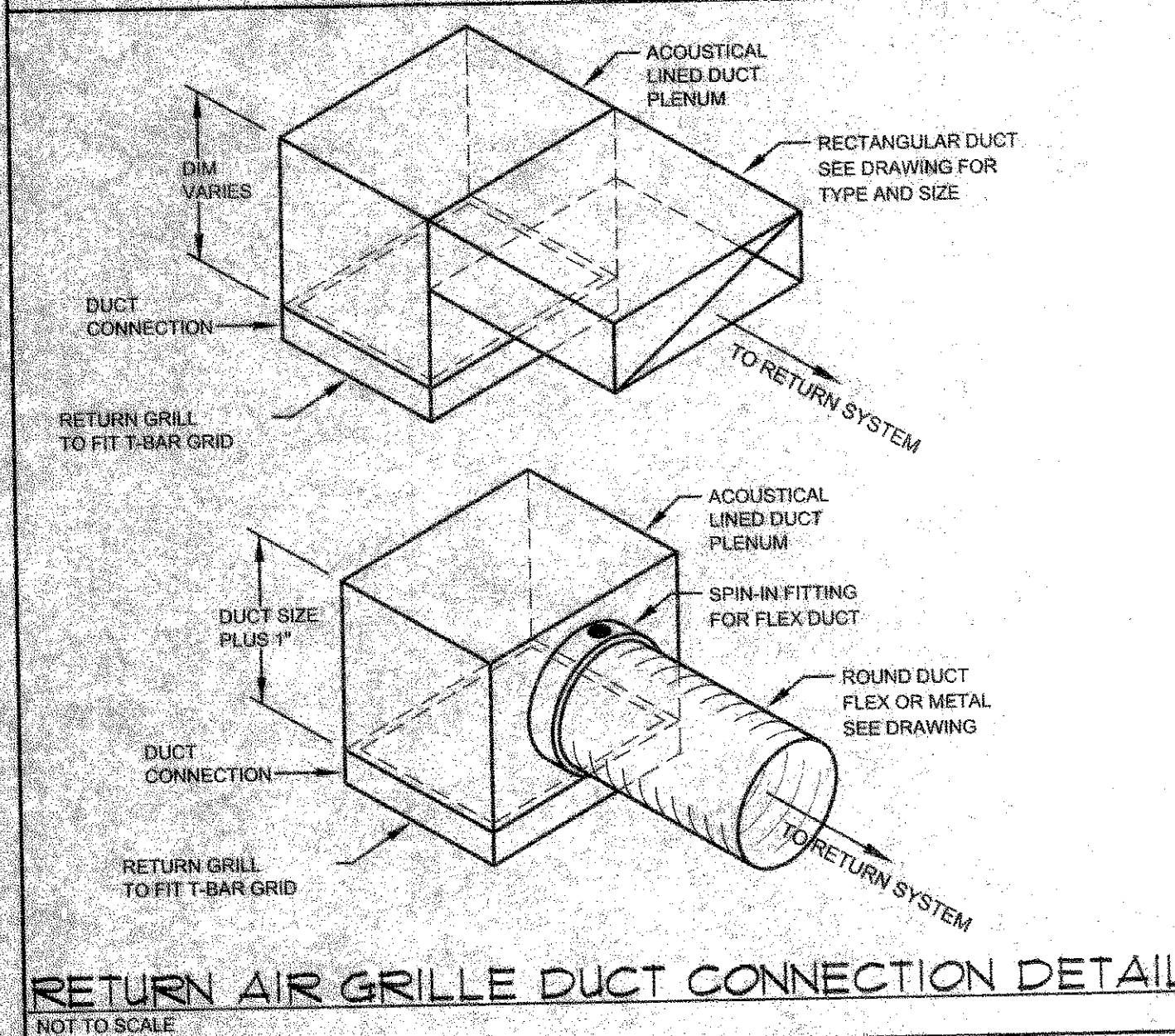
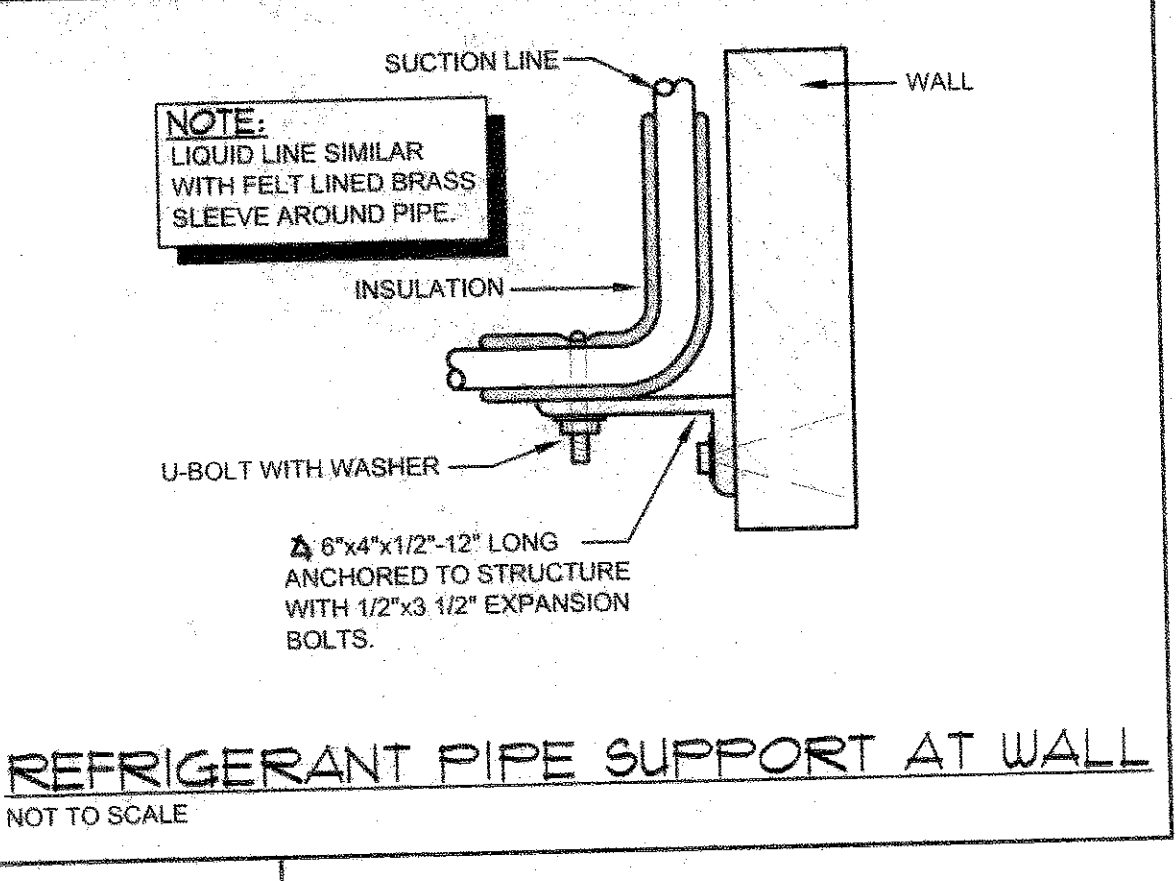
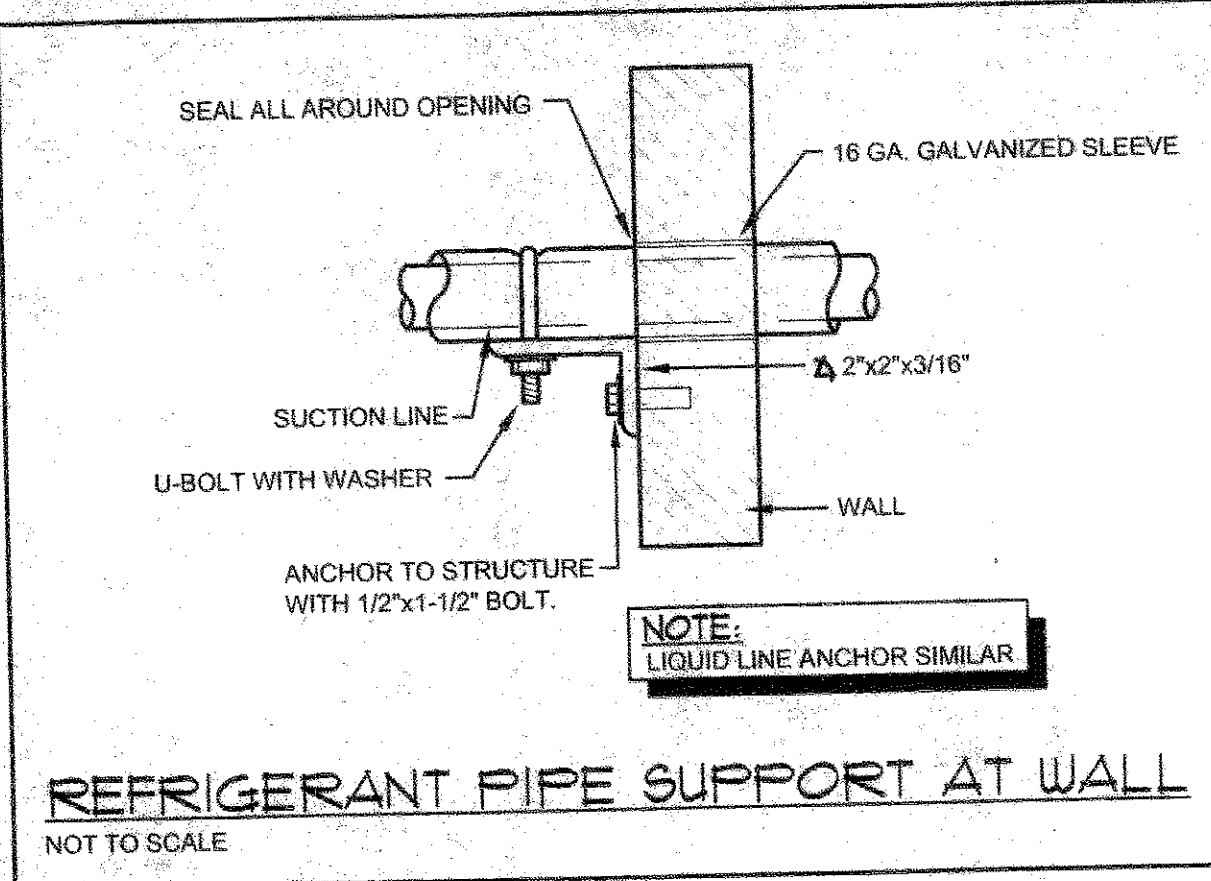
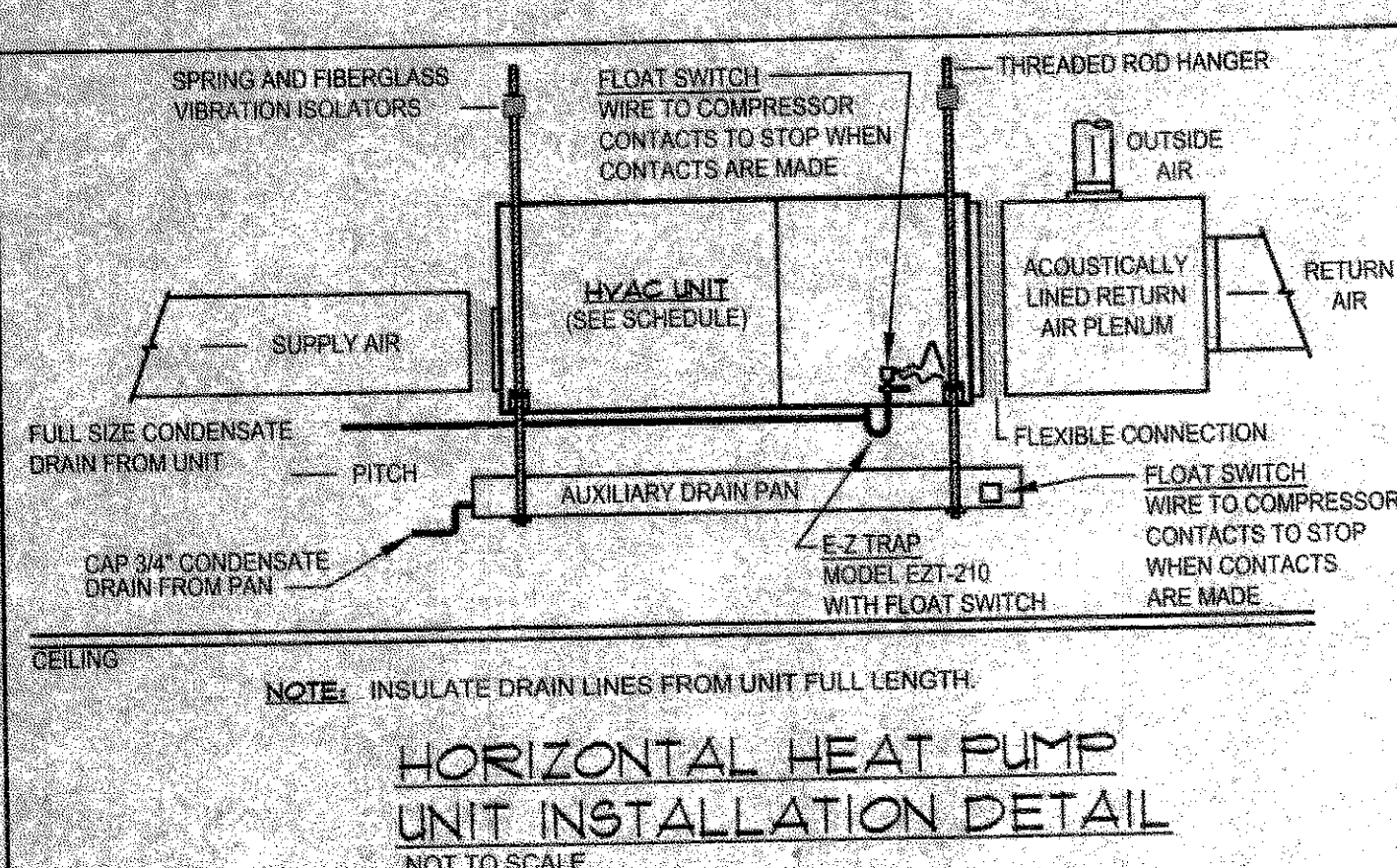
H.V.A.C. LEGEND AND SYMBOLS



SYSTEM AIR UNIT SCHEDULE

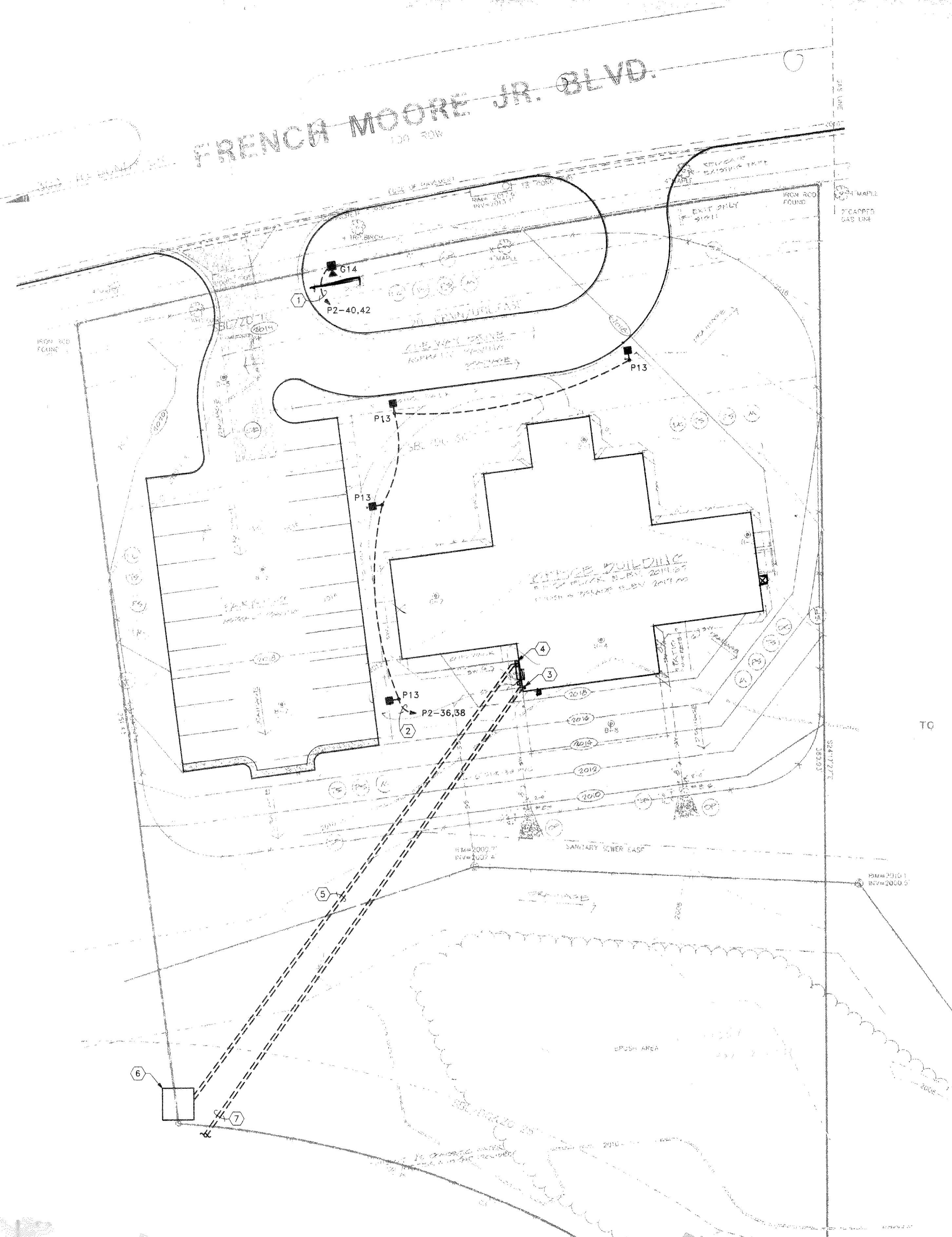
MARK	MANUFACTURER AND MODEL NO.	CFM	SP. WG	WATTS	VOLTS ø	TYPE	FAN RPM	T.S.	LOCATION	CONTROL
AVU-1	E 27E03F380	1000	1/3	208/1	0.4	11.5	74.1	-	MECH	LIGHT SWITCH
AVU-2	E 27E03F380	1000	1/3	208/1	0.4	11.5	74.1	-	MECH	LIGHT SWITCH
AVU-3	E 27E03F380	1200	1/3	208/1	0.4	11.5	74.1	-	MECH	LIGHT SWITCH
AVU-4	E 27E03F380	1200	1/3	208/1	0.4	11.5	74.1	-	MECH	LIGHT SWITCH
AVU-5	CLP-12-D	400	0.1	115/1	0.4	11.5	74.1	-	MECH	LIGHT SWITCH

T. ELECTRICAL CONNECTIONS



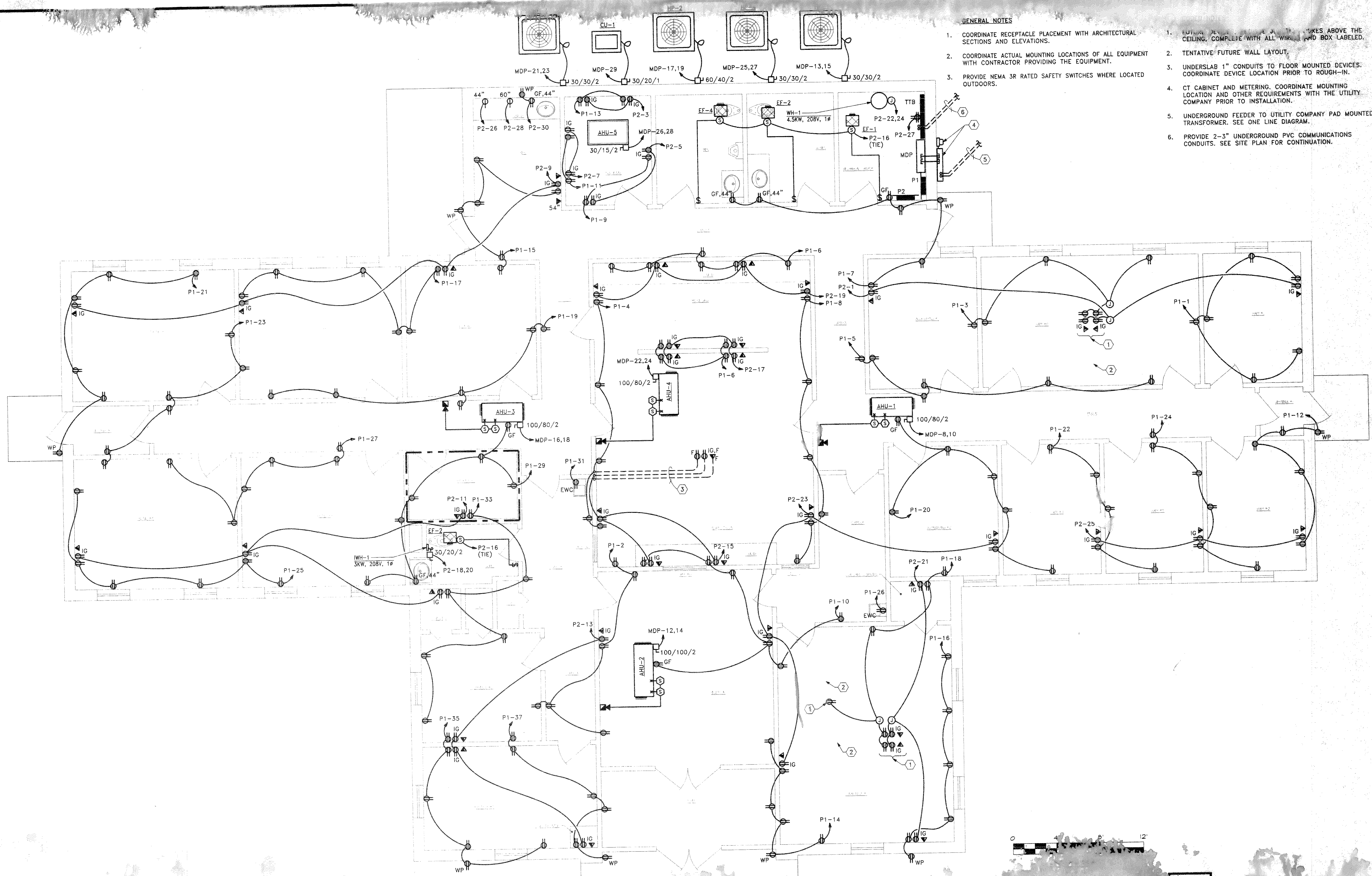
- ### TYPICAL MECHANICAL NOTES
- FRESH AIR INTAKES SHALL NOT BE LOCATED CLOSER THAN 10 FEET FROM ANY EXHAUST OR OUTLET VENT.
 - COORDINATE WITH ARCHITECTURAL PLANS FOR ALL FIRE RATED BUILDING ASSEMBLIES, PROVIDE AND INSTALL U.L. RATED FIRE-STOP ASSEMBLIES IN ANY SUCH AREAS AS REQUIRED BY CODE.
 - COORDINATE GRILLE, REGISTER AND DIFFUSER LOCATIONS WITH LIGHTING AND CEILING GRID LAYOUT.
 - RECIRCULATING AIR SYSTEMS BETWEEN 2,000 AND 15,000 CFM SHALL HAVE A DUCT MOUNTED SMOKE DETECTOR IN THE SUPPLY DUCT DOWNSTREAM OF ALL FILTERS AND LOCATED IN THE RETURN AIR STREAM PRIOR TO ANY EXHAUSTING FROM THE BUILDING OR MIXING WITH FRESH AIR MAKE-UP.
 - RECIRCULATING AIR SYSTEMS LESS THAN 2,000 CFM BUT SERVING AN AREA USED FOR EGRESS, SHALL HAVE AUTOMATIC SHUTDOWN AS STIPULATED FOR UNITS OVER 2,000 CFM.
 - WORKMANSHIP: MECHANICAL EQUIPMENT AND ACCESSORIES SHALL BE INSTALLED IN A NEAT WORKMANLIKE MANNER. UNSIGHTLY INSTALLATIONS SHALL BE REMOVED OR REWORKED AT NO EXPENSE TO THE OWNER.
 - DUCTWORK DIMENSIONS GIVEN ARE INSIDE CLEAR.
 - PROVIDE FLANGES ON CEILING OUTLETS LOCATED IN DRYWALL CEILINGS.
 - PROVIDE ALL DIFFUSERS IN SAME SPACE WITH THE SAME FULL-FACE SIZE USING THE LARGEST SIZE.
 - REFER TO ELECTRICAL AND PLUMBING DRAWINGS FOR ADDITIONAL COORDINATION WITH THESE DRAWINGS.
 - SEAL ALL WALL, ROOF AND FLOOR PENETRATIONS BY MECHANICAL AND ELECTRICAL SERVICE AIRTIGHT.
 - DO NOT BLOCK TUBE PULL OR SERVICE SPACE ON EQUIPMENT WITH PIPING, DUCTWORK, ETC. (FLANGE OR REMOVABLE SECTION MAY BE USED IN SOME INSTANCES WHERE TIGHT CLEARANCE EXIST)
 - EQUIPMENT SIZES AND SERVICE SPACE REQUIREMENTS MAY VARY BETWEEN DIFFERENT MANUFACTURERS. CONSULT APPROVED MANUFACTURER AS SUBMITTED, AND COORDINATE WITH THESE DRAWINGS.
 - PROVIDE CHROME-PLATED ESCUTCHEONS AT ALL EXPOSED PIPE PENETRATIONS THROUGH WALLS.
 - COORDINATE ALL PENETRATIONS OF FLOOR SLABS, ROOF AND WALLS WITH STRUCTURAL DRAWINGS.
 - PROVIDE COMPANION OPPOSED BLADE VOLUME DAMPERS WITH ALL DIFFUSERS MOUNTED IN DRYWALL.
 - CONTRACTOR SHALL VERIFY CLEARANCE REQUIREMENTS AND INDICATED ROUTING OF DUCTWORK PRIOR TO FABRICATION AS RISES AND DROPS MAY BE NECESSARY DUE TO THE TRUSS FRAMING SYSTEM.
 - PROVIDE REMOTE TEMPERATURE SENSOR LOCATED IN THE RETURN DUCT UPSTREAM OF OUTSIDE AIR CONNECTION AND DOWNSTREAM OF ALL BRANCH RETURN CONNECTIONS.
 - CONTRACTOR SHALL PROVIDE CERTIFIED AIR SYSTEM BALANCE. BALANCING CONTRACTOR SHALL BE AABC OR NEBB CERTIFIED. PROVIDE REPORT TO ENGINEER/ARCHITECT.

2007:07116 Spiegler Blewins Drawings - 07116 ELECTRICAL.dwg - Layout Tab: E-0
Xrefs: 07116 BLOCK.dwg - 07116 REF.dwg - 07116 XREF-SITE.dwg - VA Jim.dwg



1. PROVIDE UNDERGROUND POWER CIRCUIT IN 1" CONDUIT FOR THE SIGN FLOOD LIGHT. RUN CIRCUIT THROUGH PHOTOCELL AND CONTACTOR. SEE DETAIL.
2. PROVIDE UNDERGROUND POWER CIRCUIT IN 1" CONDUIT FOR THE PARKING LOT LIGHTS. RUN CIRCUIT THROUGH TIMECLOCK/PHOTOCELL AND CONTACTOR. SEE DETAIL.
3. PROVIDE 2-3" PVC COMMUNICATIONS CONDUITS. STUB UP AT THE TELEPHONE TERMINAL BOARD.
4. BUILDING MOUNTED CT CABINET AND METERING. COORDINATE REQUIREMENTS WITH THE UTILITY COMPANY PRIOR TO INSTALLATION.
5. SECONDARY SERVICE CONDUITS AND CONDUCTORS. SEE ONE LINE DIAGRAM FOR QUANTITY AND SIZE.
6. PROPOSED UTILITY COMPANY PAD MOUNTED TRANSFORMER LOCATION. COORDINATE EXACT LOCATION AND OTHER REQUIREMENTS WITH THE UTILITY PRIOR TO INSTALLATION.
7. PROVIDE 2-3" PVC COMMUNICATIONS CONDUITS WITH PULL ROPE. COORDINATE EXACT TERMINATION LOCATION AND OTHER REQUIREMENTS WITH THE UTILITY PRIOR TO INSTALLATION.

2007:07116 Spiegler Blavins Drawings - 07116 ELECTRICAL.dwg - Layout Tab: E-1
Xrefs: 07116 TBLOCK.dwg - 07116 xref.dwg - 07116 xref.dwg - 07116 xref.dwg

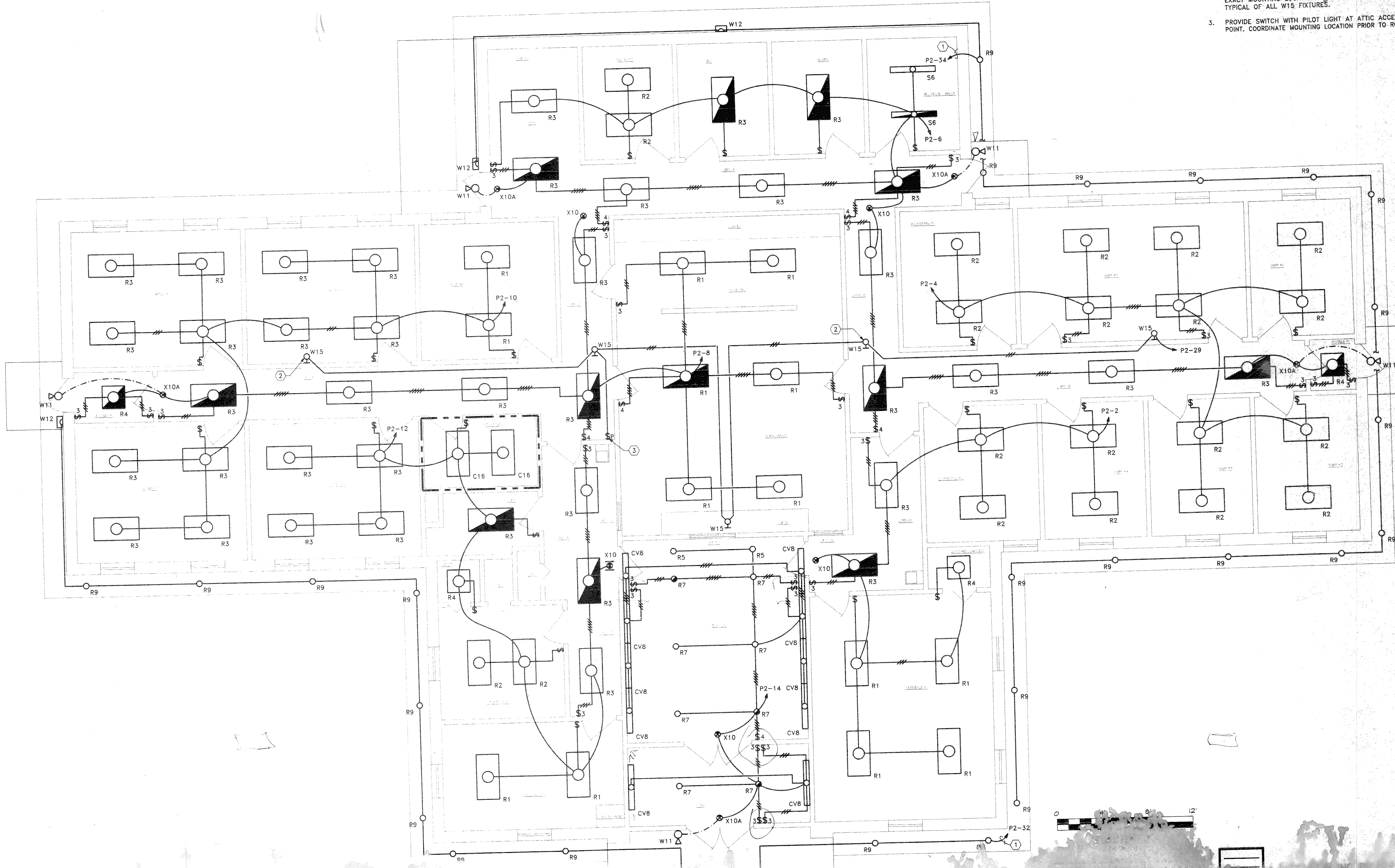


GENERAL NOTES

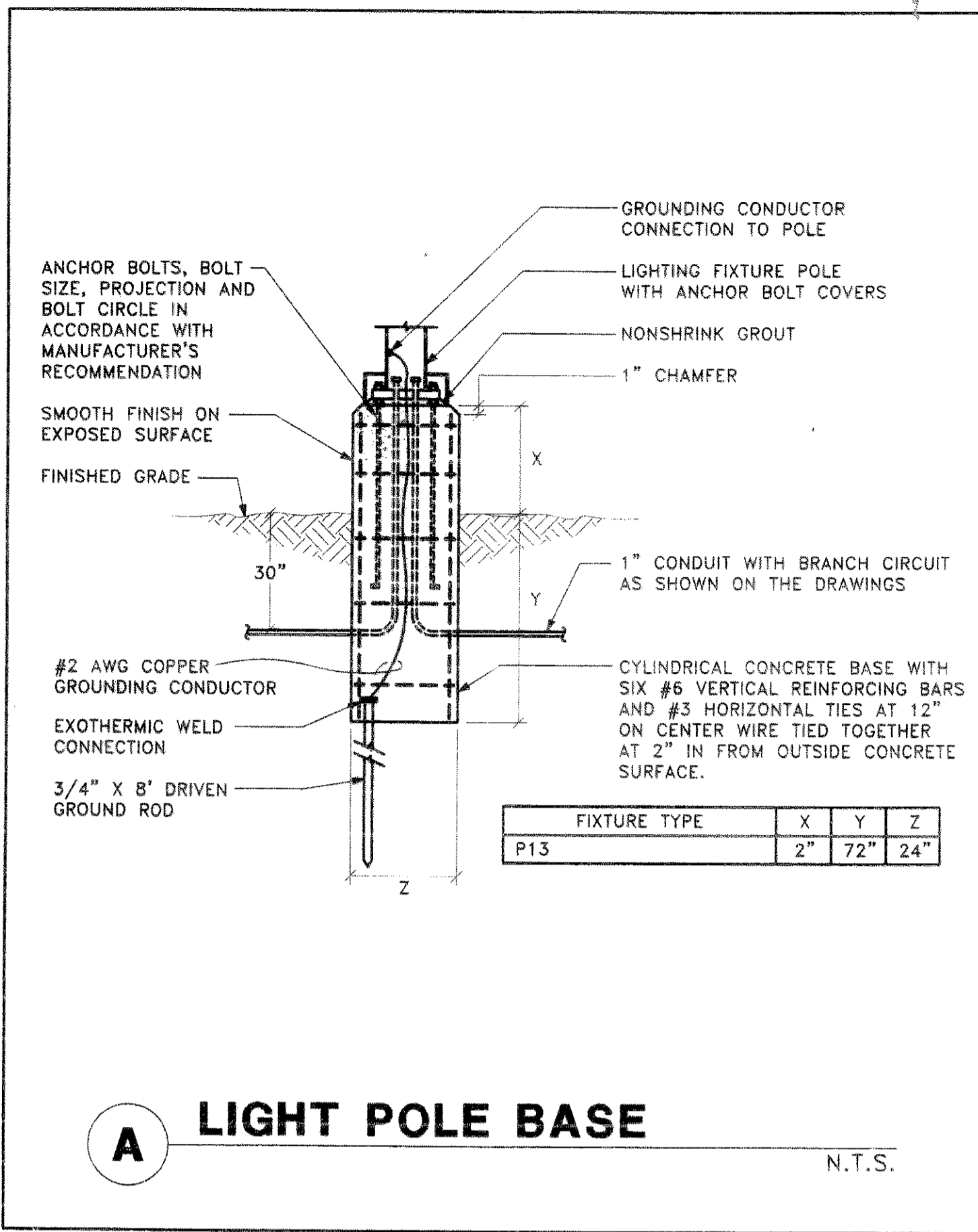
- COORDINATE RECEPTACLE PLACEMENT WITH ARCHITECTURAL SECTIONS AND ELEVATIONS.
- COORDINATE ACTUAL MOUNTING LOCATIONS OF ALL EQUIPMENT WITH CONTRACTOR PROVIDING THE EQUIPMENT.
- PROVIDE NEMA 3R RATED SAFETY SWITCHES WHERE LOCATED OUTDOORS.
- FUTURE RECEPTACLE PLACEMENT MARKS ABOVE THE CEILING. COMPLETE WITH ALL WIRING AND BOX LABELED.
- TENTATIVE FUTURE WALL LAYOUT.
- UNDERSLAB 1" CONDUITS TO FLOOR MOUNTED DEVICES. COORDINATE DEVICE LOCATION PRIOR TO ROUGH-IN.
- CT CABINET AND METERING. COORDINATE MOUNTING LOCATION AND OTHER REQUIREMENTS WITH THE UTILITY COMPANY PRIOR TO INSTALLATION.
- UNDERGROUND FEEDER TO UTILITY COMPANY PAD MOUNTED TRANSFORMER. SEE ONE LINE DIAGRAM.
- PROVIDE 2-3" UNDERGROUND PVC COMMUNICATIONS CONDUITS. SEE SITE PLAN FOR CONTINUATION.

GENERAL NOTES

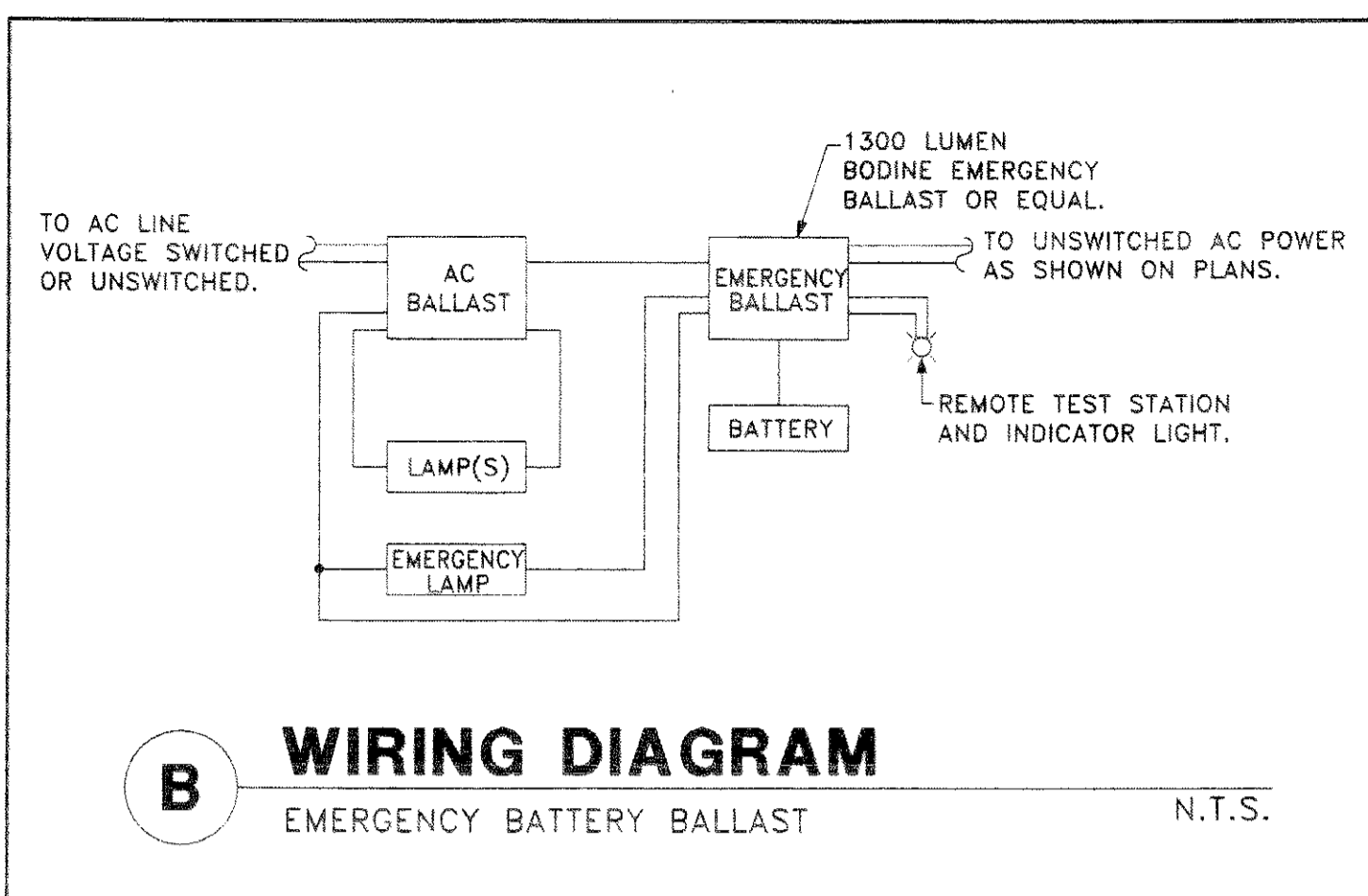
1. COORDINATE CEILING MOUNTED DEVICES WITH ARCHITECTURAL REFLECTED CEILING PLAN.
2. PROVIDE JELLY JAR LIGHT FIXTURE IN ATTIC. COORDINATE EXACT MOUNTING LOCATION WITH HVAC UNITS IN ATTIC. TYPICAL OF ALL W15 FIXTURES.
3. PROVIDE SWITCH WITH PILOT LIGHT AT ATTIC ACCESS POINT. COORDINATE MOUNTING LOCATION PRIOR TO ROUGH-IN.



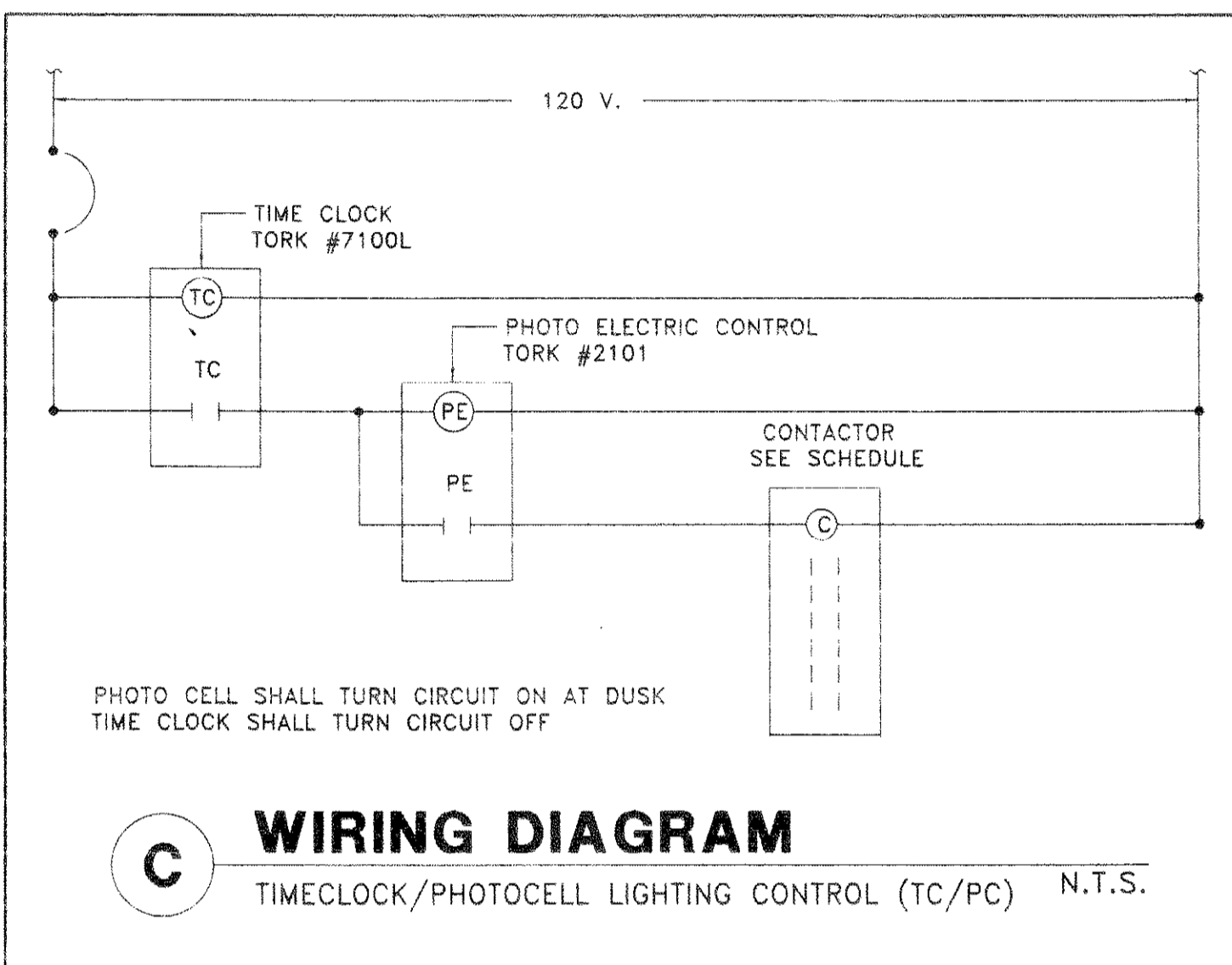
2007/07/16 Spiegel Elevator Drawings: 07/16 ELECTRICAL.dwg - Layout Tab: E-2
 Xrefs: 07/16 TBLOCK.dwg - 07/16 SITE.dwg - 07/16 XREF.dwg - VA.dwg



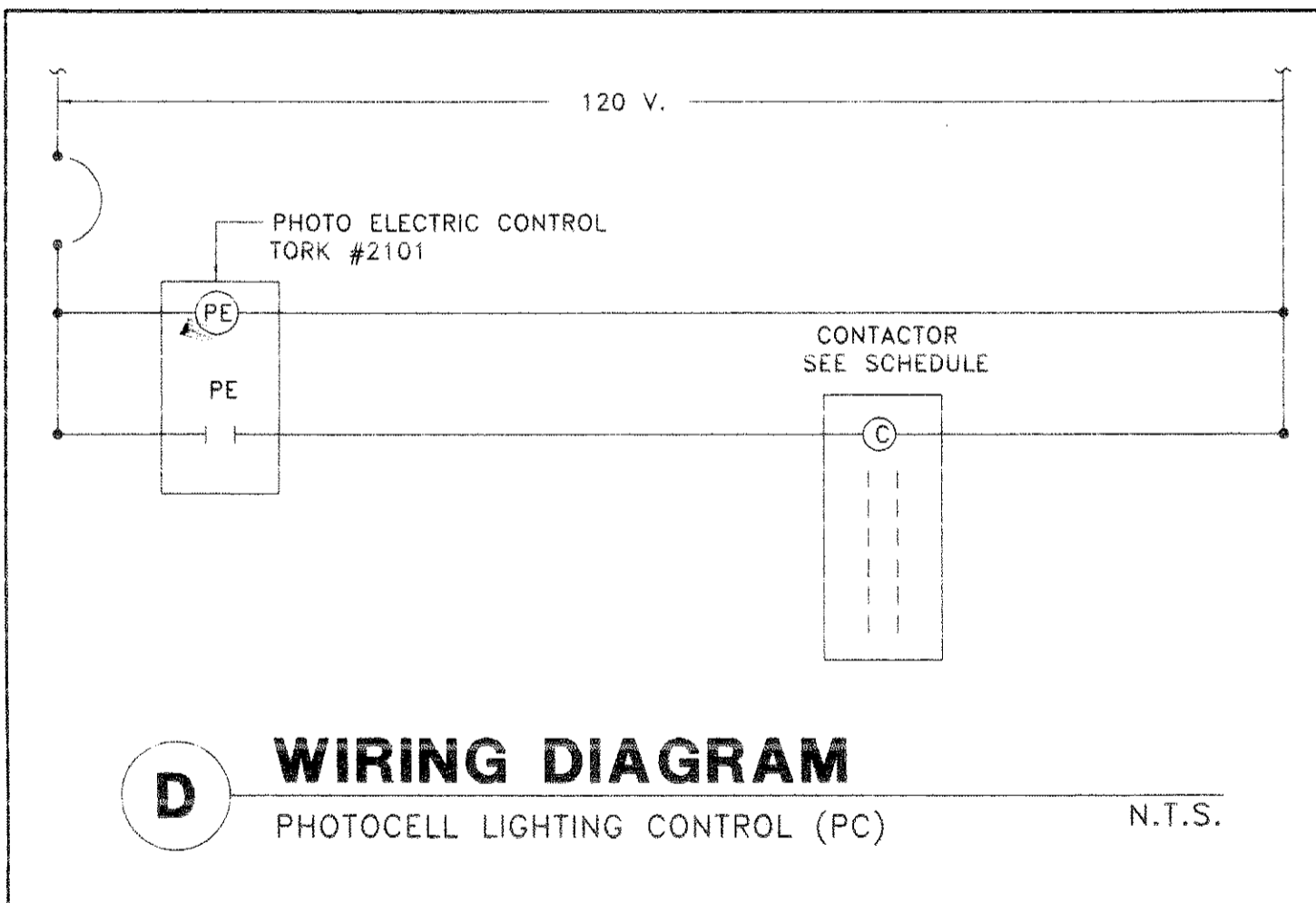
A LIGHT POLE BASE N.T.S.



B WIRING DIAGRAM EMERGENCY BATTERY BALLAST N.T.S.

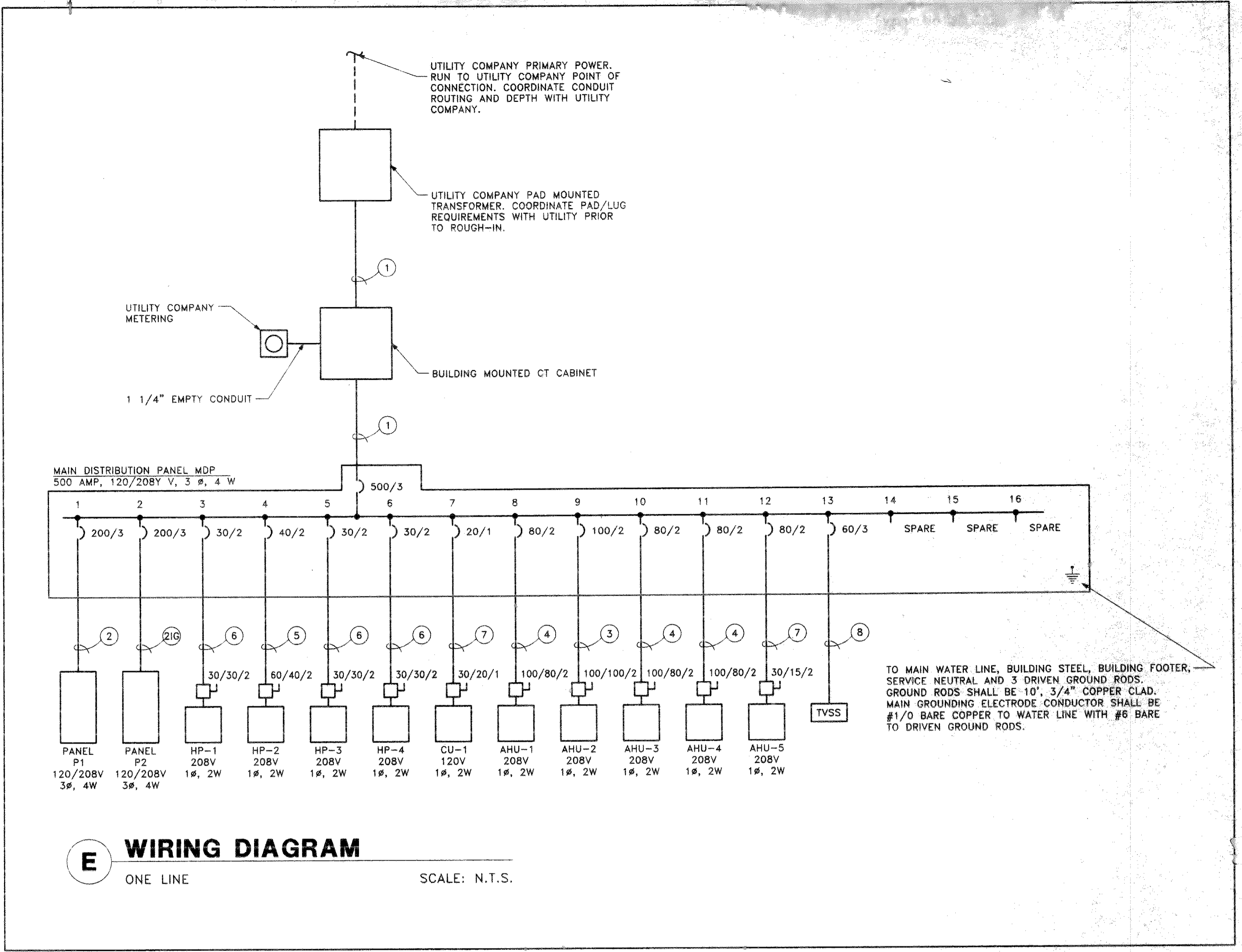


C WIRING DIAGRAM TIMECLOCK/PHOTOCELL LIGHTING CONTROL (TC/PC) N.T.S.



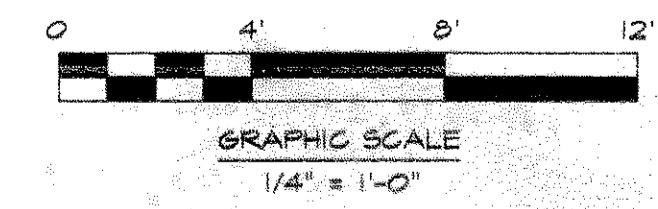
D WIRING DIAGRAM PHOTOCELL LIGHTING CONTROL (PC) N.T.S.

CONTACTOR SCHEDULE				
CONTACTOR NUMBER	NUMBER OF POLES	CIRCUITS CONTROLLED	CONTROL SOURCE	LOCATION/ AREA
1	4	P2-36,38	TC/PC	PARKING LOT
2	6	P2-32,34,40,42	PC	SIGN/BUILDING LTS



E WIRING DIAGRAM ONE LINE SCALE: N.T.S.

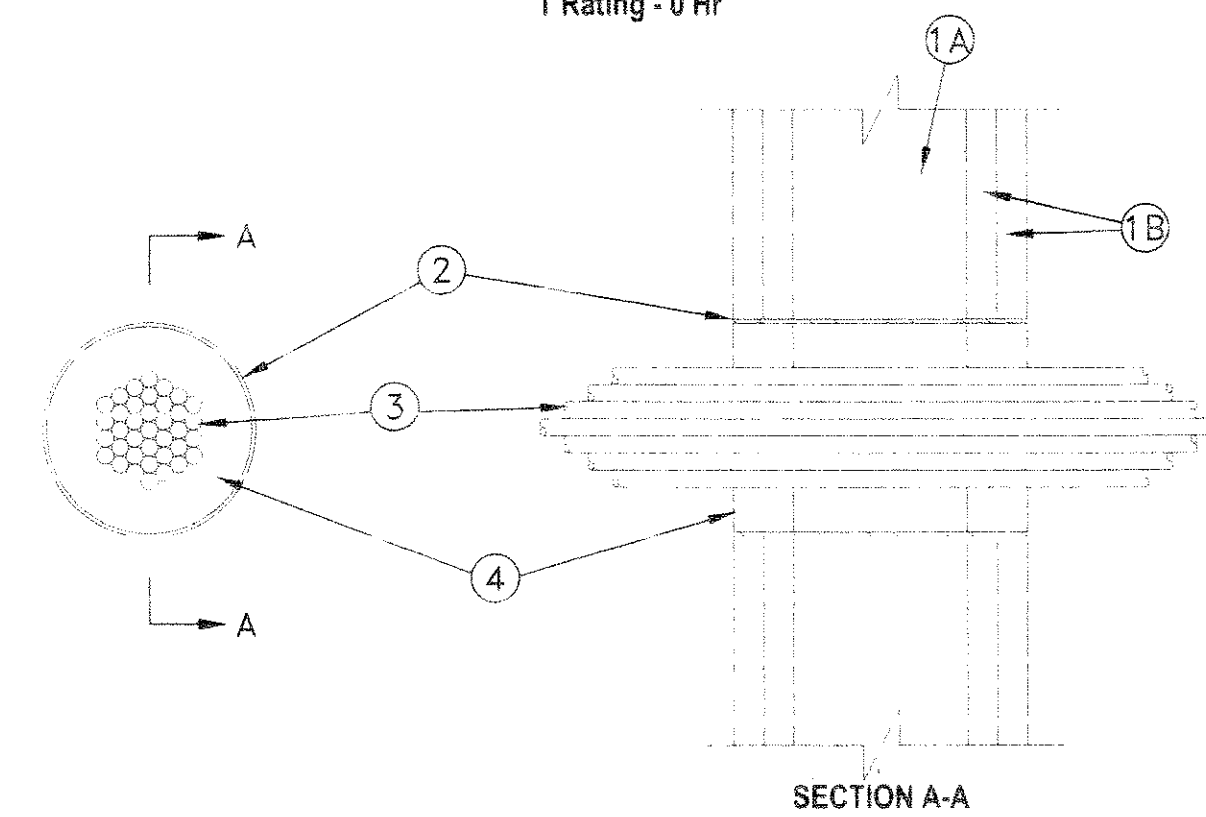
FEEDER SCHEDULE								
NOTE NUMBER	FEEDER AMPS	NUMBER OF SETS	PHASE WIRES QUANTITY - SIZE	NEUTRAL WIRE QUANTITY - SIZE	GROUND SIZE	ISOLATED GROUND SIZE	CONDUIT SIZE PER SET	COMMENTS/REMARKS
1	500	2	3 - 250 MCM	1 - 250 MCM	#2	-	3"	SERVICE ENTRANCE
2	200	1	3 - #3/0	1 - #3/0	#6	-	2"	-
2IG	200	1	3 - #3/0	1 - #3/0	#6	#6	2"	-
3	100	1	2 - #1	-	#8	-	1.25"	1# MECH FEEDER
4	80	1	2 - #3	-	#8	-	1"	1# MECH FEEDER
5	40	1	2 - #8	-	#10	-	0.75"	1# MECH FEEDER
6	30	1	2 - #10	-	#10	-	0.75"	1# MECH FEEDER
7	20	1	2 - #12	-	#12	-	0.75"	1# MECH FEEDER
8	60	1	4 - #4	1 - #4	#4	-	1.25"	TVSS



DETAILS FOR PA, PC.

Projects: 2007_071116 ELECTRICAL.dwg - Layout Table E-4
 Xrefs: 071116 TBLOCK.dwg - 071116 xref.dwg - 071116 XREF-SITE.dwg - VA-Jim.dwg
 2007_071116 Spiegler-Blevins - Drawings - 071116 ELECTRICAL.dwg - Layout Table E-4
 Xrefs: 071116 TBLOCK.dwg - 071116 xref.dwg - 071116 XREF-SITE.dwg - VA-Jim.dwg

System No. W-L-3065
F Ratings - 1 and 2 Hr (See Item 1)
T Rating - 0 Hr



SECTION A-A

1. Wall Assembly -- The 1 or 2 fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
 - A. Studs -- Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC.
 - B. Gypsum Board* -- Nom 5/8 in. thick gypsum wallboard, with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Designs in the UL Fire Resistance Directory. Max diam of opening is 4 in.
2. Metallic Sleeve -- (Optional) -- Nom 4 in. diam (or smaller) steel electrical metallic tubing (EMT) or Schedule 5 (or heavier) steel pipe or min 0.016 in. thick (28 MSG) galv steel sleeve cast into wall assembly with joint compound and installed flush with wall surfaces. When Schedule 5 steel pipe or EMT is used, sleeve may extend up to 16 in. beyond the wall surfaces.
3. Cables -- Aggregate cross-sectional area of cable in opening to be max 45 percent of the cross-sectional area of the opening. The annular space between the cable bundle and the periphery of the opening to be min 1/4 in. to max 3/4 in. Cables to be rigidly supported on both sides of the wall assembly. Any combination of the following types and sizes of copper conductor cables may be used:
 - A. Max 7/C No. 12 AWG with polyvinyl chloride (PVC) insulation and jacket.
 - B. Max 25 pair No. 24 AWG telephone cable with PVC insulation and jacket.
 - C. Type RG/U coaxial cable with polyethylene (PE) insulation and PVC jacket having a max outside diameter of 3/8 in.
 - D. Multiple fiber optical communication cable jacketed with PVC and having a max OD of 5/8 in.
 - E. Through Penetrating Products* -- Max three copper conductor No. 8 AWG, Metal-Clad Cable+, AFC CABLE SYSTEMS INC
 - F. Max 3/C (with ground) (or smaller) No. 8 AWG copper conductor cable with PVC insulation and jacketing.
4. Fill, Void or Cavity Material* -- Sealant Fill material applied within the annulus, flush with each end of the steel sleeve or wall surface. Fill material installed symmetrically on both sides of the wall. A min 5/8 in. thickness of sealant is required for the 1 or 2 hr F Rating. An additional 1/2 in. diam bead of fill material shall be applied around the perimeter of sleeve on both sides of the wall when sleeve extends beyond surface of wall.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC -- CP601S, CP606 or FS-One Sealant
 *Bearing the UL Classification Mark

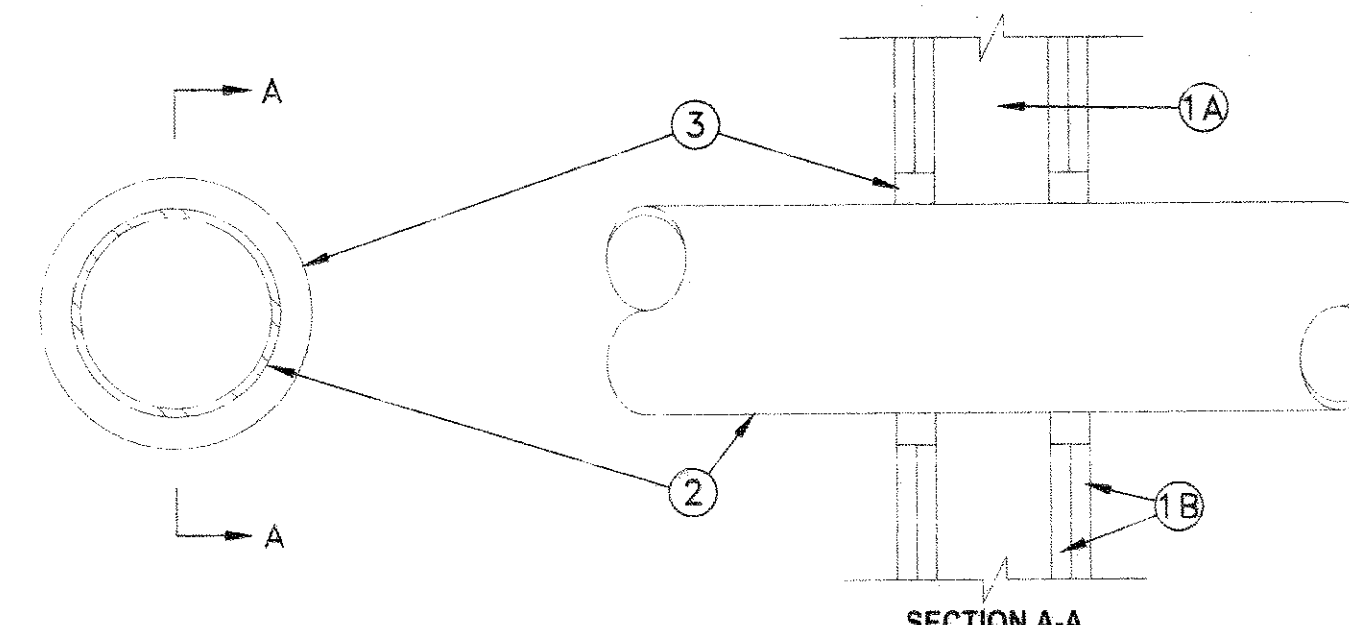


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OR EQUAL

System No. W-L-1054
F Ratings - 1 and 2 Hr (See Items 1 and 3)
T Rating - 0 Hr
L Rating At Ambient - Less Than 1 CFM/Sq Ft
L Rating At 400 F - 4 CFM/Sq Ft



SECTION A-A

1. Wall Assembly -- The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
 - A. Studs -- Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw-attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. wider and 4 to 6 in. higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. clearance is present between the penetrating item and the framing on all four sides.
 - B. Gypsum Board* -- 5/8 in. thick, 4 ft wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 32-1/4 in. for steel stud walls. Max diam of opening is 14-1/2 in. for wood stud walls. The F Rating of the firestop system is equal to the fire rating of the wall assembly.
2. Through-Penetrants -- One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space shall be min 0 in. to max 2-1/4 in. Pipe may be installed with continuous point contact. Pipe, conduit or tubing may be installed at an angle not greater than 45 degrees from perpendicular. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
 - A. Steel Pipe -- Nom 30 in diam (or smaller) Schedule 10 (or heavier) steel pipe.
 - B. Iron Pipe -- Nom 30 in. diam (or smaller) cast or ductile iron pipe.
 - C. Conduit -- Nom 4 in diam (or smaller) steel electrical metallic tubing or 6 in. diam steel conduit.
 - D. Copper Tubing -- Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing.
 - E. Copper Pipe -- Nom 6 in. diam (or smaller) regular (or heavier) copper pipe.
3. Fill, Void or Cavity Material* -- Sealant -- Min 5/8 in. thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point or continuous contact locations between pipe and wall, a min 1/2 in. diam bead of fill material shall be applied at the pipe wall interface on both surfaces of wall.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC -- FS-One Sealant
 *Bearing the UL Classification Mark

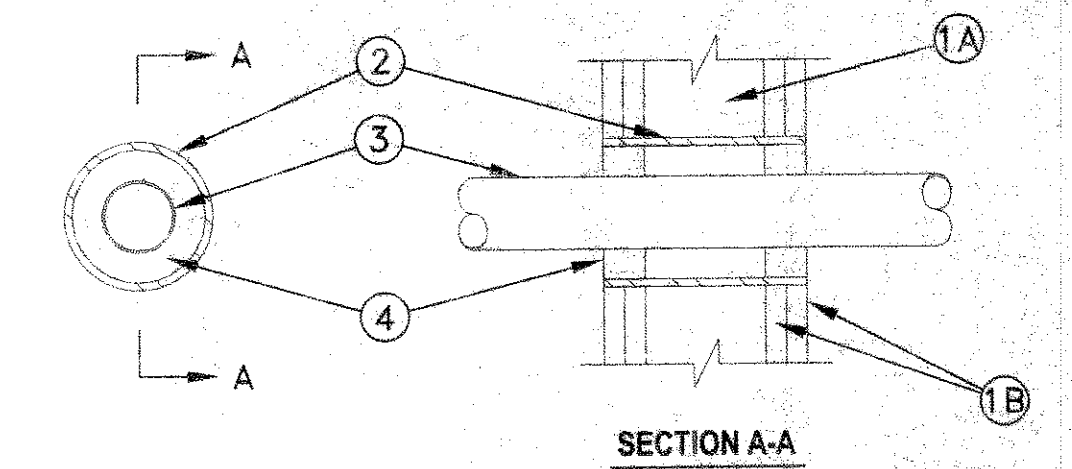


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OR EQUAL

System No. W-L-3066
F Ratings - 1 & 2 Hr (See Item 4)
T Ratings - 0 and 2 Hr (See Item 4)
L Rating At Ambient - Less Than 1 CFM/Sq Ft
L Rating At 400 F - 4 CFM/Sq Ft



SECTION A-A

1. Floor or Wall Assembly -- The fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
 - A. Studs -- Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC.
 - B. Gypsum Board* -- Nom 5/8 in. thick gypsum wallboard, as specified in the individual Wall and Partition Design. Max diam of opening is 4 in.
2. Metallic Sleeve -- (Optional) -- Nom 4 in. diam (or smaller) Schedule 40 (or thinner) steel pipe cast into wall assembly with joint compound and installed flush with wall surfaces.
3. Electrical Nonmetallic Tubing+ -- Nom 2 in. diam (or smaller) corrugated wall electrical nonmetallic tubing (ENT) constructed of polyvinyl chloride (PVC). Tubing to be rigidly supported on both sides of wall assembly. A nom annular space of 3/4 in. is required within the firestop system. See Electrical Nonmetallic Tubing (FKHU) category in the Electrical Construction Materials Directory for names of manufacturers.
4. Fill, Void or Cavity Material* -- Sealant -- Installed symmetrically on both sides of the wall. The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed. Fill material applied within the annulus, flush with each end of the steel sleeve at the thickness shown in the table below:

F Rating Hr	T Rating Hr	Fill Min Depth in.
1	0	5/8
2	2	1-1/4

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC -- FS-One Sealant

+Bearing the UL Listing Mark

*Bearing the UL Classification Marking



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OR EQUAL

Notes:

1. Details shown are typical details. If field conditions do not match requirements of typical details, approved alternate details shall be utilized. Field conditions and dimensions need to be verified for compliance with the details, including but not limited to the following: * Minimum and maximum width of Joints * Type and thickness of fire-rated construction. The minimum assembly rating of the firestop assembly shall meet or exceed the highest rating of the adjacent construction.
2. If alternate details matching the field conditions are not available, manufacturer's engineering judgment drawings are acceptable. Drawings shall follow the International Firestop Council (IFC) Guidelines for Evaluating Firestop Systems Engineering Judgments.
3. References:
 - * 2005 Underwriter's Laboratories Fire Resistance Directory, Volumes 1 & 2
 - * NFPA 101 Life Safety Code
 - * NFPA 70 - National Electric Code
 - * All governing local and regional building codes
4. Firestop System installation must meet requirements of ASTM E-814 (UL 1479) tested assemblies that provide a fire rating equal to that of construction being penetrated. All rated through-penetration assemblies shall be prominently labeled with the following information:
 - * ATTENTION: Fire Rated Assembly
 - * UL System #
 - * Product(s) used
 - * Hourly Rating (F-Rating)
 - * Installation Date
5. For outlet boxes requiring protection, use only Wall Opening Protective Materials, category CLIV as classified by Underwriter's Laboratories, Fire Resistance Directory (Volume 1.)



1/4" = 1'-0"



S FOR CPA, PC

E-5

DIVISION 16 - ELECTRICAL

SECTION 16010 ELECTRICAL GENERAL PROVISIONS

1. REFERENCE
 - A. REFER TO INSTRUCTIONS TO BIDDERS, GENERAL CONDITIONS, SPECIAL CONDITIONS, DIVISION 1 - GENERAL REQUIREMENTS, FOR SPECIFIC REQUIREMENTS, RESPONSIBILITIES AND METHODS RELATING TO ELECTRICAL WORK.
2. DESCRIPTION
 - A. FURNISH ALL MATERIALS, LABOR, TOOLS AND EQUIPMENT TO COMPLETE AND LEAVE READY FOR OPERATION ALL ELECTRICAL SYSTEMS AS CALLED FOR IN THESE SPECIFICATIONS OR SHOWN ON THE DRAWINGS AND ANY AND ALL DETAILS ESSENTIAL TO COMPLETE THE WORK.
3. QUALITY
 - A. CONTRACTOR SHALL PROVIDE WORK OF HIGHEST QUALITY, CONFORMING TO THE ACCEPTED PRACTICES AND STANDARDS OF THE TRADES INVOLVED. FURTHER DEFINITION OF QUALITY IS GIVEN BY VARIOUS LAWS, CODES, STANDARDS AND REGULATIONS.
4. CODES
 - A. ALL WORK SHALL BE IN COMPLIANCE WITH ALL APPLICABLE STATE AND LOCAL CODES.
5. CONTRACT DRAWINGS
 - A. DRAWINGS ARE SCHEMATIC AND SHOW APPROXIMATE LOCATIONS AND EXTENT OF WORK. EXACT LOCATIONS MUST BE COORDINATED WITH OTHER TRADES AND VERIFIED IN THE FIELD. THE RIGHT IS RESERVED TO RELOCATE ANY ELEMENT UP TO TEN (10) FEET AT NO INCREASE IN COST PROVIDED THE CONTRACTOR IS NOTIFIED BEFORE COMMENCEMENT OF WORK.
6. PERMITS, FEES AND NOTICES
 - A. UNLESS OTHERWISE EXCLUDED IN THE CONTRACT DOCUMENTS, EACH CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND GOVERNMENTAL FEES, LICENSES AND INSPECTIONS NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF HIS WORK.
7. GUARANTEE
 - A. CONTRACTOR SHALL GUARANTEE HIS WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION.
8. EXAMINATION OF SITE
 - A. CONTRACTOR SHOULD VISIT THE SITE OF THE PROPOSED PROJECT. CERTAIN EXISTING CONDITIONS MAY AFFECT THE MANNER OR SEQUENCE OF THE PERFORMANCE OF THE WORK.
9. RECORD DRAWINGS
 - A. CONTRACTOR SHALL MAINTAIN AT THE JOB SITE, ONE COPY OF THE DRAWINGS WHICH SHALL BE USED EXCLUSIVELY FOR RECORDING ANY INSTALLATION DEVIATION FROM THE CONTRACT DRAWINGS. SUBMIT DRAWINGS TO ARCHITECT UPON COMPLETION OF PROJECT.
10. CUTTING AND PATCHING
 - A. EACH CONTRACTOR SHALL PERFORM ALL CUTTING AND PATCHING REQUIRED FOR HIS OWN WORK. WORK MUST BE ACCOMPLISHED IN A NEAT AND WORKMANLIKE MANNER, ACCEPTABLE TO THE ARCHITECT. PATCH TO MATCH ADJACENT SURFACE CONSTRUCTION.
11. TESTS
 - A. THE CONTRACTOR SHALL BEAR ALL COSTS OF SUCH INSPECTIONS, TESTS OR APPROVALS, AS REQUIRED BY LOCAL AUTHORITIES.
12. SUBMITTALS
 - A. MATERIALS AND EQUIPMENT INSTALLED IN THIS WORK SHALL MEET ALL THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND NO MATERIALS OR EQUIPMENT SHALL BE ORDERED UNTIL SUBMITTALS ARE REVISED AND APPROVED BY THE ARCHITECT OR ENGINEER.
 - B. REQUIRED SUBMITTALS INCLUDE:
 - 1) WIRING DEVICES AND PLATES
 - 2) LIGHTING FIXTURES AND LAMPS
 - 3) TIME CLOCK, PHOTO ELECTRIC CONTROLS, AND CONTACTORS
 - 4) CIRCUIT BREAKER PANELBOARD AND DISTRIBUTION PANEL
 - 5) TRANSIENT VOLTAGE SURGE SUPPRESSOR (TVSS)
 - 6) DUCT SMOKE DETECTORS & DEVICES

SECTION 16110 RACEWAYS, FITTINGS, AND SUPPORTS

1. ALL CONDUCTORS SHALL BE ENCLOSED IN A CONTINUOUS GROUNDED RACEWAY SYSTEM.
2. ALL CONDUITS SHALL BE THINWALL EMT CONDUIT WITH UL LABEL, MINIMUM 3/4 INCH TRADE SIZE.
3. RIGID CONDUIT SHALL BE USED WHERE SUBJECT TO VANDALISM, ACCIDENTAL DAMAGE, OR WHERE CALLED FOR ON THE DRAWINGS.
4. FLEXIBLE CONDUIT WITH GREEN GROUNDING CONDUCTOR SHALL BE USED FOR CONNECTIONS TO MOTORS.
5. LIQUID-TIGHT FLEXIBLE CONDUIT AND APPROPRIATE LIQUID-TIGHT FITTINGS SHALL BE USED IN AREAS EXPOSED TO THE WEATHER OR LIKELY TO BECOME DAMP.
6. ALL CONDUIT AND EMT FITTINGS SHALL BE DIE CAST ZINC OR GALVANIZED STEEL. CONNECTORS AND COUPLINGS SHALL BE THREADED, COMPRESSION OR SETSCREW TYPE. CONCRETE TIGHT, CONDUIT BODIES SHALL BE MALLEABLE IRON, THREADED FOR HEAVYWALL CONDUIT AND COMPRESSION OR SETSCREW TYPE FOR EMT, WITH CADMIUM FINISH AND CADMIUM PLATED SHEET STEEL COVERS. PROVIDE NEOPRENE COVER GASKETS FOR CONDUIT BODY COVERS EXPOSED TO THE WEATHER.
7. OUTLETS, JUNCTION PANELS, ETC. WHEN OVERHEAD SHALL BE INDEPENDENTLY SUPPORTED AND SHALL BE PROVIDED WITH AN ANCHOR OR SUPPORT, WHERE RUN IS NOT SUPPORTED BY SLING.

SECTION 16120 CONDUCTORS AND CONNECTORS

1. FURNISH AND INSTALL ALL ELECTRICAL AND ELECTRONIC CONDUCTORS FOR FEEDER AND BRANCH CIRCUIT WIRING AND SYSTEM WIRING.
2. ALL WIRE SHALL BE UL LISTED COPPER, 600 VOLT RATED AND STRANDED IN SIZES #8 AWG AND LARGER.
3. WIRE SHALL BE TYPE THHN/IHWN.
4. MINIMUM WIRE SIZE SHALL BE NO. 12 AWG.
5. ALL CONDUCTORS ARE TO BE IDENTIFIED, BRANCH CIRCUITS AND FEEDERS BY COLOR CODING AS FOLLOWS:
120/208V
PHASE A - BLACK
PHASE B - RED
PHASE C - BLUE
NEUTRAL - WHITE
GROUND - GREEN
ISOLATED GROUND - GREEN W/ WHITE STRIPE
6. THE COLOR CODING ON #6 AND SMALLER CONDUCTORS SHALL BE CONTINUOUS IN LENGTH. NO TAPING, PAINTING OR OTHER MEANS OF CODING WILL BE ACCEPTABLE. THE COLOR CODING ON #4 AND LARGER CONDUCTORS SHALL BE IN THE FORM OF COLORED TAPE VISIBLE AT EACH POINT OF ACCESS OR VIEW. COLOR CODING SHALL CONFORM TO THE REQUIREMENTS OF NEC ARTICLE 200.6.
7. FOR #10 AND SMALLER BRANCH CIRCUIT AND FIXTURE CONDUCTOR SPLICES, USE "LIVE SPRING", PRESSURE CABLE CONNECTORS LISTED FOR 600 VOLT (1000 VOLT WHEN ENCLOSED IN FIXTURE OR SIGN).
8. FOR TERMINAL CONNECTIONS ON COPPER, NO. 8 OR LARGER, OR WHERE MULTIPLE CONNECTIONS ARE MADE TO ONE TERMINAL, USE SOLDERLESS LUGS, MECHANICAL TYPE AS NECESSARY.
9. FOR SPLICES ON CONDUCTORS LARGER THAN #10, COMPRESSION TYPE BARREL SPLICES SHALL BE USED.

SECTION 16400 PANELBOARDS, WIRING DEVICES, AND PLATES

1. THE FOLLOWING ARE THE ONLY APPROVED MANUFACTURERS FOR PANELBOARDS, AND SAFETY SWITCHES:
 - A. SQUARE D
 - B. SIEMENS/ITE
 - C. CUTLER HAMMER
 - D. GENERAL ELECTRIC
2. PANELBOARDS:
 - A. CIRCUIT BREAKERS: QUICK-MAKE, QUICK-BREAK, THERMAL-MAGNETIC, TRIP INDICATING, WITH COMMON TRIP ON ALL MULTI-POLE BREAKERS. BRANCH CIRCUIT BREAKERS, FEEDING CONVENIENCE OUTLETS SHALL HAVE SENSITIVE INSTANTANEOUS TRIP SETTINGS OF NOT MORE THAN 10 TIMES THE TRIP RATING OF THE BREAKER IN ORDER TO GIVE "FLASH PROTECTION" FOR FRAYED STRANDED WIRE CORDS. CONNECTIONS TO THE BUSS BOLT-ON TYPE, WHERE NOTED PROVIDE:
 - 1) GROUND FAULT CIRCUIT INTERRUPT BREAKERS
 - 2) ARC FAULT CIRCUIT INTERRUPT BREAKERS
 - 3) SHUNT TRIP BREAKERS
 - 4) LOCK ON DEVICES
 - B. ALL BREAKERS USED TO PANEL SWITCH LIGHTING CIRCUITS SHALL BE UL LISTED SWD (SWITCHING DUTY) RATED AT APPLIED VOLTAGE. ALL BREAKERS USED TO SERVE PACKAGE TYPE AIR CONDITIONING EQUIPMENT SHALL BE UL LISTED "HACR".
 - C. BUS BAR CONNECTIONS TO THE BRANCH CIRCUIT BREAKERS SHALL BE "PHASE SEQUENCE" TYPE, THREE-PHASE, FOUR-WIRE BUSSING SHALL BE SUCH THAT ANY THREE ADJACENT SINGLE-POLE BREAKERS ARE INDIVIDUALLY CONNECTED TO EACH OF THE THREE DIFFERENT PHASES.
 - D. FRONTS SHALL INCLUDE DOORS AND HAVE FLUSH, C.P. STEEL, CYLINDER LOCKS WITH CATCHES AND SPRING-LOADED DOOR PULLS. FRONTS SHALL HAVE ADJUSTABLE INDICATING TRIM CLAMPS WHICH ARE CONCEALED WHEN THE DOORS ARE CLOSED, DOORS SHALL BE MOUNTED BY CONCEALED HINGES. FRONTS SHALL NOT BE REMOVABLE WITH DOOR IN LOCKED POSITION. A CIRCUIT DIRECTORY FRAME AND CARD WITH A CLEAR PLASTIC COVERING SHALL BE PROVIDED ON THE INSIDE OF THE DOOR. FRONTS SHALL BE OF CODE GAUGE, FULL FINISHED STEEL WITH RUST-INHIBITING PRIMER AND BAKED ENAMEL FINISH. MINIMUM PANELBOARD WIDTH TO BE 20".
 - E. FOR EACH PANEL, FURNISH ONE CIRCUIT BREAKER LOCK OFF DEVICE.
 - F. DIRECTORY CARDS SHALL BE TYPED AND PROTECTED WITH CLEAR PLASTIC. INDICATE CIRCUITS USE SUCH AS "LIGHTING-OFFICE 105". VERIFY PROPER ROOM IDENTIFICATION.

3. WIRING DEVICE:

- A. DEVICES SHALL BE "SPECIFICATION" GRADE.
 - B. RECEPTACLES SHALL BE 20 AMP; HAVE GROUNDING TERMINAL AND SHALL BE "SELF-GROUNDING" EXCEPT WHEN "ISOLATED GROUND" IS NOTED.
 - C. DEVICES SHALL BE GRAY IN COLOR, OR AS SELECTED BY THE ARCHITECT.
 - D. ISOLATED GROUND DEVICES SHALL BE ORANGE IN COLOR.
 - E. PLATES SHALL BE SAME MANUFACTURER AS DEVICES AND SHALL BE 0.04" THICK BRUSHED STAINLESS STEEL.
 - F. DEVICES ON OPPOSITE SIDES OF A RATED PARTITION SHALL BE SEPARATED BY A MINIMUM OF 24".
4. SAFETY SWITCHES:
- A. SHALL BE OF FUSIBLE AND OF HEAVY DUTY CONSTRUCTION.
 - B. PROVIDE NEMA 3R RATED SWITCHES OUTDOORS.

SECTION 16403 UNDERGROUND ELECTRICAL SERVICE

1. UNDERGROUND RACEWAYS SHALL BE SCHEDULE 40 PVC OR RIGID STEEL CONDUIT UNLESS SPECIFICALLY NOTED OTHERWISE.
2. UN-ENCASED UNDERGROUND RACEWAYS TO BE IDENTIFIED WITH 6-INCH WIDE PLASTIC IMPRINTED TAPE. COLOR AND WORDING TO IDENTIFY UNDERGROUND UTILITY.
3. ALL UNDERGROUND RACEWAYS TO BE BURIED A MINIMUM OF 30 INCHES BELOW GRADE. INCOMING UTILITY SERVICES TO BE BURIED PER UTILITY COMPANY REQUIREMENTS.
4. SECONDARY CONDUCTORS SHALL RUN IN SECONDARY CONDUITS FROM THE BUILDING MAIN DISCONNECT TO THE "CT" CABINET AND TRANSFORMER PAD. COORDINATE PAD AND TERMINATION WITH THE UTILITY COMPANY.

SECTION 16404 SURGE SUPPRESSION

1. TVSS UNITS SHALL BE LISTED IN ACCORDANCE WITH UL 1449 SECOND EDITION TO INCLUDE SECTION 37.3 HIGHEST FAULT CURRENT CATEGORY. SPD SHALL BE UL 1283 LISTED.
 2. TVSS UNITS SHALL PROVIDE SURGE CURRENT DIVERSION PATHS FOR ALL MODES OF PROTECTION; L-N, L-G, N-G IN WYE CONFIGURED SYSTEMS.
 3. TVSS UNITS SHALL BE MODULAR IN DESIGN AND HAVE TWO MODULES PER PHASE FOR REDUNDANT PROTECTION.
 4. EACH MODE INCLUDING N-G SHALL BE FUSED AND HAVE INTEGRAL DIAGNOSTIC INDICATING LIGHTS.
 5. AUDIBLE DIAGNOSTIC MONITORING SHALL BE BY WAY AUDIBLE ALARM. THIS ALARM SHALL ACTIVATE UPON A FAULT CONDITION. AN ALARM ON/OFF SWITCH SHALL BE PROVIDED TO SILENCE THE ALARM. AN ALARM PUSH TO TEST SWITCH SHALL BE PROVIDED.
 6. TVSS UNIT SHALL MEET OR EXCEED THE FOLLOWING CRITERIA:
 - A. MINIMUM SURGE CURRENT CAPABILITY (SINGLE PULSE RATED) SHALL BE 120KA PER PHASE
 - B. UL 1449 LISTED SUPPRESSION VOLTAGE RATINGS FOR SERVICE ENTRANCE SHALL NOT EXCEED THE FOLLOWING:

VOLTAGE	L-N	L-G	N-G
208Y/120V	400	400	400
 7. TVSS UNITS SHALL HAVE A MINIMUM EMI/RFI FILTERING OF -50DB AT 100KHZ.
 8. TVSS UNITS SHALL BE PROVIDED WITH ONE SET OF NO/NC DRY CONTACTS.
 9. PROVIDE A FIVE YEAR WARRANTY IN ACCORDANCE WITH THE MANUFACTURER'S STANDARD ARRANGEMENT.
 10. TVSS UNIT CAN BE EITHER INTEGRAL OR EXTERNAL TO THE PANEL. EXTERNAL UNITS SHALL BE MOUNTED A MAXIMUM OF 12 INCHES FROM THE PANEL.
- ## SECTION 16450 GROUNDING
1. GROUNDING OF THE ELECTRICAL SYSTEM SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
 2. METAL ENCLOSURES, CABLE TRAYS, OR RACEWAYS FOR CONDUCTORS OR EQUIPMENT SHALL BE GROUNDED.
 3. EXPOSED NONCURRENT-CARRYING METAL PARTS OF FIXED EQUIPMENT LIKELY TO BECOME ENERGIZED SHALL BE GROUNDED.
 4. BONDING SHALL BE PROVIDED AND CONFORM TO ALL REQUIREMENTS OF NEC ARTICLE 250 PART V.
 5. ALL RACEWAYS SHALL CONTAIN A GROUNDING CONDUCTOR.

SECTION 16500 LIGHTING FIXTURES, LAMPS AND BALLASTS

1. FURNISH LIGHTING FIXTURES, LAMPS AND BALLASTS AS INDICATED ON THE DRAWINGS OR APPROVED EQUALS TO SPECIFIED FIXTURES.
2. FURNISH ALL REQUIRED INSTALLATION ACCESSORIES FOR THE FIXTURES AS REQUIRED FOR THE SPECIFIC LOCATION WHETHER OR NOT INCLUDED IN THE MANUFACTURER'S CATALOG NUMBER. SUCH ACCESSORIES INCLUDE PLASTER FRAMES, RINGS, FLANGES, CANOPIES, STEM HANGERS, AND SUSPENSION STRAPS.
3. ALL RAPID START FLUORESCENT FIXTURES TO BE FURNISHED WITH ENERGY SAVING BALLAST CBM CERTIFICATION AND UL APPROVAL WITH "A" SOUND RATING OVER 90% POWER FACTOR AND UL'S PREMIUM CLASS "P" RATING.
4. PROVIDE COLD WEATHER BALLASTS ON ALL OUTDOOR FLUORESCENT FIXTURES.
5. BALLASTS SHALL BE MANUFACTURED BY ADVANCE TRANSFORMER COMPANY, GENERAL ELECTRIC, OR UNIVERSAL MANUFACTURING CORP., AND TO BE CBM, ETC OR UL LISTED.
6. INSTALL LAMPS IN ALL FIXTURES INSTALLED UNDER THIS CONTRACT IN ACCORDANCE WITH THE FIXTURE SCHEDULE ON THE DRAWINGS.
7. LAMPS SHALL BE BY PHILLIPS, GENERAL ELECTRIC, OR SYLVANIA.
8. UNLESS SPECIFICALLY NOTED OTHERWISE, ALL INCANDESCENT LAMPS SHALL BE 120 VOLT.
9. FIXTURES SHALL BE SECURELY MOUNTED TO ELEMENTS OF THE BUILDING OR TO SUSPENDED CEILING SYSTEMS. WIRE SUPPORTED FROM THE STRUCTURE SHALL BE PROVIDED FOR FIXTURES INSTALLED IN LAY-IN CEILINGS. PROVIDE MEANS OF SUPPORT AS REQUIRED IN NEC ARTICLE 410.16.
10. FLUSH FIXTURES WITH LIGHT SPILLING BETWEEN FRAME AND CEILING TO HAVE FELT GASKETS INSTALLED BETWEEN TRIM AND CEILING.
11. ALL FLUORESCENT BALLASTS SHALL HAVE END OF LAMP LIFE CIRCUITRY.
12. ALL BALLASTED FIXTURES SHALL HAVE A DISCONNECTING MEANS AT THE FIXTURE PER THE REQUIREMENTS OF NEC 410.73.

SECTION 16721 FIRE ALARM SYSTEM

1. FIRE ALARM INSTALLATION SHALL BE UL LISTED AND CONFORM TO THE REQUIREMENTS OF NFPA 72, NFPA 101, LOCAL BUILDING CODES, AND THE NEC.
2. ALARM AND ALERTING DEVICES SHALL BE HORNS WITH VISUAL DISPLAY.
3. DUCT SMOKE DETECTORS CONTROL FUNCTIONS SHALL INCLUDE AIR HANDLING UNIT SHUT DOWN.

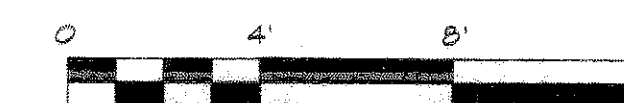
SECTION 16740 TELEPHONE SERVICE

1. PROVIDE THE NECESSARY CONDUITS, OUTLETS, PLATES, CABINETS, AND PLYWOOD MOUNTING BOARDS AS SHOWN AND/OR AS REQUESTED BY THE TELEPHONE UTILITY.
2. UNLESS SPECIFICALLY NOTED, MINIMUM CONDUIT SIZE SHALL BE 3/4" CONDUIT SERVING 2 OR MORE PHONES SHALL BE 1" OR LARGER, AS NOTED.
3. TERMINAL CABINETS SHALL BE THE SAME STYLE AS POWER PANELBOARDS WHEN WITHIN 5' OF POWER PANEL. TELEPHONE CABINET SHALL MATCH POWER PANEL SIZE; OTHERWISE MINIMUM SHALL BE 20" X 4" X 36" HIGH.
4. TELEPHONE BACKBOARDS SHALL BE 3/4" GRADE B-C PLYWOOD OF SIZE NOTED IN DRAWINGS.
5. PROVIDE EMPTY CONDUIT SYSTEMS FOR TELEPHONE COMPANY.

SECTION 16900 CONTACTORS, PHOTO-ELECTRIC CONTROLS & TIME CLOCKS

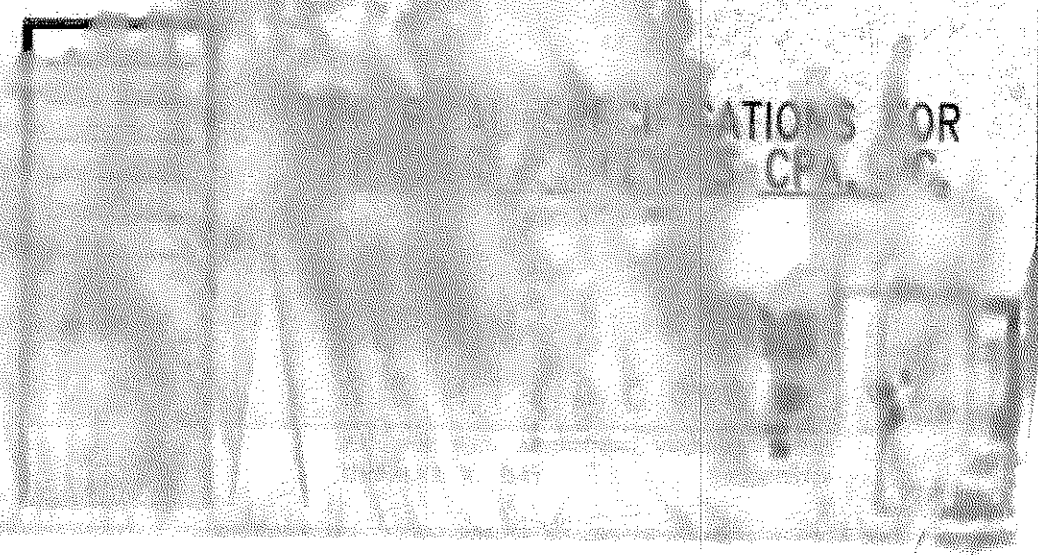
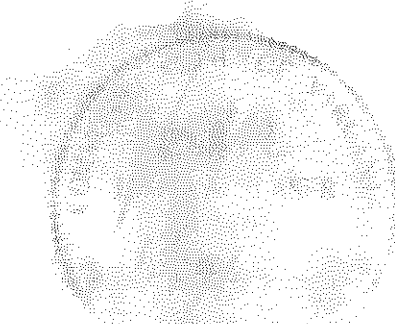
1. CONTACTORS SHALL BE SUITABLE FOR CONTINUOUS DUTY WITH ALL TYPES OF LOADS, AND BE INDUSTRIAL DUTY AND RATED 600 VOLTS.
2. CONTACTORS SHALL HAVE 120 VOLT COILS UNLESS NOTED OTHERWISE.
3. CONTACTORS SHALL HAVE TOTALLY ENCLOSED SILVER ALLOY DOUBLE BREAK POWER CONTACTS CAPABLE OF MAKING AND BREAKING ANY LOAD WITHIN THE RATING OF THE CONTACTOR WITHOUT THE ASSISTANCE OF AUXILIARY ARCING CONTACTS. ALL CONTACTS MUST BE REMOVABLE WITHOUT DISTURBING LINE OR LOAD WIRING.
4. PHOTO-ELECTRIC CONTROLS SHALL BE CONSTRUCTED OF CADMIUM SULPHIDE CELL HERMETICALLY SEALED GLASS TO STEEL AND HAVE TOTALLY ENCLOSED CONTACTS, NORMALLY CLOSED, SNAP ACTION, RATED 1800 VA.
5. THE TIME CLOCK SHALL BE GENERAL PURPOSE, 24-HOUR CONTROL.

END OF SPECIFICATIONS



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

ATIONS OR
CPA



07116 ELECTRICAL.dwg - Layout Tab, E-6
xref: 07116 TBL.DWG, 07116 WFL.DWG, 07116 XREF-SITE.dwg - VA-jm.dwg
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