

HVAC LEGEND			
SD-1 300 — CFM	DIFFUSER DESIGNATION	Ⓢ	DUCT SMOKE DETECTOR
☒	EXHAUST FAN	Ⓣ	PROGRAMMABLE THERMOSTAT
☒	S.A. DIFFUSER	RTU	ROOF TOP UNIT
☒	R.A. DIFFUSER	(N)	NEW
—	MANUAL DAMPER	GD	GRAVITY DAMPER
OA/SA/RA	OUTSIDE/SUPPLY/RETURN AIR	EF	EXHAUST FAN
Ⓣ <sub>s</sub>	REMOTE TEMPERATURE SENSOR	MAU	MAKE UP AIR UNIT

MECHANICAL DRAWING LIST	
M-001	MECHANICAL SCHEDULES, NOTES, AND LEGENDS
M-002	MECHANICAL SPECIFICATIONS
M-101	MECHANICAL FLOOR & ROOF PLAN
M-201	MECHANICAL DETAILS (1 OF 2)
M-202	MECHANICAL DETAILS (2 OF 2)

### INDIANA BUILDING DEPARTMENT NOTES

ALL WORK SHALL COMPLY WITH APPLICABLE SECTIONS OF INDIANA BUILDING CODE AND ALL AMENDMENTS AND RULES AND REGULATIONS OF THE DEPARTMENT OF BUILDINGS TO DATE.

- THE CONTRACTOR SHALL ENGAGE THE SERVICES OF A PROFESSIONAL ENGINEER TO PROVIDE THE REQUIRED SPECIAL INSPECTIONS AND TESTS.
- TESTS WILL BE CONDUCTED UNDER DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT OR OTHER PERSON HAVING NOT LESS THAN FIVE (5) YEARS EXPERIENCE SUPERVISING THE INSTALLATION OF SUCH MECHANICAL SYSTEMS.
- THE LICENSED PROFESSIONAL ENGINEER, ARCHITECT OR OTHER PERSON HAVING NOT LESS THAN FIVE (5) YEARS EXPERIENCE SUPERVISING THE INSTALLATION OF SUCH MECHANICAL SYSTEMS AND CONDUCTING SUCH TESTS WILL FILE DOCUMENTATION AND REPORTS OF TESTS THAT THE SYSTEM COMPLIES WITH THE CONSTRUCTION DOCUMENTS AND APPLICABLE LAWS.
- TESTS OF MECHANICAL SYSTEMS SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING SECTIONS OF THE 2012 INDIANA MECHANICAL CODE:
  - VENTILATION SYSTEM BALANCING MC 403.3
- THE FOLLOWING WORK ITEMS, COMPONENTS, MATERIALS, CAPACITIES, ETC. SHALL COMPLY WITH THE REFERENCED CODE OR STANDARD:
  - SPACE HEATING SYSTEM - IMC 309.1
  - DUCT CONSTRUCTION AND INSTALLATION- IMC 603
  - SMOKE CONTROL SYSTEM - IMC 613
- A STATEMENT SHALL BE FILED BY THE OWNER OR TENANT IN POSSESSION THAT THE VENTILATION SYSTEM WILL BE KEPT IN CONTINUOUS OPERATION AT ALL TIMES DURING THE NORMAL OCCUPANCY OF THE STRUCTURE AS REQUIRED BY 2012 IMC 403.3.
- FIRE DAMPERS AND CEILING DAMPERS LOCATED WITHIN THE AIR DISTRIBUTION AND SMOKE CONTROL SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 2012 IMC 607.
- REFER TO ARCHITECTURAL DRAWINGS FOR REQUIRED FIRE-RATED WALL AND SMOKE WALL CONSTRUCTION AND LOCATION.
- THESE PLANS ARE APPROVED ONLY FOR THE WORK INDICATED ON THE APPLICATION SPECIFICATION SHEET. ALL OTHER MATTERS SHOWN ARE NOT TO BE RELIED UPON OR TO BE CONSIDERED AS EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.
- ALL HEATING AND COOLING LOADS CALCULATED PER ASHRAE/ACCA 183.
- MINIMUM TEMPERATURE TO BE MAINTAINED IN OCCUPIED SPACES DURING HEATING SEASON: 68 DEG. FAHRENHEIT.
- A WRITTEN REPORT DESCRIBING THE ACTIVITIES AND MEASUREMENTS COMPLETED IN ACCORDANCE WITH ASHRAE 90.1-2007.

### NOTE TO CONTRACTOR

- THE WORK UNDER CONTRACT INCLUDES ALL LABOR, MATERIALS AND APPLIANCES NECESSARY FOR THE FURNISHING, INSTALLING AND TESTING, COMPLETE AND READY FOR SAFE OPERATION OF THE SYSTEMS AS DESCRIBED IN THE SPECIFICATIONS, FLOOR PLAN(S) DESIGN, DETAIL DRAWINGS, NOTES, ETC. FOR THIS PROJECT. WORK SHALL BE INSTALLED IN A NEAT, WORKMANLIKE MANNER.
- THE CONTRACTOR SHALL GIVE NECESSARY NOTICE, FILE DRAWINGS AND SPECIFICATIONS WITH THE DEPARTMENT HAVING JURISDICTION, OBTAIN PERMITS OR LICENSES NECESSARY TO CARRY OUT THIS WORK AND PAY ALL FEES THEREFOR. THE CONTRACTOR SHALL ARRANGE FOR INSPECTION AND TESTS OF ANY OR ALL PARTS OF THE WORK IF SO REQUIRED BY AUTHORITIES AND PAY ALL CHARGES FOR SAME. THE CONTRACTOR SHALL PAY ALL COSTS FOR, AND FURNISH TO THE OWNER BEFORE FINAL BILLING, ALL CERTIFICATES NECESSARY AS EVIDENCE THAT THE WORK INSTALLED CONFORMS WITH ALL REGULATIONS WHERE THEY APPLY TO THIS WORK.
- THE CONTRACTOR SHALL FURNISH A WRITTEN GUARANTEE TO REPLACE OR REPAIR PROMPTLY AND ASSUME RESPONSIBILITY FOR ALL EXPENSES INCURRED FOR ANY WORKMANSHIP AND EQUIPMENT IN WHICH DEFECTS DEVELOP WITHIN ONE YEAR FROM THE DATE OF FINAL CERTIFICATE FOR PAYMENT AND/OR FROM DATE OF ACTUAL USE OF EQUIPMENT OR OCCUPANCY OF SPACES, BY OWNER, INCLUDED UNDER THE VARIOUS PARTS OF THE WORK, WHICHEVER DATE IS EARLIER. THIS WORK SHALL BE DONE AS DIRECTED BY THE OWNER. THIS GUARANTEE SHALL ALSO PROVIDE THAT WHERE DEFECTS OCCUR, THE CONTRACTOR WILL ASSUME RESPONSIBILITY FOR ALL EXPENSES INCURRED IN REPAIRING AND REPLACING WORK OF OTHER TRADES AFFECTED BY DEFECTS, REPAIRS OR REPLACEMENTS IN EQUIPMENT SUPPLIED BY THE CONTRACTOR.

### ENERGY CONSERVATION CODE OF INDIANA COMPLIANCE

TO THE BEST OF MY PROFESSIONAL KNOWLEDGE AND JUDGEMENT, THESE PLANS AND SPECIFICATION ARE IN COMPLIANCE WITH THE ENERGY CONSERVATION CODE OF INDIANA ASHRAE 90.1, 2007.

### NEW GAS-FIRED PACKAGED ROOFTOP UNIT & MAU SCHEDULE

TAG	SERVES	CFM	O.A. CFM	E.S.P.	COOLING					HEATING					ELECTRICAL			WEIGHT (LBS)	MANUFACTURER/ MODEL #	REMARKS	
					NOM. TONS	TOTAL MBH	SENS. MBH	EER/ IEER	ENT DB/WB	LAT DB/WB	INPUT MBH	OUTPUT MBH	% EFF.	EAT DB/WB	LAT DB/WB	V/Ø/HZ	MCA				MOCP
RTU-1(N)	SEE PLAN	3000	600	1.0	7.5	94.3	72.8	11/14.6	80/67	-	120.0	97.0	81	-	-	208-230/3/60	42.0	50.0	1350	TRANE YSJO90 (OR EQUIVALENT)	1 TO 4, 6 TO 14
MAU-1(N)	SEE PLAN	1300	1300	0.3	6.0	73.0	54.0	11.6/14.1	95/73	54.89/54.84	140.0	113.4	81	0/-2	80.8/49.1	208/3/60	35.0	50.0	929	AAON RQ-006-B-V-FB09-359	2 TO 6, 8, 10 TO 12, 14

NOTES & ACCESSORIES:

- PROVIDE 100% ENTHALPY CONTROLLED ECONOMIZER WITH BAROMETRIC RELIEF, VFD, POWERED CONVENIENCE OUTLET, NON-FUSED DISCONNECT, HAIL GUARD, 2" MERV 8 FILTERS, FAULT DETECTION AND DIAGNOSTICS, HOT GAS REHEAT.
- CONTRACTOR TO HIRE STRUCTURAL ENGINEER TO VERIFY STRUCTURAL INTEGRITY OF ROOF DECK. ADDITIONAL STRUCTURAL REQUIREMENTS ARE THE RESPONSIBILITY OF THIS CONTRACTOR.
- CONTRACTOR TO PROVIDE NEW ROOF OPENINGS AS REQUIRED. PROVIDE SEAL AND WATER PROOFING FOR THE ROOF IN COORDINATION WITH THE ARCHITECT.
- RUN 1" CONDENSATE DRAIN LINE TO NEAREST ROOF DRAIN, SPLASH BLOCK, OR LANDLORD APPROVED DRAINAGE LOCATION.
- PROVIDE NEW 18" HIGH FACTORY MANUFACTURED ROOF CURB TO INSTALL THE UNIT.
- PROVIDE WITH CLASS 1A MOTORIZED DAMPER FOR FRESH AIR.
- PROVIDE CURB ADAPTOR TO INSTALL THE NEW RTU UNIT ON THE EXISTING ROOF CURB.
- UNIT SHALL BE COMPLETE WITH GAS HEATING SECTION. GAS REGULATOR TO RECEIVE (4.5-14)" GAS PRESSURE FROM MAIN.
- PROVIDE 8-WIRE, 24 VAC, AUTOMATIC CHANGE-OVER, 2-STAGE HEAT / COOL, 7-DAY REMOTE PROGRAMMABLE THERMOSTAT.
- ANTI SHORT CYCLE TIMER.
- PROVIDE POWERED CONVENIENCE OUTLET, NON-FUSED DISCONNECT, HAIL GUARD, 2" MERV 8 FILTERS AND FAULT DETECTION.
- PROVIDE ALL COMPRESSORS WITH 5 YEAR WARRANTY.
- RETURN AIR SMOKE DETECTOR - UNIT MOUNTED.
- PLUMBING CONTRACTOR TO COORDINATE EXACT GAS REQUIREMENTS OF RTU-1(N) AND MAU-1(N) INSTALLED ON SITE.

### FAN SCHEDULE

No.	UNIT TAG	MANUFACTURER	MODEL	SERVICE	MOUNTING LOCATION	CFM	ESP (IN)	DRIVE (BELT/DIRECT)	MIN. HP	FAN RPM	ELEC. V/PH	ELEC. FLA	REMARK	NOTES
1	EF-1(N)	XLT	VT-DU85HFA	KITCHEN EXHAUST	ROOF	1800	1.0	DIRECT	0.75	1342	230/3	2.5	-	1 TO 4, 6
2	EF-2(N)	GREENHECK	SP-B110	TOILET EXHAUST	CEILING	75	0.5	DIRECT	-	950	115/1	1.15	WITH GRILLE	1 TO 5

NOTES :-

- PROVIDE VIBRATION ISOLATORS, THERMAL OVERLOAD PROTECTION, UL, AMCA SEAL.
- PROVIDE FACTORY MOUNTED AND INSTALLED DISCONNECT SWITCH.
- PROVIDE ACCESS DOOR TO SERVICE UNIT IF IN HARD CEILING.
- INSTALL AS PER MANUFACTURERS RECOMMENDATION.
- EF-2(N) TO INTERLOCK WITH LIGHTS & OCCUPANCY SENSOR. OWNER/ARCHITECT TO CONFIRM CONTROL METHOD. COORDINATE WITH THE ELECTRICAL ENGINEER FOR WIRING.
- EF-1(N) TO INTERLOCK WITH HOOD-1(N). COORDINATE WITH THE ELECTRICAL ENGINEER FOR WIRING.

### HOOD

UNIT ID	MANUFACTURER	LENGTH (FEET-INCH)	MODEL	SERVICE	EXHAUST		CONSTRUCTION	UL LISTING
					AIR (CFM)	COLLAR (INCH)		
HOOD-1(N)	XLT	10'-8"	XLT 3270H	OVEN	1800	14X14	430 STAINLESS STEEL	710

### VENTILATION CALCULATIONS

ROOM NAME	AREA	HEIGHT	NUMBER OF PEOPLE/1000sq.ft AS PER 2012 IMC	NUMBER OF PEOPLE 2012 IMC	FINAL PEOPLE NO.	CFM AS PER 2012 IMC		CALCULATED VENT CFM	PROVIDED, OAI	TOILET EXHAUST CFM	KITCHEN EXHAUST CFM	REMARK
						CFM/PERSON	CFM/SQ.FT					
CUSTOMER LOBBY	238	12	50	12	5	7.5	0.06	52	250	-	-	2012 IMC BOOKING/WAITING
KITCHEN	782	12	-	-	6	0	0	0	350	-	1300	2012 IMC KITCHEN
TOILET	42	12	0	0	0	0	0	0	-	75	-	2012 IMC TOILET
TOTAL									600			

### AIR BALANCING

UNIT TAG	AREA SERVED	SUPPLY AIR (CFM)	OUTSIDE AIR (CFM)	RETURN AIR (CFM)	EXHAUST AIR (CFM)	BALANCE
RTU-1(N)	SEE PLAN	3000	600	2400	-	+600
MAU-1(N)	SEE PLAN	1300	1300	-	-	+1300
EF-1(N)	KITCHEN	-	-	-	1800	-1800
EF-2(N)	TOILET	-	-	-	75	-75
TOTAL:		4300	1800	2400	1875	+25
BUILDING PRESSURE:				POSITIVE		

NOTE: CONTRACTOR TO REBALANCE OUTSIDE AIR & RETURN AIR DAMPERS ON RTU TO MATCH VALUES MENTIONED IN ABOVE TABLE.

### MINIMUM EXHAUST RATE

UNIT TAG	AREA PURPOSE	GROSS FLOOR AREA (SQ.FT.)	EXHAUST CFM PER FIXTURE	EXHAUST CFM PER SQFT	TOTAL EXHAUST REQUIRED	ACTUAL EXHAUST AIR PROVIDED
EF-1	KITCHEN	782	-	0.7	545	1800
EF-2	TOILET	42	75	-	75	75
EXHAUST AIRFLOW						1875

NOTE: EXHAUST REQUIREMENTS PER IMC 2012 TABLE 403.3

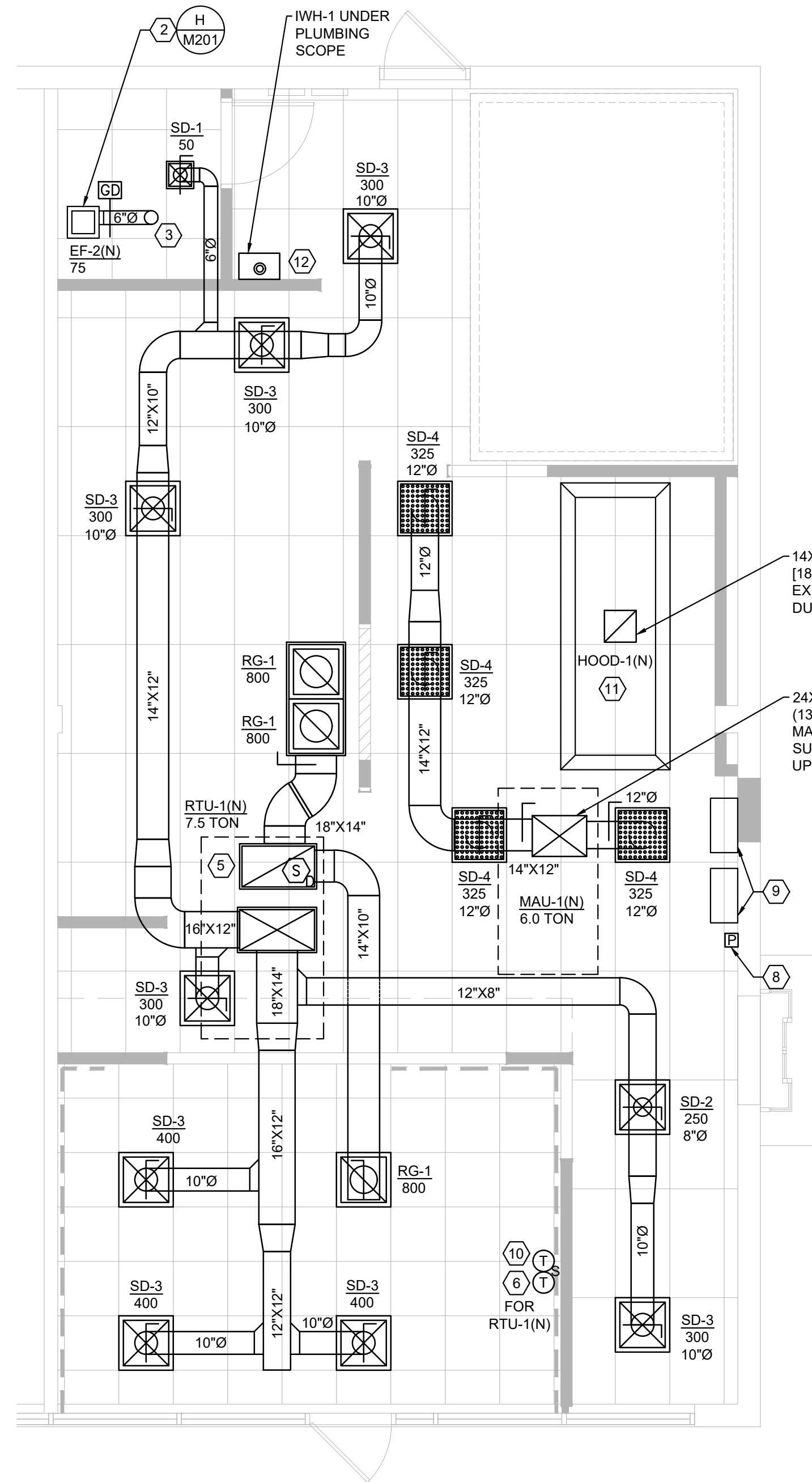
### GRILLE, REGISTER AND DIFFUSER SCHEDULE

No.	TAG	MANUFACTURER	MODEL	CFM RANGE	SIZE (IN)		MOUNTING		MATERIAL		FINISH	BORDER STYLE
					MOD.	NECK	SIDE-WALL	CEILING	DUCT	STEEL		
1	SD-1	TITUS	TMS	0-100	12X12	6"Ø		●			"C"	"B"
2	SD-2	TITUS	TMS	140-250	24X24	8"Ø		●			"C"	"B"
3	SD-3	TITUS	TMS	218-400	24X24	10"Ø		●			"C"	"B"
4	SD-4	TITUS	PAS	236-400	24X24	12"Ø		●			"C"	"C"
5	RG-1	TITUS	50F	650-1884	24X24	22X22		●			"C"	"B"

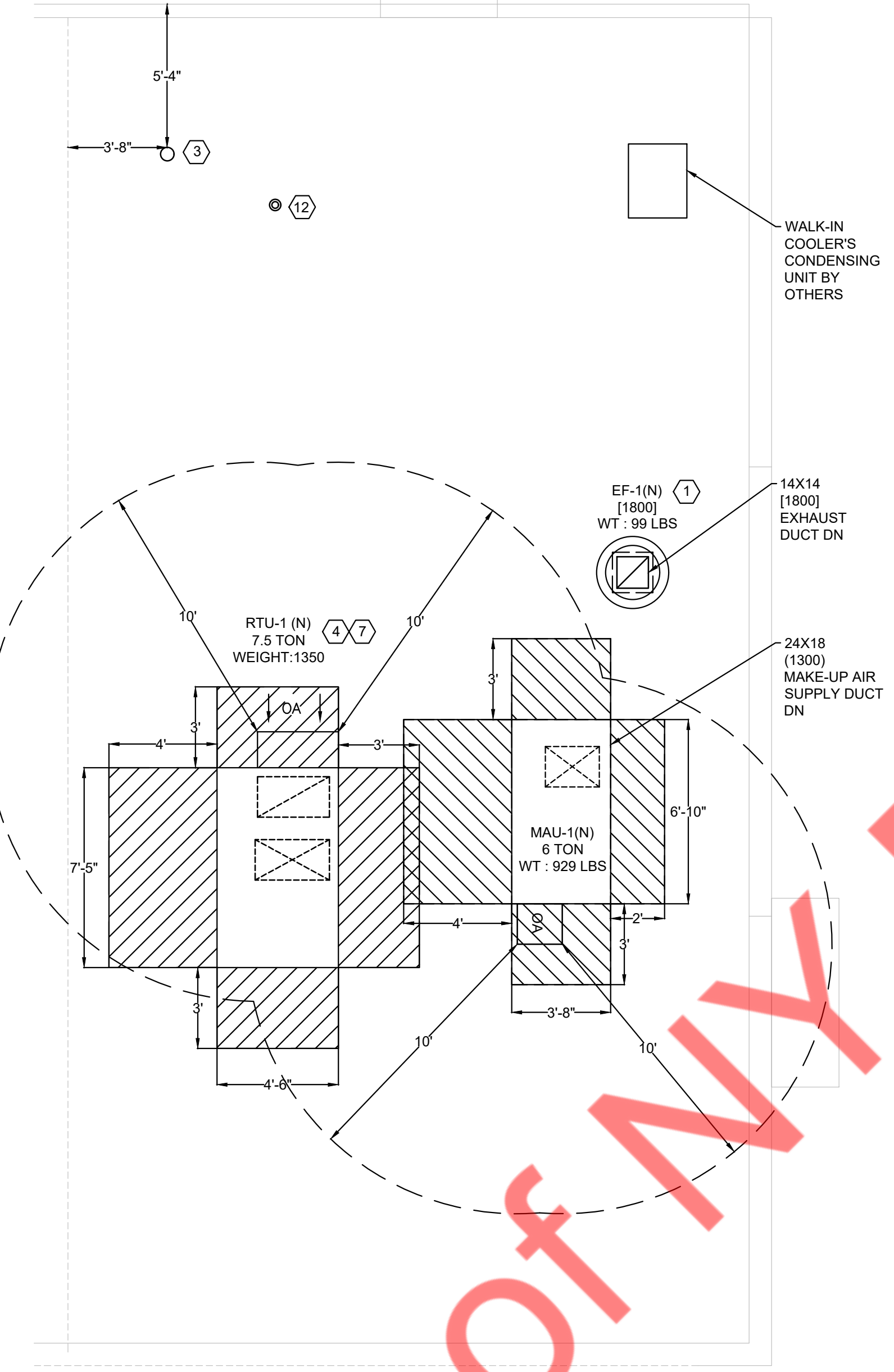
NOTES :-

- SYMBOL KEY- FIRST LETTER: S-SUPPLY R-RETURN E-EXHAUST SECOND LETTER: D-DIFFUSER R-REGISTER G-GRILLE
- CATALOGUE NUMBERS REFER TO TITUS AIR DEVICES. SEE PLANS FOR DUCT NECK SIZES.
- DAMPERS SHALL BE OPERABLE FROM FACE "A" YOUNG'S REGULATOR WITH REMOTE SWITCH "C" BUTTERFLY (BD5)
- FINISH "C" BAKED WHITE ENAMELED FINISH STANDARD.
- BORDER STYLE "A" SURFACE MOUNTED "B" LAY-IN MOUNTING "C" LAY-IN PLASTER FRAME





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



2 MECHANICAL ROOF PLAN  
SCALE: 1/4" = 1'-0"

KEY NOTES

NO.	ITEM DESCRIPTION	NO.	ITEM DESCRIPTION
1	EF-1(N) ROOF MOUNTED EXHAUST FAN & CURB FURNISHED BY HOOD SUPPLIER AND INSTALLED BY HVAC CONTRACTOR. HVAC CONTRACTOR TO PROVIDE 16 GA WELDED BLACK IRON DUCT (14x14) FROM HOOD, UP THROUGH ROOF TO EXHAUST FAN. FLASH & SEAL WATER TIGHT. PROVIDE 3M. FIRE MASTER DUCT WRAP TO FORM 0" CLEARANCE TO COMBUSTIBLE. 1HR RATED ENCLOSURE. SEE HOOD DRAWINGS FOR ADDITIONAL REQUIREMENTS. ON SHEET M-202. EF-1(N) SHALL BE UL 782 LABELED UPBLAST TYPE GREASE, BELT-DRIVEN CENTRIFUGAL EXHAUST FAN CONSISTING OF HOUSING, WHEEL, FAN SHAFT, BEARINGS, MOTOR AND DISCONNECT SWITCH, DRIVE ASSEMBLY, HEAT BAFFLE, CURB BASE, AND ACCESSORIES. EXHAUST TO BE TERMINATE AT 40" ABOVE THE ROOF.	5	SMOKE DETECTOR FURNISHED, WIRED AND INSTALLED IN DUCT BY HVAC CONTRACTOR. SMOKE DETECTOR TO BE IONIZATION TYPE. INSTALL IN RETURN AIR DUCT, SMOKE DETECTOR TO SHUT DOWN RTU UPON TRIP OF DETECTOR. PROVIDE MARKING ON GRID INDICATING SMOKE DETECTOR ABOVE.
2	EF-2(N) PROVIDE GREENHECK#SP-B110 CEILING MOUNTED EXHAUST FAN W/BACKDRAFT DAMPER. 75CFM @ 0.5" SP, 120V, 80 WATTS. EXTEND 6" DUCT FROM UNIT UP THROUGH ROOF.	6	HVAC CONTRACTOR TO INSTALL 7 DAY PROGRAMMABLE HEATING/COOLING THERMOSTAT BY UNIT M.F.G COMPATIBLE WITH UNIT. MOUNT THERMOSTAT AT 48" AFF. PROVIDE LOW VOLTAGE CONTROL WIRE AND MAKE SYSTEM FULLY FUNCTIONAL. COORDINATE T-STAT LOCATION WITH LITTLE CAESARS CONSTRUCTION MANAGER PRIOR TO INSTALLATION.
3	EXTEND 6" DUCT UP THROUGH ROOF AND TERMINATE AS PER MANUFACTURER RECOMMENDATION. FLASH AND SEAL WATER TIGHT. TERMINATE TOILET EXHAUST DUCT 3' AWAY FROM PROPERTY LINE, 10' FROM A FORCED AIR INLET, AND 3' FROM OPENINGS INTO THE BUILDING. DUCT TO BE TERMINATED WITH MUSHROOM CAP AIR RELIEF VENT WITH INSECT SCREEN.	7	INSTALL CONDENSATE DRAIN FROM RTU-1(N). MINIMUM DRAIN SIZE TO BE 3/4". CONDENSATE DRAIN TO BE TRAPPED WITH A TRAP DEPTH OF 1.5 X UNITS TOTAL STATIC PRESSURE (MINIMUM 5" DEEP). DRAINS SHALL BE EXTENDED TO A SPLASH BLOCK ON ROOF. PIPING SHALL BE UV RESISTANT PVC. PVC JOINTS SHALL BE CHEMICALLY WELDED
4	RTU-1(N) TRANE HYS1090, 7.5 TON GAS FIRED ROOFTOP UNIT INSTALLED ON ROOF. FURNISHED AND INSTALLED BY THE HVAC CONTRACTOR. 3000 CFM @ 208-230V, 3 Ø, 120 MBH GAS HEAT. SET MINIMUM OA AT 600 CFM. CONTRACTOR SHALL PROVIDE STEEL, ANGLED SUPPORT AND ROOF OPENING TO SUPPORT UNIT PROPERLY. ALL ROOF WORK TO BE PERFORMED BY APPROVED ROOFING CONTRACTOR @ HVAC CONTRACTOR'S EXPENSE. SEAL ALL ROOF PENETRATIONS WEATHERTIGHT. PROVIDE RTU WITH ECONOMIZER, BAROMETRIC RELIEF, 14" HIGH ROOF CURB, 3 SETS OF FILTERS. CHANGE FILTER AFTER FINAL STORE CLEANING AND AGAIN PRIOR TO AIR BALANCE. PROVIDE TRAP CONDENSATE TO SPLASH BLOCK ON ROOF.	8	PULL STATION FURNISHED AND INSTALLED BY HOOD FIRE SUPPRESSION CONTRACTOR MOUNTED @ 48" AFF. PROVIDE FINAL CABLING AND CONNECTION TO HOOD FIRE SUPPRESSION CABINET AND MECHANICAL GAS VALVE.
		9	HOOD CONTROL PANEL AND FIRE SUPPRESSION SYSTEM FURNISHED BY HOOD SUPPLIER AND INSTALLED ON WALL BY HVAC CONTRACTOR. SEE ELECTRICAL PLAN FOR WIRING. HOOD FIRE SUPPRESSION SYSTEM FURNISHED AND INSTALLED BY LICENSED FIRE SUPPRESSION CONTRACTOR. F.S. CONTRACTOR TO SUBMIT PLAN AND OBTAIN APPROVAL UNDER SEPARATE PERMIT APPLICATION PRIOR TO COMMENCEMENT OF WORK.
		10	CONTRACTOR TO PROVIDE REMOTE TEMPERATURE SENSOR IN RETURN AIR PATH AND WIRED BACK TO T-STAT.
		11	KITCHEN EXHAUST HOOD, EXHAUST FAN AND ALL RELATED ACCESSORIES SHALL BE PROVIDED BY KITCHEN EQUIPMENT VENDOR/SUPPLIER AND SHALL BE INSTALLED BY MECHANICAL CONTRACTOR AS PER MANUFACTURER'S RECOMMENDATION.
		12	3"/5"Ø CONCENTRIC CPVC VENT AND OAI GOING UP TO THE ROOF. TERMINATE FLUE VENT AND CAI WITH MANUFACTURER APPROVED TERMINATION KIT AND AS PER MANUFACTURER INSTRUCTIONS.

GENERAL NOTES

NO.	ITEM DESCRIPTION	NO.	ITEM DESCRIPTION
1	CONTRACTOR SHALL BALANCE EACH AIR DIFFUSER WITH THE CFM SHOWN ON PLANS.	8	AVOID FREE DUST MOVEMENT AND DIRT MIGRATING TO OCCUPIED AREAS OF THE BUILDING. BLANK OFF ANY RETURN AIR GRILLES/ DUCTS IN THE WORK AREA. PROVIDE TEMPORARY EXHAUST FANS, DUCTED DIRECTLY TO OUTDOORS, TO MAINTAIN NEGATIVE PRESSURE WITHIN THE WORK AREA.
2	DUCTWORK SHOWN ON PLAN ARE SCHEMATIC ONLY. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES FOR DUCTWORK ROUTING. OFFSET AND RUN DUCTWORK INSIDE THE STRUCTURE IF REQUIRED. PROVIDE ANY EXTRA DUCTWORK, FITTINGS, INSULATIONS AND OTHER ACCESSORIES IN ORDER TO COMPLETE THE INSTALLATION.	9	KEEP ALL ADJOINING AREAS ADJACENT TO THE WORK AREAS CLEAN AND FREE OF DEBRIS.
3	COORDINATE LOCATIONS AND SIZES OF ROOF OPENINGS ON FIELD.	10	TEST AND BALANCE AIR SYSTEMS. PROVIDE REPORT TO GENERAL CONTRACTOR AND OWNER.
4	EQUIPMENT SIZES, DIMENSIONS AND REQUIRED CONNECTIONS SHALL BE VERIFIED WITH THE ACTUAL EQUIPMENT SELECTED VENDOR DRAWINGS BEFORE FABRICATION OF DUCTWORK, PIPING ETC.	11	OUTSIDE AIR INTAKES SHALL BE LOCATED A MINIMUM 10 FEET FROM ANY SANITARY VENT AND EXHAUST FAN DISCHARGE. WHEN NECESSARY, EXTEND VENT OR PROVIDE ADDITIONAL FRESH AIR INTAKE DUCTWORK AS DIRECTED BY THE ENGINEER.
5	DUCT SIZES SHOWN ON PLANS ARE CLEAR INSIDE AIR STREAM DIMENSIONS.		
6	PROVIDE FIRE OR FIRE-SMOKE DAMPER WHEREVER DUCTS ARE CROSSING FIRE/SMOKE RATED WALLS/BARRIERS IN ACCORDANCE WITH THE LOCAL CODE. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR FIRE RATINGS OF THE WALLS.		
7	CONTRACTOR TO ENSURE THE CLEARANCES OF EQUIPMENTS KEPT ON ROOF. PROVIDE A SUITABLE ARRANGEMENTS ON ROOF FOR SERVICE & MAINTENANCE.		

DEMOLITION NOTE

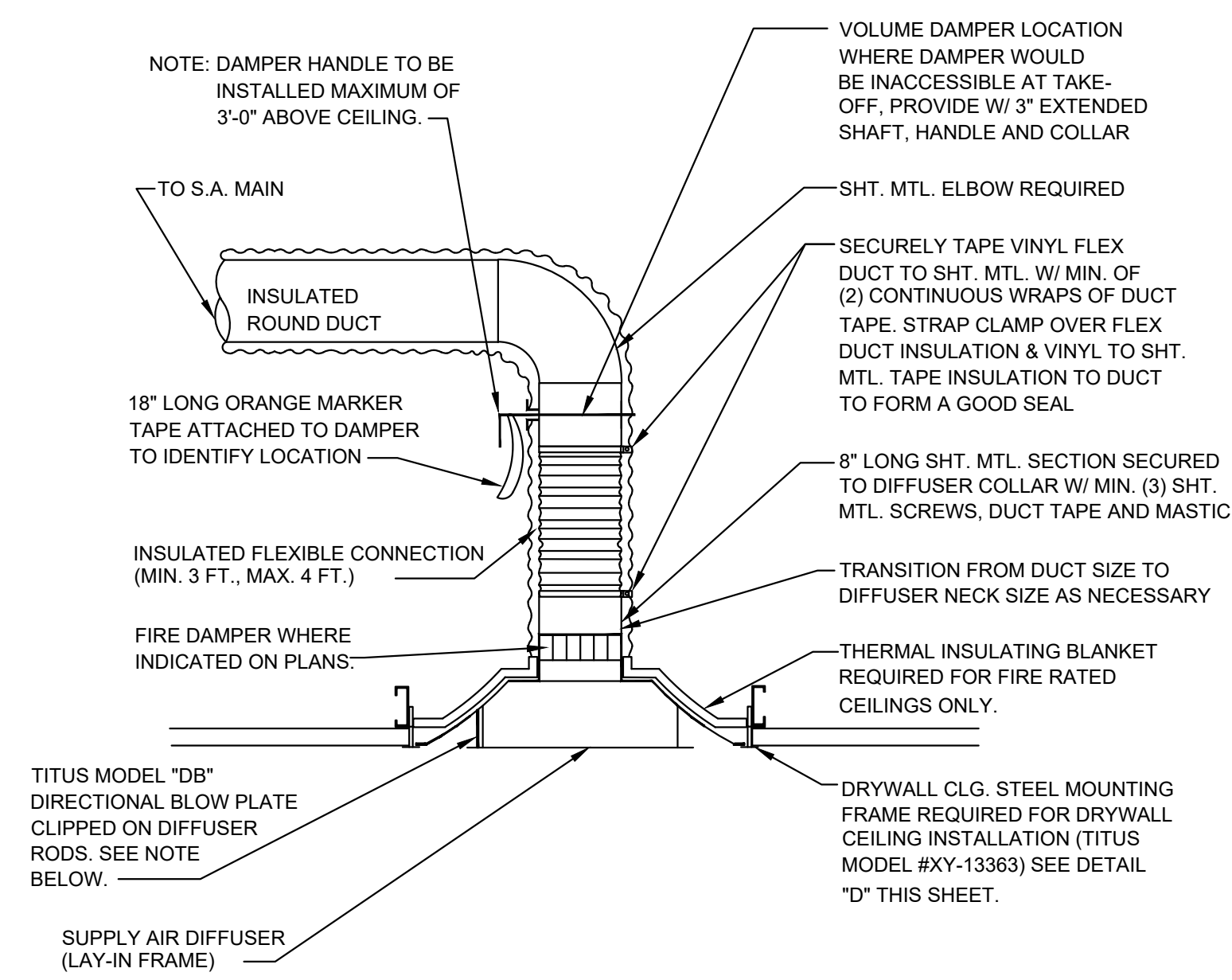
- EXISTING RTU TO BE REMOVED AND NEW RTU TO BE INSTALLED ON EXISTING ROOF CURB.

KITCHEN EXHAUST SYSTEM NOTES

- PROVIDE CLEAN OUT AT ALL ELBOWS AND BOTTOM OF RISER AND EVERY 20 FEET HORIZONTAL KITCHEN EXHAUST DUCT.
- COMMERCIAL KITCHEN GREASE DUCTS SHALL BE DESIGNED FOR THE TYPE OF COOKING APPLIANCE AND HOOD SERVED.
- JOINTS, SEAMS AND PENETRATIONS OF GREASE DUCTS SHALL BE MADE WITH A CONTINUOUS LIQUID TIGHT WELD OR BRAZE MADE IN THE EXTERNAL SURFACE IF THE DUCT SYSTEMS.
- DUCT TO EXHAUST FAN CONNECTIONS SHALL BE FLANGED, GASKETED AND BOLTED TO THE INLET OF THE FAN. APPROVED FLEXIBLE CONNECTIONS MAY BE PROVIDED.
- A VIBRATION ISOLATION CONNECTOR FOR CONNECTING A DUCT TO A FAN SHALL CONSIST OF NON-COMBUSTIBLE PACKING IN A METAL SLEEVE JOINT OF APPROVED DESIGN OR SHALL BE A COATED-FABRIC FLEXIBLE DUCT CONNECTOR LISTED AND LABELED FOR THE APPLICATION. VIBRATION ISOLATION CONNECTORS SHALL BE INSTALLED ONLY AT THE CONNECTION OF A DUCT TO A FAN INLET OR OUTLET.
- PRIOR TO THE USE OR CONCEALMENT OF ANY PORTION OF A GREASE DUCT SYSTEM, A LEAKAGE TEST SHALL BE PERFORMED. DUCT SHALL BE CONSIDERED TO BE CONCEALED WHERE INSTALLED IN SHAFTS OR COVERED BY COATINGS OR WRAPS THAT PREVENT THE DUCTWORK FROM VISUALLY INSPECTED ON ALL SIDE. THE DUCT INSTALLER SHALL BE RESPONSIBLE FOR PROVIDING THE NECESSARY EQUIPMENT AND PERFORMING THE GREASE DUCT LEAKAGE TEST. THE DUCT LEAKAGE TEST SHALL BE PERFORMED FOR ALL THE DUCT SYSTEMS, INCLUDING THE DUCT-TO-DUCT CONNECTION. THE DUCTWORK SHALL BE PERMITTED TO BE TESTED IN SECTIONS, PROVIDED THAT EVERY JOINT IS TESTED (IF TEST IS FAILED, CONTRACTOR TO PROVIDE NEW KITCHEN EXHAUST DUCT).
- PROVIDE SMOKE TEST TO PROOF TIGHTNESS OF THE GREASE DUCT.

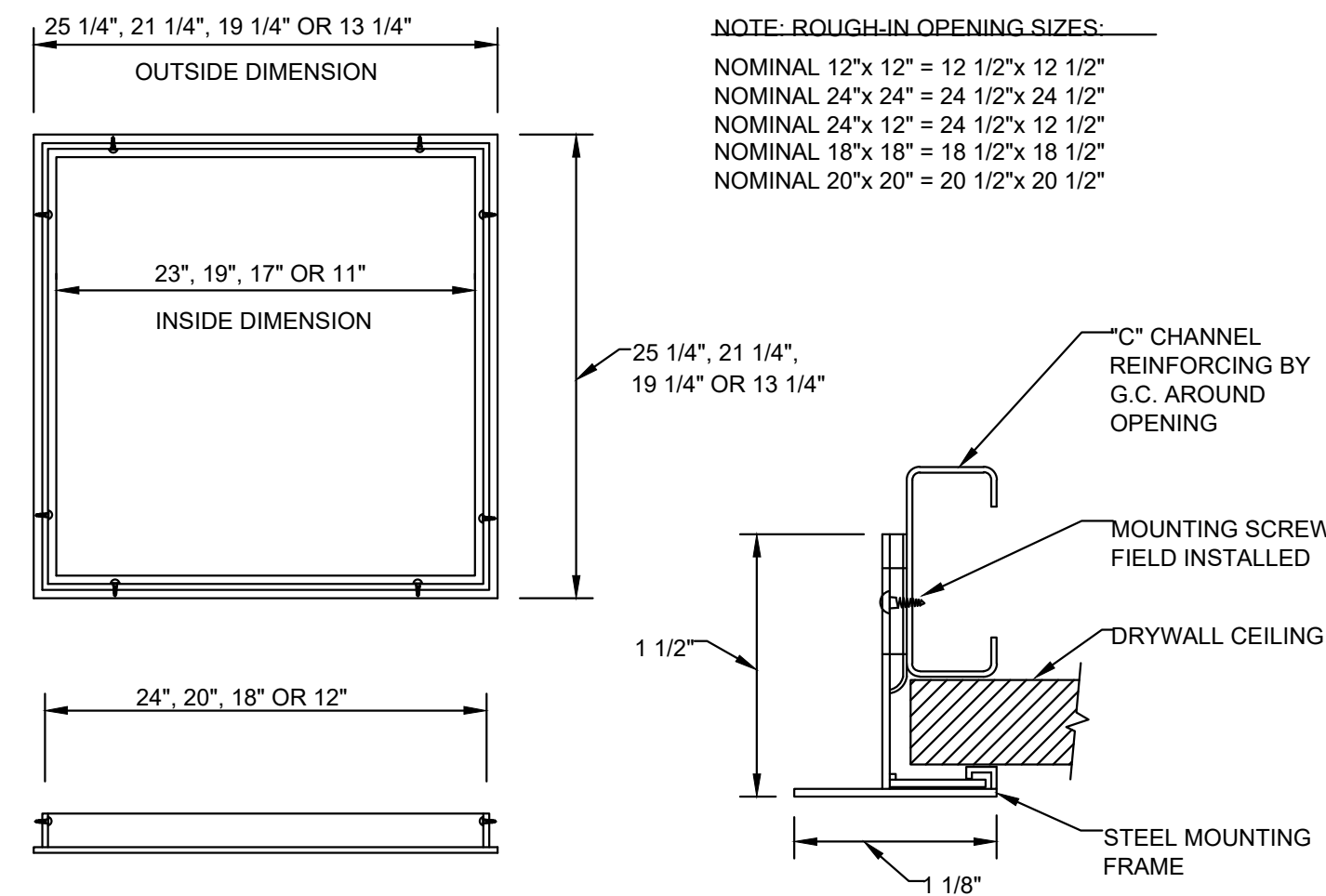
- GREASE DUCT BRACING AND SUPPORTS SHALL BE OF NON-COMBUSTIBLE MATERIAL SECURELY ATTACHED TO THE STRUCTURE AND DESIGNED TO CARRY GRAVITY AND SEISMIC LOADS WITHIN THE IMITATIONS OF THE INDIANA BUILDING CODE. BOLTS, SCREWS, RIVETS AND OTHER MECHANICAL FASTENERS SHALL NOT PENETRATE DUCT WALLS.
- PROVIDE A FUSIBLE LINK FIRE DAMPER OF THE SAME GAGE AS THE HOOD EXHAUST DUCT SHALL BE ADDED AT THE POINT OF CONNECTION OF THE BRANCH DUCT TO THE EXHAUST DUCT. THE FIRE DAMPER SHALL BE CLOSED AUTOMATICALLY UPON THE PENETRATION OF THE FIRE-EXTINGUISHING SYSTEM, AND THE BRANCH DUCT SHALL BE MADE IN EITHER THE TOP OR SIDES OF THE MAIN DUCT IN A MANNER TO PREVENT GREASE FROM FLOWING INTO THE BRANCH DUCT.
- A RESIDUE TRAP SHALL BE PROVIDED AT THE BASE OF EACH VERTICAL RISER WITH PROVISION FOR CLEANOUT IN ACCORDANCE WITH NFPA 96.
- CLEANOUT OPENINGS SHALL BE PROVIDED AT EVERY CHANGE IN DIRECTION, NOT MORE THAN 10 FEET FROM CHANGES IN DIRECTION GREATER THAN 45 DEGREES.
- CLEANOUT OPENINGS SHALL BE EQUIPPED WITH TIGHT-FITTING DOORS CONSTRUCTED OF STEEL HAVING A THICKNESS NOT LESS THAN THAT REQUIRED FOR THE DUCT. DOORS SHALL BE EQUIPPED WITH A SUBSTANTIAL METHOD OF LATCHING, SUFFICIENT TO HOLD THE DOOR TIGHTLY CLOSED. DOOR ASSEMBLIES SHALL HAVE A GASKET OR SEALANT THAT IS NON-COMBUSTIBLE AND LIQUID TIGHT AND SHALL NOT HAVE FASTENERS THAT PENETRATED THE DUCT.
- THE CLEANOUTS FOR HORIZONTAL GREASE DUCT SHALL BE LOCATED ON THE SIDE OF THE DUCT WITH THE OPENING NOT LESS THAN 1.5" ABOVE THE BOTTOM OF THE DUCT AND NOT LESS THAN 1" BELOW THE TOP OF THE DUCT.
- A GREASE DUCT SERVING THE TYPE-1 HOOD THAT PENETRATED A CEILING, WALL OR FLOOR SHALL BE ENCLOSED FROM THE FIRE POINT OF PENETRATION TO THE OUTLET TERMINAL. DUCT ENCLOSURES SHALL HAVE A FIRE-RESISTANCE RATING NOT LESS THAN THAT OF THE FIRE-RESISTANCE RATED ASSEMBLY PENETRATED BUT NEED NOT EXCEED 2 HOURS.

- KITCHEN-EXHAUST OUTLETS SHALL BE LOCATED NOT LESS THAN 10 FEET HORIZONTALLY FROM PARTS OF THE SAME OR CONTIGUOUS BUILDINGS, ADJACENT BUILDINGS AND ADJACENT PROPERTY LINE. THIS EXHAUST OUTLETS SHALL BE LOCATED NOT LESS THAN 10 FEET HORIZONTALLY FROM AND NOT LESS THAN 3 FEET ABOVE AIR INTAKE OPENINGS INTO ANY BUILDING AND 40 INCH ABOVE THE ROOF.
- PROVIDE TYPE-I EXHAUST DUCT FOR HOOD-1 EXHAUST, IN COMPLIANCE WITH IMC 2012.
- PROVIDE UL LISTED 2 LAYERS OF 1.5" THICK FIRE WARP, TESTED IN ACCORDANCE WITH ASTM E2336 FOR TYPE-I EXHAUST DUCTS. FIRE WRAP TO PROVIDE 1 OR 2-HR ENCLOSURE. THROUGH PENETRATION FIRE STOP SYSTEMS ARE TO BE TESTED IN ACCORDANCE WITH ASTM E 814 (UL1479). FOIL COVERING TO BE PROVIDED ABOVE INSULATION.
- A CLEANOUT OPENING SHALL BE LOCATED AT THE BASE OF THE SHAFT TO PROVIDE ACCESS TO THE DUCT TO ALLOW FOR CLEANING AND INSPECTION. THE FINISHED OPENING SHALL BE NOT LESS THAN 12 INCHES BY 12 INCHES.

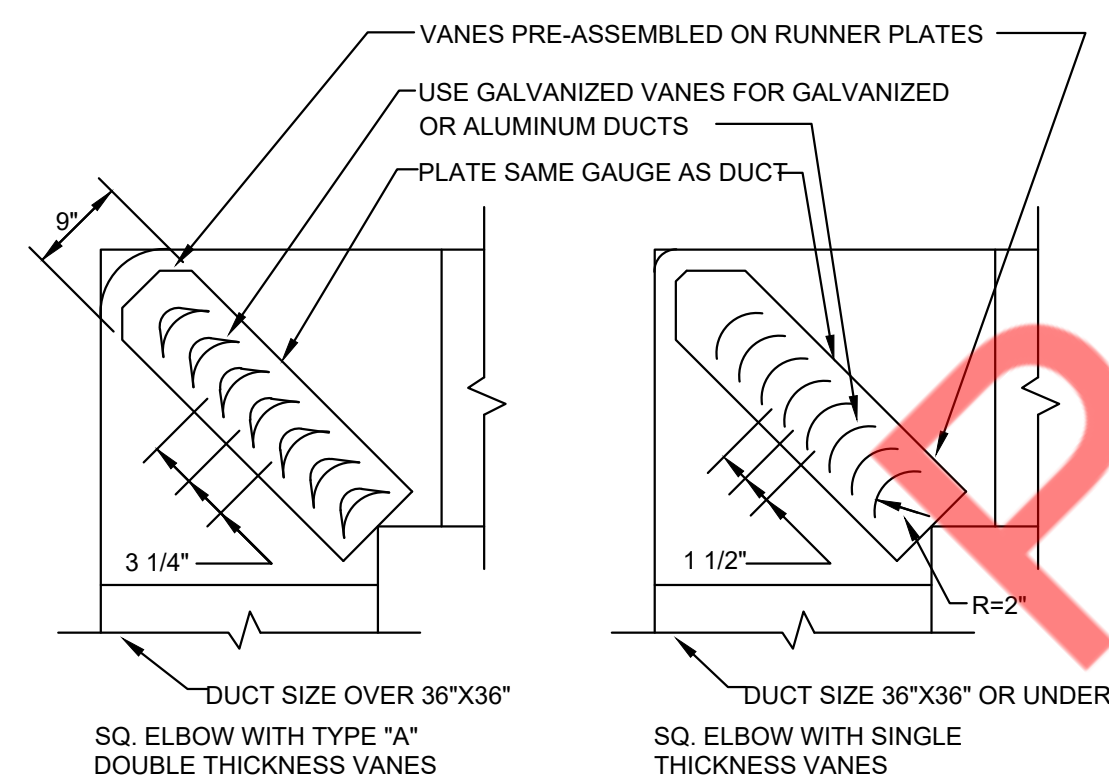


**A** 24" x 24" DIFFUSER MOUNTING DETAIL  
N.T.S.

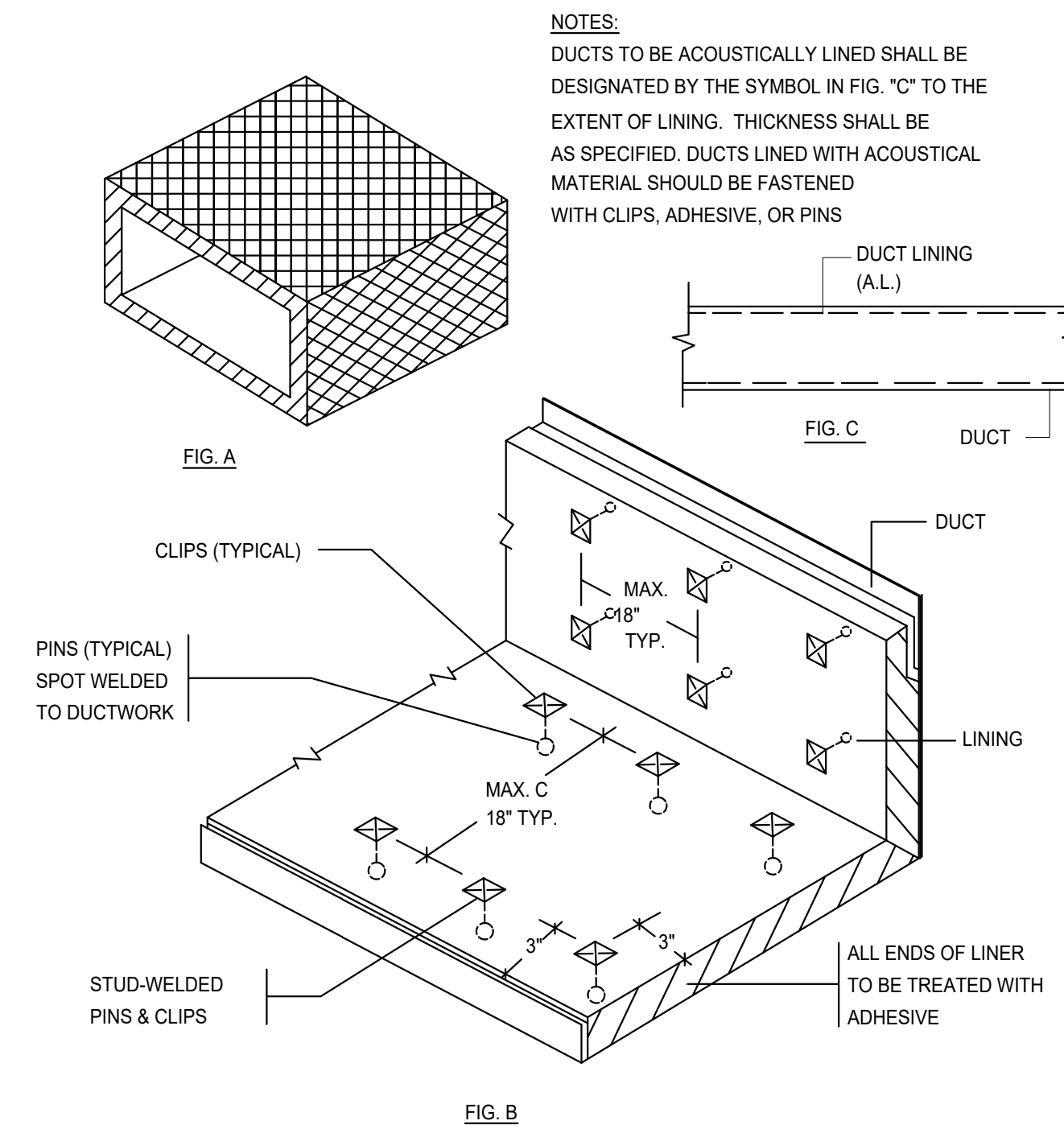
NOTE: ALL DIFFUSERS ARE 4-WAY BLOW UNLESS NOTED OTHERWISE. PROVIDE OPTIONAL DIRECTIONAL BLOW, TITUS MODEL "DB" TO CONVERT DIFFUSER FROM STANDARD 4-WAY TO 1-WAY.



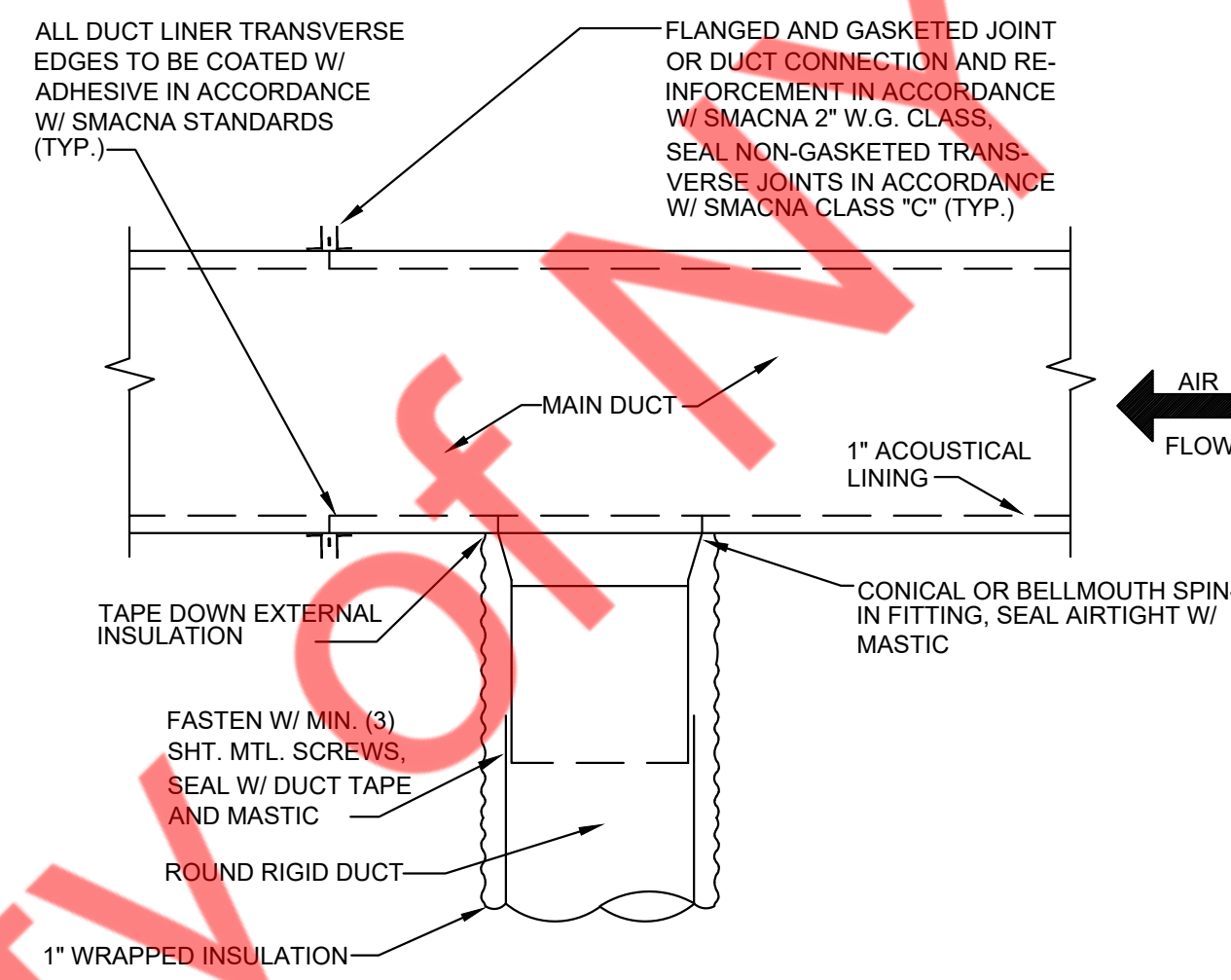
**D** DRYWALL MOUNTING FRAME DETAIL  
N.T.S.



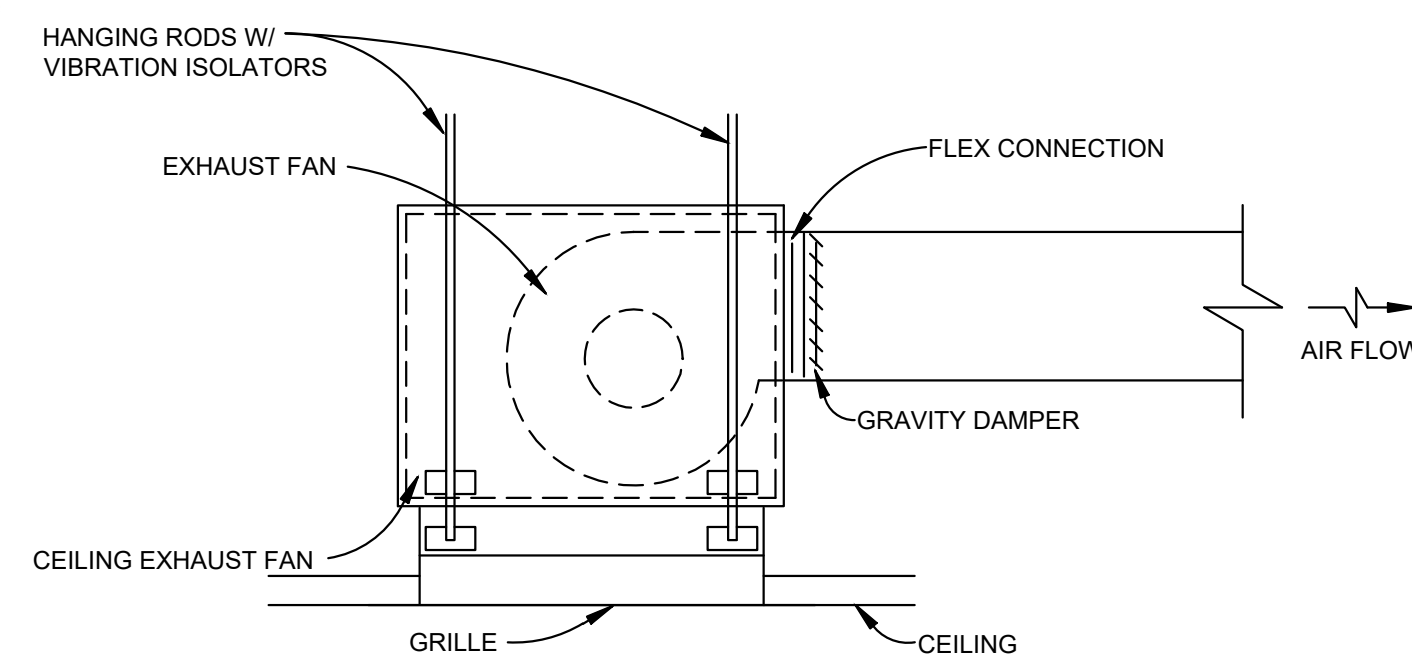
**G** TURNING VANE DETAIL  
N.T.S.



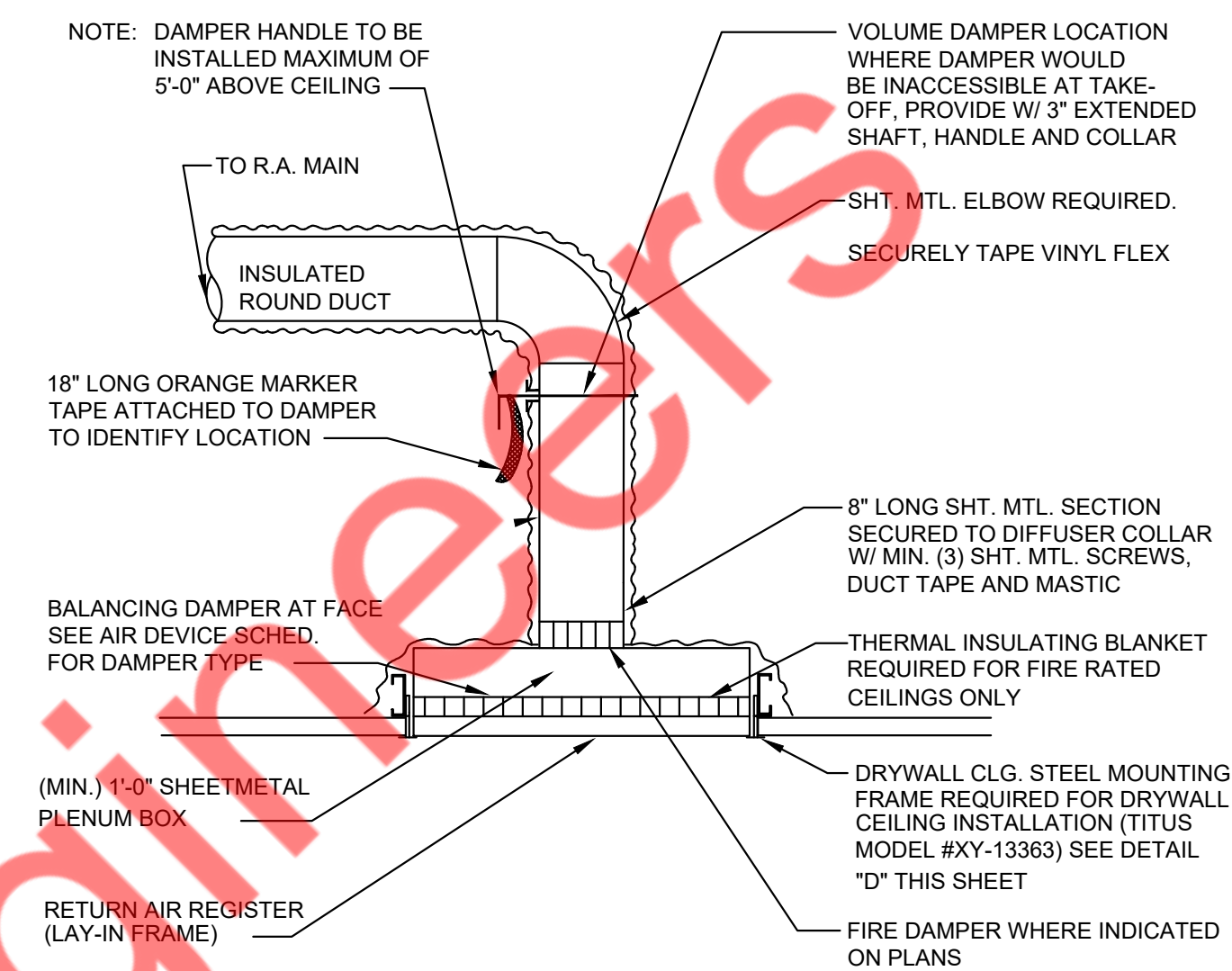
**B** DIFFUSER MOUNTING DETAIL  
N.T.S.



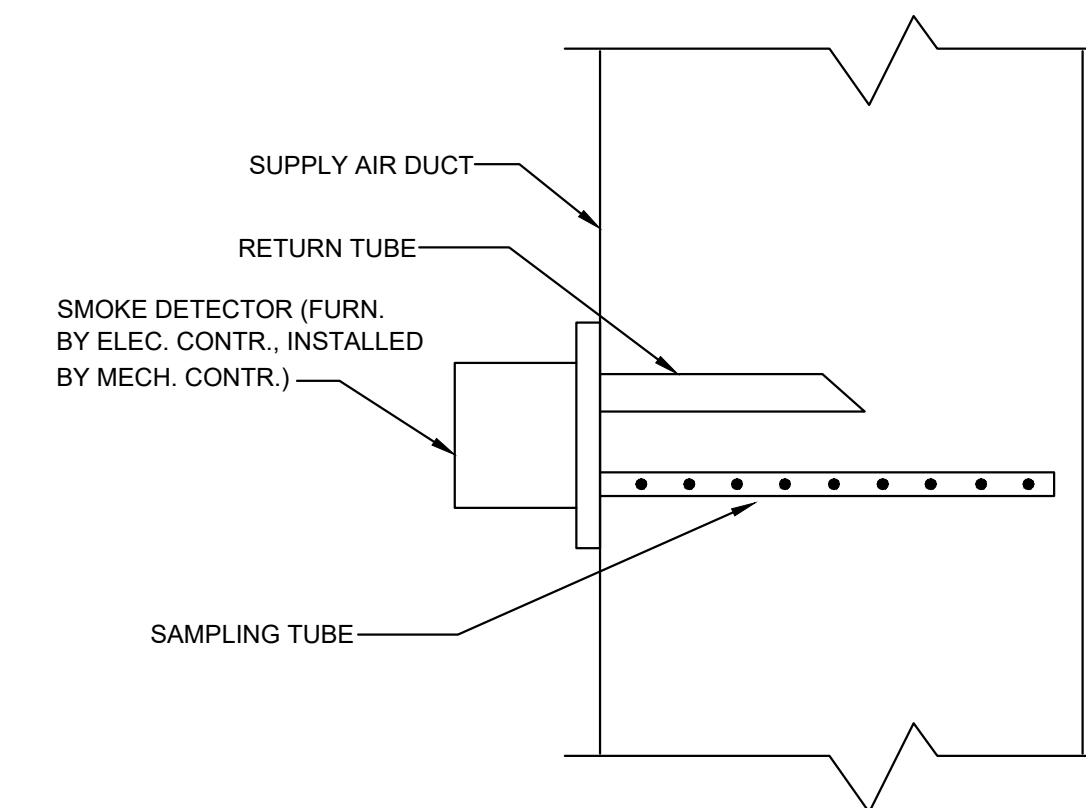
**E** TYPICAL ROUND DUCT TAKE-OFF DETAIL  
N.T.S.



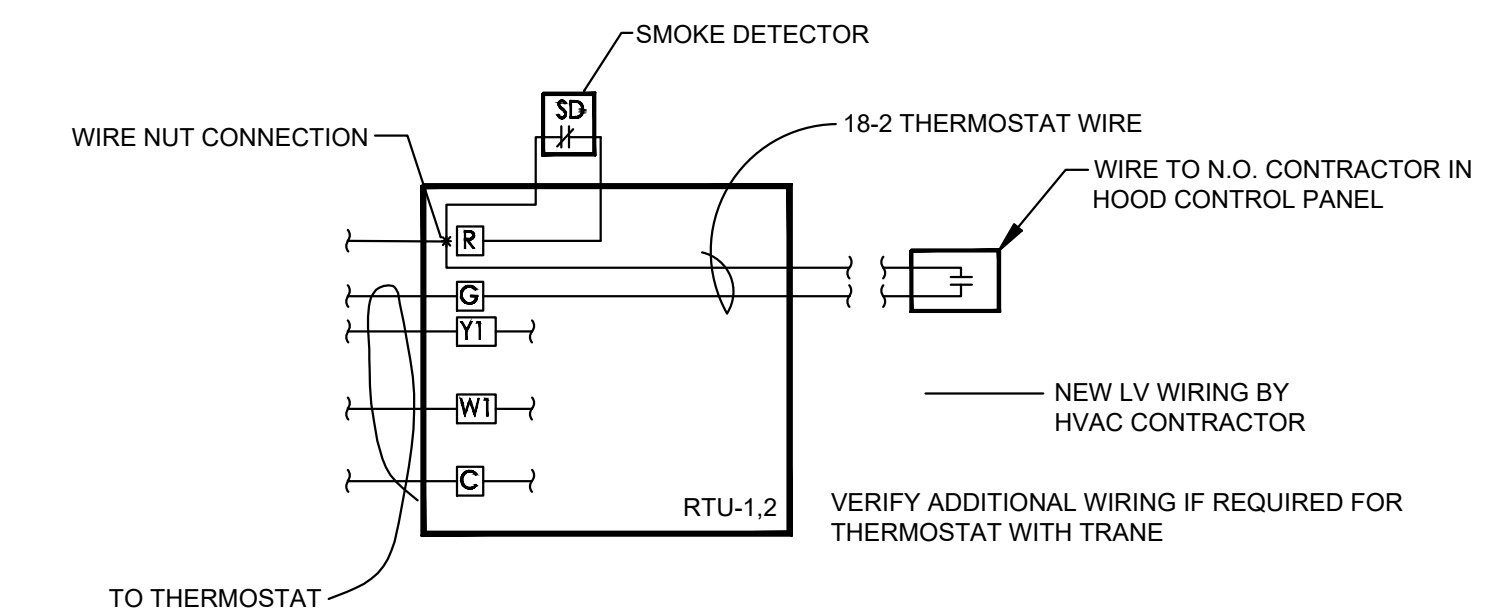
**H** CEILING EXHAUST FAN DETAIL  
N.T.S.



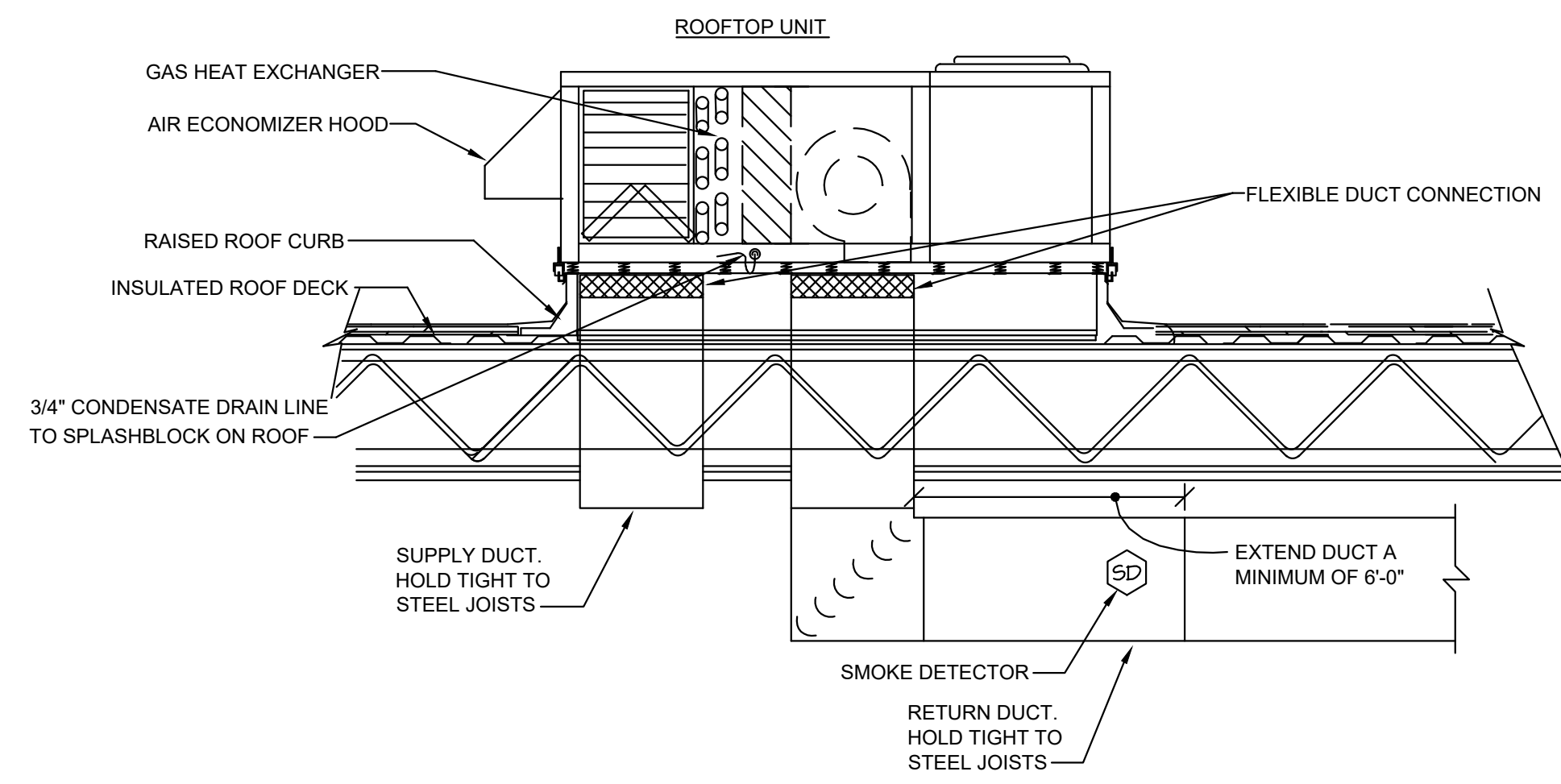
**C** DUCTED RETURN REGISTER MOUNTING DETAIL  
N.T.S.



**F** DUCT SMOKE DETECTOR DETAIL  
N.T.S.

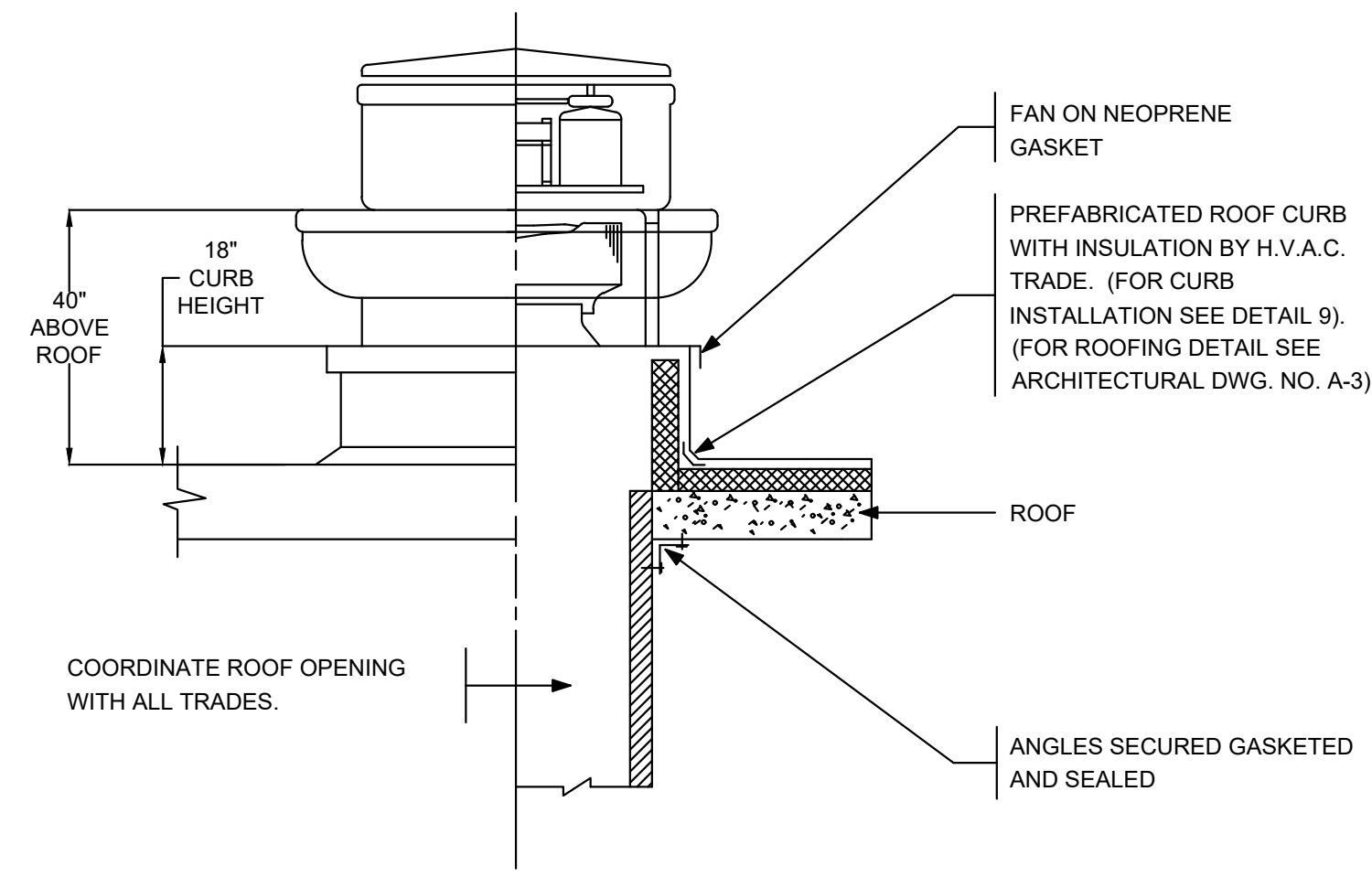


**I** RTU CONTROL WIRING DIAGRAM  
N.T.S.



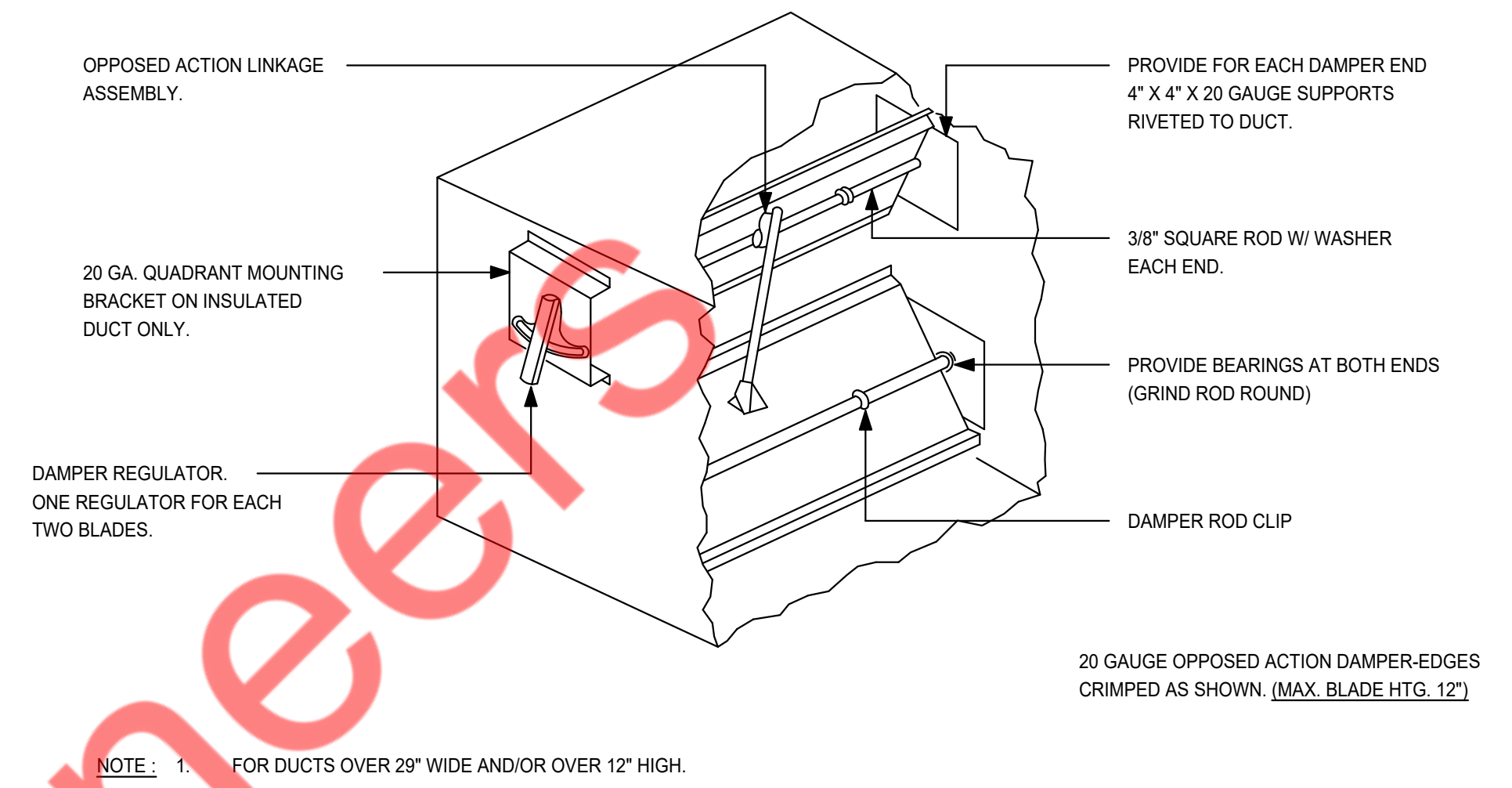
**J** ROOFTOP A/C UNIT  
INSTALLATION DETAIL (TYPICAL)

N.T.S.



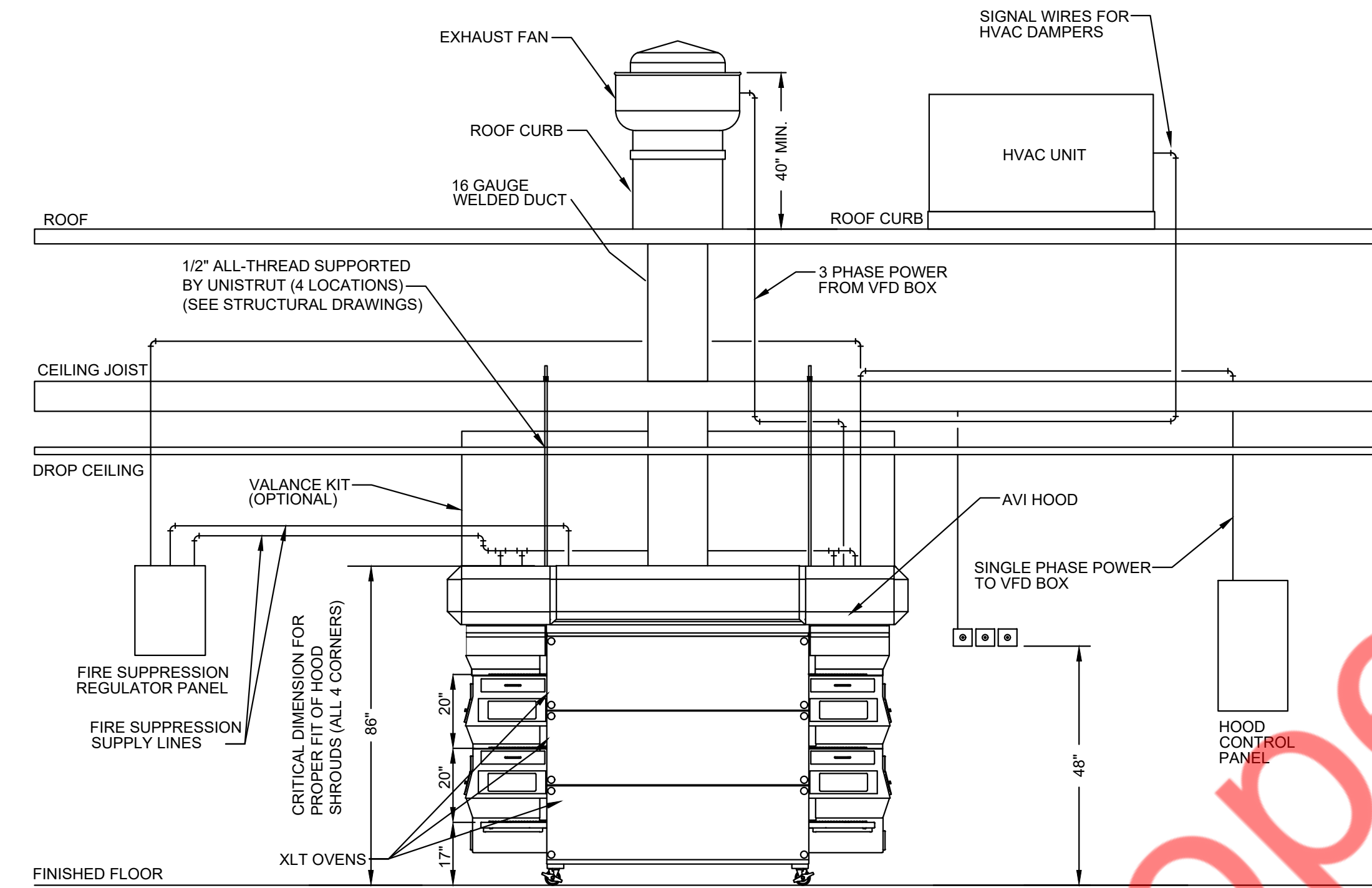
**K** ROOF EXHAUST FAN DETAIL

N.T.S.



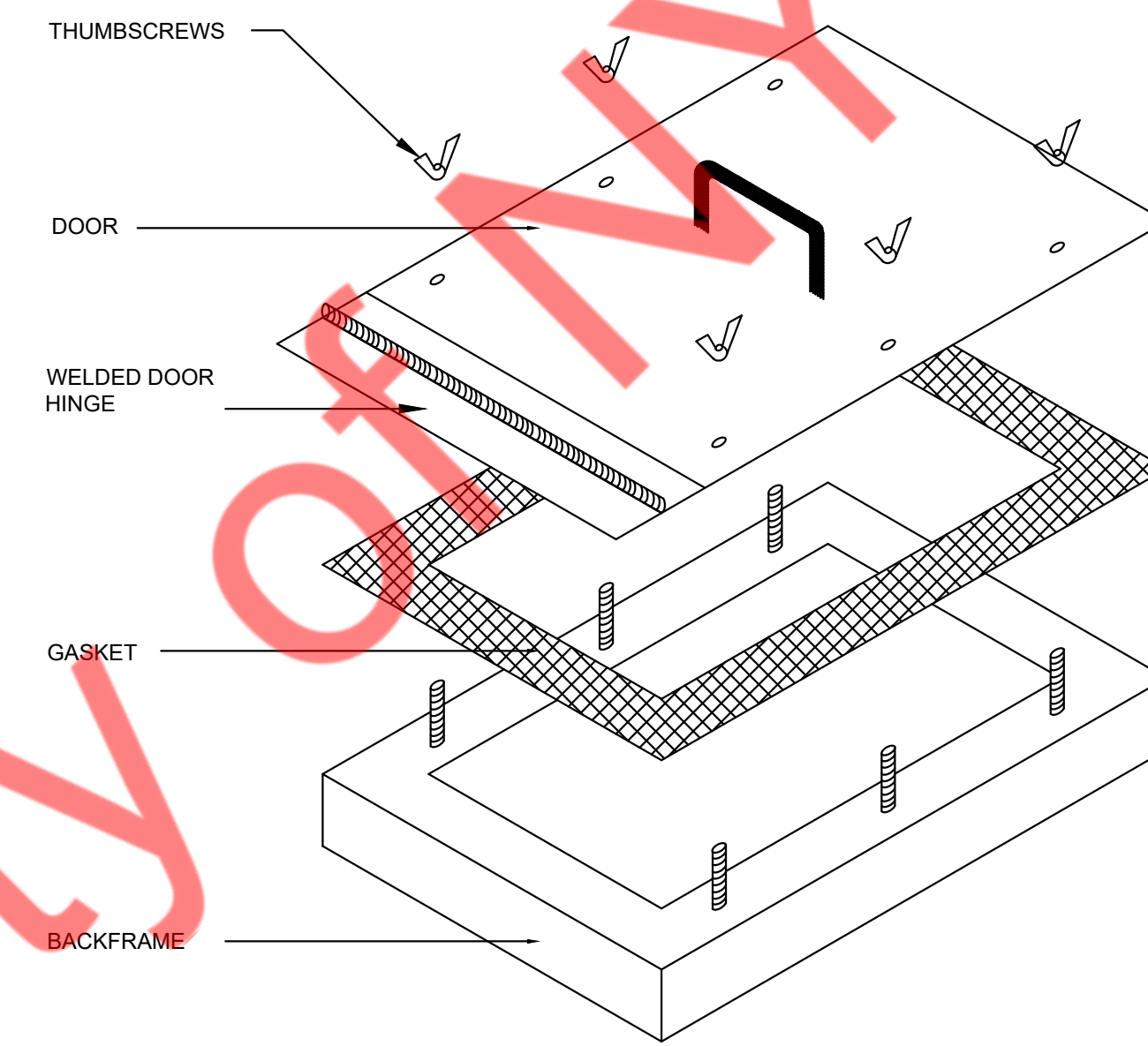
**L** LOW PRESSURE BALANCING DAMPER

N.T.S.



**M** OVEN/HOOD DETAIL

N.T.S.

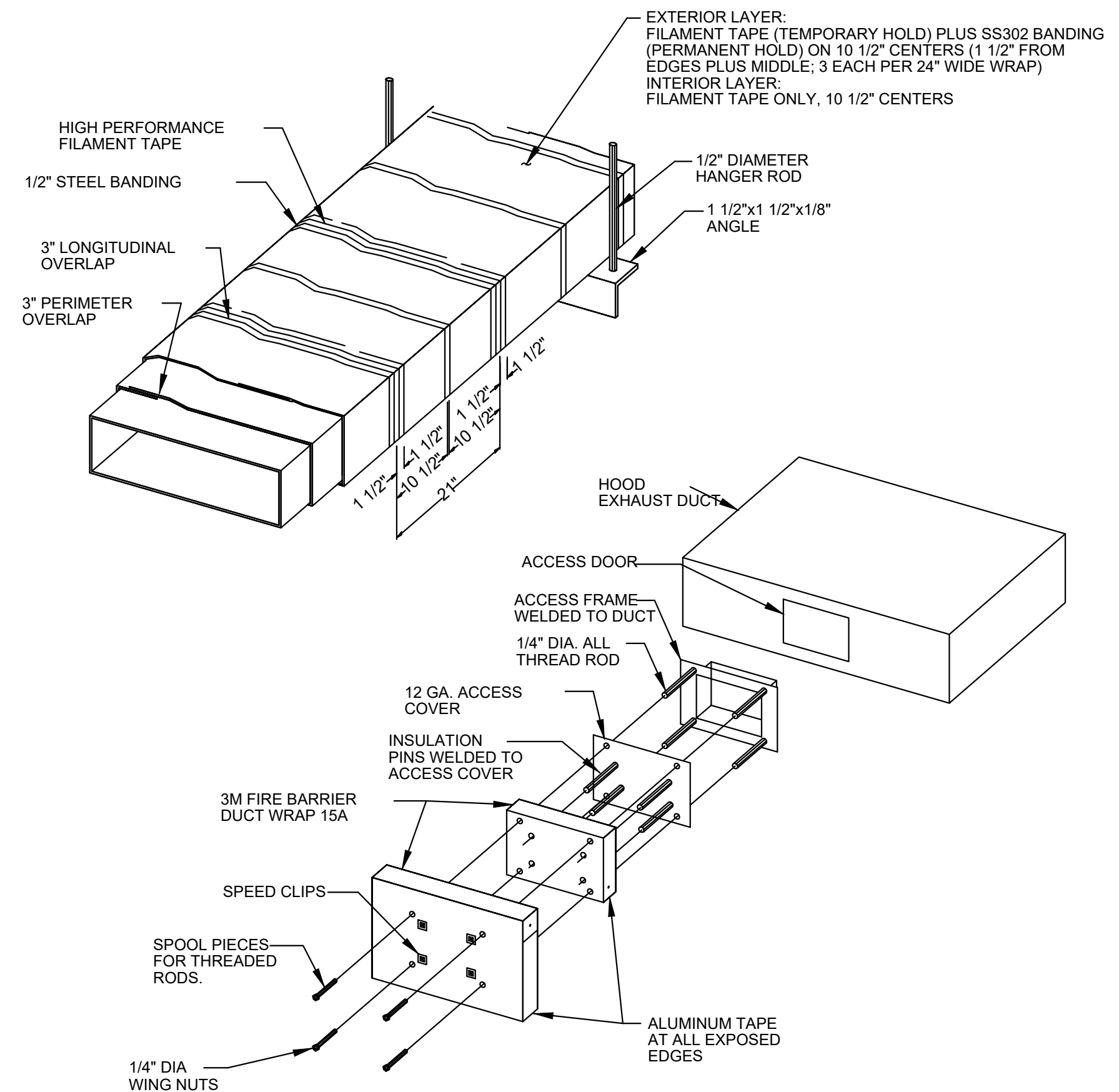


- NOTES:
1. ACCESS DOOR IS TO BE DUCTMATE ULTIMATE DOOR II OR EQUAL.
  2. ACCESS DOOR IS TO BE U.L. LISTED # 65X3.
  3. ACCESS DOOR IS TO MEET OR EXCEED THE REQUIREMENTS OF NFPA 96, 2008 EDITION

AT ALL LOCATIONS REQUIRED BY LOCAL CODE.

**N** GREASE DUCT ACCESS DOOR DETAILS

N.T.S.



**O** GREASE DUCT WRAP DETAILS

N.T.S.

PLUMBING SYMBOLS LIST			
PLUMBING LEGENDS		PLUMBING ABBREVIATIONS	
— SAN —	SANITARY SEWER	CW	COLD WATER
— G SAN —	GREASE SANITARY SEWER	HW	HOT WATER
— VENT —	VENT PIPING	HWR	HOT WATER RETURN
— COLD —	COLD WATER	SAN	SANITARY
— HOT —	HOT WATER	GSAN	GREASE SANITARY
— REC —	RECIRCULATING HOT WATER	V	VENT
— BFP —	SECONDARY BFP	AFF/AFG	ABOVE FINISHED FLOOR/GRADE
— VALVE —	BALANCING VALVE	AHJ	AUTHORITY HAVING JURISDICTION
— PIPE —	PIPE UP OR DOWN	BFP	BACKFLOW PREVENTER
— PIPE —	PIPE UP	ETR	EXISTING TO REMAIN
— UNION —	UNION	FCO	FLOOR CLEANOUT
— ISOLATION —	ISOLATION VALVE	GC	GENERAL CONTRACTOR
— CLEANOUT —	CLEANOUT	IW	INDIRECT WASTE
— BACKFLOW —	BACKFLOW PREVENTER	PC	PLUMBING CONTRACTOR
— POINT OFF —	POINT OFF CONNECTION	WCO	WALL CLEANOUT
— FLOOR SINK —	FLOOR SINK	WH-1	INSTANTANEOUS WATER HEATER
— HUB / FLOOR DRAIN —	HUB / FLOOR DRAIN	ET-1	EXPANSION TANK
— GAS SHUT-OFF VALVE —	GAS SHUT-OFF VALVE	FD	FLOOR DRAIN
— GAS PIPING —	GAS PIPING	HD	HUB DRAIN
— CONDENSATE DRAIN —	CONDENSATE DRAIN	FS	FLOOR SINK
		CD/TD	CHANNEL/TRENCH DRAIN
		F	FRANCHISE
		EV	EQUIPMENT VENDOR
		CC	CONTRACTORS CHOICE
		OC	OWNERS CHOICE
		VLL	VERIFY WITH LANDLORD
		SPS	SEE PLUMBING SCHEDULE

PLUMBING DRAWING LIST	
P-001	PLUMBING SCHEDULES AND LEGENDS
P-002	PLUMBING NOTES AND SPECIFICATIONS
P-101	SANITARY PLAN AND RISER DIAGRAM
P-102	WATER SUPPLY, GAS PLAN AND RISER DIAGRAM
P-201	PLUMBING DETAILS - 1
P-202	PLUMBING DETAILS - 2

### ENERGY CONSERVATION NOTES

- AS PER ASHRAE 90.1 2007 SECTION 7.4.4.2, SYSTEM DESIGNED TO MAINTAIN USAGE TEMPERATURE IN HOT WATER PIPES SUCH AS RE-CIRCULATING HOT WATER SYSTEMS OR HEAT TRACE, SHALL BE EQUIPPED WITH AUTOMATIC TIME SWITCHES OR OTHER CONTROLS THAT CAN BE USED TO SWITCH THE USAGE TEMPERATURE MAINTENANCE SYSTEM DURING EXTENDED PERIOD WHEN HOT WATER IS NOT REQUIRED.
- AS PER ASHRAE 90.1 2007 SECTION 7.4.4.3, TEMPERATURE CONTROLLING MEANS SHALL BE PROVIDED TO LIMIT THE MAXIMUM TEMPERATURE OF WATER DELIVERED FROM LAVATORY FAUCETS IN PUBLIC FACILITY RESTROOMS TO 110°F.
- AS PER ASHRAE 90.1 2007 SECTION 7.4.4.4, WHEN USED TO MAINTAIN STORAGE TANK WATER TEMPERATURE, RE-CIRCULATING PUMPS SHALL BE EQUIPPED WITH CONTROLS LIMITING OPERATION TO A PERIOD FROM THE START OF THE HEATING CYCLE TO A MAXIMUM OF FIVE MINUTES AFTER THE END OF THE HEATING CYCLE.
- ALL DOMESTIC WATER PIPING ABOVE GRADE SHALL BE INSULATED WITH FIRE RETARDANT, FACTORY APPLIED JACKET. PROVIDE COLD WATER PIPING WITH FACTORY APPLIED VAPOR BARRIER. INSULATION REQUIREMENT SHOULD COMPLY WITH ASHRAE 90.1 2007 SECTION 7.4.3 BELOW TABLE 6.8.3-1.

EQUIPMENT SCHEDULE								
NO.	QTY	EQUIPMENT DESCRIPTION	WATER		WASTE			REMARKS
			HOT	COLD	DIRECT	INDIRECT	VENT	
10	2	HAND SINK	1/2"	1/2"	2"		1-1/2"	
8	1	3-COMPARTMENT SINK	3/4"	3/4"	-	3"	2"	RUN INDIRECT WASTE TO FLOOR SINK
11	1	INSTANTANEOUS WATER HEATER	3/4"	3/4"	-	3/4"		RUN T&P WASTE TO MOP SINK
9	1	MOP SINK	3/4"	3/4"	3"		2"	
WC	1	WATER CLOSET	-	1/2"	4"		2"	
LAV	1	LAVATORY	1/2"	1/2"	2"		1-1/2"	

PLUMBING FIXTURE SCHEDULE						
TAG	EQUIPMENT	DESCRIPTION/ ACCESSORIES	WATER PIPING	WASTE PIPING	MANUFACTURER/ MODEL	NOTES
WC	WATER CLOSET (ADA)	U-SHAPED (OPEN-FRONT) SEAT COVER #5325.024	3/4" CW	4"	AMERICAN STANDARD CADET MODEL #2467.016	4, 5
LAV	ADA WALL HUNG LAVATORY	VITEROUS CHINA, W/ 4" CENTER W/ AM STD. FAUCET # 7385.004 PROVIDE WITH .5 GPM SPRAY	1/2" HW & CW	2"	AMERICAN STANDARD 0356.041	6,7,8
MS	MOP SINK	MOLDED STONE W/ FIAT R300A SERVICE FAUCET W/ SUPPLY STOPS & MOP HANGER BRACKET	3/4" HW&CW	3"	FIAT MSB2424	3
FD	FLOOR DRAIN	3" 4" DURA COATED CAST IRON BODY, ADJUSTABLE COLLAR WITH TYPE B, POLISHED NICKEL BRONZE STRAINER.	-	3", 4"	ZURN Z415 B	1,2
FS	FLOOR SINK	12X12 CAST IRON BODY A.R.E. WITH HALF GRATE	-	3"	ZURN Z1900	1
HD	HUB DRAIN	3" SS BODY, HUB DRAIN		3"	ZURN Z1870	
WCO	WALL CLEANOUT	PROVIDE PVC TYPE W/ 6" Ø SS COVER ON ALL EXPOSED WALLS. SIZE AS INDICATED ON PLAN/STACK			SEE PLAN ZURN Z1446	
FCO	FLOOR CLEANOUT	HEAVY DUTY ADJUSTABLE FLOOR CLEANOUT		4"	ZURN Z1400	1
TP	TRAP PRIMER	1/2" CW, AUTOMATIC, MULTI-DROP TRAP PRIMER	1/2" CW	---	PRECISION PLUMBING PRODUCTS #DU-U-500	
WH-1	WATER HEATER	GAS FIRED (199 MBH INPUT) TANKLESS WATER HEATER.	3/4" HW & CW		RINNAI CU-199i 4.4 GPM @ 90F	

### GENERAL NOTES

- COVER TO BE FLUSH WITH FLOOR.
  - PROVIDE W/ TRAP PRIMER CONNECTION WHERE NOTED ON PLANS.
  - FAUCET TO HAVE INTERVAL VACUUM BREAKER
  - PROVIDE: BRASS FLOOR FLANGE, BOLTS CAPS, WAX RING & CHROME SUPPLY STOP W/ 3/8" STAINLESS STEEL FLEX CONNECTOR.
  - CHROME SUPPLY STOP W/ SS BRANDED FLEXIBLE CONNECTION. HANDLE TO BE ON OPEN SIDE OF WC.
  - PROVIDE A WALL MOUNTED CONCEALED ARM CARRIER
  - PROVIDE: MCGUIRE 2" STRAINER, 1-1/4" CHROME P-TRAP & CHROME SUPPLY STOPS, TRUEBRO LAV-GUARD 2 ADA INS KIT
  - PROVIDE TRUEBRO LAVGUARD KIT 2
- THE PLUMBING CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR FOR ALL CONCRETE FLOOR CUTS, THE CUTTING & PATCHING OF THE FLOOR SLAB IS THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR.
  - THE PLUMBING CONTRACTOR SHALL FIELD VERIFY SANITARY LINE INVERT ELEVATIONS, LOCATIONS & SIZES, PRIOR TO INSTALLING ANY UNDERGROUND PIPING.
  - THE PLUMBING CONTRACTOR SHALL USE PVC/CPVC PIPING FOR ALL SANITARY AND VENT PIPING, TO COMPLY WITH STATE AND LOCAL CODE.
  - ALL DOMESTIC WATER PIPING MUST BE COPPER. INSULATE ALL WATER PIPING WITH A MINIMUM OF 1/2" FIBERGLASS WRAP INSULATION.
  - PLUMBING CONTRACTOR SHALL FURNISH & INSTALL SHUT-OFF VALVES TO ALL FIXTURES NOT OTHERWISE EQUIPPED
  - THE PLUMBING CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL HANGERS, SUPPORTS & ACCESSORIES AS REQUIRED BY ALL CODES.
  - ALL WORK SHALL BE PERFORMED IN A PROFESSIONAL MANNER & SHALL MEET OR EXCEED ALL CODES HAVING JURISDICTION.
  - THE PLUMBING CONTRACTOR SHALL FURNISH & INSTALL SHOCK ABSORBERS ON ALL WATER PIPING AS REQUIRED.
  - THE PLUMBING CONTRACTOR SHALL MAKE ALL FINAL CONNECTIONS TO FIXTURES & EQUIPMENT PROVIDED BY OTHERS. PLUMBING CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF THESE ITEMS WITH THE VENDOR REPRESENTATIVE.
  - THE PLUMBING CONTRACTOR IS RESPONSIBLE TO MAKE ALL FINAL WATER CONNECTIONS TO FIXTURES. SEE FIXTURE SCHEDULES.
  - THE PLUMBING CONTRACTOR IS RESPONSIBLE TO PAY FOR & OBTAIN ALL REQUIRED PERMITS & SCHEDULE INSPECTIONS IN A TIMELY MANNER AS TO NOT DELAY PROJECT.
  - THE PLUMBING CONTRACTOR MUST FURNISH AN AS-BUILT SET OF DRAWINGS SHOWING THE EXACT LOCATION/ELEVATION OF ALL UNDERGROUND PIPING TO THE OWNER, AT COMPLETION OF THE PROJECT.
  - THE PLUMBING CONTRACTOR SHALL VERIFY ALL LOCATIONS & CONDITIONS IN THE FIELD PRIOR TO STARTING ANY WORK. ANY CONFLICTS FOUND SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT OR CONSTRUCTION MANAGER.
  - ALL WATER & VENT PIPING SHOWN IS TO BE CONCEALED IN WALLS UNLESS NOTED OTHERWISE.

GREASE INTERCEPTOR SCHEDULE					
ITEM	SERVICE	LOCATION	CAPACITY	MANUFACTURER	MODEL
GI	KITCHEN WASTE	EXTERIOR	1000 GALLON	PARK USA OR EQUAL	GT-1000

NOTE:  
1. GREASE INTERCEPTOR SIZED AS PER INDIANA PLUMBING CODE 2012(IPC 2006) / LOCAL CODE.  
2. PROVIDE A NEW GREASE INTERCEPTOR AS SHOWN IN SCHEDULE IF GREASE INTERCEPTOR NOT EXIST

PUMP SCHEDULE					
ID	DESCRIPTION	MANUFACTURER	MODEL NO.	VOLT PH	TRIM AND REMARKS
RCP-1	RECIRCULATION PUMP	GRUNDFOS	UP 15-18 B5	115 V 1	2 GPM @ 10 FT. HEAD. INSTALL NEAR WATER HEATER PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE AQUASTAT WITH TIMER KIT

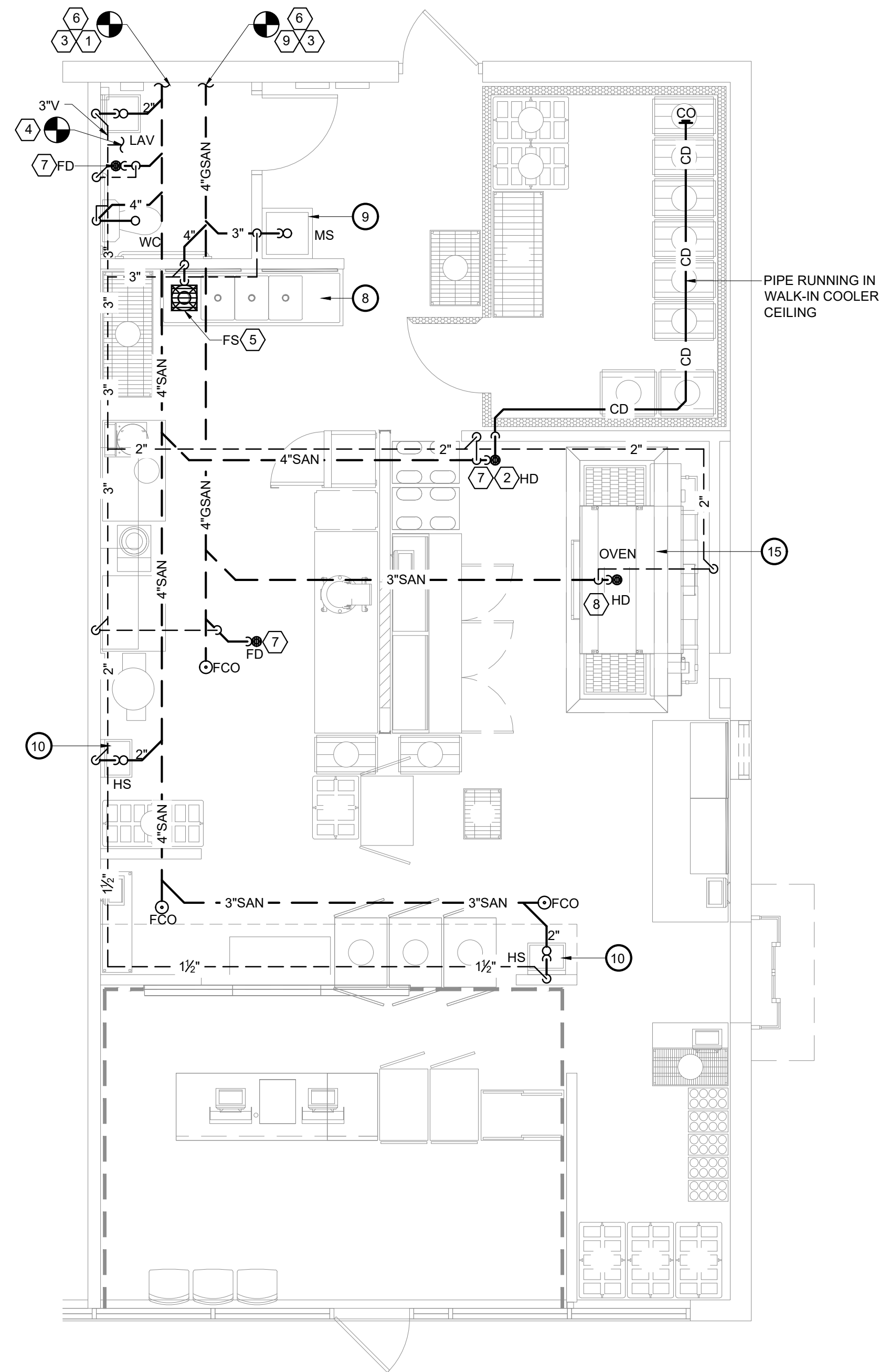
EXPANSION TANK SCHEDULE							
TAG	DESCRIPTION	VOLUME (GALLONS)	DIAMETER (INCHES)	HEIGHT (INCHES)	SELECTION BASED ON		REMARKS
					MANUFACTURER	MODEL NUMBER	
ET-1	BLADDER TYPE	2.0	8"	12 1/2"	AMTROL	ST-5	NOTE 1

NOTES:  
1. INSTALL EXPANSION TANK ON IN-COMING COLD WATER PER MANUFACTURERS REQUIREMENTS.

GREASE INTERCEPTOR SIZING			
FIXTURE	QTY.	FIXTURE D.F.U	TOTAL D.F.U
SINK 3-COMP.(FS)	1	6	6
MOP SINK	1	5	5
FLOOR DRAIN(PREP. AREA)	2	5	10
<b>TOTAL</b>			<b>21</b>

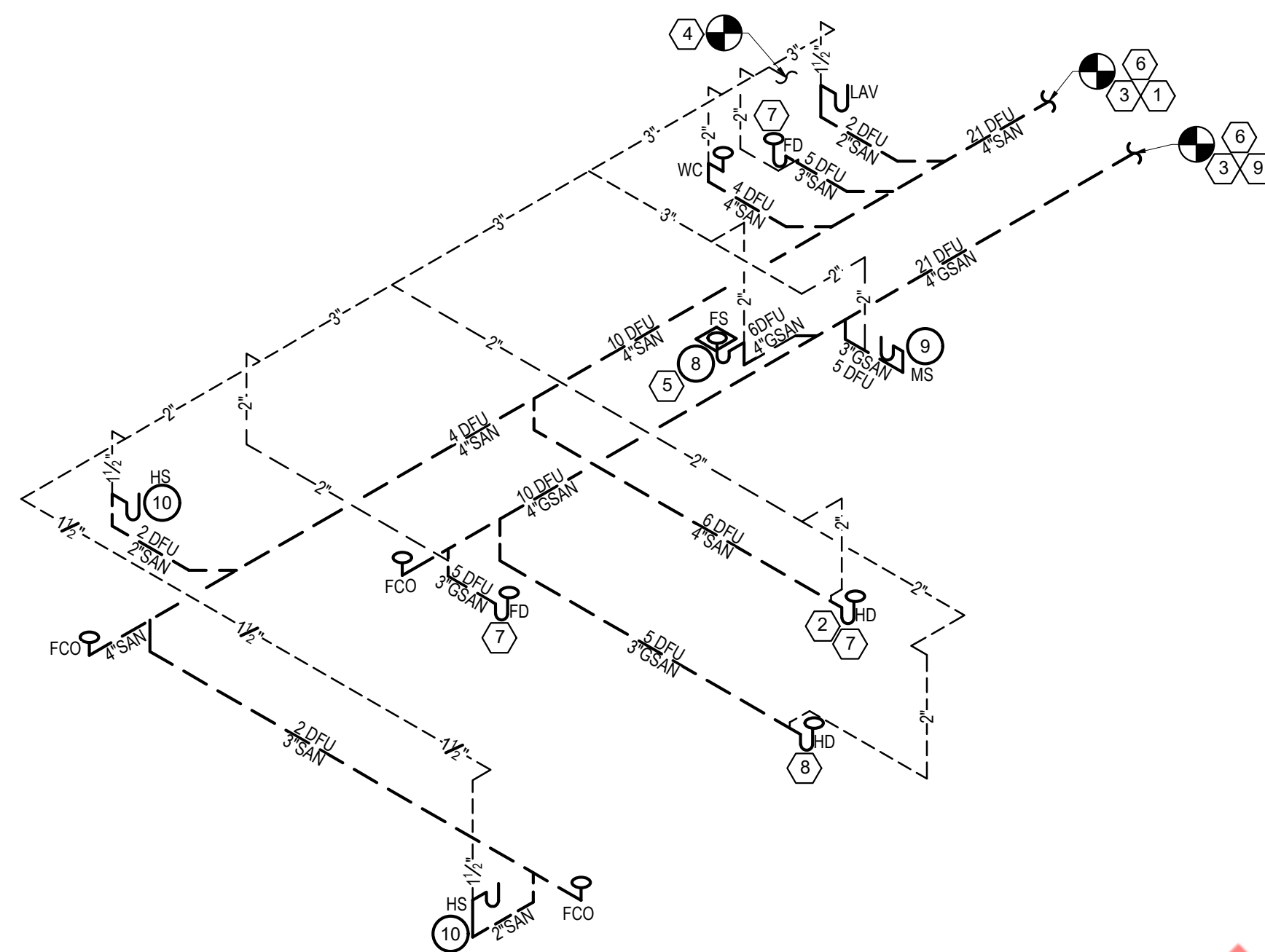
TOTAL DRAIN FIXTURE UNITS=21  
DFU COUNT PER TABLE 709.2, INDIANA PLUMBING CODE.  
FROM TABLE 1014.3.6 UNIFORM PLUMBING CODE SIZE OF THE REQUIRED GREASE INTERCEPTOR IS 750 GALLONS.  
PROVIDE MINIMUM OF 1000 GALLON GREASE INTERCEPTOR AS PER LOCAL CODE REQUIREMENT.





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

PIPE RUNNING IN WALK-IN COOLER CEILING



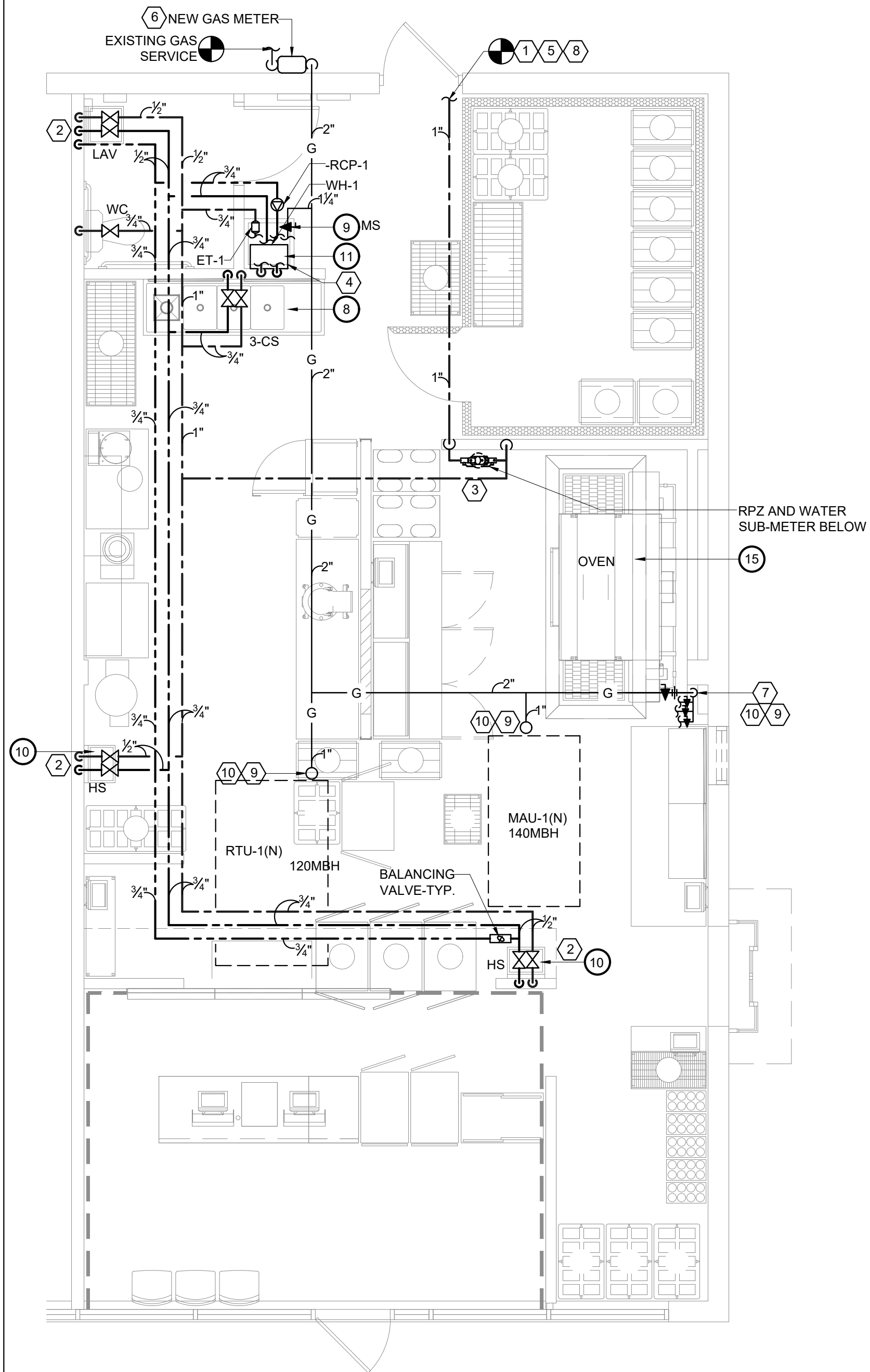
2 SANITARY RISER DIAGRAM  
SCALE: N.T.S.

KEY NOTES			
#	ITEM DESCRIPTION	NO.	ITEM DESCRIPTION
1	EXTEND AND CONNECT NEW 4" SANITARY PIPING TO EXISTING SANITARY LINE. CONTRACTOR SHALL VERIFY SIZE, INVERT AND ACTUAL LOCATION.	6	REFER RISER DIAGRAMS FOR DRAINAGE AND VENT PIPE SIZES.
2	3/4" PVC CONDENSATE DRAIN TO BE HELD TIGHT TO INSIDE COOLER WALL, TO SLOPE AT A 1/4" PER FOOT, TO DROP INSIDE COOLER AND EXIT COOLER AT 12" A.F.F. TO HUB DRAIN PROVIDE WITH 2" AIR GAP	7	PROVIDE TRAP PRIMER RECESSED IN WALL WITH ACCESS PANEL. ROUTE 1/2" CW TO FLOOR DRAIN PER MANUFACTURER SPECIFICATIONS
3	PLUMBING CONTRACTOR TO VERIFY INVERT PRIOR TO STARTING ANY WORK. IF INVERT IS NOT DEPTH ENOUGH TO FOR 1/4" PER SLOPE TO CONNECT. NEW SANITARY LINE TO BE 4" AND ROUTED AT 1/8" PER FOOT SLOPE.	8	ROUTE INDIRECT DRAIN FROM OVEN HOOD TO NEAREST DRAIN. WITH AN APPROVED AIR GAP. CONTRACTOR TO FILED VERIFY DRAIN LOCATION AND ROUTING.
4	EXTEND AND CONNECT NEW 3" VENT PIPING TO EXISTING VENT LINE IN THE SPACE. CONTRACTOR SHALL VERIFY SIZE, ROUTING, LOCATION AND WORKING CONDITION OF EXISTING VTR. PROVIDE NEW VTR IF EXISTING NOT IN GOOD CONDITION.	9	EXTEND AND CONNECT NEW 4" GREASE SANITARY PIPING TO EXISTING EXTERIOR GREASE INTERCEPTOR IN THE FILED. CONTRACTOR SHALL VERIFY SIZE, INVERT AND ACTUAL LOCATION OF EXISTING GREASE INTERCEPTOR. PROVIDE A 1000 GALLON GREASE INTERCEPTOR AS PER LOCAL CODES IF DOES NOT EXIST
5	ROUTE INDIRECT WASTE FROM 3 COMP SINK TO FLOOR SINK WITH APPROVED AIR GAP		

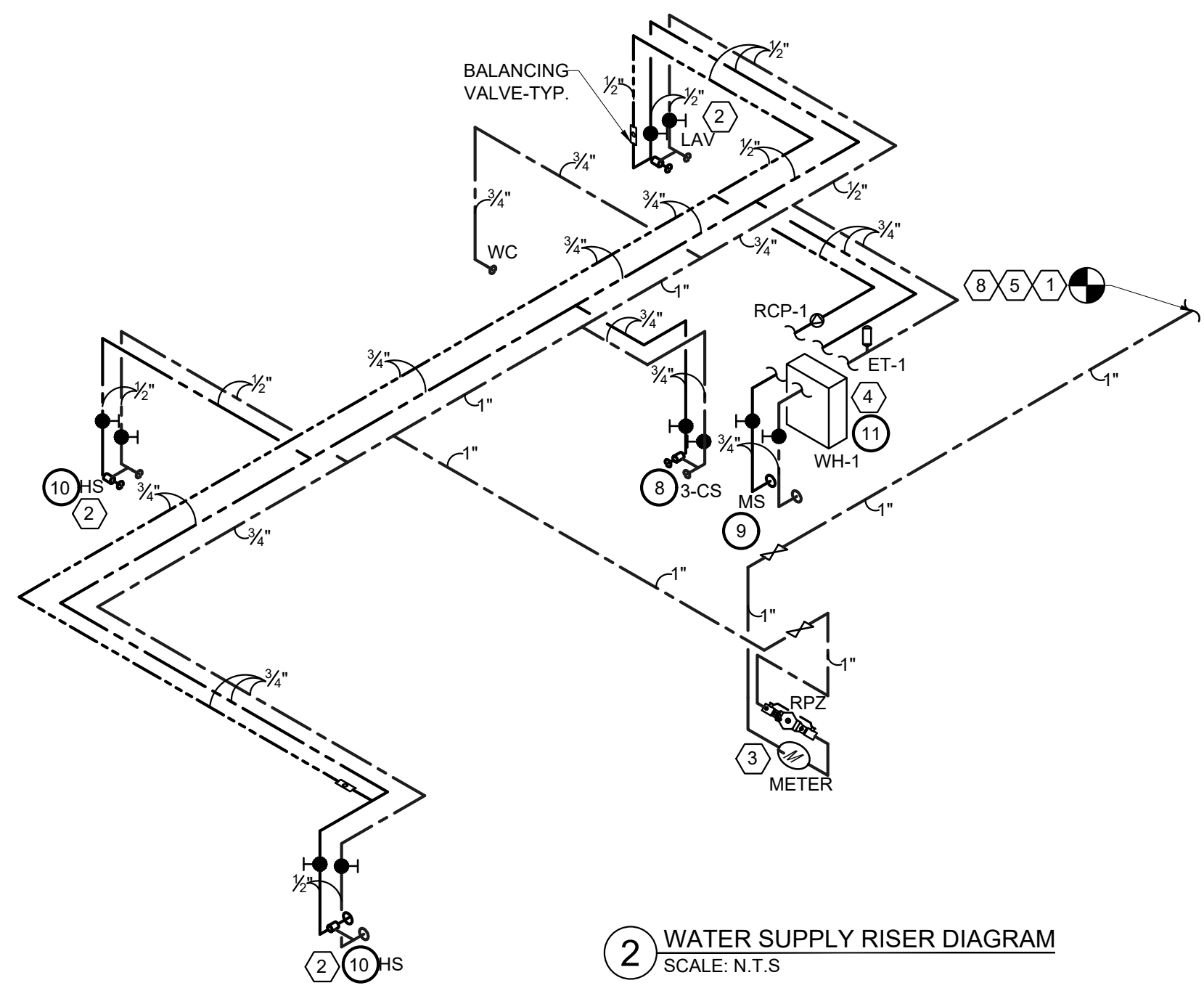
GENERAL NOTES	
1.	ALL WORK SHALL COMPLY WITH ALL LOCAL AND STATE CODES AND AUTHORITIES HAVING JURISDICTION.
2.	THE CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER CONTRACTORS AND TRADES.
3.	THESE DRAWINGS, AS PREPARED, ARE DIAGRAMMATIC BUT SHALL BE FOLLOWED AS CLOSELY AS CONSTRUCTION OF THE PROJECT AND THE WORK OF THE TRADES WILL PERMIT. EQUIPMENT LOCATIONS INDICATED ARE APPROXIMATE. COORDINATE EXACT LOCATIONS AND REQUIRED CLEARANCES WITH EQUIPMENT SUPPLIER AND ALL TRADES PRIOR TO INSTALLATION
4.	ALL WORK SHALL BE SUBJECT TO THE ACCEPTANCE AND APPROVAL OF THE ARCHITECT AND OWNER. THE ARCHITECT SHALL BE NOTIFIED OF ANY AND ALL DISCREPANCIES BETWEEN FIELD CONDITIONS AND THE CONTRACT DOCUMENTS BEFORE PROCEEDING WITH THAT PORTION OF THE WORK. FAILURE OF PROPER NOTIFICATION DOES NOT RELIEVE THE CONTRACTOR. THE CONTRACTOR SHALL CORRECT ANY AND ALL WORK ARISING FROM SUCH FAILURE TO COORDINATE DISCREPANCIES TO THE SATISFACTION OF THE ARCHITECT WITHOUT ADDITIONAL COST TO THE OWNER.
5.	ALL PIPING TO BE CONCEALED IN HUNG CEILINGS, CHASES AND FURRED SPACES.
6.	REFER TO EQUIPMENT SCHEDULE AND EQUIPMENT SPECIFICATIONS FOR EXACT LOCATIONS OF PLUMBING CONNECTIONS.
7.	THE CONTRACTOR SHALL VERIFY DEPTH, SIZE, LOCATION OF ALL EXISTING UTILITIES IN FIELD PRIOR TO STARTING WORK.
8.	THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL PIPE HANGERS, AND SUPPORTS IN ACCORDANCE WITH THE LOCAL APPLICABLE CODES.
9.	THE CONTRACTOR TO PROVIDE TRAP PRIMERS, DEEP SEAL TRAP OR TRAP SEAL ON ALL FLOOR DRAINS AS PER APPLICABLE CODE.
10.	ALL PENETRATIONS REQUIRED FOR PLUMBING EQUIPMENT AND PIPING THROUGH ANY WALL SHALL BE PROPERLY SEALED OFF TO MAINTAIN THE INTEGRITY OF THE STRUCTURE.

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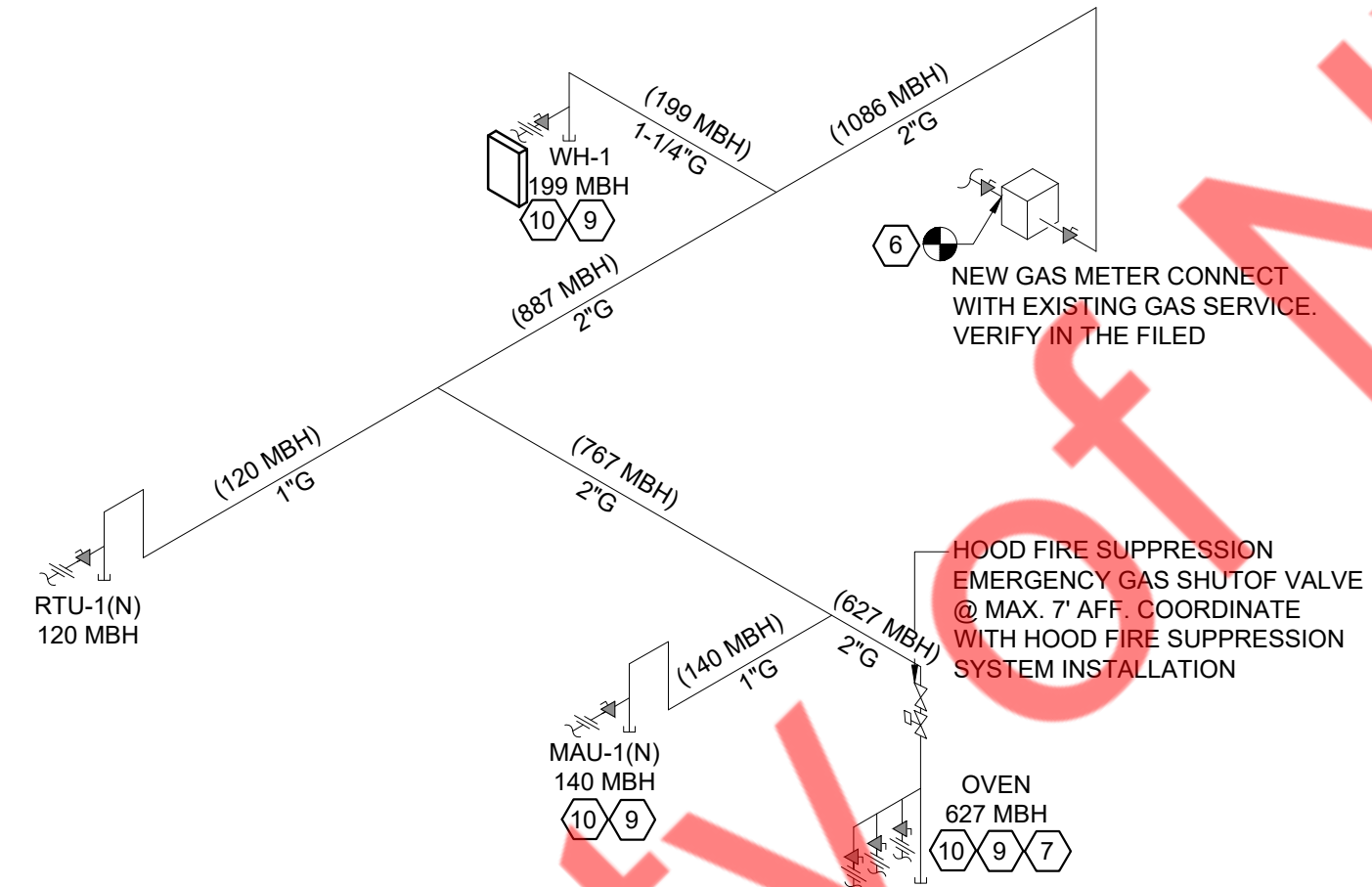




1 WATER SUPPLY AND GAS PLAN  
SCALE: 1/4" = 1'-0"



2 WATER SUPPLY RISER DIAGRAM  
SCALE: N.T.S



3 GAS RISER DIAGRAM  
SCALE: N.T.S

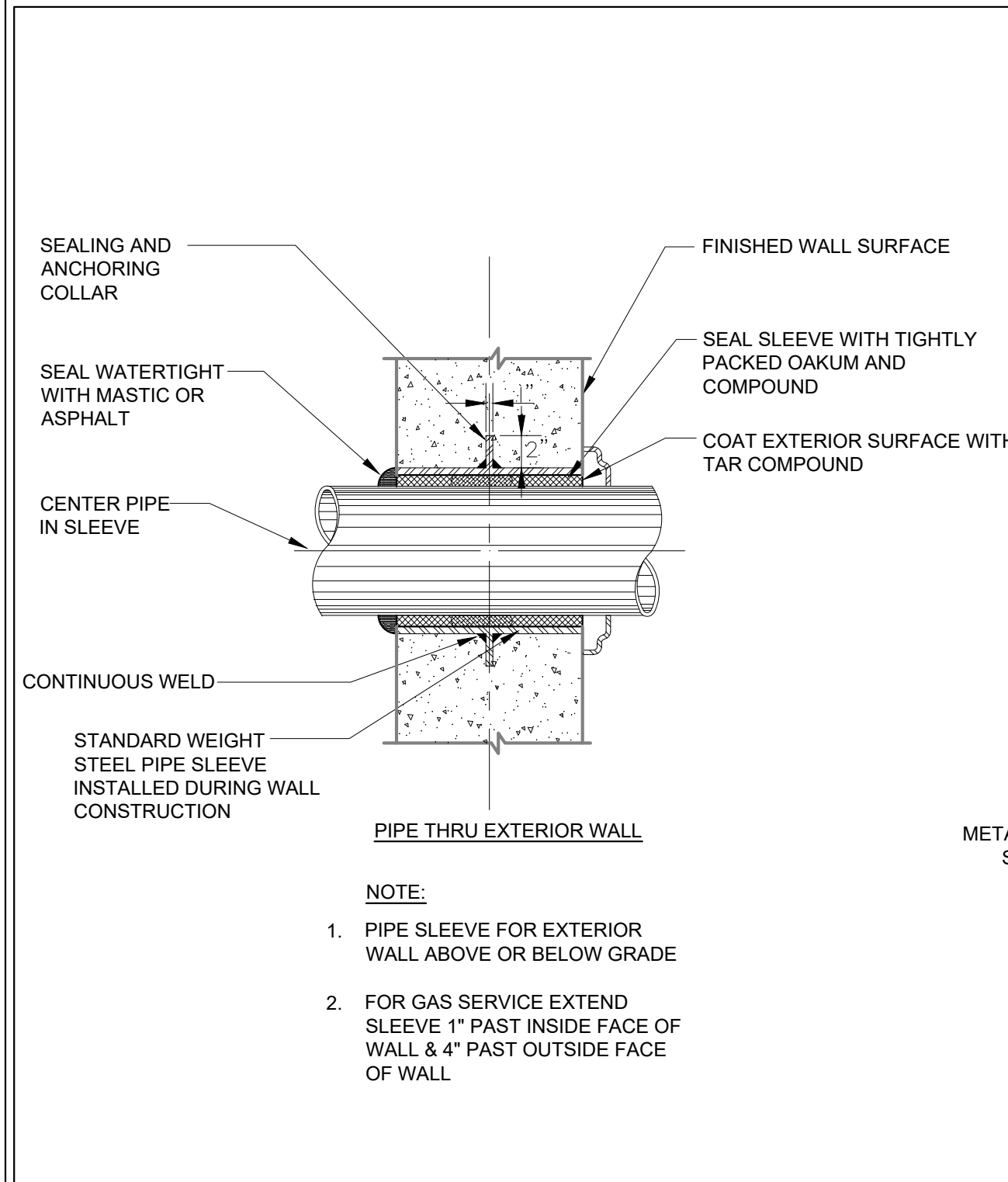
KEY NOTES			
NO.	ITEM DESCRIPTION	NO.	ITEM DESCRIPTION
1	EXTEND AND CONNECT NEW 1" CW PIPING TO EXISTING CW LINE IN THE SPACE. CONTRACTOR SHALL VERIFY EXACT LOCATION AND SIZE. UPDATE EXISTING WATER SERVICE LINE IF NOT SUFFICIENT.	6	NEW GAS LINE TO BE ROUTED FROM NEW GAS METER PROVIDED BY LANDLORD FOR LITTLE CAESARS SPACE. ROUTE 2" GAS LINE UP ALONG BUILDING. ROUTE GAS LINE TO WATER HEATER, PIZZA OVEN RTU AND MAU. CONTRACTOR TO VERIFY EXISTING GAS SERVICE PRESSURE AND PROVIDE ADEQUATE PRESSURE FOR THE SPACE.
2	CONTRACTOR SHALL PROVIDE AND INSTALL MIXING VALVE EQUAL TO WATTS MODEL # USG-B ASS 1070 APPROVED. MOUNT BELOW LAVATORY/HAND SINK AND SET OUTPUT TEMPERATURE TO 105 DEGREES F. REFER TO DETAIL "#3" THIS ON SHEET P-202 FOR INSTALLATION.	7	2" GAS LINE DOWN. PROVIDE (3) 3/4" QUICK DISCONNECT'S FOR GAS CONNECTION FOR CONVEYOR OVENS.
3	PROVIDE NEW MAIN COLD WATER METER, SHUT-OFF VALVE AND BACKFLOW PREVENTER IN ACCESSIBLE LOCATION.	8	NO TAP TO BE TAKEN BEFORE BACKFLOW PREVENTER.
4	T&P RELIEF VALVE AND DRAIN LINE. EXTEND DRAIN LINE TO MOP SINK AND SPILL. DRAIN LINE TO BE A MIN OF 2" ABOVE FLOOD RIM LEVEL OF MOP SINK.	9	CONTRACTOR SHALL PROVIDE NEW DIRT LEG, SHUT-OFF PLUG COCK, AND UNION. VERIFY EXACT SIZE, LOCATION, AND DISTANCE IN FIELD PRIOR TO BID. ALSO PROVIDE SHUT-OFF VALVE AN ACCESSIBLE LOCATION
5	REFER RISER DIAGRAMS FOR WATER PIPE SIZES.	10	CONTRACTOR TO FIELD VERIFY EXISTING AVAILABLE GAS PRESSURE AND MAKE SURE TO PROVIDE ADEQUATE INLET PRESSURE REQUIRED FOR MECHANICAL EQUIPMENTS, OVEN AND WATER HEATER. PROVIDE PRESSURE REGULATOR IF REQUIRED.

GAS NOTES	
1.	CONTRACTOR SHALL VERIFY EXACT DEVELOPED DISTANCE FROM NEW GAS METER TO FARTHEST GAS LINE POINT. ADJUST GAS SIZES ACCORDINGLY.
2.	CONTRACTOR TO FIELD VERIFY EXISTING AVAILABLE GAS PRESSURE AND MAKE SURE TO PROVIDE ADEQUATE INLET PRESSURE REQUIRED FOR MECHANICAL EQUIPMENTS.
3.	PROVIDE SHUT-OFF VALVE AND PRESSURE REGULATOR AN ACCESSIBLE LOCATION.
4.	CONTRACTOR SHALL VERIFY ACTUAL GAS PRESSURE AND LONGEST LENGTH OF RUN FROM METER TO FARTHEST APPLIANCE PRIOR TO INSTALLATION AND NOTIFY ENGINEER IF CONDITIONS DIFFER FROM THOSE SHOWN ON THE PLAN.
5.	CONTRACTOR TO VERIFY SIZE OF CONNECTIONS WITH EQUIPMENT CUT SHEETS.
6.	GAS PIPING SHALL BE BLACK STEEL OR AS PERMITTED BY CODE.
7.	GAS PIPING CONNECTIONS SHALL BE THREADED UNLESS OTHERWISE REQUIRED BY CODE.
8.	ALL GAS BURNING EQUIPMENT SHALL BE INSTALLED PER NFPA #58, NFPA #54 (L.P.G.) OR NFPA #96 (COMMERCIAL COOKING EQUIPMENT).
9.	LOCATIONS OF VALVES AND PIPING ARE DIAGRAMMATIC ONLY AND MAY VARY PER UNIT SUPPLIED. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR SHALL USE DIELECTRIC UNIONS FOR ALL PIPE CONNECTIONS BETWEEN DISSIMILAR METALS. CONTRACTOR SHALL VERIFY EXACT GAS DELIVERY PRESSURE AT THE CUSTOMER SIDE OF METER PRIOR TO BID.
10.	CONTRACTOR SHALL APPLY FOR GAS SERVICE AND COORDINATE GAS SERVICE IN A TIMELY MANNER. IF PRESSURE IS HIGHER THAN THE GAS PRESSURE USED TO SIZE THE GAS PIPING, CONTRACTOR SHALL PROVIDE A PRESSURE REGULATOR. IF LOWER, CONTACT THE PROFESSIONAL OF RECORD IMMEDIATELY FOR DIRECTION. IF THE PROFESSIONAL OF RECORD IS NOT CONTACTED, IT IS ASSUMED GAS PRESSURE IS VERIFIED AND ADEQUATE FOR THE SYSTEM DESIGNED ON THE DRAWINGS.

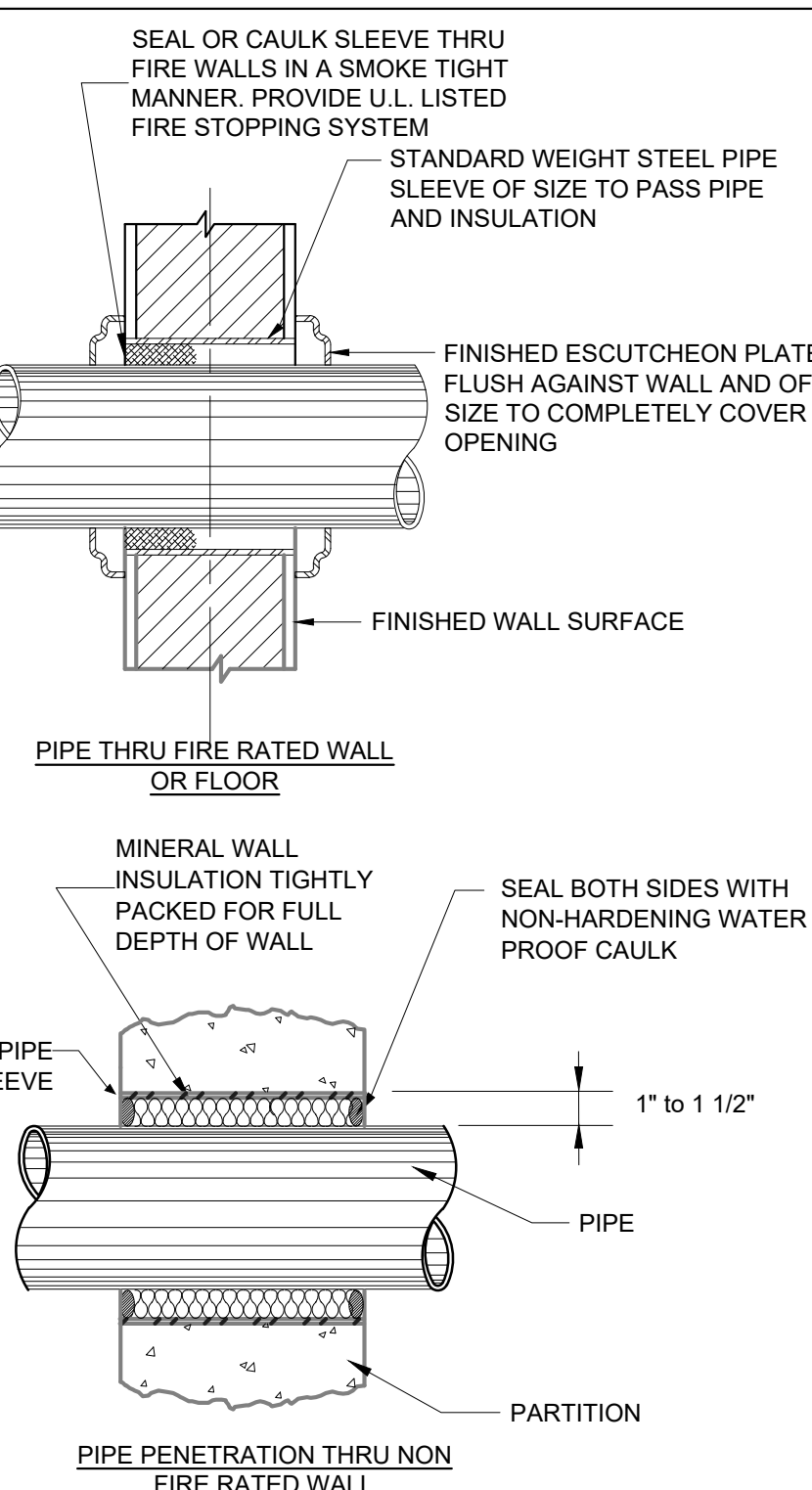
GAS EQUIPMENT SCHEDULE						
ITEM NO	QTY	DESCRIPTION	MANUFACTURER	MODEL	BTU/HR.	BTU/HR.
WH-1	1	TANKLESS WATER HEATER	RINNAI	CU-199i	199,000	199,000
15	1	OVEN - 3 RACK	XLT	3270-H	627,000	627,000
RTU-1(N)	1	ROOF TOP UNIT	-	-	120,000	120,000
MAU-1(N)	1	MAKE-UP AIR UNIT	-	-	140,000	140,000
					1086,000	1086,000
					<b>TOTAL LOAD</b>	<b>1086,000</b>

NAT. GAS DESIGN  
 NEW GAS PIPING - LOW PRESSURE SYSTEM  
 INLET PRESSURE < 2.0PSI  
 PRESSURE DROP- 0.5 IN W.C  
 LONGEST LENGTH- APPROX. 100'  
 GAS PIPE SIZING PER TABLE 402.4(2),  
 INTERNATIONAL FUEL GAS CODE, 2012.

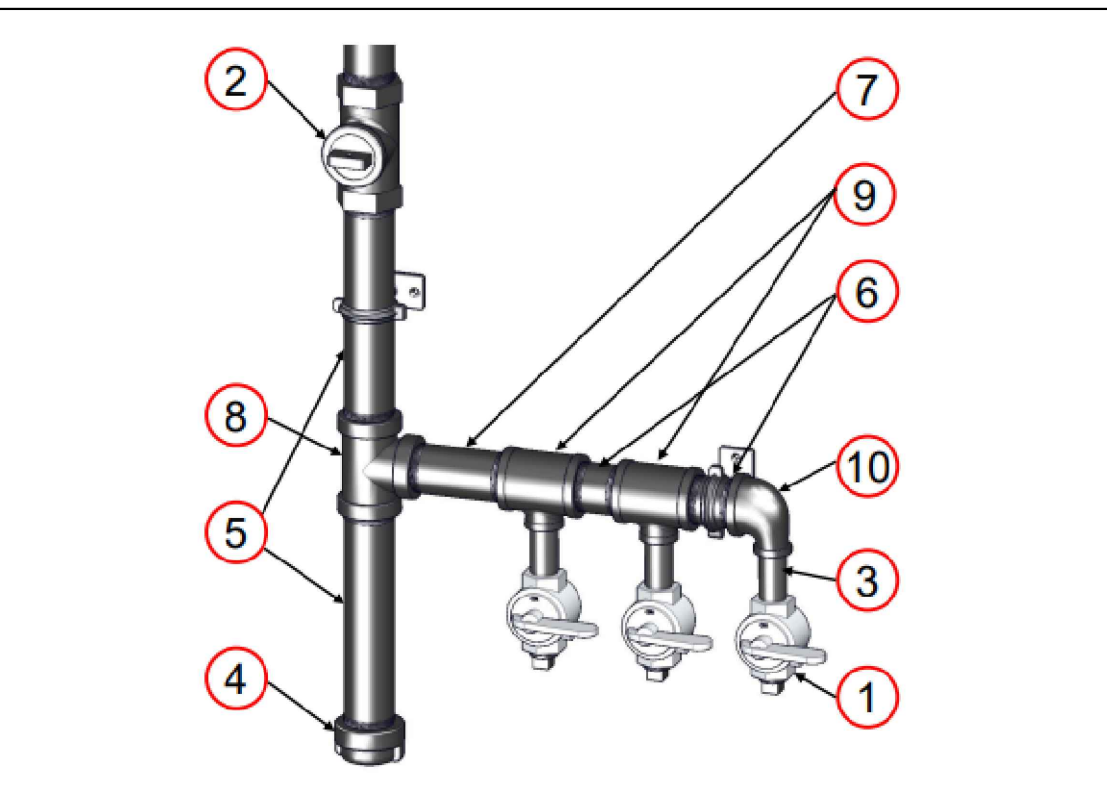
Property for



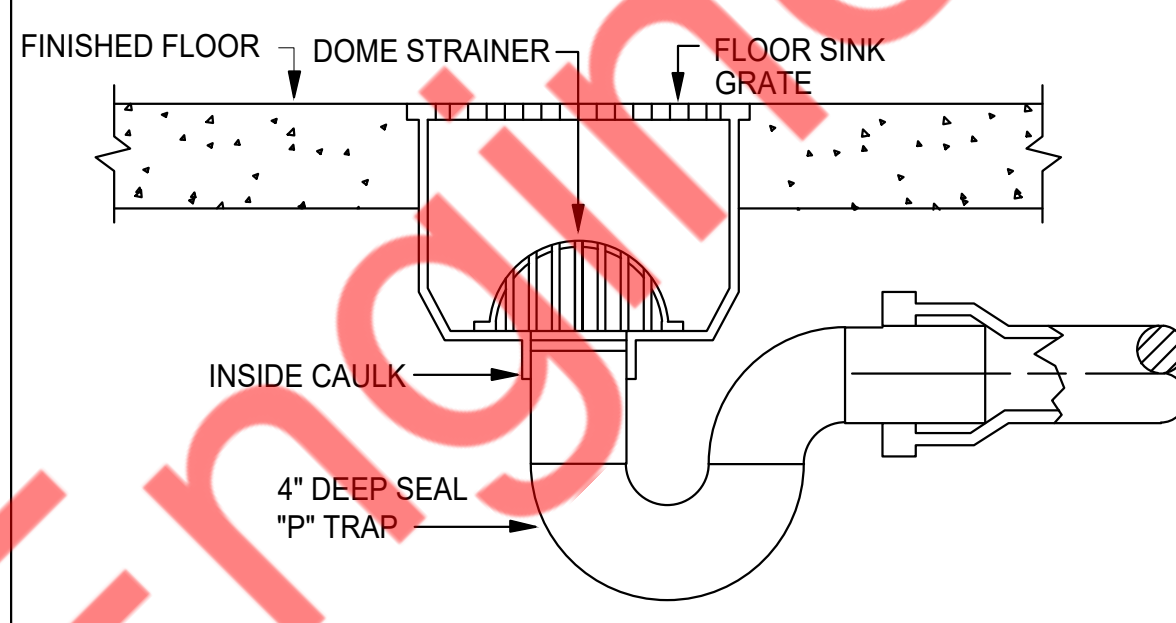
**1** PIPE SLEEVE THRU WALL SECTION  
P-201 N.T.S



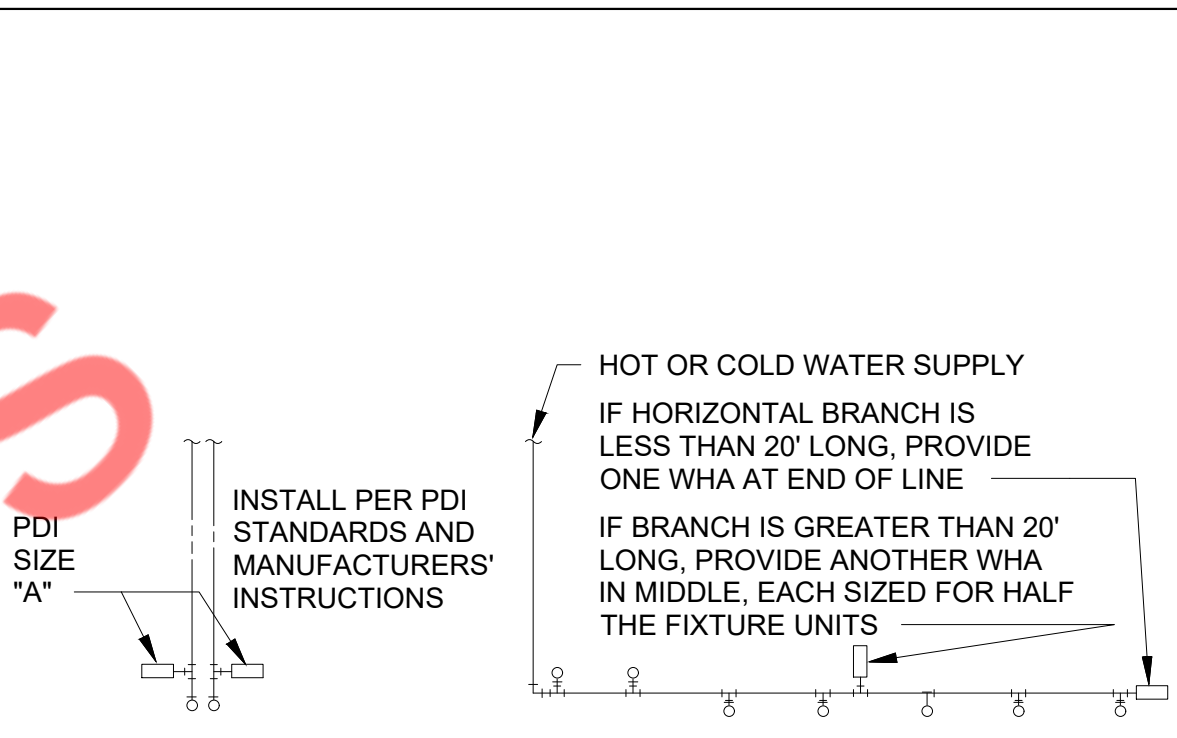
**2** GAS PIPE CONNECTION DETAILS-OVEN  
P-201 N.T.S



**3** 3-COMPARTMENT SINK DETAIL  
P-201 N.T.S



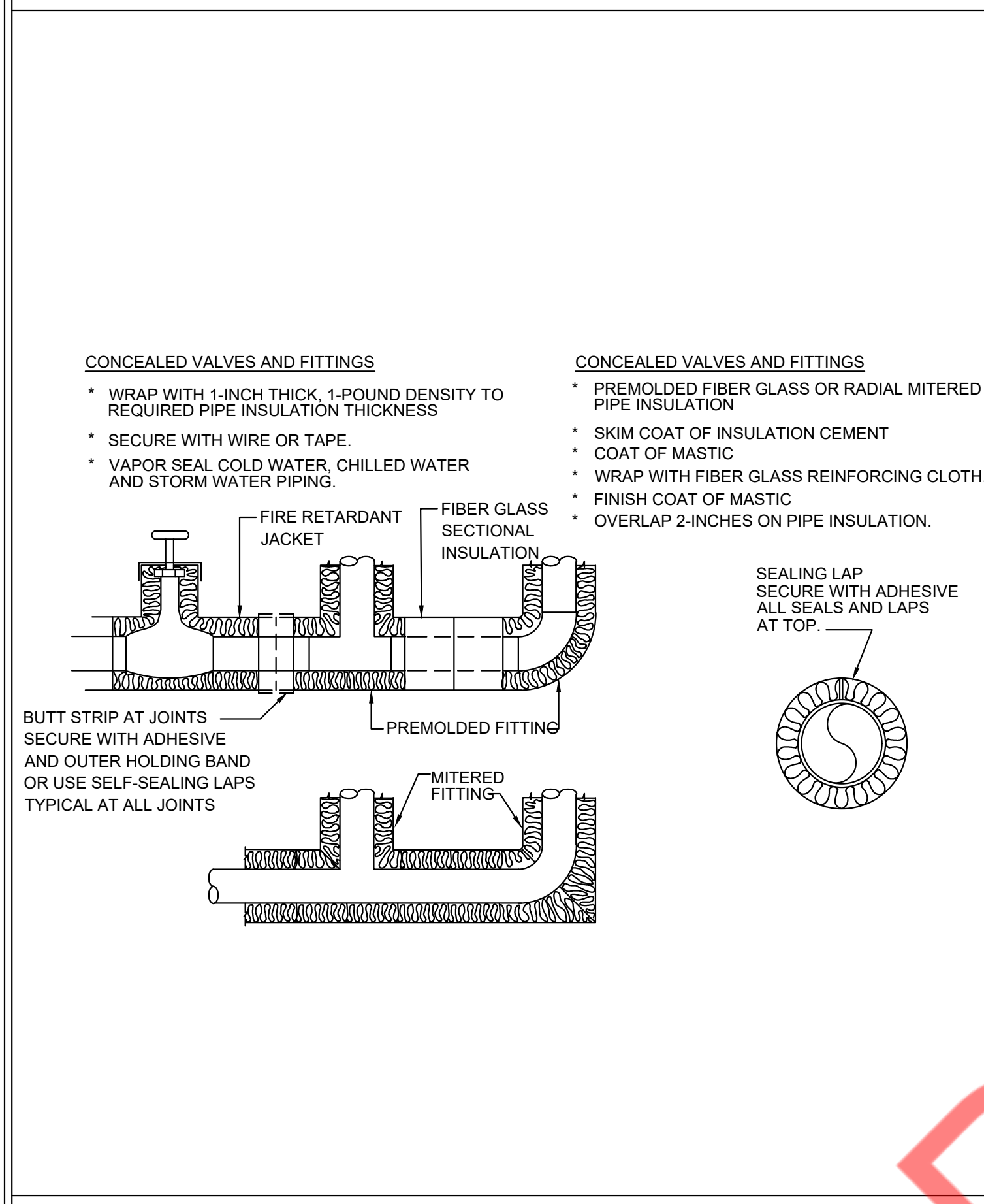
**4** FLOOR SINK DETAIL  
P-201 N.T.S



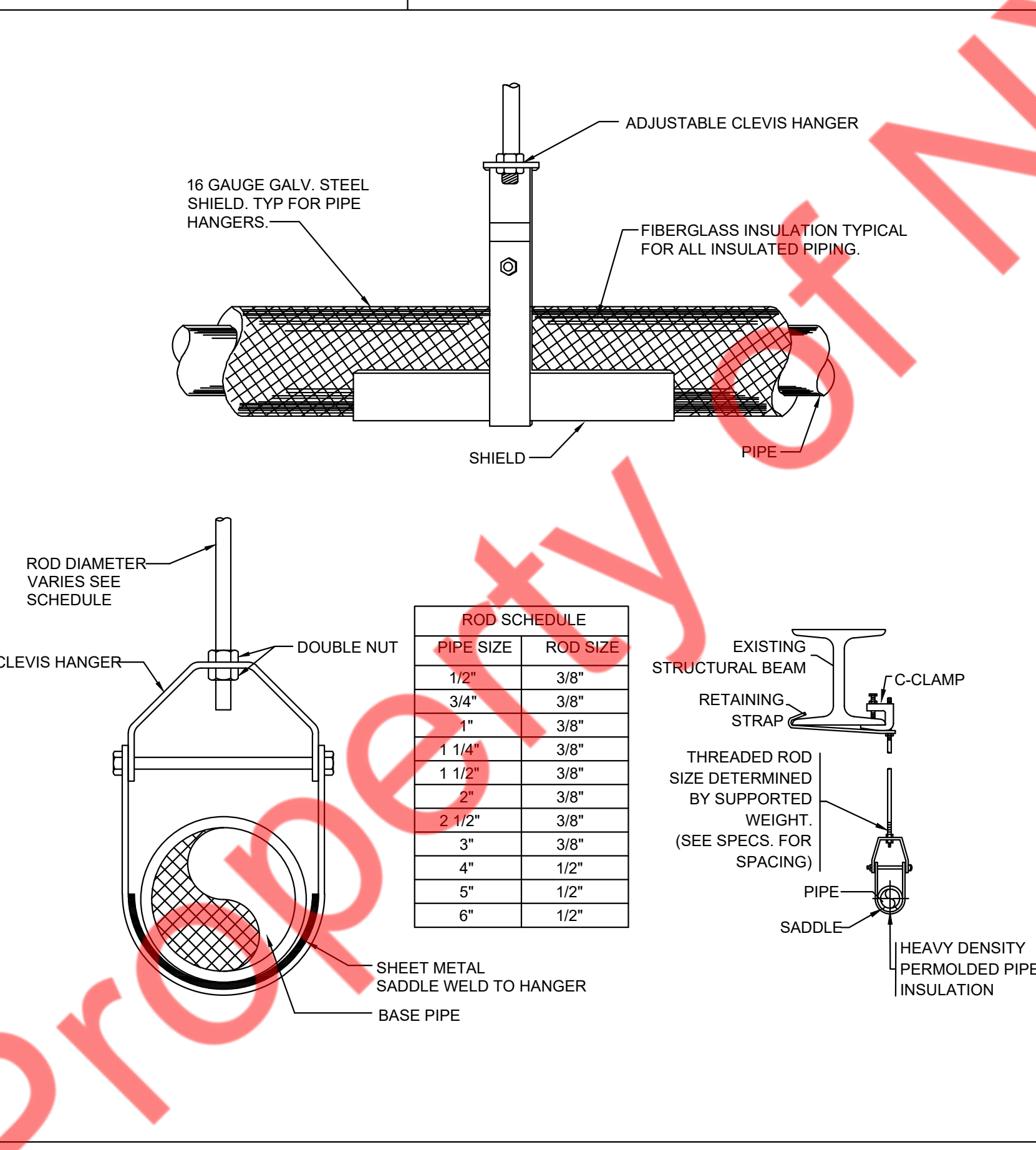
SINGLE FIXTURE			MULTIPLE FIXTURES	
PDI SIZE	PIPE SIZE	FIXTURE UNIT LOAD	FIXTURE UNIT TABULATION	
A	1/2"	1-11	VALVE WATER CLOSET	COLD HOT
B	3/4"	12-32		
C	1"	33-60	URINAL	5 --
D	1-1/4"	61-113	COUNTER SINK	1.5 1.5
E	1-1/2"	114-154	LAVATORY	1.5 1.5
F	2"	155-330	MOP BASIN	2.25 2.25
			WATER COOLER	.25 --

PROVIDE WATER HAMMER ARRESTERS BY SIOUX CHIEF, PRECISION PLUMBING PRODUCTS, WATTS OR APPROVED EQUAL WITH PISTON AND O-RING CONSTRUCTION, HAVING PDI #WH-201, ASSE #1010 AND ANSI #A112.26. 1M CERTIFICATION. INSTALL IN HORIZONTAL OR VERTICAL POSITION, BUT NEVER UPSIDE DOWN. INSTALL IN LINE WITH WATER FLOW DIRECTION IF POSSIBLE. SIZE UNITS PER TABLES ABOVE.

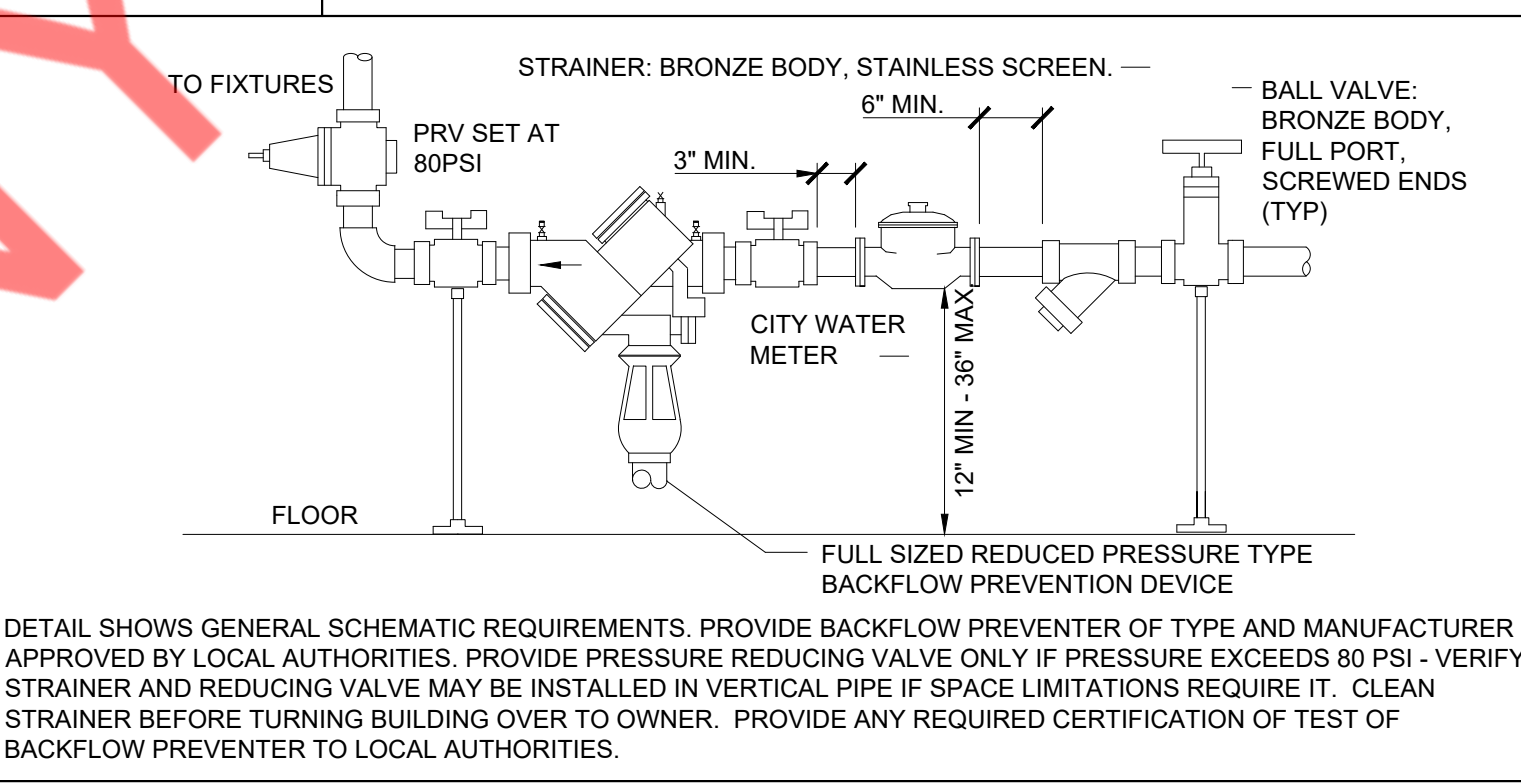
**5** WATER HAMMER ARRESTOR  
P-201 N.T.S



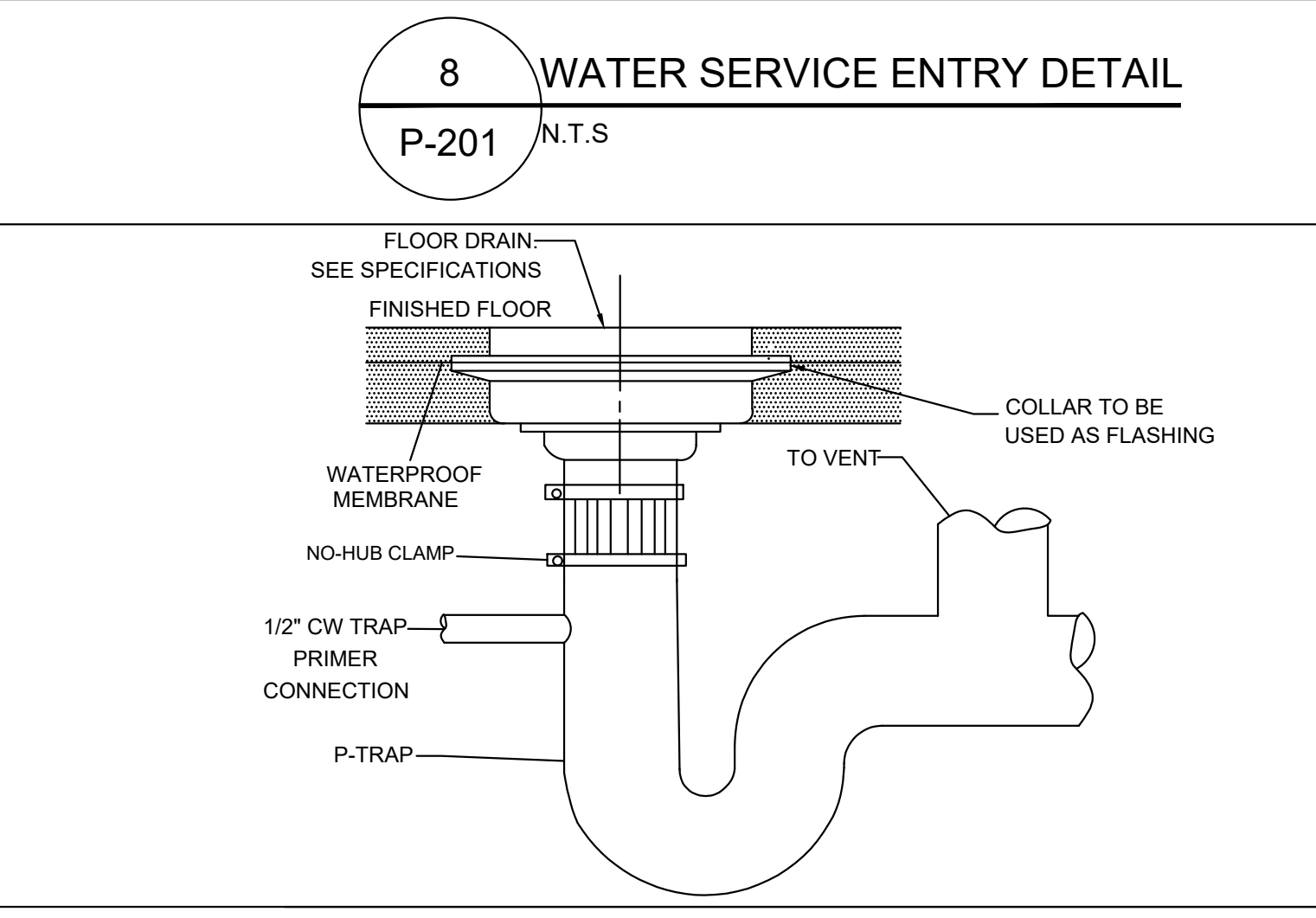
**6** PIPE INSULATION DETAIL  
P-201 N.T.S



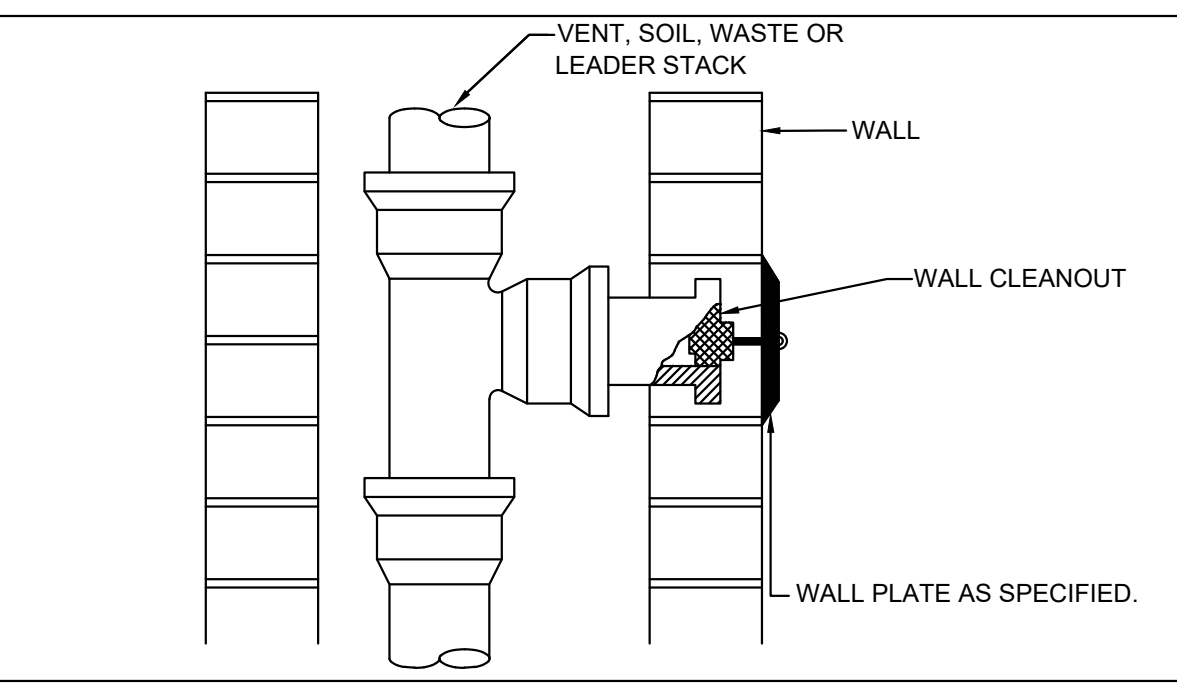
**7** HANGER DETAIL  
P-201 N.T.S



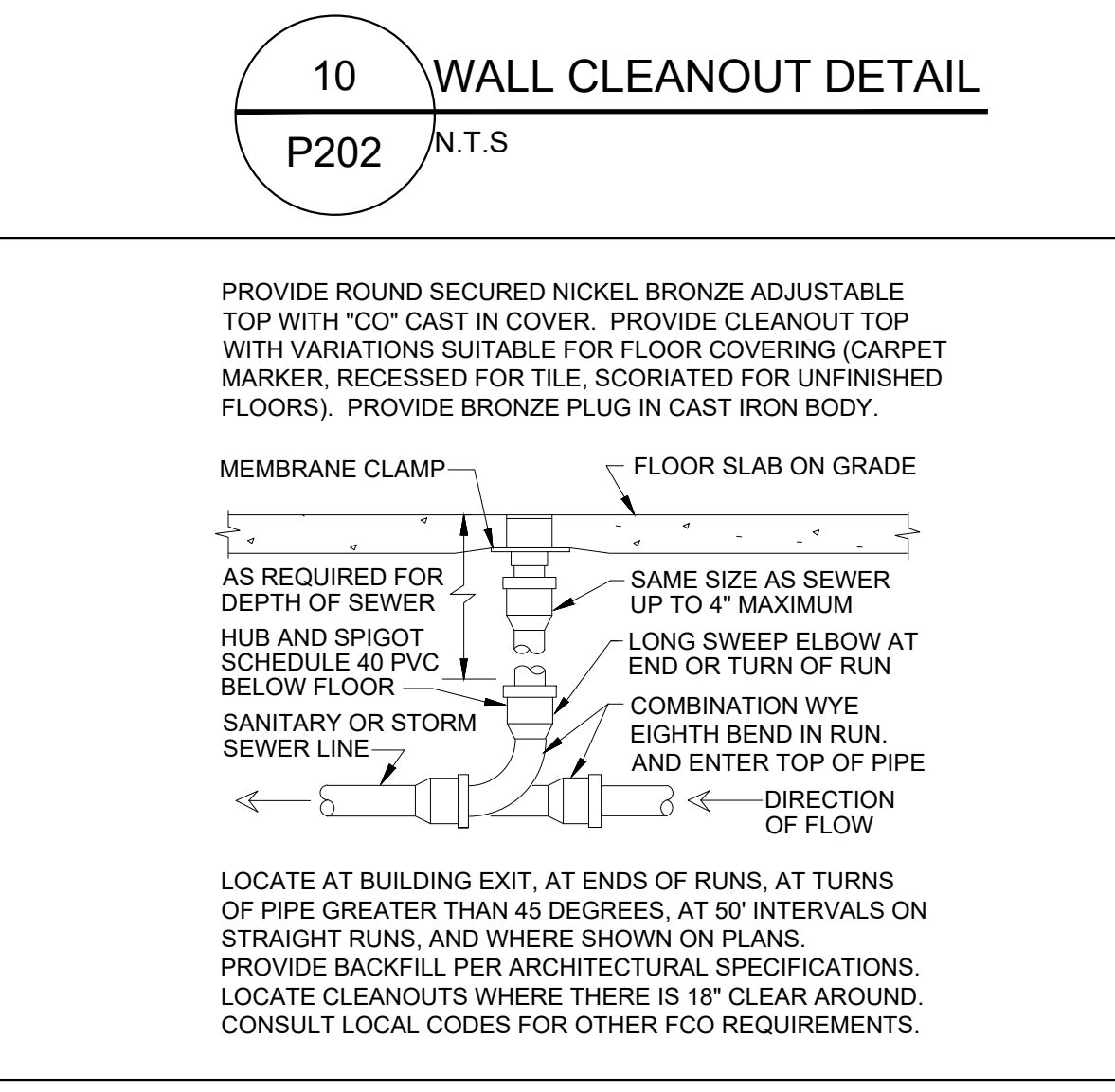
**8** WATER SERVICE ENTRY DETAIL  
P-201 N.T.S



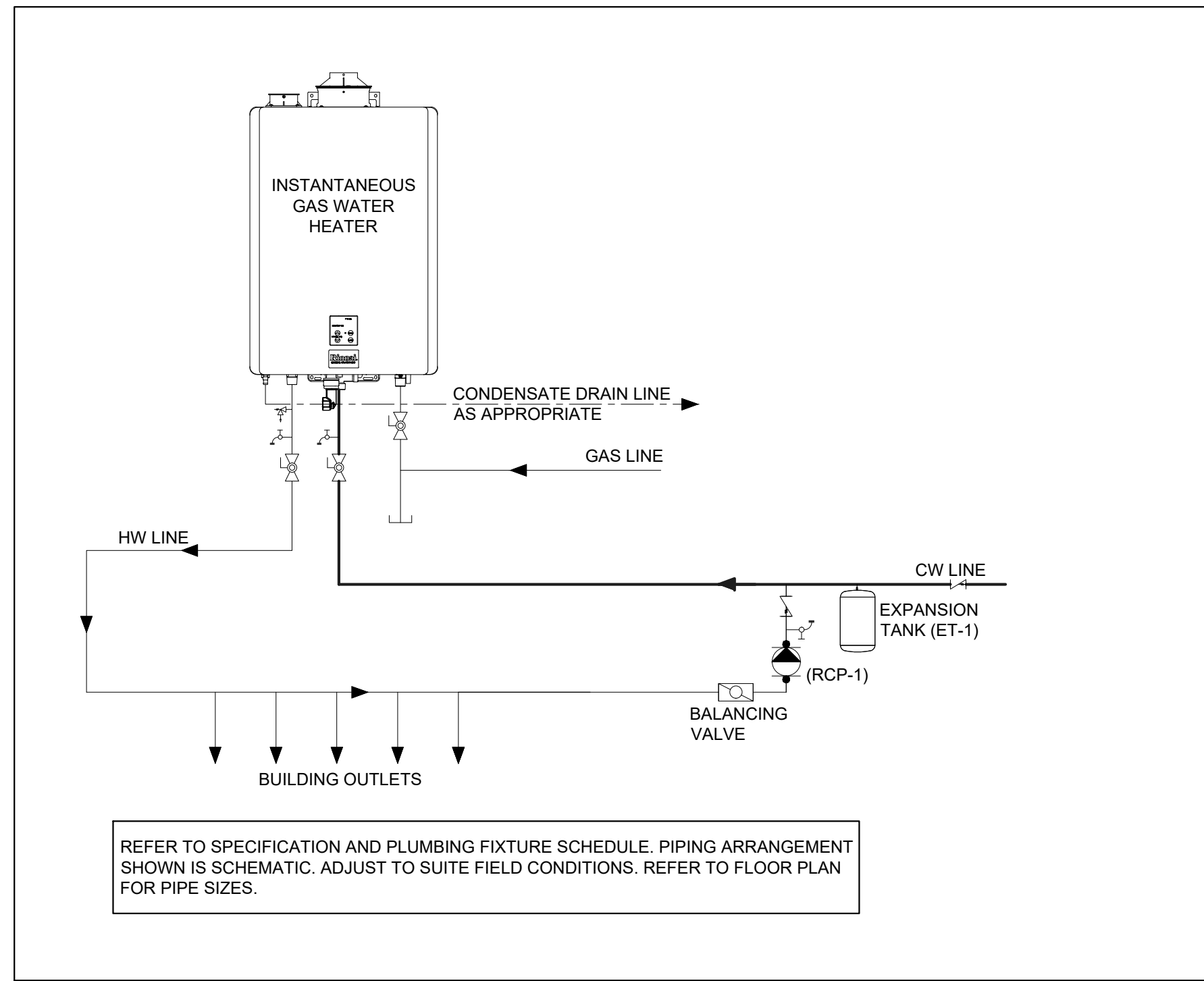
**9** FLOOR DRAIN DETAIL  
P-201 N.T.S



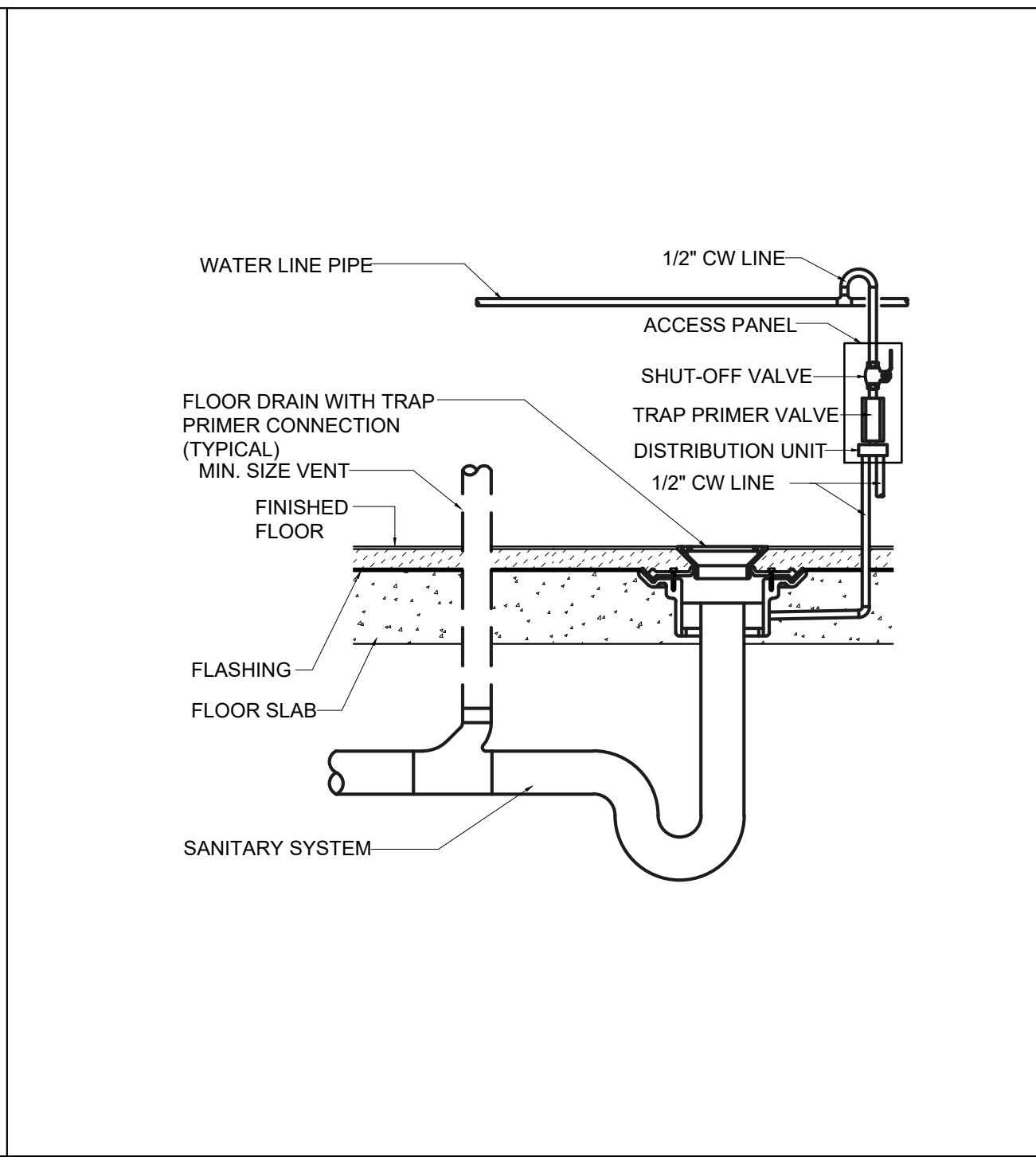
**10** WALL CLEANOUT DETAIL  
P-202 N.T.S



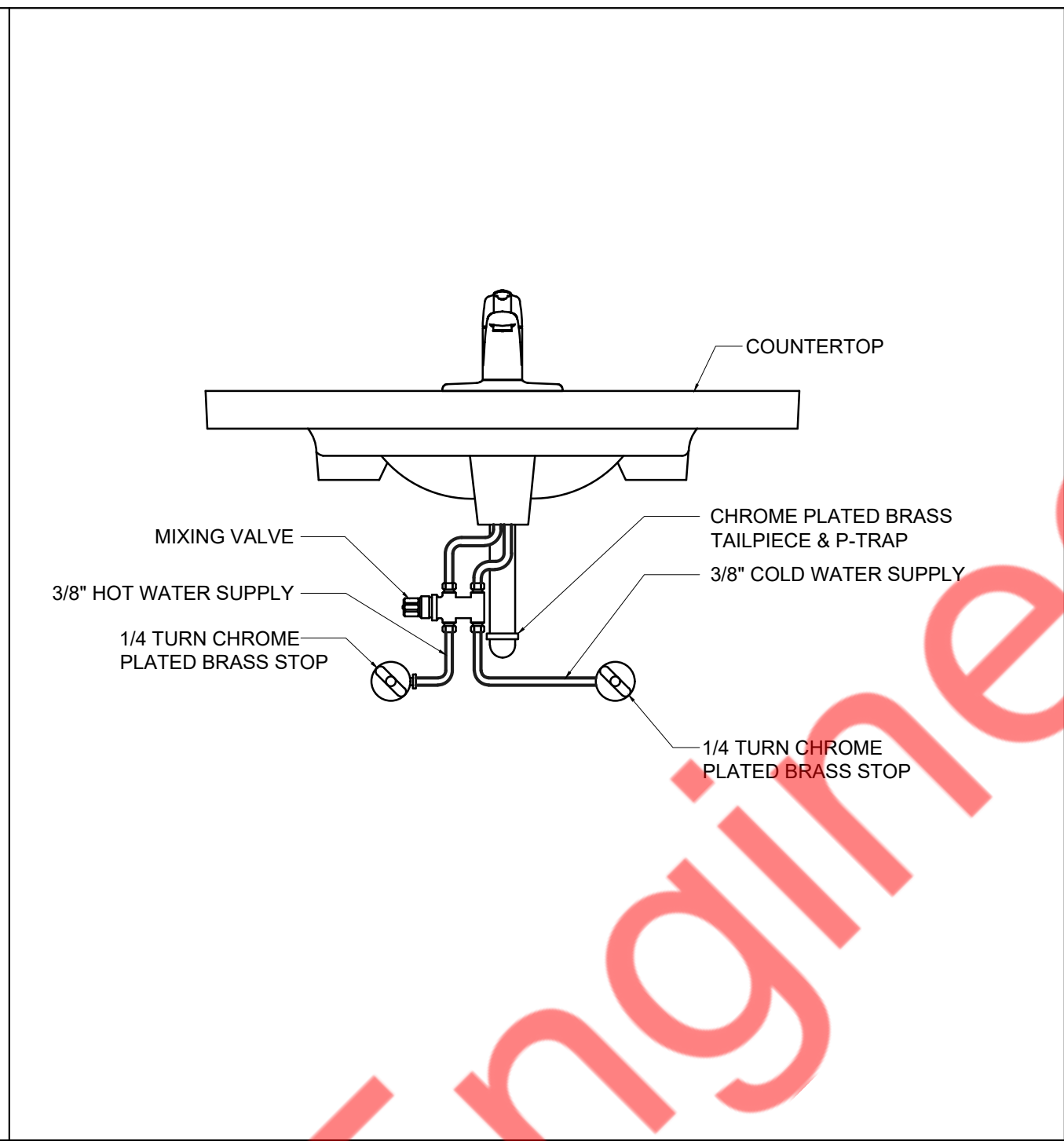
**11** FLOOR CLEANOUT DETAIL  
P-201 N.T.S



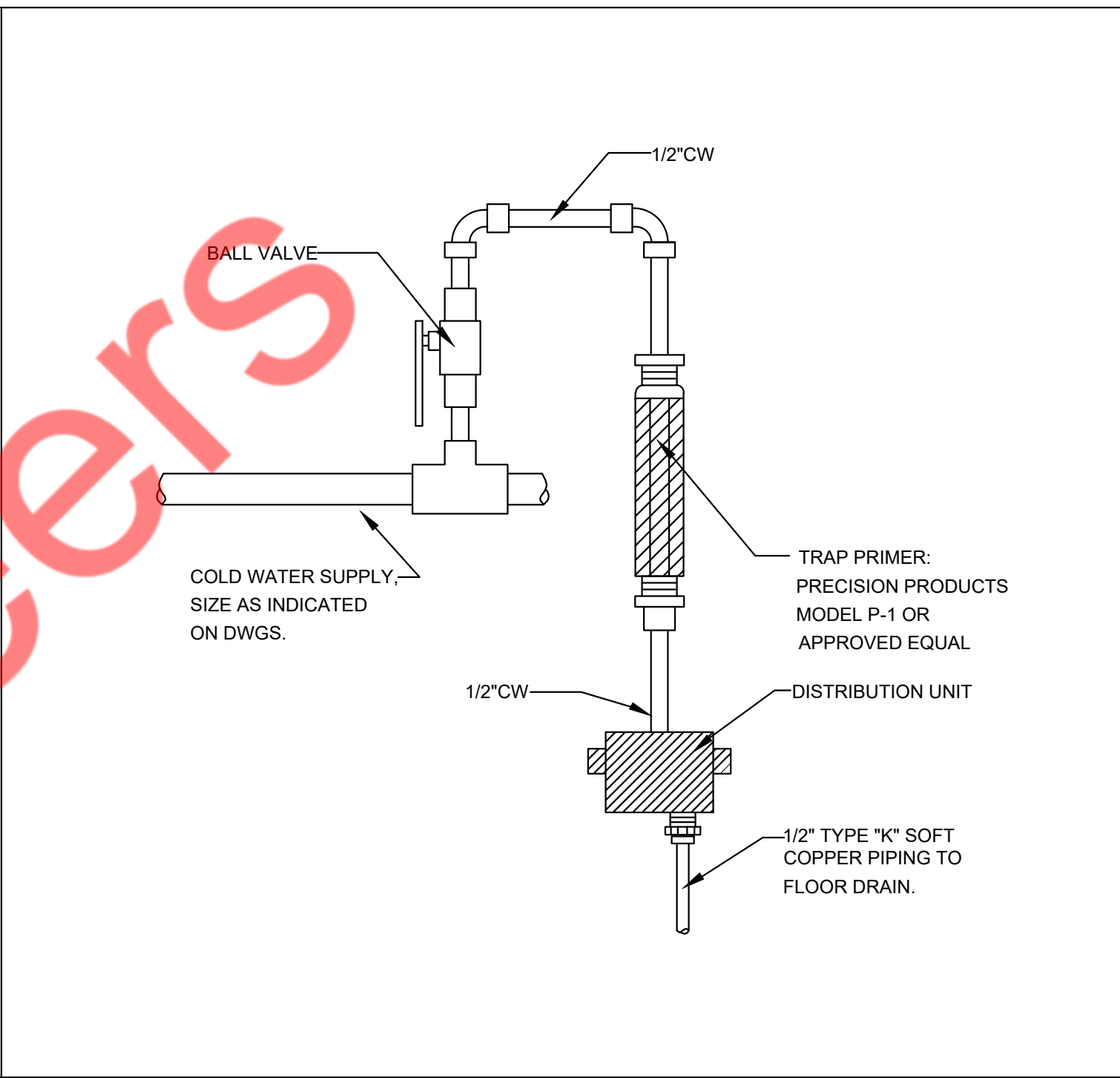
1 INSTANTANEOUS GAS WATER HEATER  
P-202 N.T.S



2 FLOOR DRAIN DETAILS  
P-202 N.T.S



3 MIXING VALVE DETAILS  
P-202 N.T.S



4 TRAP PRIMER DETAILS  
P-202 N.T.S

Property of NY Engineers

ELECTRICAL DRAWING LIST	
E-001	ELECTRICAL ABBREVIATIONS & SPECIFICATIONS (1 OF 2)
E-002	ELECTRICAL SPECIFICATIONS SHEET (2 OF 2)
E-101	ELECTRICAL POWER PLAN
E-102	LIGHTING PLAN
E-201	ELECTRICAL DETAILS (1 OF 2)
E-202	ELECTRICAL DETAILS (2 OF 2)
E-301	ELECTRICAL RISER DIAGRAM & PANEL SCHEDULE

## ELECTRICAL SYSTEM SPECIFICATIONS OUTLINE:

THE FOLLOWING OUTLINE SPECIFICATIONS ARE MEANT FOR REFERENCE ONLY AND HAVE BEEN PROVIDED TO ESTABLISH RECOMMENDED MINIMUM QUALITY LEVEL FOR SERVICES AND EQUIPMENT TO BE USED FOR THE CONSTRUCTION OF LITTLE CAESARS STORE. THE USE OF BRAND NAMES, CATALOGUE NUMBERS OR NAMES OF MANUFACTURERS IS SOLELY FOR THE PURPOSE OF ESTABLISHING THE TYPE AND QUALITY THAT WILL BE ACCEPTABLE UNLESS SPECIFICALLY PROHIBITED IN THE SPECIFICATIONS. SUBSTITUTIONS WILL BE PERMITTED AFTER SUBMITTAL TO AND WRITTEN APPROVAL BY LITTLE CAESARS. IT IS RECOMMENDED THAT THE CONTRACTOR ACQUIRE THE DESIGN AND EQUIPMENT BROCHURES FROM LITTLE CAESARS EQUIPMENT AND SUPPLY FOR REFERENCE WITH THESE DOCUMENTS ELECTRICAL GENERAL REQUIREMENTS

- A. SCOPE OF WORK: ALL MATERIAL SHALL BE NEW UNLESS OTHERWISE INDICATED FURNISH ALL LABOR, EQUIPMENT, TECHNICAL SUPERVISION, AND INCIDENTAL SERVICES REQUIRED TO COMPLETE, TEST AND LEAVE READY FOR OPERATION THE ELECTRICAL SYSTEMS AS SPECIFIED AND AS INDICATED ON DRAWING.
- B. ORDINANCES AND CODES: PERFORM ALL WORK IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL ORDINANCES AND REGULATIONS, THE RULES AND REGULATIONS OF NFPA, NECA, AND UL, UNLESS OTHERWISE INDICATED.
- C. UNLESS OTHERWISE INDICATED, ALL REQUIRED PERMITS, LICENSES, INSPECTIONS, APPROVALS AND FEES FOR ELECTRICAL WORK SHALL BE SECURED AND PAID FOR BY THE CONTRACTOR. WORK SHALL CONFORM TO ALL APPLICABLE CODES, RULES AND REGULATIONS.
- D. THE DRAWINGS SHOW THE LOCATION AND GENERAL ARRANGEMENT OF EQUIPMENT, ELECTRICAL SYSTEMS AND RELATED ITEMS THEY SHALL BE FOLLOWED AS CLOSELY AS ELEMENTS OF THE CONSTRUCTION WILL PERMIT.
- E. EXAMINE THE DRAWINGS OF OTHER TRADES AND VERIFY THE CONDITIONS GOVERNING THE WORK ON THE JOB SITE ARRANGE WORK ACCORDINGLY, PROVIDING SUCH FITTINGS, CONDUIT, JUNCTION BOXES AND ACCESSORIES AS MAY BE REQUIRED TO MEET SUCH CONDITIONS.
- F. COORDINATE ARRANGEMENT MOUNTING AND SUPPORT OF ELECTRICAL EQUIPMENT WITH OTHER TRADES.
- G. VISIT THE SITE, EXAMINE AND VERIFY THE CONDITIONS UNDER WHICH THE WORK MUST BE CONDUCTED BEFORE SUBMITTING PROPOSAL. THE SUBMITTING OF A PROPOSAL IMPLIES THAT THE CONTRACTOR HAS VISITED THE SITE AND UNDERSTANDS THE CONDITIONS UNDER WHICH THE WORK MUST BE CONDUCTED. NO ADDITIONAL CHARGES WILL BE REQUIRED BECAUSE OF FAILURE TO MAKE THIS EXAMINATION OR TO INCLUDE ALL MATERIALS AND LABOR TO COMPLETE THE WORK.
- H. BIDS SHALL BE BASED UPON MANUFACTURED EQUIPMENT SPECIFIED. VOLUNTARY ALTERNATES MAY BE SUBMITTED FOR CONSIDERATION, WITH LISTED ADDITION OR DEDUCTION TO THE BID.
- I. SUBMIT FOR APPROVAL SHOP DRAWINGS FOR ALL ELECTRICAL SYSTEMS OR EQUIPMENT BUT NOT LIMITED TO THE ITEMS LISTED BELOW.
- PANELBOARDS
  - DISCONNECT SWITCHES
  - WIRING DEVICES
  - LIGHTING FIXTURES
  - LIGHTING CONTROL SYSTEMS AND DEVICES (IF REQUIRED)
  - FIRE ALARM SYSTEM (IF REQUIRED)
- J. PROVIDE COMPLETE OPERATION AND MAINTENANCE INSTRUCTIONAL MANUALS COVERING ALL ELECTRICAL EQUIPMENT HEREIN SPECIFIED, TOGETHER WITH PARTS LISTS.
- K. WARRANTY: CONTRACTOR SHALL WARRANTY THAT THE ELECTRICAL INSTALLATION IS FREE FROM DEFECTS AND AGREES TO REPLACE OR REPAIR, TO THE OWNER'S SATISFACTION, ANY PART OF THIS ELECTRICAL INSTALLATION WHICH BECOMES DEFECTIVE WITHIN A PERIOD OF ONE YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION FOLLOWING FINAL ACCEPTANCE, PROVIDED THAT SUCH FAILURE IS DUE TO DEFECTS IN THE EQUIPMENT, MATERIAL, WORKMANSHIP OR FAILURE TO FOLLOW THE CONTRACT DOCUMENTS.
- L. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY TEMPORARY SERVICES INCLUDING EQUIPMENT AND INSTALLATION REQUIRED TO MAINTAIN OPERATION AS A RESULT OF ANY EQUIPMENT FAILURE OR DEFECT DURING WARRANTY PERIOD
- M. FILE WITH THE OWNER ANY AND ALL WARRANTIES FROM THE EQUIPMENT MANUFACTURERS INCLUDING THE OPERATING CONDITIONS AND PERFORMANCE CAPACITIES THEY ARE BASED ON.
- N. CONSULT WITH THE OWNER'S REPRESENTATIVE AS TO THE METHODS OF CARRYING ON THE WORK SO AS NOT TO INTERFERE WITH THE OWNER'S OPERATION ANY MORE THAN ABSOLUTELY NECESSARY. ACCORDINGLY, ALL SERVICE LINES SHALL BE KEPT IN OPERATION AS LONG AS POSSIBLE AND THE SERVICES SHALL ONLY BE INTERRUPTED AT SUCH TIME AS WILL BE DESIGNATED BY THE OWNER'S REPRESENTATIVE.
- O. ALL CUTTING, PATCHING AND REPAIR WORK SHALL BE PERFORMED BY THE CONTRACTOR THROUGH APPROVED QUALIFIED SUBCONTRACTORS. CONTRACTOR SHALL INCLUDE FULL COST OF SAME IN BID.
- P. PROVIDE ALL EXCAVATION, TRENCHING, TUNNELING, DEWATERING AND BACKFILLING REQUIRED FOR THE ELECTRICAL WORK. COORDINATE THE WORK WITH OTHER EXCAVATING AND BACKFILLING IN THE SAME AREA.
- Q. INSPECT THE INSTALLATION OF ALL EQUIPMENT PER THE MANUFACTURER'S RECOMMENDATION AND APPLICABLE CODES.
- R. PROVIDE UL APPROVED FIRE-STOPPING SYSTEM FOR ALL PENETRATIONS PASSING THROUGH FIRE RATED ASSEMBLIES.
- S. COMPLY WITH NECA 1.
- T. PROVIDE AND INSTALL ARC-FLASH HAZARD LABELS ON EACH ELECTRICAL EQUIPMENT AND ENCLOSURES DEFINED BY NFPA 70E LABELS SHALL COMPLY WITH THE REQUIREMENTS OF NFPA 70E AND CONTAIN AS A MINIMUM:
- VOLTAGE (PHASE-PHASE)
  - FLASH PROTECTION BOUNDARY (INCHES)
  - INCIDENT ENERGY LEVEL AT THE WORKING DISTANCE (CA/CM2)
  - PERSONNEL PROTECTIVE EQUIPMENT (PPE) CLASS AND DESCRIPTION
  - RESTRICTED APPROACH BOUNDARY (INCHES)
  - LIMITED SHOCK APPROACH BOUNDARY (INCHES)
  - PROHIBITED SHOCK APPROACH BOUNDARY (INCHES)

### GROUND AND BONDING

- A. EQUIPMENT GROUNDING: COMPLY WITH NFPA 70, ARTICLE 250, FOR TYPES, SIZES, AND QUANTITIES OF EQUIPMENT GROUNDING CONDUCTORS, UNLESS SPECIFIC TYPES, LARGER SIZES, OR MORE CONDUCTORS THAN REQUIRED

- BY NFPA 70 ARE INDICATED.
- B. PROVIDE EQUIPMENT GROUNDING CONDUCTORS IN EACH RACEWAY.

### CONDUCTORS AND CABLE

- A. CONDUCTOR MATERIAL: COPPER COMPLYING WITH NEMA WC 70: SOLID CONDUCTOR FOR NO 10 AWG AND SMALLER, STRANDED FOR NO 8 AWG AND LARGER.
- B. CONDUCTOR INSULATION TYPES: TYPE THHN-THWN, SO COMPLYING WITH NEMA WC 70.
- C. CONDUCTOR AND INSULATION APPLICATIONS:
- FEEDERS: TYPE THHN-THWN, SINGLE CONDUCTORS IN RACEWAY, OR TYPE MC CABLE IF PERMITTED BY LOCAL AHJ.
  - BRANCH CIRCUITS, INCLUDING IN CRAWLSPACES: TYPE THHN-THWN, SINGLE CONDUCTORS IN RACEWAY, OR TYPE MC CABLE IF PERMITTED BY LOCAL AHJ.
  - CORD DROPS AND PORTABLE APPLIANCE CONNECTIONS: TYPE SO, HARD SERVICE CORD.
  - CLASS I CONTROL CIRCUITS: TYPE THHN-THWN IN RACEWAY.
  - FIRE ALARM CIRCUITS (IF APPLICABLE): TYPE THHN-THWN IN RACEWAY
  - CLASS II CONTROL CIRCUITS: CABLE
- D. CONCEAL CABLES IN FINISHED WALLS, CEILINGS, AND FLOORS, UNLESS OTHERWISE INDICATED.
- E. USE CONDUCTOR NOT SMALLER THAN 12 AWG FOR POWER AND LIGHTING CIRCUITS. UNLESS INDICATED OTHERWISE, ALL CIRCUITS SHALL BE #12, #12G, AND ¾" C.
- F. USE CONDUCTOR NOT SMALLER THAN 14 AWG FOR CONTROL CIRCUITS, PROVIDED BY ELECTRICAL CONTRACTOR.
- G. SUPPORT COMMUNICATION CABLES ABOVE ACCESSIBLE CEILING, USING SPRING METAL CLIPS OR PLASTIC CABLE TIES TO SUPPORT CABLES FROM STRUCTURE. DO NOT REST CABLE ON CEILING PANELS.
- RACEWAY AND BOXES
- A. RACEWAY APPLICATIONS:
- OUTDOORS ABOVE GRADE AND WET LOCATIONS: RIGID STEEL OR IMC.
  - OUTDOORS, BELOW GRADE: SCHEDULE 40 PVC WITH RIGID STEEL SWEEPS.
  - INDOORS, NOT EXPOSED TO PHYSICAL DAMAGE: EMT OR TYPE MC CABLE IF PERMITTED BY LOCAL AHJ.
  - INDOORS, EXPOSED TO PHYSICAL DAMAGE (EXPOSED, BELOW 10'): RIGID STEEL OR IMC.
  - CONNECTIONS TO MOTORS AND TRANSFORMERS: LIQUID TIGHT FLEXIBLE METAL CONDUIT (LFMC).
- B. MINIMUM RACEWAY SIZE: ¾-INCH TRADE SIZE.
- C. INSTALL CONDUIT IN ACCORDANCE WITH NECA "NATIONAL ELECTRICAL INSTALLATION STANDARDS".

### WIRING DEVICES

- A. STRAIGHT-BLADE-TYPE RECEPTACLES: COMPLY WITH NEMA WD 1, NEMA WD 6, DSCC W-C-5966, AND UL 498 CONFIGURATION 5-20R DUPLEX RECEPTACLE. HUBBELL HBL 5352 OR EQUAL BY PASS & SEYMOUR AND LEVITON.
- B. GFCI RECEPTACLES: STRAIGHT BLADE, FEED-THROUGH TYPE, GENERAL DUTY GRADE, WITH INTEGRAL NEMA WD 6, CONFIGURATION 5-20R DUPLEX RECEPTACLE; COMPLYING WITH UL 498 AND UL 943 DESIGN UNITS FOR INSTALLATION IN A 2- ¾-INCH- (70-MM) DEEP OUTLET BOX WITHOUT AN ADAPTER HUBBELL GF5352 OR EQUAL BY PASS & SEYMOUR OR LEVITON.
- C. CORD AND PLUG SETS: MATCH VOLTAGE AND CURRENT RATINGS AND NUMBER OF CONDUCTORS TO REQUIREMENTS OF EQUIPMENT BEING CONNECTED
- CORD: RUBBER-INSULATED, STRANDED-COPPER CONDUCTORS, WITH TYPE SOW-A JACKET; WITH GREEN-INSULATED GROUNDING CONDUCTOR AND EQUIPMENT-RATING AMPACITY PLUS A MINIMUM OF 30 PERCENT.
  - PLUG: NYLON BODY AND INTEGRAL CABLE-CLAMPING JAWS MATCH CORD AND RECEPTACLE TYPE FOR CONNECTION.
- D. WALL SWITCHES: SINGLE AND DOUBLE-POLE SWITCHES: COMPLY WITH DSCC W-C-896F AND UL 20 HUBBELL WIRING DEVICE, KELLEMS 1220 SERIES OR EQUAL BY PASS & SEYMOUR OR LEVITON.
- E. WALL PLATES: PROVIDE STAINLESS STEEL WALL PLATES IN FINISHED AREAS.
- F. WIRING DEVICE COLOR AS SELECTED BY ARCHITECT UNLESS OTHERWISE INDICATED OR REQUIRED BY NFPA 70.
- G. CONNECT WIRING DEVICE GROUNDING TERMINAL TO OUTLET BOX WITH BONDING JUMPER. USE OF QUICK GROUND STRAP OR SCREW IS NOT ACCEPTABLE.
- H. ROOF MOUNTED SERVICE RECEPTACLES: PROVIDE A GFCI RECEPTACLE WITHIN 25' OF EACH MECHANICAL EQUIPMENT UNIT FOR SERVICING. PROVIDE RED DOT OR EQUAL WEATHERPROOF WHILE IN USE RECEPTACLE COVER. ALL ROOF PENETRATIONS SHALL BE BY A LICENSED ROOFING CONTRACTOR.
- I. ALL 15 AND 20 AMP RECEPTACLES IN KITCHEN PRODUCTION AREA SHALL BE GFCI TYPE.
- J. COORDINATE NEMA CONFIGURATION OF ALL ELECTRICAL CONNECTIONS FOR OWNER SUPPLIED EQUIPMENT WITH FINAL EQUIPMENT CUT SHEETS PRIOR TO INSTALLATION

### LIGHTING CONTROL DEVICES (IF APPLICABLE)

- A. DIGITAL TIME SWITCHES: ELECTRONIC, SOLID-STATE PROGRAMMABLE UNITS WITH ALPHANUMERIC DISPLAY COMPLYING WITH UL 917, NEMA TYPE 1-GENERAL PURPOSE STEEL ENCLOSURE WITH CORROSION-RESISTANT PRIMER AND BAKED ENAMEL FINISH IN MANUFACTURER'S STANDARD COLOR TORK OR EQUAL.
- B. OUTDOOR PHOTOELECTRIC CONTROL: SOLID STATE, WITH DRY CONTACTS RATED, TO OPERATE CONNECTED LOAD, RELAY, CONTACTOR COILS, OR MICROPROCESSOR INPUT, AND COMPLYING WITH UL 773A.
- C. OCCUPANCY SENSOR:
- WALL SWITCH PASSIVE INFRARED OCCUPANCY SENSOR: WATTSTOPPER WS-200 OR EQUAL.
  - DUAL LEVEL SWITCHING PASSIVE INFRARED OCCUPANCY SENSOR: WATTSTOPPER WA-300 OR EQUAL.
  - 360° CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR:

WATTSTOPPER DT-300 OR EQUAL.

4. 110° WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR: WATTSTOPPER DT-200 OR EQUAL.

5. 360° CEILING MOUNTED ULTRASONIC OCCUPANCY SENSORS: WATTSTOPPER "W" SERIES OR EQUAL.

6. 360° CEILING MOUNTED PASSIVE INFRARED OCCUPANCY SENSOR WATTSTOPPER CI-200 OR EQUAL.

7. OUTDOOR SENSORS (PIR): WATT STOPPER EW SERIES OR EQUAL.

- D. PROVIDE POWER SUPPLIES AND CONTROL MODULES AS REQUIRED FOR OCCUPANCY SENSOR OPERATION. PROVIDE ONE SET OF AUXILIARY CONTACT FOR TEMPERATURE CONTROLS.
- E. LIGHTING CONTACTORS: ELECTRICALLY-OPERATED MECHANICALLY- HELD CONTACTOR, PER NEMA ICS2, WITH SIZE AND NUMBER OF POLES INDICATED. SQUARE D CO. OR EQUAL.
- F. INSTALL LIGHTING CONTROL DEVICES AS INDICATED ON PLAN. INSTALL AT ACCESSIBLE LOCATIONS. MOUNT PHOTOCELL ON ROOF OR PARAPET TO ½" GRS CONDUIT, SUPPORTED TO BUILDING STRUCTURE BELOW. COORDINATE ROOF PENETRATION WITH ROOFING CONTRACTOR.
- G. OCCUPANCY SENSOR ADJUSTMENTS: WHEN REQUESTED WITHIN 12 MONTHS OF DATE OF SUBSTANTIAL COMPLETION, PROVIDE ON-SITE ASSISTANCE IN ADJUSTING SENSORS TO SUIT ACTUAL OCCUPIED CONDITIONS. PROVIDE UP TO TWO VISITS TO SITE OUTSIDE NORMAL OCCUPANCY HOURS FOR THIS PURPOSE.

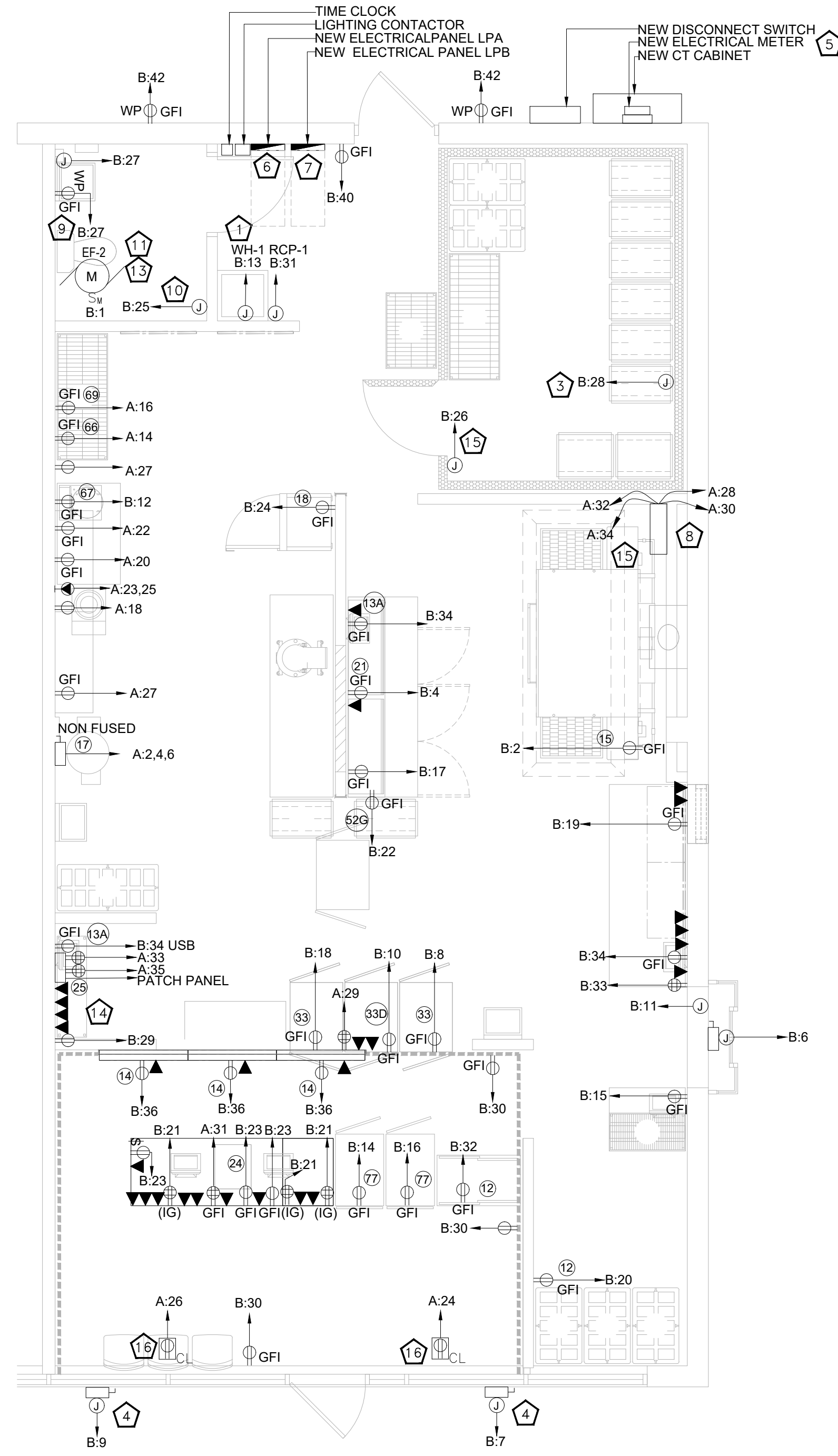
### ENCLOSED SWITCHES AND CIRCUIT BREAKERS

- A. FUSIBLE AND NON-FUSIBLE SWITCHES: NEMA KS 1, QUICK MAKE, QUICK-BREAK LOAD INTERRUPTER ENCLOSED KNIFE SWITCH TYPE HD, WITH CLIPS OR BOLT PADS TO ACCOMMODATE SPECIFIED FUSES (IF REQUIRED), EXTERNALLY OPERABLE LOCKABLE HANDLE WITH CAPABILITY TO ACCEPT TWO PADLOCKS, AND INTERLOCKED WITH COVER IN CLOSED POSITION SQUARE D OR EQUAL.
- B. TOGGLE DISCONNECT SWITCH: HEAVY DUTY, 30A, 600 VOLT, DOUBLE OR THREE POLE AS REQUIRED, SINGLE THROW, MOTOR RATED SWITCH WITHOUT OVERLOAD PROTECTION. PROVIDE NEMA 1 ENCLOSURE AND PADLOCK ATTACHMENT.
- C. MOLDED-CASE CIRCUIT BREAKER: NEMA AB 1, WITH INTERRUPTING CAPACITY TO MEET AVAILABLE FAULT CURRENTS, THERMAL-MAGNETIC CIRCUIT BREAKER WITH INVERSE TIME-CURRENT ELEMENT FOR LOW-LEVEL OVERLOADS AND INSTANTANEOUS MAGNETIC TRIP ELEMENT FOR SHORT CIRCUITS. ADJUSTABLE MAGNETIC TRIP SETTING FOR CIRCUIT BREAKER FRAME SIZES 250 A AND LARGER.
- D. MOLDED-CASE SWITCHES: MOLDED-CASE CIRCUIT BREAKER WITH FIXED, HIGH-SET INSTANTANEOUS TRIP ONLY, AND SHORT-CIRCUIT WITHSTAND RATING EQUAL TO EQUIVALENT BREAKER FRAME SIZE INTERRUPTING RATING.
- E. COMPLY WITH APPLICABLE PORTIONS OF NECA 1, NEMA PB 1.1, AND NEMA PB 2.1 FOR INSTALLATION OF ENCLOSED SWITCHES AND CIRCUIT BREAKERS.
- F. SET FIELD-ADJUSTABLE SWITCHES AND CIRCUIT-BREAKER TRIP AND TIME DELAY SETTINGS.
- G. LABEL EACH DISCONNECT WITH ENGRAVED METAL OR LAMINATED-PLASTIC NAMEPLATE MOUNTED WITH CORROSION-RESISTANT SCREWS. INDICATE SOURCE AND LOAD SERVED.

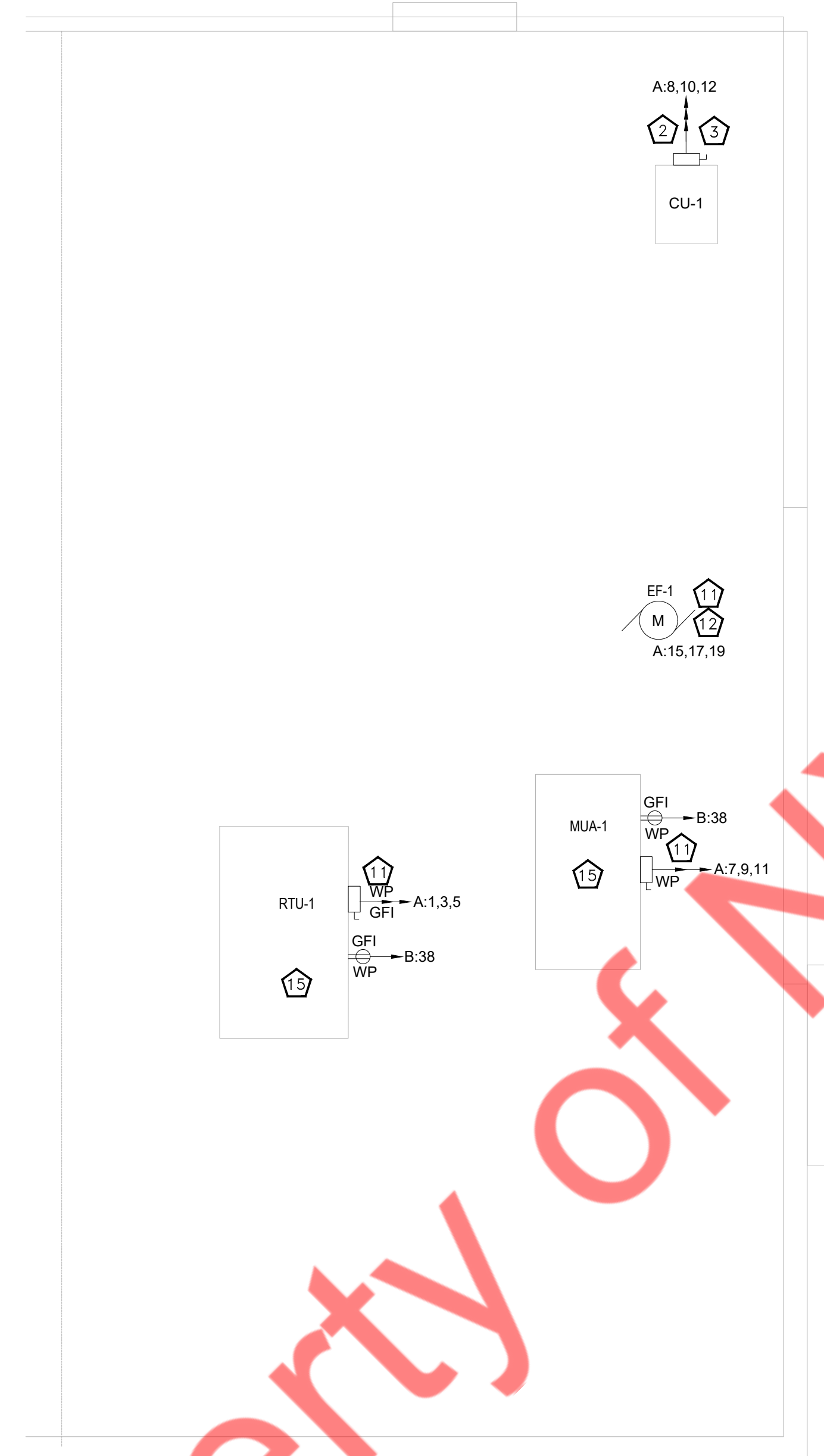
### ENCLOSED CONTROLLERS

- A. MANUAL CONTROLLER: NEMA ICS 2, GENERAL PURPOSE, CLASS A, WITH "QUICK-MAKE, QUICK-BREAK" TOGGLE OR PUSHBUTTON ACTION, MARKED TO SHOW WHETHER UNIT IS "OFF," "ON," OR "TRIPPED," AND OVERLOAD RELAY.
- B. MAGNETIC CONTROLLER: NEMA ICS 2, CLASS A, FULL VOLTAGE, NONREVERSING; ACROSS THE LINE, UNLESS OTHERWISE INDICATED.
- CONTROL CIRCUIT: 120 V; OBTAINED FROM INTEGRAL CONTROL POWER TRANSFORMER WITH SUFFICIENT CAPACITY TO OPERATE CONNECTED PILOT, INDICATING AND CONTROL DEVICES, PLUS 100 PERCENT SPARE CAPACITY.
  - OVERLOAD RELAY: AMBIENT-COMPENSATED TYPE WITH INVERSE-TIME-CURRENT CHARACTERISTIC AND NEMA ICS 2, CLASS 20 TRIPPING CHARACTERISTIC. PROVIDE WITH HEATERS OR SENSORS IN EACH PHASE MATCHED TO NAMEPLATE FULL-LOAD CURRENT OF SPECIFIC MOTOR TO WHICH THEY CONNECT AND WITH APPROPRIATE ADJUSTMENT FOR DUTY CYCLE.
- C. COMBINATION MAGNETIC CONTROLLER: FACTORY-ASSEMBLED COMBINATION CONTROLLER AND DISCONNECT SWITCH.
- D. 1. FUSIBLE DISCONNECTING MEANS: NEMA KS 1, HEAVY-DUTY, FUSIBLE SWITCH WITH REJECTION-TYPE FUSE CLIPS RATED FOR FUSES. SELECT AND EQUAL FUSES TO PROVIDE TYPE 2 PROTECTION ACCORDING TO IEC 947-4-1, AS CERTIFIED BY AN NRTL.
- D. ENCLOSURES: FLUSH- OR SURFACE-MOUNTING CABINETS AS INDICATED NEMA 250, TYPE 1, UNLESS OTHERWISE INDICATED TO COMPLY WITH ENVIRONMENTAL CONDITIONS AT INSTALLED LOCATION.
- E. ACCESSORIES:
- DEVICES SHALL BE FACTORY INSTALLED IN CONTROLLER ENCLOSURE, UNLESS OTHERWISE INDICATED.
  - PUSH-BUTTON STATIONS, PILOT LIGHTS: NEMA ICS 2, HEAVY-DUTY TYPE.
  - INDICATING LIGHTS: RUN (RED), OFF OR READY (GREEN).
  - AUXILIARY CONTACTS: PROVIDE TWO NORMALLY OPEN (N.O.) AND TWO NORMALLY CLOSED (N.C.) CONTACTS.
  - SELECTOR SWITCH: NEMA ISC 2, MOUNTED IN FRONT COVER TO READ "HAND/OFF/AUTO," PROVIDE AUXILIARY CONTACT FOR AUTO POSITION MONITORING.
  - CONTROL RELAYS: AUXILIARY AND ADJUSTABLE TIME-DELAY RELAYS.
- F. SELECT HORSEPOWER RATING OF CONTROLLERS TO SUIT MOTOR CONTROLLED
- G. FOR CONTROL EQUIPMENT AT WALLS, BOLT UNITS TO WALL OR MOUNT ON LIGHTWEIGHT STRUCTURAL-STEEL CHANNELS BOLTED TO WALL. FOR CONTROLLERS NOT AT WALLS, PROVIDE FREESTANDING RACKS.
- H. INSTALL FREESTANDING EQUIPMENT ON CONCRETE BASES.
- I. ENCLOSED CONTROLLER FUSES: INSTALL FUSES IN EACH FUSIBLE SWITCH.
- J. SELECT AND INSTALL HEATER ELEMENTS IN MOTOR STARTERS TO MATCH INSTALLED MOTOR CHARACTERISTICS.
- K. IDENTIFY ENCLOSED CONTROLLER, COMPONENTS, WITH ENGRAVED METAL OR LAMINATED- PLASTIC NAMEPLATE IDENTIFY SOURCE AND LOAD SERVED.
- L. SET FIELD-ADJUSTABLE SWITCHES AND CIRCUIT-BREAKER TRIP RANGES





1 ELECTRICAL POWER FLOOR PLAN  
SCALE: 1/4" = 1'-0"



2 ELECTRICAL POWER ROOF PLAN  
SCALE: 1/4" = 1'-0"

**ELECTRICAL LEGEND**

⊕	120V-20A DUPLEX RECEPTACLE, STRAIGHT BLADE MOUNTED ON THE CEILING.
⊕	120V-20A DUPLEX RECEPTACLE, STRAIGHT BLADE MOUNTED AT 18" A.F.F UNLESS OTHERWISE NOTED.
⊕	120V-20A DOUBLE DUPLEX RECEPTACLE, STRAIGHT BLADE MOUNTED AT 18" A.F.F UNLESS OTHERWISE NOTED.
⊕	120V-20A DUPLEX RECEPTACLE, STRAIGHT BLADE MOUNTED AT 18" A.F.F UNLESS OTHERWISE NOTED.
⊕	120V-20A DUPLEX RECEPTACLE, STRAIGHT BLADE TYPE, WITH ISOLATED GROUND CONDUCTOR, MOUNTED AT 18" A.F.F UNLESS OTHERWISE NOTED.
⊕	120V-20A SINGLE RECEPTACLE, STRAIGHT BLADE TYPE MOUNTED AT 18" A.F.F UNLESS OTHERWISE NOTED.
⊕	120V-20A SINGLE RECEPTACLE, STRAIGHT BLADE TYPE MOUNTED AT 18" A.F.F UNLESS OTHERWISE NOTED.
▬	SURFACE MOUNTED PANEL BOARD.
⊠	COMBINATION MOTOR STARTER & NON-FUSED DISCONNECT SWITCH.
⊠	FUSED DISCONNECT SWITCH.
⊠	NON-FUSED DISCONNECT SWITCH.
⊕	JUNCTION BOX CONNECTION FOR EQUIPMENT. E.C. SHALL CONFIRM EXACT CONNECTION REQUIREMENTS, I.E. DIRECT CONNECTION, STRAIGHT BLADE, OR TWISTLOCK RECEPTACLE FOR ALL EQUIPMENT.
▽	DATA OUTLET COORDINATE MOUNTING HEIGHT IN FIELD. PROVIDE 3/4" CONDUIT AND/OR PULL STRING TO ACCESSIBLE CEILING OR AREA AS REQUIRED. TERMINATE IN PULSE CABINET LOCATED IN MANAGERS OFFICE.
▽	TELEPHONE OUTLET MOUNTED AT 18" A.F.F. UNLESS OTHERWISE NOTED. PROVIDE 3/4" CONDUIT AND/OR PULL STRING TO ACCESSIBLE CEILING OR AREA AS REQUIRED. TERMINATE IN PULSE CABINET LOCATED IN MANAGERS OFFICE 120V-20A DOUBLE DUPLEX RECEPTACLE, STRAIGHT BLADE MOUNTED AT 18" A.F.F UNLESS OTHERWISE NOTED.
▽	TELEPHONE AND DATA OUTLET.
⊕	120/277V - 20A SINGLE POLE TOGGLE SWITCH MOUNTED AT 48" A.F.F. TO CENTER OF SWITCH.
C	CEILING MOUNTED.
IG	ISOLATED GROUND.
⊕	STOREFRONT RECEPTACLE EITHER MOUNTED ABOVE WINDOW OR ON HEADER OR ON CEILING.
ST	EQUIPMENT WIRED TO SHUNT TRIP BREAKER IN PANEL, LOCATED UNDER HOOD.
WP	WEATHERPROOF BOX, WEATHER RESISTANT DEVICE.
s-r	THERMAL OVERLOAD SWITCH AT MOTOR. PROVIDE THERMAL ELEMENTS AS PER MOTOR RATING
1.5KW	ELECTRICAL HEATER, NUMBER DENOTES HEATER RATING

**ELECTRICAL GENERAL NOTES**

- ALL ELECTRICAL ROUGH-INS AND CONNECTIONS SHOWN ON THESE PLANS ARE FOR FOOD SERVICE FIXTURES AND EQUIPMENT PROVIDED BY THE EQUIPMENT VENDOR OR BY OUTSIDE PARTIES LISTED AS 'VENDOR' OR 'BY OTHERS'. ALL INFORMATION PROVIDED ON THESE PLANS ARE TO BE VERIFIED BY THE ELECTRICAL CONTRACTOR THRU THE SPECIFICATIONS MANUAL PROVIDED BY THE EQUIPMENT VENDOR OR BY CONSULTING THE APPROPRIATE OUTSIDE PARTIES.
- ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR SUPPLYING / INSTALLING ALL ELECTRICAL COMPONENTS NECESSARY TO PROVIDE POWER TO EQUIPMENT. ELECTRICAL CONTRACTOR SHALL ALSO COMPLETE ALL INTERNAL WIRING AND FINAL CONNECTIONS TO EQUIPMENT PER MANUFACTURERS SPECIFICATIONS, INCLUDING BUT NOT LIMITED TO:
  - PROVIDING CAPS AND CORDS TO APPLICABLE EQUIPMENT
  - STAINLESS STEEL COVER PLATES WHERE REQUIRED
  - MAIN BREAKER PANELS, CONTROL PANELS, DISCONNECT SWITCHES, STARTERS, ETC.
- ALL ELECTRICAL CONDUIT IS TO BE RUN WITHIN WALL CAVITY AND BOXES AND RECEPTACLES ARE TO BE MOUNTED FLUSH WITH THE WALL SURFACE. SURFACE MOUNTED ELECTRICAL WORK IS NOT TO BE USED UNLESS OTHERWISE SPECIFIED.
- ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ENSURING PROPER WORKING CONDITION AND MEETING CURRENT LOCAL CODE REQUIREMENTS FOR ANY / ALL EQUIPMENT LISTED ON THESE PLANS AS 'EXISTING'.
- ALL ELECTRICAL WORK IS TO BE PERFORMED IN FULL ACCORDANCE WITH ALL LOCAL AND FEDERAL CODES AND REQUIREMENTS.
- ALL DIMENSIONS ARE TAKEN FROM FINISHED FLOORS AND FINISHED WALLS OR AS NOTED ON PLAN AND ARE TO CENTERLINE OF ROUGH-INS.
- REFER TO ARCHITECTURAL PLANS AND / OR CONSTRUCTION DOCUMENTS FOR ANY ADDITIONAL ELECTRICAL CONNECTIONS OR OUTLETS REQUIRED TO MEET LOCAL CODES.
- ELECTRICAL CONTRACTOR TO MAKE SINGLE POINT HARNESS CONNECTION FROM CONDENSING UNIT TO EVAPORATOR AS WELL AS CONNECTING EVAP. PAN
- G.C. TO CONNECT PRECHARGED REFRIGERATION LINES FROM CONDENSING UNIT TO EVAPORATOR.
- RECOMMEND CONDENSING UNIT TO BE KEPT AT TEMPERATURE OF 90 DEGREES OR LESS.

**KITCHEN GENERAL NOTES**

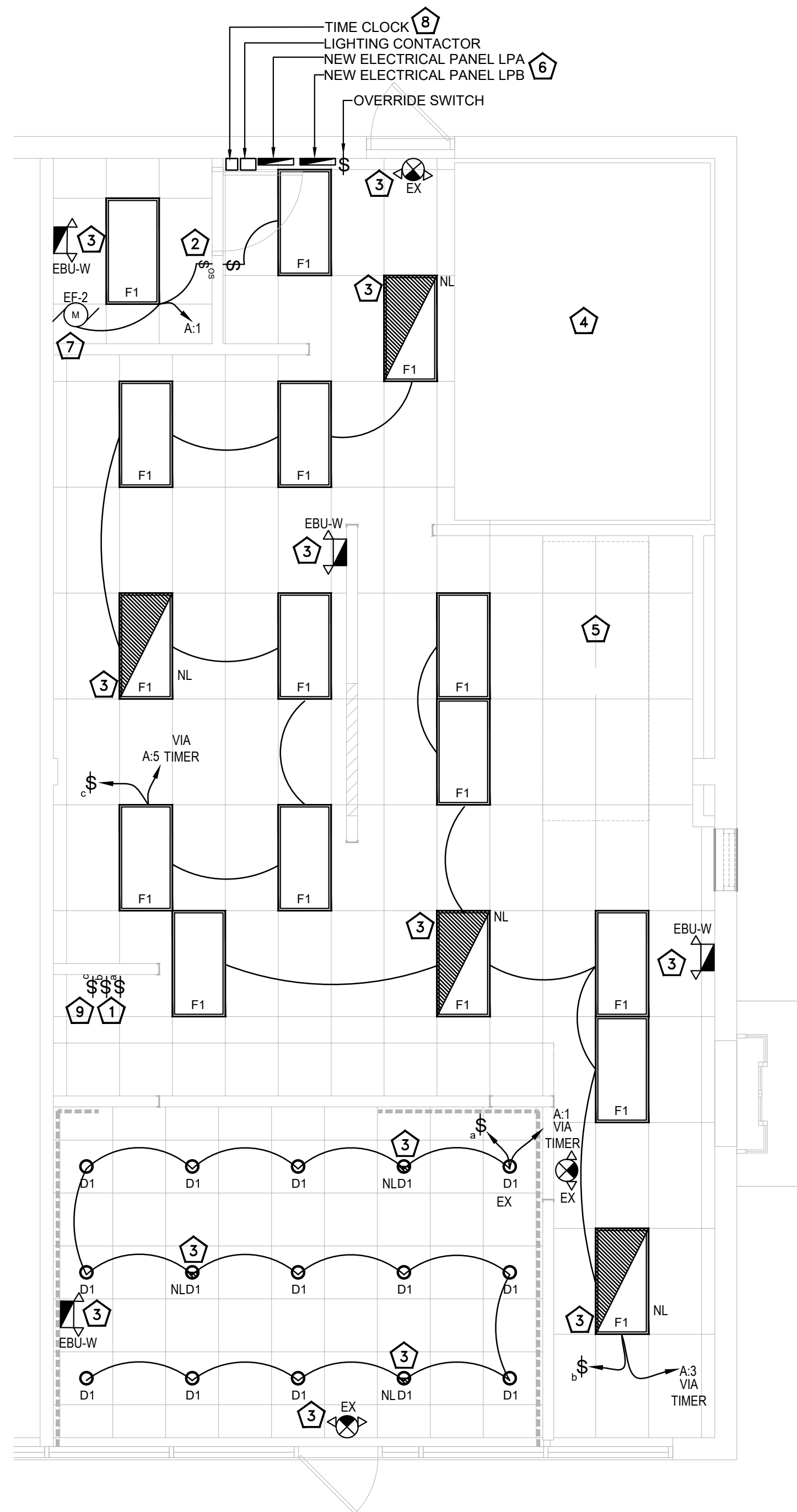
- ALL 125-VOLT THROUGH 250-VOLT RECEPTACLES SUPPLIED BY SINGLE-PHASE BRANCH CIRCUITS RATED 150 VOLTS OR LESS TO GROUND, 50 AMPERES OR LESS, AND ALL RECEPTACLES SUPPLIED BY THREE-PHASE BRANCH CIRCUITS RATED 150 VOLTS OR LESS TO GROUND, 100 AMPERES OR LESS, INSTALLED IN THE LOCATIONS SPECIFIED IN 210.8(B) SHALL HAVE GFCI PROTECTION. IF THE RECEPTACLE IS NOT READILY ACCESSIBLE PROVIDE GFI BREAKER INSIDE PANEL IN LINE WITH EXISTING BREAKER TYPE.

**POWER PLAN KEY NOTES**

NO	ITEM DESCRIPTION
1	JUNCTION BOX FOR IGNITION OF GAS WATER HEATER. E.C. SHALL COORDINATE EXACT LOCATION, IGNITION & ELECTRICAL REQUIREMENT WITH PLUMBING CONTRACTOR/WATER HEATER SUPPLIER/MANUFACTURER.
2	30A/3P CIRCUIT FOR WALK-IN COOLER CONDENSER. E.C. SHALL COORDINATE EXACT LOCATION AND ELECTRICAL REQUIREMENT WITH EQUIPMENT MANUFACTURER IN FIELD.
3	E.C. TO COORDINATE WITH WALK IN COOLER MANUFACTURER FOR EXACT LOCATION OF ELECTRICAL CONNECTION AND POWER SUPPLY REQUIREMENT IN FIELD AND ACCORDINGLY PROVIDE THE ELECTRICAL CONNECTION FOR WALK IN COOLER.
4	JUNCTION BOX WITH TOGGLE DISCONNECT PER NEC FOR CONNECTION TO BUILDING MOUNTED SIGNAGE. VERIFY LOCATION AND CONNECT TO SIGN PER MANUFACTURER'S SIGN VENDOR'S INSTRUCTION. ROUTE CIRCUIT TO PANEL VIA EXTERIOR MOUNTED PHOTOCELL/TIME CLOCK.
5	NEW 400A, 120/208V, 3-PHASE, 4-WIRE ELECTRICAL METER, CT CABINET AND DISCONNECT SWITCH FOR THE SPACE. E.C. SHALL COORDINATE WITH OWNER/UTILITY FOR EXACT LOCATION OF ELECTRICAL METER, CT CABINET AND DISCONNECT SWITCH IN FIELD. E.C. SHALL FIELD VERIFY AND APPLY TO UTILITY COMPANY FOR NEW ELECTRICAL METER, CT CABINET AND DISCONNECT SWITCH FOR THE SPACE.
6	NEW 400A, 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL 'A' FOR THE SPACE. E.C. SHALL COORDINATE FINAL LOCATION WITH ARCHITECT/OWNER IN FIELD.
7	NEW 200A, 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL 'B' FOR THE SPACE. E.C. SHALL COORDINATE FINAL LOCATION WITH ARCHITECT/OWNER IN FIELD.
8	E.C. SHALL PROVIDE POWER AND NECESSARY WIRING FOR THE HOOD CONTROL PANEL. COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT ELECTRICAL REQUIREMENTS IN FIELD.
9	POWER FOR AUTOMATIC FAUCET SENSOR. E.C. TO COORDINATE EXACT POWER REQUIREMENT WITH ARCHITECT/OWNER PRIOR TO INSTALLATION.
10	JUNCTION BOX FOR HAND DRYER. E.C. TO COORDINATE WITH ARCHITECT/OWNER FOR HAND DRYER REQUIREMENT AND ADA REQUIREMENTS AND ACCORDINGLY PROVIDE THE ELECTRICAL CONNECTION.
11	E.C. TO COORDINATE THE EXACT LOCATION AND ELECTRICAL REQUIREMENTS OF MECHANICAL EQUIPMENTS WITH MECHANICAL CONTRACTOR. PROVIDE THE ELECTRICAL CONNECTION AS PER FINAL MECHANICAL EQUIPMENTS REQUIREMENTS IN FIELD.
12	EXHAUST FAN FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR INTERLOCK WITH MAKE UP AIR. E.C. SHALL COORDINATE WITH MECHANICAL CONTRACTOR FOR SWITCHING & CONTROLS AND PROVIDE ALL NECESSARY WIRING REQUIRED IN FIELD.
13	EXHAUST FAN FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR. EXHAUST FAN EF-2 SHALL BE POWERED AND CONTROLLED ALONG WITH RESTROOM LIGHT FIXTURE. E.C. SHALL COORDINATE EXACT LOCATION WITH MECHANICAL CONTRACTOR IN FIELD.
14	CONTRACTOR SHALL VERIFY THE EXACT REQUIREMENT FOR THE PHONE STATION WITH OWNER/VENDOR/ARCHITECT AND ACCORDINGLY PROVIDE THE REQUIRED ELECTRICAL CONNECTIONS.
15	E.C. TO COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT POWER REQUIREMENT FOR KITCHEN HOOD. E.C. TO PROVIDE PROVISION ACCORDINGLY.
16	E.C. TO INSTALL SHOW WINDOW RECEPTACLES AS PER NEC 210.62.

**EQUIPMENT SCHEDULE**

EQUIPMENT TAG #	EQUIPMENT NAME	LOAD			VOLTS	POLE	CONNECTION TYPE (DIRECT/PLUG)	REMARK
		AMPS	WATTS	HP				
11	CONDENSING TANKLESS WATER HEATER				120	1	PLUG	NEMA 5-15P
12	REACH IN SODA COOLER	10.2	1200		120	1	PLUG	NEMA 5-15P
13 & 13A	TOUCH SCREEN MONITOR				120	1	PLUG	NEMA 5-15P
14	LCD MONITOR				120	1	PLUG	NEMA 5-15P
15	GAS CONVEYOR OVEN [3 DECK BOFI XLT-3255-TS]	8.5	1020	-	120	1	PLUG	NEMA 5-15P
16	HOOD SYSTEM							
	EXHAUST FAN [VENT TECH VT-DU85HFA-AVI]	2.5	995	0.75	208	1	DIRECT	INTERLOCK WITH MAKEUP AIR
	TEMPERED SUPPLY FAN [JAON RQ-0006-8-FB09-352]	35	12608	1	208-240	3	DIRECT	INTERLOCK WITH EXHAUST FAN
	VENTILATION INTERLOCK CONTROL PANEL [AAON]							
17	MIXER [STEPHAN VCM 44]	20.8	7500	10	208-240	3	DIRECT	PROVIDE NON FUSED DISCONNECT
18	FREEZER [KFS221LHY/KFS220RY]	5	600		120	1	PLUG	NEMA 5-15P
21	PIZZA RETARDER [RANDELL 800N SERIES]	12	1380	0.5	115	1	PLUG	NEMA 5-15P
33	PIZZA HOLDING CABINET	16	1920		120	1	PLUG	NEMA L5-20P
33D	HEATED HOLDING - MERCHANDISER CABINET	16	1920		120	1	PLUG	NEMA L5-20P
45	WALK-IN COOLER	20	8646	3	208-230	3	DIRECT	
51	DOUGH ROUNDER	5	560	0.75	115	1	-	
66	SEMI AUTOMATIC ROUND DIVIDER	20	2300	5	115	1	-	
67	PAN OILER	1.2	138		115	1	-	
69	KOOL WATER DISPENSER	12	1320	1.8	110	1	-	
77	PIZZA PORTAL	20	2400		120	1	PLUG	NEMA L5-20P



1 ELECTRICAL LIGHTING PLAN  
SCALE: 1/4" = 1'-0"

ELECTRICAL GENERAL NOTES

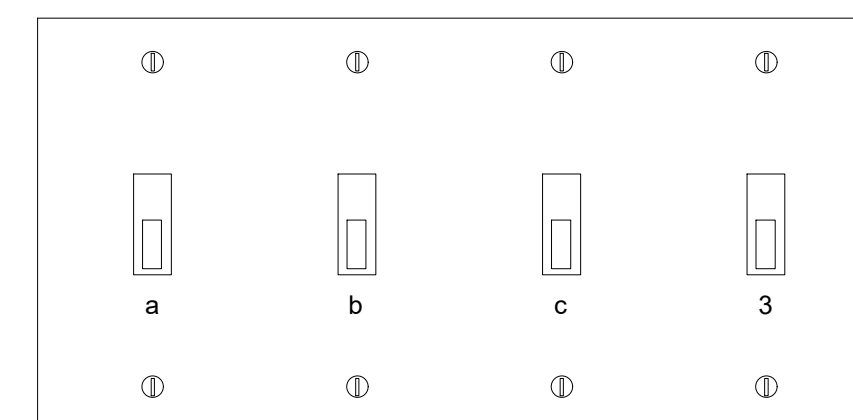
NO	ITEM DESCRIPTION
1	ALL WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND LANDLORD'S DESIGN CRITERIA.
2	ALL ELECTRICAL EQUIPMENT SHALL BE REMOVED FROM STRUCTURE. ACCESSIBLE RACEWAYS, WIRES, BOXES, SWITCHES AND OTHER ELECTRICAL ITEMS ASSOCIATED WITH THIS WORK SHALL BE REMOVED IF NOT REQUIRED FOR NEW EQUIPMENT TO CONTINUE IN SERVICE.
3	MODIFY AND REROUTE EXISTING WIRING AS REQUIRED TO ACCOMPLISH INDICATED WORK AND CONTINUE SERVICE TO LOADS BEYOND WORK AND CONTINUE SERVICE LOADS BEYOND AREA IN WHICH WORK IS DONE.
4	WIRE SIZE SHALL BE #12 THHN/THWN UNLESS OTHERWISE NOTED ON PLANS. ALL CONDUCTORS #6 AND LARGER SHALL BE THHN/THWN.
5	ALL CONDUCTORS SHALL BE COPPER.
6	ALL CONDUCTORS SHALL BE RUN IN CONDUIT (EMT OR RIGID) OR MC CABLE IN BOTH EXPOSED AND CONCEALED AREAS. FLEXIBLE CONDUIT WAY ONLY BE USED FOR FINAL CONNECTIONS FROM OUTLET BOXES TO LIGHT FIXTURES, MOTORS, APPLIANCES, ETC., MAX. LENGTH 6'-0"
7	ALL MATERIALS SHALL BE U. L. APPROVED.
8	ALL BRANCH CIRCUITS SHALL BE PROPERLY PHASE BALANCED.
9	ALL NON-POWER RELATED WIRING IN CEILING AIR CONDITIONING PLENUM RUNNING WITHOUT CONDUIT SHALL BE TEFLON COATED CLASSIFIED FIR USE IN PLENUMS.
10	SEE ARCHITECTURAL DRAWINGS OR INFORMATION CONCERNING EXISTING CONDITIONS AND NEW WORK.
11	ALL WIRING DEVICES SHALL BE 20A RATED, COMMERCIAL GRADE TYPE, DEVICE COLORS AND PLATE COLORS TO BE DETERMINED BY ARCHITECT PRIOR TO PURCHASE AND INSTALLATION.
12	ALL CONDUITS, CABINETS, PANELS AND OTHER EXPOSED NON-CURRENT CARRYING METAL PARTS OF ELECTRICAL EQUIPMENT SHALL BE GROUNDED IN ACCORDANCE WITH N.E.C. 250 AND ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES.
13	ALL LUMINARIES SHALL BE PROPERLY SUPPORTED IN ACCORDANCE WITH THE CEILING SYSTEM MANUFACTURER RECOMMENDATIONS AND LOCAL CODE REQUIREMENTS.
14	THIS DRAWING IS A GUIDE FOR THE INSTALLATION OF ELECTRICAL SERVICE. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE TO PROVIDE A FUNCTIONING SYSTEM.
15	ALL CABLES SHALL BE RUN WITHOUT SPLICES EXCEPT WHERE OTHERWISE INDICATED.
16	ALL PULL AND JUNCTION BOXES SHALL BE ACCESSIBLE AT ALL TIMES.
17	EXACT POINT METHOD OF CONNECTION SHALL BE DETERMINED IN FIELD.
18	ALL WORK SHALL BE DONE IN A NEAT AND WORKMANLIKE MANNER.
19	ALL RACEWAY ROUTED, INSULATED CONDUCTORS SYSTEM SHALL BE COLOR CODED AS FOLLOWS:
	120/208V SYSTEM
	PHASE "A" BLACK
	PHASE "B" RED
	PHASE "C" BLUE
	NEUTRAL WHITE
	# KEY NOTES
NO	ITEM DESCRIPTION
1	E. C. TO WIRE EMERGENCY LIGHT, NIGHT LIGHT AND EXIT LIGHT FIXTURE AHEAD OF LOCAL SWITCH. CONNECT ALL EMERGENCY EGRESS LIGHTING FIXTURES TO NEAREST LIGHTING BRANCH CIRCUIT AHEAD OF ALL SWITCHING AND CONTROL'S PER STATE AND LOCAL CODES. EXIT SIGNS SHALL NOT EXCEED 5 WATTS PER FACE.
2	WALL MOUNTED OCCUPANCY SENSOR EQUAL TO WATTSTOPPER WS-260. SET OFF TIME TO 15 MINUTES FOR RESTROOM, OFFICE APPLICATIONS. SET DIP SWITCH TO AUTOMATIC ON.
3	WIRE ALL EMERGENCY, EXIT AND NIGHT LIGHT TO NEAREST LIGHTING CIRCUIT AHEAD OF ALL CONTROL & SWITCHING FOR CONTINUOUS OPERATIONS
4	LIGHTING FIXTURES, OCCUPANCY SENSOR AND SWITCH FOR WALK-IN BOX SHALL BE PROVIDED BY WALK-IN BOX MANUFACTURER. ELECTRICAL CONTRACTOR TO PROVIDE ELECTRICAL CONNECTION TO WALK IN BOX LIGHTING AND POWER AS PER MANUFACTURER REQUIREMENT
5	HOOD LIGHTS PROVIDED BY HOOD MANUFACTURER. ELECTRICAL CONTRACTOR TO PROVIDE POWER PROVISION FOR HOOD CONTROL PANEL.
6	LIGHTING NEAR ELECTRICAL PANELS SHALL NOT BE CONTROLLED BY ANY AUTOMATIC MEANS AND SHALL BE COMPLIED AS PER NEC 110.26(D)
7	E. C. SHALL TIE EXHAUST FAN TO SWITCH CONTROLLING LIGHTING IN ROOM
8	COORDINATE EXACT LOCATION OF TIME CLOCK WITH ARCHITECT/OWNER
9	SWITCH BANK COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER

LIGHT FIXTURE SCHEDULE

TYPE	SYMBOL	LIGHT FIXTURE DISCIPTION	WATTAGE
F1		2x4 RECESSED LED FIXTURE, FLUSH WHITE STEEL DOOR FRAME, #12 PATTERN ACRYLIC .125" THICK, ONE (1) MVOLT ELECTRONIC BALLAST WITH LESS THAN 10% THD. 4000 LUMENS 35K COLOR TEMPERATURE MODEL: "HUBBELL LCAT24" OR APPROVED EQUAL	40W
D1		6" RECESSED ROUND LED DOWNLIGHT, WHITE FINISH, 1000 LUMENS, 35K COLOR TEMPERATURE, 120V DRIVER MODEL: "PRESCOLITE LB6LEDA10L" OR APPROVED EQUAL	12W
EBU-W		2-HEAD EMERGENCY BATTERY PACK (WHITE), EXITRONIX, EBU-W-LED-51-52	3W
EX		COMBO LED EXIT SIGN W/LIGHT HEADS (WHITE), EXITRONIX, VLED-U-WH-EL90	3W

\*NOTE: ALL LIGHT FIXTURE SHOULD BE LED TYPE

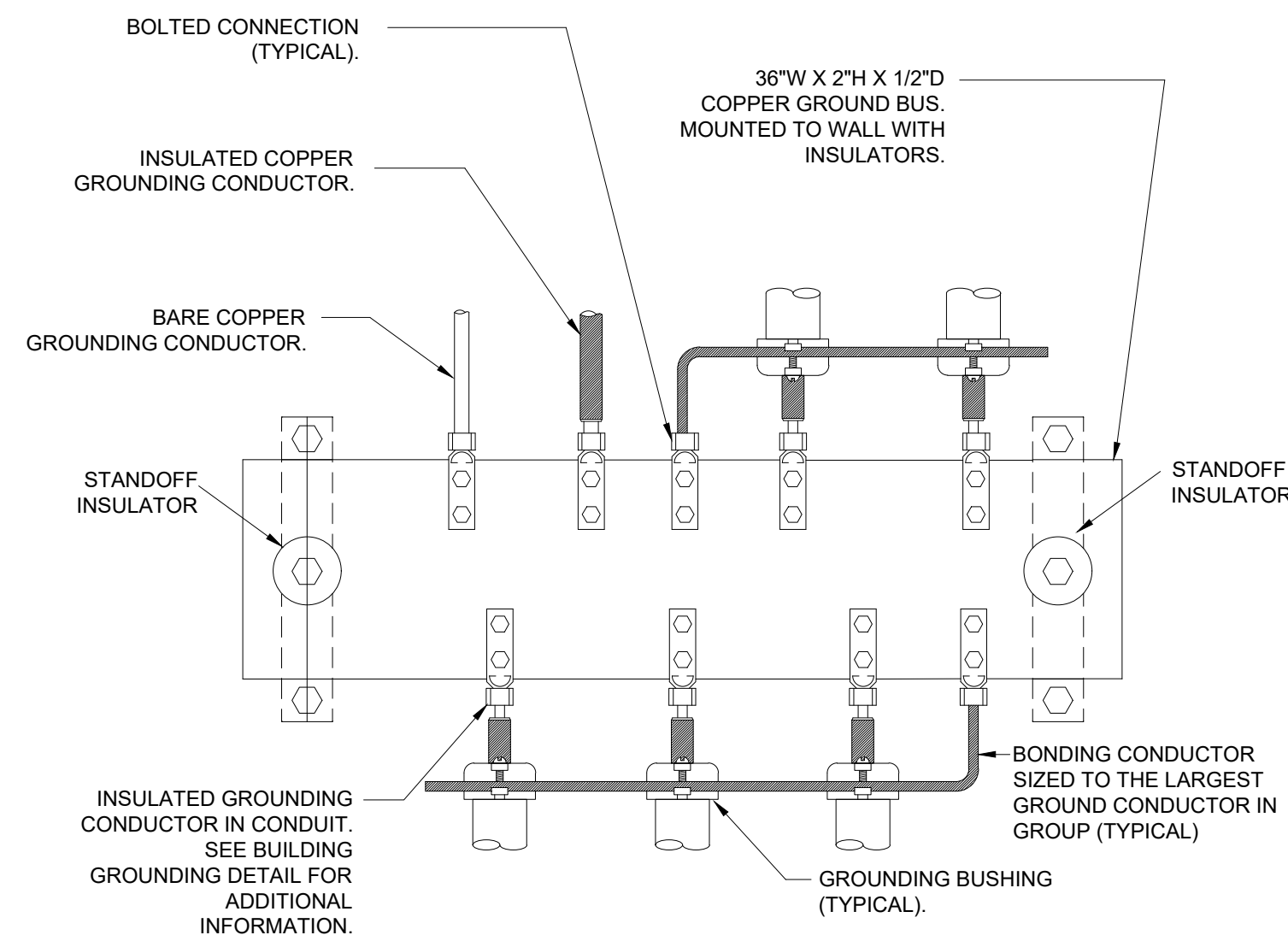
SWITCH DESIGNATION	TYPE	SIZE	
SWITCH "a"	DAY 2TG8-232-21-UNV-1/2EB/ INVERTED LENS	15A	\$a
SWITCH "b"	JUNO C8V-126/42T/ C900-CS / HB28	15A	\$b
SWITCH "c"	LA CIT-200-2-4-L1-LIRA-DL-TS2-LED81-120	15A	\$c
3 WAY SWITCH	JUNO C8H-226 / C852-CS-WH / HB28	15A	\$3
SENSOR	WALL MOUNTED SENSOR		\$s
SENSOR	CEILING MOUNTED SENSOR		\$cs



GENERAL NOTE

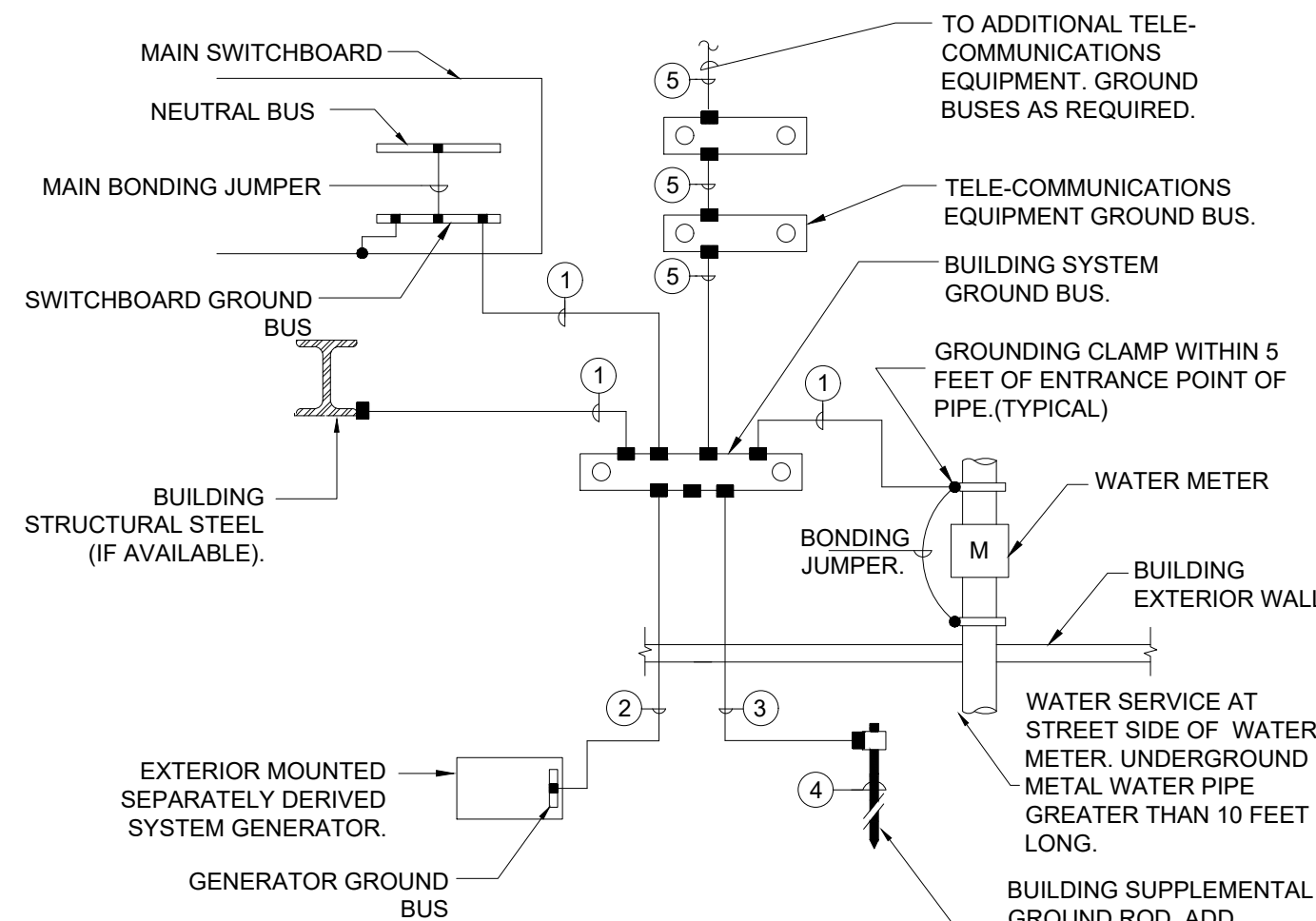
MAXIMUM SWITCH HEIGHT TO BE 48" PER ADAAG GUIDELINES. COORDINATE EXACT LOCATION WITH TENANT PRIOR TO INSTALLATION.

2 SWITCH BANK DETAILS  
N.T.S

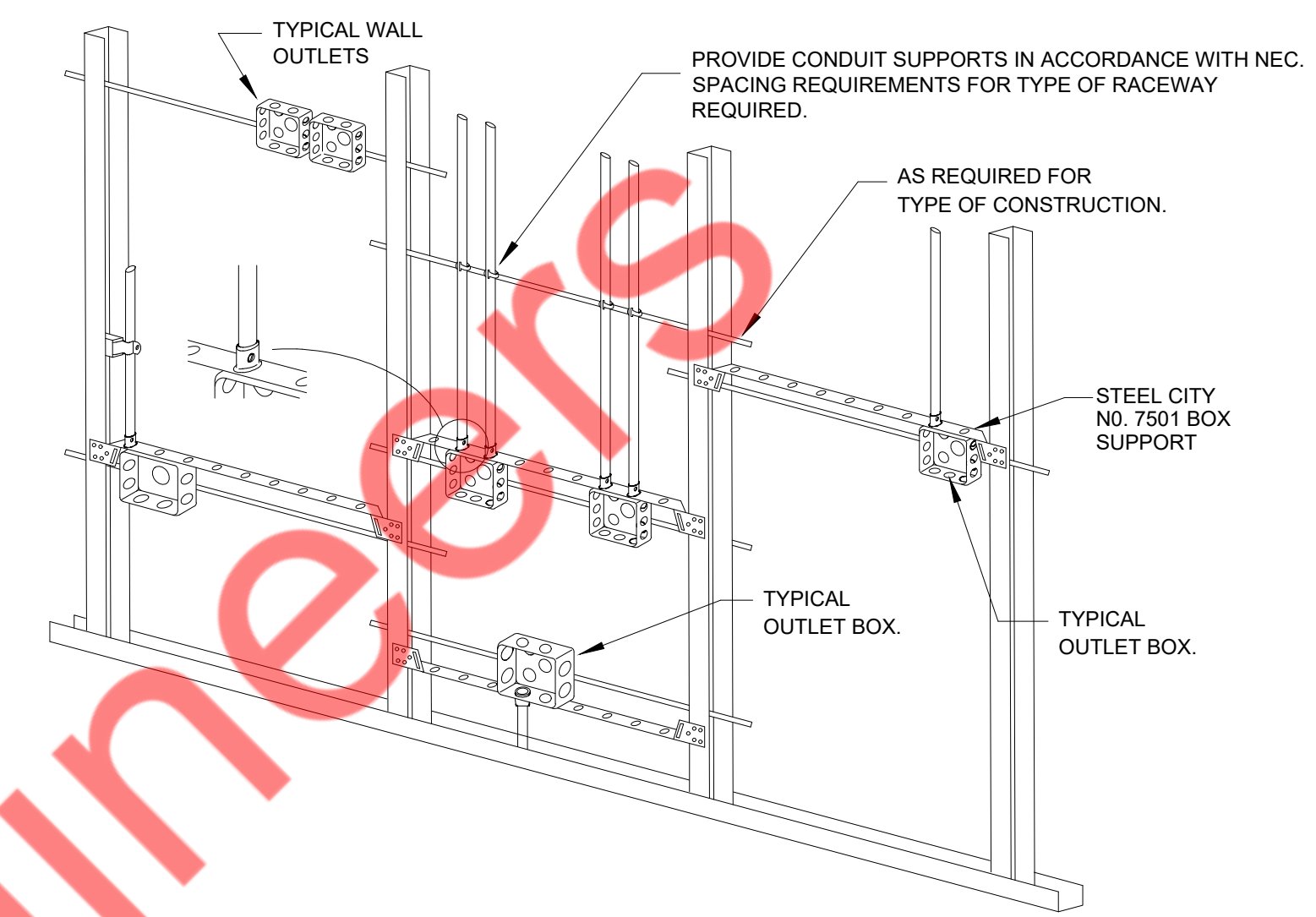


NOTES:  
1. REFER TO BUILDING GROUNDING ELECTRODE SYSTEM DETAIL FOR EXACT CONFIGURATION.

FRONT ELEVATION



- LEGEND:
- INDICATES BOLTED CONNECTION.
  - INDICATES EXOTHERMIC WELD CONNECTION, COMPATIBLE WITH MATERIALS BEING JOINED.
- ① INSULATED COPPER GROUNDING ELECTRODE CONDUCTOR IN CONDUIT SIZED AS PER NEC ARTICLE 250.66.
  - ② INSULATED COPPER GROUNDING ELECTRODE CONDUCTOR ENCASED IN CONCRETE SIZED AS PER NEC ARTICLE 250.66.
  - ③ #2 IN 3/4" AWG BARE COPPER GROUND CONDUCTOR.
  - ④ 3/4" x 10'-0" LONG COPPER-CLAD GROUND ROD DRIVEN WITH TOP 12" BELOW GRADE.
  - ⑤ #4/0 IN 1" INSULATED COPPER GROUND CONDUCTOR IN 30mm CONDUIT.

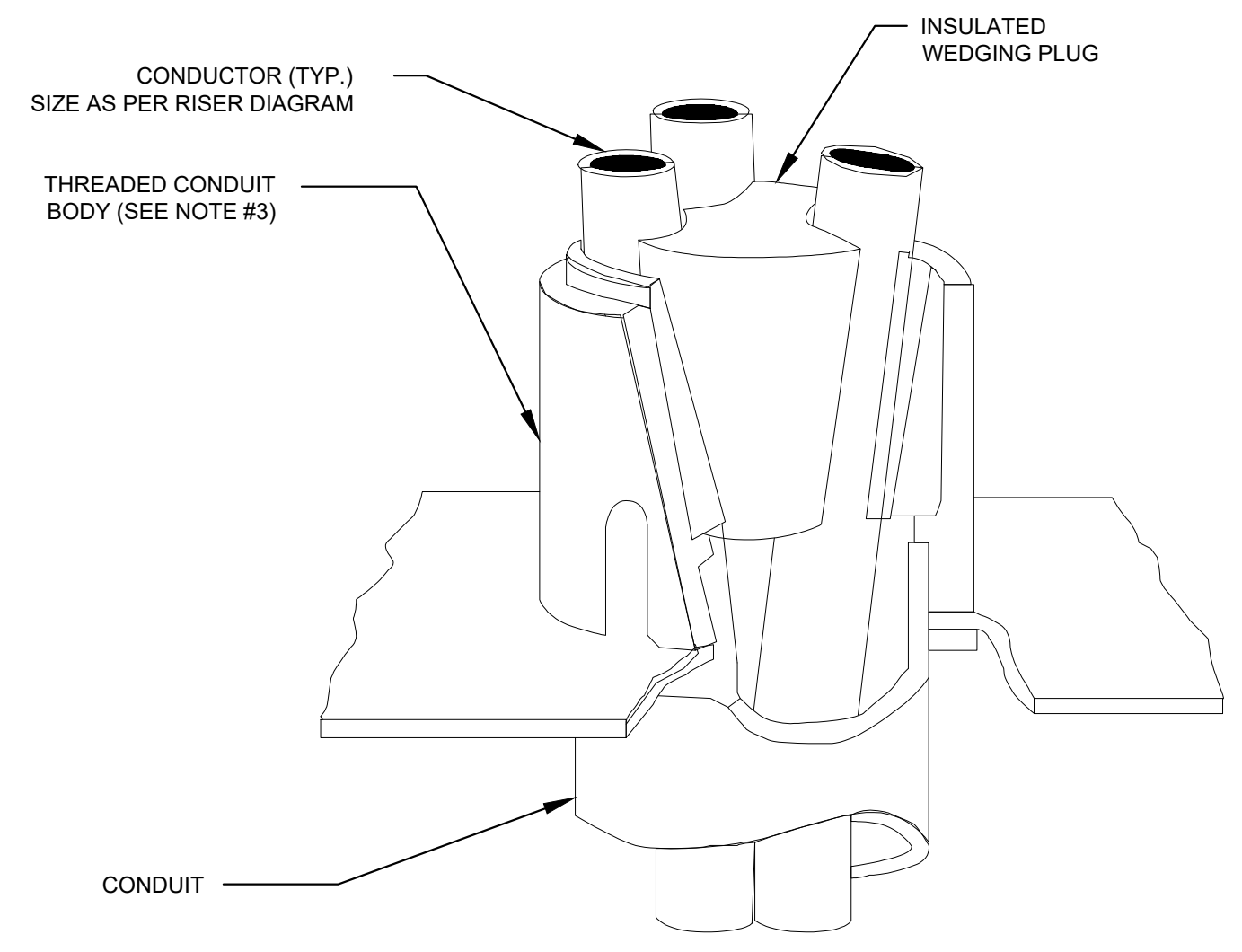


- NOTES:
- ① TYPICAL FOR WOOD AND METAL STUD ROUGH-IN
  - ② PLASTER RINGS NOT SHOWN
  - ③ LOCATE ALL OUTLET BOXES IN ACCORDANCE WITH ARCHITECTURAL DRAWINGS, AND WITH ALL APPLICABLE SHOP DRAWINGS.
  - ④ OUTLETS ON OPPOSITE SIDES OF WALLS OR PARTITIONS IN THE SAME STUD SPACE MUST BE SEPARATED BY A MIN. OF 24" HORIZONTAL DISTANCE.

1 BUILDING ELECTRICAL SYSTEMS GROUND BUS  
E-201 N.T.S

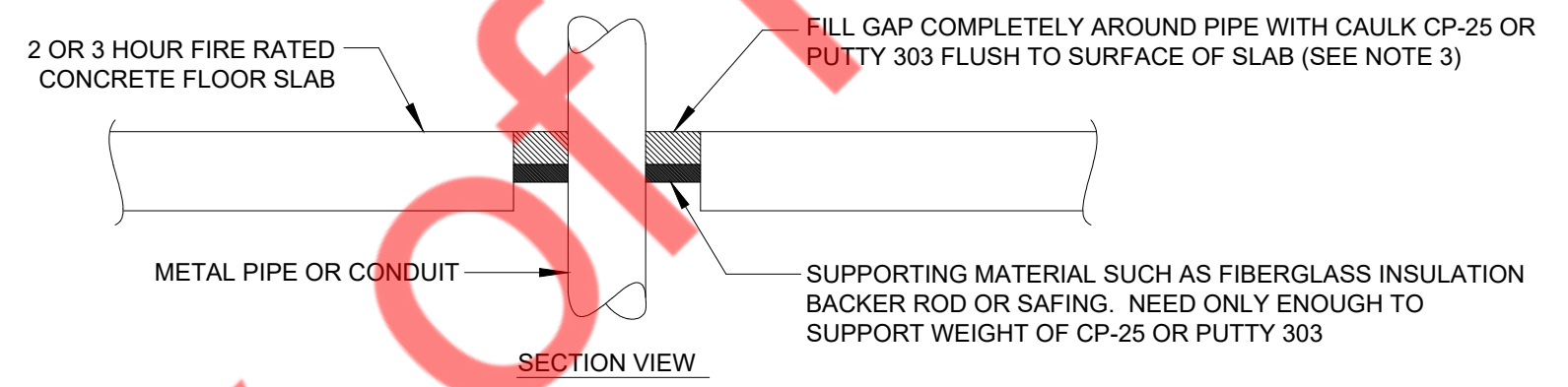
2 BUILDING GROUNDING ELECTRODE SYSTEM  
E-201 N.T.S

3 TYPICAL ROUGH-IN REQUIREMENTS  
E-201 N.T.S



- NOTES:
1. ALL CONDUCTORS IN VERTICAL RACEWAYS SHALL BE SUPPORTED IN ACCORDANCE WITH ARTICLE 300.19 OF NEC. CABLE SUPPORTS SHALL BE LOCATED AT THE INTERVALS REQUIRED BY THE NEC.
  2. CABLE SUPPORT SYSTEM SHALL BE AS MANUFACTURED BY O-Z GEDNEY WITH pOZI-GRIP "S-STYLE" WEDGING PLUG OR APPROVED EQUAL.
  3. FOR THREADLESS CONDUIT (RIGID, IMC OR EMT), ATTACH CONDUIT BODY TO MALE THREADS OF A SET SCREW OR COMPRESSION CONNECT, AS PERMITTED BY SPECIFICATIONS.
  4. PROVIDE PULL BOX AT EACH LOCATION OF CABLE SUPPORTS. PULL BOX SHALL BE SIZED AS PER CODE TO ACCOMMODATE ALL CONDUITS.

4 TYPICAL ROUGH-IN REQUIREMENTS  
E-201 N.T.S



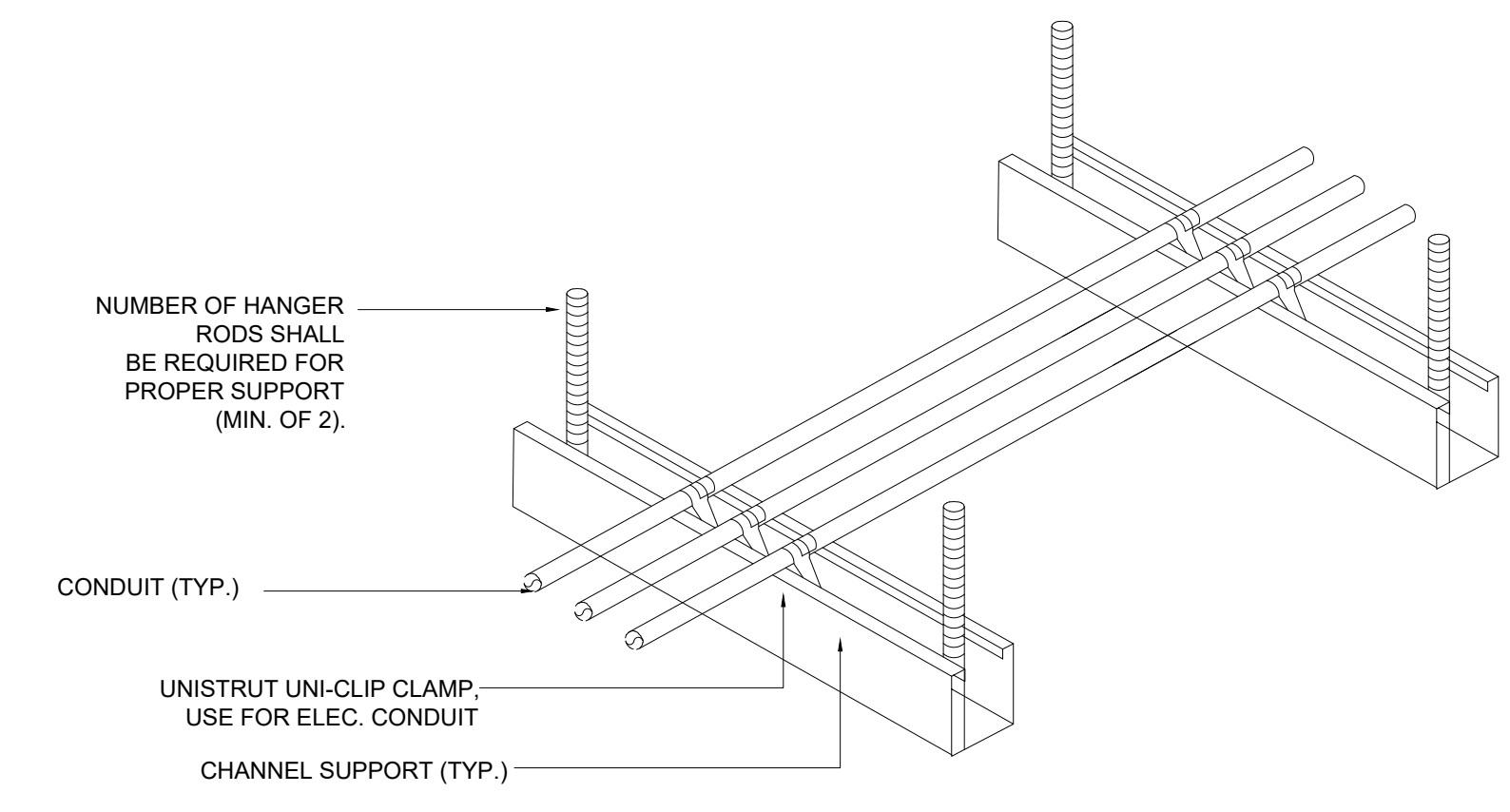
- NOTES:
1. FOR CONCRETE BLOCK WALLS, CENTER CAULK CP-25 OR PUTTY 303 WITHIN WALL WITH DAMMING ON BOTH SIDES.
  2. RECOMMENDATIONS BASED ON PRODUCT PERFORMANCE PER ASTM E-814 (UL 1479) FIRE TEST AND UL CLASSIFICATION FIRE STOP SYSTEMS 49, 33 AND 91.
  3. UP TO 40% SHRINKAGE OF CP-25 OR PUTTY 303 IS ACCEPTABLE AFTER WET DEPTH INSTALLATION.
  4. WHEN ANNULAR SPACE EXCEEDS 3/4" (19mm), A 28 AWG METAL COVER PLATE MUST BE MECHANICALLY SECURED ATOP THE 3M FIRE BARRIER APPLICATION, OR TIGHTLY PACK A NON-COMBUSTIBLE DAMMING MATERIAL ATOP INSTALLED CAULK OR PUTTY.
  5. OPTIONS TO MASKING TAPE TO PREVENT SAGGING:
    - A.A. INSTALL ADDITIONAL DAMMING MATERIAL OVER PRODUCT TO HOLD WITHIN OPENING.
    - A.B. REMOVE PRODUCT FROM CONTAINER AND ALLOW TO AIR CURE IN SMALL BATCHES FOR 12 HRS. THEN HAND FORM INTO OPENING.
  6. WET INSTALLED DEPTH OF CAULK CP-25 OR PUTTY 303 DEPENDS ON TYPE AND SIZE OF PIPE:

WET DEPTH	PIPE SIZE	FIRE RATING
1/2" (13mm)	MAX. 8" (203mm)	2 HRS.
2" (25mm)	MAX. 6" (152mm)	3 HRS.

1" (25mm) DEPTH CAULK CP-25 OR PUTTY 303 WITHIN WALL

5 FIRE STOP DETAIL  
E-201 N.T.S

NOTE:  
THIS INFORMATION MAY NOT CONTAIN ALL DETAILS REQUIRED FOR CONSTRUCTION. APPROPRIATE MODIFICATION MAY BE REQUIRED TO ENSURE SUITABILITY OF THESE DRAWINGS FOR THE SPECIFIC APPLICATION. IT IS THE USER'S RESPONSIBILITY TO ENSURE INSTALLATION OF THE EQUIPMENT SYSTEM IS IN ACCORDANCE WITH BUILDING PROJECT SPECIFICATIONS, APPLICABLE CODES AND STANDARDS.



- NOTES:
1. ALL CONDUIT MAY BE COMBINED ON SAME SUPPORT CHANNEL WHERE PRACTICAL.
  2. SUPPORT CHANNEL LENGTH SHALL NOT BE DETERMINED UNTIL ALL PIPING, CONDUIT, ETC. TO BE SUPPORTED IS COORDINATED.
  3. SUPPORT CHANNEL SPACING SHALL BE NO MORE THAN 10'-0"
  4. UNISTRUT AND CONDUIT INSTALLATION MAY BE REVERSED.

6 CONDUIT SUPPORT DETAIL  
E-201 N.T.S



OAC AND VAC MANUAL MODE OPERATION:

1. SWITCHES ARE REQUIRED TO TURN LOAD ON.
2. LOAD TURNS OFF WHEN SENSOR TIMES OUT OR WITH SWITCH.

OAC AUTOMATIC MODE OPERATION:

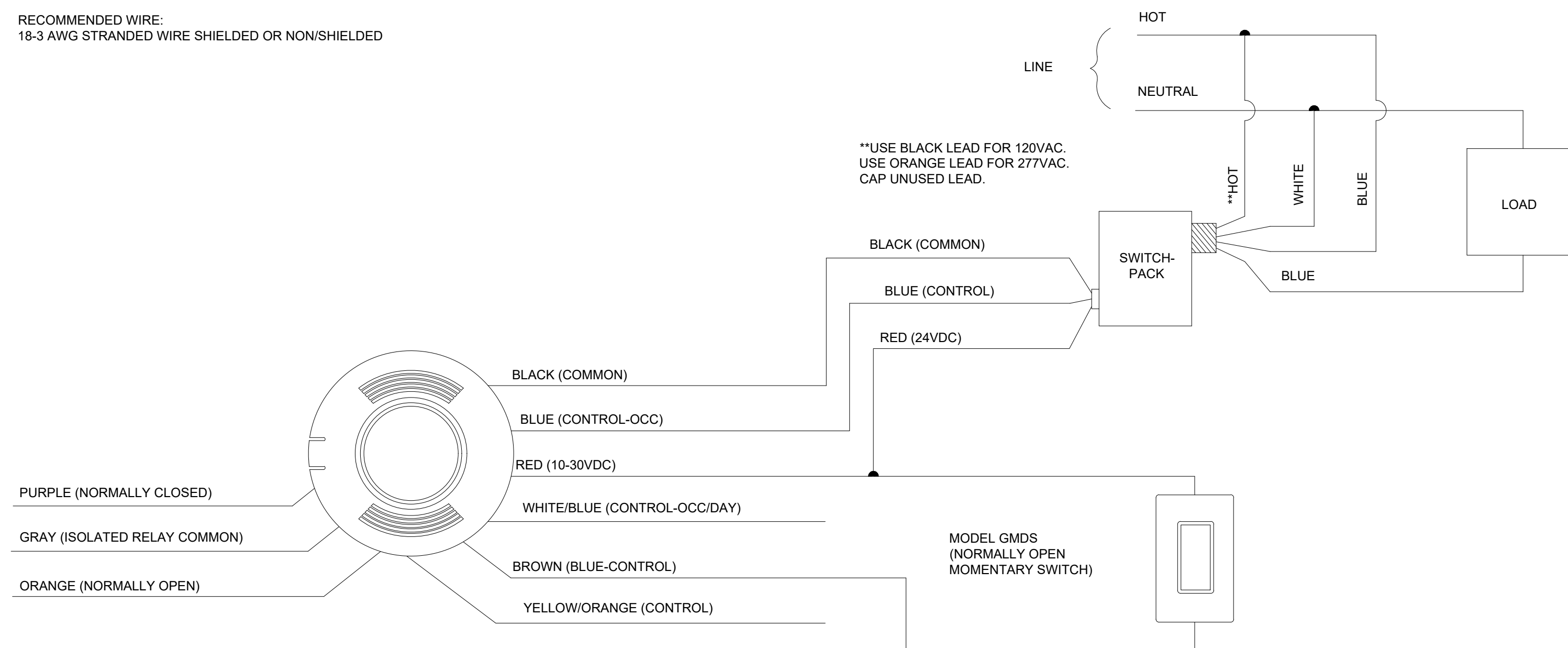
1. WHEN SENSOR ACTIVATES LOAD TURNS ON.
2. SWITCH CAN BE USED TO TURN LOAD ON OR OFF.

RECOMMENDED WIRE:

18-3 AWG STRANDED WIRE SHIELDED OR NONSHIELDED

NOTES

1. SP20-RD4 SWITCHPACK SHOWN.  
120/277VAC 20AMP RATING.



1 WIRING DIAGRAM - LOW VOLTAGE CEILING SENSOR OCCUPANCY - AUTO ON/OFF.  
E-202 N.T.S

MANUAL MODE OPERATION:

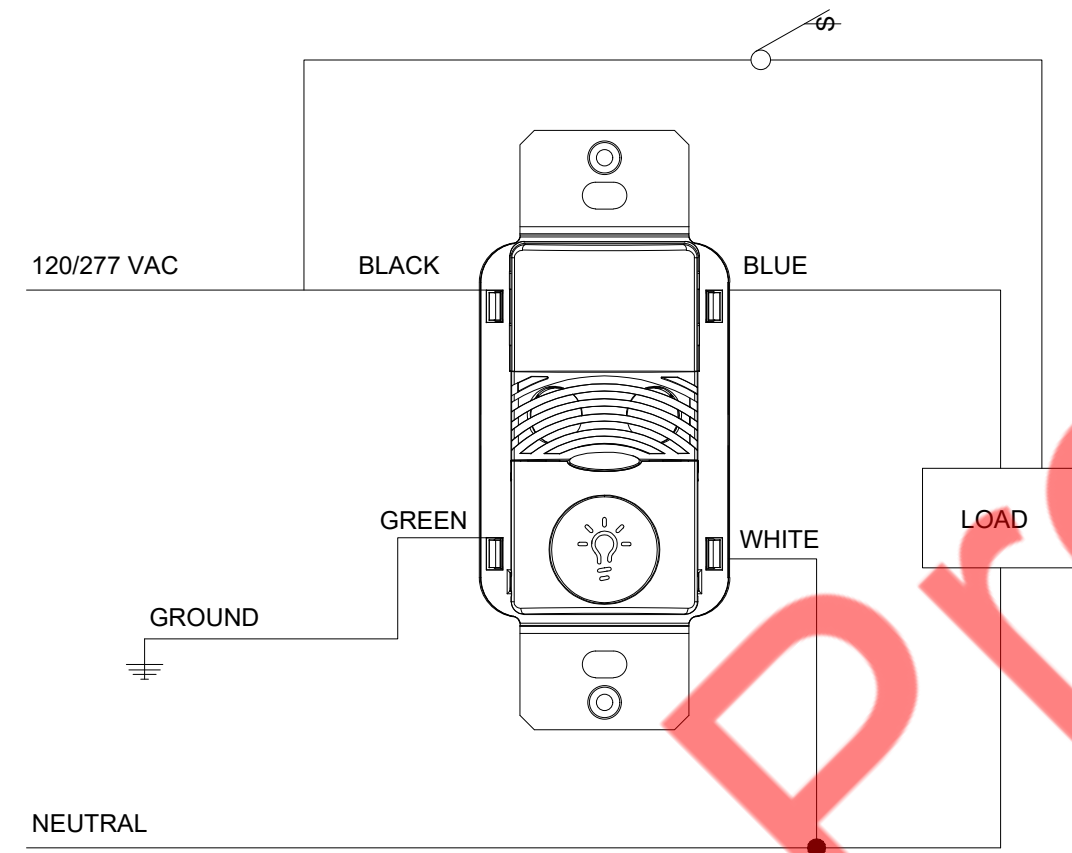
1. PUSHBUTTON PRESS IS REQUIRED TO TURN LOAD ON.
2. LOAD TURNS OFF WHEN SENSOR TIMES OUT OR BY PRESSING PUSH BUTTON.
3. IF DAYLIGHT SENSOR IS ENABLED AND LIGHT LEVEL IS ABOVE SET POINT, LOAD WILL NOT TURN ON.

AUTOMATIC MODE OPERATION:

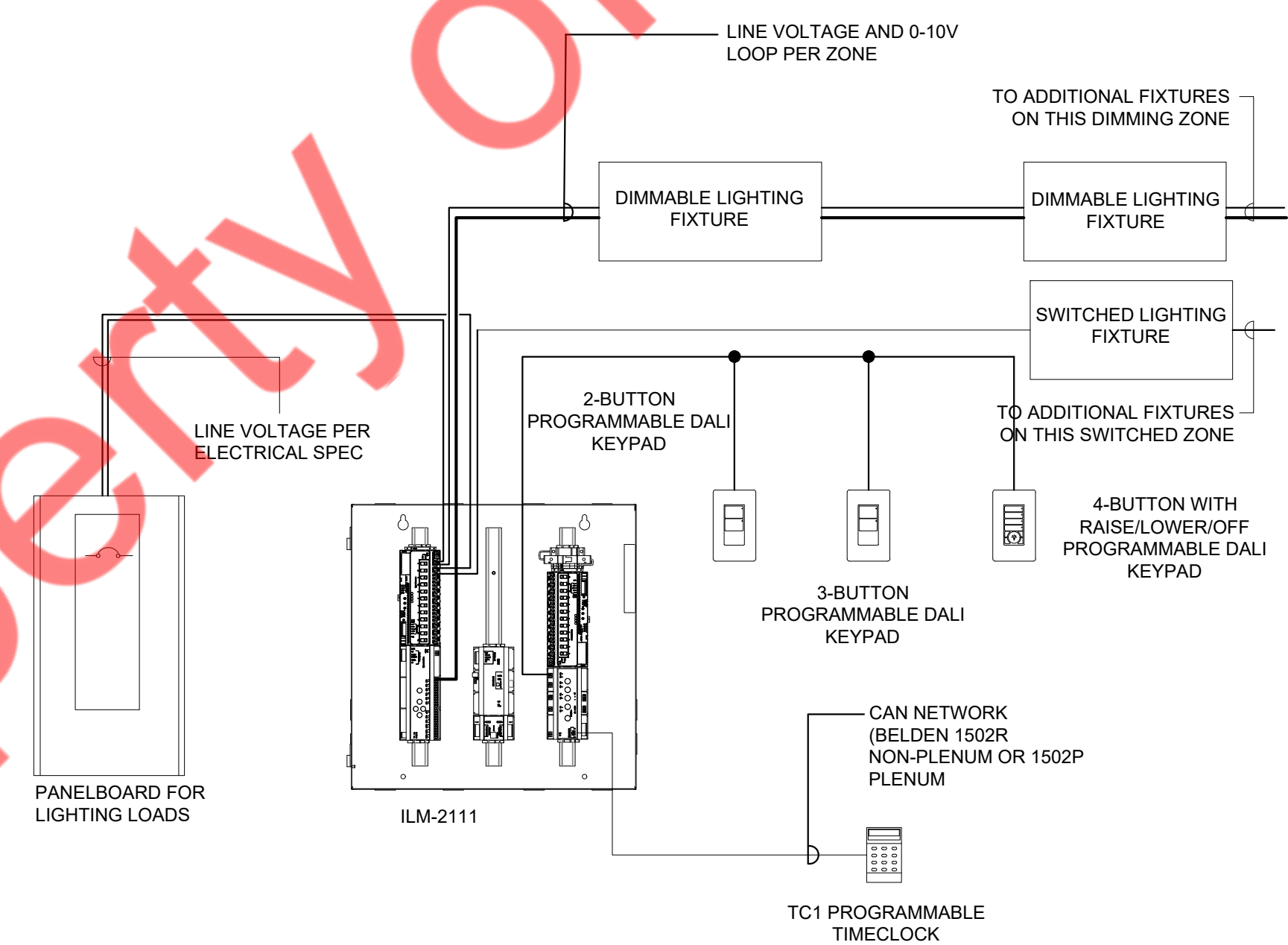
1. WHEN SENSOR ACTIVATES LOAD TURNS ON.
2. PUSHBUTTON CAN BE USED TO TURN LOAD ON OR OFF. IF PUSHBUTTON IS USED TO TURN LOAD OFF, SENSOR MUST TIME OUT FIRST, BEFORE LOAD CAN TURN BACK ON AUTOMATICALLY.
3. IF DAYLIGHT SENSOR IS ENABLED AND LIGHT LEVEL IS ABOVE SET POINT, LOAD WILL NOT TURN ON.

SENSOR TYPES INCLUDE:

ONW-D-1001-MV-N



2 WIRING DIAGRAM-LOW VOLTAGE WALL SWITCH SENSOR (NEUTRAL CONNECTION) OCCUPANCY/VACANCY- SINGLE LEVEL  
E-202 N.T.S



3 AUTOMATIC LIGHTING CONTROL DETAIL (TIME CLOCK)  
E-202 N.T.S

