

State of Vermont
Department of Buildings & General Services
VERMONT AGENCY OF TRANSPORTATION
CAMBRIDGE MAINTENANCE GARAGE
Cambridge, Vermont

AGENCY OF ADMINISTRATION
DEPT. OF BUILDINGS & GENERAL SERVICES
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R. TASHA WALLIS, COMMISSIONER

AGENCY OF TRANSPORTATION
NATIONAL LIFE BUILDING
MONTPELIER, VERMONT 05633-5001
DAWN TERRILL, SECRETARY



James Douglas
Governor

July 2005

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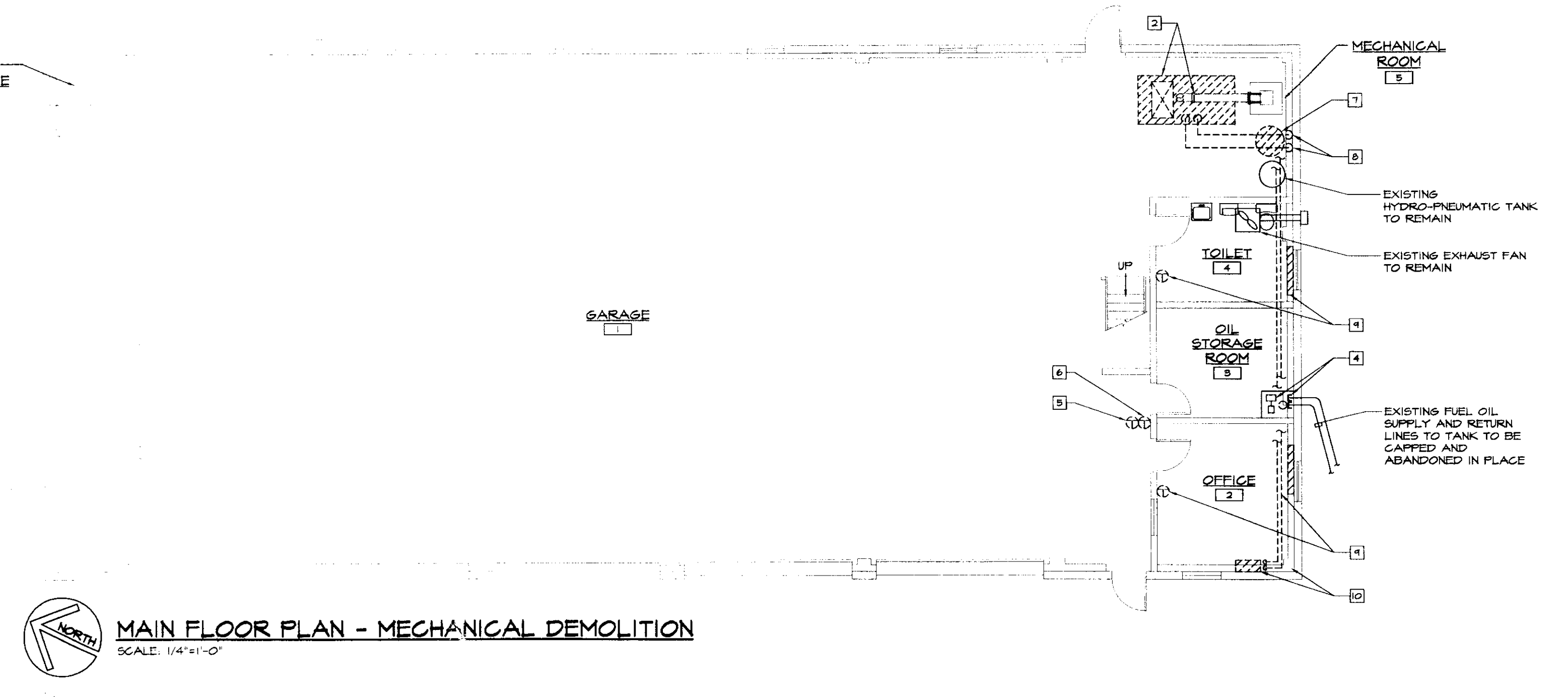
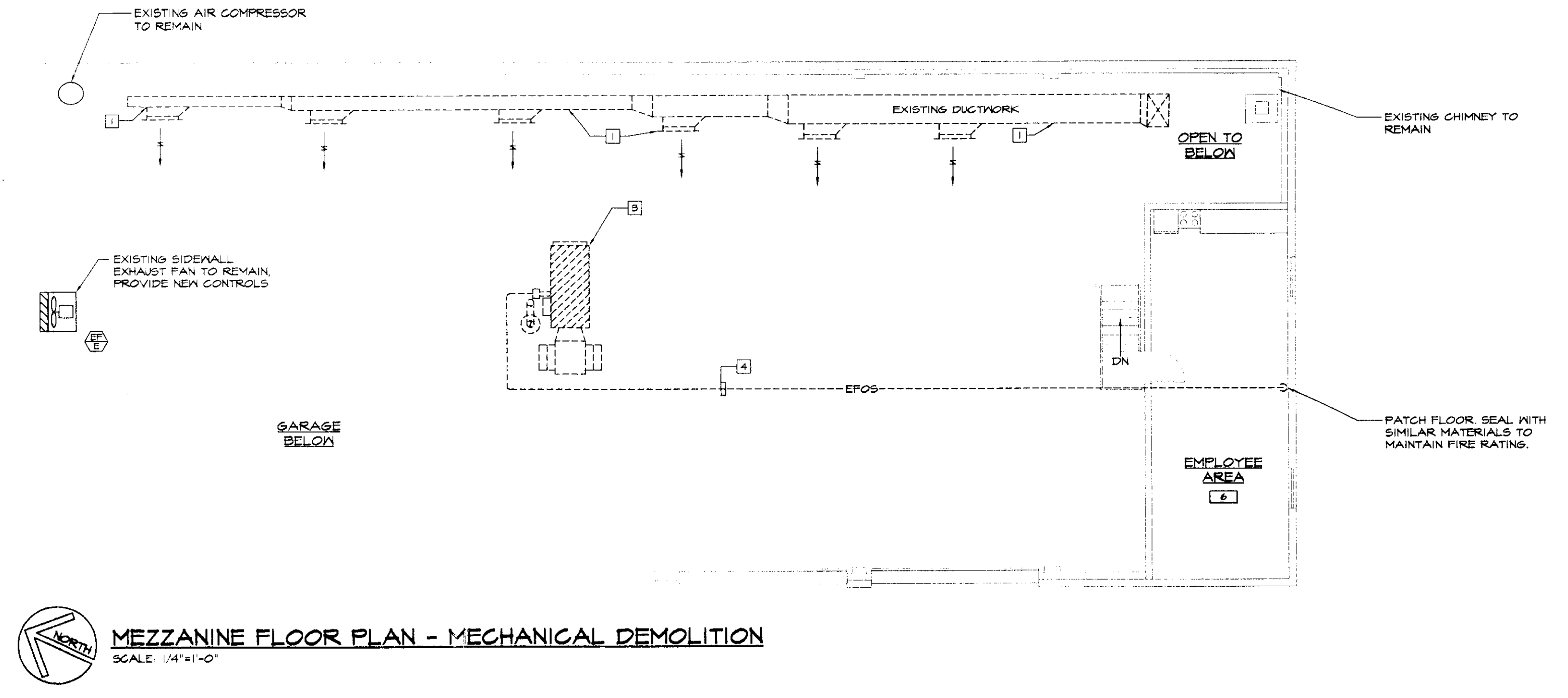
SET # 9
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MECHANICAL LEGEND & ABBREVIATIONS

- ⊕ BALL VALVE
- PIPE RISER
- PIPE DROP
- PIPE GAP
- FOS FUEL OIL SUPPLY, E = EXISTING
- FOR FUEL OIL RETURN E = EXISTING
- LP GAS PIPING
- ⊠ LP GAS REGULATOR
- ⊕ THERMOSTAT
- ⊕ EXISTING THERMOSTAT TO BE REMOVED
- St SWITCH, SUBSCRIPT: T = TIMER
- ▭ NEW DUCTWORK
- - - EXISTING DUCTWORK TO BE REMOVED
- ⊗ SUPPLY DUCT DOWN
- ⊗ SUPPLY DUCT UP
- ▭ FLEXIBLE DUCT CONNECTOR
- AIR FLOW INDICATOR
- VOLUME DAMPER
- M D MOTORIZED DAMPER
- FD FIRE DAMPER
- E.C. ELECTRICAL CONTRACTOR
- G.C. GENERAL CONTRACTOR
- G.U.H. GAS FIRED UNIT HEATER
- ⊕ CONNECT TO EXISTING
- ① DRAWING NOTE TAG
- ⊠ DEMOLITION NOTE TAG
- ⊕ LOUVER
- ⊕ SUPPLY DIFFUSER
- ⊕ GAS FIRED UNIT HEATER
- ⊕ EQUIPMENT TYPE EXISTING
- ⊕ SECTION NUMBER
- ⊕ DWS. NUMBER

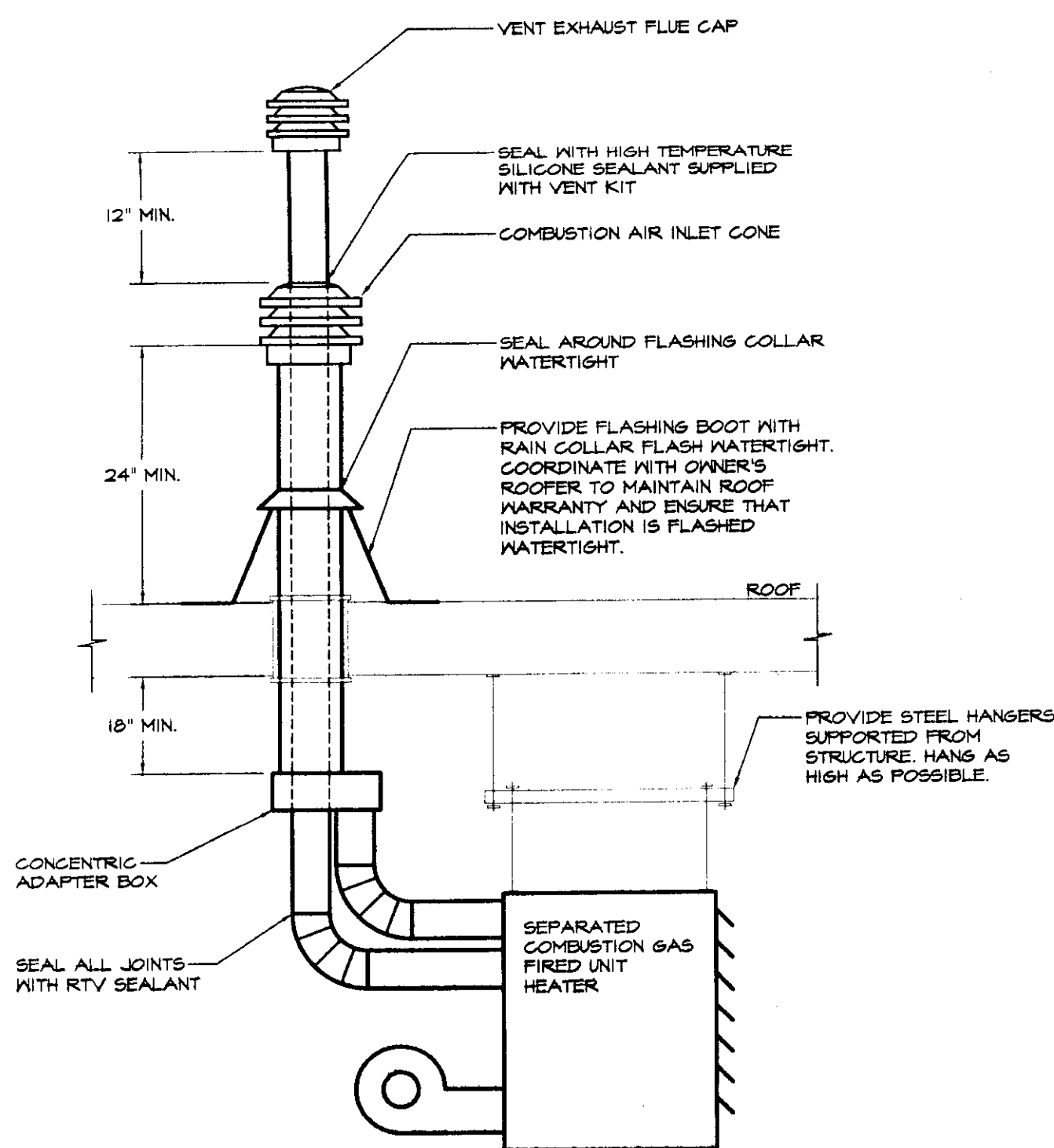
DEMOLITION NOTES: (APPLY TO THIS DRAWING ONLY)

- 1 OWNER TO REMOVE EXISTING DUCTWORK AND DUCT HANGERS.
- 2 OWNER TO REMOVE EXISTING WOOD FIRED FURNACE AND FLUE. CONTRACTOR TO CAP AND SEAL FLUE CONNECTOR AT CHIMNEY.
- 3 OWNER TO REMOVE EXISTING OIL FIRED FURNACE AND FLUE. OWNER TO PATCH ROOF.
- 4 CONTRACTOR TO REMOVE EXISTING FUEL OIL SUPPLY LINE AND TRANSFER PUMP. CONTRACTOR TO CAP FUEL OIL SUPPLY AND RETURN LINES FROM OIL TANK. UNDERGROUND FUEL OIL SUPPLY AND RETURN LINES TO TANK TO BE ABANDONED IN PLACE.
- 5 CONTRACTOR TO REMOVE EXISTING THERMOSTAT FOR WOOD FIRED FURNACE, INCLUDING ASSOCIATED WIRING.
- 6 CONTRACTOR TO REMOVE EXISTING THERMOSTAT FOR OIL FIRED FURNACE, INCLUDING ASSOCIATED WIRING.
- 7 CONTRACTOR TO REMOVE EXISTING DOMESTIC HOT WATER HEATER, SALVAGE AND RETURN TO OWNER.
- 8 CONTRACTOR TO REMOVE EXISTING DOMESTIC HOT WATER PIPING, PUMP, VALVES AND ASSOCIATED SPECIALTIES.
- 9 CONTRACTOR TO REMOVE ELECTRIC HEATER, THERMOSTAT AND ASSOCIATED WIRING AND CONDUIT BACK TO JUNCTION BOX.
- 10 CONTRACTOR TO REMOVE WALL HEATER, CONTROLS AND ALL ASSOCIATED PIPING. SALVAGE WALL HEATER AND DELIVER TO THE OWNER.



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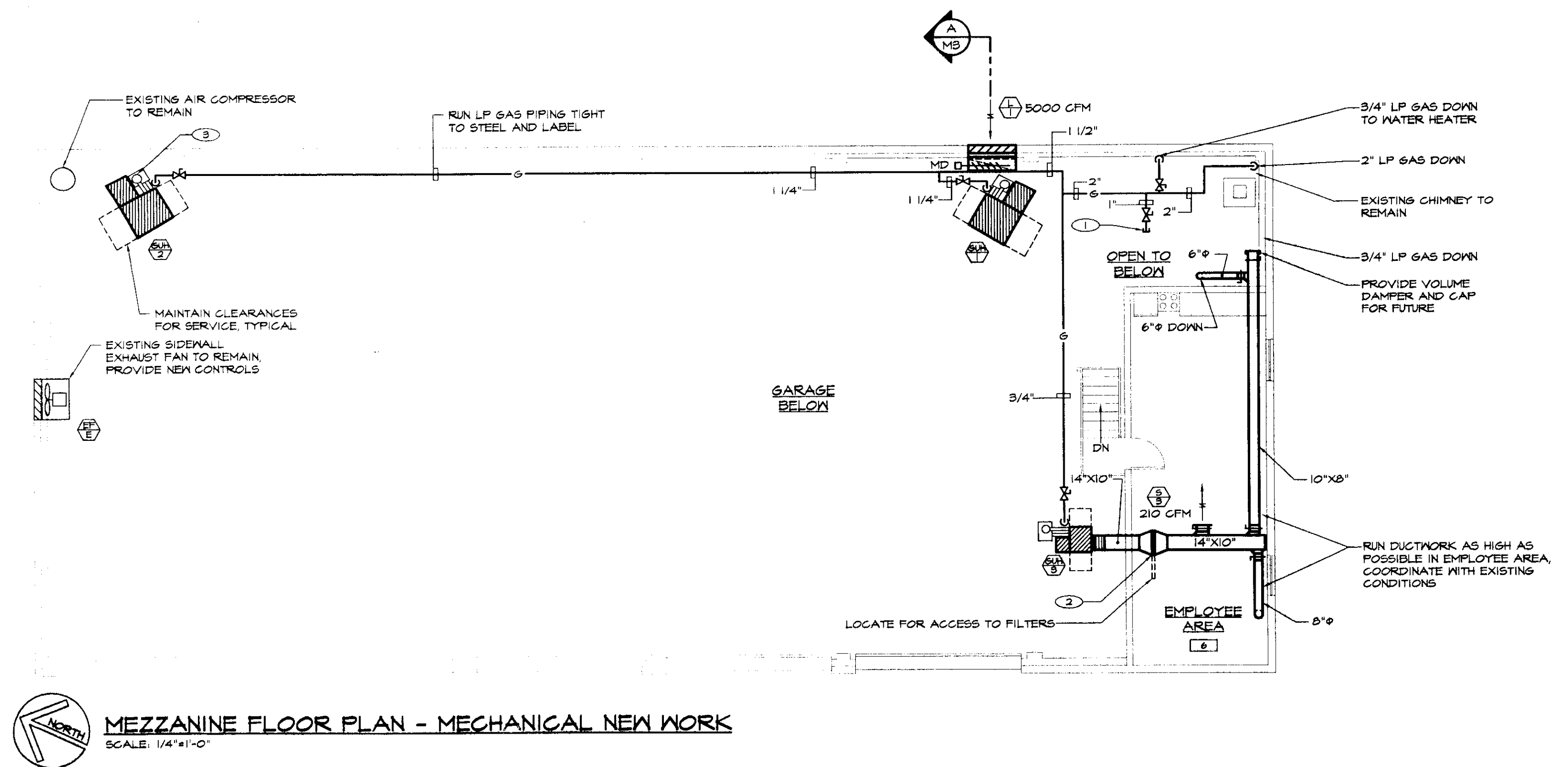
			HEATING, VENTILATION, & AIR CONDITIONING, PLUMBING, FIRE PROTECTION, & ELECTRICAL	MECHANICAL DEMOLITION	M 1
	BIDDING AND CONSTRUCTION 07/2005		CHARLES F. LANE, P.E. DANIEL W. DUPRAS, P.E.	51 KILLINGTON AVENUE, RUTLAND, VERMONT 05701 TELEPHONE: (802)747-3346 FAX/MODEM: (802)747-3356	
NO. ISSUED FOR DATE				APPR: DWD DRAWN: KPC SCALE: AS NOTED PROJ. NO. 0912-22	



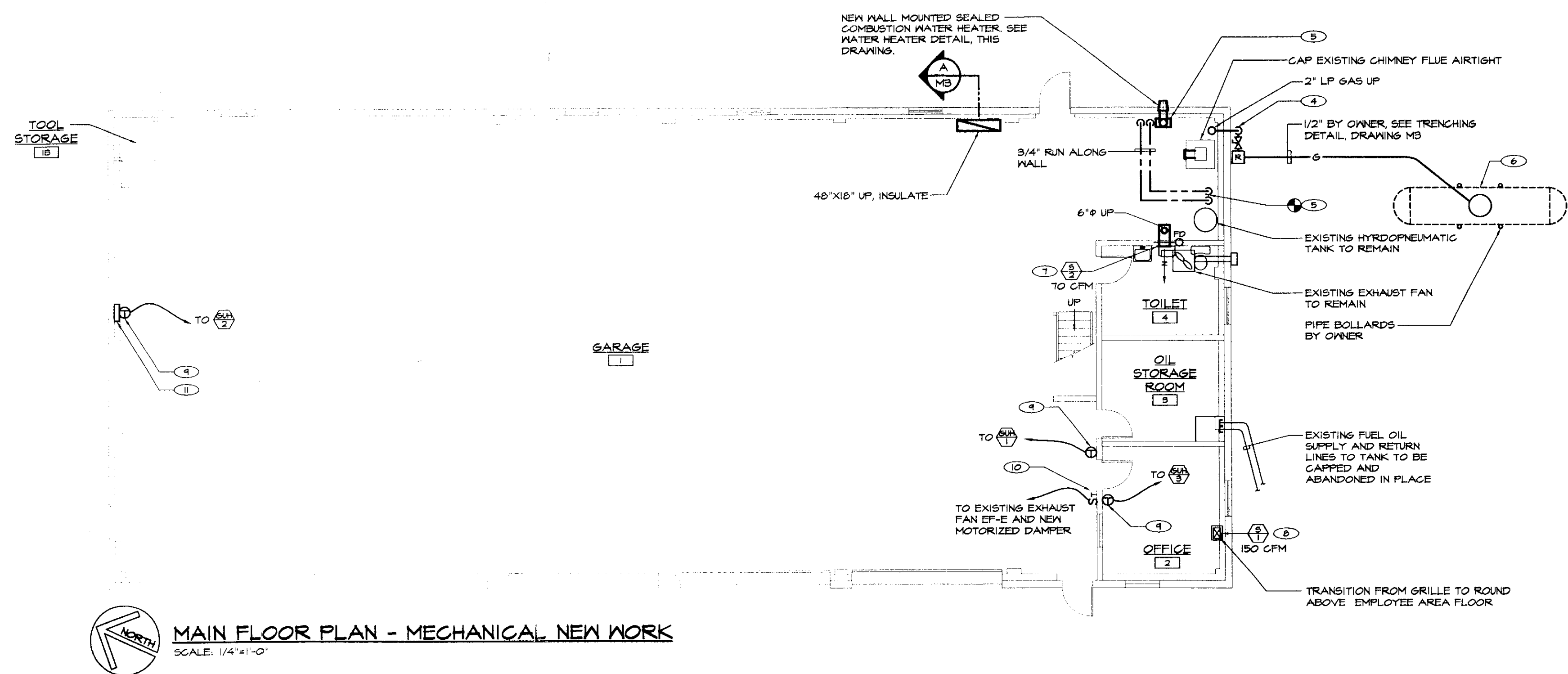
VERTICAL SEPARATED COMBUSTION / VENT DETAIL
NOT TO SCALE

DRAWING NOTES: (APPLY TO THIS DRAWING ONLY)

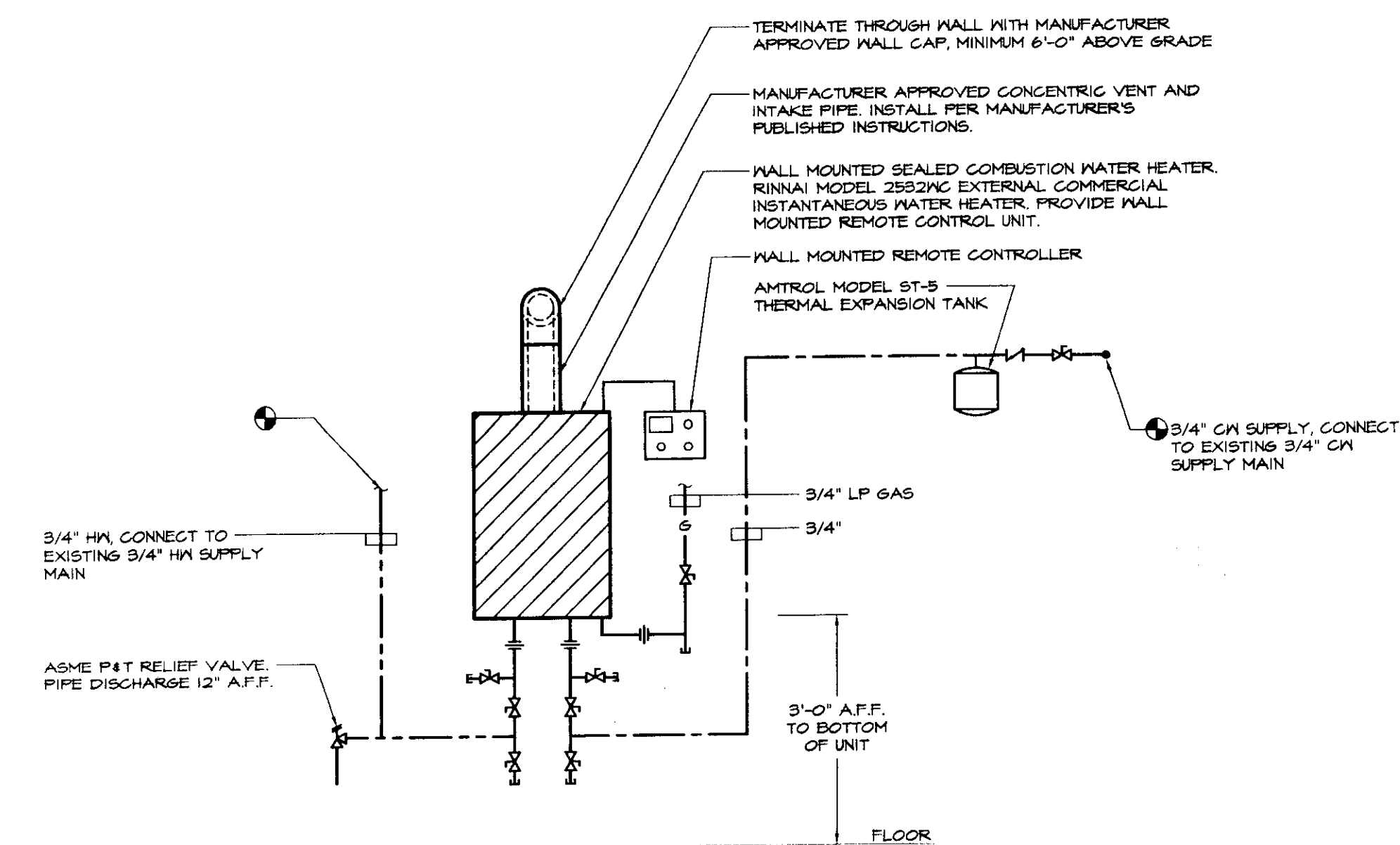
- 1 PROVIDE 1" LP GAS BRANCH, VALVED AND CAPPED FOR FUTURE.
- 2 PROVIDE 24"x24" X 1" THICK FILTER. PROVIDE FILTER RACK WITH GASKETED HINGED ACCESS DOOR.
- 3 PROVIDE VERTICAL SEPARATED COMBUSTION / VENT. SEE DETAIL, THIS DRAWING. TYPICAL EACH GAS FIRED UNIT HEATER.
- 4 2" LP GAS UP. CONNECT TO SECOND STAGE REGULATOR. PROVIDE GAS SHUTOFF IN RISER. SEE LP GAS TANK DETAIL, DRAWING MB.
- 5 PROVIDE LP GAS FIRED WATER HEATER. SEE WATER HEATER DETAIL, THIS DRAWING. CONNECT NEW 3/4" HM SUPPLY & CN SUPPLY TO EXISTING.
- 6 UNDERGROUND 1000 GALLON LP GAS TANK, BY OWNER. SEE DETAIL, DRAWING MB.
- 7 CUT AND PATCH EXISTING WALL, MOUNT SUPPLY DIFFUSER IN TOILET (ROOM 4), 6" FROM CEILING TO TOP.
- 8 CUT AND PATCH EXISTING CEILING FOR NEW REGISTER. TRANSITION TO ROUND ON DUCT RISER.
- 9 MOUNT THERMOSTAT 54" A.F.F., TYPICAL.
- 10 FURNISH AND INSTALL NEW 15-MINUTE, SPRING-WOUND TIMER. ACTIVATION OF TIMER SWITCH SHALL OPEN MOTORIZED DAMPER FOR INTAKE LOUVER. WHEN DAMPER IS OPEN, END SWITCH SHALL START EXISTING EXHAUST FAN. WHEN TIMER SWITCH IS OFF, DAMPER SHALL CLOSE AND EXHAUST FAN SHALL TURN OFF. COORDINATE WIRING WITH ELECTRICAL CONTRACTOR.
- 11 PROVIDE INSULATED, BACK MOUNTING BLOCK FOR THERMOSTAT.



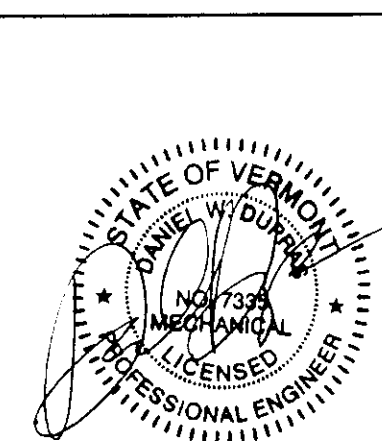
MEZZANINE FLOOR PLAN - MECHANICAL NEW WORK
SCALE: 1/4"=1'-0"



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



WATER HEATER DETAIL
NOT TO SCALE



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	BIDDING AND CONSTRUCTION	07/2005



HEATING, VENTILATION, & AIR CONDITIONING,
PLUMBING, FIRE PROTECTION, & ELECTRICAL

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MECHANICAL NEW WORK			
CAMBRIDGE AOT GARAGE VERMONT AGENCY OF TRANSPORTATION CAMBRIDGE, VERMONT			
APPR:	DWD	DRAWN:	KPC
SCALE:	AS NOTED	PROJ. NO.	0312-22

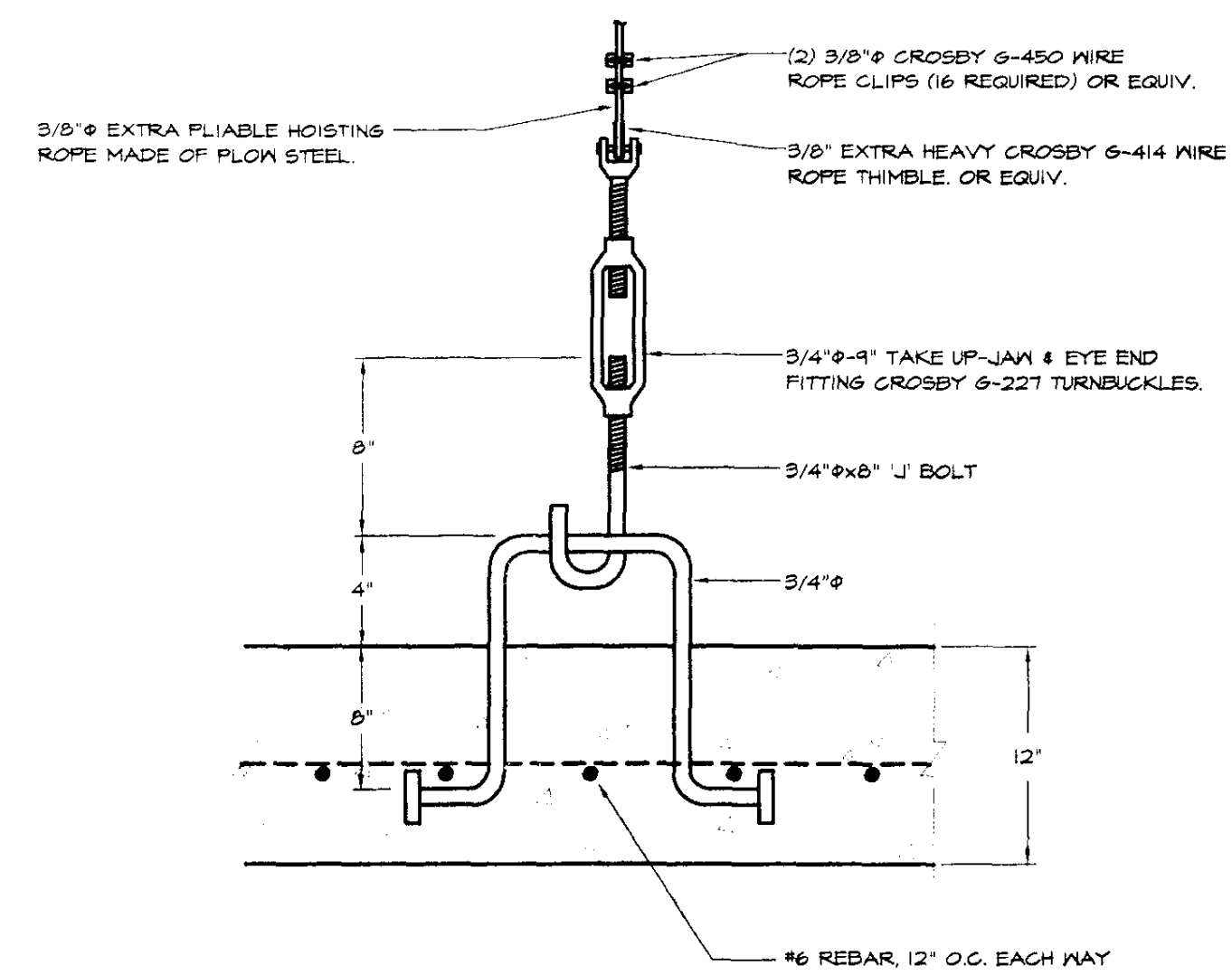
M
2

DIFFUSER-GRILLE-REGISTER-LOUVER SCHEDULE								
No.	MANUFACTURER	SERIES	MODEL	SIZE	AIR PAT.	DAMPER	FINISH	REMARKS
S-1	METAL-AIRE	V4000	V4004	10"x8"	-	-	-	
S-2	METAL-AIRE	V4000	V4004	8"x4"	-	-	-	
S-3	METAL-AIRE	V4000	V4004	12"x6"	-	-	-	
L-1	RUSKIN	ELF	ELF375DX	48"x48"	-	-	D.E.	NOTE 1

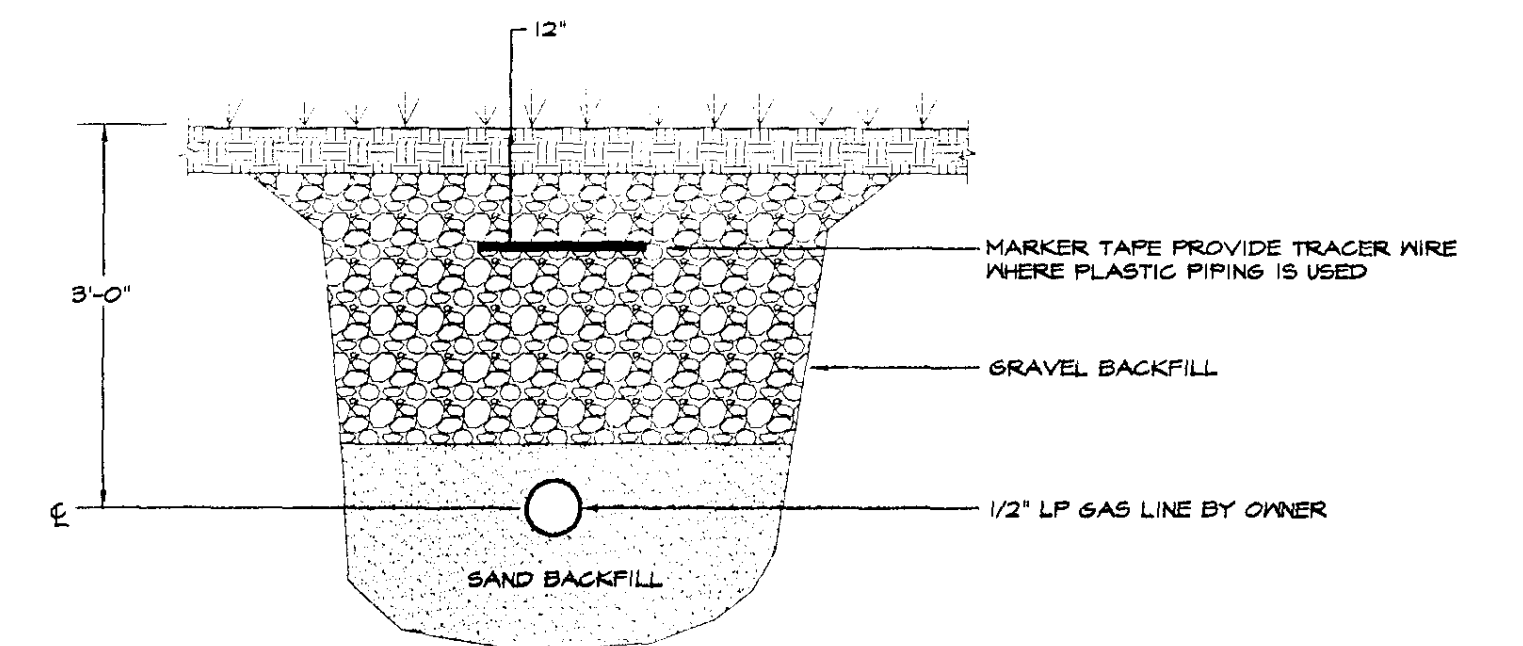
NOTES:
1) PROVIDE GALVANIZED BIRDSCREEN, BAKED ENAMEL FINISH, COLOR TO BE SELECTED BY ENGINEER.

GAS FIRED UNIT HEATER SCHEDULE										
No.	MANUFACTURER	MODEL	CFM AT 0" E.S.P.	MBH LP GAS INPUT	MBH LP GAS OUTPUT	FAN DRIVE	MODEL			REMARKS
							H.P.	VOLT	PH	
GUH-1	REZNOR	UDBS-300	3500	300	244	BELT	1 1/2	240	1	NOTE 1
GUH-2	REZNOR	UDBS-300	3500	300	244	BELT	1 1/2	240	1	NOTE 1
GUH-3	REZNOR	UDBS-45	456	45	36.9	DIRECT	1/6	115	1	NOTE 2

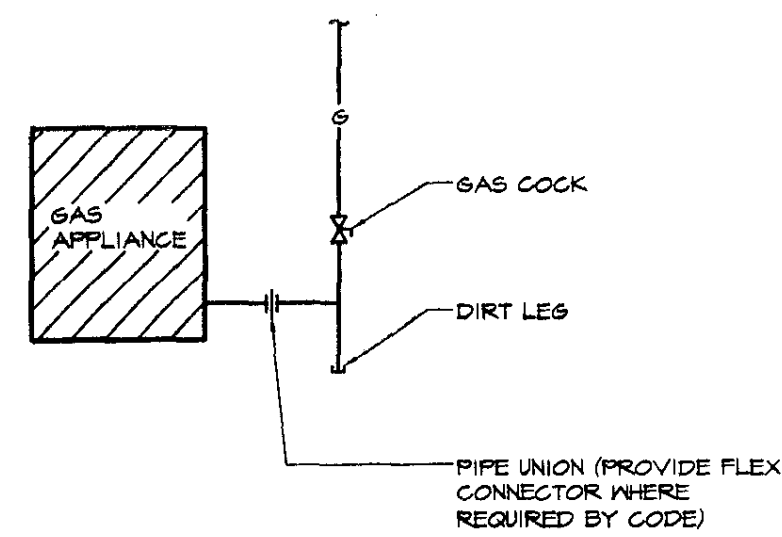
NOTES:
1) PROVIDE ALL STANDARD FEATURES INCLUDING THE FOLLOWING FACTORY INSTALLED OPTIONS: PROPANE CONVERSION KIT, TWO STAGE CONTROL, 409 STAINLESS STEEL HEAT EXCHANGER, ADJUSTABLE BELT DRIVE MOTOR, TOTALLY ENCLOSED MOTOR, BLOWER AND BELT GUARDS. PROVIDE THE FOLLOWING FIELD INSTALLED ACCESSORIES: COMBUSTION AND VENT KIT, TWO STAGE THERMOSTAT.
2) PROVIDE ALL STANDARD FEATURES INCLUDING THE FOLLOWING FACTORY INSTALLED OPTIONS: PROPANE CONVERSION KIT, TWO STAGE CONTROL, 409 STAINLESS STEEL HEAT EXCHANGER, ADJUSTABLE MULTI-TAP DIRECT DRIVE MOTOR, DUCT FLANGE, TOTALLY ENCLOSED MOTOR, BLOWER GUARD. PROVIDE THE FOLLOWING FIELD INSTALLED ACCESSORIES: COMBUSTION AND VENT KIT, TWO STAGE HEATING THERMOSTAT.



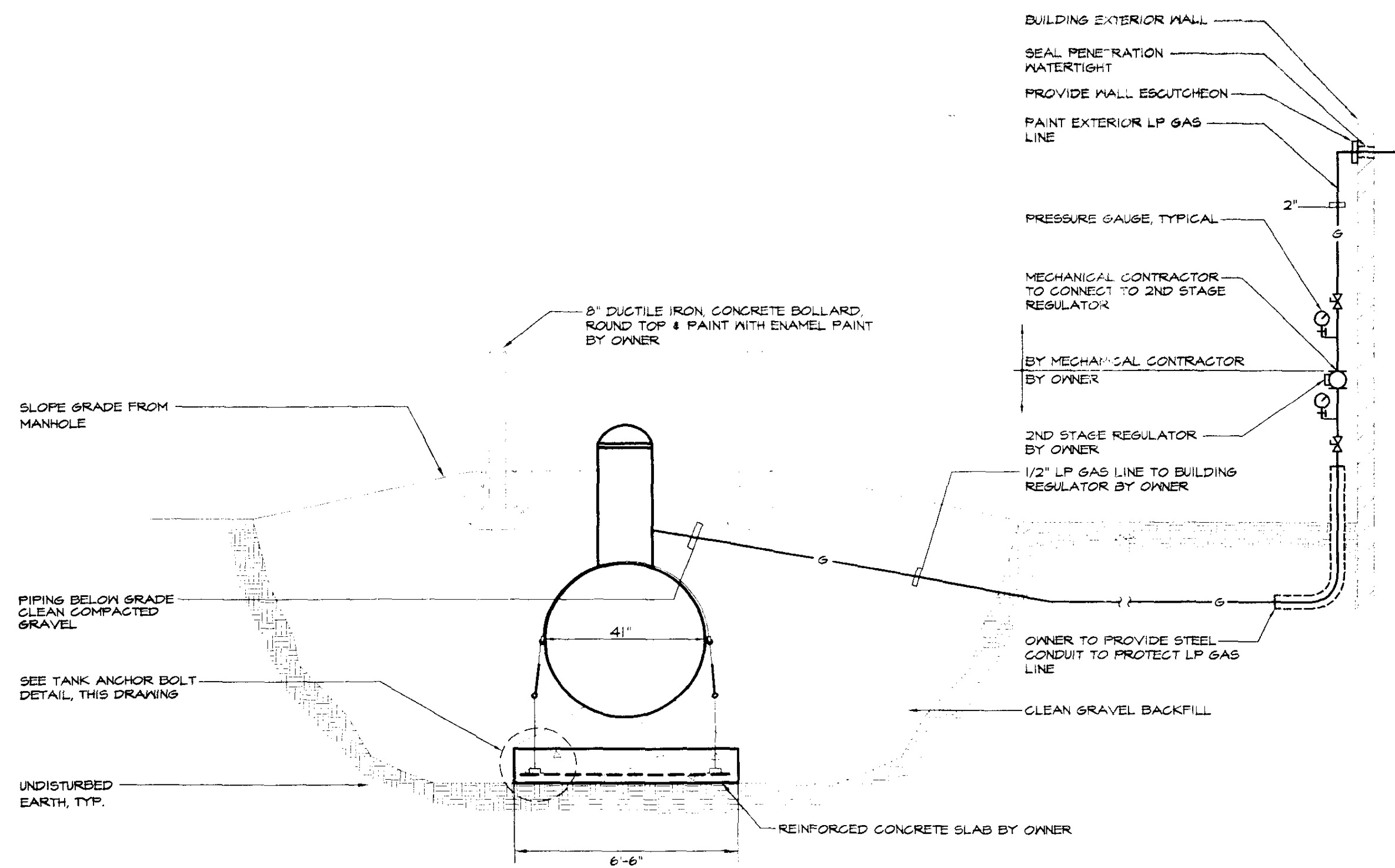
TANK ANCHOR BOLT DETAIL
NOT TO SCALE



LP GAS SUPPLY PIPE TRENCHING DETAIL
NOT TO SCALE

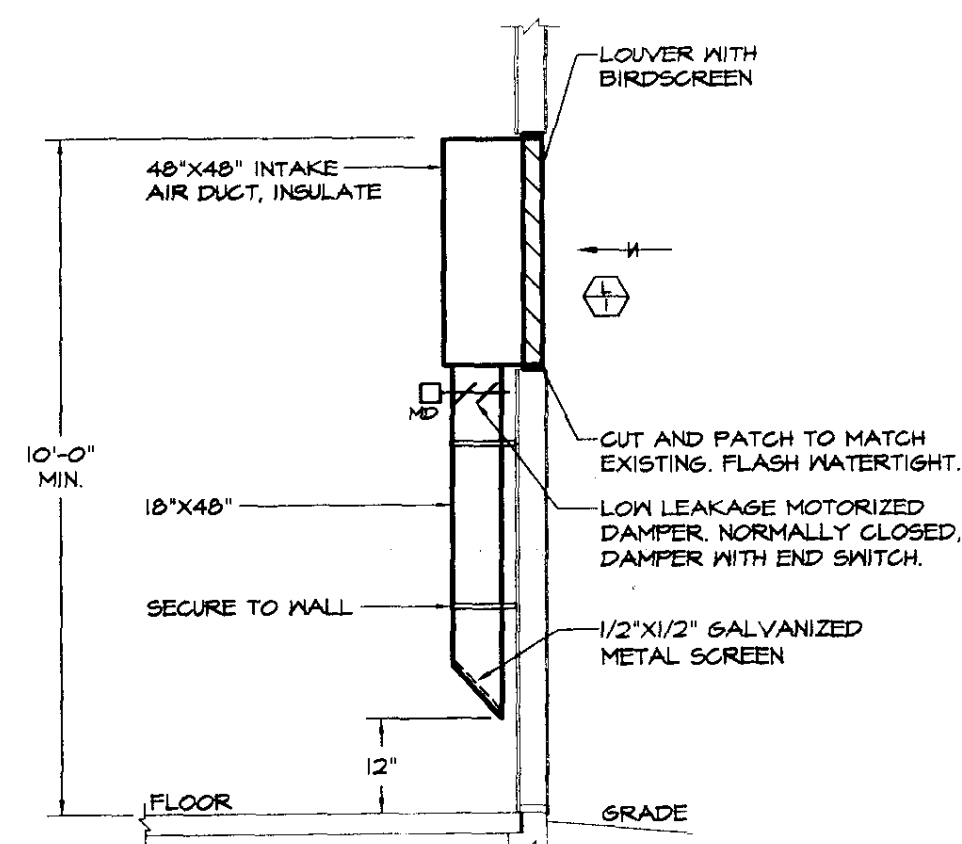


LP GAS APPLIANCE CONNECTION DETAIL
NOT TO SCALE

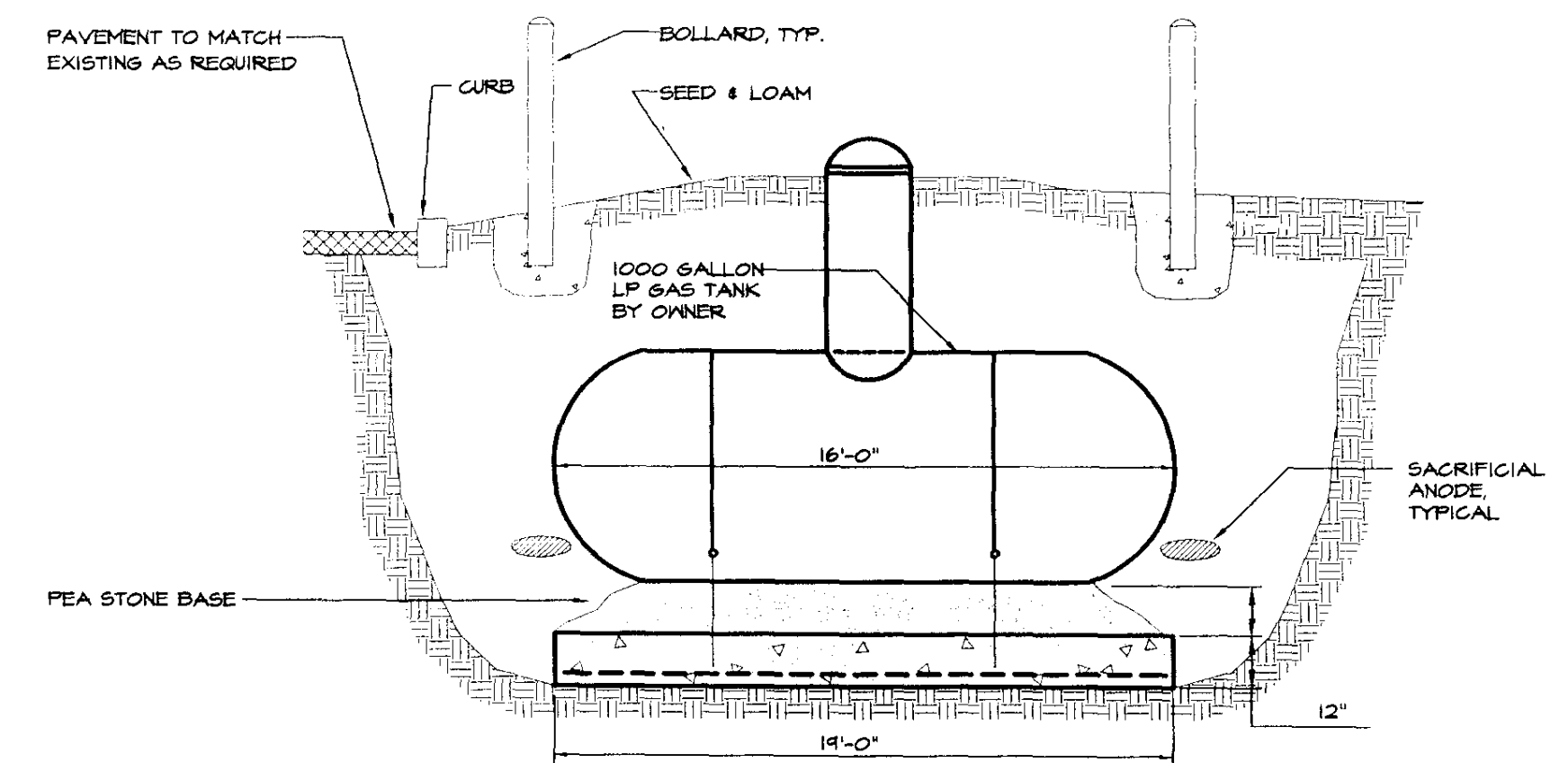


UNDERGROUND LP GAS TANK DETAILS
NOT TO SCALE

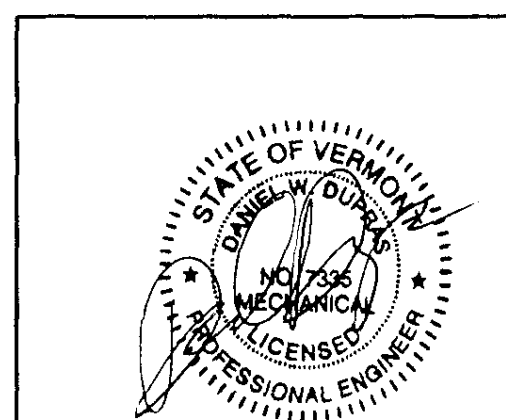
NOTE:
OWNER TO FURNISH AND INSTALL LP GAS TANK, BOLLARDS, HOLDDOWN PAD, LP GAS LINE FROM TANK TO BUILDING AND 1ST & 2ND STAGE REGULATORS.



INTAKE LOUVER DETAIL
NOT TO SCALE



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NO.	ISSUED FOR	DATE
1	BIDDING AND CONSTRUCTION	07/2005



HEATING, VENTILATION, & AIR CONDITIONING,
PLUMBING, FIRE PROTECTION, & ELECTRICAL

CHARLES F. LANE, P.E.
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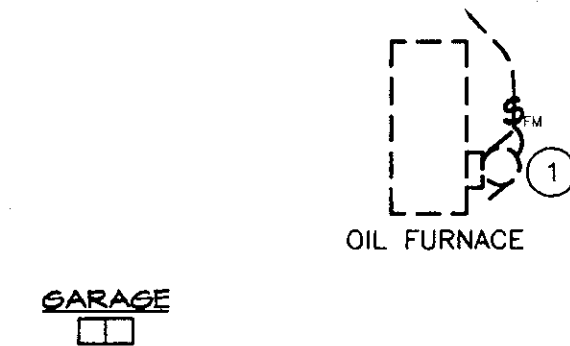
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MECHANICAL SCHEDULES AND DETAILS				M 3
CAMBRIDGE AOT GARAGE VERMONT AGENCY OF TRANSPORTATION CAMBRIDGE, VERMONT				
APPR:	DWD	DRAWN:	KPG	SCALE: AS NOTED
PROJ. NO. 0312-22				

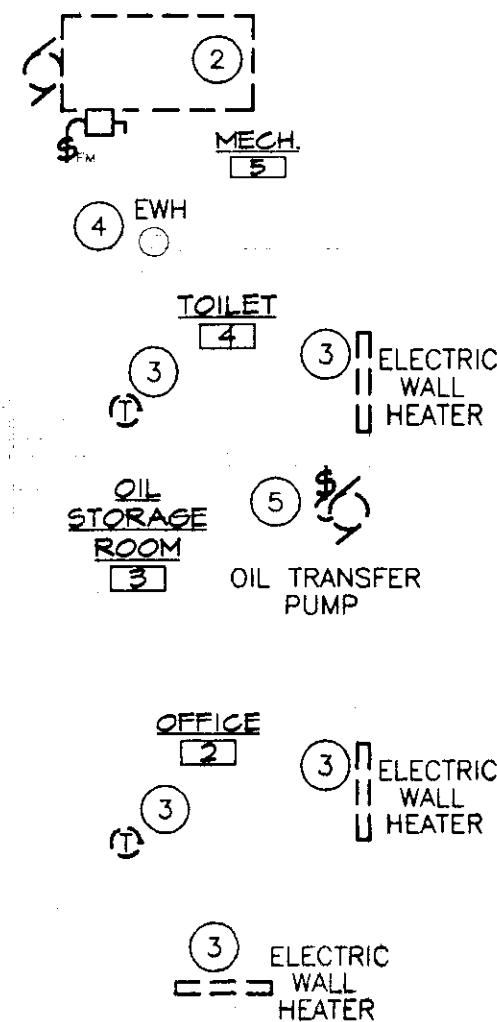
<E> EF 7

<E> EDP
<E> XFER 6
<E> MDP

<E> GT 6



GARAGE



KEYED NOTES:

- REMOVE ALL WIRING & ASSOCIATED CONTROLS FOR EXISTING OIL FURNACE.
- REMOVE ALL WIRING & ASSOCIATED CONTROLS FOR EXISTING WOOD FURNACE INCLUDING PUMPS & CONTROLS FOR DOMESTIC STORAGE WATER HEATER.
- REMOVE EXISTING ELECTRIC HEATER, CONDUIT, & J-BOX BACK TO SOURCE.
- EXISTING ELECTRIC WATER HEATER ON THE MEZZANINE TO REMAIN.
- REMOVE ALL WIRING & ASSOCIATED CONTROLS FOR OIL TRANSFER PUMPS.
- REMOVE ALL BREAKERS FOR CIRCUITS THAT NO LONGER EXIST. USE SPACES FOR NEW CIRCUITS AS DESCRIBED. REUSE CENTRAN BREAKERS FOR NEW CIRCUITS AS DESCRIBED.
- REWIRE EXISTING EXHAUST FAN, REUSE EXISTING CIRCUIT, REFER TO NEW ELECTRICAL PLAN.

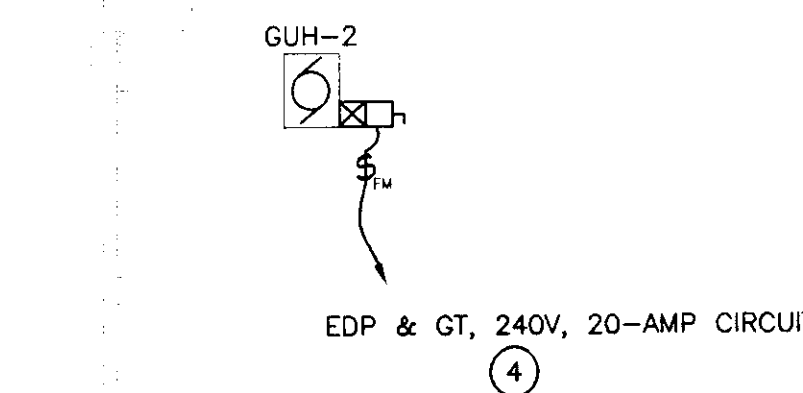
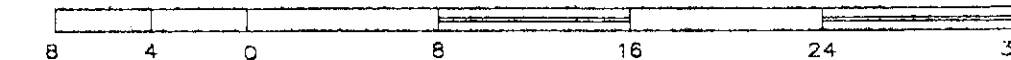
DEMOLITION NOTES:

- EQUIPMENT AND MATERIALS REMOVED OR DEMOLISHED AND NOT TO BE REINSTALLED BY THE EC SHALL BE CLASSIFIED BY THE OWNER AS SALVAGE OR SCRAP. THOSE CLAIMED BY THE OWNER SHALL BE DELIVERED TO THE OWNER BY THE EC WHERE DIRECTED AT THE SITE. THOSE NOT CLAIMED BY THE OWNER SHALL BECOME PROPERTY OF THE EC AND SHALL BE LEGALLY REMOVED FROM THE SITE AND PREMISES.
- ANY PLACE WHERE THE CONTRACTOR PENETRATES, CUTS AND/OR REMOVES WALLS, CONTRACTOR IS TO REPLACE, PATCH AND PAINT WALLS TO ORIGINAL FINISHES.
- FIELD VERIFY ALL DIMENSIONS BEFORE COMMENCEMENT OF WORK. NOTIFY ENGINEER OF ANY ERRORS.
- REFER TO THE MECHANICAL PLANS FOR EXTENT OF DEMOLITION WORK TO BE PERFORMED BY OTHER CONTRACTORS. ALL ITEMS THAT NEED TO BE REMOVED, SHALL HAVE THE POWER DISCONNECTED BY THE EC.
- NOT ALL DEVICES TO BE REMOVED OR DISCONNECTED ARE SHOWN. REFER TO MECH. PLANS FOR TOTAL EXTENT OF DEMOLITION WORK.
- BUILDING IS EXISTING. WIRING IN EXTERIOR WALLS SHALL BE FISHED OR SURFACE-MOUNTED AS NECESSARY. INTERIOR PARTITIONS ARE EXISTING. WIRING IN THESE WALLS MAY NEED TO BE FISHED. VISIT THE SITE FOR FULL EXTENT OF EXISTING CONDITIONS. NO SURFACE RACEWAY TO BE INSTALLED WITHOUT WRITTEN AUTHORIZATION FROM ARCHITECT.

ELECTRICAL DEMOLITION PLAN

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

HORIZONTAL SCALE IN FEET



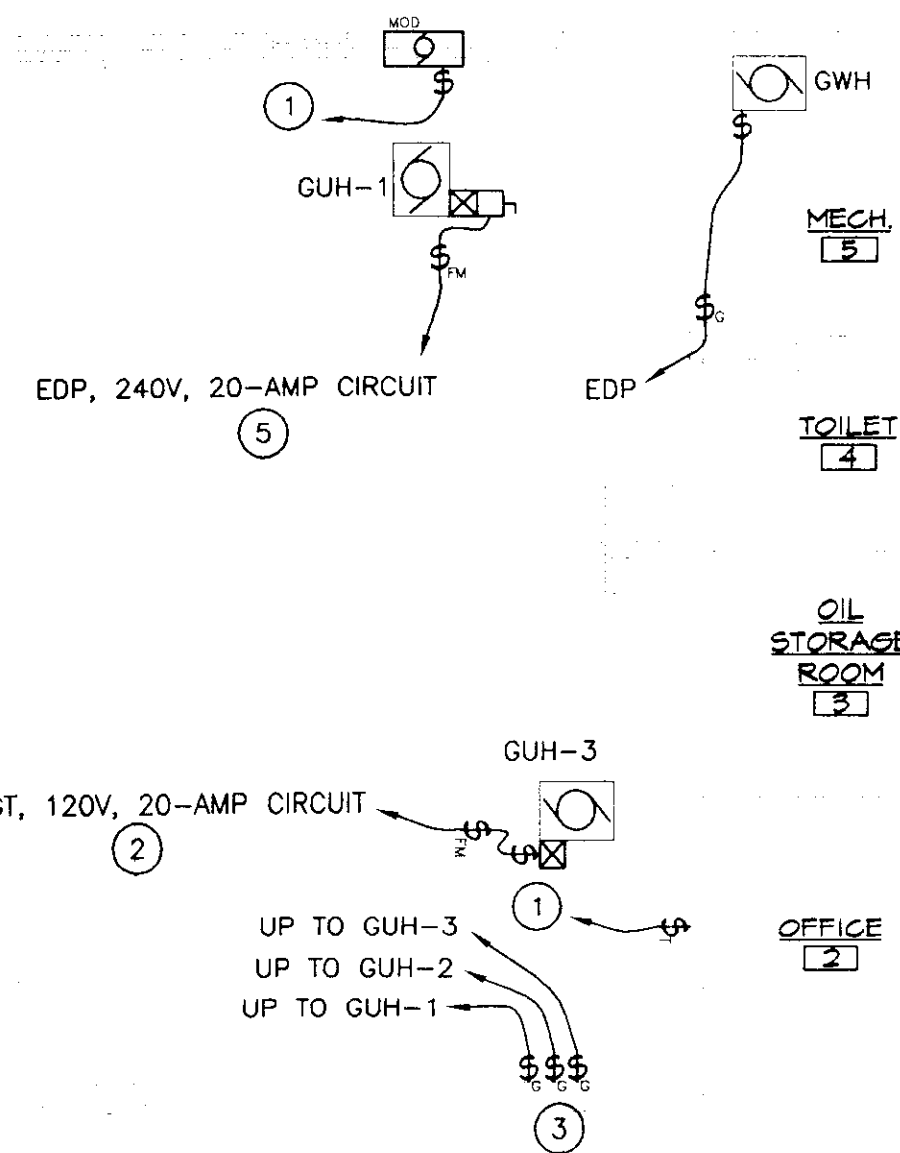
EDP & GT, 240V, 20-AMP CIRCUIT

<E> EF 1

<E> EDP
<E> XFER
<E> MDP

<E> GT

GARAGE



EDP, 240V, 20-AMP CIRCUIT

EDP & GT, 120V, 20-AMP CIRCUIT

UP TO GUH-3
UP TO GUH-2
UP TO GUH-1

KEYED NOTES:

- TIMER SWITCH PROVIDED BY MC, INSTALLED & WIRED BY EC. TIMER SWITCH SHALL OPEN MOTORIZED DAMPER. EXHAUST FAN MOTOR STARTER/CONTACTOR COIL SHALL BE WIRED TO THE END SWITCH ON THE MOTORIZED DAMPER, TO OPERATE ONLY WHEN THE DAMPER IS OPEN. ALL LINE VOLTAGE WIRING BY EC. REUSE SAME EXISTING CIRCUIT.
- PANEL EDP IS A SQUARE D NOOB PANEL. PROVIDE NEW 20A, SINGLE-POLE BREAKER FOR NEW GAS UNIT HEATER #3. USE SPACE LEFT OPEN FROM REMOVED OIL FURNACE. REUSE CENTRAN CIRCUIT FROM REMOVED OIL FURNACE.
- PROVIDE EMERGENCY SHUT-OFF SWITCHES FOR EACH GAS HEATER, SWITCH SHALL HAVE RED "GAS" PLATE. USE 2-POLE SWITCHES FOR 240V UNITS.
- PROVIDE NEW 20A, 2-POLE BREAKER FOR NEW GAS UNIT HEATER #2. USE SPACE LEFT OPEN FROM REMOVED WOOD FURNACE. REUSE CENTRAN CIRCUIT FROM REMOVED WOOD FURNACE.
- PROVIDE NEW 20A, 2-POLE BREAKER FOR NEW GAS UNIT HEATER #1. THIS UNIT WILL NOT BE CONNECTED TO THE CENTRAN.

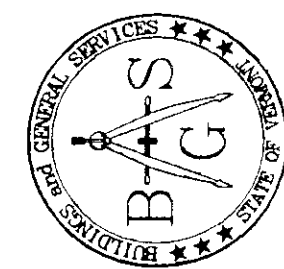
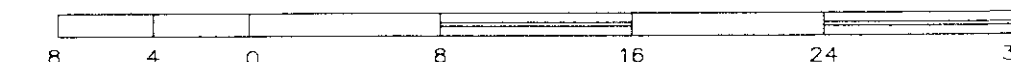
ELECTRICAL LEGEND

\$	SWITCH - SINGLE POLE	TYP.	TYPICAL OF ALL
\$ _v	SWITCH - FIREMATIC	<E>	EXISTING TO REMAIN
\$ _c	EMERGENCY SHUT-OFF SWITCH WITH RED PLATE	EC	ELECTRICAL CONTRACTOR (DIVISION 16)
\$ _s	SWITCH - FAN SPEED CONTROLLER	MC	MECHANICAL CONTRACTOR (DIVISION 15)
\$ _t	TIMER SWITCH - PROVIDED BY MC	MOD	MOTOR-OPERATED-DAMPER
⊗	MOTOR STARTER PROV. BY MC, INSTALLED BY EC	⊙	MOTOR
□	SAFETY DISCONNECT PROV. AND INSTALLED BY EC.	⊠	ITEMS TO BE REMOVED
▨	PANEL		
→	BRANCH CIRCUIT		
□ _B	JUNCTION BOX		
⊖	THERMOSTAT, PROVIDED & WIRED BY MC		

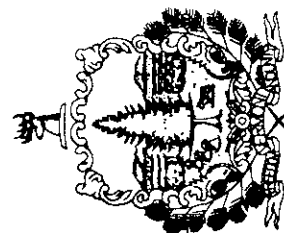
NEW ELECTRICAL PLAN

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

HORIZONTAL SCALE IN FEET



STATE OF VERMONT
Department of Buildings
and General Services
Agency of Administration
Montpelier, Vermont



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AGENCY OF TRANSPORTATION
CAMBRIDGE MAINTENANCE
GARAGE HEATING RENOVATIONS
CAMBRIDGE VERMONT

REVISIONS	SCALE: AS SHOWN	DATE: JULY 2005	DRAWN BY: ASG	APPR. BY: EEP
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AGENCY OF TRANSPORTATION
GARAGE & OFFICES
ELECTRICAL DEMO PLAN

E-1

1 OF 1

