

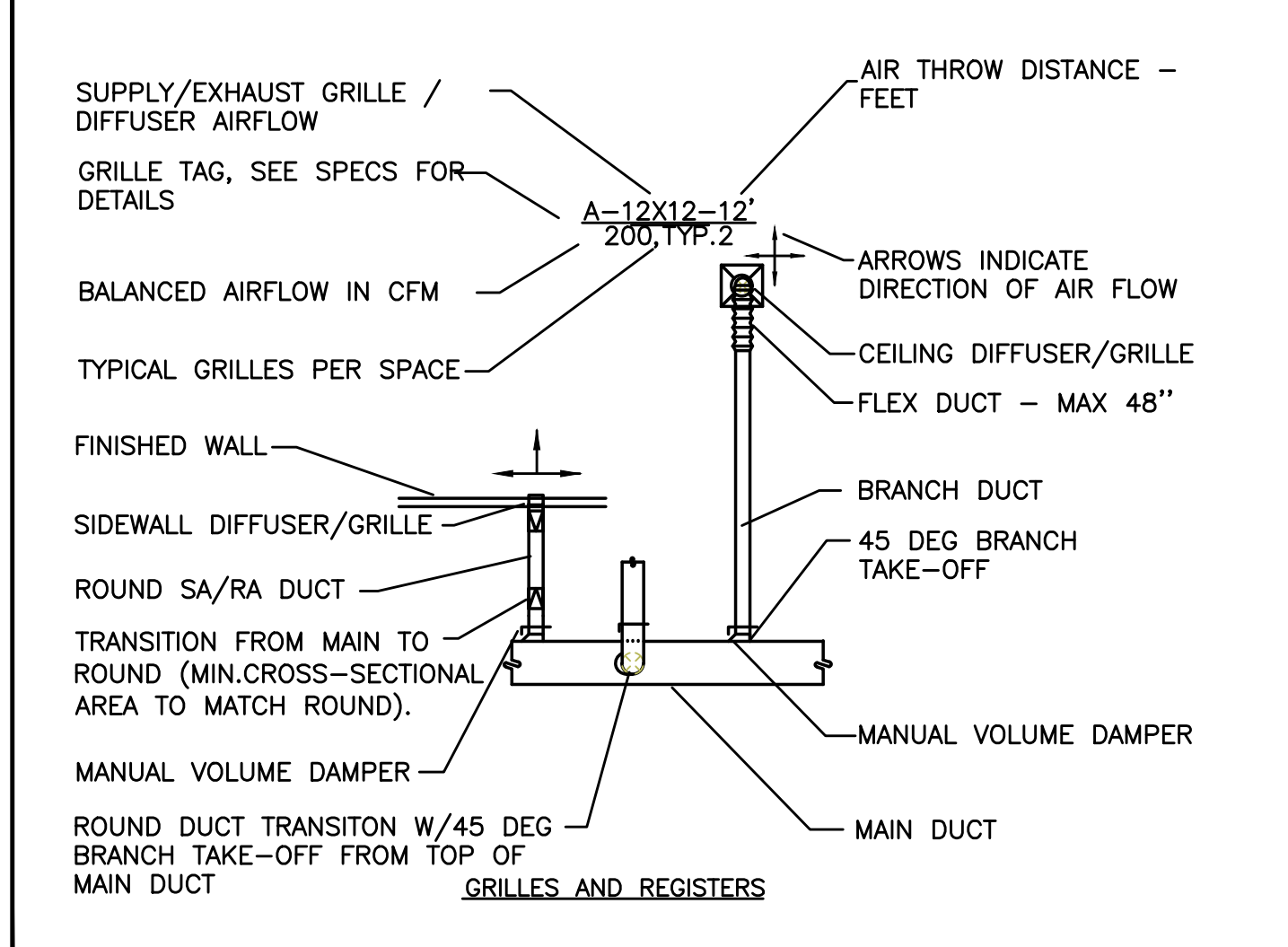
**MECHANICAL LEGEND**

	SUPPLY AIR DIFFUSER	AFF	ABOVE FINISH FLOOR
	RETURN AIR DIFFUSER	AHU	AIR HANDLING UNIT
	EXHAUST AIR DIFFUSER	B.D.	BOTTOM OF DUCT
	DIRECTIONAL AIR FLOW	BHP	BRAKE HORSEPOWER
	MANUAL VOLUME DAMPER	BOG	BOTTOM OF GRILLE
	SUPPLY/OUTSIDE AIR DUCT UP & DOWN	BTU	BRITISH THERMAL UNITS
	RETURN AIR DUCT UP & DOWN	CFM	CUBIC FEET PER MINUTE
	EXHAUST AIR DUCT UP & DOWN	CONN.	CONNECTION
	DEMOLISH	CONT.	CONTINUATION
	EXISTING	CW	DOMESTIC COLD WATER
	CONNECT TO EXISTING	DB	DRY BULB
	THERMOSTAT	DIA.	DIAMETER
	TEMPERATURE SENSOR	DIST.	DISTRIBUTION
	NOTE	EXH	EXHAUST AIR
	EQUIPMENT DESIGNATOR	EDB	ENTERING DRY BULB TEMPERATURE
	GATE VALVE / SHUT-OFF VALVE (SEE SPECS)	EWB	ENTERING WET BULB TEMPERATURE
	CHECK VALVE	EWT	ENTERING WATER TEMPERATURE
	BALANCING VALVE	FF	FINISH FLOOR
	FLOW CONTROL/LIMITING VALVE	FXT.	FIXTURE
	THERMOMETER	F.O.B.	FLAT ON BOTTOM
	DIRECTION OF FLOW	PFM	FEET PER MINUTE
	PUMP	PPS	FEET PER SECOND
	STRAINER W/ DRAIN VALVE	FT.	FEET / FOOT
	PRESSURE GAUGE	GA.	GAUGE
	PET'S PLUG	GEXH	GREASE EXHAUST AIR DUCT
	DOUBLE CHECK ASSEMBLY	GPM	GALLONS PER MINUTE
	PRESSURE REDUCING VALVE	H	HEIGHT
	UNION	HP	HORSEPOWER
	2-WAY CONTROL VALVE	I.D.	INSIDE DIAMETER
	3-WAY CONTROL VALVE	IN.	INCHES
	TRIPLE DUTY VALVE	L	LENGTH
	CAP	LBS.	POUNDS
	MOTORIZED DAMPER	LDB	LEAVING DRY BULB
	BALL / SHUT-OFF VALVE (SEE SPECS)	LWB	LEAVING WET BULB
	FIRE DAMPER	LWT	LEAVING WATER TEMPERATURE
	FIRE / SMOKE DAMPER	MAX.	MAXIMUM
	SMOKE DAMPER	MBH	THOUSANDS OF BTUs PER HOUR
	FAN MOTOR	MD	MOTORIZED DAMPER
		MIN.	MINIMUM
		MVD	MANUAL VOLUME DAMPER
		NC	NOISE CRITERIA
		N.C.	NORMALLY CLOSED
		N.I.M.	NOT IN MECHANICAL
		NO.	NUMBER
		N.O.	NORMALLY OPEN
		O.A.	OUTSIDE AIR
		PSI	POUNDS PER SQUARE INCH
		P/T	PRESSURE / TEMPERATURE
		R.A.	RETURN AIR
		RECT.	RECTANGULAR
		REQ'D	REQUIRED
		S.A.	SUPPLY AIR
		S.P.	STATIC PRESSURE
		SQ.	SQUARE
		TEMP.	TEMPERATURE
		TYP.	TYPICAL
		VAV	VARIABLE AIR VOLUME
		W	WIDTH
		WB	WET BULB
		WPD	WATER PRESSURE DROP
		Ø	DIAMETER
		(E)	EXISTING
		(D)	DEMOLISH
			NEW WORK
		G	(G) NATURAL GAS
		CD	(CD) CONDENSATE DRAIN
		RF	(RF) TWO OR THREE REFRIGERANT LINES
		HWS	(HWS) HEATING WATER SUPPLY
		HWR	(HWR) HEATING WATER RETURN
		CHS	(CHWS) CHILLED WATER SUPPLY
		CHR	(CHWR) CHILLED WATER RETURN
			EQUIPMENT MAINTENANCE CLEARANCE AND ACCESS.

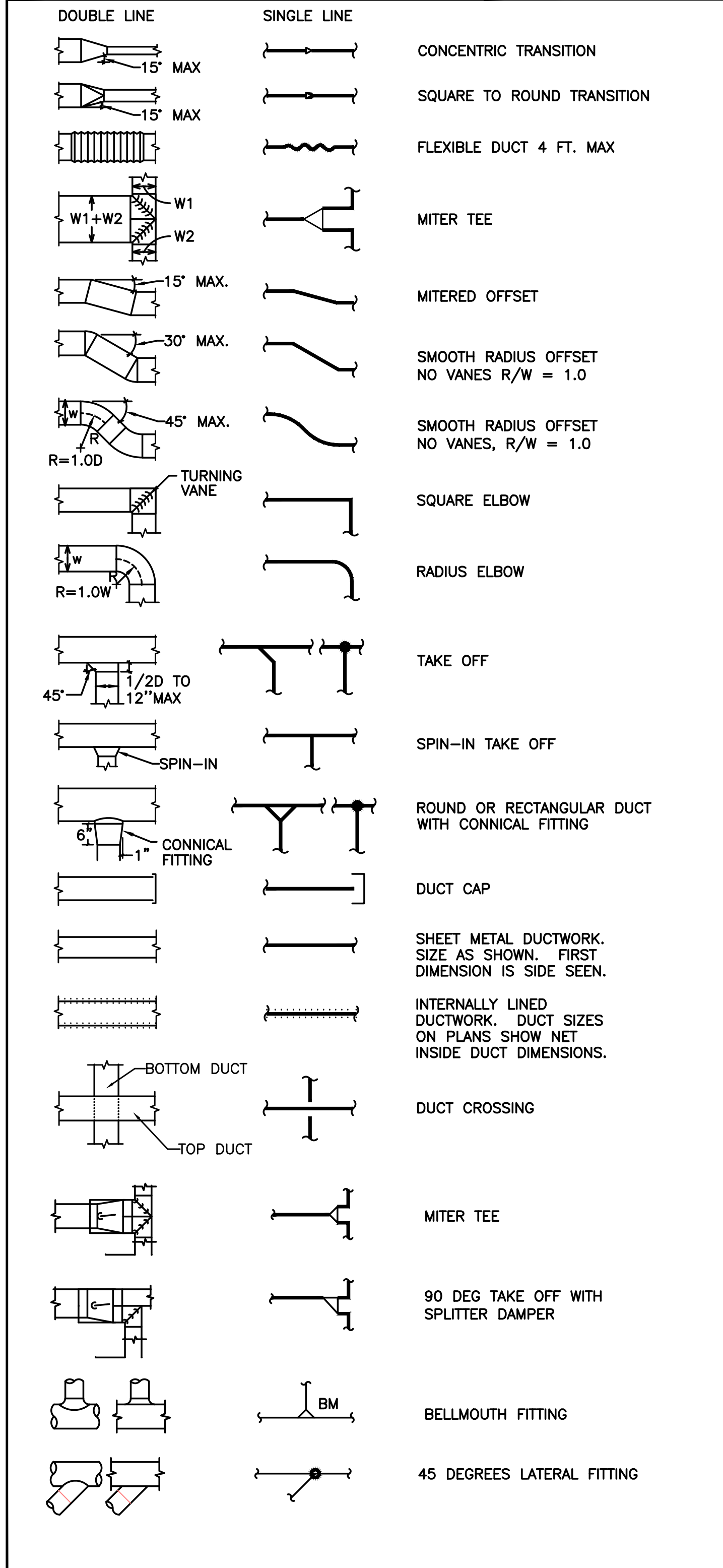
**MECHANICAL GENERAL NOTES**

- THE DRAWINGS ARE DIAGRAMMATIC. PROVIDE ALL MATERIAL (NEW AND UNDAMAGED) AND LABOR FOR A COMPLETE AND OPERABLE SYSTEM. VERIFY ALL BUILDING MEASUREMENTS DIMENSIONS AND EQUIPMENT LOCATIONS BEFORE PROCEEDING WITH ANY OF THE WORK.
- VERIFY ALL EXISTING CONDITIONS RELATIVE TO THE SCOPE OF WORK. REPORT DISCREPANCIES BACK TO THE ENGINEER.
- VERIFY INDICATED (E) DUCTWORK/PIPE SIZES PRIOR TO RECONNECTING NEW EQUIPMENT. EQUIPMENT SHALL NOT BE CONNECTED TO EXISTING DUCT/PIPE OF SMALLER DIAMETER THAN NEW DUCT/PIPE. REPORT DISCREPANCIES BACK TO ENGINEER.
- DO NOT FABRICATE EQUIPMENT SUPPORTS/BASES W/O CONFIRMING SPACE EXISTS AND THE BUILDING ATTACHMENT POINTS.
- REFER TO THE MECHANICAL SPECIFICATIONS FOR MATERIALS, EQUIPMENT, AND ADDITIONAL CONSTRUCTION INSTRUCTIONS NOT COVERED BY THESE PLANS.
- ALL INSTALLATIONS SHALL COMPLY WITH APPLICABLE FEDERAL AND STATE CODES INCLUDING, 2019 OREGON STRUCTURAL SPECIALTY CODE (OSSC) INCLUDING APPENDIX N FOR OREGON FIRE CODE REGULATIONS, 2021 OREGON PLUMBING SPECIALTY CODE (OPSC), 2019 OREGON MECHANICAL SPECIALTY CODE (OMSC), 2021 OREGON ENERGY EFFICIENCY SPECIALTY CODE (OEEESC)-BASED ON ASHRAE 90.1-2019, AND NATIONAL FIRE PROTECTION ASSOCIATION (NFPA). WHERE TWO CODES DIFFER THE MORE STRICT OF THE TWO SHALL BE FOLLOWED.
- OBTAIN ALL NECESSARY PERMITS AND INSPECTIONS REQUIRED BY THE GOVERNING AUTHORITIES HAVING JURISDICTION. SUBMIT ALL CERTIFICATES PRIOR TO ACCEPTANCE.
- COORDINATE ALL MECHANICAL AND CONTROL WORK WITH GENERAL CONTRACTOR, CONTROL CONTRACTOR, ELECTRICAL AND ARCHITECTURAL.
- COORDINATE OTHER TRADES FOR PATCH/REPAIR OF WALLS WHERE EXISTING SENSORS ARE REMOVED OR MODIFIED.
- PATCH & REPAIR WALLS / FLOORS / CEILING WHERE OLD DUCTWORK/PIPES HAVE BEEN REMOVED TO MATCH EXISTING FINISHES.
- COORDINATE WITH OTHER CRAFTS AS REQUIRED TO COMPLETE WORK IN ACCORDANCE WITH CONSTRUCTION SCHEDULE.
- PROVIDE OWNER INSTRUCTION BY QUALIFIED PERSONNEL ON EQUIPMENT AND SYSTEMS AT OWNER'S REQUEST.
- ALL DUCTWORK SHALL BE GALVANIZED STEEL, UNLESS OTHERWISE INDICATED, CONFORMING TO LATEST SMACNA, ASHRAE, OMSC, NFPA, AND UL STANDARDS.
- MANUFACTURERS AND MODEL NUMBERS LISTED IN THE EQUIPMENT SCHEDULES ARE THE BASIS OF DESIGN.
- CUT WALLS FOR PROPER EQUIPMENT, DUCT OR PIPE INSTALLATION. FILL HOLES WHICH ARE CUT OVERSIZED FOR A TIGHT FIT AROUND OBJECTS PASSING THROUGH.
- PROVIDE UL LISTED FIRESTOP SYSTEM TO MAINTAIN THE CODE REQUIRED F AND T RATING OF THE CONSTRUCTION ASSEMBLY AT A DUCT/PIPE PENETRATION THROUGH A RATED BUILDING CONSTRUCTION.
- INSTALL LABELS ON ALL MECHANICAL EQUIPMENT. SEE SPECIFICATIONS FOR CRITERIA.
- CONTROLS AND WIRING SHALL MEET ALL ELECTRICAL REQUIREMENTS OF APPLICABLE ELECTRICAL SPECIFICATIONS AND REQUIREMENTS OF OWNER, BUILDING OFFICIALS AND EQUIPMENT SUPPLIERS OF EQUIPMENT INSTALLED ON PROJECT.
- ELECTRIC MOTORS SHALL HAVE BUILT-IN THERMAL OVERLOAD PROTECTION OR BE PROTECTED EXTERNALLY WITH SEPARATE THERMAL OVERLOAD DEVICES, WITH LOW-VOLTAGE RELEASE OR LOCK OUT AS REQUIRED.
- ALL NEW EQUIPMENT, PIPING, CONDUIT, AND DUCTWORK SHALL BE INSTALLED PER CURRENT SEISMIC CODE REQUIREMENTS.
- PROVIDE LOW LEAK AUTOMATIC DAMPERS ON OUTSIDE AIR, EXHAUST AIR AND RELIEF AIR CONTROL DAMPERS WHERE THESE ARE INDICATED.

**AIR DISTRIBUTION DETAILS**



**AIR DISTRIBUTION DETAILS**



**NOTES:**

THIS DETAIL COVERS MULTIPLE DISCIPLINES AND IS INTENDED TO COVER GENERAL INSTALLATION REQUIREMENTS. SEE SPECIFIC DISCIPLINE DRAWING AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. SEE PROJECT SPECIFIC FLOOR PLANS, ELEVATIONS AND SECTIONS FOR ADDITIONAL INFORMATION. THE CONTRACTOR SHALL PROVIDE A FULLY FUNCTIONAL SYSTEM UPON COMPLETION OF WORK.

FUEL VENT DISCHARGE LOCATION SHALL BE 5' MIN. FROM BUILDING OPENINGS, 15' MIN. FROM OUTSIDE AIR INTAKES, AND 12' MIN ABOVE GRADE. NFPA 30.

FLEX CONNECTIONS TO THE GENERATOR SHALL BE UTILIZED FOR ALL UTILITY CONNECTIONS, INCLUDING BUT NOT LIMITED TO: ENGINE EXHAUST, VENT PIPING, DUCTWORK, AND CONDUITS.

DIESEL GEN-SETS IN SERVICE SHALL BE EXERCISED AT LEAST ONCE MONTHLY FOR A MINIMUM OF 30 MINUTES OR AS REQUIRED BY THE LOCAL A.H.J. NFPA 110

NO OTHER EQUIPMENT OTHER THAN GENERATOR RELATED COMPONENTS SHALL BE ALLOWED IN THE GENERATOR ROOM.

FUEL TANK SHALL BE SIZED AT A MINIMUM TO OPERATE THE GENERATOR AT FULL LOAD FOR 2 HOURS. NEC.

HIGH TEMPERATURE SPRINKLER HEADS SHOULD BE INSTALLED IN THE GENERATOR ROOM. NFPA 13

EMERGENCY POWER OFF (EPO) TO BE LOCATED EXTERIOR TO GEN-SET ROOM, NEAR EXIT DOOR. NFPA 110

THE INITIAL FIRST FILL FOR THE GENERATOR DIESEL TANK IS REQUIRED TO BE WITNESSED BY THE FIRE MARSHAL'S OFFICE HAZARDOUS MATERIALS INSPECTOR, WHERE THE 90% ALARM AND 95% SHUT-OFF WILL BE VERIFIED.

PRIOR TO REQUESTING A TANK FINAL, FIRE SPRINKLERS AND FIRE ALARMS SHALL BE FINALED OR THAT THE FIRE SPRINKLER SYSTEM IS WORKING, AND THAT THE ALARMS ARE CURRENTLY CENTRALLY MONITORED.

ALL FUEL SUPPLY AND VENT PIPING SHALL BE LABELED.

CALIBRATION CHART OF PERMANENT AND DURABLE CONSTRUCTION SHALL BE LOCATED AT THE REMOTE FILL.

BEFORE BEING COVERED, ENCLOSED OR PLACED IN USE, DOCUMENTATION WILL BE PROVIDED IN ACCORDANCE WITH NFPA 30, 21.5.

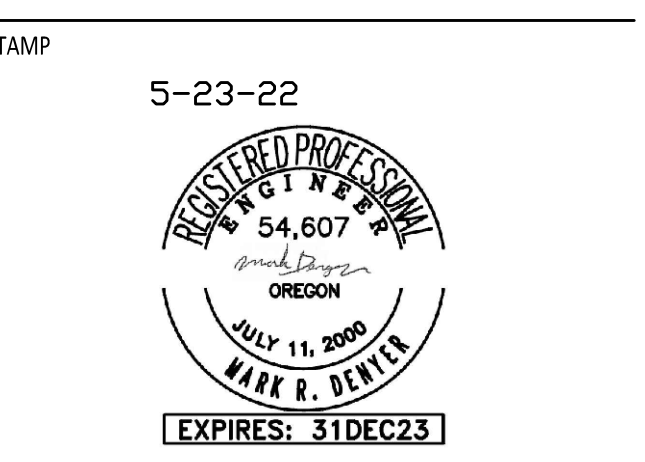
EACH TANK SHALL BEAR A PERMANENT NAMEPLATE OR MARKING INDICATING THE STANDARD USED AS THE BASIS OF DESIGN.

**MECHANICAL SHEET INDEX**

- M001 TITLE SHEET & MECHANICAL SCHEDULES
- M201 MECH FLOOR PLAN - LEVEL 1
- M202 MECH FLOOR PLAN - TYPICAL FLOOR PLAN
- M203 MECH FLOOR PLAN - ROOF
- M600 MECHANICAL DETAILS
- M601 MECHANICAL DETAILS
- M601 MECHANICAL DETAILS



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REVISION NO.	PLANCHECK #6	DATE
5	PLANCHECK #6	05.19.22

TRUE NORTH PLAN NORTH  
**MERX**  
NW 19th & Pettygrove

DD Pettygrove, LLC  
1910 NW PETTYGROVE ST, PORTLAND, OR 97209

ISSUANCE  
**95% CD / ISSUE FOR CONSTRUCTION SET**

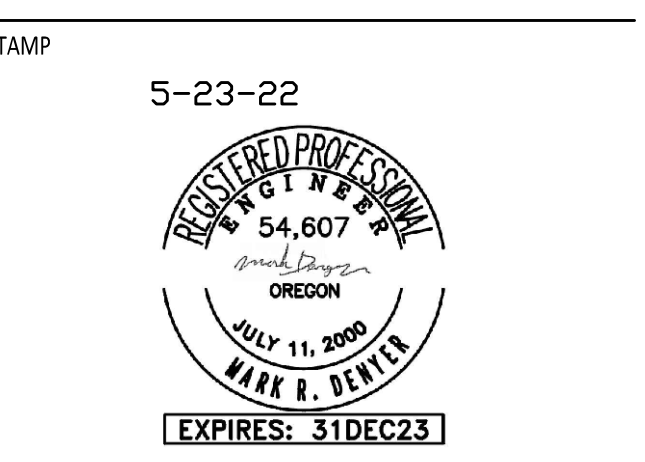
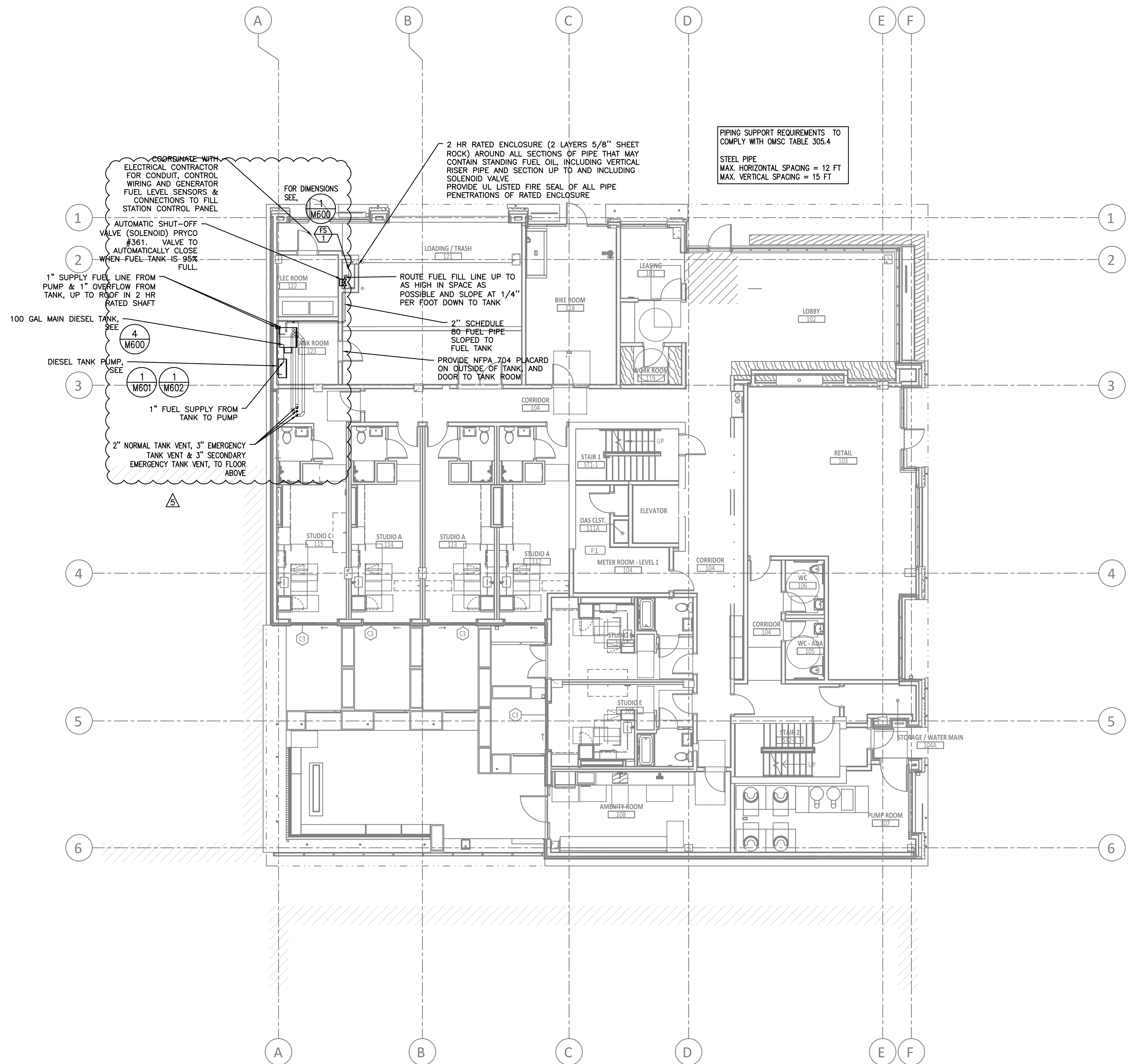
PROJECT NUMBER  
170290

DATE  
04.01.2022

FULL SHEET SIZE  
30 X 42

DRAWING TITLE  
MECHANICAL LEGEND





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**1** MECH FLOOR PLAN - LEVEL 1  
M201 SCALE: 1" = 10'-0"

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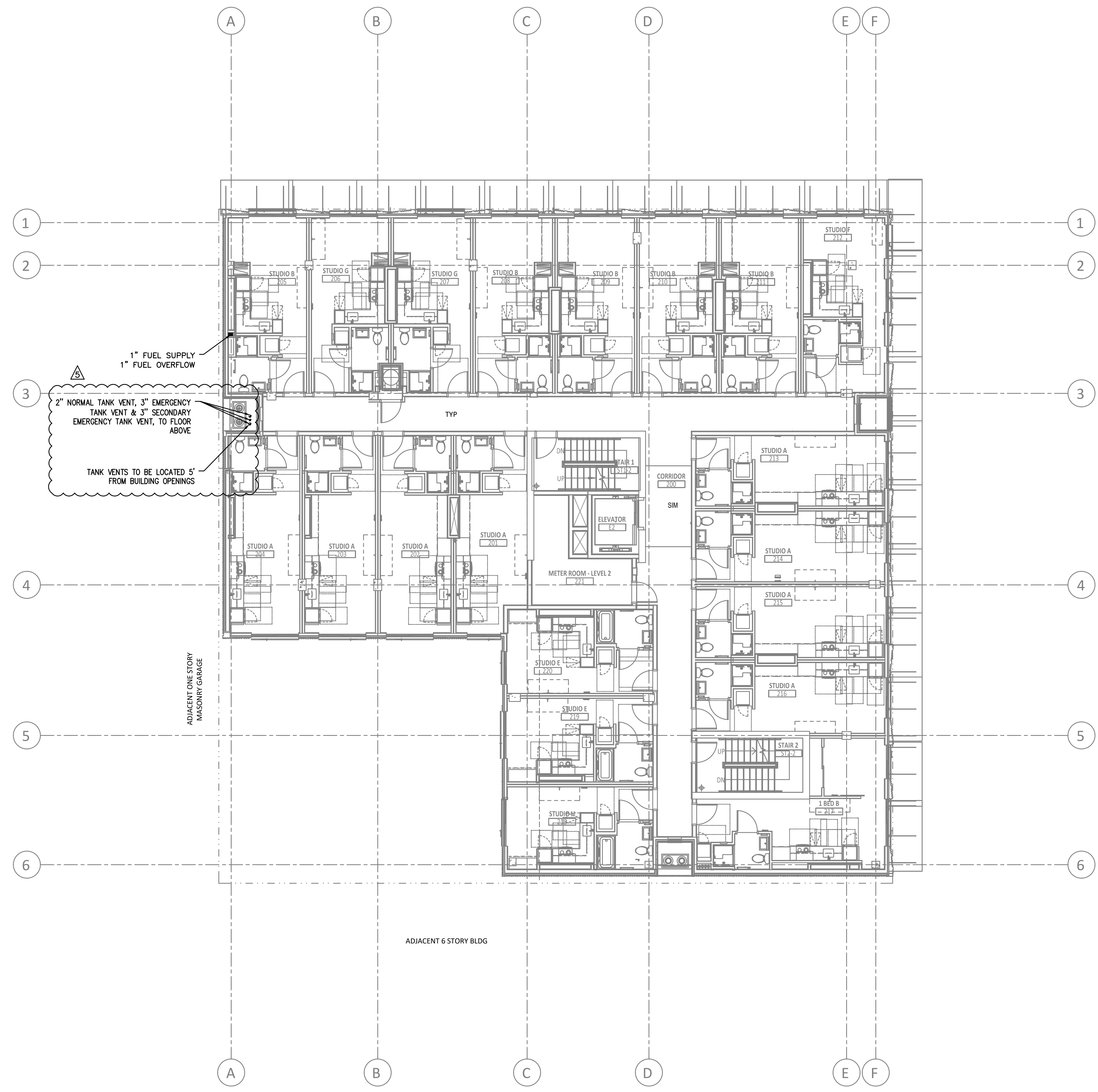
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DRAWING TITLE  
**LEVEL 1 MECHANICAL PLAN**



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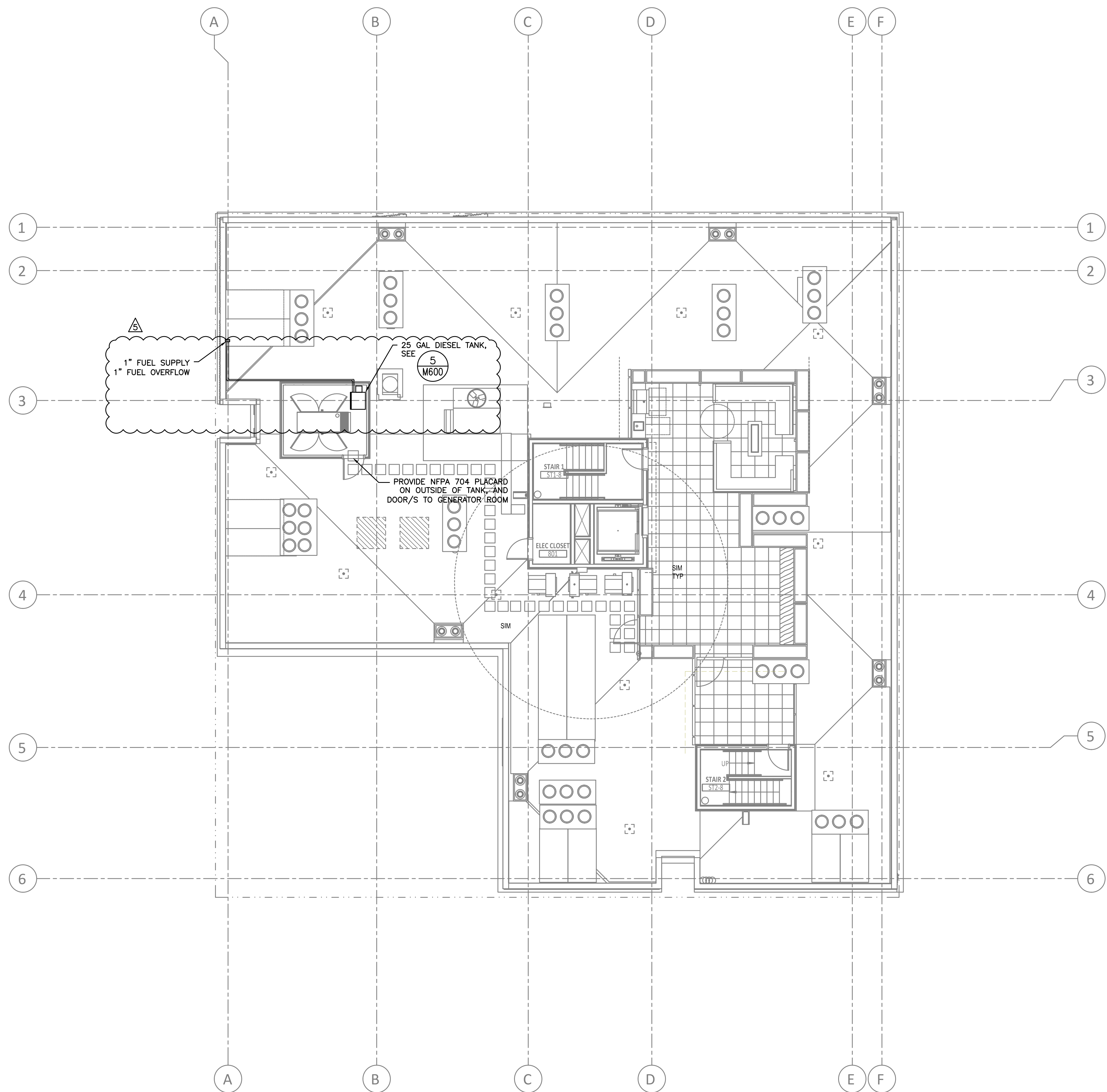
DRAWING TITLE  
**LEVEL 2-7 TYPICAL**

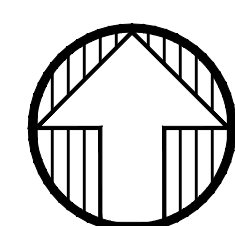
**MECHANICAL PLAN**

SHEET NUMBER

**M202**

**1** MECH FLOOR PLAN - LEVEL 2-7 TYPICAL  
SCALE: 1" = 10'-0"  
**M202**



 **1** MECH ROOF PLAN  
M207 SCALE: 1" = 10'-0"

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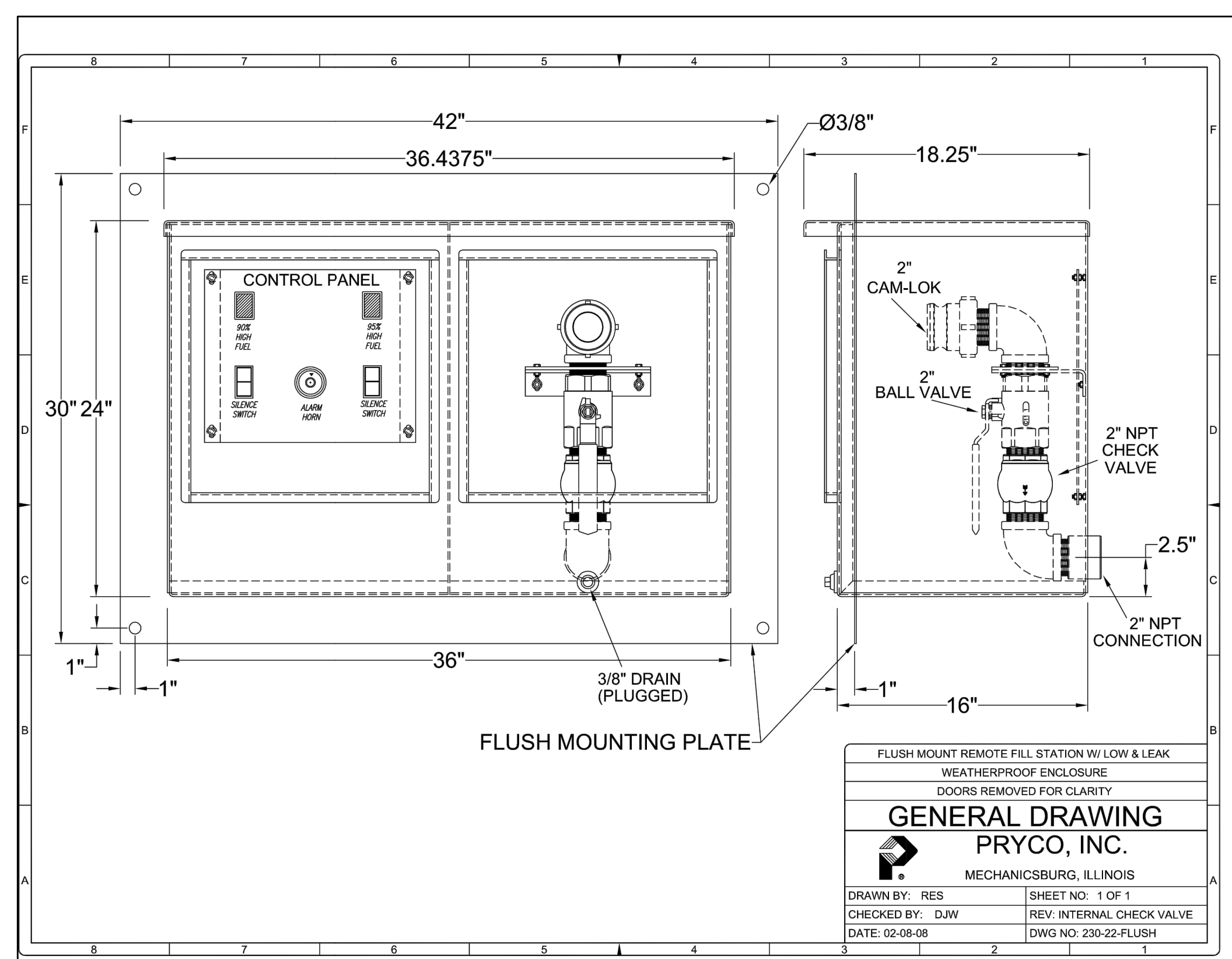
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DRAWING TITLE  
**LEVEL 3 MECHANICAL PLAN**

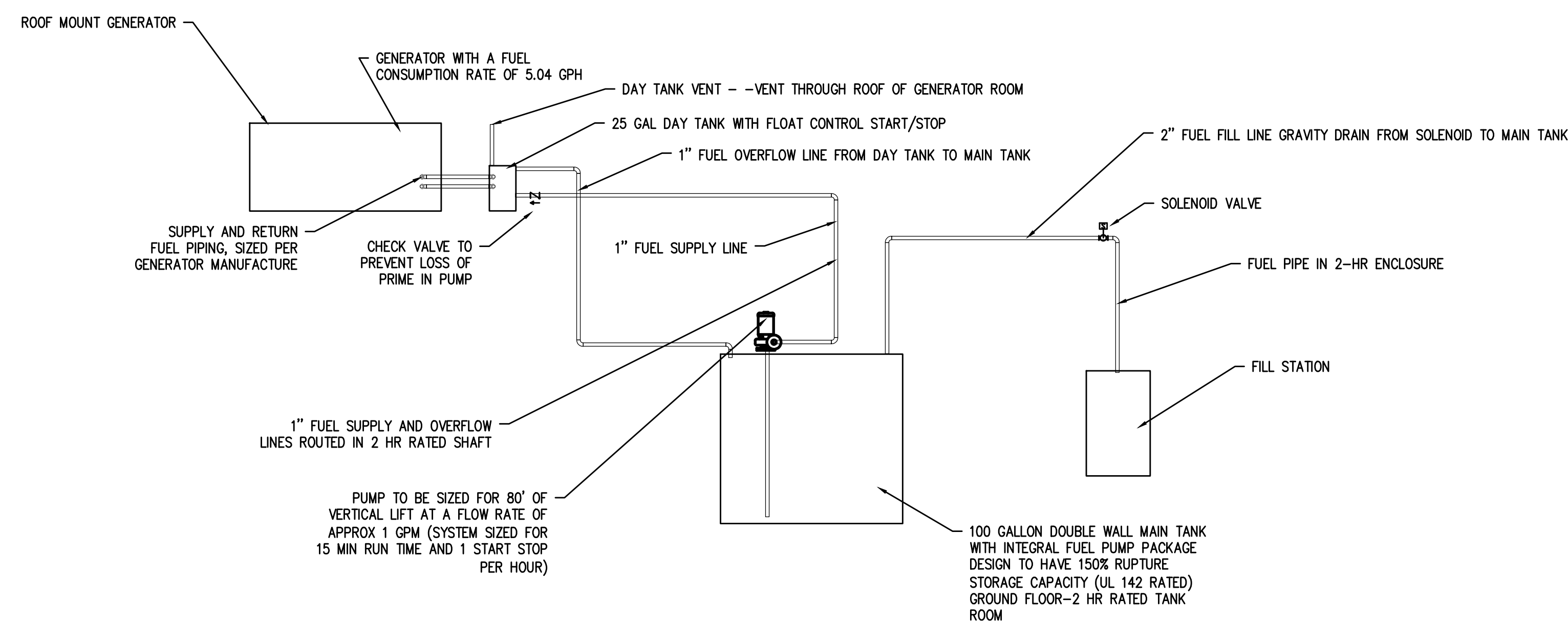
SHEET NUMBER

**M203**





FUEL FILL STATION	
NUMBER	FS 1
TYPE	WALL FLUSH MOUNT
INLET/OUTLET	2" NPT
CONTROL PANEL	SIDE MOUNT
ELECTRIC SHUT OFF	YES
CHECK VALVE	YES
QUICK CONNECT HOSE COUPLING	YES
MANUAL BALL VALVE	YES
OUTLET LOCATION	REAR
CONTROL POWER	115/1/60 -EMERGENCY
SPILL CONTAINMENT	7.5 GALLONS
CONTAINMENT SUMP DRAIN	YES
WEIGHT	325 LBS
HIGH LEVEL ALARM	90% TANK LEVEL
EMERGENCY SHUT-OFF	95% TANK LEVEL
BASIS OF DESIGN - PRYCO	230-22 AUTOMATIC FUELPORT

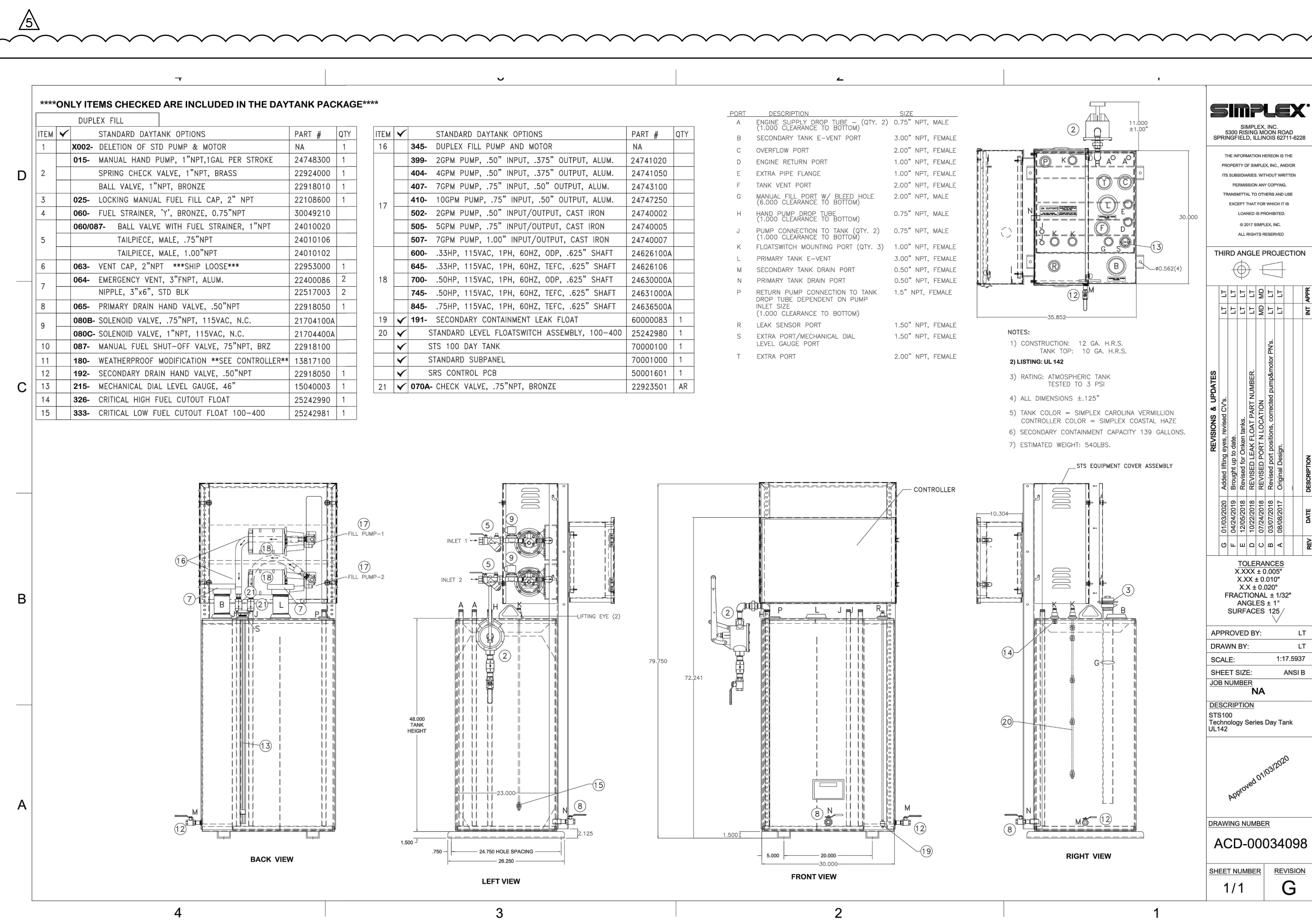


2 GENERATOR TANK PIPING DIAGRAM  
M600 SCALE: DETAIL

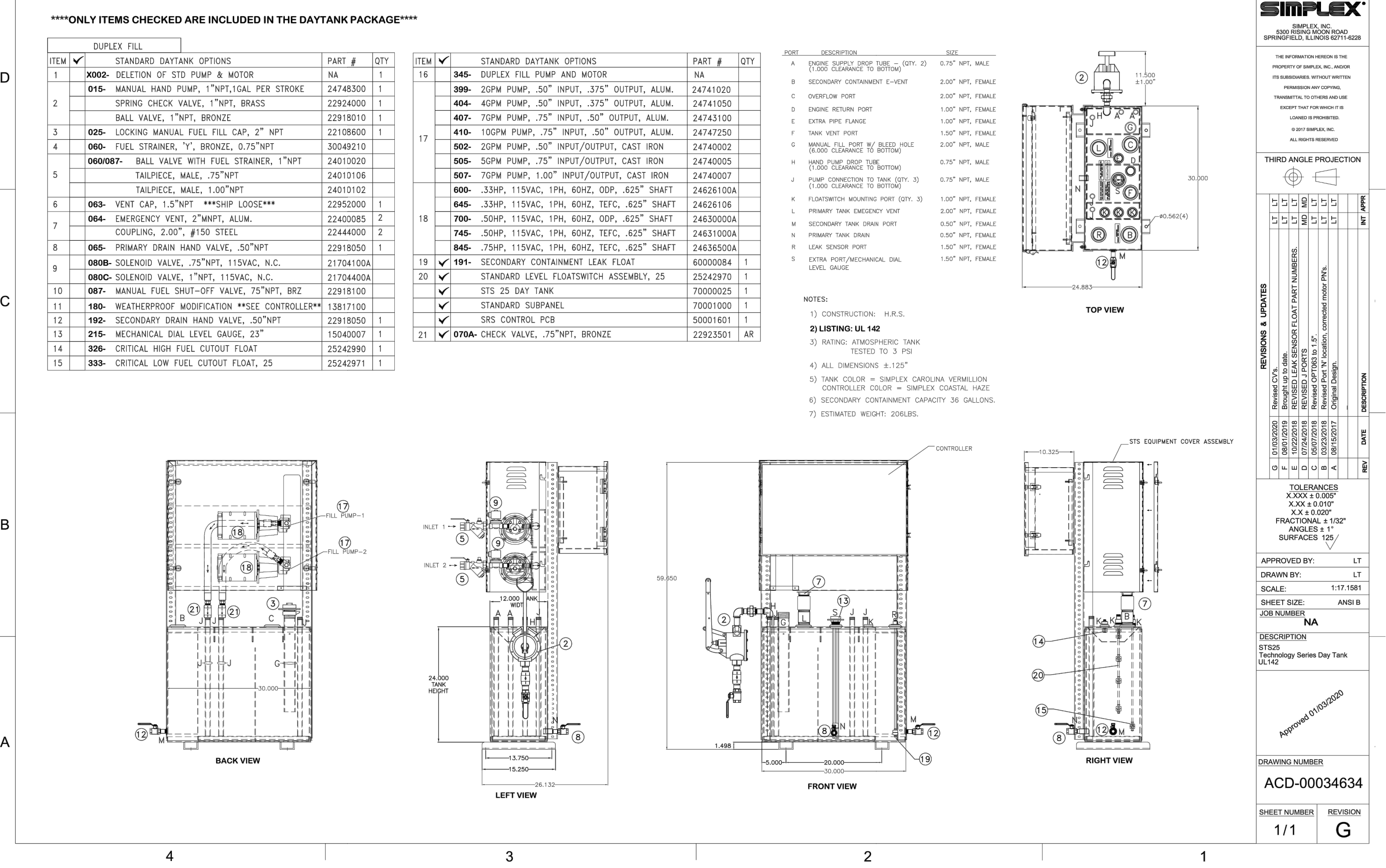
1 GENERATOR FUEL FILL STATION FS  
M600 SCALE: DETAIL

Fuel consumption Ratings	Standby kW (kVA)			Prime kW (kVA)				
	1/4	1/2	3/4	Full	1/4	1/2	3/4	Full
Load								
US gph	1.68	2.79	3.89	5.04	1.53	2.54	3.53	4.58
L/hr	6.36	10.56	14.72	19.08	5.79	9.61	13.36	17.34

3 GENERATOR FUEL CONSUMPTION  
M600 SCALE: DETAIL



4 DIESEL TANK (100 GAL.)  
M600 SCALE: DETAIL



5 DIESEL TANK (25 GAL.)  
M600 SCALE: DETAIL

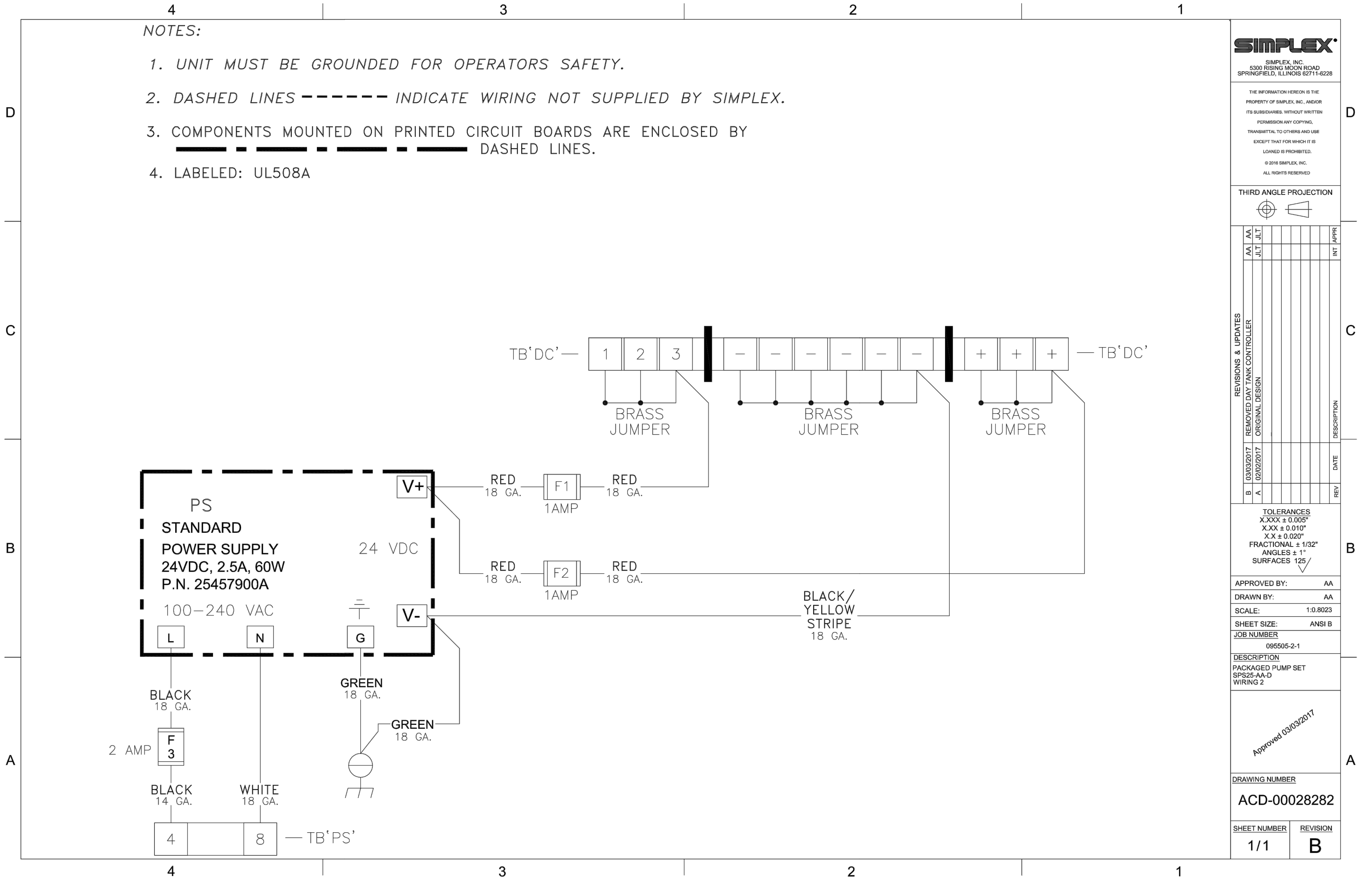
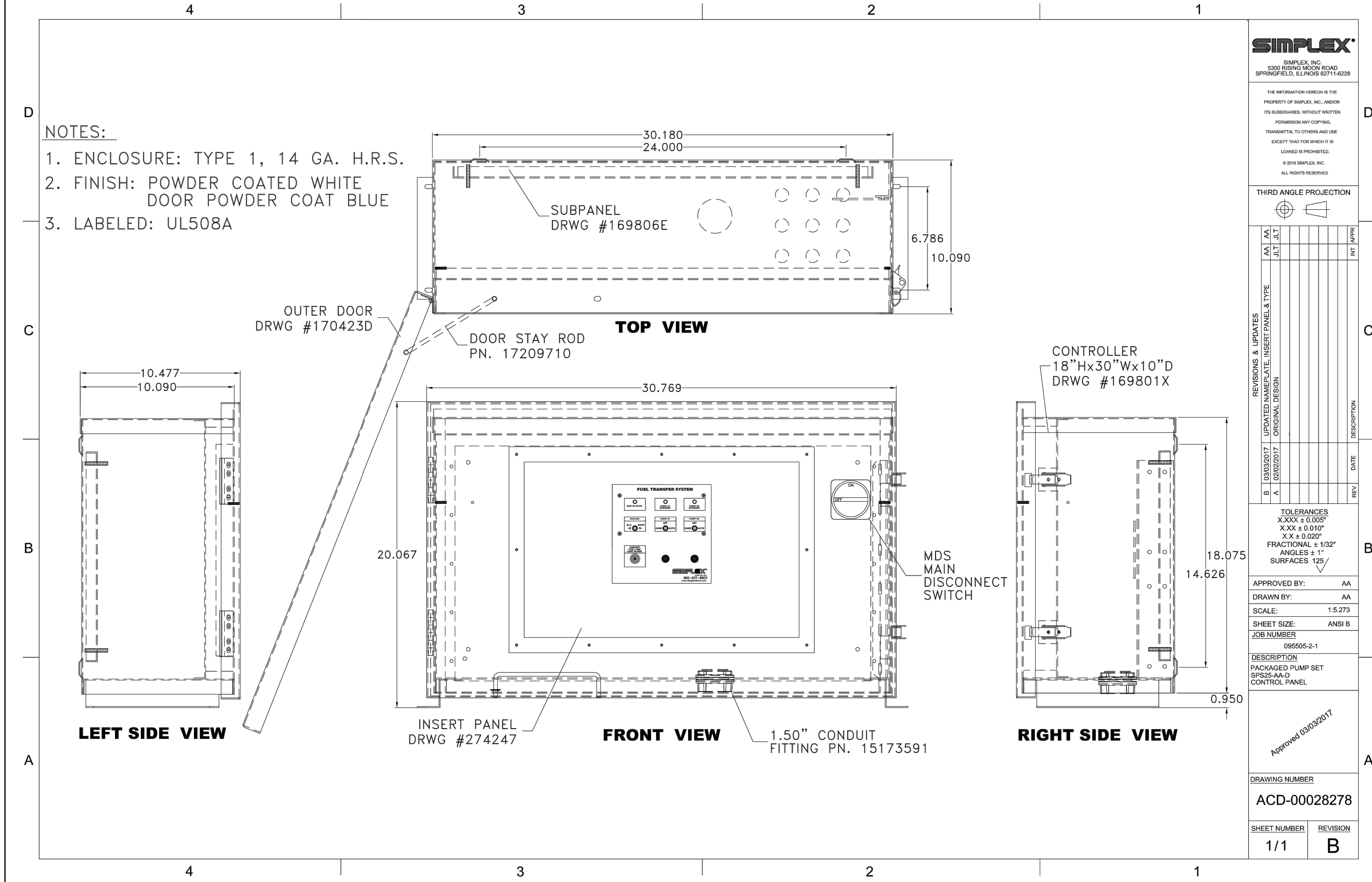
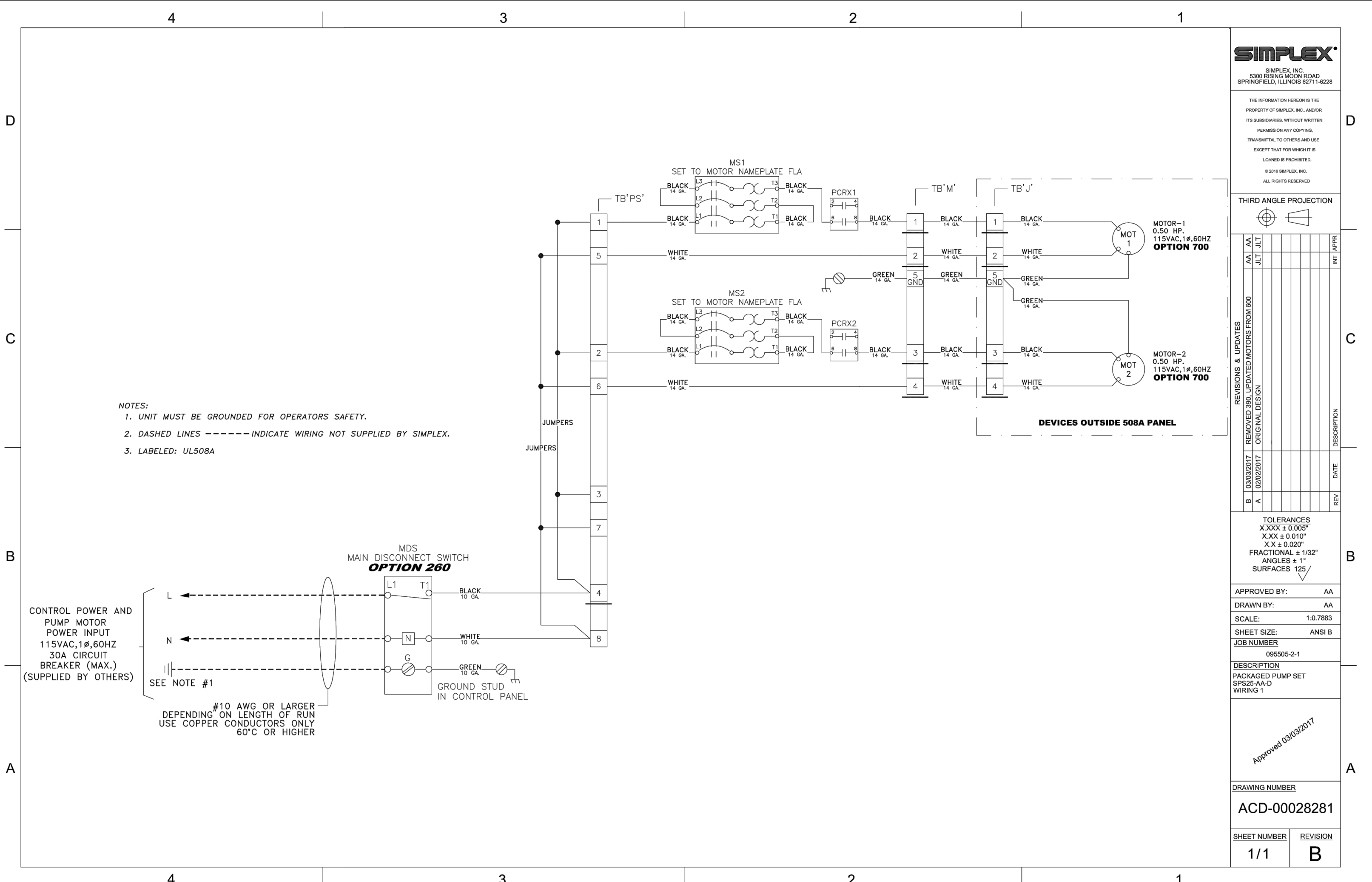
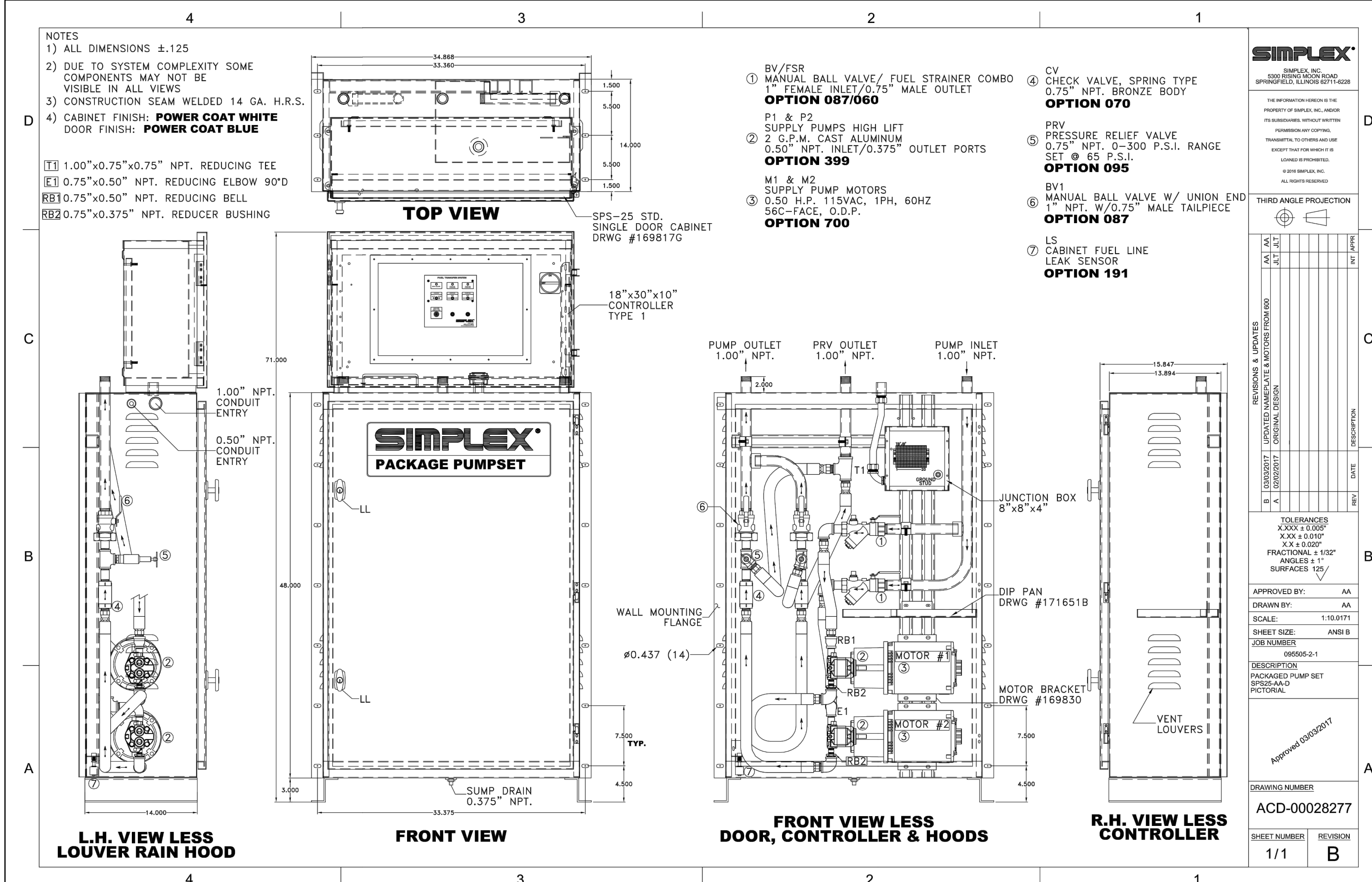
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**RESPECT PROFESSION**  
54,607  
MAY 11, 2009  
MARK DENTER  
[EXPIRES: 31DEC23]

REVISION NO.	DATE
5	PLANCHECK #6 05.19.22





1 DIESEL TANK PUMP  
M601 SCALE: DETAIL

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RESERVED PROFESSIONAL SEAL  
54,607  
M.E. DENKER  
EXPIRES: 31DEC23

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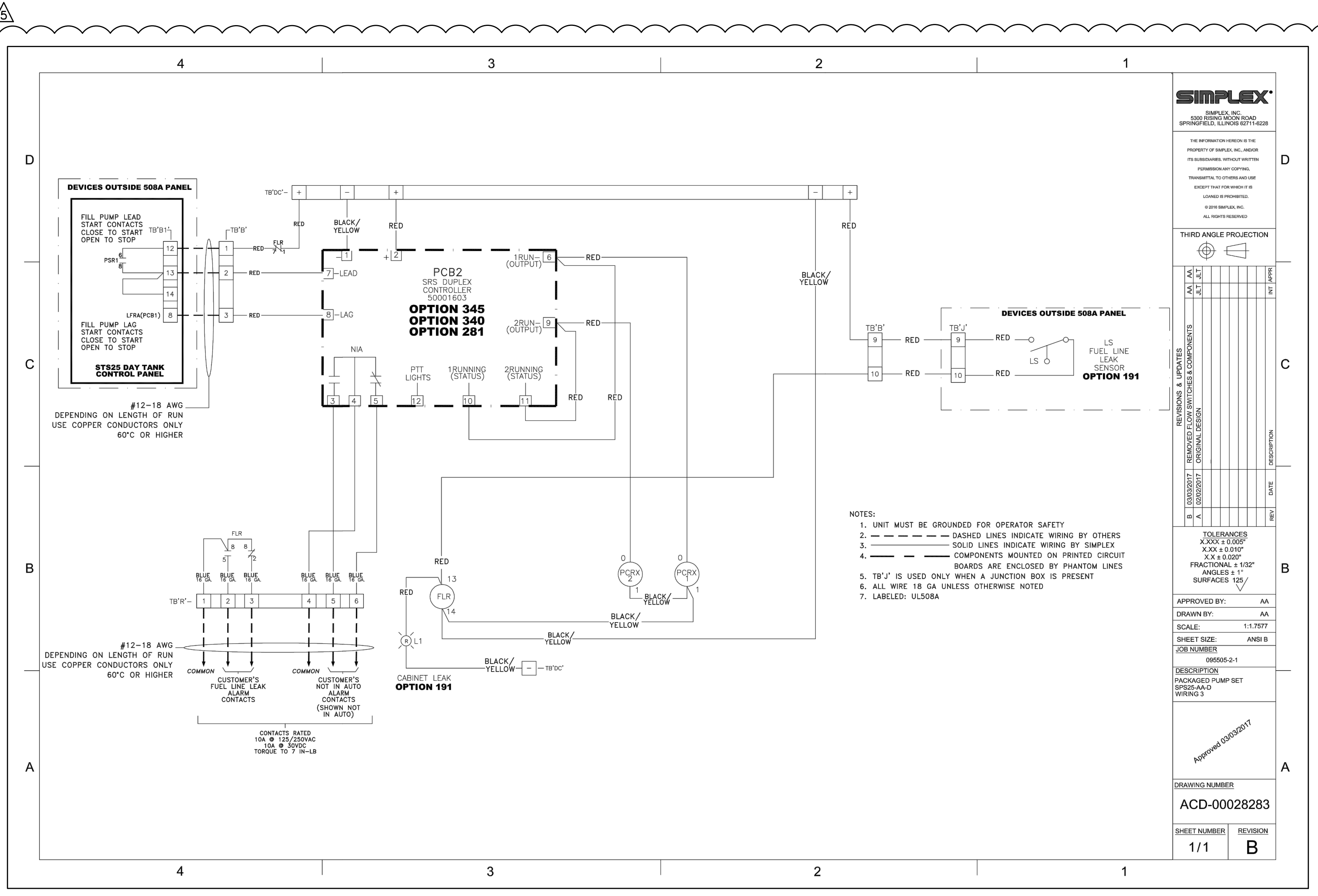
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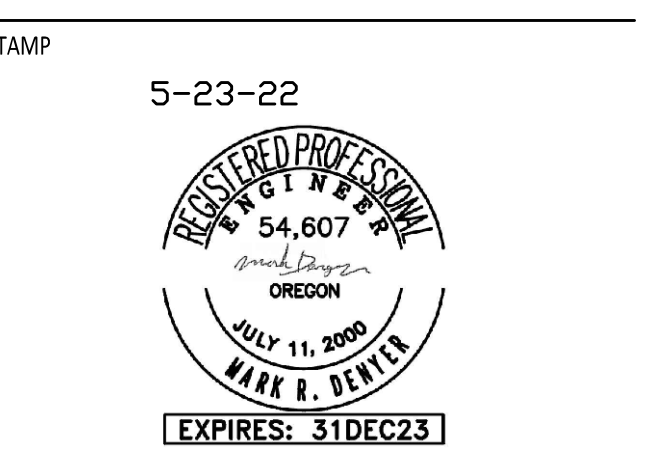
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DRAWING TITLE  
MECHANICAL DETAILS





**1** DIESEL TANK PUMP  
M602 SCALE: DETAIL



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**MECHANICAL DETAILS**