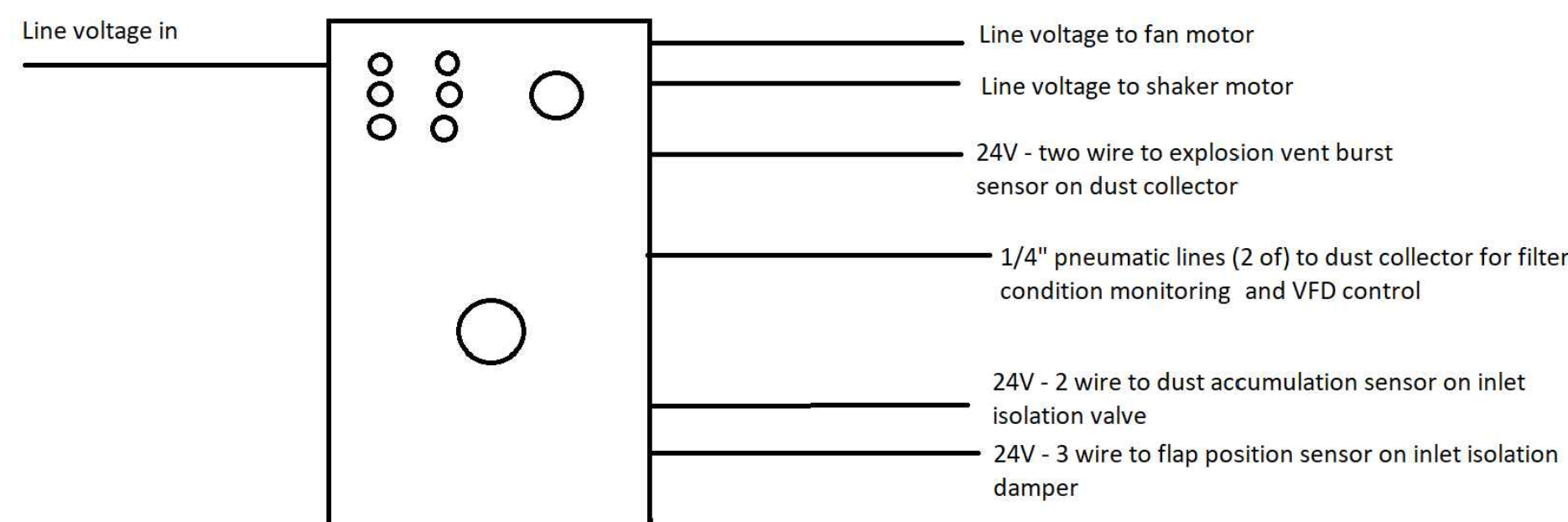


- NOTES:**
1. LOCATE BONDING LUGS SUCH THAT WORKER CONTACT IS MINIMIZED.
  2. ENTIRE SYSTEM SHALL BE BONDED ANY ISOLATED METALLIC MEMBER SHALL BE EQUIPPED WITH BONDING LUG AND ELECTRICALLY BONDED TO THE SYSTEM.
  3. CONNECT ONE BONDING LUG TO APPROVE BUILDING BONDING SOURCE WITH #6AWG CU.
  4. ALL CLAMPED JOINTS SHALL BE BONDED WITH TYPICAL BONDING LUGS AND #6AWG CU.

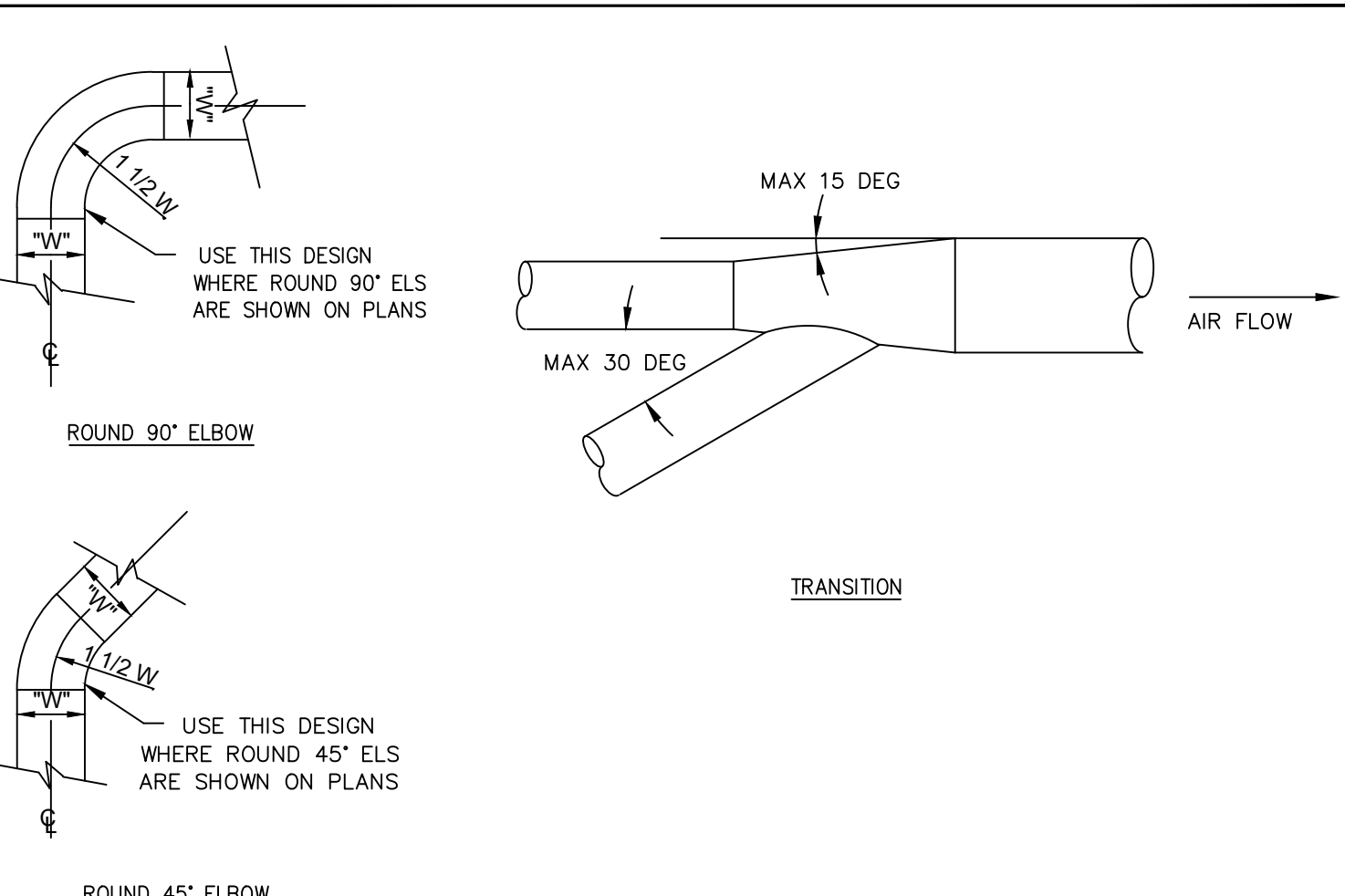
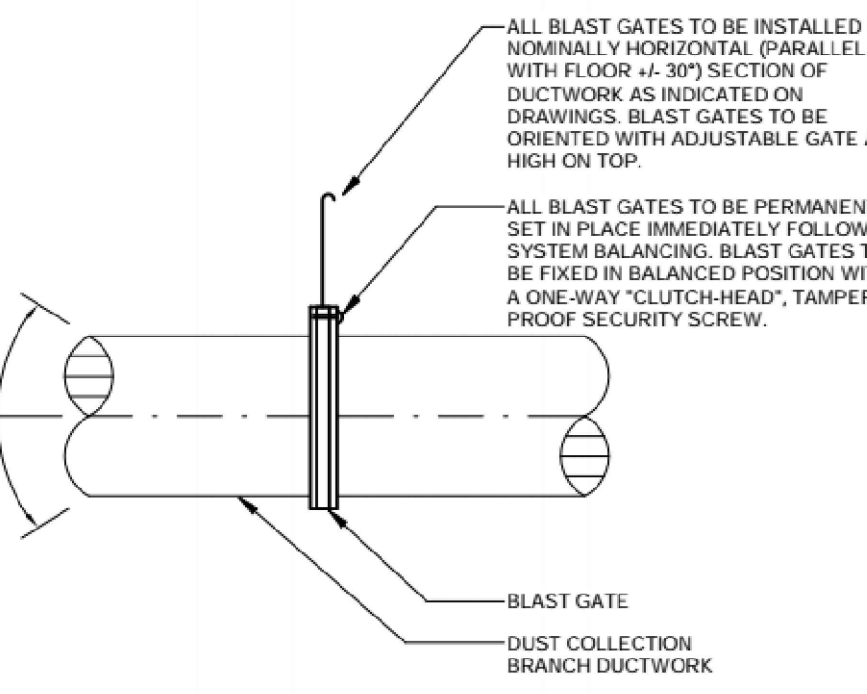
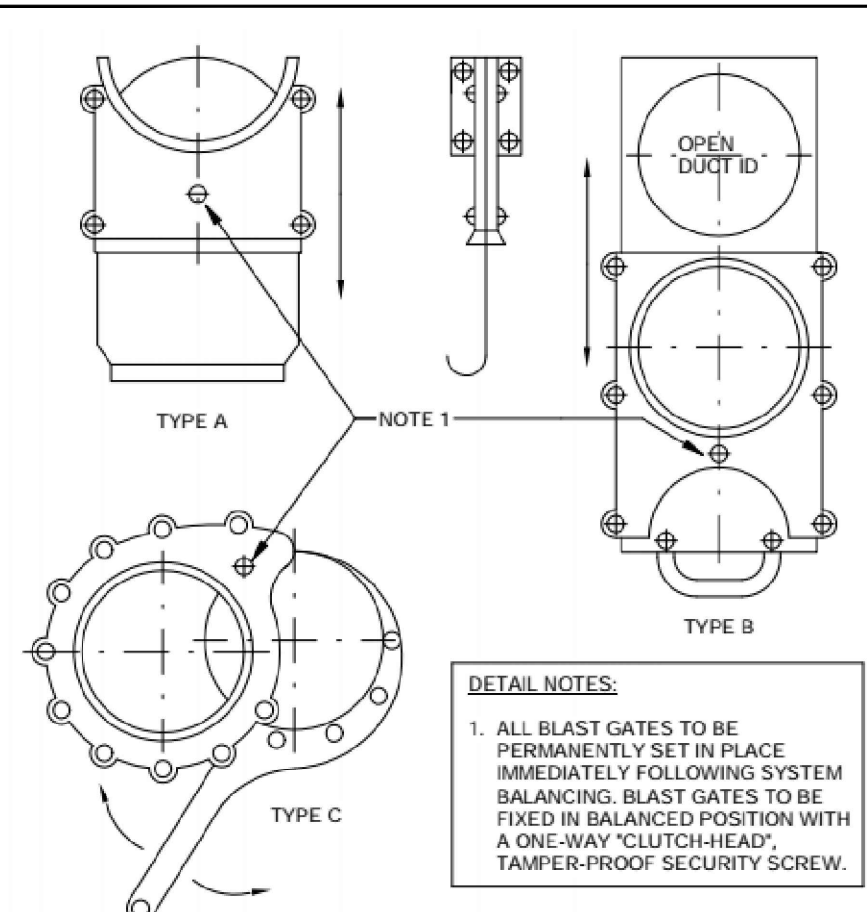
**7 TYPICAL BONDING DETAILS**  
SCALE: N.T.S.



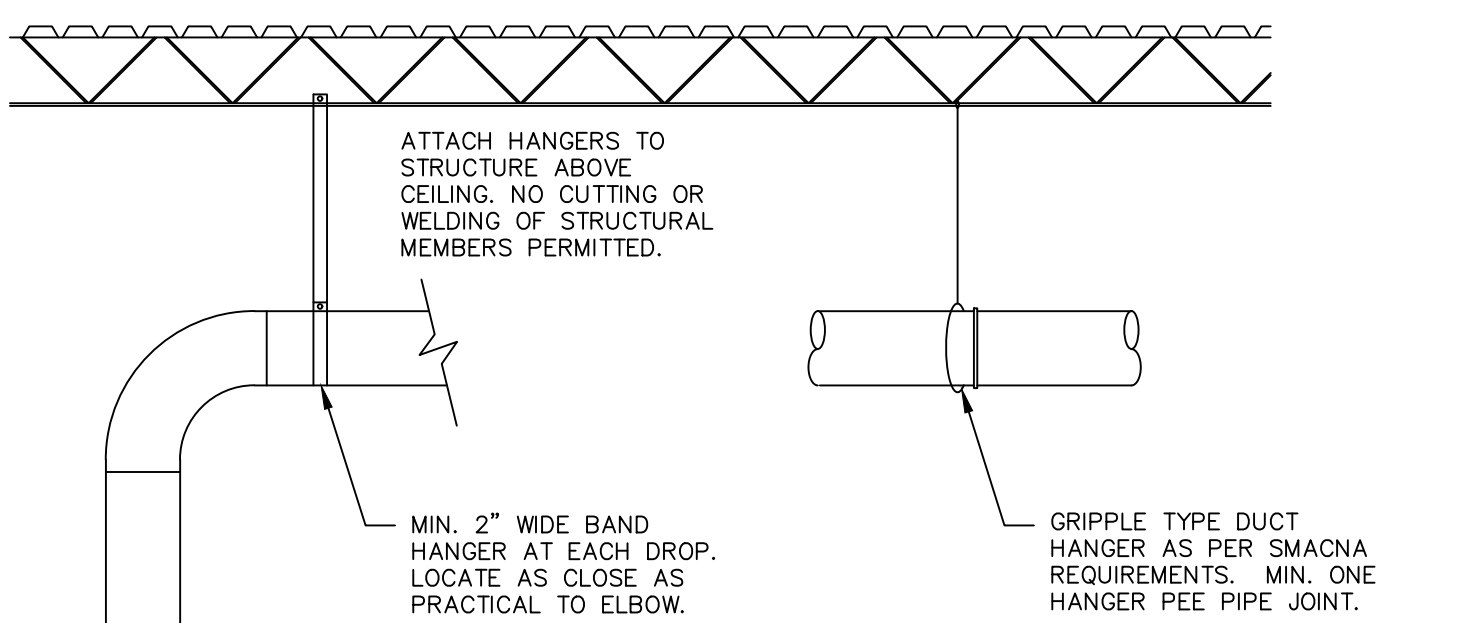
Face of panel has a disconnect switch, start button, stop button, and green 'running' light, filter condition gauge, alarm indication lights for the burst sensor, the two isolation damper sensors (single light)

Internally there are additional terminals for remote start/stop, e-stops, fan running indication

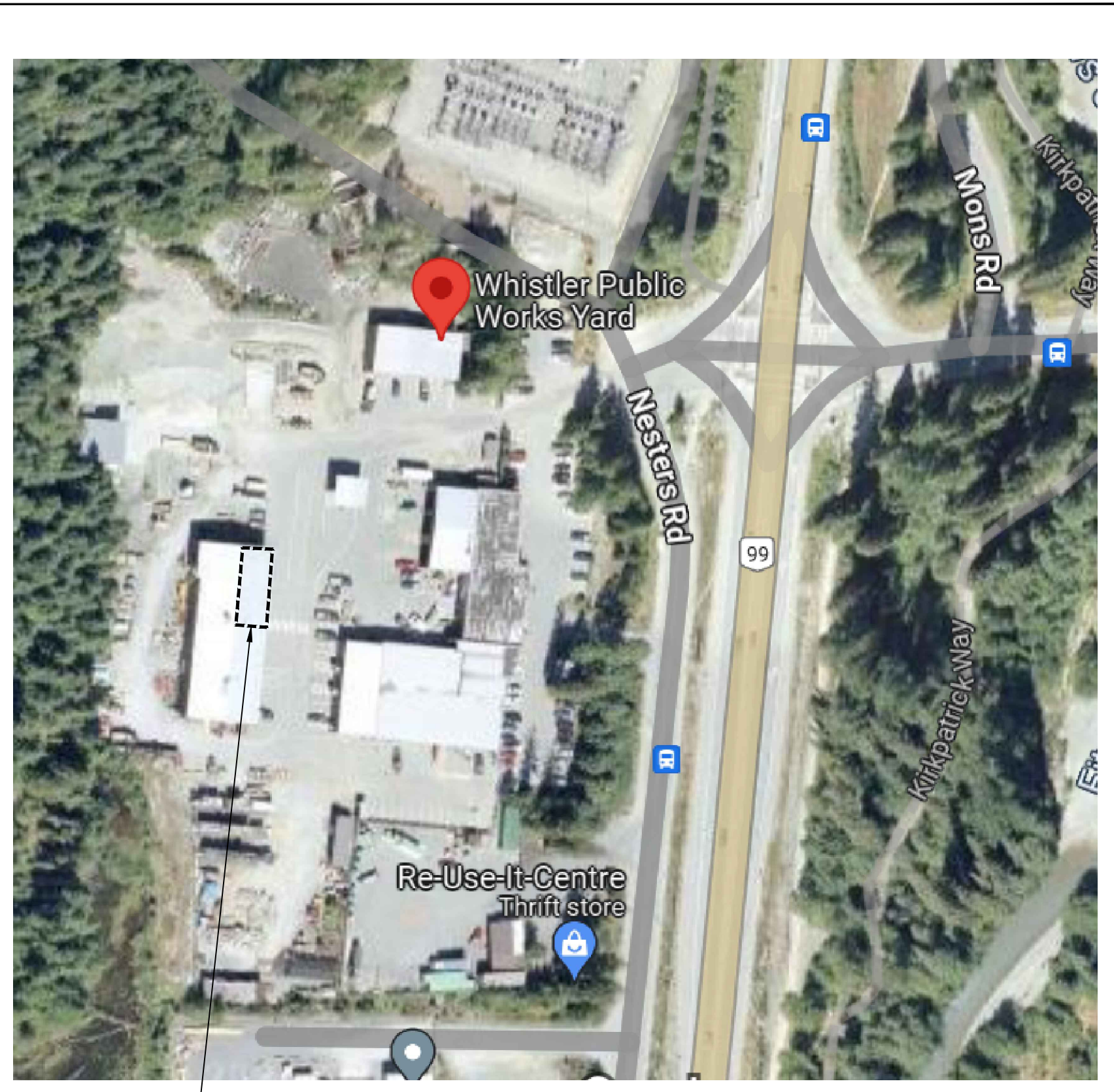
**8 DUST COLLECTOR SYSTEM WIRING DIAGRAM**  
SCALE: N.T.S.



**2 TYPICAL DUCTWORK DETAILS**  
SCALE: N.T.S.



**3 TYPICAL DUCT HANGER DETAILS**  
SCALE: N.T.S.



**1 SITE PLAN**  
SCALE: N.T.S.

**DUST COLLECTOR SCHEDULE**

UNIT NUMBER	DC-1	DC-2
Service	Carpentry	Parks & Trails
Location	Outdoors	Outdoors
Manufacturer	Donaldson	Donaldson
Model	UMA-250	UMA-150
Fan Model size / class	Series 20, 17DH	1708-ALM
Flow CFM (l/s)	2,350 (1100)	1,140 (538)
External Static Pressure "WG (kPa)	10" (2.5)	10" (2.5)
Fan rpm	3550	3550
Fan motor hp	10	7.5
Shaker motor hp	1/3	1/3
Volts/Phase/Hz	208/3/60	208/3/60
Minimum filter area sq. ft. (m²)	244 (22.7)	150 (13.9)
Maximum air to cloth ratio	10:0.1	8:23
External static capacity cu. ft. (m³)	7 (0.2)	7 (0.2)
Dimensions (W x L x H) in. (m)	45.1" x 30.1" x 133" (1.15 x 0.76 x 3.38)	30.1" x 30.1" x 133" (0.76 x 0.76 x 3.38)

Notes:  
Dimensions do not include appurtenances (shaker motor, vent deflector, or fan outlet silencer)

CIVIC ADDRESS  
8020 NESTERS RD, WHISTLER, BC V0N 1B8

**DRAWING LIST**

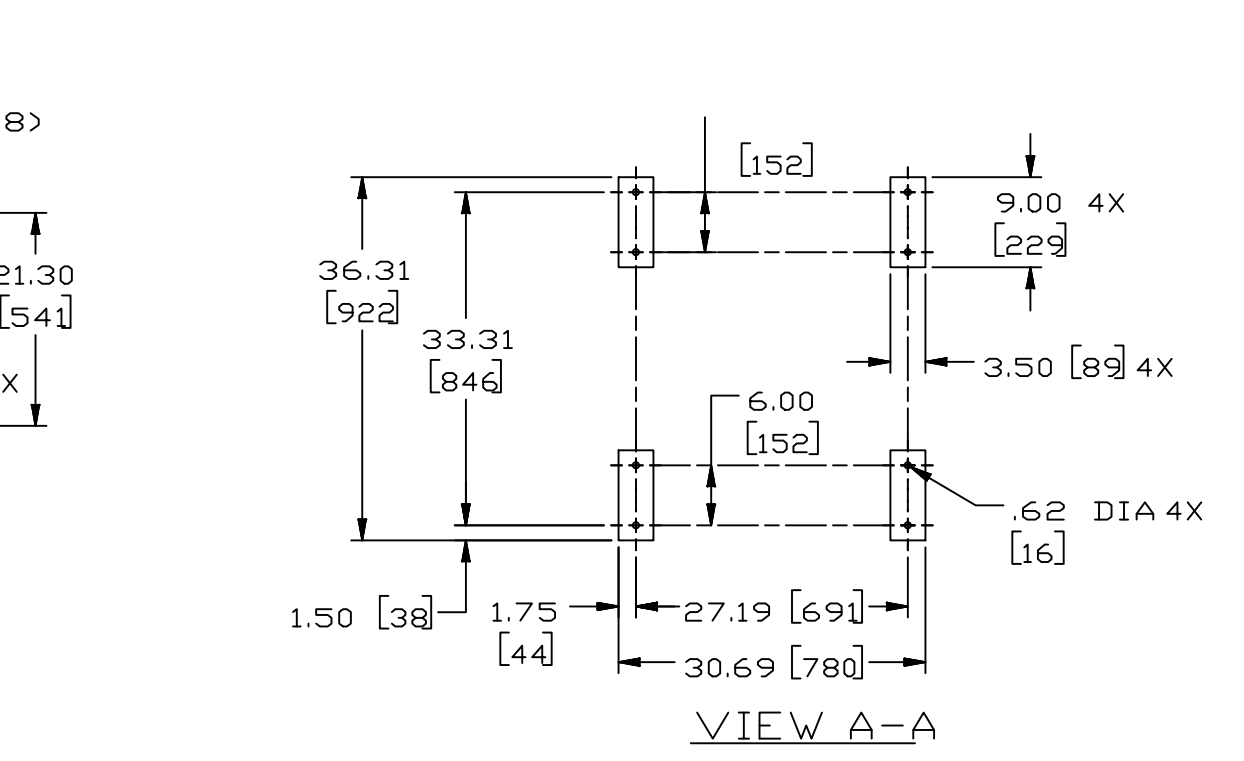
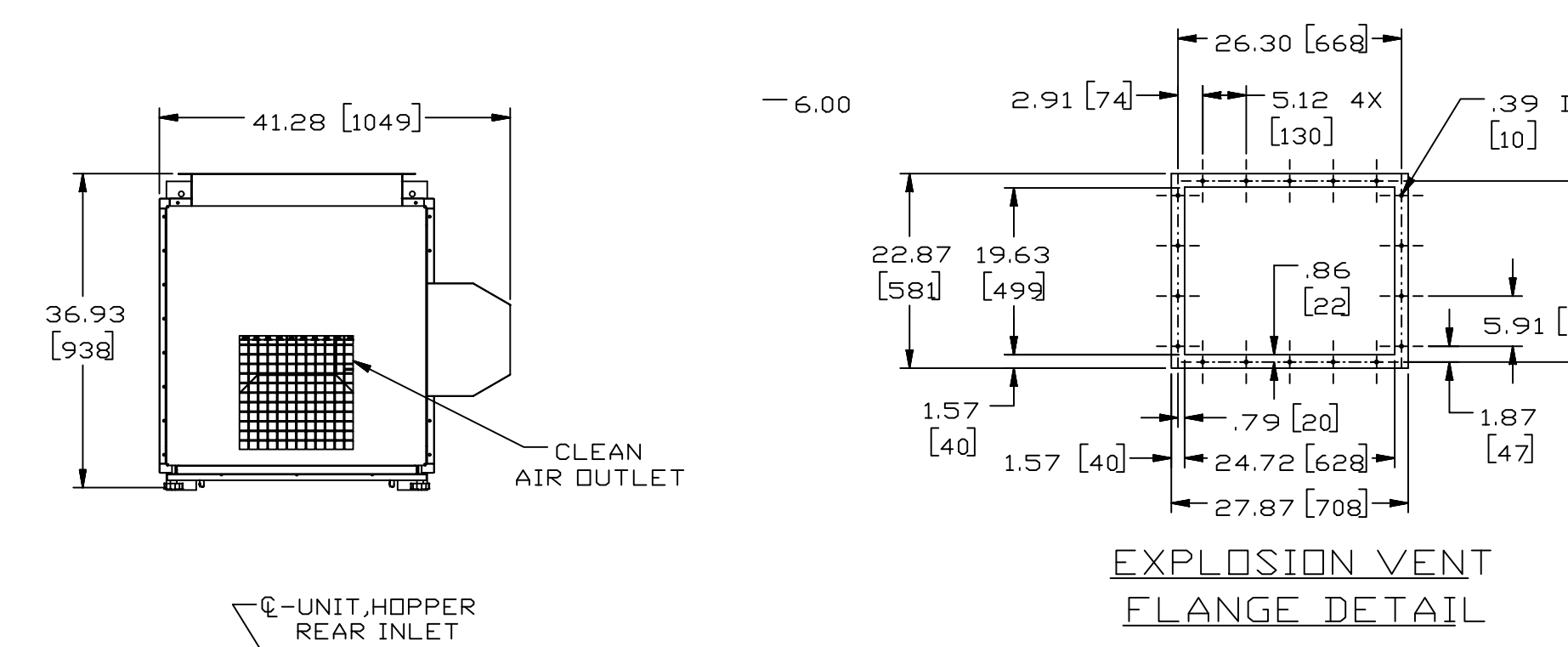
DWG #	DRAWING NAME	SCALE
M-1.0	NOTES, DETAILS & SYMBOLS	N.T.S.
M-2.0	DUST COLLECTION SYSTEM LAYOUT	1/4"=1'-0"
M-3.0	SPECIFICATIONS	N.T.S.

**MECHANICAL GENERAL NOTES**

1. THE MECHANICAL CONTRACTOR SHALL VISIT THE SITE, PRIOR TO SUBMITTING PRICE TO BECOME FAMILIAR WITH ALL EXISTING SITE CONDITIONS. NOTIFY ENGINEER ANY DISCREPANCY DURING TENDER PERIOD. FAILURE TO VISIT THE SITE WILL NOT ALLEVIATE THE CONTRACTOR FROM HIS/HER RESPONSIBILITY TO EXECUTE THE CONTRACT DOCUMENTS TO THEIR FULL INTENT.
2. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. INSTALL UNITS PLUMB AND LEVEL, FIRMLY ANCHORED IN LOCATIONS INDICATED, AND MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES.
3. ALL MATERIAL SHALL BE SUBMITTED TO THE ENGINEER VERIFYING IT IS ADEQUATE FOR INSTALLATION PER THE SPECIFICATIONS AND DRAWING. VERIFY DIMENSIONS AND CLEARANCES AT BUILDING BEFORE COMMENCING WORK.
4. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE ACTUAL LOCATION OF STRUCTURAL MEMBERS AND COORDINATE INSTALLATION OF THE EQUIPMENTS ACCORDINGLY.
5. THE CONTRACTOR SHALL FULFILL ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS AND SHALL COMPLETE THE IMPROVEMENTS SHOWN ON THE DRAWINGS. ALL SYSTEMS SHALL BE FINISHED, TESTED, AND BALANCED, ADJUSTED, AND PROVEN FULLY OPERATIONAL AND USEABLE.
6. EXCEPT WHERE SPECIFICALLY SHOWN OR SPECIFIED OTHERWISE, EXISTING WORK IS TO REMAIN.
7. CONTRACTOR SHALL COORDINATE VOLTAGE AND PHASE OF EACH PIECE OF EQUIPMENT WITH THE ELECTRICAL CONTRACTOR PRIOR TO ORDERING.
8. THE SCOPE OF WORK SHALL INCLUDE PROVIDING ALL WORK REQUIRED, AND COORDINATION WITH ALL TRADES. SCOPE OF WORK IS INDICATED ON THE CONTRACT DOCUMENTS INCLUDING THE DRAWINGS AND THE SPECIFICATIONS, WHICH ARE COMPLEMENTARY WORK INDICATED IN ANY CONTRACT DOCUMENT SHALL BE CONSIDERED PART OF THE SCOPE OF WORK. IN GENERAL, WORK REQUIREMENTS ARE NOT INDICATED IN BOTH DOCUMENTS. WHERE DOCUMENTS CONFLICT WITH THEMSELVES OR WITH CODES AND REGULATIONS, PROVIDE THE HIGHER QUANTITY AND QUALITY AND FOLLOW THE STRICTER REQUIREMENTS.

**SYMBOL SCHEDULE**

	SUPPLY OR OUTDOOR AIR DUCT UP
	SUPPLY OR OUTDOOR AIR DUCT DOWN
	RETURN AIR DUCT UP
	RETURN AIR DUCT DOWN
	EXHAUST AIR DUCT UP
	EXHAUST AIR DUCT DOWN
	DUCT OR PIPE CAP-OFF
	ACCESS DOOR
	GRILLE TYPE
	AIR VOLUME (cft)
	EQUIPMENT / FIXTURE TYPE
	DRAWING NOTE
	DETAIL NUMBER
	DRAWING NUMBER
	SECTION NUMBER
	DRAWING NUMBER



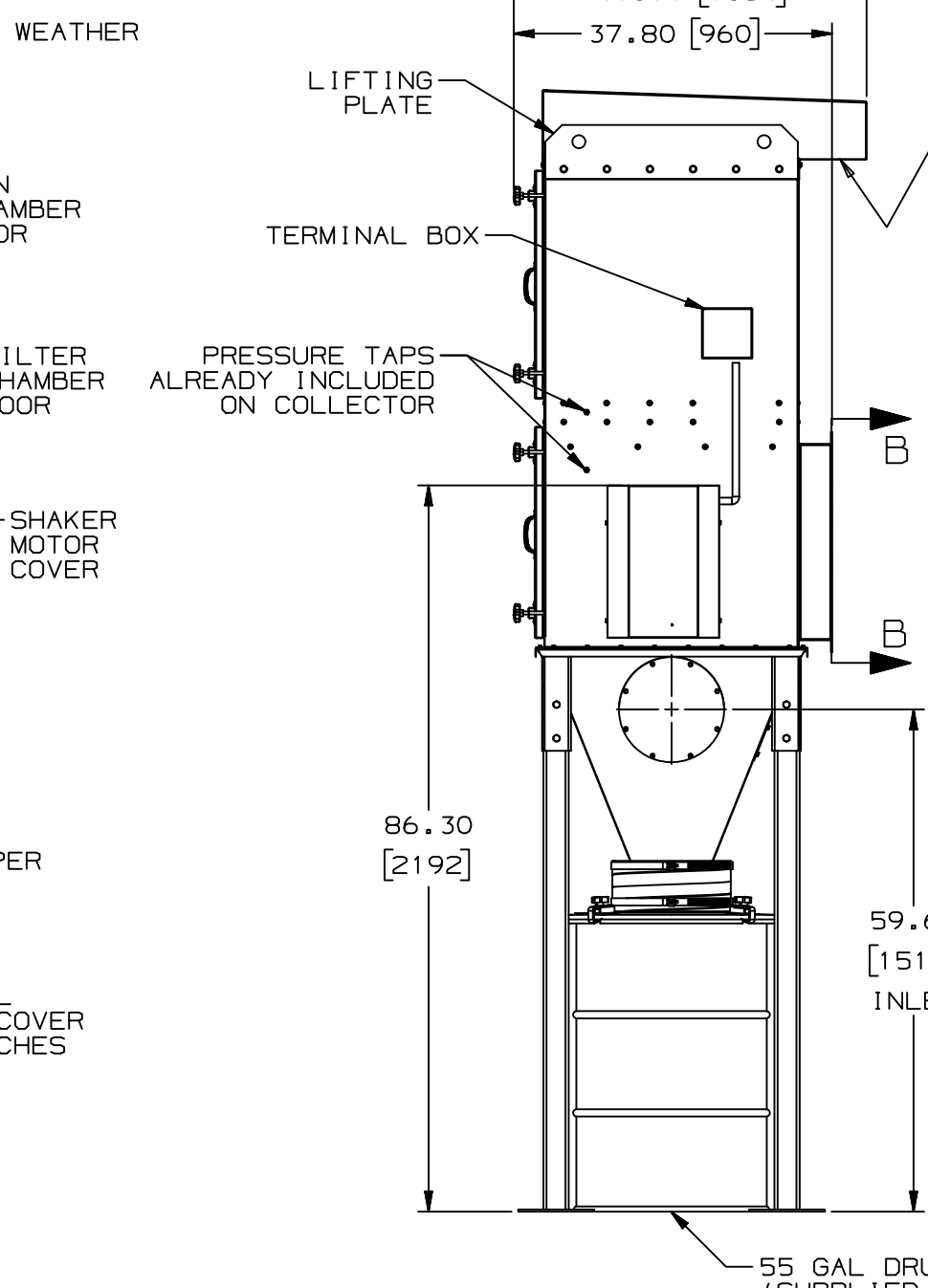
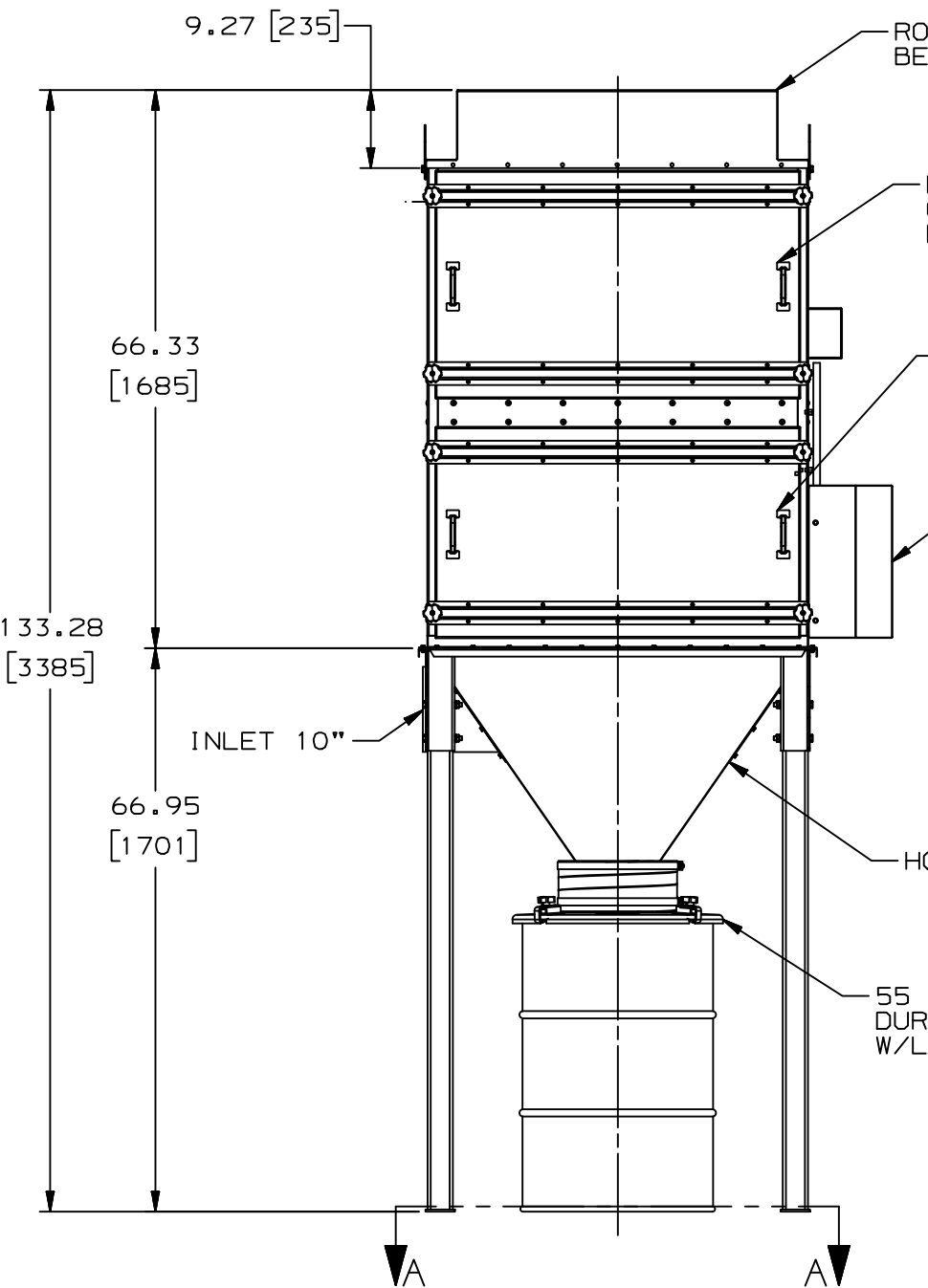
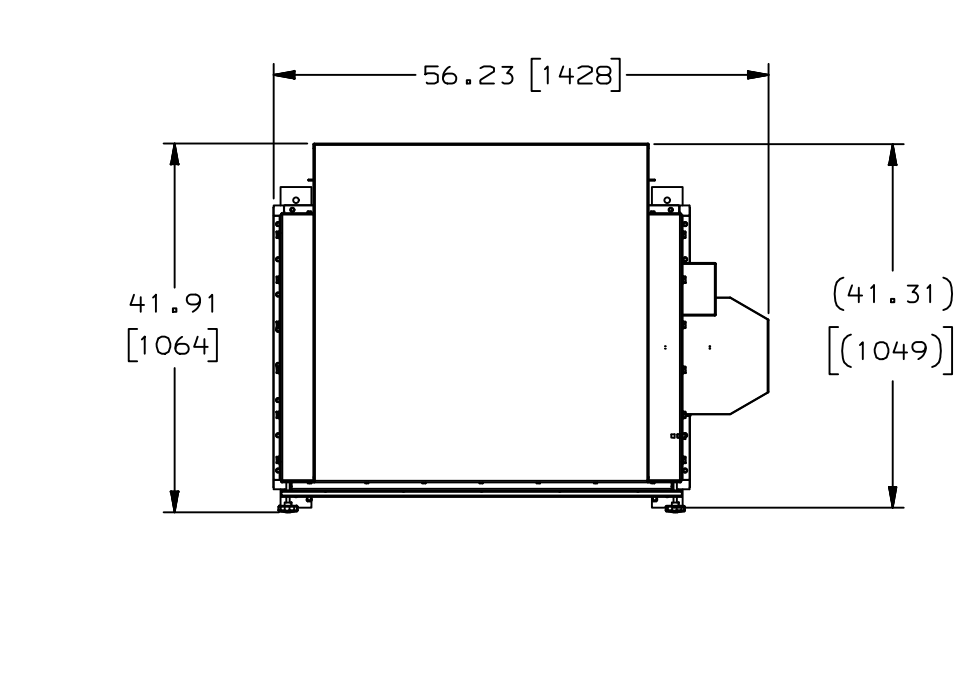
ANCHOR BOLTS BY OTHERS. FINAL SELECTION WILL DEPEND ON JOBSITE LOAD CONDITIONS, FOUNDATION DESIGN/LOCAL CODES, ETC. CONSULT PRODUCT IOM FOR GENERAL INSTALLATION INFORMATION.

**SPECIFICATIONS FOR MODEL UMA 150**

NO. OF FILTER BAGS	1
ACTUAL FILTER AREA	150 SQ FT [13.9 sq m]
COMPRESSED AIR REQUIRED	NONE
WIND LOAD RATING	90 MPH [145 km/h] (EXPOSURE C)
HOUSING RATING	-16" WG [-406 mmHg]
MAX. CONSIDERED EARTHQUAKE GROUND MOTION	1.5 g (0.2 s SPECTRAL RESPONSE)
ACCL. WITH 5% CRITICAL DAMPING & SITE CLASS B	
S <sub>1</sub>	0.4 g (0.2 s SPECTRAL RESPONSE)
ACCL. WITH 5% CRITICAL DAMPING & SITE CLASS B	
IMPORTANCE FACTOR, I	1
GROUND SHW LOAD, P <sub>s</sub>	40 PSF [195 kg/sq m]
STANDARD FINISH	BLUE (OPTIONAL COLORS AVAILABLE)
APPROXIMATE WEIGHT	910 LBS [413 kg]

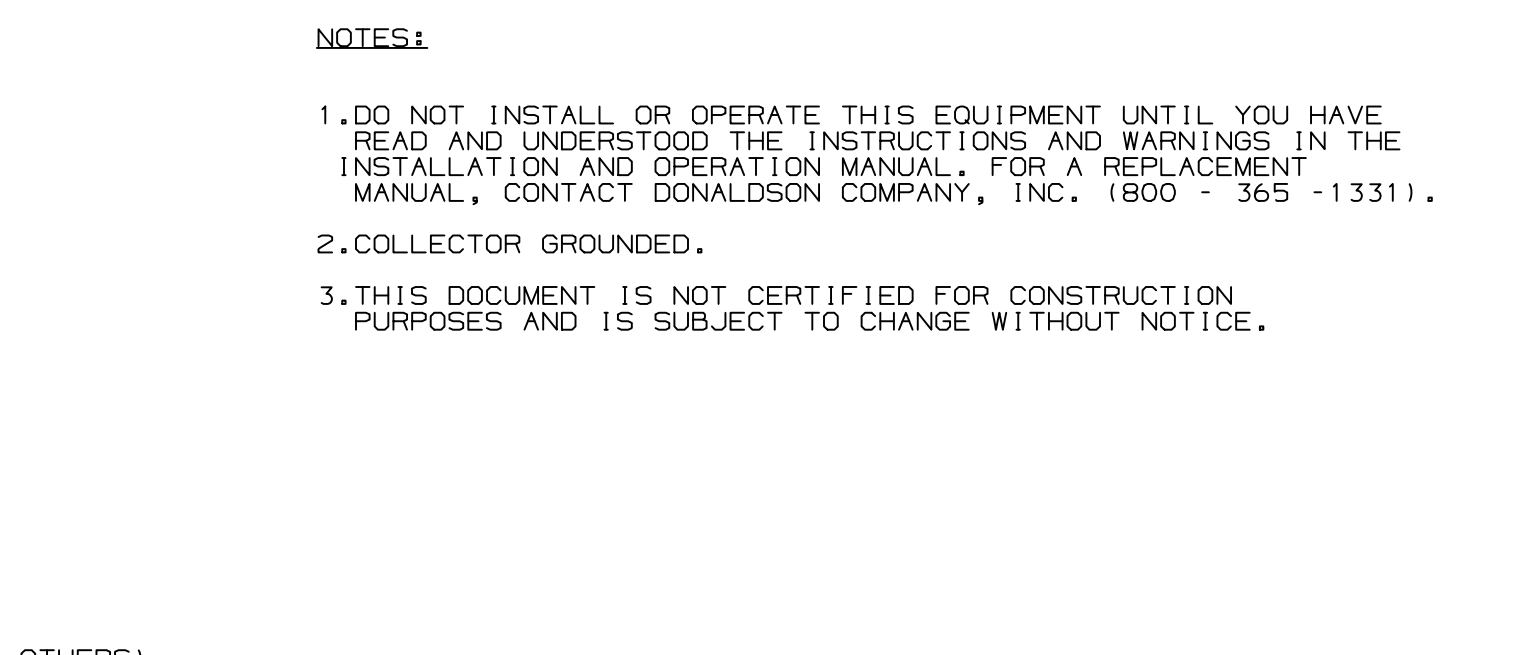
DO NOT INSTALL OR OPERATE THIS EQUIPMENT UNTIL YOU HAVE READ AND UNDERSTOOD THE INSTRUCTIONS AND WARNINGS IN THE INSTALLATION AND OPERATION MANUAL. FOR A REPLACEMENT MANUAL, CONTACT DONALDSON COMPANY, INC. (800-365-1331).

THIS DOCUMENT IS NOT CERTIFIED FOR CONSTRUCTION PURPOSES AND IS SUBJECT TO CHANGE WITHOUT NOTICE.



**SPECIFICATIONS FOR MODEL UMA 250**

NO. OF FILTER BAGS	1	WOVEN POLYESTER BAG
ACTUAL FILTER AREA	240 SQ FT [22.7 sq m]	
COMPRESSED AIR REQUIRED	NONE	
POWER SUPPLY	208/3/60/3	
CONTROL	110/60/3	
SHAKER MOTOR	1/3 HP / 460/60/3	
WIND LOAD RATING	90 MPH [145 km/h] (EXPOSURE C)	
HOUSING RATING	-16" WG [-406 mmHg]	
MAX. CONSIDERED EARTHQUAKE GROUND MOTION	1.5 g (0.2 s SPECTRAL RESPONSE)	
ACCL. WITH 5% CRITICAL DAMPING & SITE CLASS B		
S <sub>1</sub>	0.4 g (0.2 s SPECTRAL RESPONSE)	
ACCL. WITH 5% CRITICAL DAMPING & SITE CLASS B		
IMPORTANCE FACTOR, I	1	
GROUND SHW LOAD, P <sub>s</sub>	0 PSF [0 kg/sq m]	
STANDARD COLOR	BLUE	
APPROXIMATE WEIGHT	1,275 LBS (578 kg)	



**NOTES:**

1. DO NOT INSTALL OR OPERATE THIS EQUIPMENT UNTIL YOU HAVE READ AND UNDERSTOOD THE INSTRUCTIONS AND WARNINGS IN THE INSTALLATION AND OPERATION MANUAL. FOR A REPLACEMENT MANUAL, CONTACT DONALDSON COMPANY, INC. (800-365-1331).
2. COLLECTOR GROUNDED.
3. THIS DOCUMENT IS NOT CERTIFIED FOR CONSTRUCTION PURPOSES AND IS SUBJECT TO CHANGE WITHOUT NOTICE.

**10 DUST COLLECTOR, DC-2 DETAIL**  
SCALE: N.T.S.

**9 DUST COLLECTOR, DC-1 DETAIL**  
SCALE: N.T.S.

**HENA CONSULTING INC**  
MECHANICAL ENGINEERING  
T: 1.778.970.1772  
E: Info@HenaConsulting.ca  
Permit to Practice # 1001609  
Project#: HC23B0059

**WHISTLER PUBLIC WORKS YARD  
DUST COLLECTOR**

8020 Nesters Road  
Whistler BC

Drawn By: CAV  
Checked By: TM  
Date: 2024-02-20  
Scale:  
Drawing:

NOTES, DETAILS & SYMBOL  
EQUIPMENT SCHEDULES

Project:  
WHISTLER PUBLIC WORKS YARD  
DUST COLLECTOR

8020 Nesters Road  
Whistler BC

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WHISTLER PUBLIC WORKS YARD  
DUST COLLECTOR

8020 Nesters Road  
Whistler BC

M1.0



**GENERAL NOTES:**

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**HENA CONSULTING INC**

MECHANICAL ENGINEERING

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Permit to Practice # 1001609

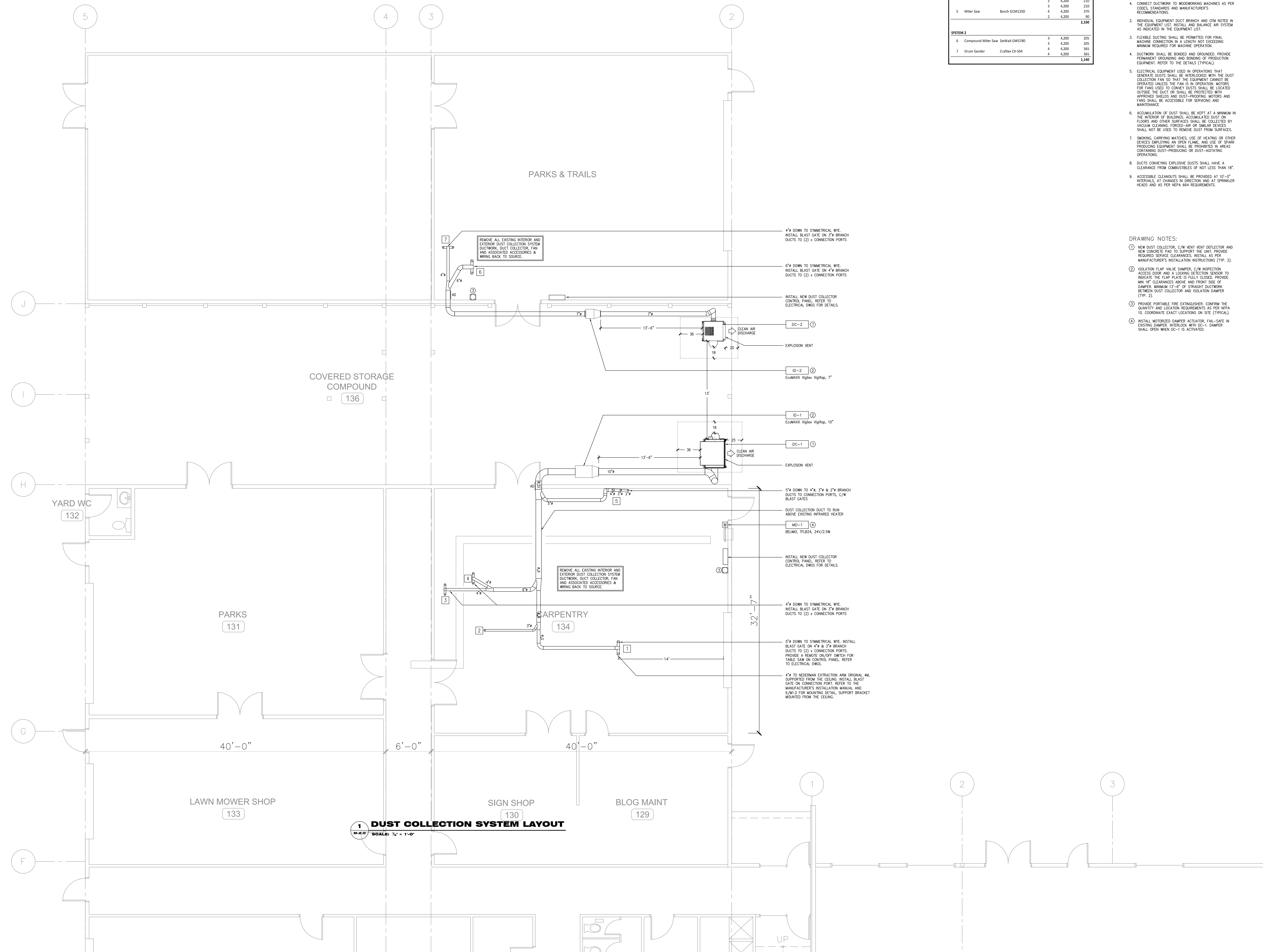
Project#: HC23BC059

**WOODWORKING EQUIPMENT LISTS:**

Item #	Equipment Name	Manufacturer	Dust Size or Dust Port (in)	Dust Velocity (FPM)	FINAL CFM
<b>SYSTEM 1</b>					
1	Table Saw	General 650	4	4,500	400
2	Band Saw	General	3	4,200	210
3	Belt Sander	Advance T80-60	3	4,200	210
4	Wood Planer/Jointer	Hitachi F-1000A	3	4,200	210
5	Miter Saw	Bosch GCM125D	4	4,200	370
			2	4,200	90
					<b>1,380</b>
<b>SYSTEM 2</b>					
6	Compound Miter Saw	DeWalt DW5780	3	4,200	205
7	Drum Sander	Craftex CX-104	4	4,200	365
			4	4,200	365
			4	4,200	365
					<b>1,140</b>

- GENERAL NOTES:**
- FINAL LOCATION OF DUCTWORK MAY VARY SLIGHTLY FROM DRAWINGS. MAKE ADJUSTMENTS TO DUCTWORK TO ACCOMMODATE EXISTING CONDITIONS AT NO EXTRA COST.
  - ALL DUCTS ASSOCIATED WITH DUST COLLECTION SYSTEM MUST BE COMPLETED WITH SMANNA CLASS 3 DUCTWORK, 16 GA FLANGED OR CONTINUOUSLY WELDED.
  - NONCONDUCTIVE DUCTS SUCH AS PVC PIPES SHALL NOT BE PERMITTED. BRANCHES SHALL CONNECT TO MAIN DUCTS AT AN ANGLE NOT EXCEEDING 45 DEGREE.
  - DUCTWORK TO BE CONNECTED WITH EXTERNAL MECHANICAL CLAMPS, NO RIVETS OR SCREWS SHALL BE ALLOWED.
  - CONNECT DUCTWORK TO WOODWORKING MACHINES AS PER CODES, STANDARDS AND MANUFACTURER'S RECOMMENDATIONS.
  - INDIVIDUAL EQUIPMENT DUCT BRANCH AND CFM NOTED IN THE EQUIPMENT LIST. INSTALL AND BALANCE AIR SYSTEM AS INDICATED IN THE EQUIPMENT LIST.
  - FLEXIBLE DUCTING SHALL BE PERMITTED FOR FINAL MACHINE CONNECTION IN A LENGTH NOT EXCEEDING MINIMUM REQUIRED FOR MACHINE OPERATION.
  - DUCTWORK SHALL BE BONDED AND GROUNDED. PROVIDE PERMANENT GROUNDING AND BONDING OF PRODUCTION EQUIPMENT. REFER TO THE DETAILS (TYPICAL).
  - ELECTRICAL EQUIPMENT USED IN OPERATIONS THAT GENERATE DUSTS SHALL BE INTERLOCKED WITH THE DUST COLLECTION FAN SO THAT THE EQUIPMENT CANNOT BE OPERATED UNLESS THE FAN IS IN OPERATION. MOTORS FOR FANS USED TO CONVEY DUSTS SHALL BE LOCATED OUTSIDE THE DUCT OR SHALL BE PROTECTED WITH APPROVED SHIELDS AND DUST-PROOFING. MOTORS AND FANS SHALL BE ACCESSIBLE FOR SERVICING AND MAINTENANCE.
  - ACCUMULATION OF DUST SHALL BE KEPT AT A MINIMUM IN THE INTERIOR OF BUILDINGS. ACCUMULATED DUST ON FLOORS AND OTHER SURFACES SHALL BE COLLECTED BY VACUUM CLEANING, FORCED-AIR OR SIMILAR DEVICES SHALL NOT BE USED TO REMOVE DUST FROM SURFACES.
  - SMOKING, CARRYING MATCHES, USE OF HEATING OR OTHER DEVICES EMPLOYING AN OPEN FLAME, AND USE OF SPARK PRODUCING EQUIPMENT SHALL BE PROHIBITED IN AREAS CONTAINING DUST-PRODUCING OR DUST-AGITATING OPERATIONS.
  - DUCTS CONVEYING EXPLOSIVE DUSTS SHALL HAVE A CLEARANCE FROM COMBUSTIBLES OF NOT LESS THAN 18" INTERVALS, AT CHANGES IN DIRECTION AND AT SPRINKLER HEADS AND AS PER NFPA 664 REQUIREMENTS.

- DRAWING NOTES:**
- NEW DUST COLLECTOR, C/W VENT DEFLECTOR AND NEW CONCRETE PAD TO SUPPORT THE UNIT. PROVIDE REQUIRED SERVICE CLEARANCES. INSTALL AS PER MANUFACTURER'S INSTALLATION INSTRUCTIONS (TYP. 2).
  - ISOLATION FLAP VALVE DAMPER, C/W INSPECTION ACCESS DOOR AND A LOCKING DETECTION SENSOR TO INDICATE THE FLAP PLATE IS FULLY CLOSED. PROVIDE MIN 18" CLEARANCES ABOVE AND FRONT SIDE OF DAMPER. MINIMUM 15'-6" OF STRAIGHT DUCTWORK BETWEEN DUST COLLECTOR AND ISOLATION DAMPER (TYP. 2).
  - PROVIDE PORTABLE FIRE EXTINGUISHER. CONFIRM THE QUANTITY AND LOCATION REQUIREMENTS AS PER NFPA 10. COORDINATE EXACT LOCATIONS ON SITE (TYPICAL).
  - INSTALL MOTORIZED DAMPER ACTUATOR, FAIL-SAFE IN EXISTING DAMPER. INTERLOCK WITH DC-1. DAMPER SHALL OPEN WHEN DC-1 IS ACTIVATED.



**1 DUST COLLECTION SYSTEM LAYOUT**  
SCALE: 1/4" = 1'-0"

Issue	Description	Date
3	ISSUED FOR TENDER	2024-02-20
2	ISSUED FOR COORDINATION R1	2024-01-22
1	ISSUED FOR COORDINATION	2024-01-05

Engineer's seal:

Project:  
**WHISTLER PUBLIC WORKS YARD DUST COLLECTOR REPLACEMENT**  
8020 Nesters Road  
Whistler BC

Drawing Title:  
**DUST COLLECTION SYSTEM LAYOUT**

Drawn By: CAV Checked By: TM  
Date: 2024-02-20  
Scale:  
Drawing:  
**M2.0**

