



NOTES:
1. ALL BOLD ITEMS INDICATE WORK TO BE DONE AND ALL LIGHT ITEMS INDICATE EXISTING CONDITIONS.
2. ALL DIMENSIONS ARE SHOWN IN MILLIMETRES UNLESS OTHERWISE INDICATED.

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0	ISSUED FOR TENDER	2020/11/26
Revision	Description	Date
Client		client

PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

Project title: **LETHBRIDGE, AB AAFC LeRDC**
FEED MILL (116) BUILDING UPGRADES

Designed by: **D.S.B., P.P.G.** / Conçu par
Drawn by: **J.B.F.** / Dessiné par
Approved by: **D.S.B., P.P.G.** / Approuvé par
PWSSC Project Manager: **GREG SPENCE** / Administrateur de Projets TPSGC
Drawing title: / Titre du dessin

MECHANICAL LEGEND

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.097511.001	M0.1 OF XX	0

GENERAL EQUIPMENT	
—————	PROPOSED
-----	EQUIPMENT TO BE REMOVED
—————	EXISTING
▲	MARKER DENOTING EXTENT OF WORK TO EXISTING SYSTEMS
PLUMBING	
—G—	NATURAL GAS
—DCW—	DOMESTIC COLD WATER
—DHW—	DOMESTIC HOT WATER
—DHW—	DOMESTIC HOT WATER RETURN
—W—	WATER SERVICE
---SAN---	BELOW GRADE SANITARY
—SAN—	ABOVE GRADE SANITARY
---STM---	BELOW GRADE STORM
—STM—	ABOVE GRADE STORM
—F—	FIRE PROTECTION
—DR—	DRAIN LINE
—CA—	COMPRESSED AIR
—V—	SANITARY VENT
.....	WEEPING TILE
HEATING	
—HWS—	HEATING WATER SUPPLY
—HWR—	HEATING WATER RETURN
—GLS—	GLYCOL SUPPLY
—GLR—	GLYCOL RETURN
COOLING	
—CHWS—	CHILLED WATER SUPPLY
—CHWR—	CHILLED WATER RETURN
—CWS—	CONDENSER WATER SUPPLY
—CWR—	CONDENSER WATER RETURN
—R—	REFRIGERANT PIPE

GENERAL PIPING	
—○—	PIPE DROP
—○—	PIPE RISE
—○—	OFFSET DOWN
—○—	BOTTOM TAKE-OFF
—○—	TOP TAKE-OFF
—T—	TEE CONNECTION
—]—	CAP
— —	BLOW OFF STRAINER
— —	CONCENTRIC REDUCER
— —	ECCENTRIC REDUCER
— —	FLANGED SPOOL PIECE
— —	UNION/FLANGED CONNECTION
—EJ-1—	EXPANSION JOINT
—P—	PUMP
—○—	PRESSURE GAUGE AND COCK
— —	STRAINER
— —	PIPE SIZE
— —	DIRECTION OF FLOW
—T—	TEMPERATURE SENSOR SINGLE POINT PROBE
— —	SENSOR AVERAGING PROBE
— —	AIR SEPARATOR
— —	AIR SCOOP
— —	CHEMICAL POT FEEDER
— —	AIR VENT

HEATING EQUIPMENT	
— —	2 WAY CONTROL VALVE
— —	3 WAY CONTROL VALVE
— —	BALANCE VALVE
— —	CIRCUIT SETTER
— —	GAS COCK
— —	ISOLATION VALVE
— —	PRESSURE REDUCING VALVE
— —	RELIEF OR SAFETY VALVE
— —	AUTOMATIC FILL VALVE
— —	SOLENOID VALVE
— —	DIFFERENTIAL PRESSURE VALVE
— —	STEAM TRAPS
— —	SUPERVISED VALVE
— —	SWING GATE CHECK VALVE
— —	BACK FLOW PREVENTER
— —	SIGHT GLASS
— —	MICRON FILTER
— —	RADIATION TAG
PLUMBING FIXTURE	
— —	DRINKING FOUNTAIN
— —	THERMOMETER
— —	METER
— —	FLOOR DRAIN
— —	FUNNEL FLOOR DRAIN
— —	HUB DRAIN
— —	ROOF DRAIN
— —	RUNNING TRAP
— —	FIXTURE TRAP
— —	CLEAN-OUT
— —	IN FLOOR CLEANOUT
— —	NON FREEZE HOSE BIBB
— —	SANITARY VENT

FIRE PROTECTION	
— —	FIRE EXTINGUISHER
— —	FIRE EXTINGUISHER C/W SEMI RECESSED CABINET
— —	FIRE HOSE STATION
— —	FIRE DEPARTMENT SIAMESE CONNECTION
— —	UPRIGHT SPRINKLER
— —	PENDANT SPRINKLER
— —	CONCEALED SPRINKLER
— —	DRY PENDANT SPRINKLER
— —	SIDEWALL HEAD SPRINKLER
— —	SIDEWALL HEAD DRY SPRINKLER
VENTILATION DUCT WORK	
— —	THERMAL LINING (INSULATION)
— —	ACOUSTICAL LINING (INSULATION)
— —	RECTANGULAR DUCT
— —	ROUND DUCT
— —	FLAT OVAL DUCT
— —	FLEXIBLE DUCT CONNECTION
— —	BRAIDED FLEXIBLE PIPE CONNECTOR
— —	DOUBLE SPHERE RUBBER PIPE CONNECTOR
— —	VARIABLE VOLUME TERMINAL UNIT
— —	TRANSITION
— —	RECTANGULAR TO ROUND TRANSITION
— —	TURNING VANES
— —	SMOKE DETECTORS
— —	DUCT REHEAT COIL
— —	RELIEF VENT
— —	CHIMNEY
— —	INDICATES DIRECTION OF AIR FLOW
— —	AIR FLOW MEASURING STATION

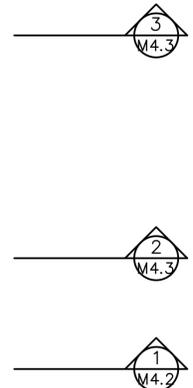
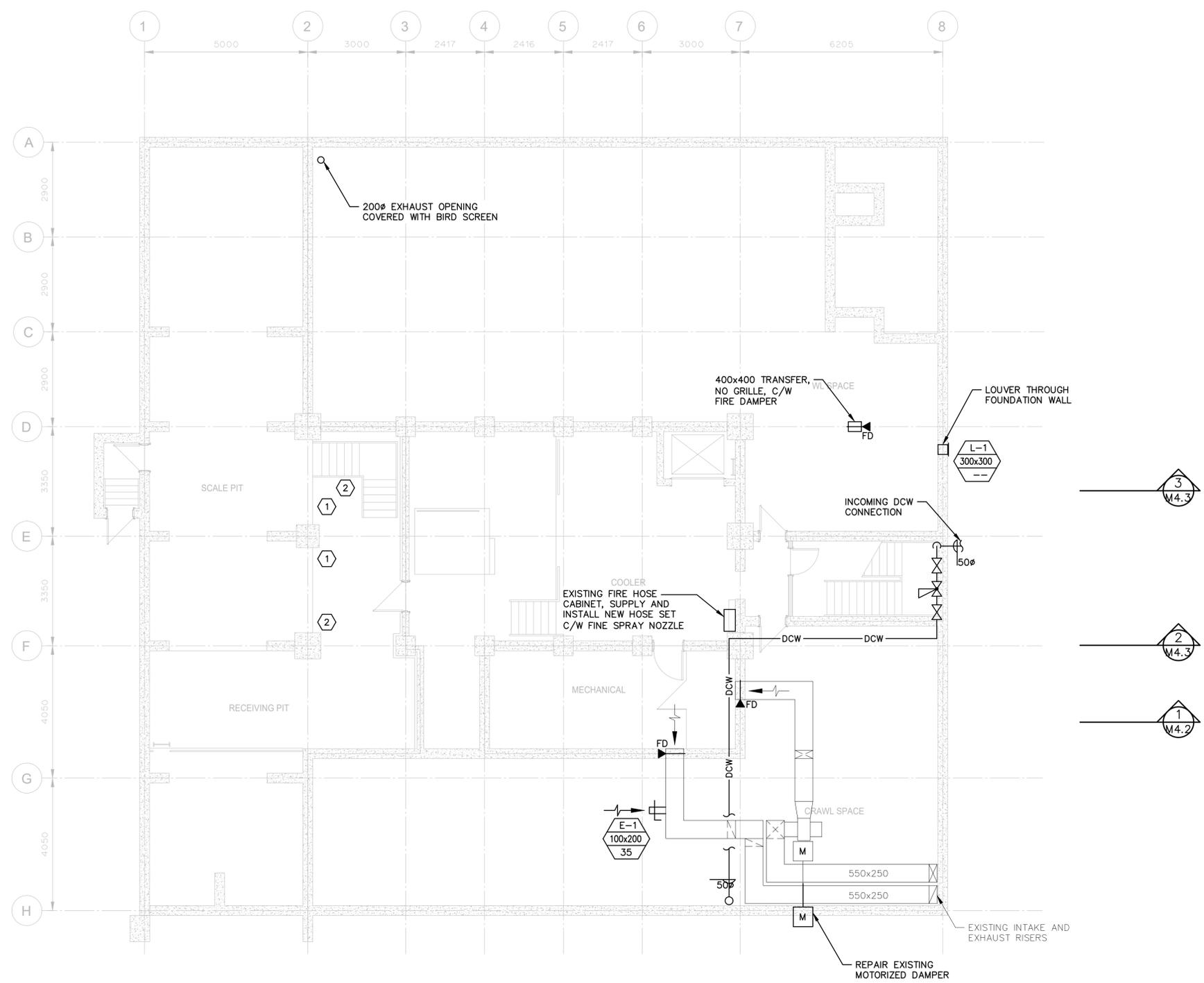
VENTILATION FIXTURE	
— —	CEILING FAN
— —	FAN
— —	SIDE WALL FAN
— —	DEHUMIDISTAT
— —	FREEZE-STAT
— —	DIFFERENTIAL PRESSURE SENSOR
— —	THERMOSTAT
— —	THERMOSTAT C/W LOCKABLE COVER
— —	THERMOSTAT C/W REMOTE TEMPERATURE SENSOR
— —	SUPPLY AIR DUCT
— —	RETURN AIR DUCT
— —	EXHAUST AIR DUCT
— —	OUTSIDE OR COMBUSTION AIR
— —	RETURN/EXHAUST GRILLE
— —	LOUVERED GRILLE
— —	ROUND CONE DIFFUSER
— —	SQUARE CONE DIFFUSER
— —	ROUND SUPPLY DUCT RISER
— —	ROUND SUPPLY DUCT DROP
— —	AIR GRILL TAG
— —	S - SUPPLY
— —	R - RETURN
— —	E - EXHAUST
— —	T - TRANSFER
— —	BALANCE DAMPER
— —	FIRE DAMPER
— —	MOTORIZED DAMPER
TAGS	
— —	FIXTURE AND EQUIPMENT TAG
— —	FLOW SWITCH
— —	EMCS POINT IDENTIFICATION TAG
— —	VAV BOX IDENTIFICATION TAG
— —	VOLTAGE/CURRENT PRESSURE TRANSDUCER
— —	KEY NOTES

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MPE ENGINEERING LTD.
Signature: *[Signature]*
Date: **NOV 26, 2020**
PERMIT NUMBER: P3680
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- KEY NOTES:
- 100mm ϕ DUST COLLECTOR EXHAUST ELBOW TO BE REPLACED. ALSO SEE DRAWING M4.3
 - 400mm ϕ DUST COLLECTOR ELBOW TO BE REPLACED. ALSO SEE DRAWING M4.3.



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PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

Project title
**LETHBRIDGE, AB
AAFCL LeRDC**

**FEED MILL (116)
BUILDING UPGRADES**

Designed by
D.S.B., P.P.G.

Drawn by
J.B.F.

Approved by
D.S.B., P.P.G.

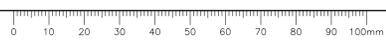
PWSSC Project Manager / Administrateur de Projets TPSGC
GREG SPENCE

Drawing title
Titre du dessin

**MECHANICAL
BASEMENT FLOOR PLAN**

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.097511.001	M1.1 OF XX	0

BASEMENT PLAN
1
M1.1
1:75



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Date NOV 26, 2020

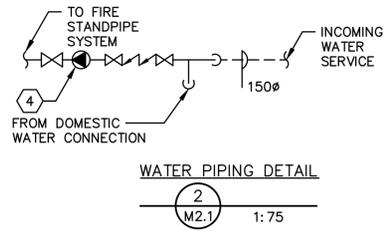
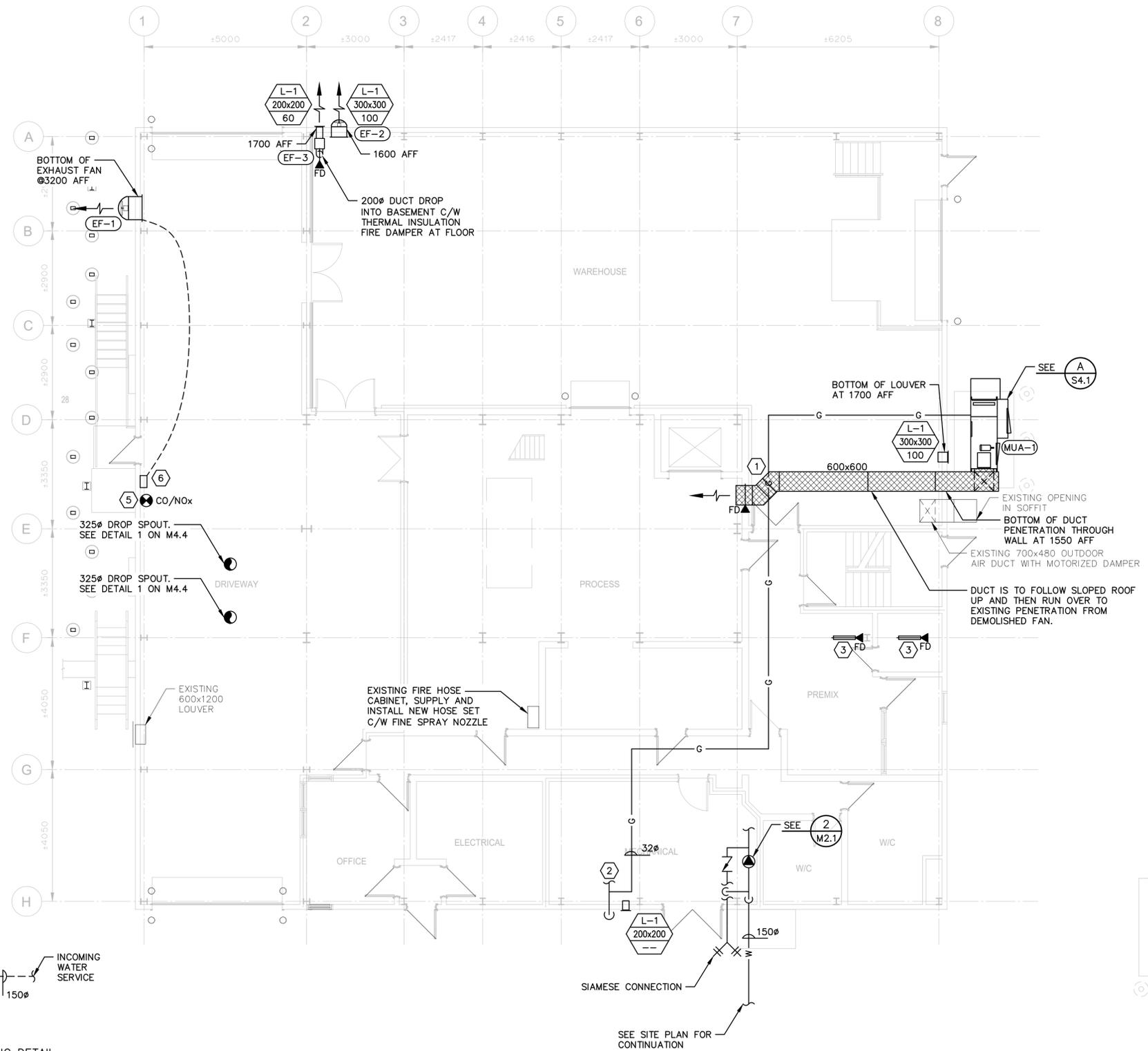
PERMIT NUMBER: P3680

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- KEY NOTES:
1. REMOVE EXISTING TRANSFER FAN TO PROVIDE TEMPERED AIR FROM MAKE-UP AIR UNIT.
 2. CONNECT NEW GAS LINE TO EXISTING GAS LINE.
 3. EXISTING 600x600 TRANSFER GRILLES REPLACE WITH NEW FIRE RATED TRANSFER.
 4. EXISTING FIRE PUMP TO BE REMOVED AND REPLACED.
 5. CO/NOx SENSOR PLACEMENT IS BASED ON COVERAGE RADIUS OF 15M. SENSOR TO BE LOCATED AT 1500 AFF.
 6. GAS MONITORING CONTROL BOX IS INTERLOCKED WITH EF-1 TO AUTOMATICALLY TURN ON FOR WHEN ELEVATED GAS LEVELS ARE DETECTED.



MAIN PLAN
1/M2.1 1:75

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PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

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AAFC LeRDC
FEED MILL (116)
BUILDING UPGRADES**

Designed by
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Drawn by
J.B.F.

Approved by
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PWSSC Project Manager
GREG SPENCE

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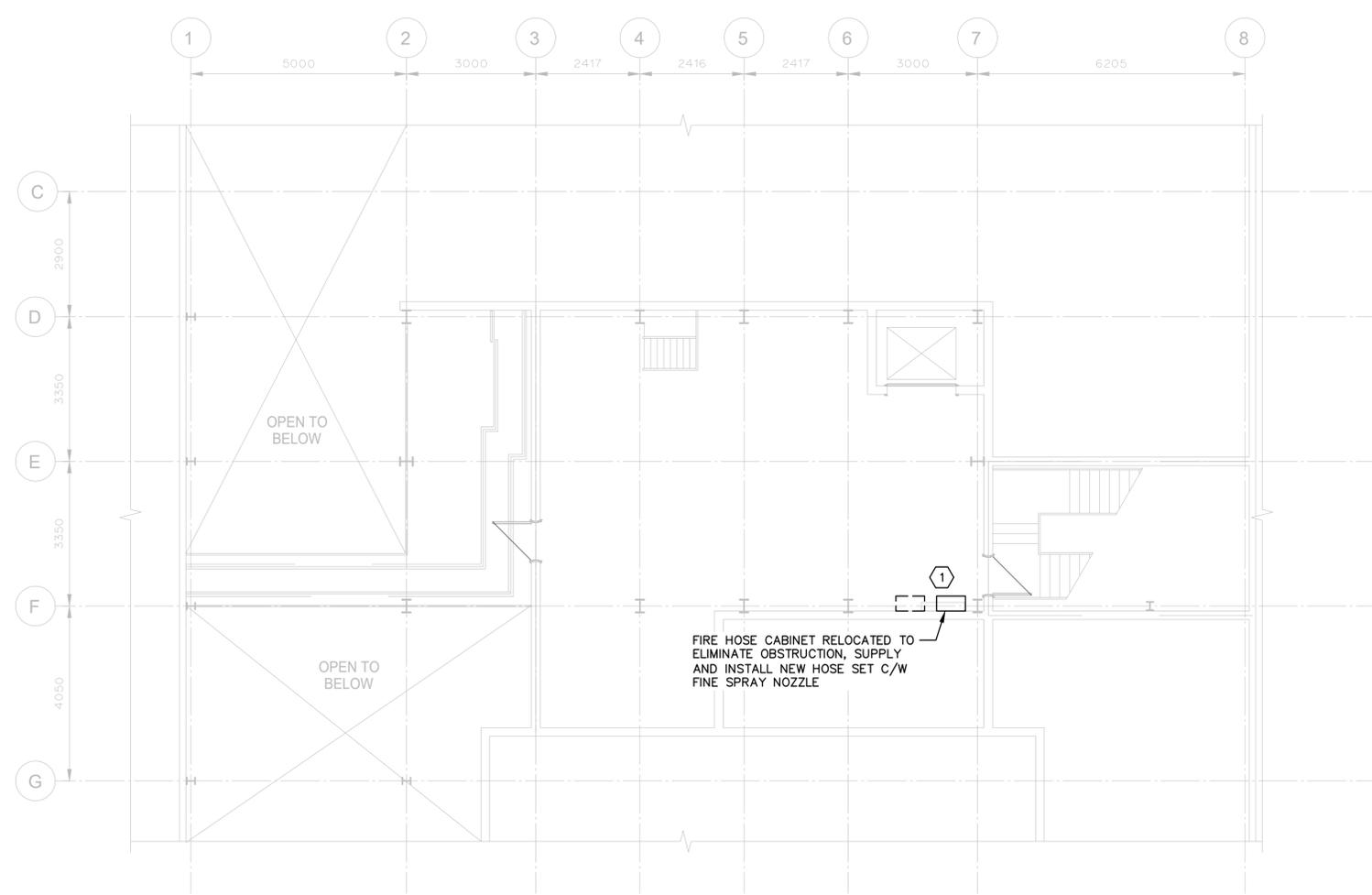


**MECHANICAL
MAIN FLOOR PLAN**

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.097511.001	M2.1 OF XX	0



- KEY NOTES:
- DESIGN AND INSTALL NEW STAND PIPE PIPING LOCATION TO SUIT NFPA 14.



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FEED MILL (116) BUILDING UPGRADES

Designed by: **D.S.B., P.P.G.**
Drawn by: **J.B.F.**
Approved by: **D.S.B., P.P.G.**
PWSSC Project Manager: **GREG SPENCE**

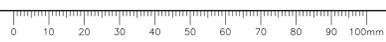
MECHANICAL MEZZANINE FLOOR PLAN

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.097511.001	M3.1 OF XX	0

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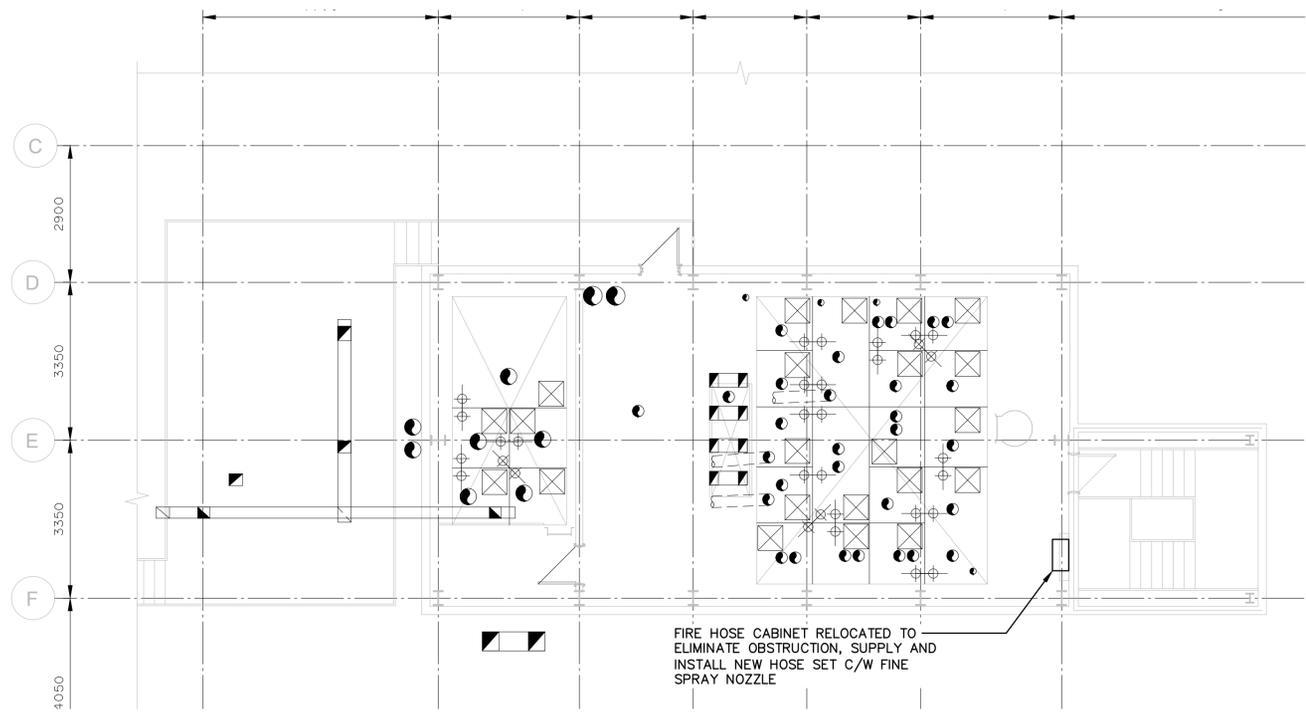


MEZZANINE PLAN
1
M3.1
1:75

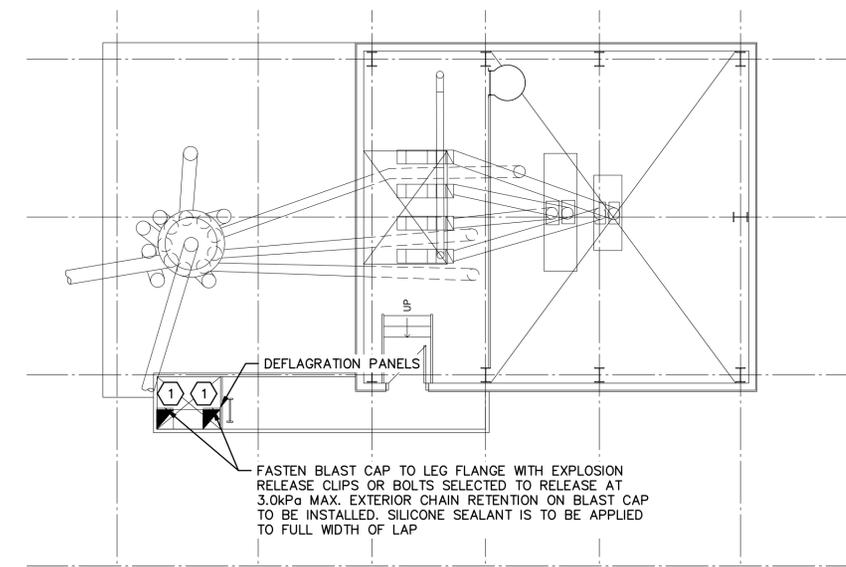




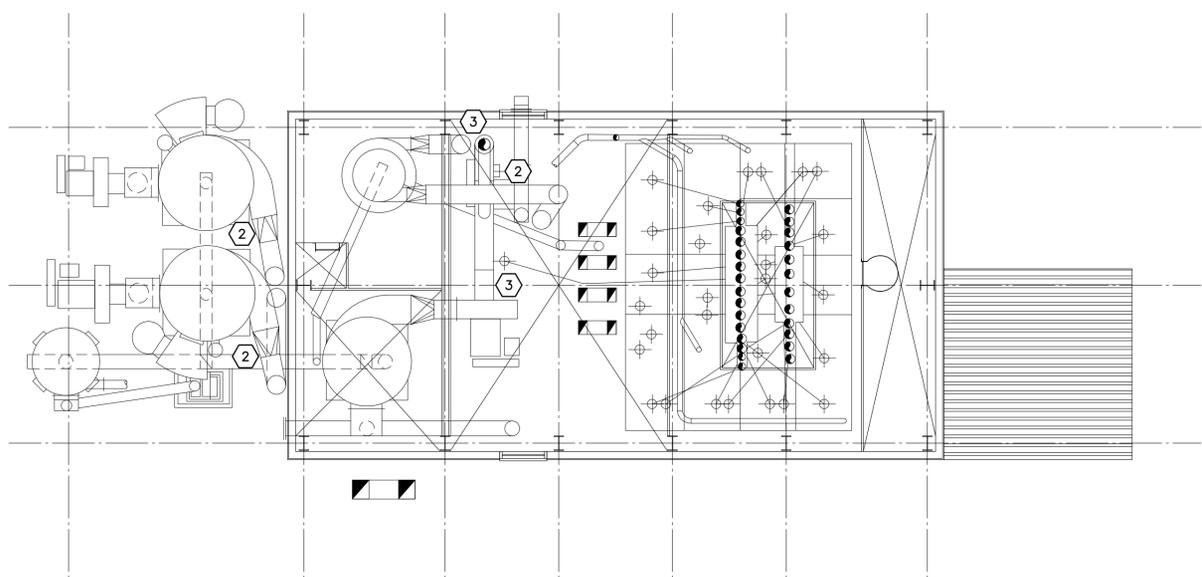
- KEY NOTES:
1. INSTALL NEW PANELS IN SIDE WALLS OF EXISTING LEG. AT DISTRIBUTION UPPER LEVEL.
 2. 400Ø DUST COLLECTOR FLEXIBLE CONNECTOR TO BE REPLACED. ALSO SEE DRAWING M4.3.
 3. 150Ø DUST COLLECTOR ELBOW TO BE REPLACED. ALSO SEE DRAWING M4.3.



BIN TOP PLAN
1
M4.1 1:75



DISTRIBUTION LEVEL PLAN
2
M4.1 1:75



DUST COLLECTOR LEVEL PLAN
3
M4.1 1:75

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PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

Project title
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AAFC LeRDC**
**FEED MILL (116)
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Designed by
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Conçu par

Drawn by
J.B.F.
Dessiné par

Approved by
D.S.B., P.P.G.
Approuvé par

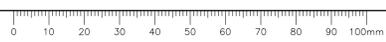
PWSSC Project Manager
GREG SPENCE
Administrateur de Projets TPSGC

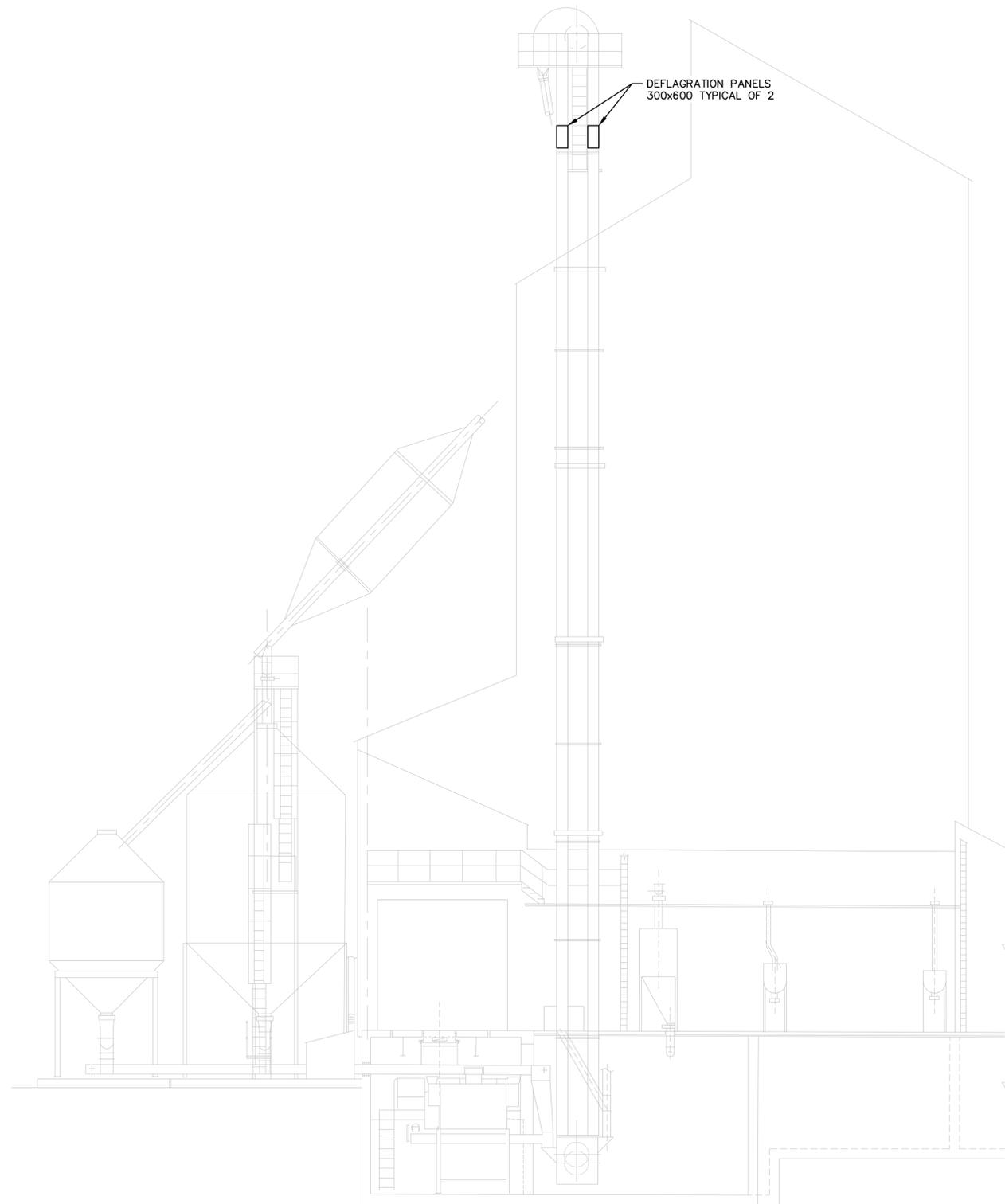
Drawing title
Titre du dessin

**MECHANICAL
BIN TOP, DUST FILTER DISTRIBUTOR,
AND ELEVATOR HEAD PLANS**

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.097511.001	M4.1 OF XX	0

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SECTION
1
M1.1 NTS

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PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

Project title Projet

**LETHBRIDGE, AB
AAFC LeRDC**

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Designed by Conçu par

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Drawn by Dessiné par

J.B.F.

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PWSSC Project Manager Administrateur de Projets TPSGC

GREG SPENCE

Drawing title Titre du dessin

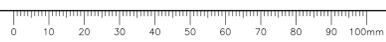
MECHANICAL SECTION 1

Project no./No. du projet Drawing no./No. du dessin Revision no.

R.097511.001 M4.2 0

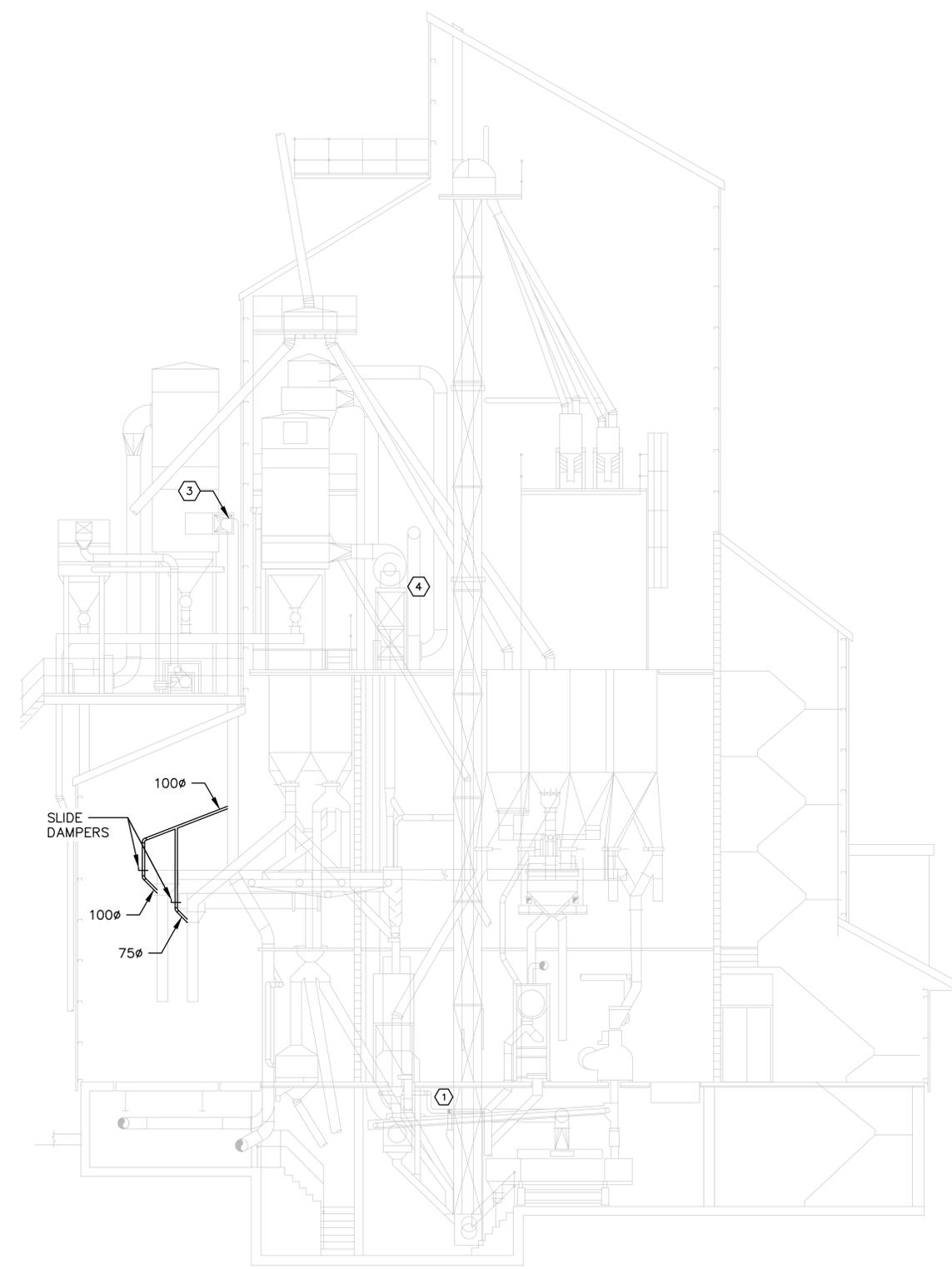
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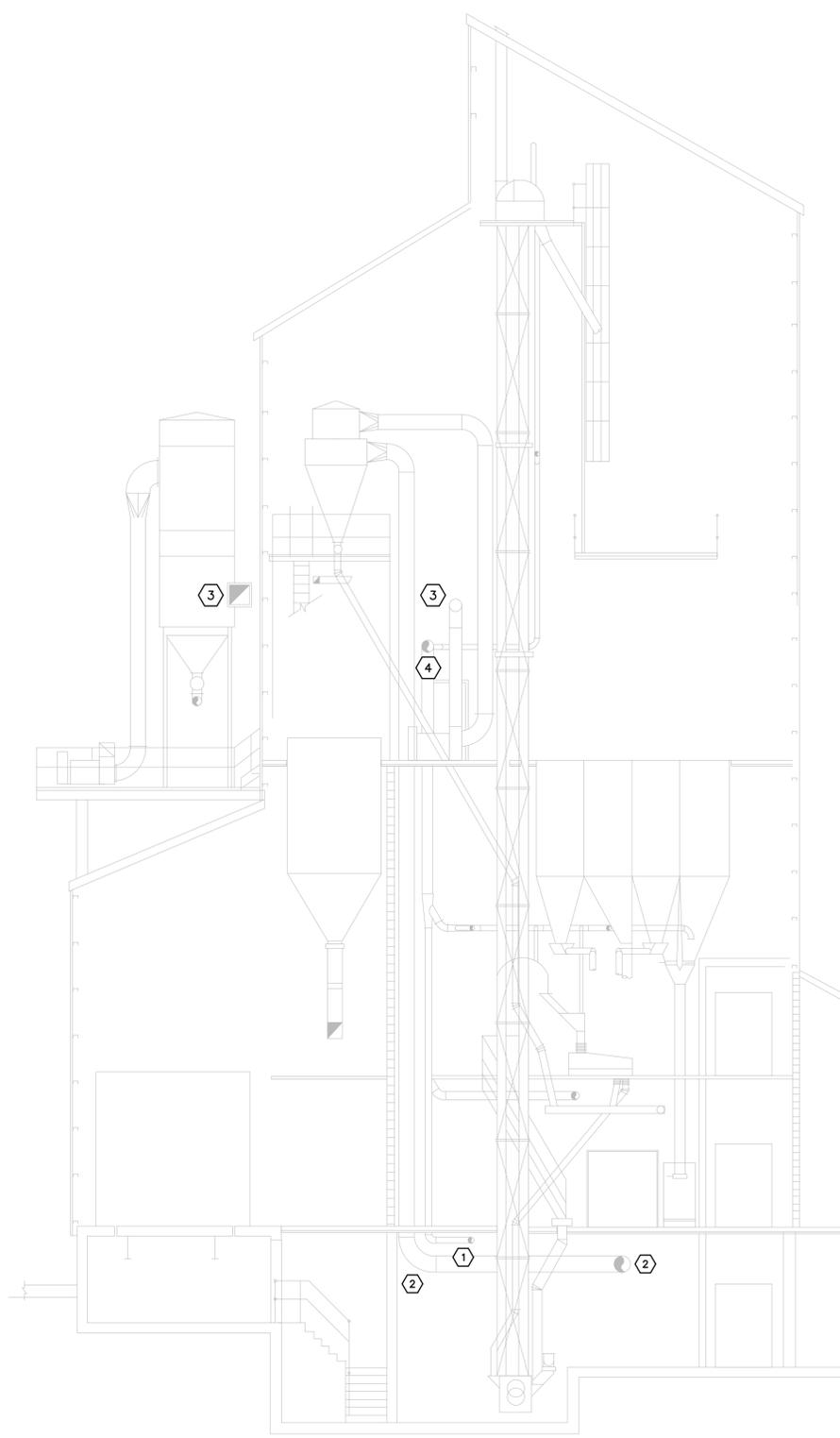




- KEY NOTES:
- 100Ø DUCT COLLECTOR ELBOW TO BE REPLACED ALSO NOTED ON M1.1.
 - 400Ø DUST COLLECTOR ELBOW TO BE REPLACED ALSO NOTED ON M1.1.
 - 400Ø DUST COLLECTOR FLEXIBLE CONNECTION TO BE REPLACED ALSO NOTED ON M4.3.
 - 150Ø DUST COLLECTOR ELBOW TO BE REPLACED ALSO NOTED ON M4.3.



SECTION
2
M1.1 NTS



SECTION
3
M1.1 NTS

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Drawn by
J.B.F. Dessiné par

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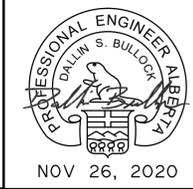
PWSSC Project Manager / Administrateur de Projets TPSGC
GREG SPENCE

Drawing title / Titre du dessin

MECHANICAL SECTION 2 AND 3

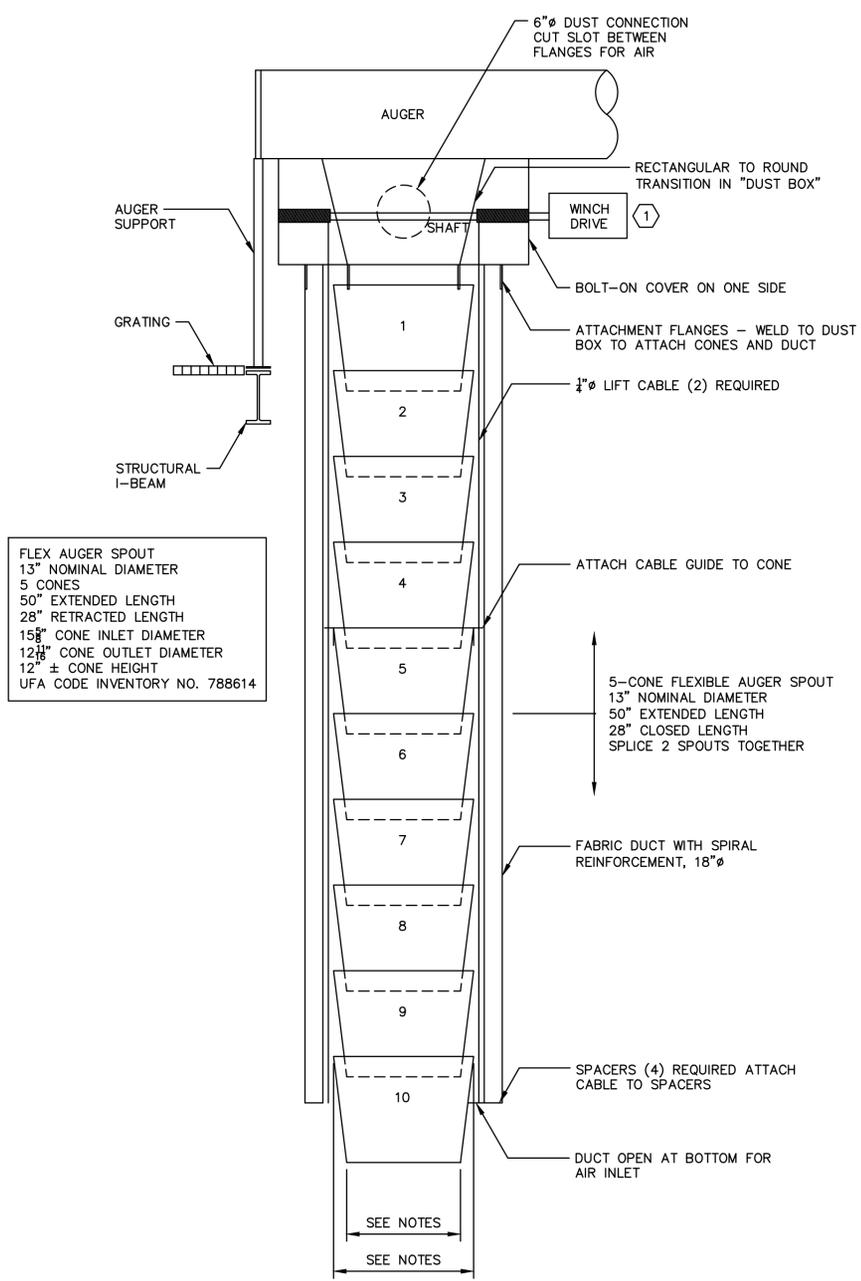
Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.097511.001	M4.3 OF XX	0

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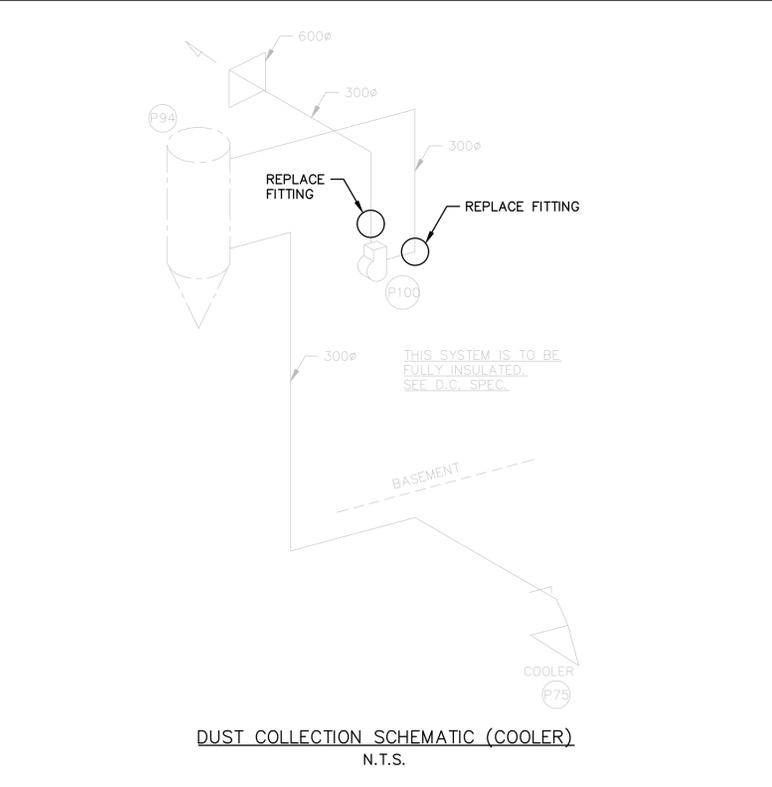
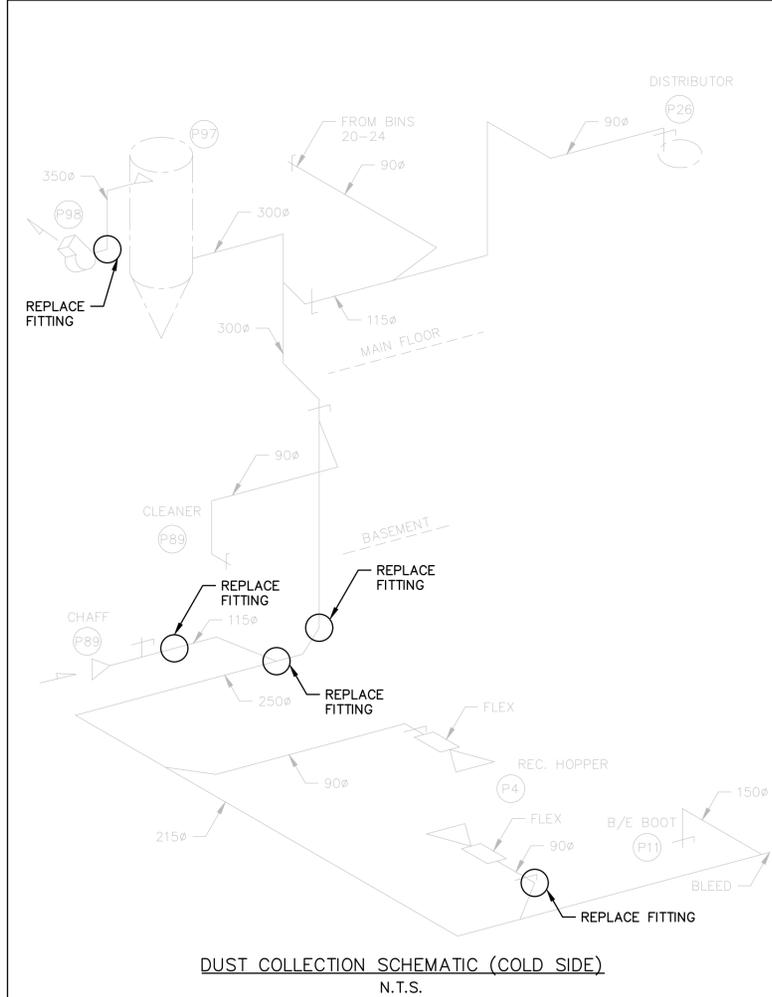
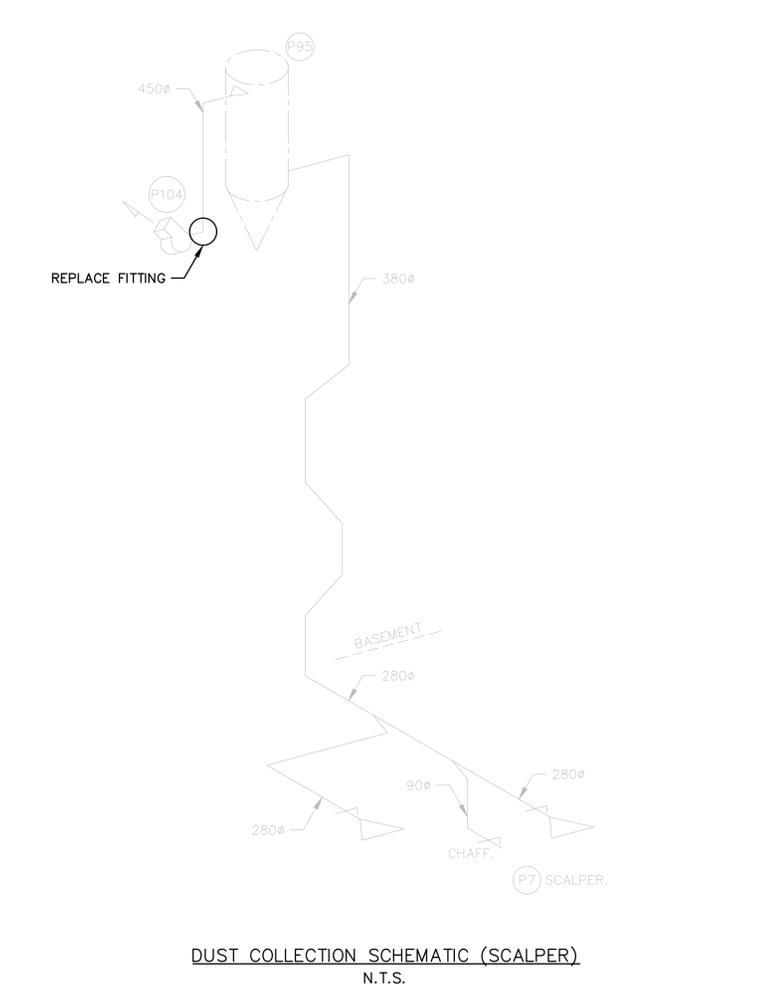
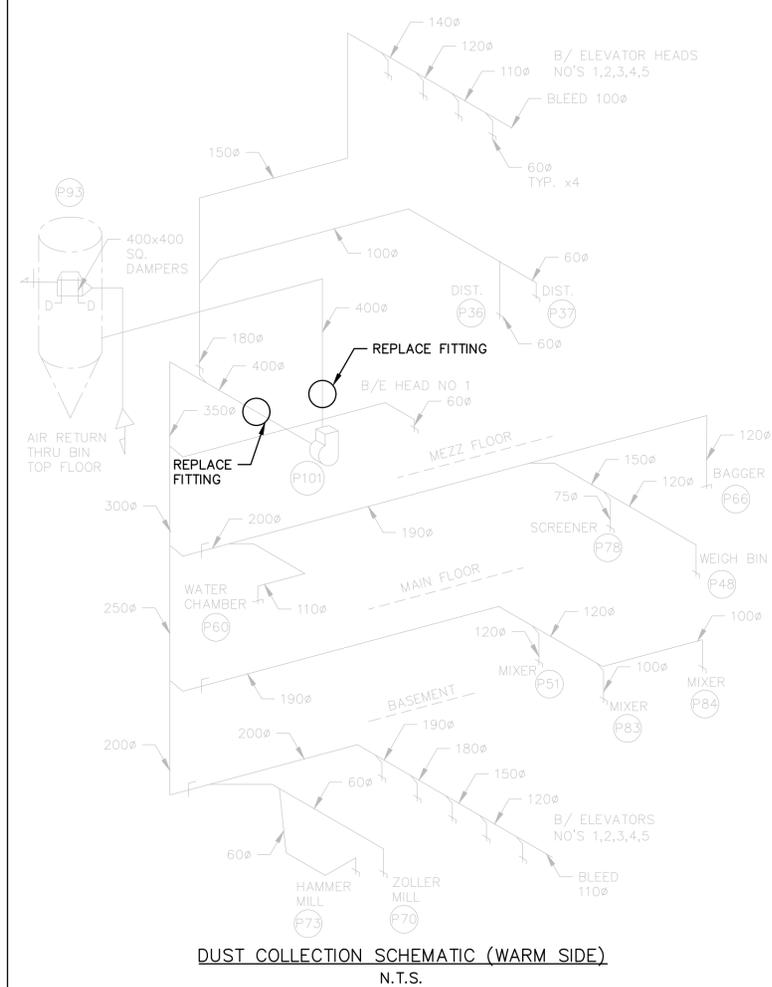




- KEY NOTES:
- WINCH DRIVE IS TO BE 120V C/W UP/DOWN CONTROL, DRY CONTACT, DUST RATED ENCLOSURE. PROVIDE ADJUSTABLE LIMIT SWITCHES FOR TRAVEL IN BOTH DIRECTIONS; ADJUSTED FOR MAXIMUM EXTENSION AND FULL RETRACTION OF CHUTE. A MINIMUM LOAD RATING OF 200 KG AND A LINE SPEED OF 0.15 M/S (30 FT/MIN).



DROP SPOUT WITH DUST SHROUD DETAIL
1 M1.1 1:10



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PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

Project title: **LETHBRIDGE, AB AAFC LeRDC**
FEED MILL (116) BUILDING UPGRADES

Designed by: **D.S.B., P.P.G.**
Drawn by: **J.B.F.**
Approved by: **D.S.B., P.P.G.**
PWSSC Project Manager: **GREG SPENCE**

MECHANICAL DETAILS

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
R.097511.001	M4.4 OF XX	0

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Date: **NOV 26, 2020**
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NOTES:
1. MANUFACTURER AND MODEL INFORMATION IS ONLY PROVIDED AS A BASIS OF DESIGN. SELECTED EQUIPMENT SHOULD MATCH CLASSIFICATION, FORM FACTOR, POWER REQUIREMENTS, AND PERFORMANCE CHARACTERISTICS.

FAN SCHEDULE												
TAG No.	LOCATION	SERVICE	MANUFACTURER (OR APPROVED EQUIVALENT)	MODEL No.	AIR FLOW CFM (L/s)	E.S.P. in. w.c.	MOTOR HP	RPM	ELECTRICAL (V/Ph/Hz)	MOUNTING ARR'GT	WEIGHT lbs	REMARKS
EF-1	MAIN FLOOR	DRIVEWAY EXHAUST	GREENHECK	CUBE-101-5	1200 (566)	0.3	1/2	1725	208/1/60	EXTERNAL SIDEWALL	73	ALUMINUM HOUSING, CENTRIFUGAL BACKWARD INCLINED ALUMINUM WHEEL, DIRECT DRIVEN MOTOR MOUNTED ON VIBRATION ISOLATION, EXPLOSION-PROOF FAN TO OPERATE AUTOMATICALLY ON ELEVATED GAS LEVELS.
EF-2	MAIN FLOOR	WAREHOUSE EXHAUST	GREENHECK	CUE-099-B	240 (113)	0.4	1/4	1140	208/1/60	EXTERNAL SIDEWALL	72	ALUMINUM HOUSING, CENTRIFUGAL BACKWARD INCLINED ALUMINUM WHEEL, DIRECT DRIVEN MOTOR MOUNTED ON VIBRATION ISOLATION C/W PERFORMANCE BAFFLE. EXPLOSION-PROOF FAN TO OPERATE CONTINUOUSLY.
EF-3	MAIN FLOOR	CRAWLSPACE EXHAUST	GREENHECK	SQ-60-G	120 (57)	0.2	1/10	1725	115/1/60	INLINE FAN	45	ALUMINUM HOUSING WITH DUCT COLLARS, CENTRIFUGAL BACKWARD INCLINED ALUMINUM WHEEL, DIRECT DRIVEN MOTOR IN AIR STREAM. FAN TO OPERATE CONTINUOUSLY.

MAKE-UP AIR UNIT SCHEDULE													
TAG No.	LOCATION	SERVICE	MANUFACTURER (OR APPROVED EQUIVALENT)	MODEL No.	AIR			HEATING		UNIT MCA	WEIGHT lbs	REMARKS	
					CAPACITY CFM (L/s)	E.S.P. in. w.c. (Pa)	MOTOR HP (kW)	ELECTRICAL (V/Ph/Hz)	INPUT CAPACITY MBH				FUEL
MUA-1	EXTERIOR	MAKE UP AIR	ENGINEERED AIR	HE40/O	4000 (2000)	0.5 (0.12)	3 (2.2)	575/3/60	440	NAT. GAS	5.1	1050	INSTALLED ON STAND, SEE STRUCTURAL DETAILS. FAN OPERATION TO BE INTERLOCKED WITH DUST COLLECTOR SYSTEMS.

GRILLE AND DIFFUSER SCHEDULE					
TAG No.	MANUFACTURER (OR APPROVED EQUIVALENT)	MODEL No.	FINISH	MOUNTING	REMARKS/DESCRIPTION
L-1	PRICE	DE439	PAINT TO MATCH	EXTERIOR	100MM DEEP, 39' FIXED BLADE EXTRUDED DRAINABLE LOUVER
E-1	PRICE	80 SERIES	B12 WHITE	DUCT MOUNT	ALUMINUM CONSTRUCTION

PUMP SCHEDULE										
TAG No.	DESCRIPTION	MANUFACTURER (OR APPROVED EQUIVALENT)	MODEL No.	SERVICE	LOCATION	HP	ELECTRICAL (V/Ph/Hz)	FLOW (L/S)	HEAD (KPA)	REMARKS/DESCRIPTION
FP-1	FIRE PUMP	--	--	FIRE WATER	MECHANICAL ROOM	7.5	600/3/60	6.3	690	REVIEW EXISTING PUMP FLOW CHARACTERISTICS AND DESIGN REPLACEMENT PUMP

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Titre du dessin

MECHANICAL SCHEDULES

Project no./No. du projet
R.097511.001

Drawing no./No. du dessin
M5.1

Revision no.
0

OF XX

PERMIT TO PRACTICE
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Signature *[Signature]*

Date **NOV 26, 2020**

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