

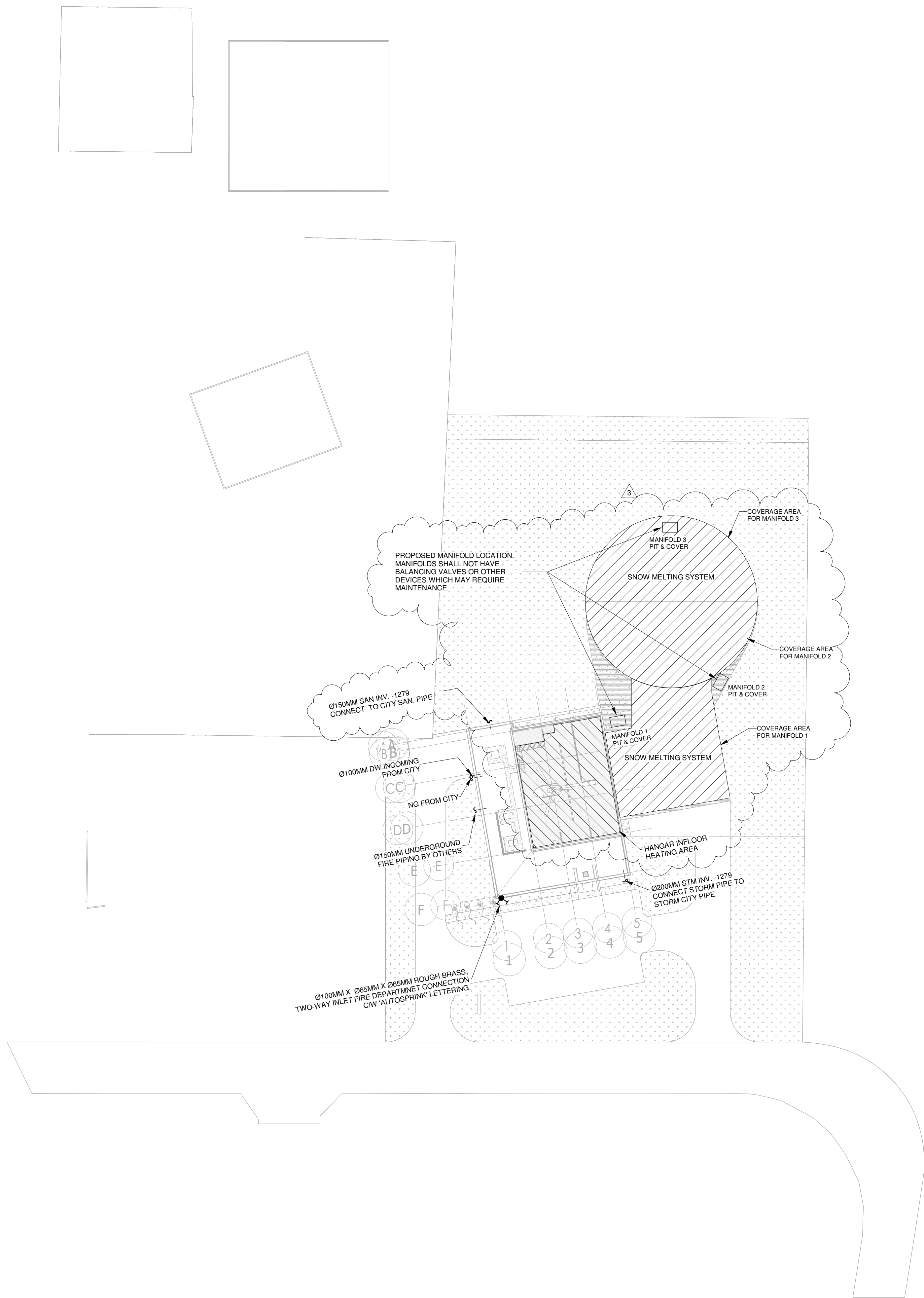
350 GARFIELD WRIGHT  
BOULEVARD  
TOWN OF EAST GWILLIMBURY

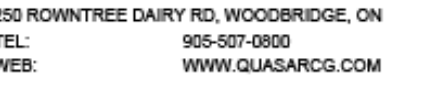
[illegible]

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Drawn by: Fizzah Khan/ Iulian Turiga  
Checked by: Ali Nakhaei-Zadeh  
Original Issue Date: 2024-07-31  
Project No: TT-24-005  
Scale: As indicated

Drawing  
No. **M-100**





350 GARFIELD WRIGHT  
BOULEVARD  
TOWN OF EAST GWILLIMBURY

## Key Plan

[illegible]

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Scale: 1 : 100

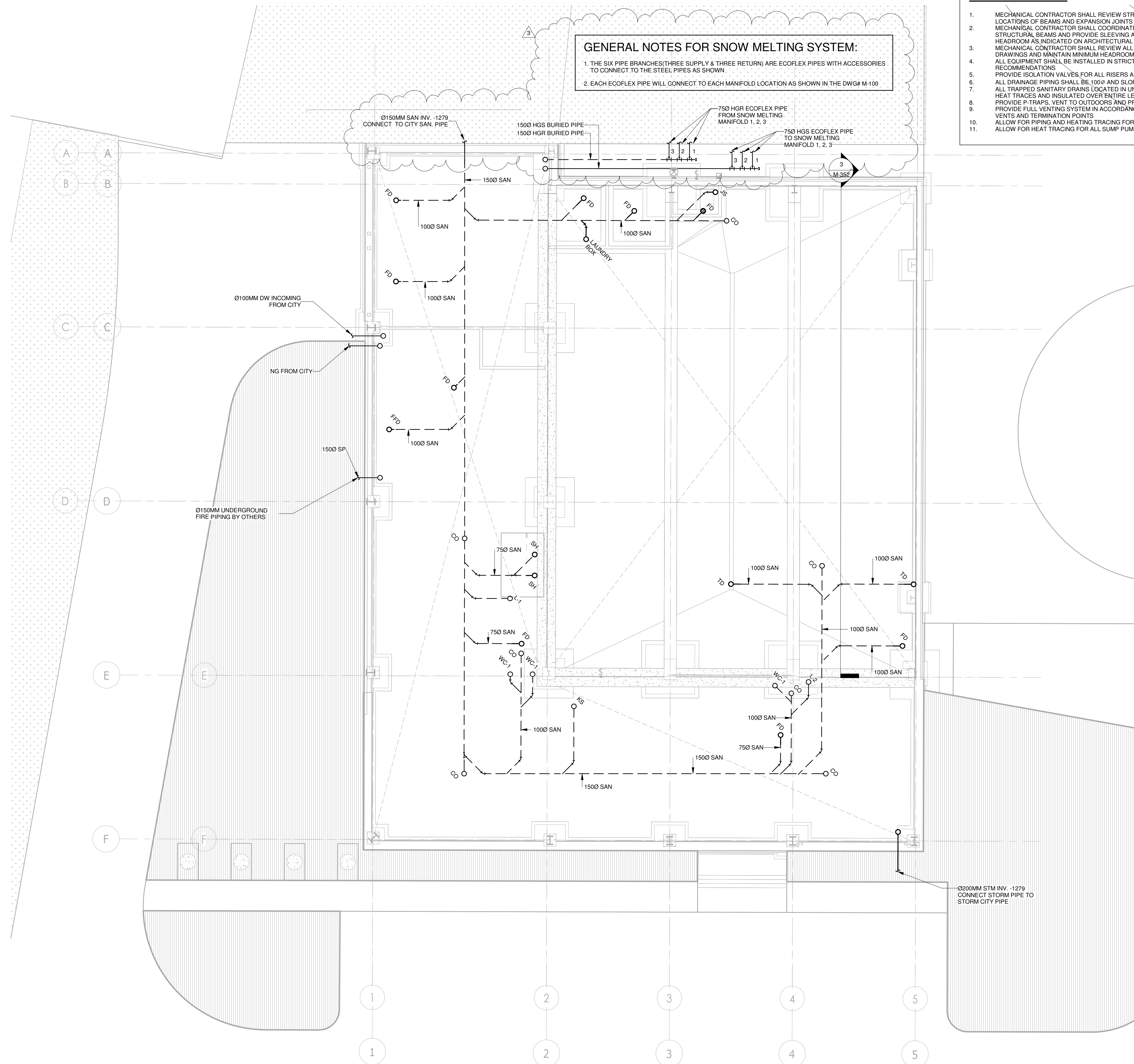
## ROOF PLAN

Drawing  
No.  
**M-150**

YORK REGIONAL POLICE  
HELICOPTER HANGAR

350 GARFIELD WRIGHT  
BOULEVARD  
TOWN OF EAST GWILLIMBURY

## Key Plan



## GENERAL NOTES

1. MECHANICAL CONTRACTOR SHALL REVIEW STRUCTURAL DRAWINGS REGARDING SIZE AND LOCATIONS OF BEAMS AND EXPANSION JOINTS
2. MECHANICAL CONTRACTOR SHALL COORDINATE ALL PIPING AND DUCTWORK WITH STRUCTURAL BEAMS AND PROVIDE ANY NECESSARY STRENGTHENING TO MAINTAIN MINIMUM HEADROOM AS INDICATED ON ARCHITECTURAL DRAWINGS
3. MECHANICAL CONTRACTOR SHALL REVIEW ALL ARCHITECTURAL AND INTERIOR DESIGN DRAWINGS AND MAINTAIN MINIMUM HEADROOM AS INDICATED
4. EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS
5. PROVIDE ISOLATION VALVES FOR ALL RISERS AND AT EACH FIXTURE
6. ALL DRAINAGE PIPING SHALL BE 100% AND SLOPED AT 1% UNLESS NOTED OTHERWISE
7. GRADED SANITARY DRAINS LOG SPACE SHALL BE ELECTRICALLY HEAT TRACES AND INSULATED OVER ENTIRE LENGTH
8. PROVIDE P-TRAPS, VENT TO OUTDOORS AND PRIMING TO ALL FLOOR DRAINS
9. PROVIDE FULL VENTING SYSTEM IN ACCORDANCE WITH OBC PART 7. COORDINATE ALL VENTS AND TERMINATION POINTS
10. ALLOW FOR PIPING AND HEATING TRACING FOR ALL TRAP PRIMERS
11. ALLOW FOR HEAT TRACING FOR ALL SUMP PUMP DISCHARGE PIPING

GENERAL NOTES FOR SNOW MELTING SYSTEM:

1. THE SIX PIPE BRANCHES(THREE SUPPLY & THREE RETURN) ARE ECOFLEX PIPES WITH ACCESSORIES TO CONNECT TO THE STEEL PIPES AS SHOWN
2. EACH ECOFLEX PIPE WILL CONNECT TO EACH MANIFOLD LOCATION AS SHOWN IN THE DWG# M-100

[illegible]

## Issues

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Do not scale drawings

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Original Issue Date: 2024-07-31  
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Scale: As indicated

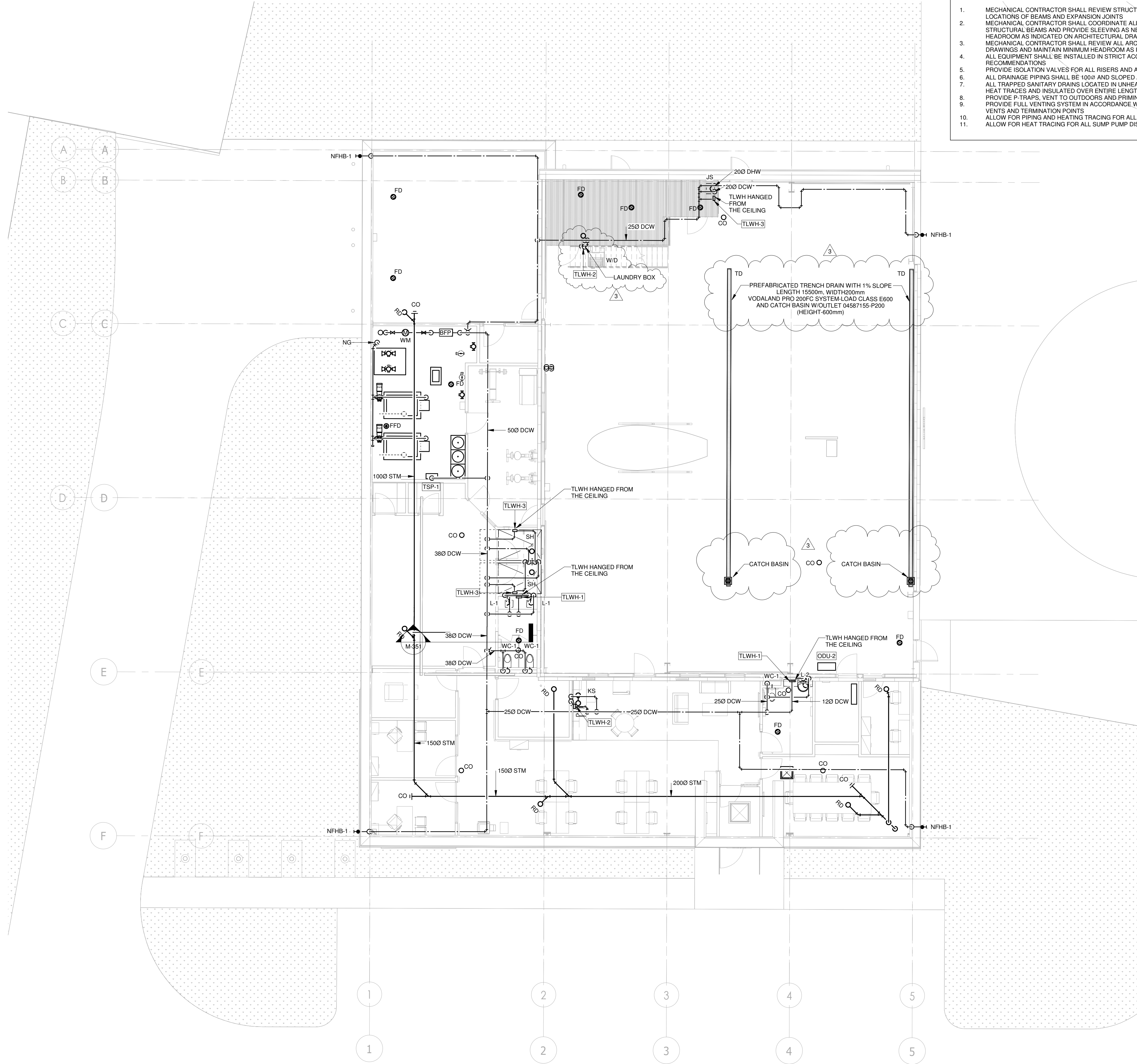
Sheet  
Title:

## FOUNDATION PLAN

Drawing  
No.  
**M-250**



9/23/2024 12:19:48 PM  
Autodesk Docs://2402 - YRP Helicopter Hangar/TT-24-005-YRP-QCG ME Model\_P24.rvt



### GENERAL NOTES

1. MECHANICAL CONTRACTOR SHALL REVIEW STRUCTURAL DRAWINGS REGARDING SIZE AND LOCATIONS OF BEAMS AND EXPANSION JOINTS
2. MECHANICAL CONTRACTOR SHALL COORDINATE ALL PIPING AND DUCTWORK WITH STRUCTURAL BEAMS AND PROVIDE SLEEVING AS NECESSARY TO MAINTAIN MINIMUM HEADROOM AS INDICATED ON ARCHITECTURAL DRAWINGS
3. MECHANICAL CONTRACTOR SHALL REVIEW ALL ARCHITECTURAL AND INTERIOR DESIGN DRAWINGS AND MAINTAIN MINIMUM HEADROOM AS INDICATED
4. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS
5. PROVIDE ISOLATION VALVES FOR ALL RISERS AND AT EACH FIXTURE
6. ALL DRAINAGE PIPING SHALL BE 100% AND SLOPED AT 1% UNLESS NOTED OTHERWISE
7. ALL TRAPPED SANITARY DRAINS LOCATED IN UNHEATED SPACE SHALL BE ELECTRICALLY HEAT TRACES AND INSULATED OVER ENTIRE LENGTH
8. PROVIDE P-TRAPS, VENT TO OUTDOORS AND PRIMING TO ALL FLOOR DRAINS
9. PROVIDE FULL VENTING SYSTEM IN ACCORDANCE WITH OBC PART 7. COORDINATE ALL VENTS AND TERMINATION POINTS
10. ALLOW FOR PIPING AND HEATING TRACING FOR ALL TRAP PRIMERS
11. ALLOW FOR HEAT TRACING FOR ALL SUMP PUMP DISCHARGE PIPING

# PARKIN

Parkin Architects Limited  
1 VALLEYBROOK DRIVE, TORONTO, CANADA, M3B 2S7 416-467-8000



## YORK REGIONAL POLICE HELICOPTER HANGAR

350 GARFIELD WRIGHT  
BOULEVARD  
TOWN OF EAST GWILLIMBURY

Key  
Plan

NO.	ISSUED	DATE
3	ISSUED FOR ADDENDUM 3	2024-09-23
2	ISSUED FOR TENDER	2024-09-09
1	ISSUED FOR BUILDING PERMIT	2024-07-31

### Issues

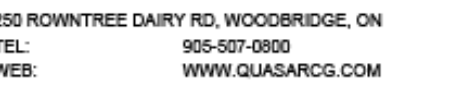
All measurements are to be checked and verified on site by the contractor before proceeding with work

Do not scale drawings

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Checked by: Ali Nakhaei-Zadeh  
Original Issue Date: 2024-07-31  
Project No: TT-24-005  
Scale: As indicated

Sheet  
Title:  
**PLUMBING NEW WORK -  
LEVEL 1**

Drawing  
No.  
**M-251**



350 GARFIELD WRIGHT  
BOULEVARD  
TOWN OF EAST GWILLIMBURY

### Key Plan

[illegible]

## Issues

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Do not scale drawings

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Original Issue Date: 2024-07-31  
Project No: TT-24-005  
Scale: 1 : 50

Sheet  
Title: MECHANICAL ROOM  
PIPING

Drawing  
No.  
M-252



GENERAL NOTES:

1. CONTRACTOR TO PROVIDE ALL MANIFOLDS AND CONNECTIONS AND PIPING FOR INFLOOR HEATING
2. CONTRACTOR TO PROVIDE PROPOSED MANIFOLD LOCATIONS AND SHOP DRAWING FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.



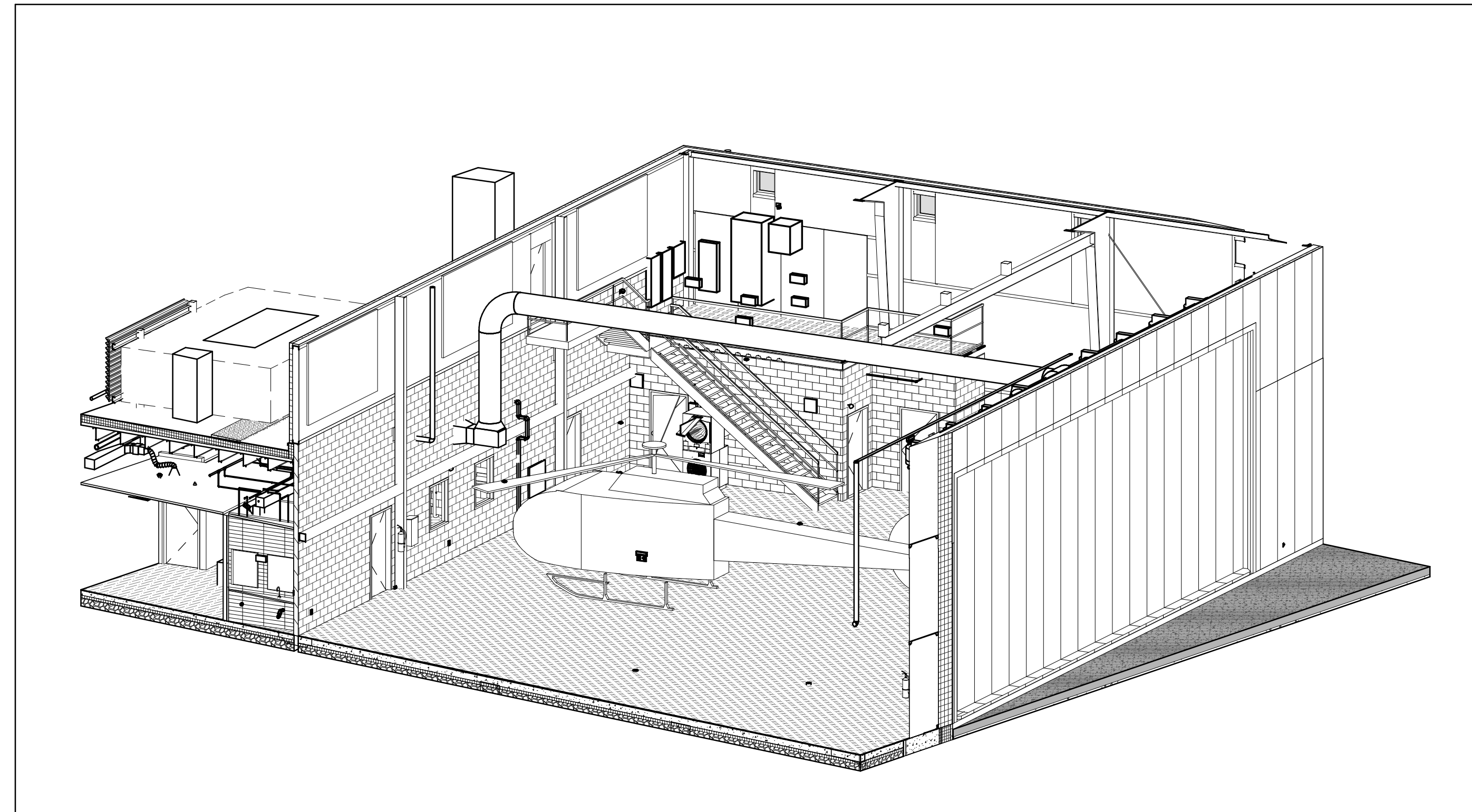
OAT (C)	SETPOINT RAH (20%)	OAT (C)	SETPOINT RAH (30%)	OAT (C)	SETPOINT RAH (40%)
-25	-15.6 C	-19.4	-11.1 C	-15.6	-8.2 C
-26.1	-11.7 C	-20.3	-7.8 C	-16.1	-4.9 C
-28.3	-8.3 C	-22.2	-4.4 C	-17.2	-1.9 C
-32.2	-5.6 C	-25	-1.9 C	-19.4	0.8 C
-35	-3.9 C	-27.2	-0.6 C	-20.6	2.3 C
-40	-3.3 C	-31.1	-0.3 C	-23.3	3.3 C



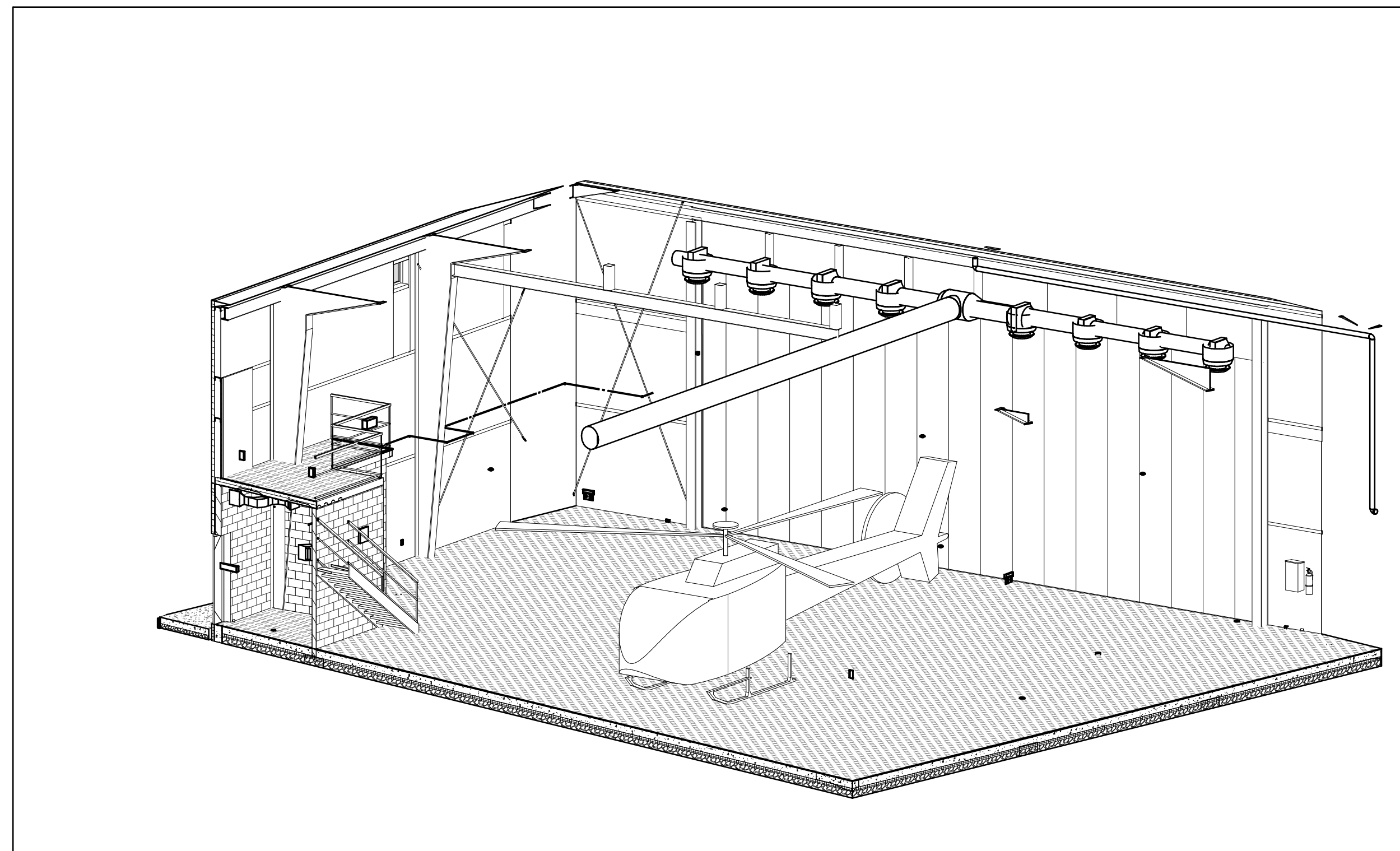


350 GARFIELD WRIGHT  
BOULEVARD  
TOWN OF EAST GWILLIMBURY

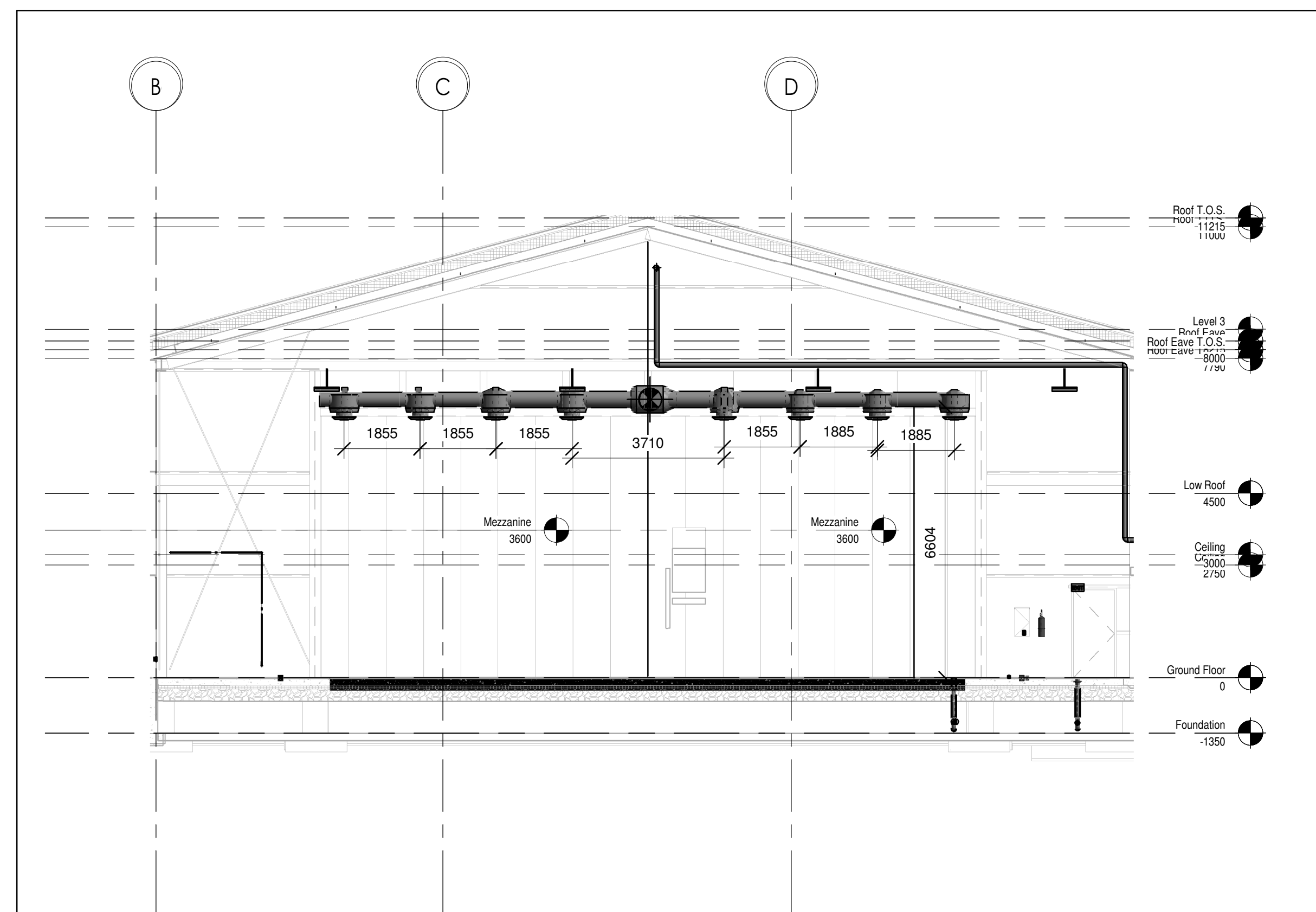
### Key Plan



2 HANGAR VENTILATION ISOMETRIC 2  
SCALE:



1 HANGAR VENTILATION ISOMETRIC  
SCALE:



3 HANGAR VENTILATION SECTION VIEW  
SCALE: 1 : 100

[illegible]

## Issues

All measurements are to be checked and verified on site by the contractor before proceeding with work

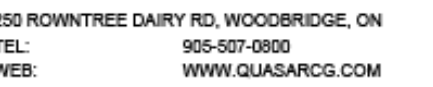
Do not scale drawings

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Original Issue Date: 2024-07-31  
Project No: TT-24-005  
Scale: 1 : 100

Sheet  
Title:

## VENTILATION NEW WORK - ISOMETRIC VIEWS

Drawing  
No. **M-352**



350 GARFIELD WRIGHT  
BOULEVARD  
TOWN OF EAST GWILLIMBURY

[illegible]

3	ISSUED FOR ADDENDUM 3	2024-09-23
2	ISSUED FOR TENDER	2024-09-09
1	ISSUED FOR BUILDING PERMIT	2024-07-31
NO.	ISSUED	DATE

All measurements are to be checked and verified on site by the contractor before proceeding with work

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Project No: TT-24-005  
Scale: As indicated

# FIRE PROTECTION NEW WORK - LEVEL 1

Drawing  
No. **M-551**

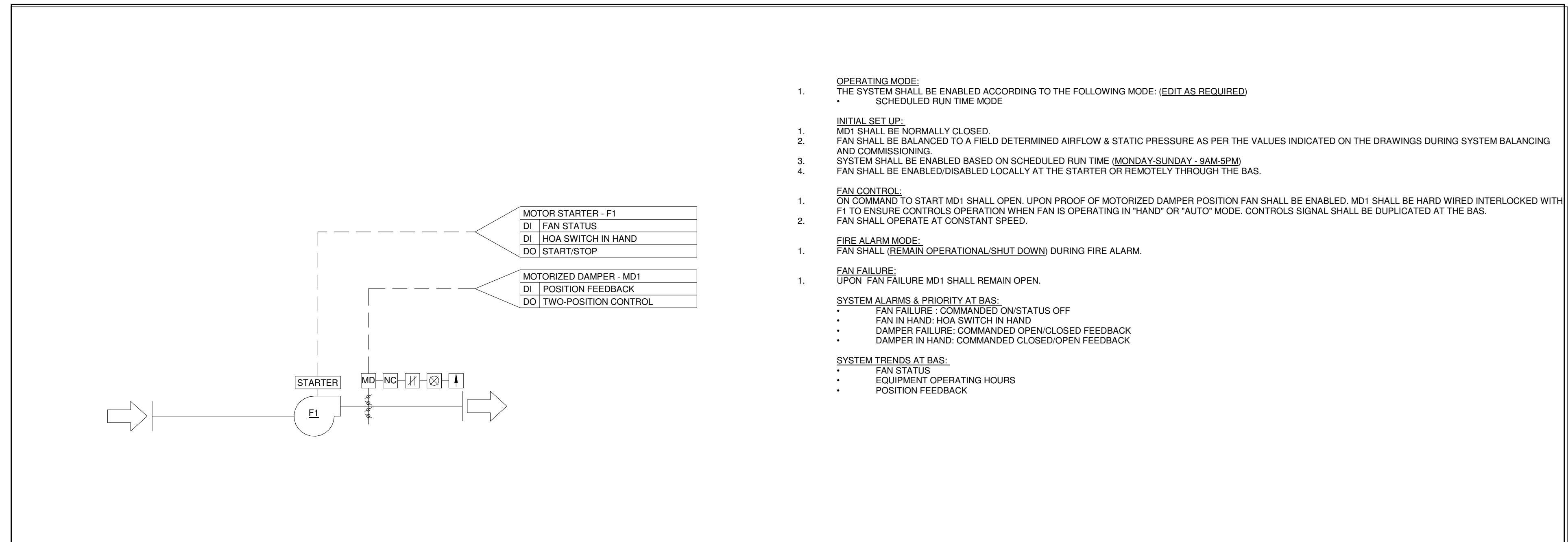




YORK REGIONAL POLICE  
HELICOPTER HANGAR

350 GARFIELD WRIGHT  
BOULEVARD  
TOWN OF EAST GWILLIMBURY

## Key Plan

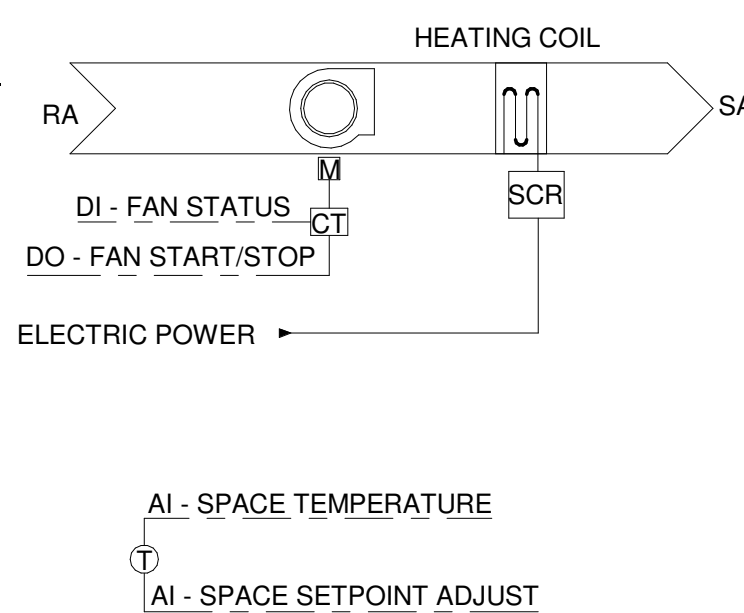


## CONSTANT SPEED FAN - DAMPER INTERLOCK CONTROL SEQUENCE

SCALE:N.T.S.

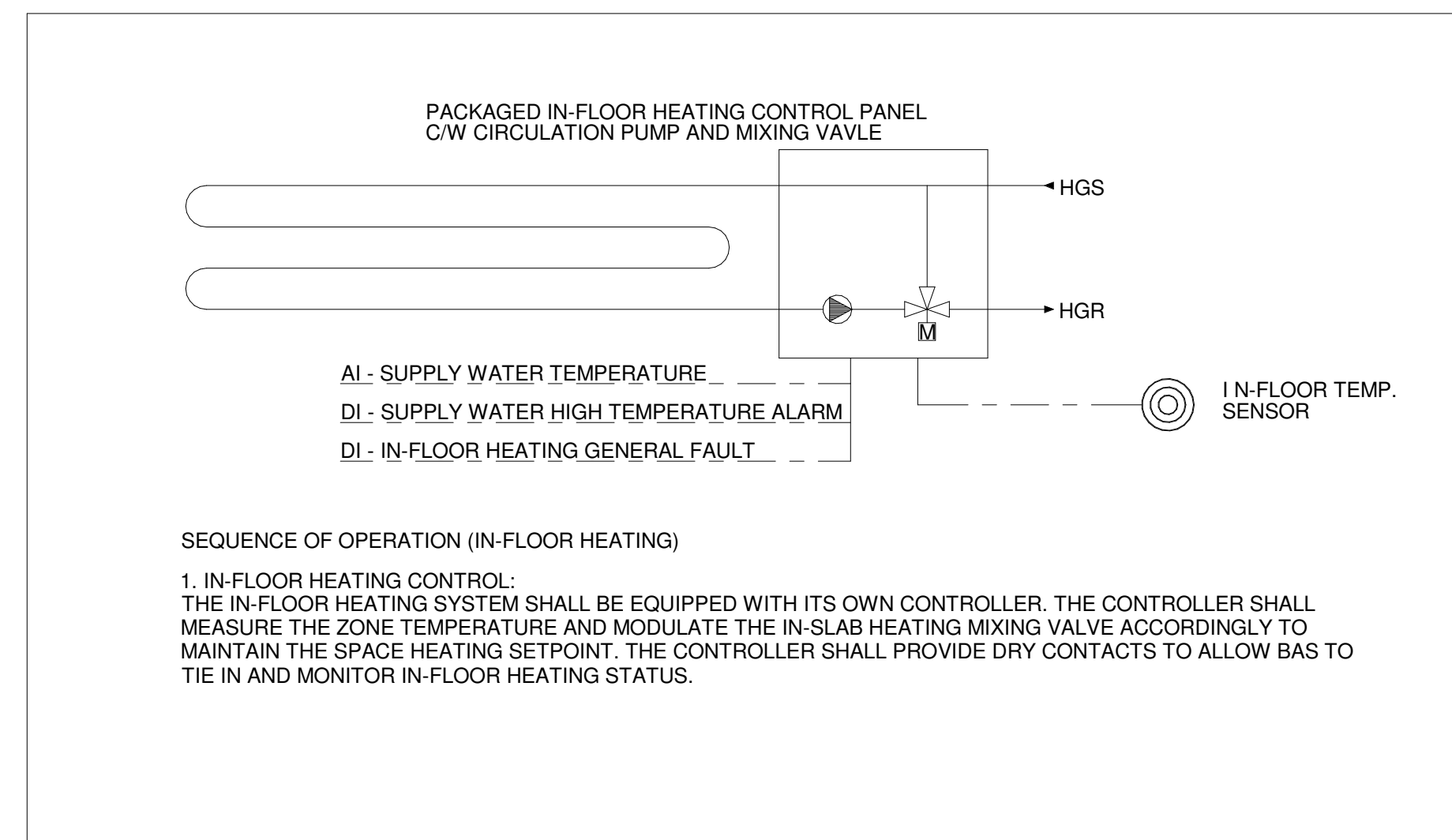
TYPICAL ELECTRIC UNIT HEATER CONTROL SEQUENCE:

1. RUN CONDITIONS:  
THE UNIT SHALL RUN ACCORDING TO A USER DEFINABLE TEMPERATURE SETPOINT OF 22°C (72°F) (ADJUSTABLE).  
ALARMS MUST BE PROVIDED AS FOLLOWS:
- LOW ZONE TEMPERATURE: IF THE ZONE TEMPERATURE IS LESS THAN THE HEATING SETPOINT BY A USER DEFINABLE AMOUNT (ADJUSTABLE).
2. ZONE SETPOINT ADJUST:  
THE OCCUPANT MUST BE ABLE TO ADJUST THE ZONE TEMPERATURE HEATING SETPOINT AT THE ZONE SENSOR.
3. FAN:  
THE FAN SHALL RUN ANYTIME THE ZONE TEMPERATURE DROPS BELOW HEATING SETPOINT, UNLESS SHUTDOWN ON SAFETIES.
4. ELECTRIC HEATING COIL:  
THE SCR (SILICON CONTROLLED RECTIFIER) CONTROLLER SHALL MODULATE THE ELECTRIC POWER INPUT TO HEATING ELEMENT IN ORDER TO MAINTAIN ZONE HEATING SETPOINT.  
THE HEATING SHALL BE ENABLED WHENEVER:
- OUTSIDE AIR TEMPERATURE IS LESS THAN 18°C (68°F) (ADJUSTABLE).
  - AND THE ZONE TEMPERATURE IS BELOW HEATING SETPOINT.
  - AND THE FAN IS ON.
5. FAN STATUS:  
THE BAS SHALL BE ABLE TO MONITOR THE FAN STATUS.  
ALARM SHALL BE PROVIDED AS FOLLOWS:
- FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
  - FAN IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
  - FAN RUNTIME EXCEEDED: FAN STATUS RUNTIME EXCEEDS A USER DEFINABLE LIMIT (ADJUSTABLE)
  - LOW ZONE TEMPERATURE: IF THE ZONE TEMPERATURE IS LESS THAN THE HEATING SETPOINT BY A USER DEFINABLE AMOUNT (ADJUSTABLE)
6. UNIT HEATER STOP:  
IN THE EVENT OF FIRE IN THE SPACE, THE FIRE ALARM SHALL TURN OFF THE UNIT HEATER.



## TYPICAL ELECTRIC UNIT HEATER CONTROLS

SCALE: 1 : 1



## IN-FLOOR HEATING CONTROLS

SCALE: 1 : 1

[illegible]

## Issues

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Do not scale drawings

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Original Issue Date: 2024-07-31  
Project No: TT-24-005  
Scale: N.T.S.

Sheet  
Title:

## MECHANICAL CONTROL SEQUENCES II

Drawing  
No.  
**M-751**

YORK REGIONAL POLICE  
HELICOPTER HANGAR

350 GARFIELD WRIGHT  
BOULEVARD  
TOWN OF EAST GWILLIMBURY

## Key Plan

[illegible]

## Issues

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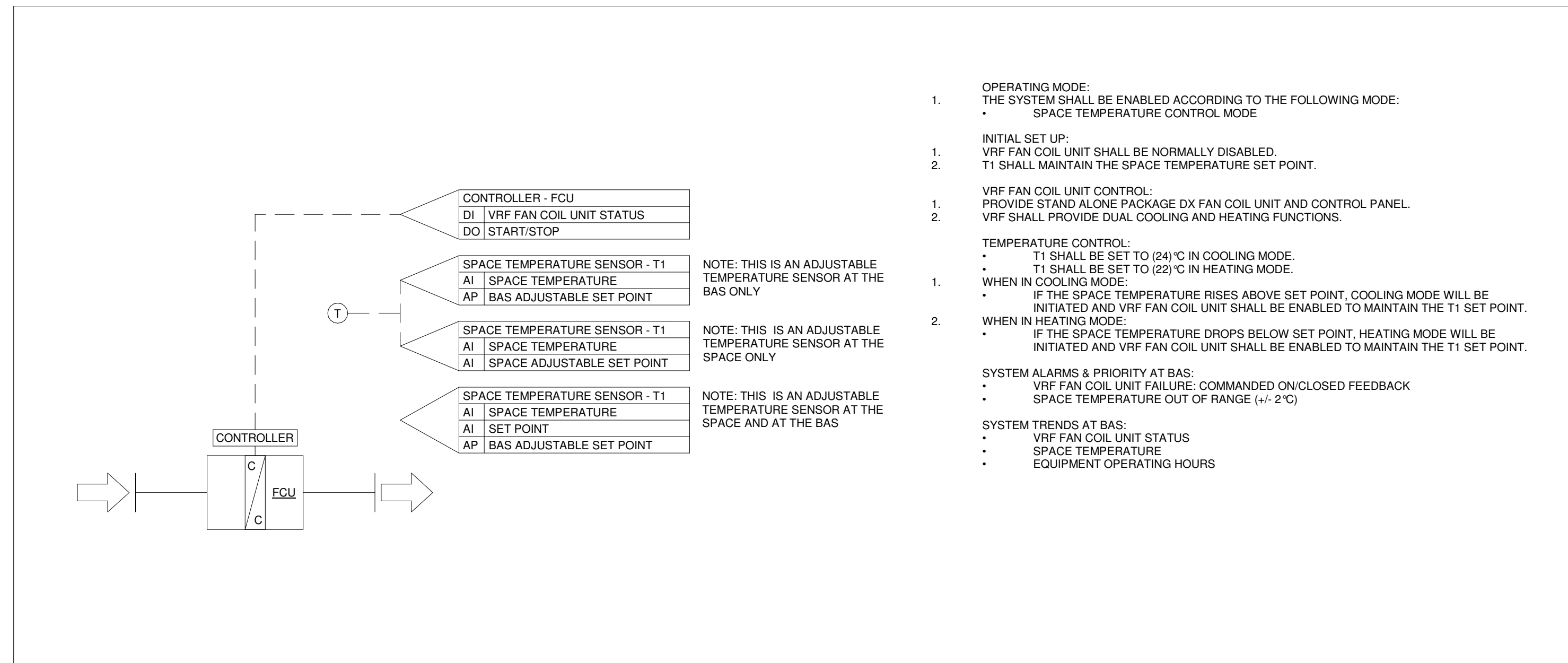
Do not scale drawings

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Project No: TT-24-005  
Scale: 1 : 1

Sheet  
Title:

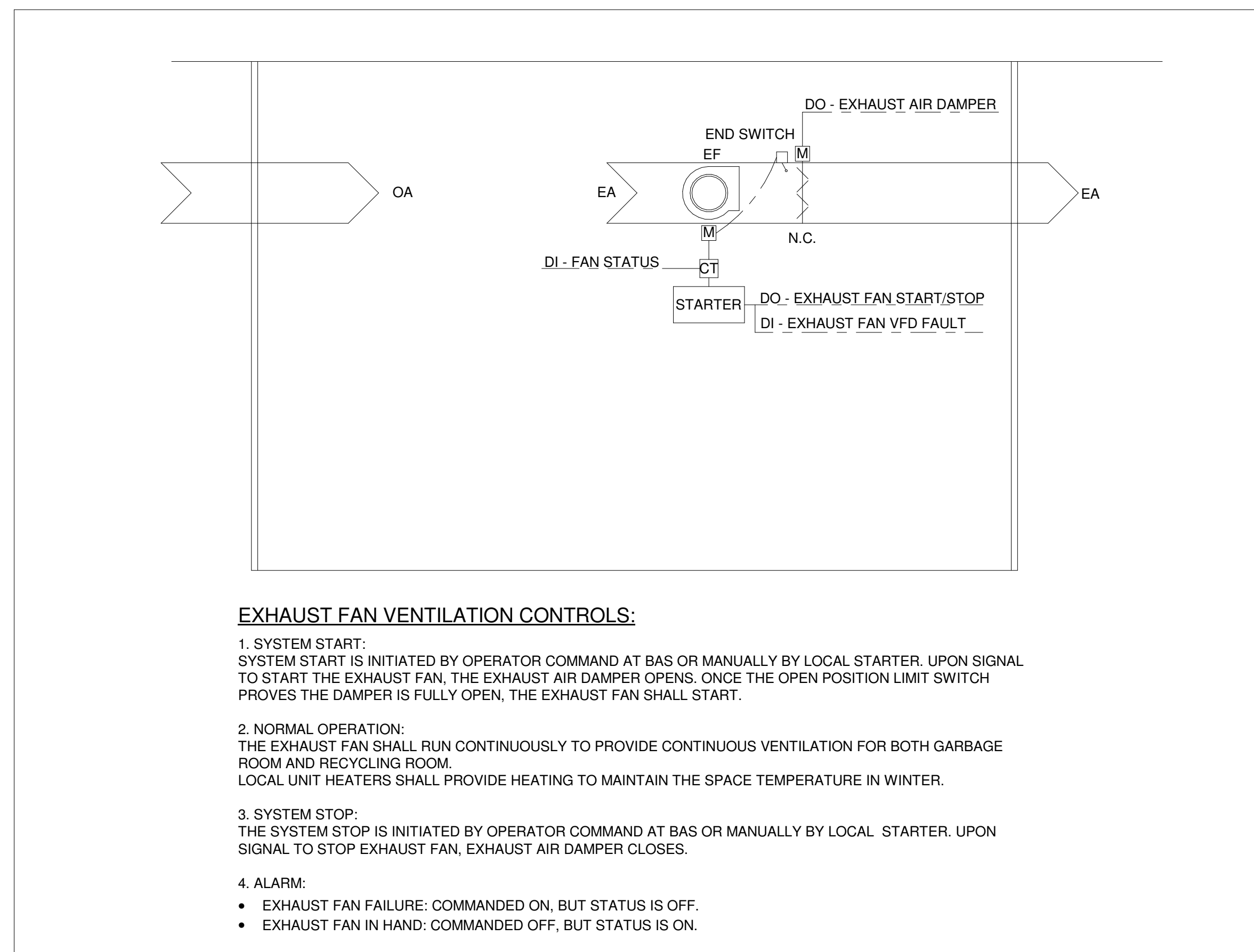
## MECHANICAL CONTROL SEQUENCES III

Drawing  
No.  
**M-752**



## VRF FAN COIL UNIT CONTROL SEQUENCE

SCALE:N.T.S.



## EXHAUST FAN VENT. CONTROLS

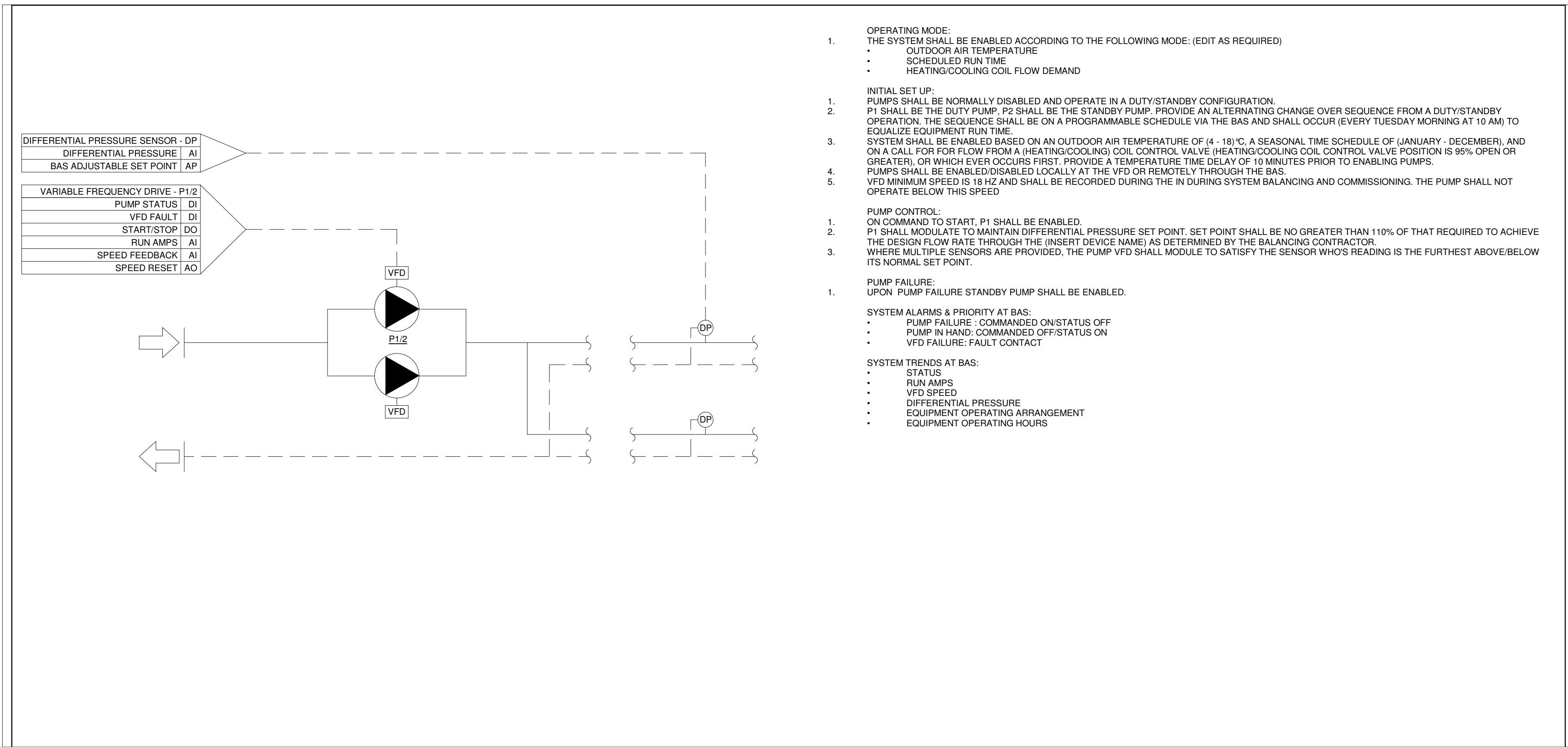
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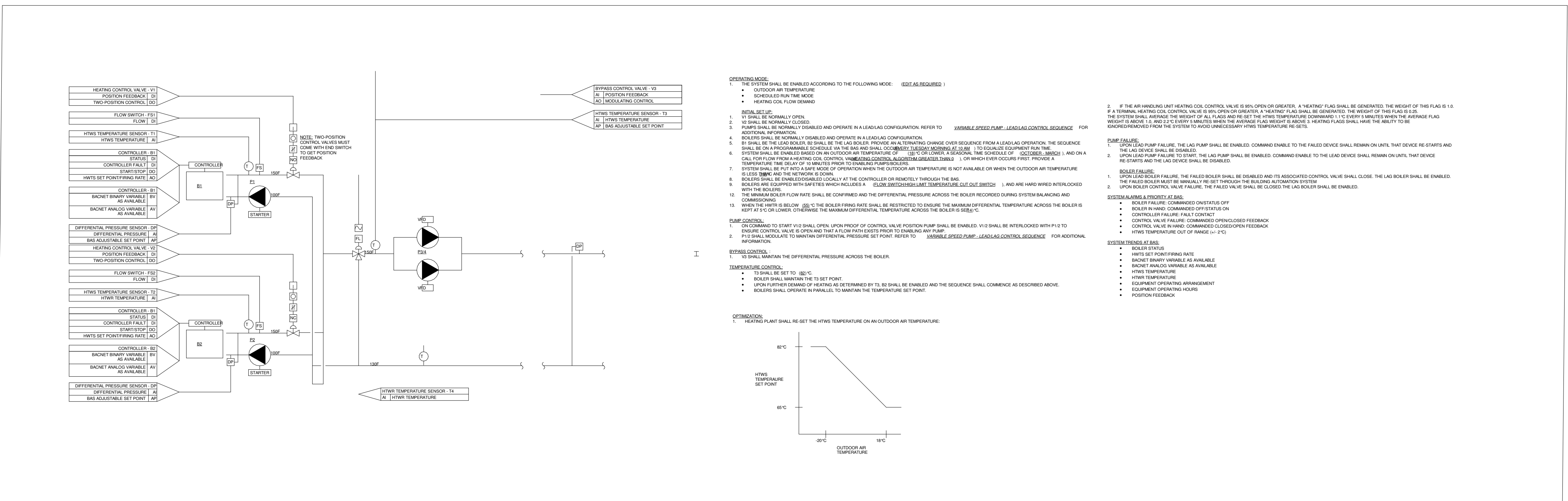
YORK REGIONAL POLICE  
HELICOPTER HANGAR

350 GARFIELD WRIGHT  
BOULEVARD  
TOWN OF EAST GWILLIMBURY

## Key Plan



VARIABLE SPEED PUMP - DUTY/STANDBY CONTROL SEQUENCE



1 CONDENSING BOILER HEATING WATER - LEAD/LAG CONTROL SEQUENCE - VARIABLE/PRIMARY SYSTEM  
NOT TO SCALE

[illegible]

## Issues

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Scale: N.T.S.

Sheet  
Title: MECHANICAL CONTROL  
SEQUENCES IV

-Drawing  
No.  
**M-753**

350 GARFIELD WRIGHT  
BOULEVARD  
TOWN OF EAST GWILLIMBURY

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Project No: TT-24-005  
Scale:

Sheet  
Title: MECHANICAL CONTROL  
SEQUENCES V

Drawing  
No. **M-754**



- CONTROL MODE (OFF, AUTO, COOL ONLY, FAN ONLY, HEAT ONLY)
- OCCUPANCY MODE (AUTO, TENANT, OVERRIDE, OCCUPIED, UNOCCUPIED)
- CHANGE OVER MODE (RETURN AIR, SPACE TEMPERATURE, NETWORK SIGNAL)
- COOLING AND HEATING DISCHARGE AIR TEMPERATURE CONTROL
- SCHEDULING
- BUILDING STATIC PRESSURE CONTROL

**FAN CONTROL:**

1. ON COMMAND TO START MD1 SHALL OPEN. UPON PROOF OF MOTORIZED DAMPER POSITION FANS SHALL BE ENABLED.
2. FAN SHALL MODULATE TO MAINTAIN THE STATIC PRESSURE SET POINT DETERMINED BY P1.
3. EXHAUST FAN SHALL RUN AT CONSTANT SPEED.

FROST PREVENTION CONTROL SEQUENCE:

1. FIRST STAGE.

- T3 SHALL BE SET TO (-15°C DRY BULB).
- ELECTRIC PRE-HEATING COIL SHALL BE ENABLED TO MAINTAIN THE T3 SET POINT.

COMPRESSOR RE-HEAT CONTROL SEQUENCE:

1. COMPRESSOR RE-HEAT IS ENABLED WHEN:
  - DEHUMIDIFICATION SEQUENCE IS REQUIRED AND AVAILABLE.

- O/A TEMPERATURE IS BETWEEN (12°C DRY BULB & 20°C DRY BULB).
- T1 SHALL BE SET TO (20°C DRY BULB).
- ELECTRIC PRE-HEATING COIL SHALL BE DISABLED.
- GAS FIRED BURNER SHALL BE DISABLED.
- COMPRESSOR SHALL BE DISABLED.
- GAS FIRED HUMIDIFIER SHALL BE DISABLED.
- HEAT WHEEL CONTROL SHALL BE ENABLED, AND THE HEAT WHEEL SHALL MODULATE ITS SPEED TO MAINTAIN THE T1 SET POINT IF AVAILABLE.
- IF THE T1 SET POINT IS NOT SATISFIED AND ADDITIONAL COOLING IS REQUIRED, COMPRESSORS SHALL BE ENABLED TO MAINTAIN THE T1 SET POINT.
- COMPRESSORS SHALL BE STAGED ON/OFF AS REQUIRED.
- COMPRESSOR RE-HEAT SHALL BE ENABLED TO MAINTAIN THE T1 SET POINT.

**SYSTEM ALARMS & PRIORITY AT BAS:**

**CONTRACTOR AND THE CONTROLS CONTRACTOR:**

- FAN FAILURE: COMMANDED ON/STATUS OFF
- HIGH SUPPLY AIR TEMPERATURE: T1 IS GREATER THAN 20°C FOR MORE THAN 30 MINUTES IN SUMMER COOLING MODE
- LOW SUPPLY AIR TEMPERATURE: T1 IS LOWER THAN 22°C FOR MORE THAN 30 MINUTES IN WINTER HEATING MODE
- FREEZE STAT: T2 IS EQUAL TO OR LOWER THAN 4°C
- HIGH RETURN AIR TEMPERATURE: T3 IS GREATER THAN 26°F FOR MORE THAN 30 MINUTES IN SUMMER COOLING MODE
- LOW RETURN AIR TEMPERATURE: T3 IS LOWER THAN 18°C FOR MORE THAN 30 MINUTES IN WINTER HEATING MODE
- HIGH RETURN AIR HUMIDITY: H1 IS GREATER THAN 15% R.H. ABOVE DEHUMIDIFICATION MODE SET POINT FOR MORE THAN 30 MINUTES
- LOW RETURN AIR HUMIDITY: H1 IS LOWER THAN 9% R.H. BELOW DEHUMIDIFICATION MODE SET POINT FOR MORE THAN 30 MINUTES





350 GARFIELD WRIGHT  
BOULEVARD  
TOWN OF EAST GWILLIMBURY

[illegible]

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Project No: TT-24-005  
Scale: 1 : 1

Sheet  
Title:

## MECHANICAL SCHEDULES

Drawing  
No. **M-900**

Autodesk Docs://2402 - YRP Helicopter Hanger/TT-24-005-YRP-QCG ME Model\_R24.rvt



350 GARFIELD WRIGHT  
BOULEVARD  
TOWN OF EAST GWILLIMBURY

## Key Plan

[illegible]

## Issues

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Checked by: Ali Nakhaei-Zadeh  
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Project No: TT-24-005  
Scale:

Sheet  
Title:

## MECHANICAL SCHEDULES II

Drawing  
No.  
**M-901**

AIR SOURCE HEAT PUMP												
TAG	REFRIGERANT	HEAT CAPACITY (KW)	FLUID TYPE	FLOW RATE (GPM)	R. TEMP (C)	S. TEMP (C)	P. DROP (PSI)	POWER (KW)	MCA	FLA	MOCP	V/PH/HZ
ASHP-1	R-507	48.7	40% PG	17.1	38	50	0.3	23	87.6	73.3	125	575/3/60

CONDENSERS													
TAG	LOCATION	MODEL	MANUFACTURER	COMB RATIO	AIRFLOW RATE (L/S)	COOLING		HEATING		REFRIGERANT	MCA	V/PH/HZ	WEIGHT (KG)
						AMB. TEMP (C)	CAPACITY (KW)	AMB. TEMP (C)	CAPACITY (KW)				
ODU-1	ROOF	RXYQ144AATJB	DAIKIN	92.6	-	35	40	-20	29.4	R-410A	47.8	230/3/60	350

EXPANSION TANKS								
TAG	LOCATION	SERVICE	BASIS OF DESIGN		VOLUME (L)	TANK ACCEPTANCE (L)	FILL PRESSURE(kPa)	REMARKS
			MANUFACTURER	MODEL				
ET-1	MECHANICAL ROOM	GLYCOL SYSTEM						
ET-2	MECHANICAL ROOM	INFLOOR HEATING						

OUTDOOR CONDENSERS												
TAG	LOCATION	MODEL	MANUFACTURER	AIRFLOW RATE (L/S)	INDOOR CONDITIONS TEMP (C)		OUTDOOR CONDITIONS (TEMP C)					
									REFRIGERANT	MCA	V/PH/HZ	WEIGHT (KG)
ODU-2	HANGAR	FTX24WVJU9...	DAIKIN	1141	26.7 DB/19.4 WB	21.1 DB / 15.6 WB	35 DB/24 WB	8.3DB/6.1 WB	R-410A	18.8	230/1/60	60