

MECHANICAL DRAWING LIST	
Sheet Number	Sheet Title
GENERAL	
M0.1	MECHANICAL DRAWING LEGENDS AND BREAK OUT PRICE 1 KEYPLAN
PLUMBING	
M1.0	FOUNDATION PLAN NEW PLUMBING AND HVAC LAYOUT
M1.1	FIRST FLOOR PLAN NEW PLUMBING LAYOUT
M1.2	SECOND FLOOR PLAN PLUMBING LAYOUT
H.V.A.C.	
M2.0	FIRST FLOOR PLAN NEW HVAC LAYOUT
M2.1	SECOND FLOOR PLAN NEW HVAC
FIRE PROTECTION	
M3.0	FIRST FLOOR SPRINKLER PLAN
M3.1	SECOND FLOOR SPRINKLER PLAN
DETACHED WASHROOM	
M4.0	DETACHED WASHROOMS HVAC
MECH ROOM AND DETAILS	
M5.0	MECHANICAL SCHEMATIC
M5.1	NC205 MECH ROOM
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DEMOLITION	
M6.0	FOUNDATION PLAN PLUMBING & HVAC DEMOLITION
M6.1	FIRST FLOOR PLAN PLUMBING DEMOLITION
M6.2	FIRST FLOOR PLAN HVAC DEMO
M6.3	SECOND FLOOR PLAN HVAC – DEMOLITION
M6.4	MECHANICAL SCHEMATIC – DEMOLITION

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	PIPE DROP OR FROM BELOW		COMBINATION BALANCING AND METERING VALVE
	PIPE UP OR FROM ABOVE		CONSTANT FLOW DEVICE
	VALVE		CHECK VALVE
	SAFETY RELIEF VALVE		BACKFLOW PREVENTOR
	UNION OR FLANGE FITTING		PRESSURE REDUCING VALVE
	FLEXIBLE CONNECTION		STRAINER
	HOSE BIBB		REDUCERS
	PLUMBING FIXTURE (TYPE NOTED)		PUMP
	WALL HYDRANT		VENT THROUGH ROOF
	THERMOMETER		PRESSURE GAUGE
	VACUUM BREAKER		FLOW SWITCH
	WATER TEMPERATURE SENSOR		PRESSURE SWITCH
	PRESSURE TEMPERATURE PLUG		COMPRESSED AIR OUTLET
	FLOOR DRAIN SIZE AS NOTED REFER TO SPECIFICATION FOR TYPES		FLOOR DRAIN FROM ABOVE WITH TRAP
	FUNNEL FLOOR DRAIN SIZE AS NOTED REFER TO SPECIFICATION FOR TYPES		UPTURNED CLEANOUT
	HUB DRAIN SIZE AS NOTED REFER TO SPECIFICATION FOR TYPES		HORIZONTAL CLEANOUT
	ROOF DRAIN SIZE AS NOTED REFER TO SPECIFICATION FOR TYPES		GAS TURRET
	DOMESTIC COLD WATER (DCW)		NATURAL GAS
	DOMESTIC HOT WATER (DHW)		NATURAL GAS VENT
	DOMESTIC HOT WATER RECIRCULATION (DHWRC)		PROPANE GAS
	TEMPERED DOMESTIC HOT WATER		COMPRESSED AIR
	IRRIGATION SYSTEM PIPING		ACID VENT
	SANITARY ABOVE GRADE OR FLOOR		ACID WASTE
	SANITARY BELOW GRADE OR FLOOR		SANITARY VENT
	STORM ABOVE GRADE OR FLOOR		GREASE INTERCEPTOR ABOVE GRADE
	STORM BELOW GRADE OR FLOOR		GREASE INTERCEPTOR BELOW GRADE
	PUMP SANITARY DRAIN		INDIRECT DRAIN (CONDENSATE, ETC.)
	PUMP STORM DRAIN		FOUNDATION DRAIN
	NON-POTABLE WATER		COLD WATER IRRIGATION
	IRRIGATION		HOT WATER IRRIGATION
	SQUARE EXTERIOR AREA DRAIN		MANHOLE
	CIRCULAR AREA DRAIN		MANHOLE CATCH BASIN
	THRUST BLOCK		CATCH BASIN
	GAS METER		WATER METER

NOTE: NOT ALL SYMBOLS APPLY, REFER TO FLOOR PLANS AND DRAWINGS

PLUMBING AND DRAINAGE SYMBOLS AND ABBREVIATIONS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	ELBOW DROPPING		CHECK VALVE
	ELBOW RISING		BACKFLOW PREVENTOR
	ISOLATION VALVE		STRAINER
	CONTROL VALVES		REDUCERS
	SAFETY RELIEF VALVE		PUMP
	UNION OR FLANGE FITTING		COMBINATION BALANCING AND METERING VALVE
	FLEXIBLE CONNECTION		CONSTANT FLOW DEVICE (AUTOFLOW)
	MANUAL AIR VENT		AUTOMATIC AIR VENT
	THERMOMETER		PRESSURE GAUGE
	FLOW SWITCH		AIR OR WATER FLOW IN L/S
	PRESSURE SWITCH		SQUARE ELBOW DUCT WITH TURNING VANE
	WATER TEMPERATURE SENSOR		FIRE DAMPER
	PRESSURE TEMPERATURE PLUG		MOTOR OPERATED DAMPER
	ELECTRIC THERMOSTAT/TEMPERATURE SENSOR		BALANCING DAMPER
	VISUAL FLOW INDICATOR		GRAVITY OR BACKDRAFT DAMPER
	SUPPLY OR OUTSIDE AIR DUCT UP OR FROM ABOVE		ROUND SUPPLY DIFFUSER
	SUPPLY DUCT OR OUTSIDE AIR DUCT DOWN OR FROM BELOW		RETURN OR EXHAUST REGISTER OR GRILLE
	RETURN OR EXHAUST DUCT UP OR FROM ABOVE		SQUARE OR RECTANGULAR DIFFUSER
	RETURN OR EXHAUST DUCT DOWN OR FROM BELOW		NON DUCTED RETURN OR EXHAUST GRILLE
	ROUND DUCT UP OR FROM ABOVE		NON DUCTED ROUND RETURN OR EXHAUST GRILLE
	ROUND DUCT DOWN OR FROM BELOW		SUPPLY AIR BOOT DIFFUSER C/W FLEXIBLE DUCT
	ACOUSTIC LINED DUCT		DUCT MOUNTED SUPPLY OR RETURN GRILLE
	FLEXIBLE CONNECTION		LINEAR SUPPLY OR RETURN GRILLE
	FLEXIBLE DUCTWORK		UNIT HEATER
	DOOR GRILLE		UNIT FIN ELEMENT IN CONTINUOUS ENCLOSURE
DIFFUSER GRILLE OR REGISTER TYPE: (neck or face size (inches or mm) AIR FLOW (CFM or L/s))		HEATING ELEMENT TAG: ENCLOSURE TYPE: A-1200W-1 HEATING CAPACITY 1844 ACTIVE ELEMENT LENGTH	
	HWS HEATING WATER SUPPLY		HWCS HEAT PUMP WATER SUPPLY
	HWR HEATING WATER RETURN		HWCR HEAT PUMP WATER RETURN
	CHS CHILLED WATER SUPPLY		CSS GROUND SOURCE SUPPLY
	CHR CHILLED WATER RETURN		GSR GROUND SOURCE RETURN
	CWS CONDENSER WATER SUPPLY		CRS REFRIGERATION SUCTION
	CWR CONDENSER WATER RETURN		RL REFRIGERATION LIQUID
	AS AIR SEPARATOR		HT HEAT TRACE

NOTE: NOT ALL SYMBOLS APPLY, REFER TO FLOOR PLANS AND DRAWINGS

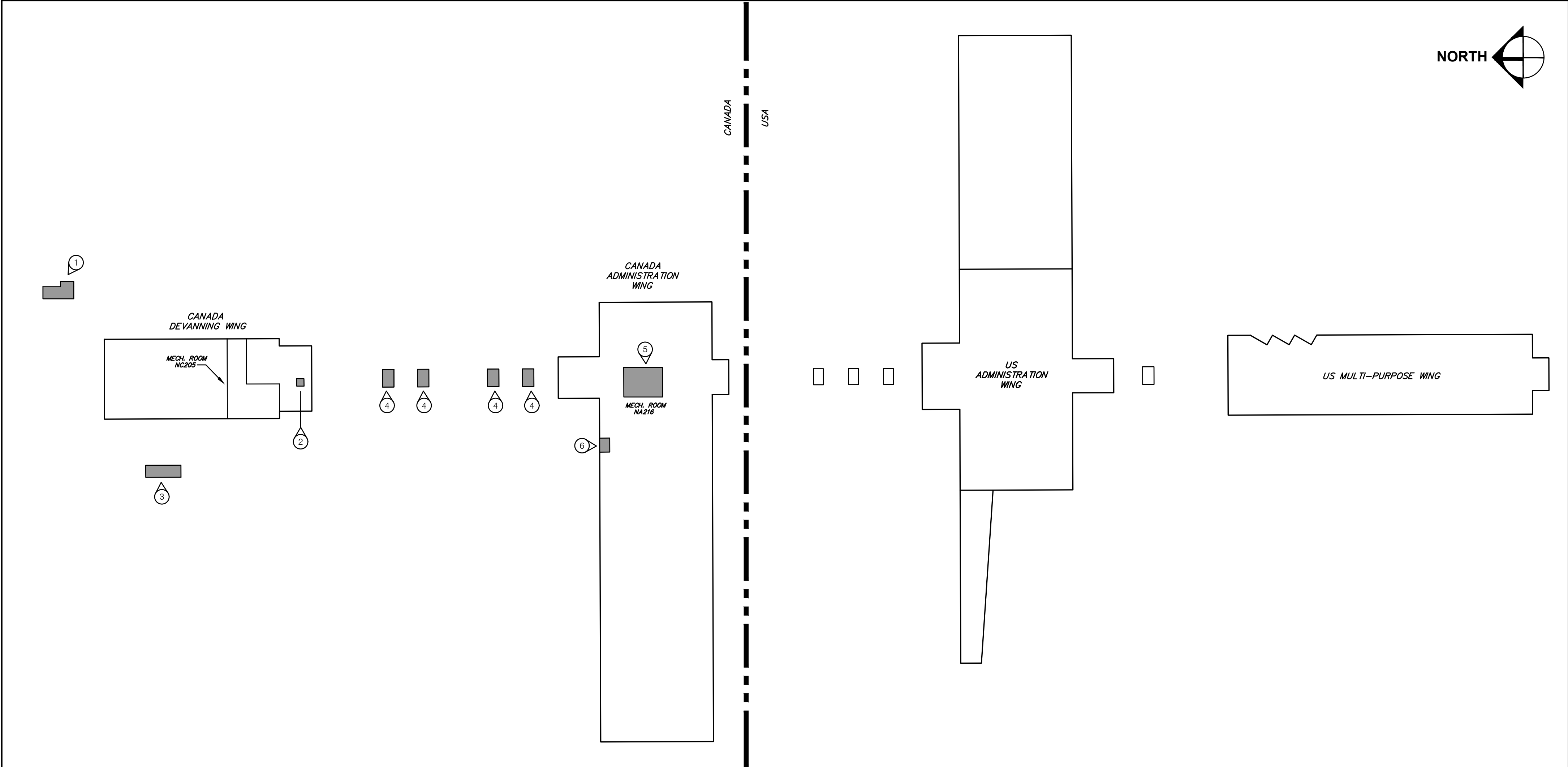
HVAC SYMBOLS AND ABBREVIATIONS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	PIPE DROP OR FROM BELOW		CHECK VALVE
	PIPE UP OR FROM ABOVE		BACKFLOW PREVENTOR
	VALVE		PRESSURE REDUCING VALVE
	SUPERVISED VALVE		STRAINER
	SAFETY RELIEF VALVE		REDUCERS
	UNION OR FLANGE FITTING		PUMP
	FLOW SWITCH		PENDANT SPRINKLER HEAD
	PRESSURE SWITCH		DRY PENDANT SPRINKLER HEAD
	WET SPRINKLER PIPE		UPRIGHT SPRINKLER HEAD
	DRY SPRINKLER PIPE		UPRIGHT & PENDANT SPRINKLER HEAD
	FIRE DEPARTMENT CONNECTION		CONCEALED SPRINKLER HEAD
	FIRE HOSE CABINET AND TYPE		SIDEWALL SPRINKLER HEAD (BELOW CEILING)
	SPRINKLER SHUT-OFF VALVE CABINET AND TYPE		SIDEWALL SPRINKLER HEAD (ABOVE CEILING)
	FIRE EXTINGUISHER AND TYPE		DRY SIDEWALL SPRINKLER HEAD
	FIRE REEL AND TYPE		EXTENDED SIDEWALL SPRINKLER HEAD
	FIRE LINE		WINDOW SPRINKLER HEAD
	FIRE HOSE STANDPIPE		FIRE HYDRANT
	F.S.P. FIRE STANDPIPE		WATER MOTOR GONG

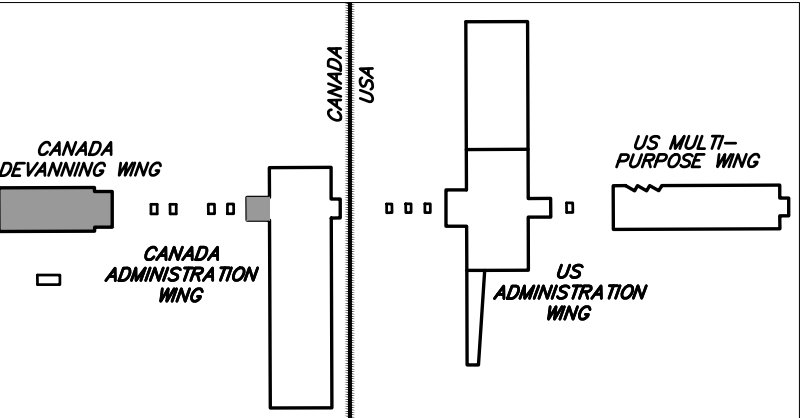
NOTE: NOT ALL SYMBOLS APPLY, REFER TO FLOOR PLANS AND DRAWINGS

FIRE PROTECTION SYMBOLS AND ABBREVIATIONS

BREAKOUT PRICE #1	
DRAWING NOTES APPLY WHERE INDICATED:	
1	ECM ITEM 5.11: INSTALL PROGRAMMABLE THERMOSTAT IN PWGSC CONTAINER
2	ECM ITEM 5.4: BUSSES PASSENGER PROCESSING AREA HVAC CONTROL UPGRADE (HP-3), PROVIDE OCCUPANCY SENSOR IN: NOTED FOR HP-3
3	ECM ITEM 5.5: PUBLIC WASHROOM CONTROL UPGRADE, PROVIDE OCCUPANCY SENSOR IN: NC102 & NC103 FOR FORMER F-3
4	ECM ITEM 5.7: REDUCE PLE BOOTHS STANDBY VENTILATION ENERGY, PROVIDE OCCUPANCY SENSOR IN: NOTED PLE BOOTHS, NOTED PLE BOOTHS, NOTED PLE BOOTHS, NOTED PLE BOOTHS FOR HP-3
5	ECM ITEM 5.8: REDUCE ADMIN BUILDING VENTILATION HEATING
6	ECM ITEM 5.10: REPLACE VESTIBULE ELECTRIC UNIT HEATER THERMOSTAT



LARGE SCALE KEYPLAN
N.T.S.



KEYPLAN

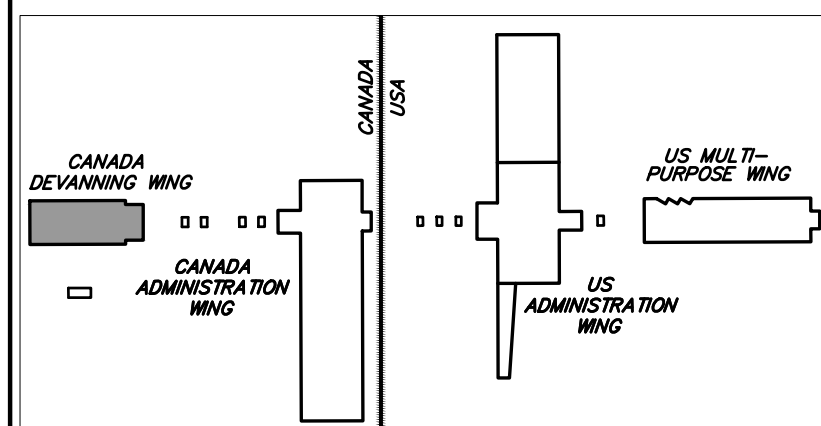
Revision/	Description/Description	Date/Date
5	ISSUED FOR TENDER	2017/04/27
4	ISSUED FOR 99% CD	2017/02/06
3	ISSUED FOR 66% CD	2016/12/21
2	ISSUED FOR 33% CD	2016/11/09
1	ISSUED FOR DESIGN DEVELOPMENT	2016/10/28
0	ISSUED FOR SCHEMATIC DESIGN COSTING	2016/08/12

CANADA BORDER SERVICES AGENCY

Project title/Titre du projet
Canada Devanning Wing
#202-97th Street
Osoyoos BC V0H 1V1
OKANAGAN & KOOTENAY DISTRICT
OFFICE RELOCATION

Consultant Signature Box Only
SMITH AND ANDERSEN
Designed by/Concept par
AC
Drawn by/Dessiné par
SC
PWGSC Project Manager/Administrateur de Projets TP5GC
JULIAN HO
PWGSC Regional Manager, Architectural and Engineering Services/
Gestionnaire régionale, Services d'architecture et de génie, TP5GC
PREETIPAL PAUL

Drawing title/Titre du dessin
MECHANICAL DRAWING LEGENDS
AND BREAK OUT PRICE 1 KEYPLAN



KEYPLAN

5	ISSUED FOR TENDER	2017/04/27
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Revision		

Client/client

CANADA BORDER
SERVICES AGENCY

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Canada Devanning Wing
#202-97th Street
Osoyoos BC V0H 1V1

OKANAGAN & KOOTENAY
DISTRICT
OFFICE RELOCATION

Consultant Signature Box Only
SMITH AND ANDERSEN

Designed by/Concept par
AC

Drawn by/Dessiné par
SC

PWGSC Project Manager/Administrateur de Projets TPSSC
JULIAN HO

PWGSC Regional Manager, Architectural and Engineering Services/
Gestionnaire régionale, Services d'architectural et de génie, TPSSC
PREETIPAL PAUL

Drawing title/Titre du dessin

FOUNDATION PLAN NEW PLUMBING
AND HVAC LAYOUT

Project No./No. du projet

R.082890.001

Sheet/Feuille

M1.0

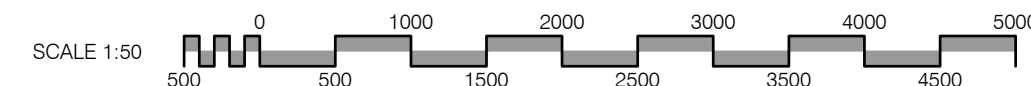
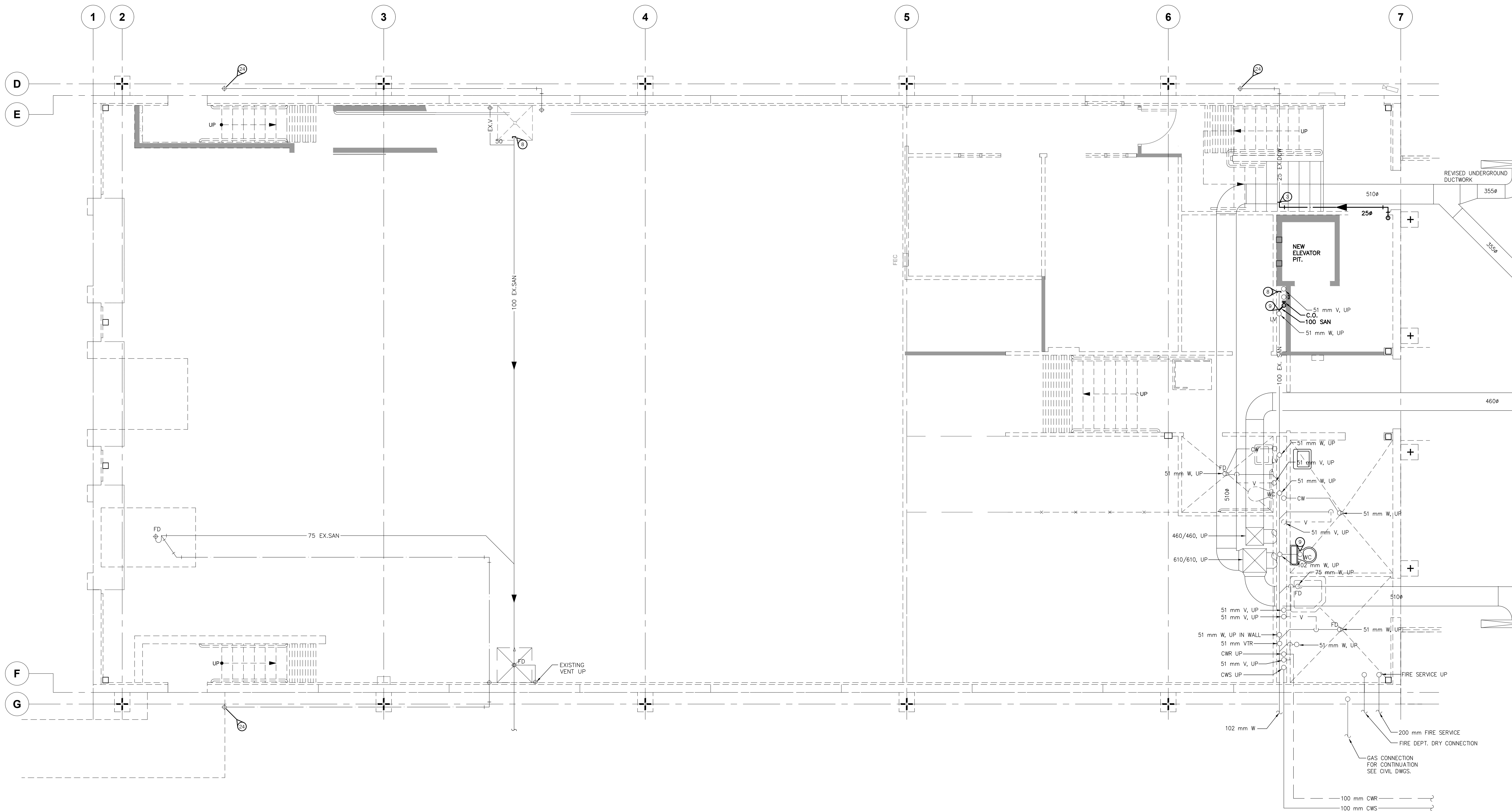
2 OF 17

Revision no./

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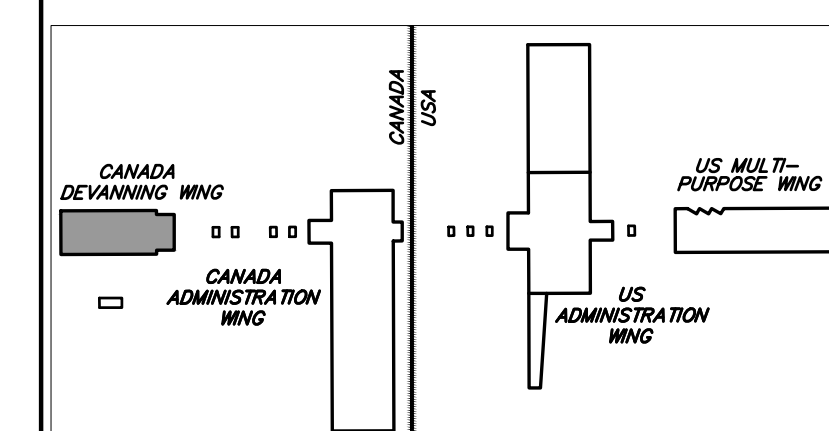
DRAWING NOTES APPLY WHERE INDICATED:

1. BEAM OVER.
2. BULKHEAD OR FURRING.
3. CONTRACTOR TO REVIEW EXISTING WATER PIPE INSTALLATION BELOW GRADE BEFORE COMMENCING WORK. IF PIPE IN PIPE, CONNECT NEW WATER LINE AS SHOWN AND TIE PIPE IN PIPE TO EXISTING. IF NOT PIPE IN PIPE, CONTRACTOR TO STOP WORK AND REPORT TO MECHANICAL ENGINEER ASAP.
4. EXISTING TO REMAIN IN SERVICE.
5. EXISTING TO BE ABANDONED. REMOVE AS REQUIRED TO SUIT NEW CONSTRUCTION.
6. EXISTING TO BE RELOCATED.
7. EXISTING TO BE REMOVED.
8. CAP EXISTING IN THIS APPROXIMATE LOCATION.
9. CONNECT TO EXISTING IN THIS APPROXIMATE LOCATION.
10. REFER TO LARGE SCALE PLAN.
11. FOR CONTINUATION, SEE SITE SERVICES.
12. ROOF ACCESS.
13. CEILING ACCESS.
14. BUILDING GAS SERVICE AND METER.
15. CLEAN-OUT AT GRADE. REFER TO DETAIL.
16. RUN PIPE AT 2% SLOPE WHERE INDICATED BY DRAWING NOTE.
17. IRRIGATION WATER SERVICE.
18. ROUGH-IN HOT, COLD, WASTE AND VENT PIPING IN WALL FOR FUTURE FIXTURE.
19. PROVIDE 38mm TRAPPED WASTE AND 13mm VALVED HOT WATER SUPPLY TO SUIT DISHWASHER.
20. MOUNT ON STAND. DRAIN TO CUSTODIAN SINK.
21. GAS PRV FROM 34kPa to 0.34kPa C/W ISOLATION VALVE. PROVIDE PRV VENT AS PER GAS CODE.
22. GAS SUPPLY UP TO ROOF MOUNTED EQUIPMENT. REFER TO DETAIL.
23. EXTEND DOMESTIC WATER SERVICE TO THIS POINT AND DISTRIBUTE HOT AND COLD SUPPLY TO EACH FIXTURE IN THE ROOM.
24. EXISTING COW UP TO EXISTING HOSEBIBS ABOVE.



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KEYPLAN

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Revision/	Description/Description	Date/Date

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**CANADA BORDER
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Canada Devanning Wing
#202-97th Street
Osoyoos BC V0H 1V1

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SMITH AND ANDERSEN

Designed by/Concept par	AC
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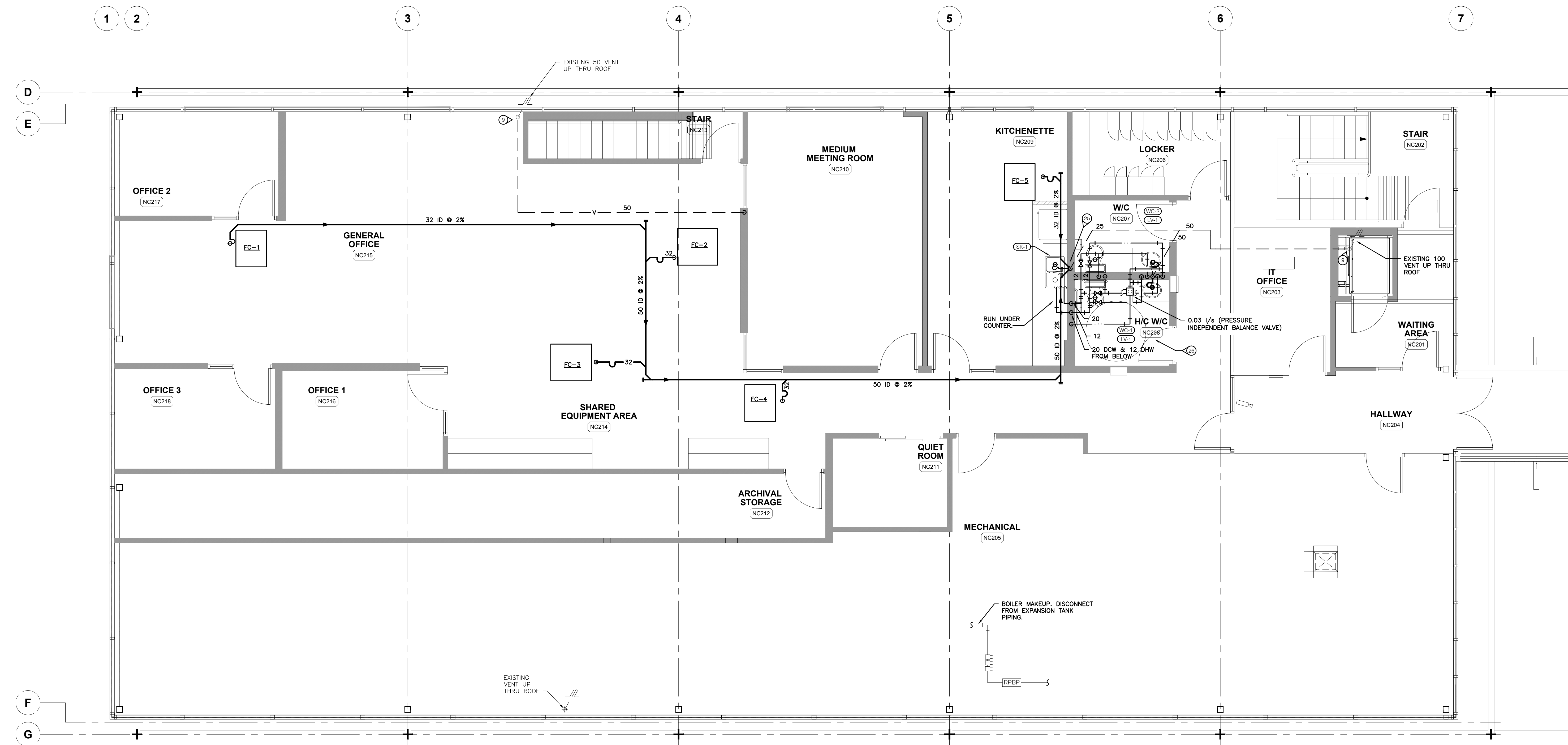
PWGSC Project Manager/Administrateur de Projets TPSGC
JULIAN HO

PWGSC, Regional Manager, Architectural and Engineering Services/
Gestionnaire régionale, Services d'architecture et de génie, TPSGC
PREETIPAL PAUL

Drawing title/Titre du dessin

SECOND FLOOR PLAN PLUMBING LAYOUT

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R.082890.001	M1.2	5
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DRAWING NOTES APPLY WHERE INDICATED:

- | | | | |
|-----|--|-----|---|
| 1. | PATCH AND MAKE GOOD EXISTING FLOOR. | 5. | RUN PIPE AT 2% SLOPE WHERE INDICATED BY DRAWING NOTE. |
| 2. | BULKHEAD OR FURRING. | 6. | IRRIGATION WATER SERVICE. |
| 3. | CAP FOR FUTURE. | 7. | ROUGH-IN HOT, COLD, WASTE AND VENT PIPING IN WALL FOR FUTURE FIXTURE. |
| 4. | EXISTING TO REMAIN IN SERVICE. | 8. | PROVIDE 36mm TRAPPED WASTE AND 12mm VALVED HOT WATER SUPPLY TO SUIT DISHWASHER. |
| 5. | EXISTING TO BE ABANDONED. REMOVE AS REQUIRED TO SUIT NEW CONSTRUCTION. | 9. | MOUNT ON STAND. DRAIN TO CUSTODIAN SINK. |
| 6. | EXISTING TO BE RELOCATED. | 10. | GAS PRV (FROM 34kPa to 3.5kPa) CW ISOLATION VALVE. PROVIDE PRV VENT AS PER GAS CODE. |
| 7. | EXISTING TO BE REMOVED. | 22. | GAS SUPPLY UP TO ROOF MOUNTED EQUIPMENT. REFER TO DETAIL. |
| 8. | CAP EXISTING IN THIS APPROXIMATE LOCATION. | 23. | EXTEND DOMESTIC WATER SERVICE TO THIS POINT AND DISTRIBUTE HOT AND COLD SUPPLY TO EACH FIXTURE IN THE ROOM. |
| 9. | CONNECT TO EXISTING IN THIS APPROXIMATE LOCATION. | 24. | 75mm BUILDING VENT. |
| 10. | REFER TO LARGE SCALE PLAN. | 25. | DROP 50mm CONDENSATE (ID) IN KITCHEN WALL & CONNECT TO SINK SANITARY DOWNSTREAM OF TRAP. |
| 11. | FOR CONTINUATION, SEE SITE SERVICES. | 26. | ALL NEW DOMESTIC HOT AND DOMESTIC COLD IS TO BE LABELLED NON POTABLE. |
| 12. | ROOF ACCESS. | 27. | RE-BALANCE RECIRC LINE. |
| 13. | CEILING ACCESS. | | |
| 14. | BUILDING GAS SERVICE AND METER. | | |
| 15. | CLEAN-OUT AT GRADE. REFER TO DETAIL. | | |

PHASING NOTES

CONFIRM PHASING SEQUENCE BEFORE BEGINNING WORK.

PHASE 1: TEMPORARY 1000x1000 EXHAUST DUCT TO REMAIN IN PHASE 3 ZONE. (REFER TO PLAN). CAP OTHER 2 DIFFUSERS (1160 L/S EACH) ALONG GRID F. EXHAUST FAN EF-2 CONTROLLED FROM EXISTING CO SENSOR IN PHASE 3 ZONE. (ALONG GRID 5). NEW CO SENSOR ALONG GRID F TO BE DISABLED.

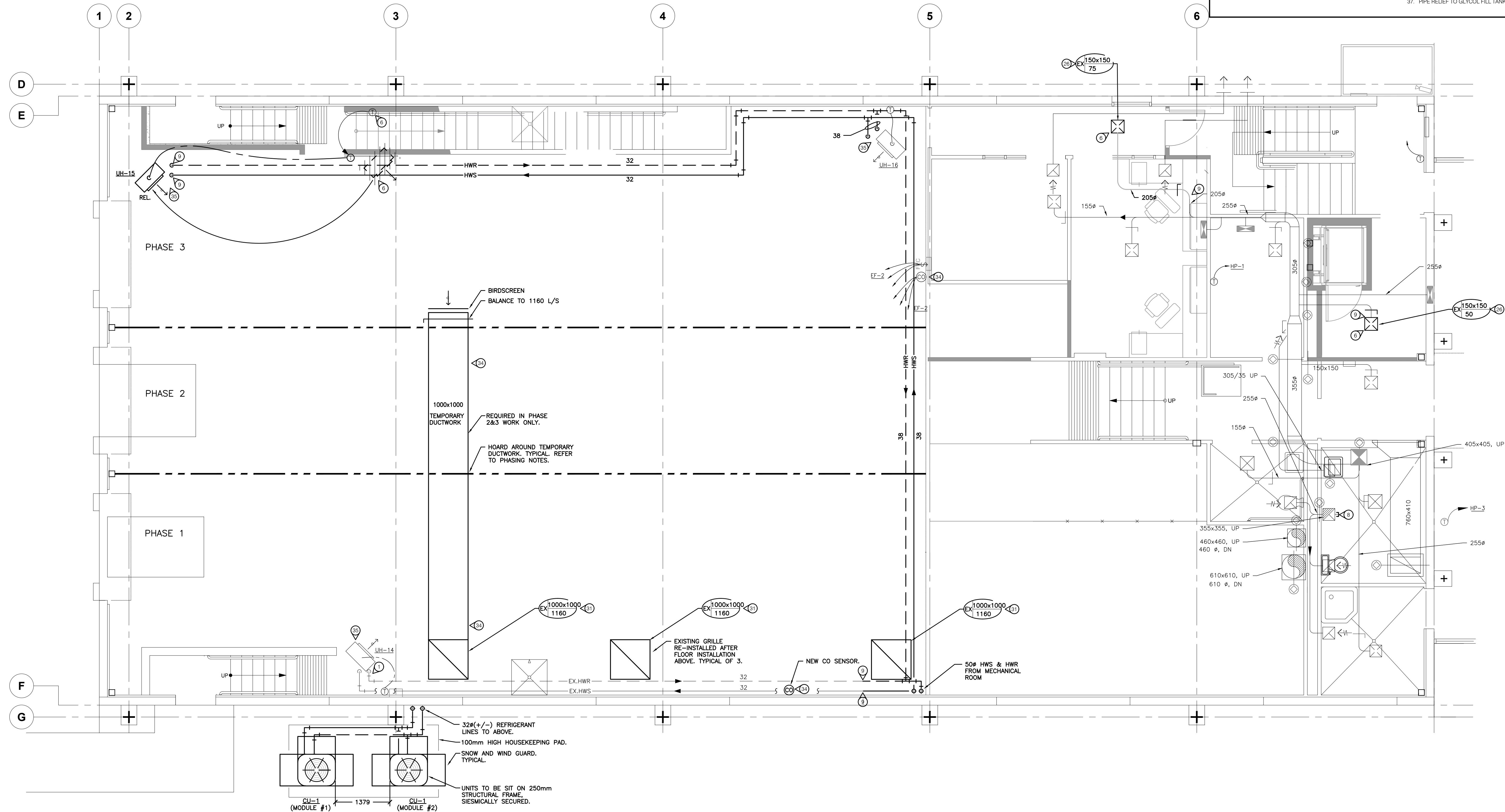
PHASE 2: TEMPORARY 1000x1000 EXHAUST DUCT TO REMAIN IN PHASE 3 ZONE. (REFER TO PLAN). EXHAUST FAN EF-2 CONTROLLED FROM EXISTING CO SENSOR IN PHASE 3 (ALONG GRID 5) AND NEW SENSOR IN PHASE 1 ZONE (ALONG GRID 5).


PHASE 3: REMOVE TEMPORARY 1000x1000 EXHAUST DUCT INTO PHASE 3 ZONE. (REFER TO PLAN). ATTACH EXISTING GRILLE TO DUCT MAIN NEAR GRID F AND ENSURE BALANCE IS ACCURATE (1160 L/S). EXHAUST FAN EF-2 CONTROLLED FROM NEW CO SENSOR IN PHASE 1 (ALONG GRID 5) AND EXISTING CO SENSOR (ALONG GRID 5) TO BE DISABLED.

FINAL: AFTER ALL PHASING COMPLETE, ENABLE BOTH CO SENSORS.

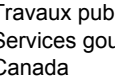
DRAWING NOTES APPLY WHERE INDICATED:

- REFER TO DETAIL FOR VALVING ARRANGEMENT.
- CONNECT TO EXISTING LOUVER AT LOW LEVEL.
- CAP FOR FUTURE.
- EXISTING TO REMAIN IN SERVICE.
- EXISTING TO BE ABANDONED. REMOVE AS REQUIRED TO SUIT NEW CONSTRUCTION.
- EXISTING TO BE RELOCATED.
- EXISTING TO BE REMOVED.
- CAP EXISTING IN THIS APPROXIMATE LOCATION.
- CONNECT TO EXISTING IN THIS APPROXIMATE LOCATION.
- REFER TO LARGE SCALE PLAN.
- FOR CONTINUATION, SEE SITE SERVICES.
- ROOF ACCESS.
- CEILING ACCESS.
- DUCT IN JOIST SPACE.
- DUCT TIGHT TO UNDERSIDE OF STRUCTURE IN CEILING SPACE.
- ALL DUCT RUNOUTS TO DIFFUSERS ARE TO BE DIFFUSER NECK SIZE UNLESS OTHERWISE INDICATED.
- PROVIDE MANUAL VOLUME DAMPER. PROVIDE ACCESS AS REQUIRED.
- MOUNT GRILLE 200mm ABOVE FLOOR LEVEL.
- DUCT UP TO GOOSENECK ON ROOF.
- REFER TO DETAIL FOR VALVING ARRANGEMENT.
- PROVIDE BACKDRAFT DAMPER AT BUILDING ENVELOPE PENETRATION. REFER TO SPEC.
- PROVIDE TRANSITION FOR DUCT UNDER BEAM.
- ELECTRIC HEAT BY OTHERS.
- GRAVITY BACKDRAFT DAMPER.
- PROVIDE FIRE DAMPER AT FIRE SEPARATION.
- RE-BALANCE EXISTING GRILLE OR DIFFUSER TO NEW SPECIFIED AIR FLOW.
- WALL MOUNTED TIMER FOR **ExH-2** OPERATION.
- BREAKOUT PRICE #1.
- 1000 BOILER EXHAUST UP IN NEW ROOF OPENING. REFER TO ARCHITECTURAL DETAILS.
- 1000 UP THROUGH EXISTING EXHAUST PENETRATION THROUGH ROOF.
- CONTRACTOR TO CONFIRM EXISTING LOCATION ON SITE.
- COORDINATE WITH CONTROLS CONTRACTOR TO RE-BALANCE. THERE WILL BE TWO BALANCE VALVES. MINIMUM AND MAKE-UP FOR EXHAUST FAN EF-2.
- EXACT SIZE TO BE VERIFIED ON SITE AND COORDINATE WITH GENERAL CONTRACTOR FOR FRAMING DIMENSION IN NEW FLOOR PENETRATION.
- REFER TO PHASING NOTES.
- REBALANCE EXISTING HYDRONIC TERMINAL.
- REPAIR EXISTING CHEMICAL POT FEEDER AND PROVIDE NEW MICRON FILTER IN THIS LOCATION. REFER TO DETAILS.
- PIPE RELIEF TO GLYCOL FILL TANK.






Public Works and
Government Services
Canada




Travaux publics et
Services gouvernementaux
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REAL PROPERTY SERVICES
Pacific Region
SERVICES IMMOBILIERS
Région de Pacifique

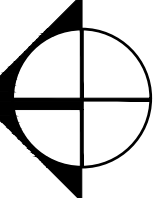



CHERNOFF THOMPSON
ARCHITECTS



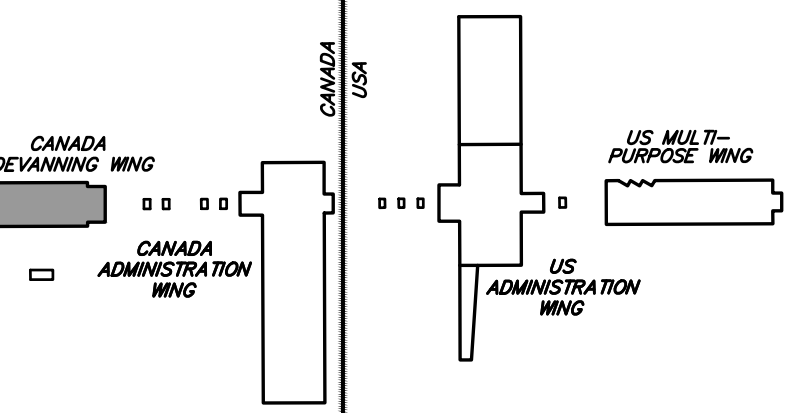
Smith + Andersen
Job No. 16442.001

NORTH





PROFESSIONAL ENGINEER
REGISTERED
A.H. CARMEL
31607
MECHANICAL
2017-04-27



KEYPLAN

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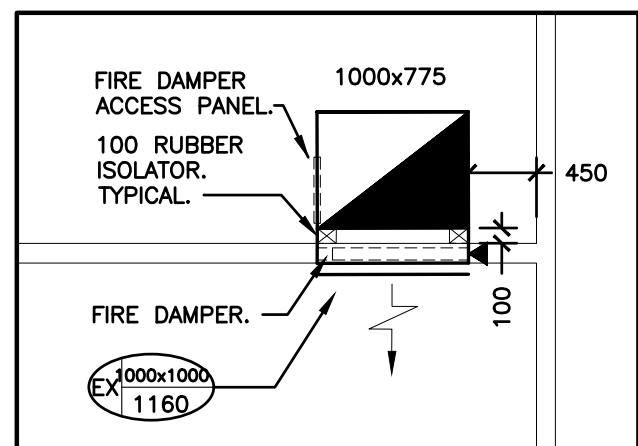
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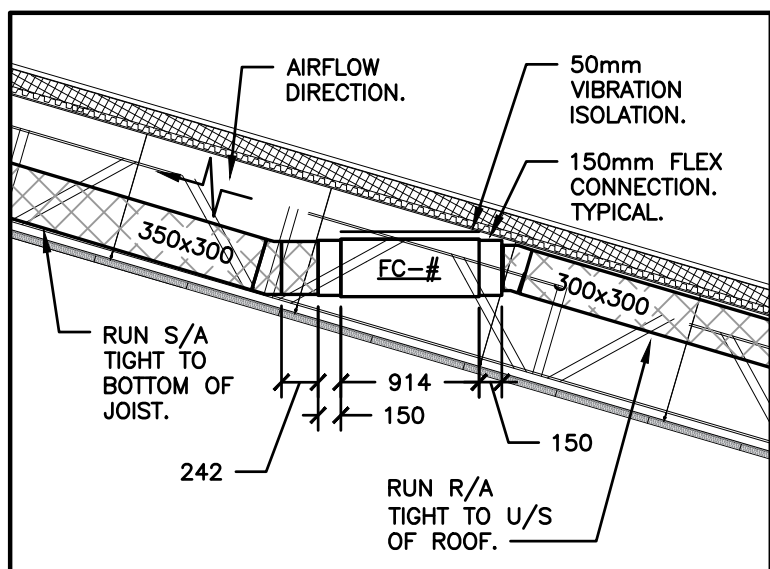
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Gestionnaire régionale, Services d'architectural et de génie, TPSCG
PREETIPAL PAUL

Drawing title/Titre du dessin
FIRST FLOOR PLAN NEW HVAC
LAYOUT

Project No./No. du projet R.082890.001	Sheet/Fauille M2.0 5 OF 17	Revision no./ Lo Révision no. 5
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RELOCATED DUCTWORK DETAIL
1:50



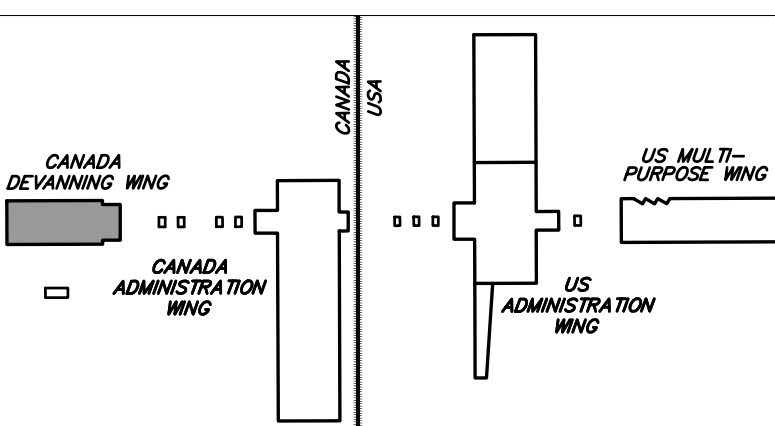
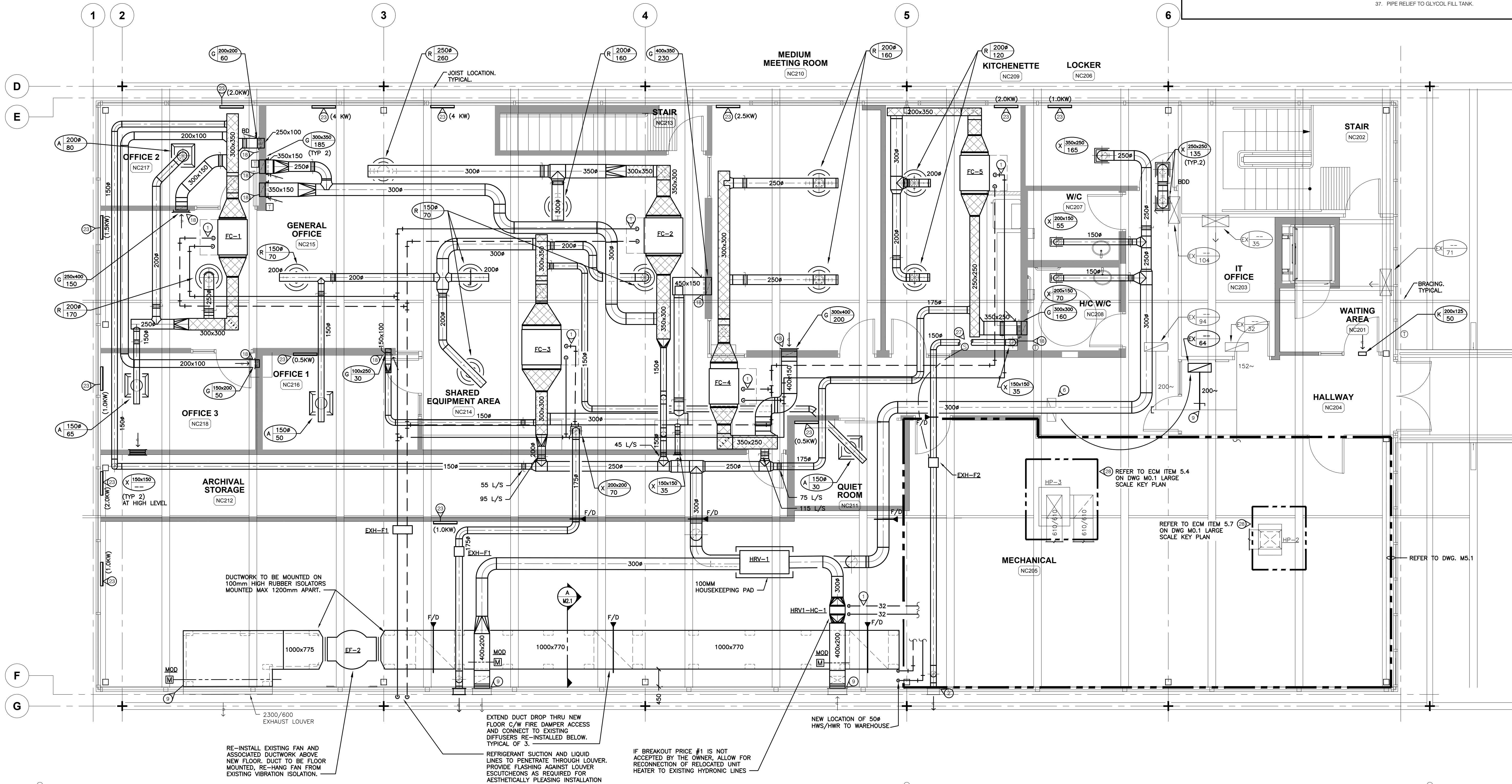
TYPICAL FANCOIL INSTALLATION DETAIL
1:50

GENERAL NOTES:

- FANCOILS TO BE MOUNTED LEVEL IN BETWEEN JOISTS. REFER TO INSTALLATION DETAIL ON THIS PAGE.
- RECTANGULAR SUPPLY AND RETURN DUCTWORK TO FANCOIL TO FOLLOW SLOPE OF CEILING. REFER TO INSTALLATION DETAIL ON THIS PAGE. SUPPLY TO RUN TIGHT TO BOTTOM OF JOIST TO MINIMIZE STRAIGHT DUCT RUN OUT OF UNIT. RETURN TO RUN TIGHT TO U/S OF ROOF.
- CIRCULAR DUCTWORK TO RUN AT HIGH LEVEL IN BETWEEN JOIST WEBBING WHERE POSSIBLE.
- DIFFUSERS TO BE MOUNTED FLUSH IN T-BAR CEILING FOLLOWING SLOPE OF JOISTS.
- COMMISSION THE RELOCATED EXHAUST FAN EF-2 AND ASSOCIATED DUCTWORK DIRECTLY AFTER COMPLETING WORK.

DRAWING NOTES APPLY WHERE INDICATED:

- REFER TO DETAIL FOR VALVING ARRANGEMENT.
- CONNECT TO EXISTING LOUVER AT LOW LEVEL.
- CAP FOR FUTURE.
- EXISTING TO REMAIN IN SERVICE.
- EXISTING TO BE ABANDONED. REMOVE AS REQUIRED TO SUIT NEW CONSTRUCTION.
- EXISTING TO BE RELOCATED.
- EXISTING TO BE REMOVED.
- CAP EXISTING IN THIS APPROXIMATE LOCATION.
- CONNECT TO EXISTING IN THIS APPROXIMATE LOCATION.
- REFER TO LARGE SCALE PLAN.
- FOR CONTINUATION, SEE SITE SERVICES.
- ROOF ACCESS.
- CEILING ACCESS.
- DUCT IN JOIST SPACE.
- DUCT TIGHT TO UNDERSIDE OF STRUCTURE IN CEILING SPACE.
- ALL DUCT RUNOUTS TO DIFFUSERS ARE TO BE DIFFUSER NECK SIZE UNLESS OTHERWISE INDICATED.
- PROVIDE MANUAL VOLUME DAMPER. PROVIDE ACCESS AS REQUIRED.
- MOUNT GRILLE 200mm ABOVE FLOOR LEVEL.
- DUCT UP TO GOOSENECK ON ROOF.
- MOUNT AT HIGH LEVEL.
- PROVIDE BACKDRAFT DAMPER AT BUILDING ENVELOPE PENETRATION. REFER TO SPEC.
- CAP FOR FUTURE.
- ELECTRIC HEAT BY OTHERS.
- GRAVITY BACKDRAFT DAMPER.
- PROVIDE FIRE DAMPER AT FIRE SEPARATION.
- RE-BALANCE EXISTING GRILLE OR DIFFUSER TO NEW SPECIFIED AIR FLOW.
- WALL MOUNTED TIMER FOR EXH-F2 OPERATION.
- BREAKOUT PRICE #1.
- 1000 BOILER EXHAUST UP IN NEW ROOF OPENING. REFER TO ARCHITECTURAL DETAILS.
- 1000 UP THROUGH EXISTING EXHAUST PENETRATION THROUGH ROOF.
- CONTRACTOR TO CONFIRM EXISTING LOCATION ON SITE.
- COORDINATE WITH CONTROLS CONTRACTOR TO RE-BALANCE. THERE WILL BE TWO BALANCE VALVES, MINIMUM AND MAKE-UP FOR EXHAUST FANER.
- EXACT SIZE TO BE VERIFIED ON SITE AND COORDINATE WITH GENERAL CONTRACTOR FOR FRAMING DIMENSION IN NEW FLOOR PENETRATION.
- REFER TO PHASING NOTES.
- RE-BALANCE EXISTING HYDRONIC TERMINAL.
- PEPIPE EXISTING CHEMICAL POT FEEDER AND PROVIDE NEW MICRON FILTER IN THIS LOCATION. REFER TO DETAILS.
- PIPE RELIEF TO GLYCOL FILL TANK.



KEYPLAN

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1	ISSUED FOR DESIGN DEVELOPMENT	2016/10/28
0	ISSUED FOR SCHEMATIC DESIGN COSTING	2016/08/12
Revision/	Description/Description	Date/Date

CANADA BORDER SERVICES AGENCY

Project title/Titre du projet
**Canada Devanning Wing
#202-97th Street
Osoyoos BC V0H 1V1**
**OKANAGAN & KOOTENAY DISTRICT
OFFICE RELOCATION**

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JULIAN HO

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PREETIPAL PAUL

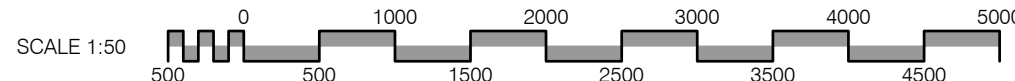
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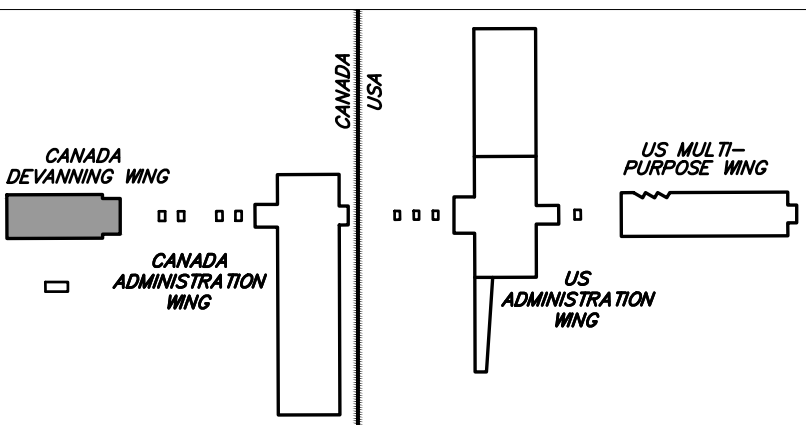
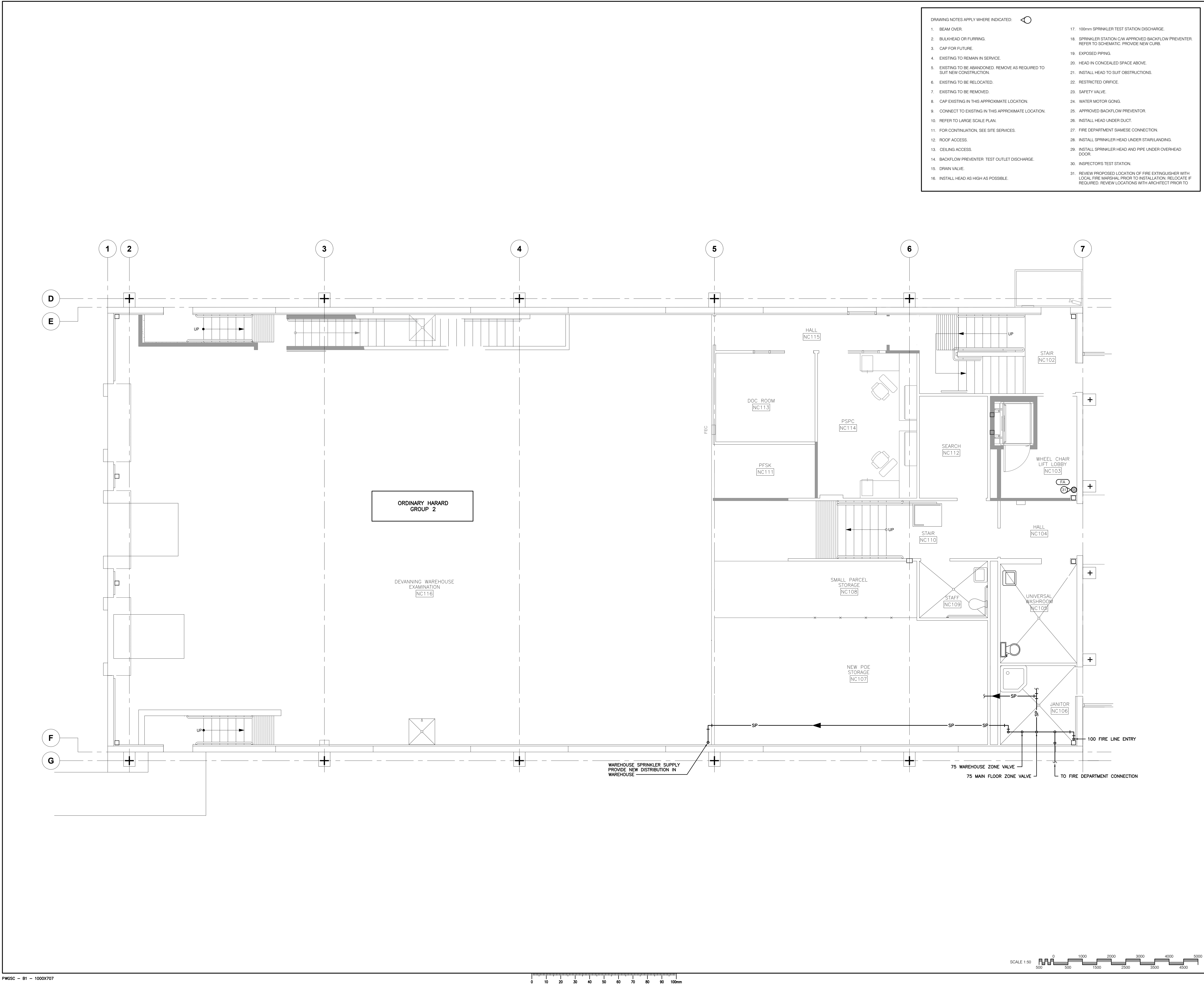
SECOND FLOOR PLAN NEW HVAC

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R.082890.001

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M2.1
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Revision no./
Lo Révision no.
5





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Drawing title/Titre du dessin
FIRST FLOOR SPRINKLER PLAN

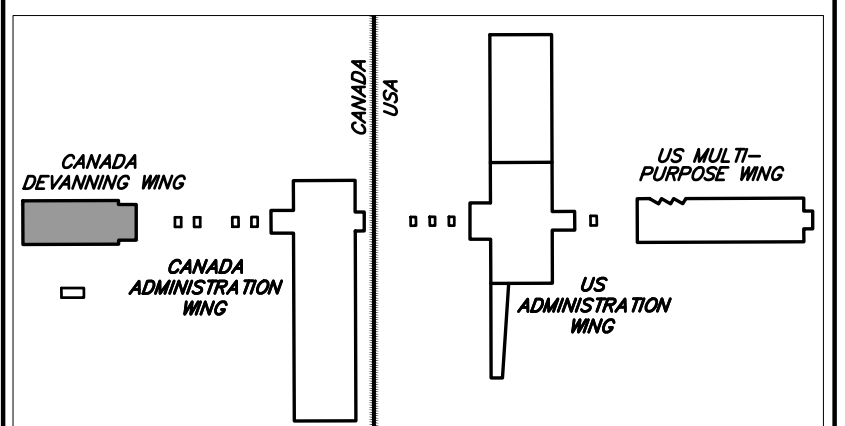
Project No./No. du projet R.082890.001	Sheet/Feuille M3.0 7 OF 17	Revision no./ La Révision no. 5
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1. BEAM OVER.
2. BULK-HEAD OR FURRING.
3. CAP FOR FUTURE.
4. EXISTING TO REMAIN IN SERVICE.
5. EXISTING TO BE ABANDONED. REMOVE AS REQUIRED TO SUIT NEW CONSTRUCTION.
6. EXISTING TO BE RELOCATED.
7. EXISTING TO BE REMOVED.
8. CAP EXISTING IN THIS APPROXIMATE LOCATION.
9. CONNECT TO EXISTING IN THIS APPROXIMATE LOCATION.
10. REFER TO LARGE SCALE PLAN.
11. FOR CONTINUATION, SEE SITE SERVICES.
12. ROOF ACCESS.
13. CEILING ACCESS.
14. BACKFLOW PREVENTER TEST OUTLET DISCHARGE.
15. DRAIN VALVE.
16. INSTALL HEAD AS HIGH AS POSSIBLE.

17. 100mm SPRINKLER TEST STATION DISCHARGE.
18. SPRINKLER STATION C/W APPROVED BACKFLOW PREVENTER REFER TO SCHEMATIC. PROVIDE NEW CURB.
19. EXPOSED PIPING.
20. HEAD IN CONCEALED SPACE ABOVE.
21. INSTALL HEAD TO SUIT OBSTRUCTIONS.
22. RESTRICTED ORIFICE.
23. SAFETY VALVE.
24. WATER MOTOR GONG.
25. APPROVED BACKFLOW PREVENTOR.
26. INSTALL HEAD UNDER DUCT.
27. FIRE DEPARTMENT SAMESIDE CONNECTION.
28. INSTALL SPRINKLER HEAD UNDER STAIR/LANDING.
29. INSTALL SPRINKLER HEAD AND PIPE UNDER OVERHEAD DOOR.
30. INSPECTOR'S TEST STATION.
31. REVIEW PROPOSED LOCATION OF FIRE EXTINGUISHER WITH LOCAL FIRE MARSHAL. PRIOR TO INSTALLATION. RELOCATE IF REQUIRED. REVIEW LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION.



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ARCHITECTS



KEYPLAN

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JULIAN HO

PWGSC, Regional Manager, Architectural and Engineering Services/
Gestionnaire régionale, Services d'architecture et de génie, TPSGC
PREETIPAL PAUL

Drawing title/Titre du dessin

SECOND FLOOR SPRINKLER PLAN

Project No./No. du projet	
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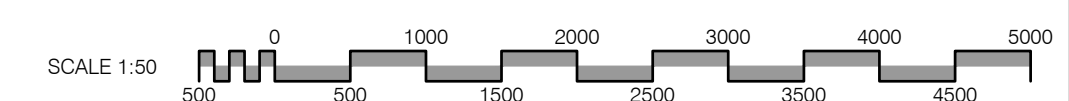
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M3.1

Revision no./

La Révision
no. **5**



DRAWING NOTES APPLY WHERE INDICATED: 

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11. FOR CONTINUATION, SEE SITE SERVICES.

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15. DUCT TIGHT TO UNDERSIDE OF STRUCTURE IN CEILING SPACE.

16. ALL DUCT RUNOUTS TO DIFFUSERS ARE TO BE DIFFUSER NECK SIZE, UNLESS OTHERWISE INDICATED.

17. PROVIDE MANUAL VOLUME DAMPER. PROVIDE ACCESS AS REQUIRED.

18. MOUNT GRILLE 200mm ABOVE FLOOR LEVEL.

19. DUCT UP TO GOOSENECK ON ROOF.

20. MOUNT AT HIGH LEVEL.

21. PROVIDE BACKDRAFT DAMPER AT BUILDING ENVELOPE PENETRATION. REFER TO SPEC.

22. PROVIDE TRANSITION FOR DUCT UNDER BEAM.

23. ELECTRIC HEAT BY OTHERS.

24. GRAVITY BACKDRAFT DAMPER.

25. PROVIDE FIRE DAMPER AT FIRE SEPARATION.

26. RE-BALANCE EXISTING GRILLE OR DIFFUSER TO NEW SPECIFIED AIR FLOW.

27. WALL MOUNTED TIMER FOR ExHLE2 OPERATION.

28. BREAKOUT PRICE # 1.

29. 1000 BOILER EXHAUST UP IN NEW ROOF OPENING. REFER TO ARCHITECTURAL DETAILS.

30. 1000 UP THROUGH EXISTING EXHAUST PENETRATION THROUGH ROOF.

31. CONTRACTOR TO CONFIRM EXISTING LOCATION ON SITE.

32. COORDINATE WITH CONTROLS CONTRACTOR TO RE-BALANCE. THERE WILL BE TWO BALANCE VALVES. MINIMUM AND MAKE-UP FOR EXHAUST FAN EFF. .


33. EXACT SIZE TO BE VERIFIED ON SITE AND COORDINATE WITH GENERAL CONTRACTOR FOR FRAMING DIMENSION IN NEW FLOOR PENETRATION.

34. REFER TO PHASING NOTES.

35. REBALANCE EXISTING HYDRONIC TERMINAL.

36. REPIPE EXISTING CHEMICAL POT FEEDER AND PROVIDE NEW MICRON FILTER IN THIS LOCATION. REFER TO DETAILS.

37. PIPE RELIEF TO GLYCOL FILL TANK.




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Canada

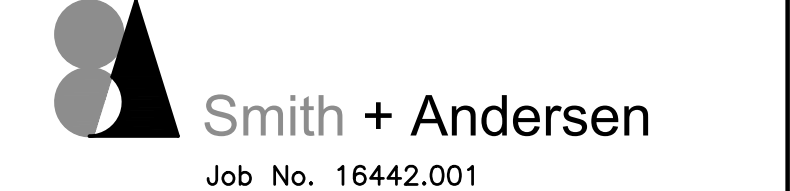
Travaux publics et
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Canada

REAL PROPERTY SERVICES
Pacific Region

SERVICES IMMOBILIERS
Région de Pacifique

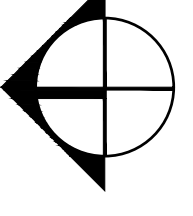



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ARCHITECTS

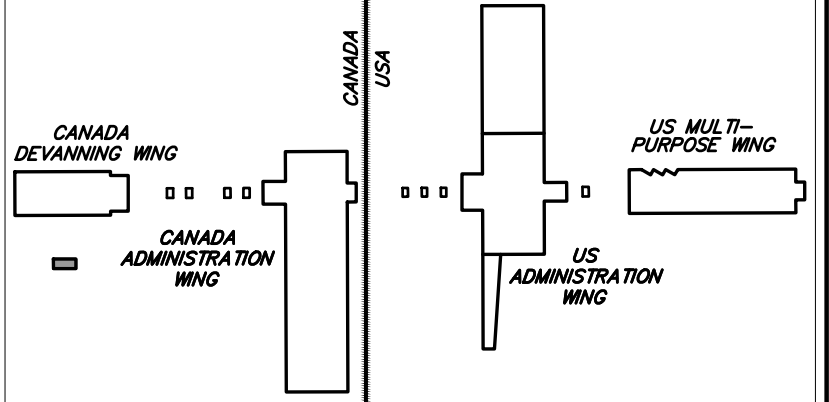


Smith + Andersen
Job No. 16442.001

NORTH







KEYPLAN

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Client/client

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Canada Devanning Wing
#202-97th Street
Osoyoos BC V0H 1V1

OKANAGAN & KOOTENAY
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PWGSC Project Manager/Administrateur de Projets TPSGC
JULIAN HO

PWGSC Regional Manager, Architectural and Engineering Services/
Gestionnaire régionale, Services d'architectural et de génie, TPSGC
PREETIPAL PAUL

Drawing title/Titre du dessin
DETACHED WASHROOMS HVAC

Project No./No. du projet

Sheet/Feuille

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La Révision
no.

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9 OF 17

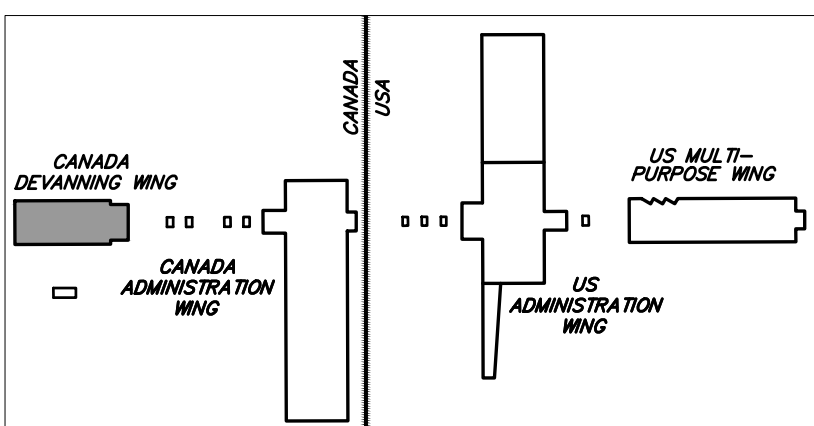
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KEYPLAN

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JULIAN HO

PWGSC Regional Manager, Architectural and Engineering Services/
Gestionnaire régionale, Services d'architectural et de génie, TPSSC
PREETIPAL PAUL

Drawing title/Titre du dessin

MECHANICAL SCHEMATIC

Project No./No. du projet

R.082890.001

Sheet/Fauille

M5.0

10 OF 17

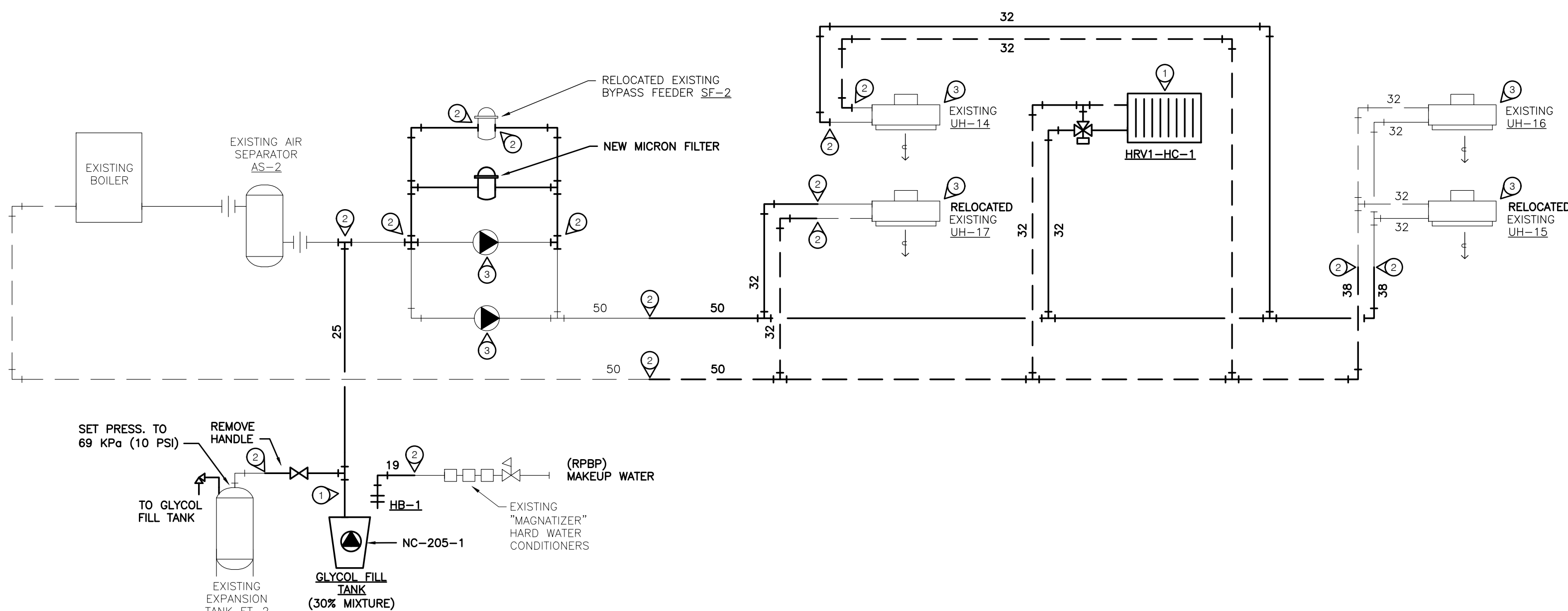
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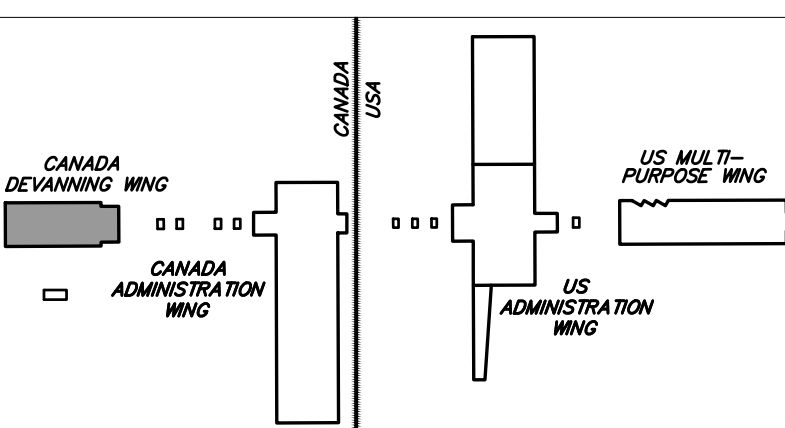
La Révision

DRAWING NOTES APPLY WHERE INDICATED.

1. REFER TO DETAIL FOR VALVING ARRANGEMENT.
2. CONNECT TO EXISTING.
3. REBALANCE EXISTING.



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ARCHITECTS



KEYPLAN

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Drawing title/Titre du dessin

NC205 MECH ROOM

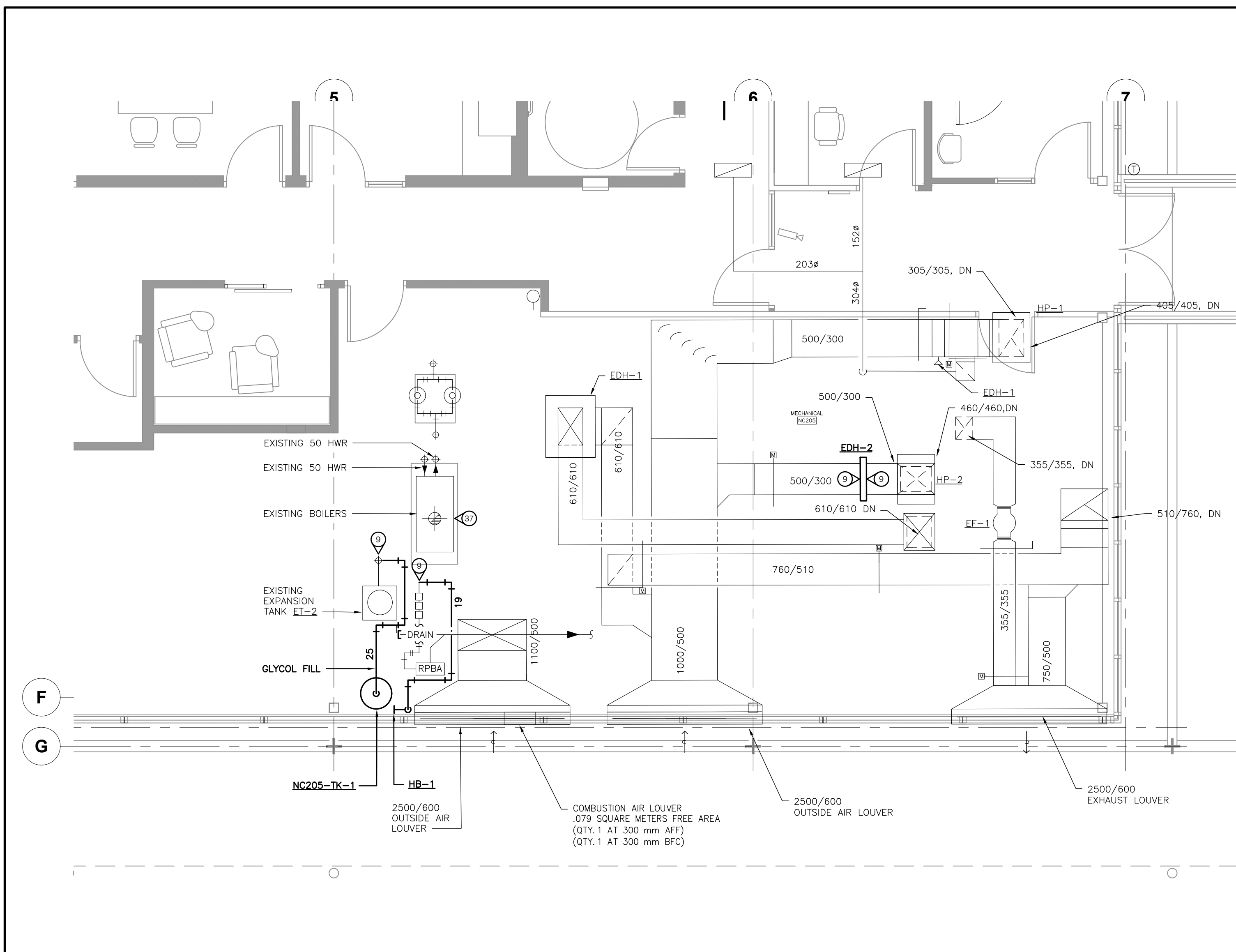
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11 OF 17

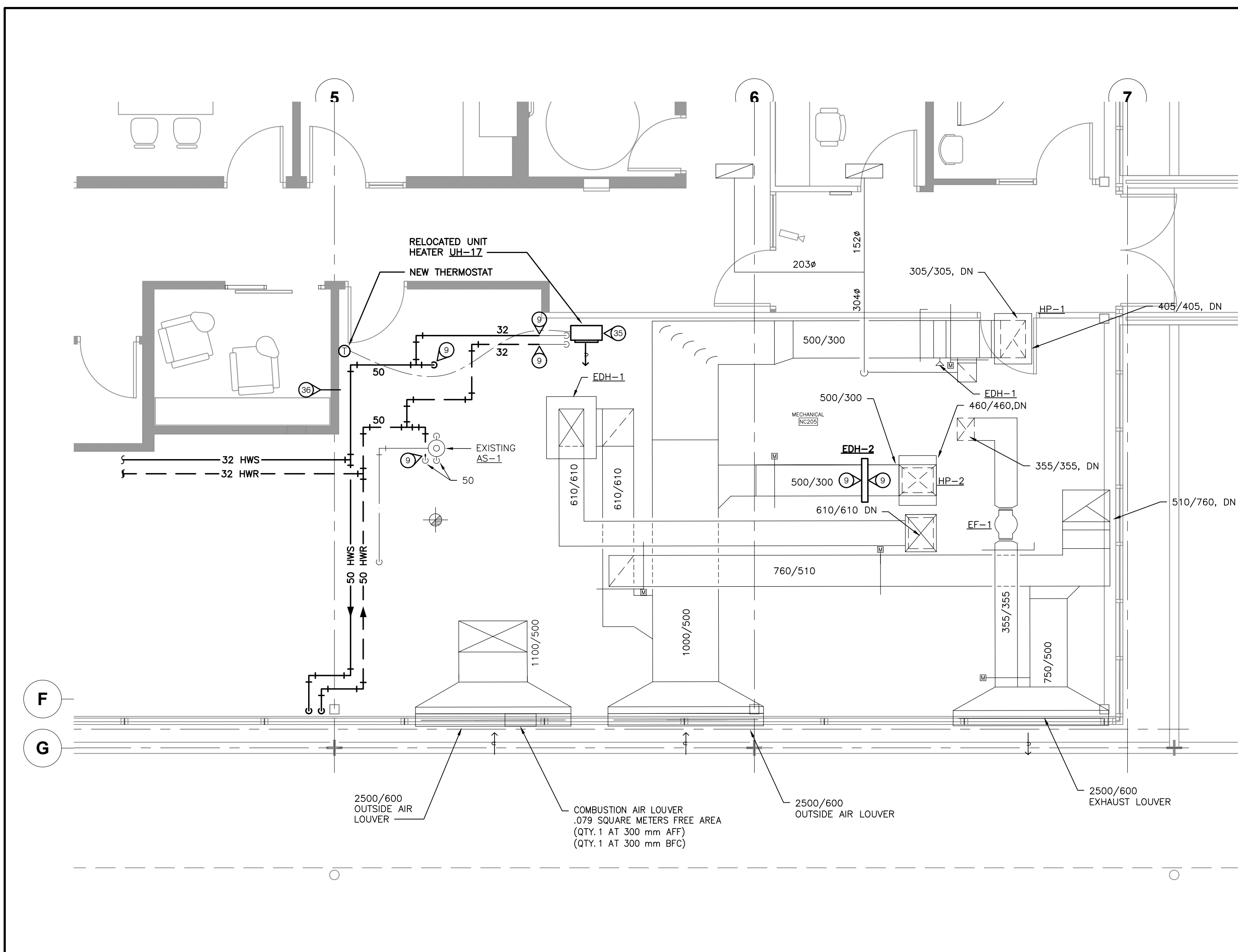
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La Révision
no.



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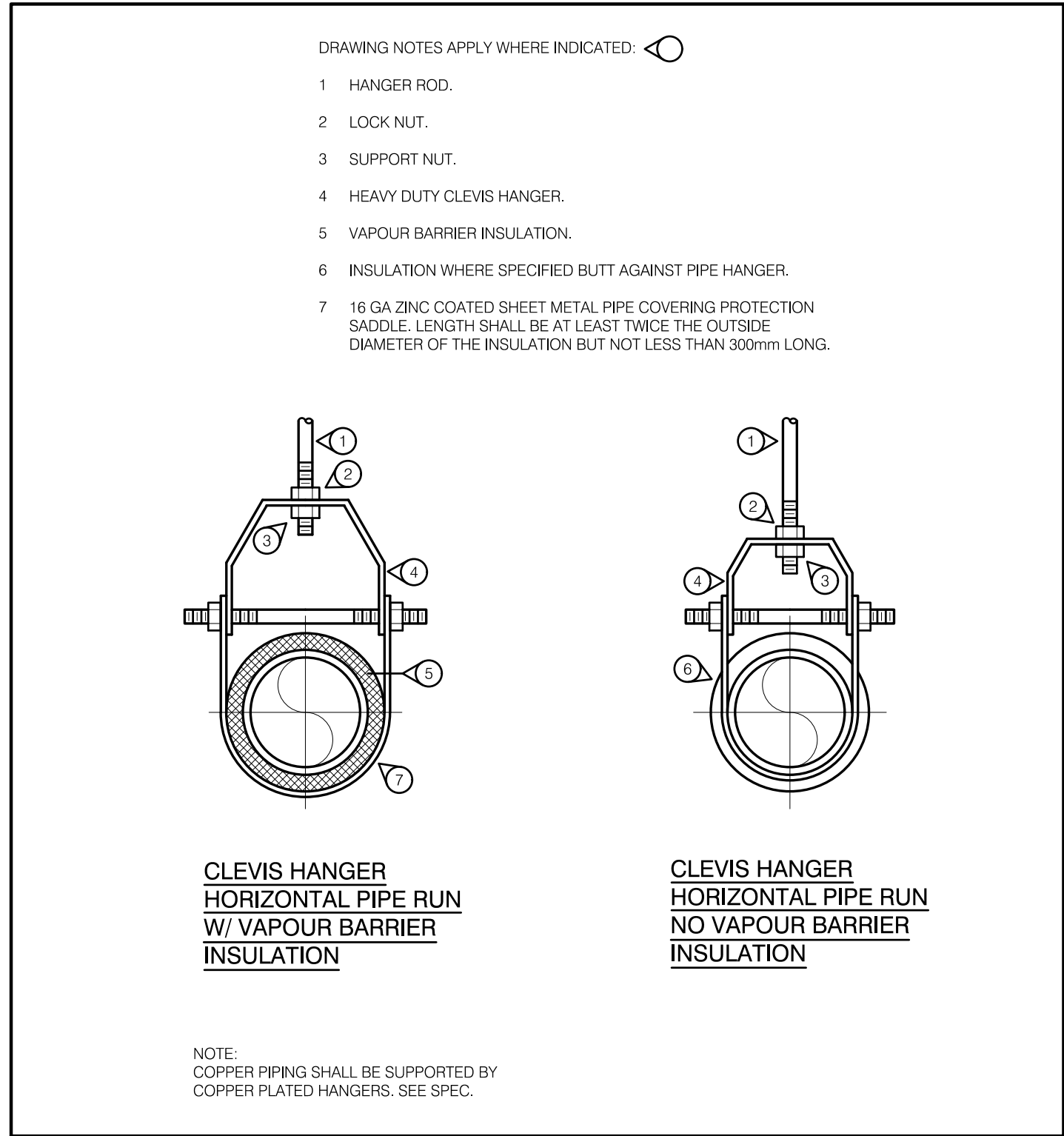
NC205 MECHANICAL ROOM – LOW LEVEL PIPING

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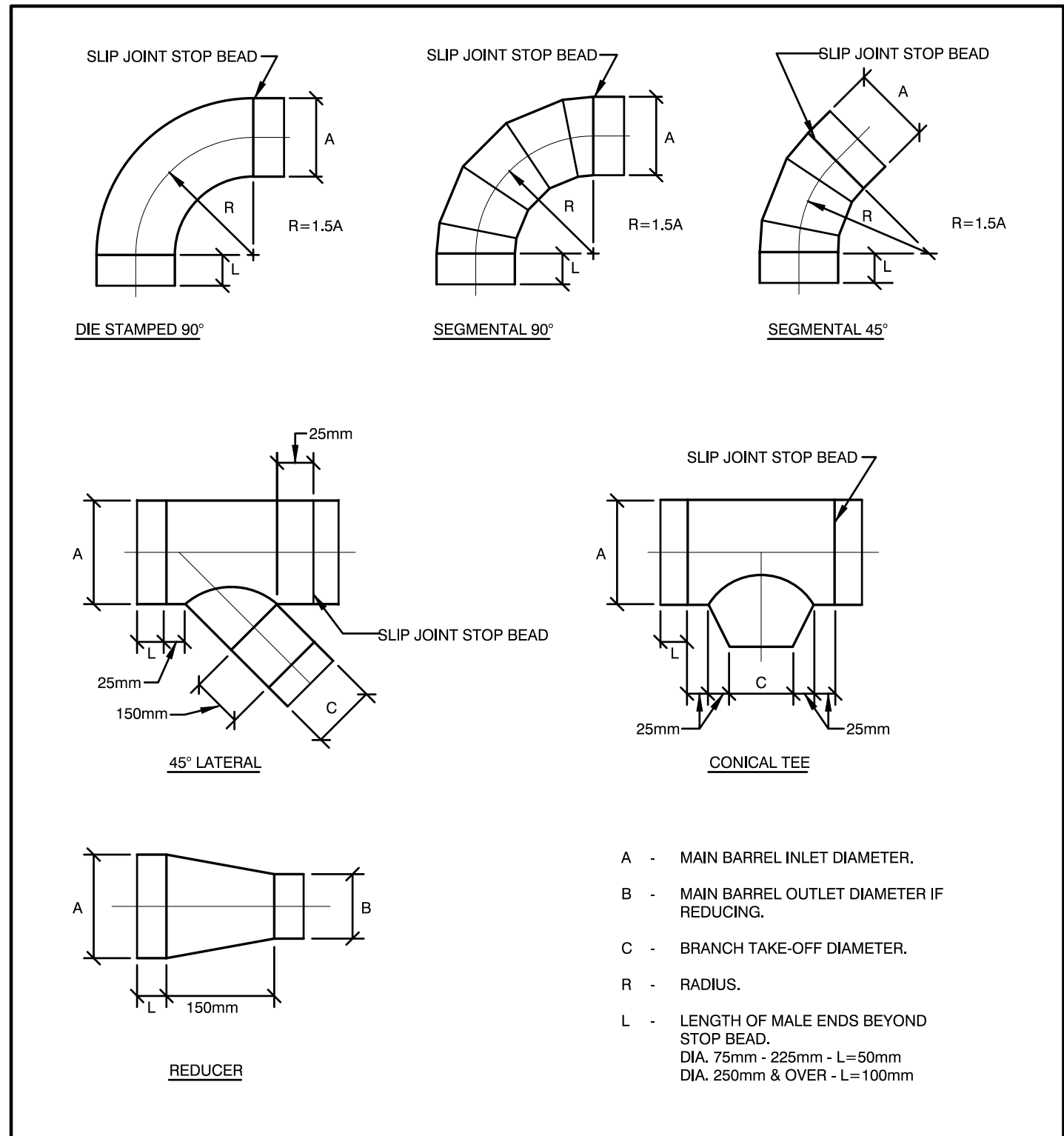
2 NC205 MECHANICAL ROOM – VENTING
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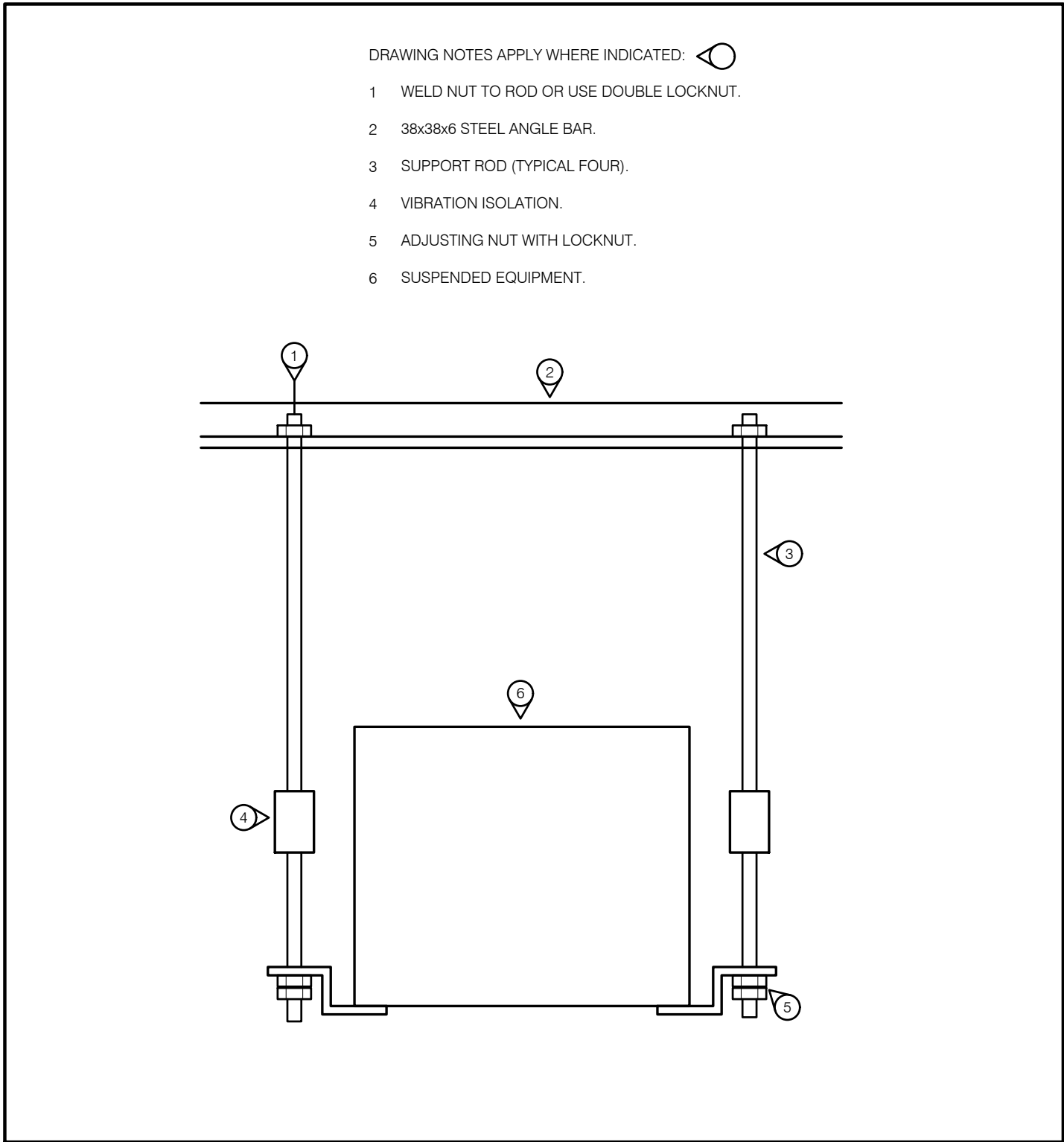
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PIPE HANGER DETAIL



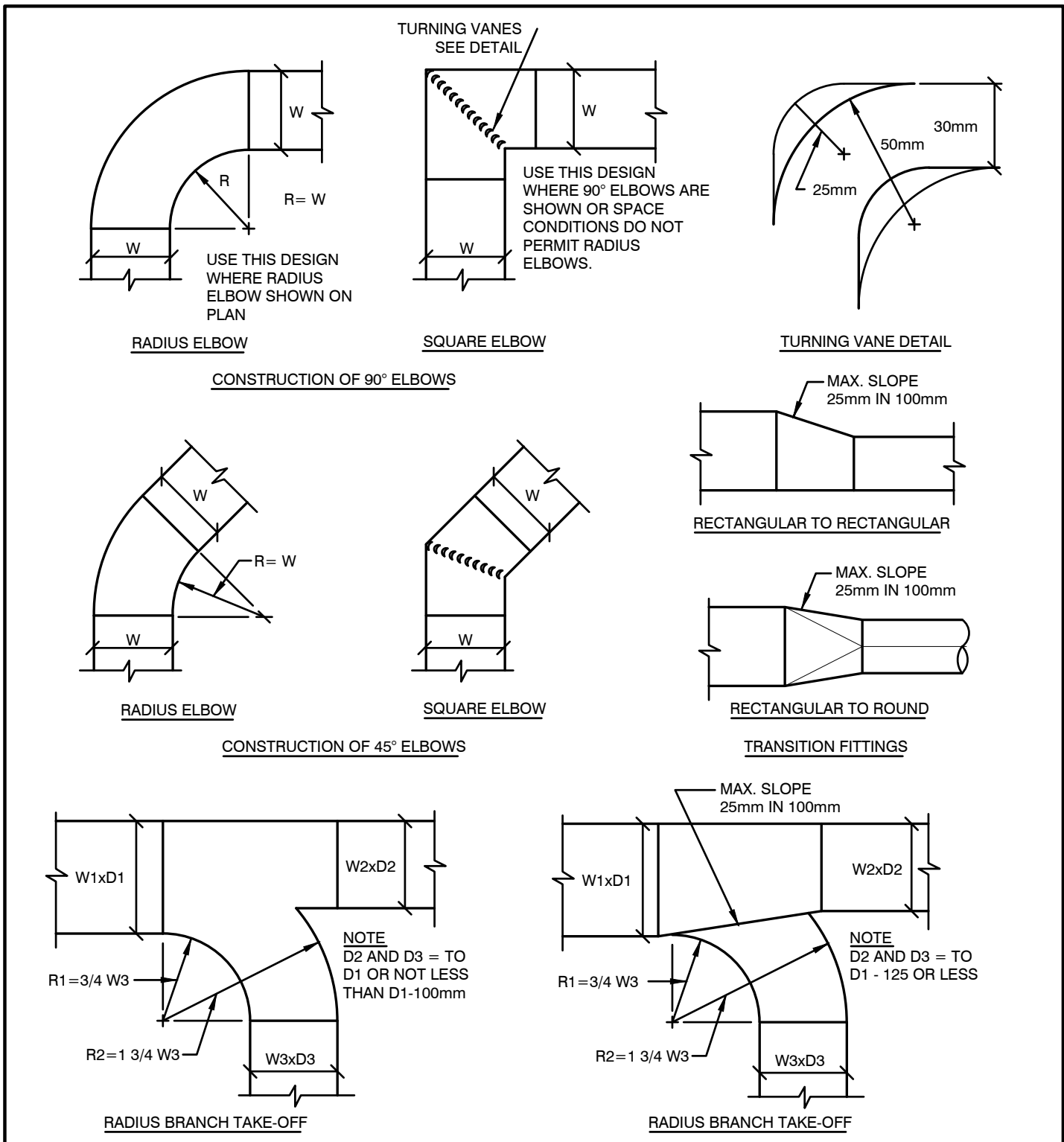
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M5.2

ROUND DUCTWORK FITTINGS



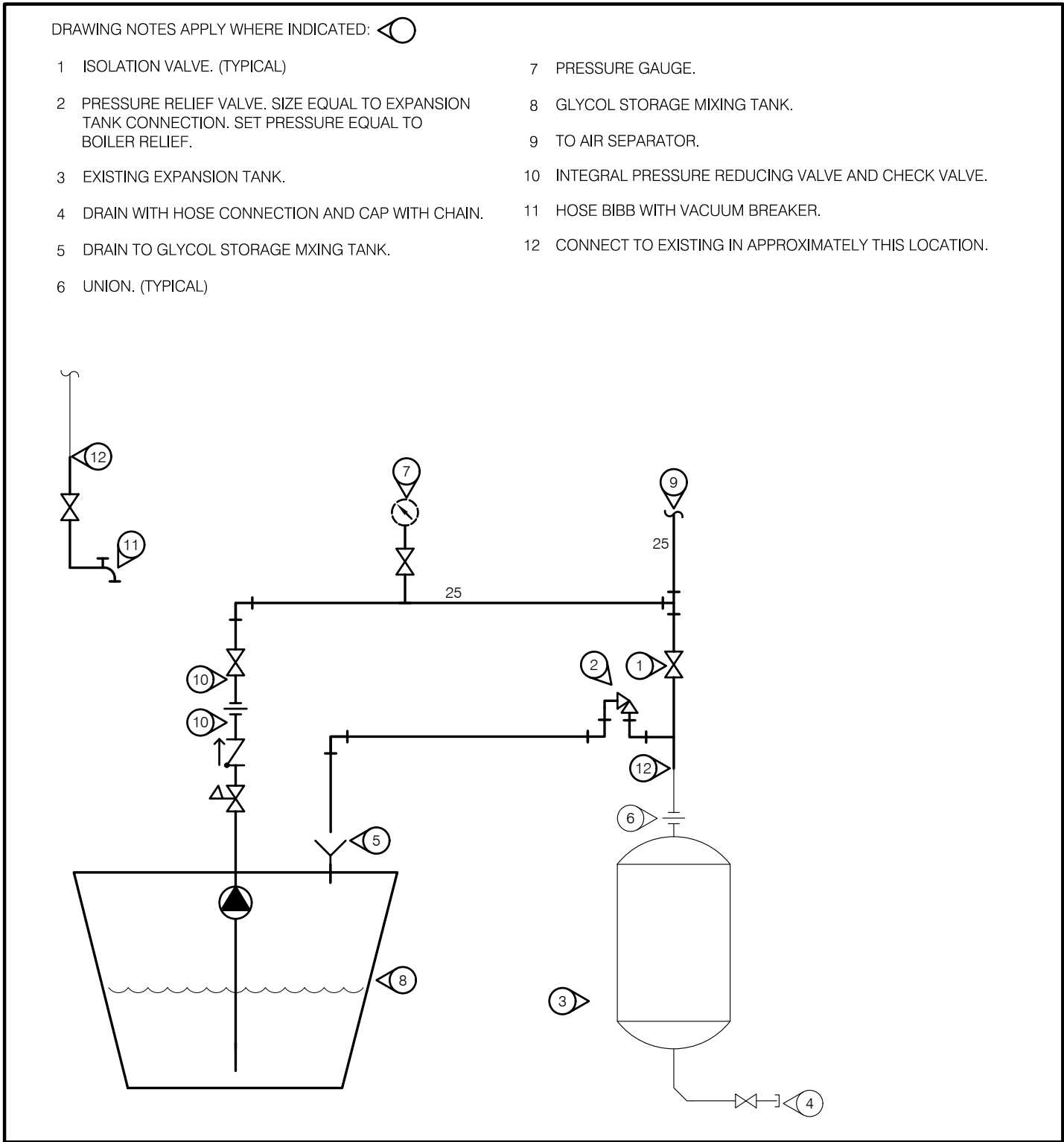
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SUSPENDED EQUIPMENT SUPPORT DETAIL



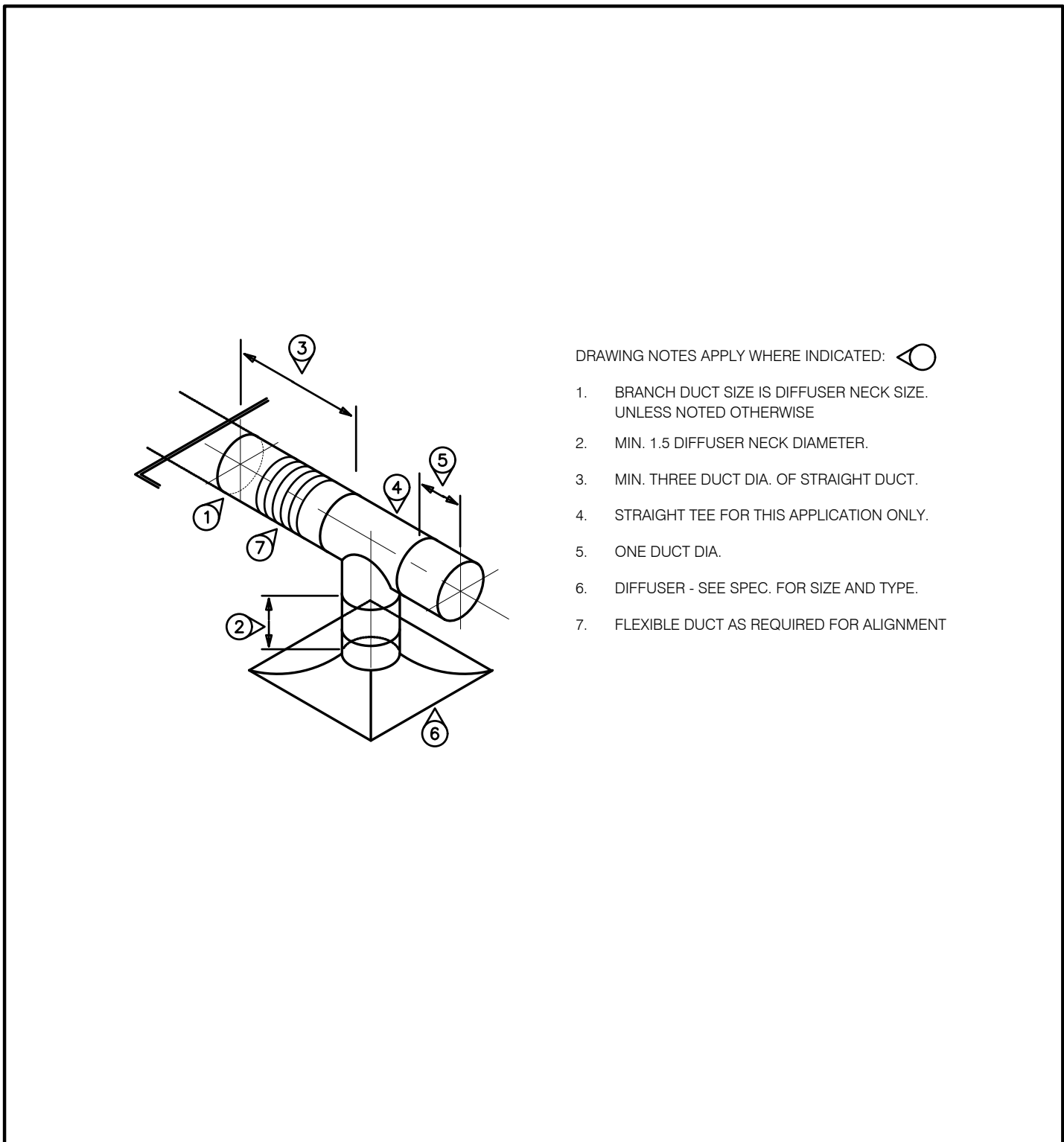
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SQUARE DUCTWORK FITTINGS



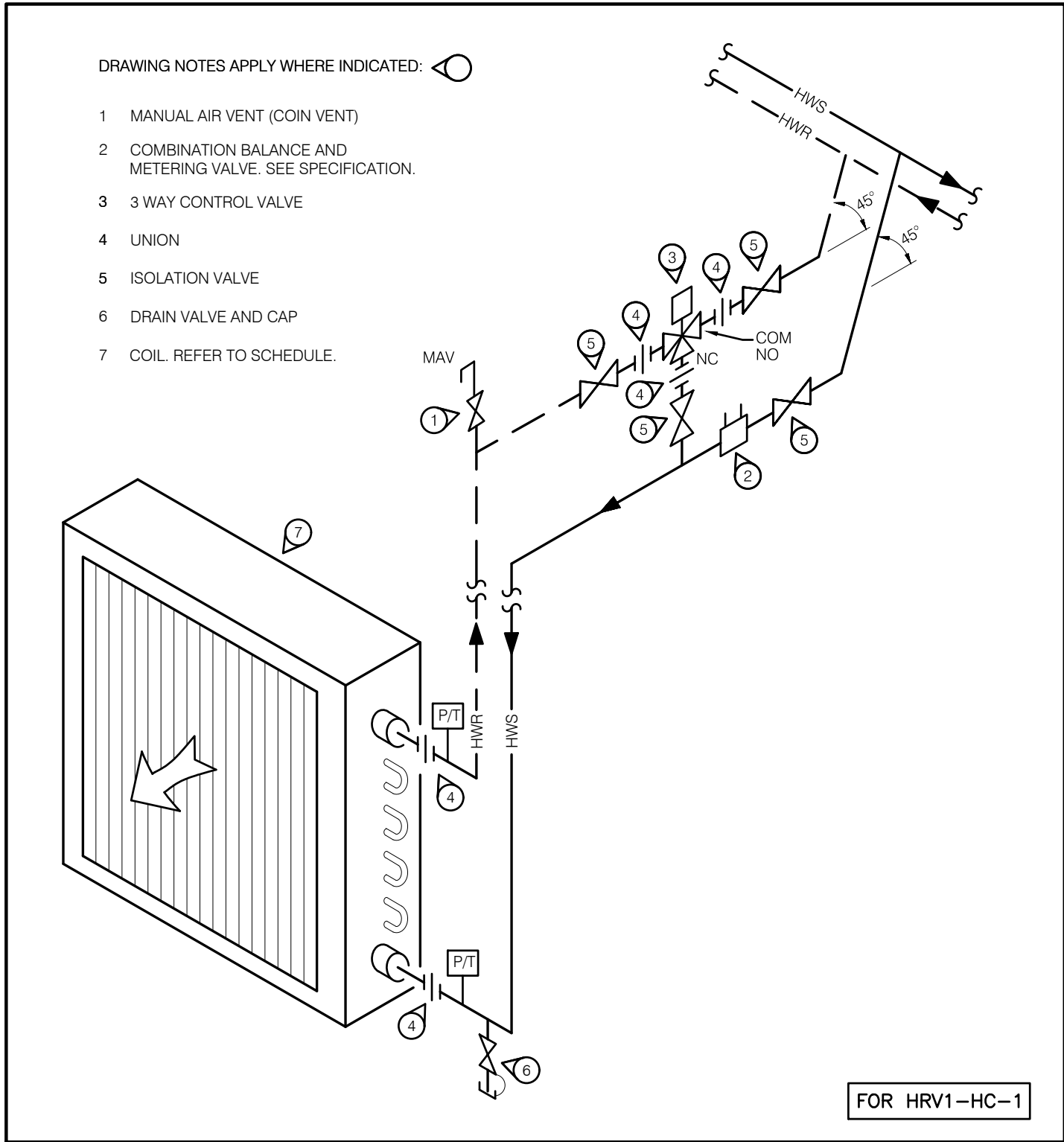
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EXPANSION TANK WITH GLYCOL SUPPLY DETAIL



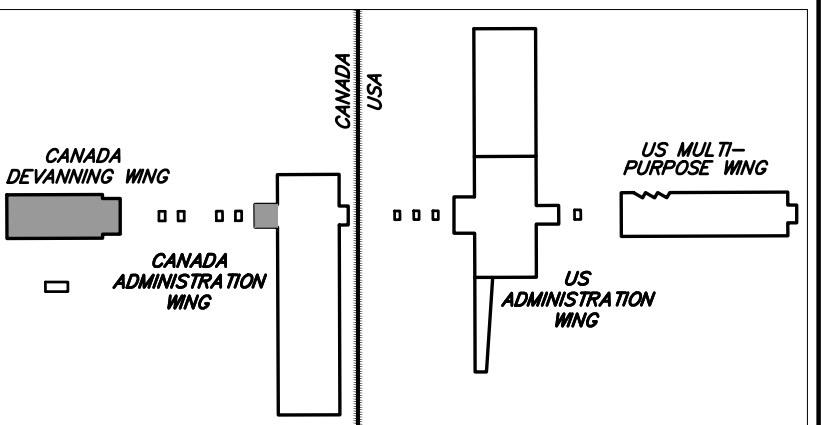
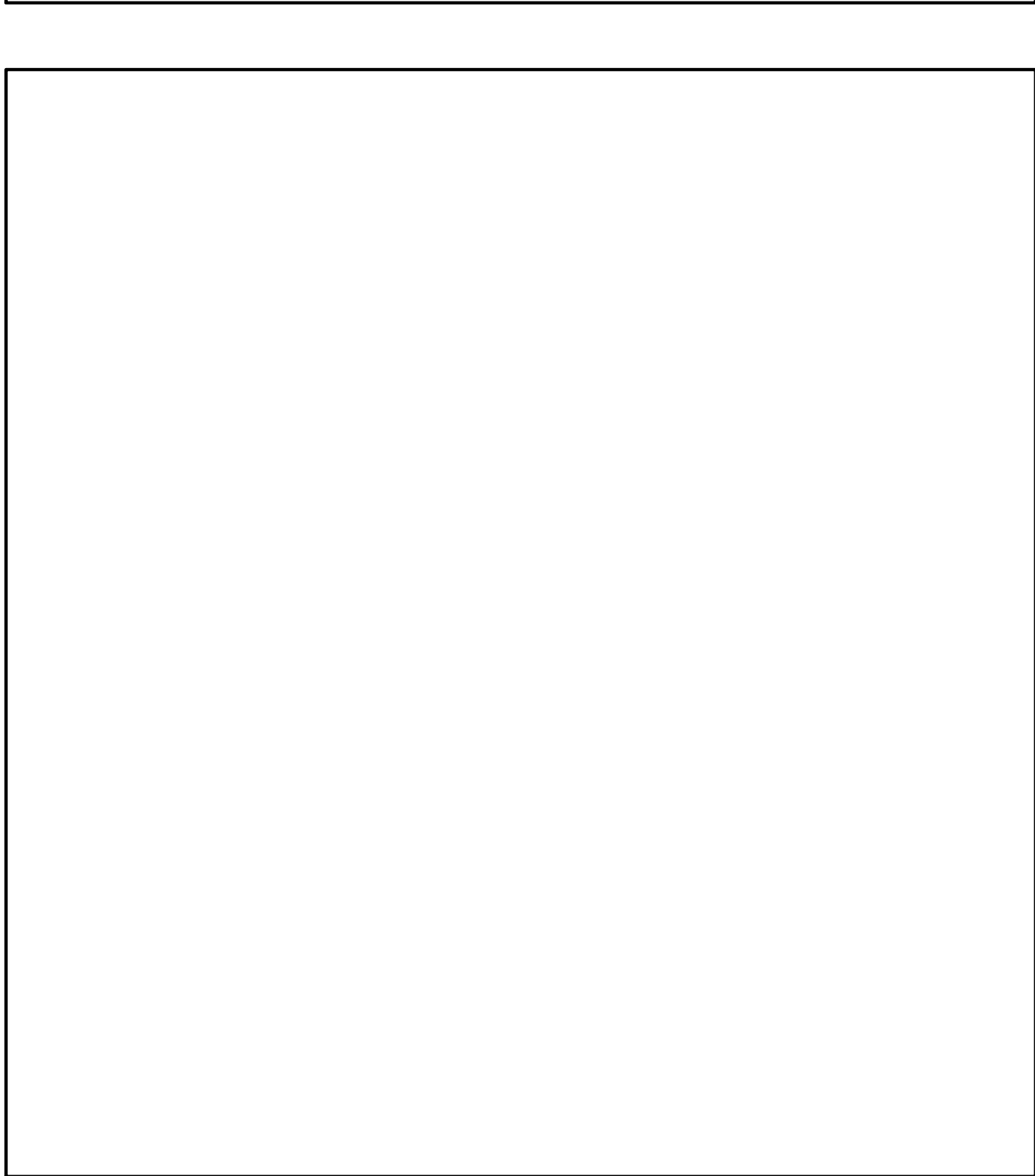
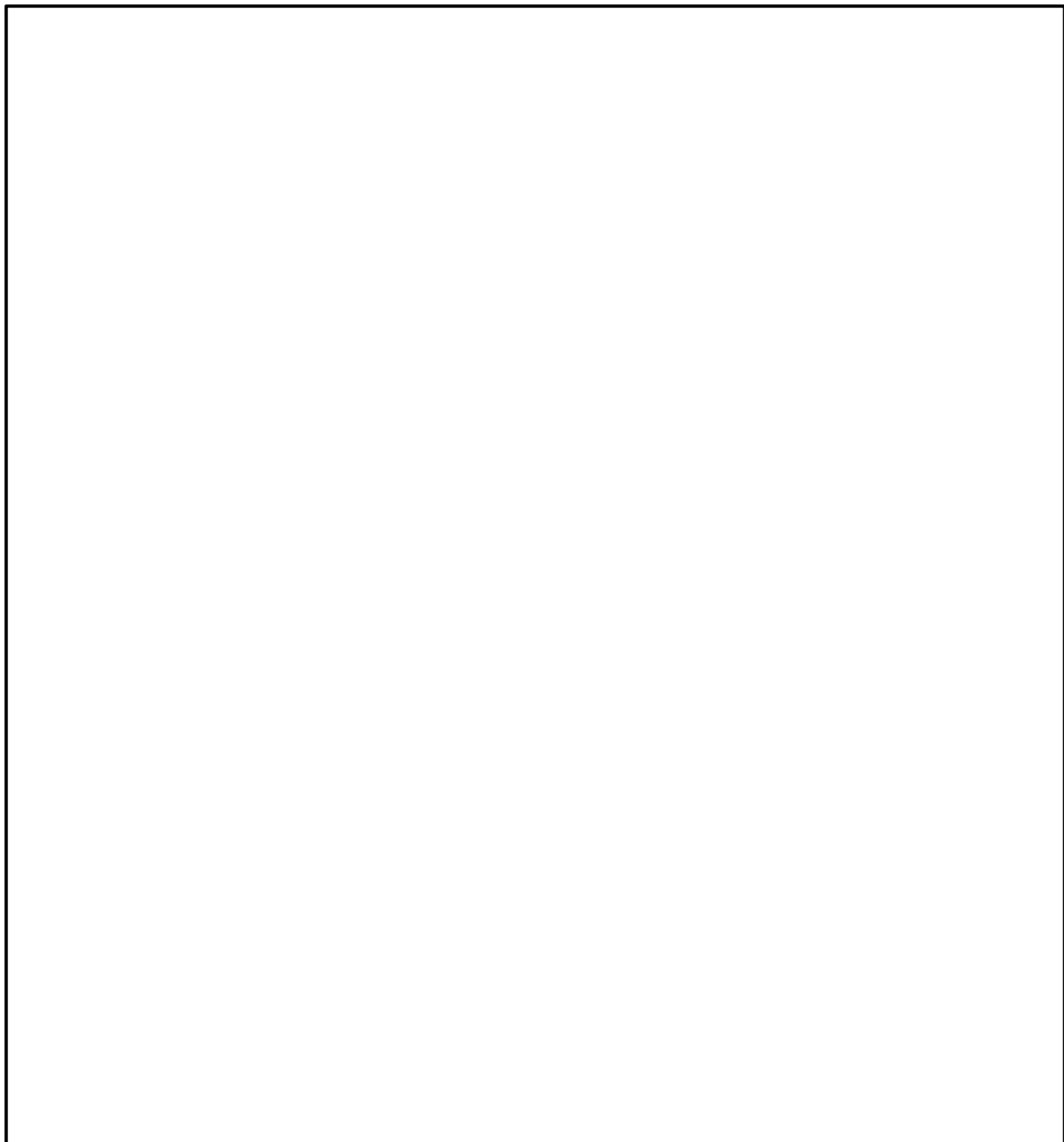
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M5.2

SUPPLY DIFFUSER CONNECTION



4
M5.2

COIL INSTALLATION SCHEMATIC - 3 WAY VALVE



KEYPLAN

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Revision		

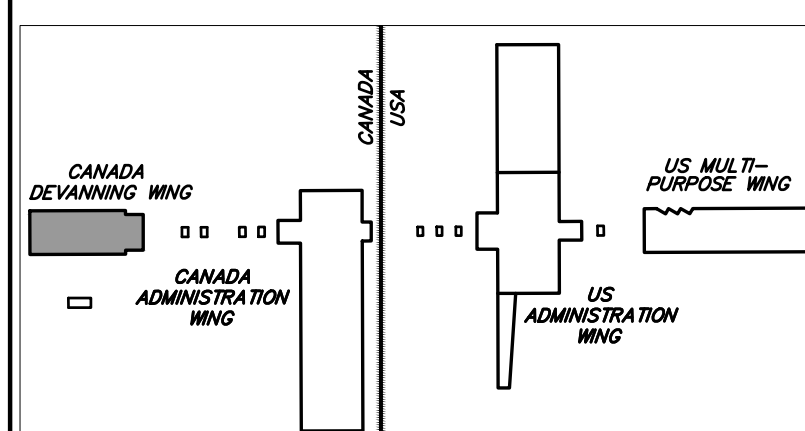
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PWGSC Regional Manager, Architectural and Engineering Services/
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PREETIPAL PAUL

Drawing title/Titre du dessin
DETAILS



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JULIAN HO

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 Gestionnaire régionale, Services d'architecture et de génie, TPSG
 PREETIPAL PAUL

Drawing title/Titre du dessin

FOUNDATION PLAN PLUMBING & HVAC DEMOLITION

Project No./No. du projet

R.082890.001

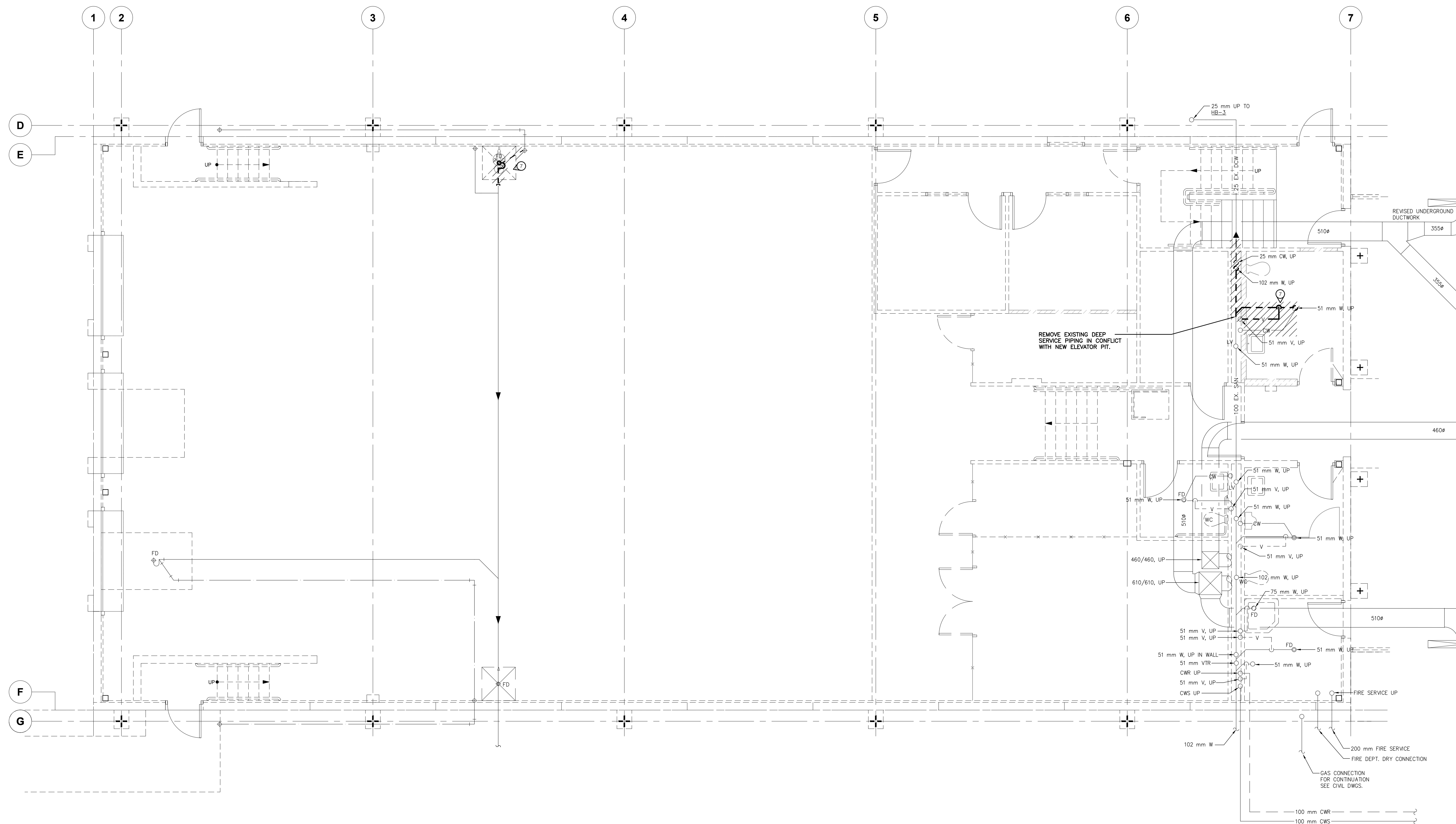
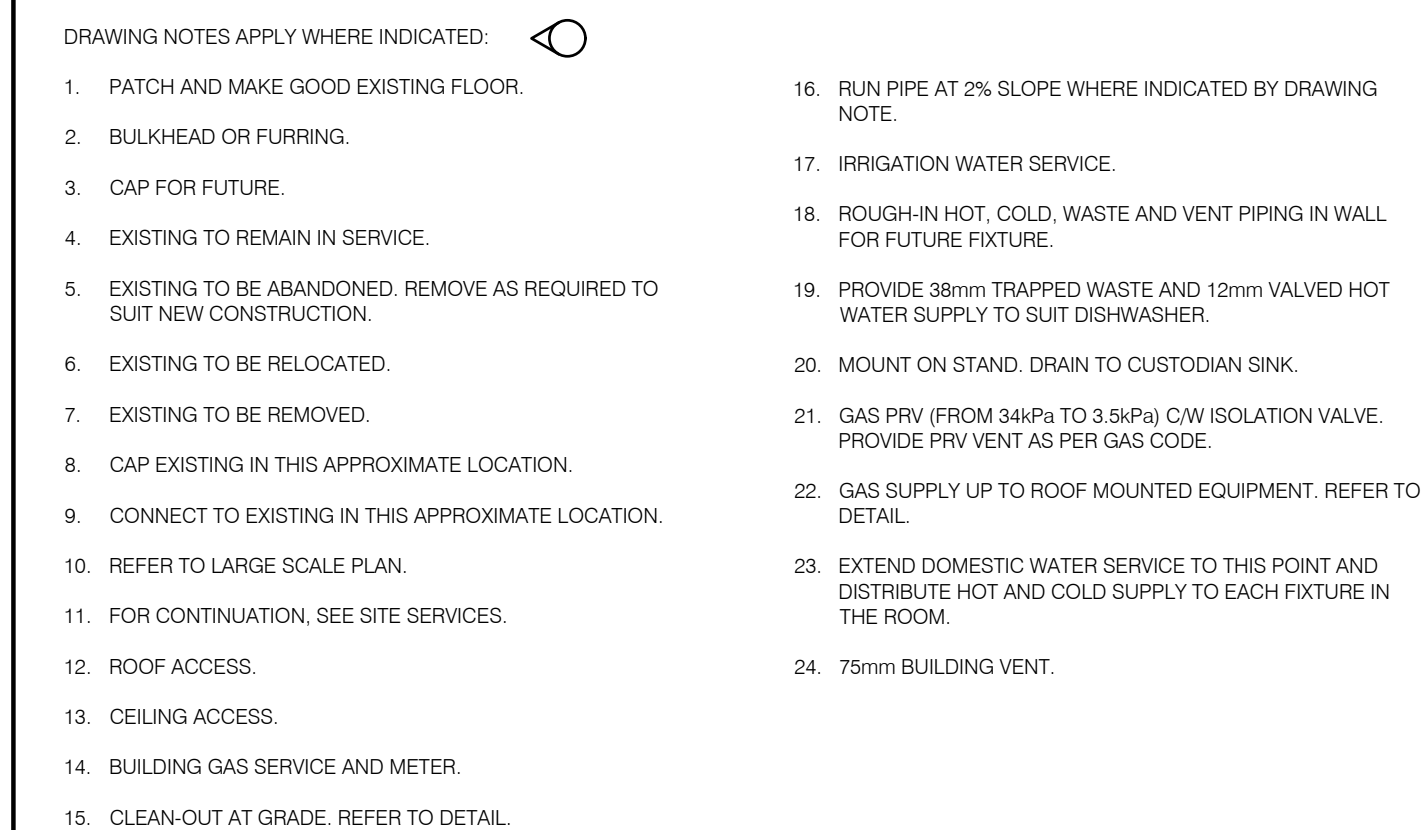
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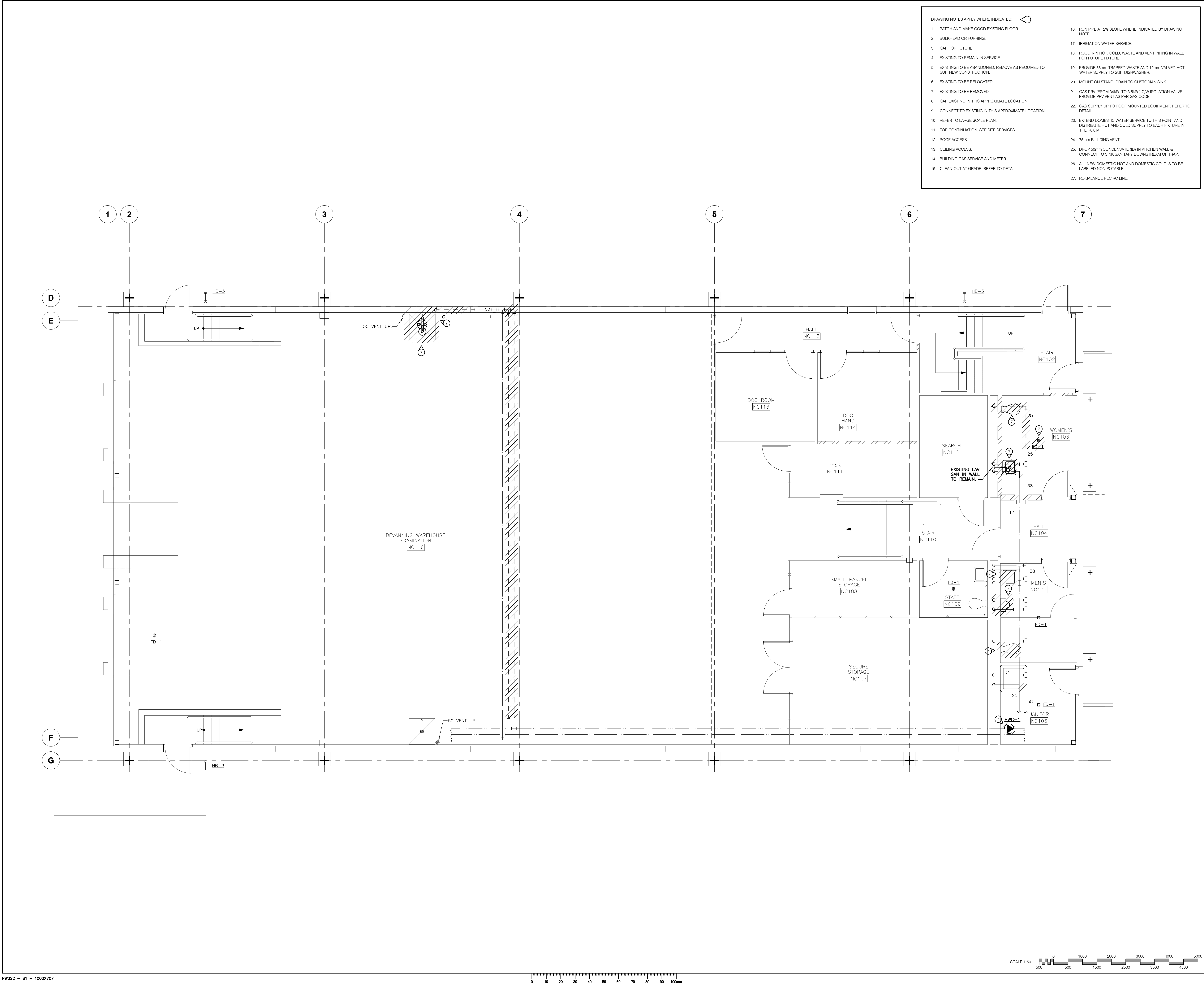
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Revision no.	
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no. 5

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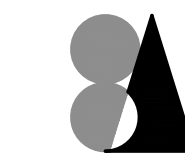




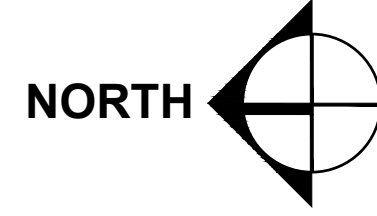
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Travaux publics et
Services gouvernementaux
Canada


REAL PROPERTY SERVICES
Pacific Region
SERVICES IMMOBILIERS
Région de Pacifique



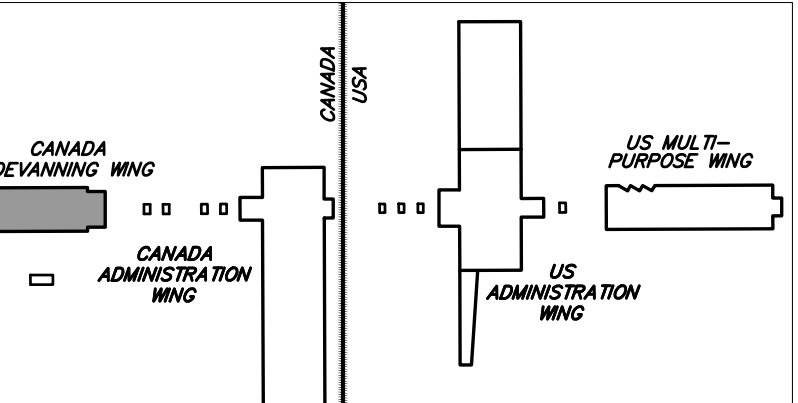
Smith + Andersen
Job No. 16442.001



NORTH



PROFESSIONAL
ENGINEER
A. H. CARMEL
31697
BRITISH COLUMBIA
2017-04-27



KEYPLAN

5	ISSUED FOR TENDER	2017/04/27
4	ISSUED FOR 99% CD	2017/02/06
3	ISSUED FOR 66% CD	2016/12/21
2	ISSUED FOR 33% CD	2016/11/09
1	ISSUED FOR DESIGN DEVELOPMENT	2016/10/28
0	ISSUED FOR SCHEMATIC DESIGN COSTING	2016/08/12

Revision/ Revision	Description/Description	Date/Date
Client/client		

CANADA BORDER
SERVICES AGENCY

Project title/Titre du projet
Canada Devanning Wing
#202-97th Street
Osoyoos BC V0H 1V1
OKANAGAN & KOOTENAY
DISTRICT
OFFICE RELOCATION

Consultant Signature Box Only
SMITH AND ANDERSEN

Designed by/Concept par
AC

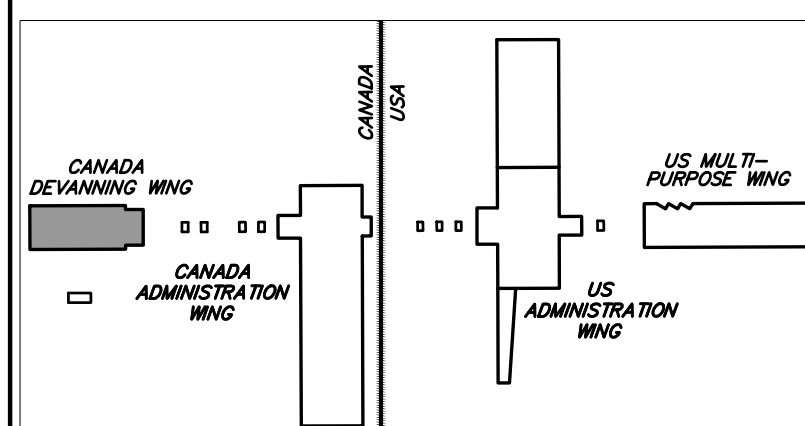
Drawn by/Dessiné par
SC

PWGSC Project Manager/Administrateur de Projets TPSSC
JULIAN HO

PWGSC Regional Manager, Architectural and Engineering Services/
Gestionnaire régionale, Services d'architectural et de génie, TPSSC
PREETIPAL PAUL

Drawing title/Titre du dessin
FIRST FLOOR PLAN PLUMBING
DEMOLITION

Project No./No. du projet R.082890.001	Sheet/Feuille M6.1 14 OF 17	Revision no./ La Révision no. 5
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KEYPLAN

5	ISSUED FOR TENDER	2017/04
4	ISSUED FOR 99% CD	2017/02
3	ISSUED FOR 66% CD	2016/12
2	ISSUED FOR 33% CD	2016/11
1	ISSUED FOR DESIGN DEVELOPMENT	2016/10
0	ISSUED FOR SCHEMATIC DESIGN COSTING	2016/08
Revision	Description/Description	Date /Date

Revision	
Client/client	

**CANADA BORDER
SERVICES AGENCY**

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**Canada Devanning Wing
#202-97th Street
Osoyoos BC V0H 1V1**

OKANAGAN & KOOTENAY DISTRICT OFFICE RELOCATION

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SMITH AND ANDERSEN

Designed by/Concept par
AC

Drawn by/Dessine par

PWGSC Project Manager/Administrateur de Projets TPSGC
JULIAN HO

PWGSC, Regional Manager, Architectural and Engineering Services,
 Gestionnaire régionale, Services d'architecture et de génie, TPSGC
 PREETIPAL PAUL

Drawing title/Titre du dessin

FIRST FLOOR PLAN HVAC DEMO

Project No./No. du projet

R.082890.001

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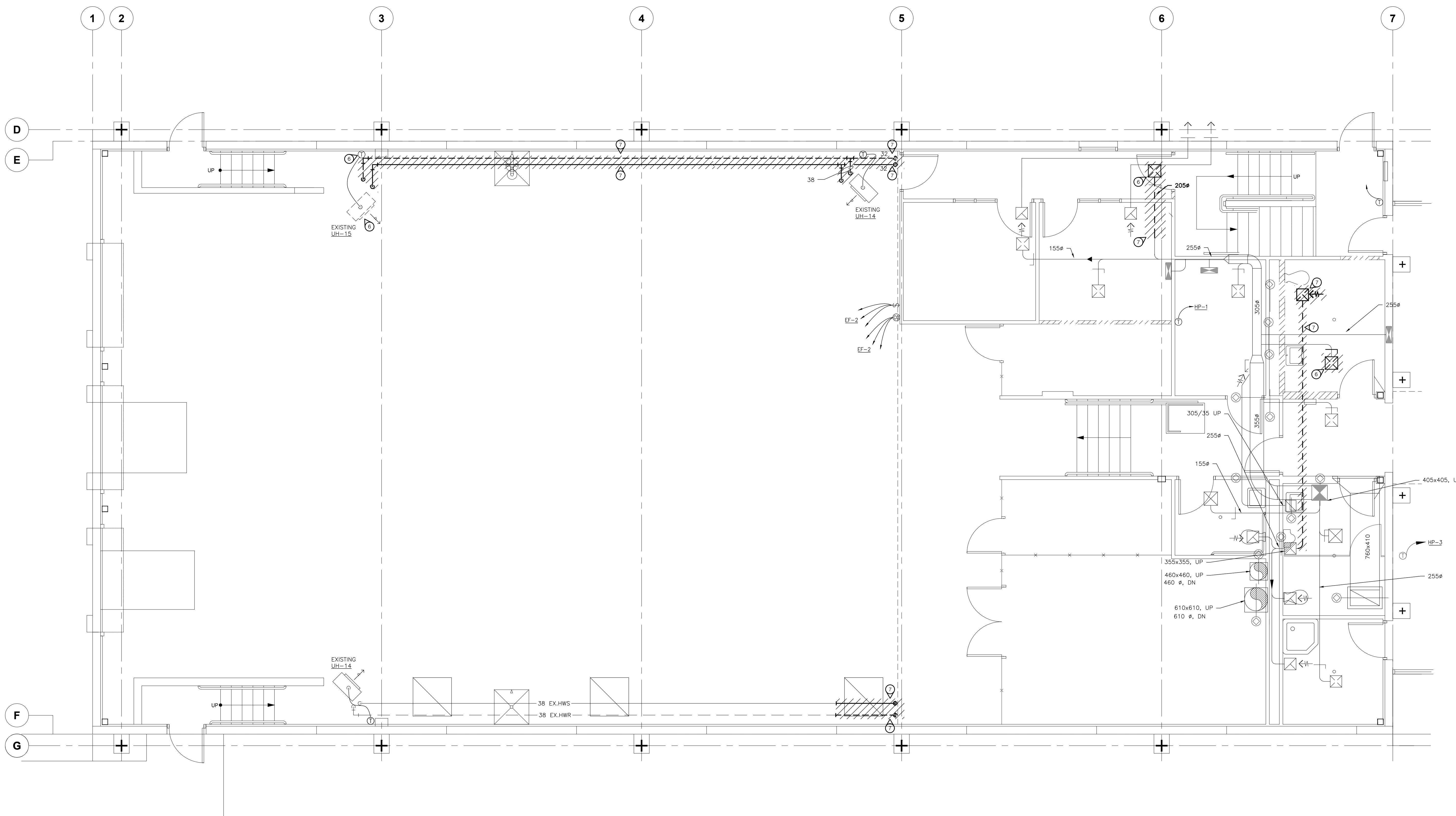
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Revision no.

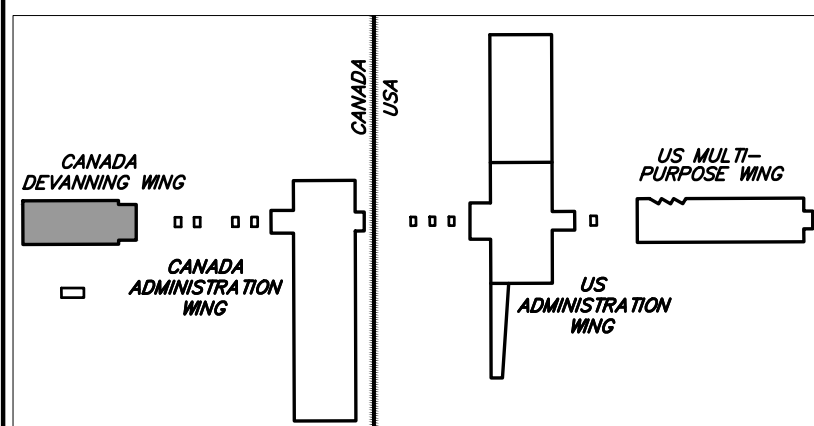
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11



DRAWING NOTES APPLY WHERE INDICATED:

- | | |
|---|---|
| 1. PATCH AND MAKE GOOD EXISTING FLOOR. | 26. RUN PIPE AT 2% SLOPE WHERE INDICATED BY DRAWING NOTE. |
| 2. BULKHEAD OR FURRING. | 27. IRRIGATION WATER SERVICE. |
| 3. CAP FOR FUTURE. | 28. ROUGH-IN HOT, COLD, WASTE AND VENT PIPING IN WALL FOR FUTURE FIXTURE. |
| 4. EXISTING TO REMAIN IN SERVICE. | 29. PROVIDE 38mm TRAPPED WASTE AND 12mm VALVED HOT WATER SUPPLY TO SUI DISHWASHER. |
| 5. EXISTING TO BE ABANDONED. REMOVE AS REQUIRED TO SUIT NEW CONSTRUCTION. | 30. MOUNT ON STAND. DRAIN TO CUSTODIAN SINK. |
| 6. EXISTING TO BE RELOCATED. | 31. GAS PVP (FROM 34kPa/3.2 to 3.8kPa) C/W ISOLATION VALVE. PROVIDE PVP VENT AS PER GAS CODE. |
| 7. EXISTING TO BE REMOVED. | 32. GAS SUPPLY UP TO ROOF MOUNTED EQUIPMENT. REFER TO DETAIL. |
| 8. CAP EXISTING IN THIS APPROXIMATE LOCATION. | 33. EXTEND DOMESTIC WATER SERVICE TO THIS POINT AND DISTRIBUTE HOT AND COLD SUPPLY TO EACH FIXTURE IN THE ROOM. |
| 9. CONNECT TO EXISTING IN THIS APPROXIMATE LOCATION. | 34. 75mm BUILDING VENT. |
| 10. REFER TO LARGE SCALE PLAN. | 35. DROP 50mm CONDENSATE (ID) IN KITCHEN WALL & CONNECT TO SINK SANITARY DOWNSTREAM OF TRAP. |
| 11. FOR CONTINUATION, SEE SITE SERVICES. | 36. ALL NEW DOMESTIC HOT AND DOMESTIC COLD IS TO BE LABELED NON POTABLE. |
| 12. ROOF ACCESS. | 37. RE-BALANCE RECIRC LINE. |
| 13. CEILING ACCESS. | |
| 14. BUILDING GAS SERVICE AND METER. | |
| 15. CLEAN OUT AT GRADE. REFER TO DETAIL. | |



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PWOSC Project Manager/Administrateur de Projets TPSCG
JULIAN HO

PWOSC Regional Manager, Architectural and Engineering Services/
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PREETIPAL PAUL

Drawing title/Titre du dessin
SECOND FLOOR PLAN HVAC -
DEMOLITION

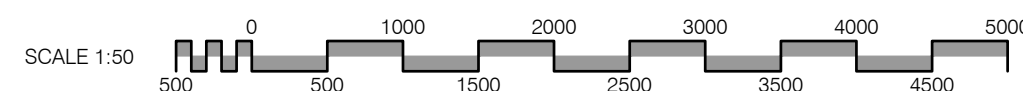
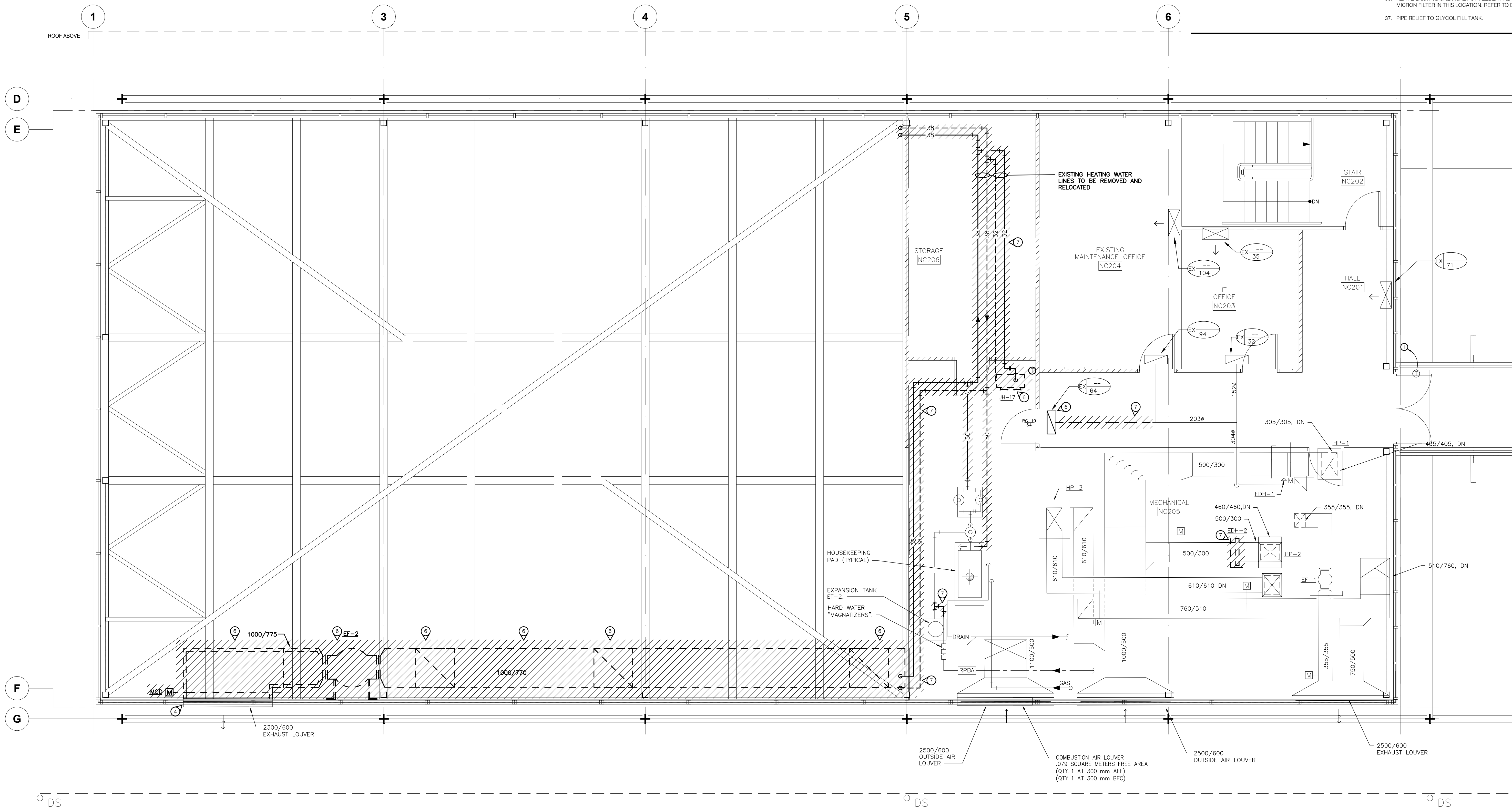
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Lo Révision
no.
5

DRAWING NOTES APPLY WHERE INDICATED:

1. REFER TO DETAIL FOR VALVING ARRANGEMENT.
2. CONNECT TO EXISTING LOUVER AT LOW LEVEL.
3. CAP FOR FUTURE.
4. EXISTING TO REMAIN IN SERVICE.
5. EXISTING TO BE ABANDONED. REMOVE AS REQUIRED TO SUIT NEW CONSTRUCTION.
6. EXISTING TO BE RELOCATED.
7. EXISTING TO BE REMOVED.
8. CAP EXISTING IN THIS APPROXIMATE LOCATION.
9. CONNECT TO EXISTING IN THIS APPROXIMATE LOCATION.
10. REFER TO LARGE SCALE PLAN.
11. FOR CONTINUATION, SEE SITE SERVICES.
12. ROOF ACCESS.
13. CEILING ACCESS.
14. DUCT IN JOIST SPACE.
15. DUCT TIGHT TO UNDERSIDE OF STRUCTURE IN CEILING SPACE.
16. ALL DUCT RUNOUTS TO DIFFUSERS ARE TO BE DIFFUSER NECK SIZE, UNLESS OTHERWISE INDICATED.
17. PROVIDE MANUAL VOLUME DAMPER. PROVIDE ACCESS AS REQUIRED.
18. MOUNT GRILLE 200mm ABOVE FLOOR LEVEL.
19. DUCT UP TO GOOSENECK ON ROOF.
20. MOUNT AT HIGH LEVEL.
21. PROVIDE BACKDRAFT DAMPER AT BUILDING ENVELOPE PENETRATION. REFER TO SPEC.
22. PROVIDE TRANSITION FOR DUCT UNDER BEAM.
23. ELECTRIC HEAT BY OTHERS.
24. GRAVITY BACKDRAFT DAMPER.
25. PROVIDE FIRE DAMPER AT FIRE SEPARATION.
26. RE-BALANCE EXISTING GRILLE OR DIFFUSER TO NEW SPECIFIED AIR FLOW.
27. WALL MOUNTED TIMER FOR EXH-2 OPERATION.
28. BREAKOUT PRICE #1.
29. 1000 BOILER EXHAUST UP IN NEW ROOF OPENING. REFER TO ARCHITECTURAL DETAILS.
30. 1000 UP THROUGH EXISTING EXHAUST PENETRATION THROUGH ROOF.
31. CONTRACTOR TO CONFIRM EXISTING LOCATION ON SITE.
32. COORDINATE WITH CONTROLS CONTRACTOR TO RE-BALANCE. THERE WILL BE TWO BALANCE VALVES, MINIMUM AND MAKE-UP FOR EXHAUST FAN EFF.
33. EXACT SIZE TO BE VERIFIED ON SITE AND COORDINATE WITH GENERAL CONTRACTOR FOR FRAMING DIMENSION IN NEW FLOOR PENETRATION.
34. REFER TO PHASING NOTES.
35. REBALANCE EXISTING HYDRONIC TERMINAL.
36. REPAIR EXISTING CHEMICAL POT FEEDER AND PROVIDE NEW MICRON FILTER IN THIS LOCATION. REFER TO DETAILS.
37. PIPE RELIEF TO GLYCOL FILL TANK.

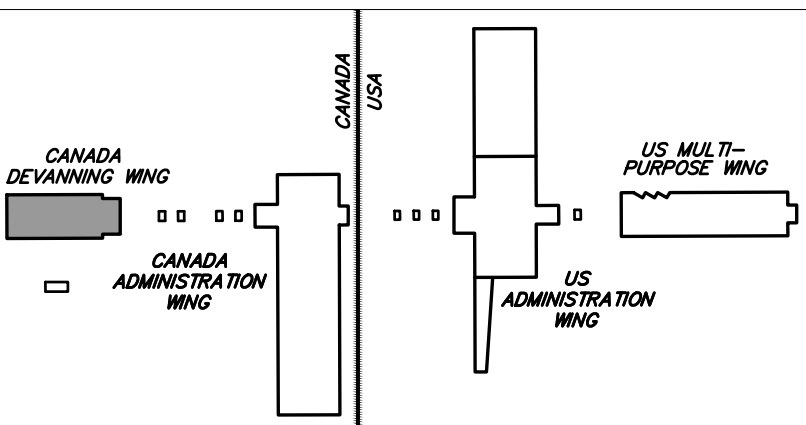
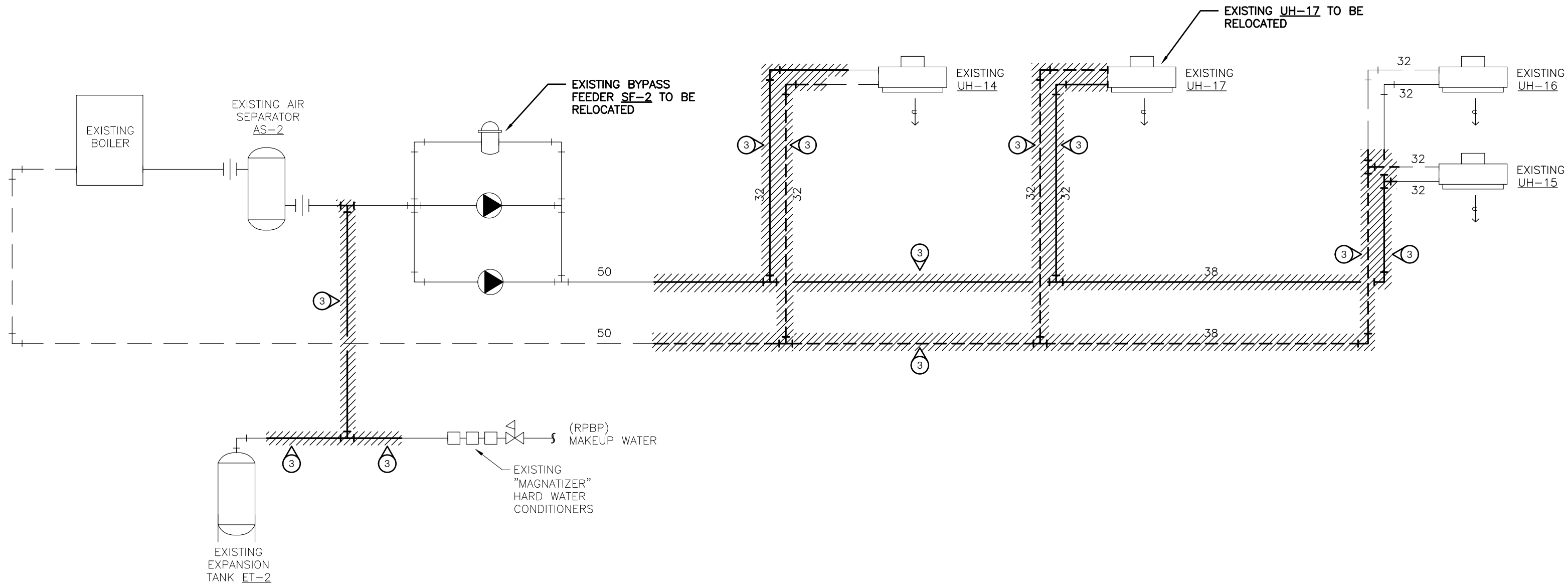


- DRAWING NOTES APPLY WHERE INDICATED: 
1.

REFER TO DETAIL FOR VALVING ARRANGEMENT.
2.

CONNECT TO EXISTING.
3.

EXISTING PIPING TO BE REMOVED.



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MECHANICAL SCHEMATIC -
DEMOLITION

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