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Certificate of Authorization
Nova 3 Engineering Ltd.
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Revision	Description	Date
Client		client

PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

Project title
THE FORKS NHS INFRASTRUCTURE UPGRADES
THE FORKS WINNIPEG, MANITOBA

Designed by
MY Conçu par
Drawn by
MY Dessiné par
Approved by
Approuvé par

PWSSC Project Manager / Administrateur de Projets TPSGC
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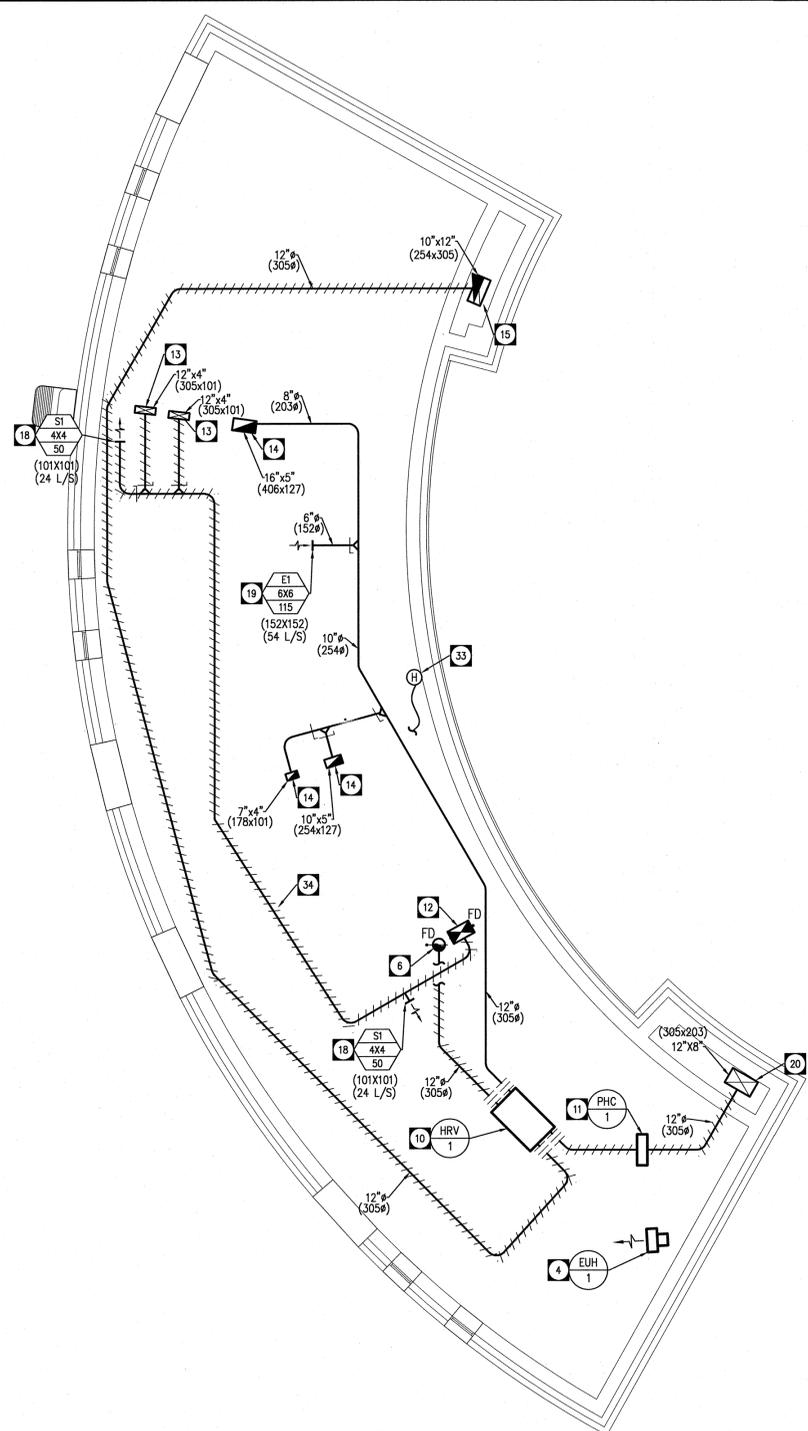
Drawing title / Titre du dessin

MAIN ORIENTATION NODE MECHANICAL MAIN FLOOR HVAC

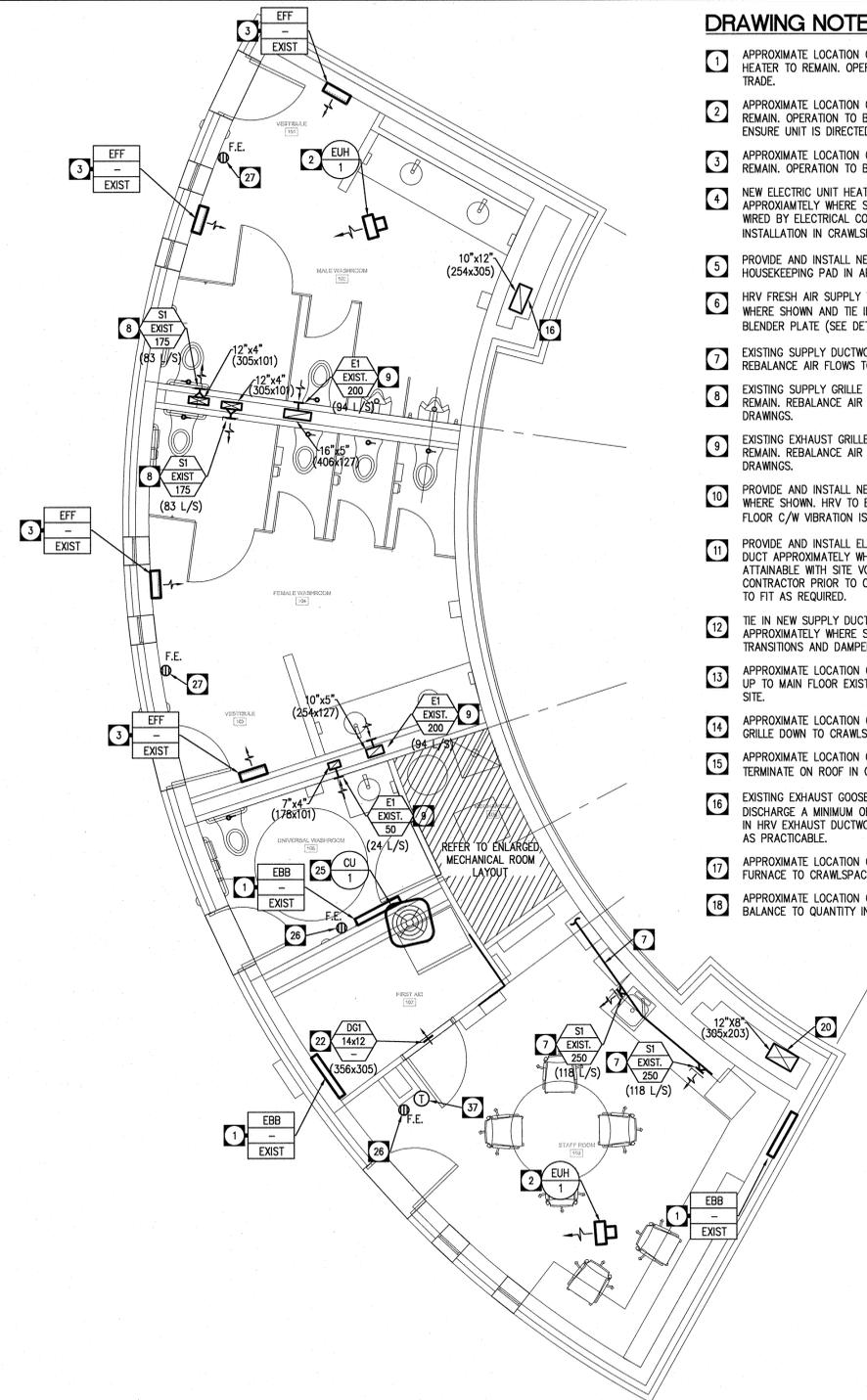
Project no./No. du projet
R.075208.001
Drawing no./No. du dessin
M2.1
Revision no.
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DRAWING NOTES - HVAC

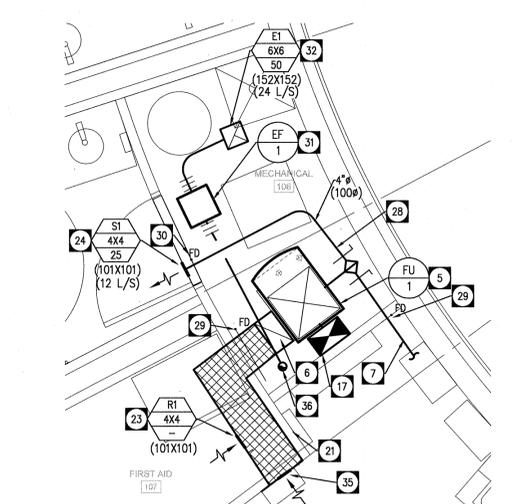
- APPROXIMATE LOCATION OF EXISTING ELECTRIC BASEBOARD HEATER TO REMAIN. OPERATION TO BE VERIFIED BY ELECTRICAL TRADE.
- APPROXIMATE LOCATION OF EXISTING ELECTRIC UNIT HEATER TO REMAIN. OPERATION TO BE VERIFIED BY ELECTRICAL TRADE. ENSURE UNIT IS DIRECTED AWAY FROM OCCUPANTS AS SHOWN.
- APPROXIMATE LOCATION OF EXISTING ELECTRIC FORCE FLOW TO REMAIN. OPERATION TO BE VERIFIED BY ELECTRICAL TRADE.
- NEW ELECTRIC UNIT HEATER IN CRAWLSPACE LOCATED APPROXIMATELY WHERE SHOWN. SUPPLIED, INSTALLED, AND WIRED BY ELECTRICAL CONTRACTOR. ENSURE UNIT RATED FOR INSTALLATION IN CRAWLSPACE. C/W B.I.T.
- PROVIDE AND INSTALL NEW ELECTRIC UPFLOW FURNACE ON HOUSEKEEPING PAD IN APPROXIMATE LOCATION SHOWN.
- HRV FRESH AIR SUPPLY TO PENETRATE FLOOR APPROXIMATELY WHERE SHOWN AND TIE INTO RETURN AS REQUIRED. C/W BLENDER PLATE (SEE DETAIL).
- EXISTING SUPPLY DUCTWORK AND DIFFUSERS TO REMAIN. REBALANCE AIR FLOWS TO VALUES AS INDICATED ON DRAWINGS.
- EXISTING SUPPLY GRILLE AND DUCTWORK WITHIN WALL TO REMAIN. REBALANCE AIR FLOWS TO VALUES AS INDICATED ON DRAWINGS.
- EXISTING EXHAUST GRILLE AND DUCTWORK WITHIN WALL TO REMAIN. REBALANCE AIR FLOWS TO VALUES AS INDICATED ON DRAWINGS.
- PROVIDE AND INSTALL NEW HRV IN CRAWLSPACE APPROXIMATELY WHERE SHOWN. HRV TO BE SUSPENDED FROM UNDERSIDE OF FLOOR C/W VIBRATION ISOLATION.
- PROVIDE AND INSTALL ELECTRIC PRE HEAT COIL IN OUTSIDE AIR DUCT APPROXIMATELY WHERE SHOWN. VERIFY OUTPUT ATTAINABLE WITH SITE VOLTAGE. COORDINATE WITH ELECTRICAL CONTRACTOR PRIOR TO ORDERING EQUIPMENT. TRANSITION DUCT TO FIT AS REQUIRED.
- TIE IN NEW SUPPLY DUCTWORK TO EXISTING SUPPLY CHASE APPROXIMATELY WHERE SHOWN. PROVIDE ALL REQUIRED FITTINGS, TRANSITIONS AND DAMPERS.
- APPROXIMATE LOCATION OF EXISTING SUPPLY FROM CRAWLSPACE UP TO MAIN FLOOR EXISTING GRILLE. VERIFY EXACT LOCATION ON SITE.
- APPROXIMATE LOCATION OF EXHAUST FROM MAIN FLOOR EXISTING GRILLE DOWN TO CRAWLSPACE. VERIFY EXACT LOCATION ON SITE.
- APPROXIMATE LOCATION OF NEW HRV EXHAUST DUCT TO TERMINATE ON ROOF IN GOOSENECK C/W BIRDSCREEN.
- EXISTING EXHAUST GOOSENECK ON ROOF TO BE MODIFIED TO DISCHARGE A MINIMUM OF 18" (457mm) ABOVE ROOF LINE. TIE IN HRV EXHAUST DUCTWORK IN CRAWLSPACE TO EXISTING CHASE AS PRACTICABLE.
- APPROXIMATE LOCATION OF SUPPLY DOWN FROM MAIN FLOOR FURNACE TO CRAWLSPACE.
- APPROXIMATE LOCATION OF CRAWLSPACE SUPPLY GRILLE. BALANCE TO QUANTITY INDICATED.
- APPROXIMATE LOCATION OF CRAWLSPACE EXHAUST GRILLE. BALANCE TO QUANTITY INDICATED.
- APPROXIMATE LOCATION OF NEW OUTSIDE AIR INTAKE FOR HRV. PROVIDE NEW INTAKE IN THE FORM OF GOOSENECK ON ROOF C/W BIRDSCREEN. UTILIZE EXISTING CHASE TO RUN NEW DUCTWORK.
- EXISTING RETURN AIR DUCTWORK TO REMAIN.
- PROVIDE AND INSTALL DOOR TRANSFER GRILLE APPROXIMATELY AS SHOWN.
- APPROXIMATE LOCATION OF NEW RETURN AIR GRILLE. TIE INTO EXISTING RETURN AIR DUCT AS REQUIRED. PROVIDE WITH BALANCING DAMPER.
- PROVIDE AND INSTALL NEW SUPPLY GRILLE AND ASSOCIATED DUCTWORK. BALANCE TO AIRFLOW AS INDICATED ON DRAWINGS.
- APPROXIMATE LOCATION OF EXISTING ROOF MOUNTED CONDENSING UNIT. PROVIDE NEW ROOF MOUNTED CONDENSING UNIT IN EXISTING LOCATION. VERIFY FINAL LOCATION WITH STRUCTURAL AND ARCHITECTURAL PRIOR TO INSTALLATION. EXTEND REFRIGERANT LINE KIT TO COOLING COIL TO MANUFACTURER'S RECOMMENDATIONS.
- APPROXIMATE LOCATION OF NEW FIRE EXTINGUISHER. COORDINATE FINAL LOCATION WITH ARCHITECTURAL PRIOR TO INSTALLATION.
- APPROXIMATE LOCATION OF NEW FIRE EXTINGUISHER. COORDINATE FINAL LOCATION WITH ARCHITECTURAL PRIOR TO INSTALLATION. PROVIDE WITH SURFACE MOUNTED CABINET.
- SUPPLY AND INSTALL NEW BRANCH SUPPLY AIR DUCT AS SHOWN. TIE INTO EXISTING SUPPLY AIR DUCTWORK AS REQUIRED.
- EXISTING FIRE DAMPERS TO REMAIN. PROVIDE RE-CERTIFICATION OF EXISTING DAMPERS UPON COMPLETION OF HVAC WORK. PROVIDE NEW ACCESS DOOR AS REQUIRED.
- APPROXIMATE LOCATION OF NEW FIRE DAMPER C/W ACCESS DOOR.
- SUPPLY AND INSTALL INLINE EXHAUST FAN APPROXIMATELY AS SHOWN. SUSPENDED FROM CEILING SPACE C/W VIBRATION ISOLATION. RUN EXHAUST THROUGH EXISTING ROOF PENETRATION IN ROOM. EXHAUST TO TERMINATE IN GOOSENECK C/W BACKDRAFT DAMPER AND BIRDSCREEN. PROVIDE WITH SWITCH ON WALL FOR CONTROL. SITE VERIFY FINAL LOCATIONS.
- SUPPLY AND INSTALL EXHAUST GRILLE LOCATED APPROXIMATELY AS SHOWN.
- SUPPLY AND INSTALL HUMIDISTAT APPROXIMATELY WHERE SHOWN. WIRE TO HRV CONTROL AS REQUIRED. PROVIDE WITH FURNACE INTERLOCK TO RUN FURNACE BLOWER WHENEVER HRV IS ENERGIZED.
- EXISTING INSULATED SUPPLY DUCTWORK TO BE CLEANED AND REUSED.
- APPROXIMATE LOCATION OF EXISTING RETURN AIR GRILLE TO REMAIN.
- EXISTING ROOF PENETRATION TO BE REUSED FOR EXHAUST DUCT. VERIFY EXACT LOCATION ON SITE. EXHAUST DUCT TO TERMINATE IN GOOSENECK C/W BIRDSCREEN AND BACKDRAFT DAMPER.
- APPROXIMATE LOCATION OF EXISTING THERMOSTAT TO REMAIN. WIRE TO NEW FURNACE AS REQUIRED.



CRAWLSPACE RENOVATION PLAN
SCALE: 1:50



MAIN FLOOR RENOVATION PLAN
SCALE: 1:50



ENLARGED MECHANICAL ROOM LAYOUT
SCALE: 1:32

GENERAL NOTES

- VALUES IN BRACKETS ARE THE METRIC EQUIVALENCIES TO THE IMPERIAL UNITS OTHERWISE SHOWN.

MECHANICAL EQUIPMENT SCHEDULE

TAG	MANUFACTURER	MODEL	HEATING	COOLING	AIRFLOW (IMPERIAL)	AIRFLOW (METRIC)	EFFICIENCY	MOTOR	NOTES
F-1	NORTRON	21ECM10	15 KW	-	1000 CFM @ 0.25" W.C.	472 L/S @ 6.35mm W.C.	-	-	ELECTRIC FURNACE C/W 4 STAGE ELECTRIC HEAT, UPFLOW SUPPLY, SIDE RETURN, MIXING PLATE, HRV INTERLOCK, TERMINAL WIRING STRIP, ELEC. JUNC. BOX W/ DISCONNECT, ELECTRONIC 7 DAY PROGRAMMABLE THERMOSTAT, & HOUSEKEEPING PAD AND ISOLATORS.
CU-1	CARRIER	24ABC6	-	2 TONS (7 KW)	-	-	16.0 SEER	-	CONDENSING UNIT DX PIPING TO DROP DOWN THROUGH PITCH POCKET C/W ROOF CURB, CRANKCASE HEATER, LINE KIT, LOW-AMBIENT KIT AND NEMA 4 DISCONNECT.
CC-1	CARRIER	CAPVU2414ALA	-	2 TONS (7 KW)	-	-	-	-	UPFLOW COOLING COIL, MATCHED WITH CU-1. INSTALL IN SUPPLY DUCTWORK OF NEW FURNACE, EXTEND REFRIGERATION PIPING TO CONDENSING UNIT AS REQUIRED.
HRV-1	NUAIR	NU800	-	-	580 CFM @ 0.45" W.C.	274 L/S @ 11.43mm W.C.	-	1/4 HP (249 W)	C/W DUAL LOW-SPEED CONTROL W/ LOW CONTINUOUS VENTILATION CONTROL, CONTROLS TRANSFORMER, INTAKE DISCHARGE WEATHER HOODS, CONDENSATE DRAIN, FURNACE INTERLOCK, ELECTRIC PRE-HEAT COIL & SPRING ISOLATORS.
PHC-1	EH PRICE	DH CIOOH	9 KW	-	-	-	-	-	C/W AIR PROVING SWITCH, CONTROLS TRANSFORMER, HIGH-LIMIT CUT-OFF, CONTROL TRANSFORMER, PROTECTIVE SCREEN GUARDS, REMOTE WALL-MOUNT AND INLINE DUCT THERMOSTAT & SCR CONTROL SILENT MAG CONTACTORS.
EF-1	GREENHECK	SQ-60-VG	-	-	50 CFM @ 0.25" W.C.	23.6 L/S @ 6.35mm W.C.	-	1/8 HP (75 W)	C/W SWITCH, BACK-DRAFT DAMPER, VIBRATION ISOLATORS FOR SUSPENSION RODS AND GOOSENECK TERMINATION W/ BDD AND BIRD SCREEN. UTILIZE EXISTING 6" (152mm) ROOF PENETRATION PREVIOUSLY USED FOR OUTSIDE AIR TO FURNACE FOR EXHAUST.

