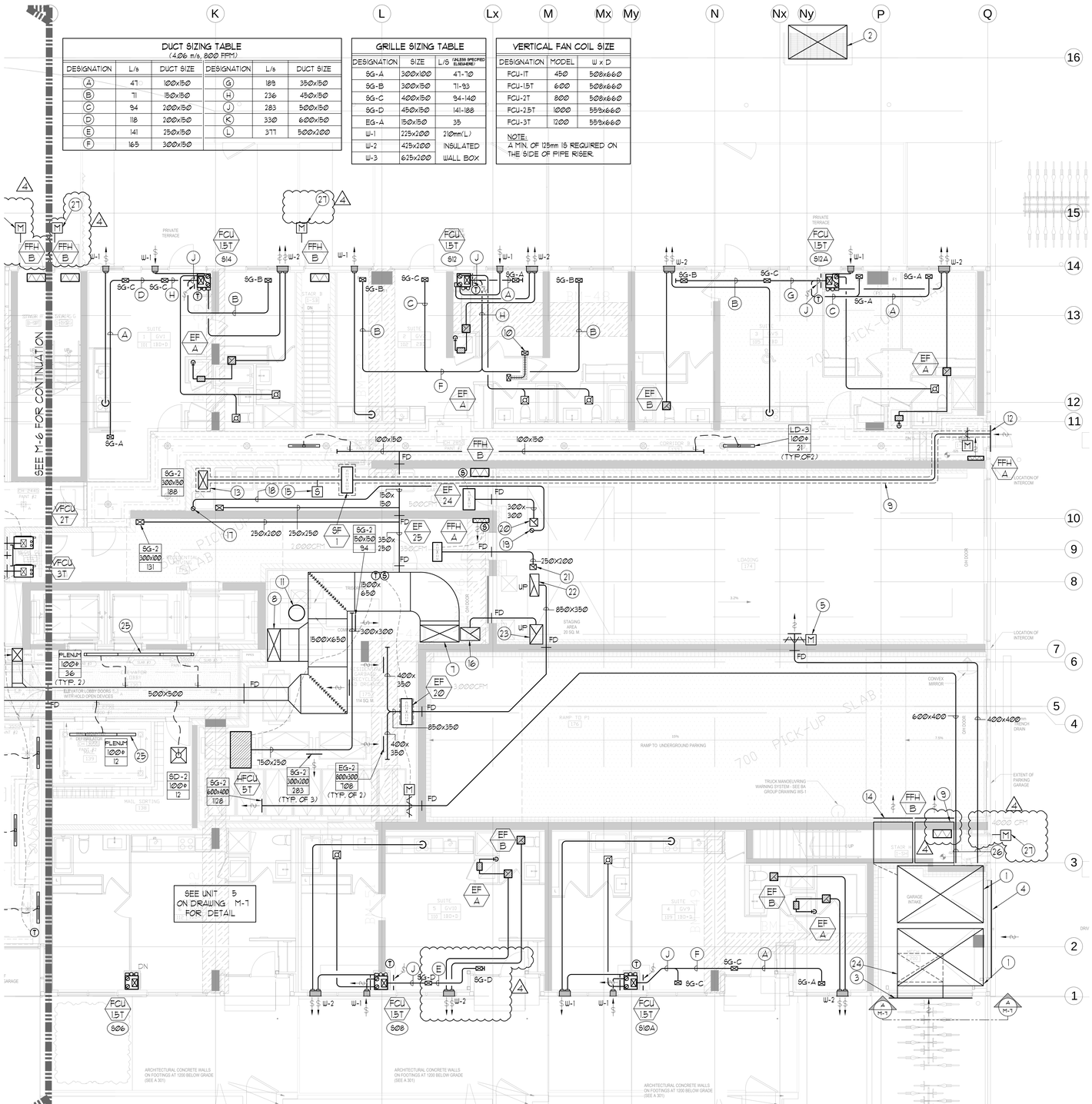
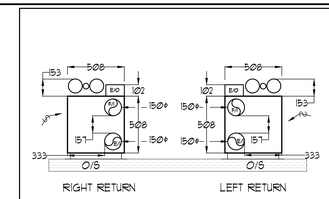


DUCT SIZING TABLE (4.06 m/s, 800 FPM)					
DESIGNATION	L/s	DUCT SIZE	DESIGNATION	L/s	DUCT SIZE
A	47	100x150	G	189	350x150
B	71	150x150	H	236	450x150
C	94	200x150	J	283	500x150
D	118	200x150	K	330	600x150
E	141	250x150	L	377	500x200
F	165	300x150			

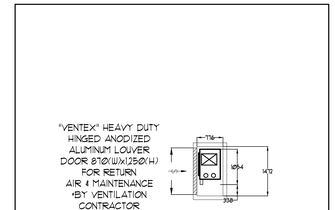
GRILLE SIZING TABLE		
DESIGNATION	SIZE	L/s (UNLESS SPECIFIED ELSEWHERE)
SG-A	300x100	47-70
SG-B	300x150	71-93
SG-C	400x150	94-140
SG-D	450x150	141-188
EG-A	150x150	35
W-1	225x200	210mm(L)
W-2	425x200	INSULATED
W-3	625x200	WALL BOX

VERTICAL FAN COIL SIZE		
DESIGNATION	MODEL	W x D
FCU-1T	450	508x660
FCU-1.5T	600	508x660
FCU-2T	800	508x660
FCU-2.5T	1000	559x660
FCU-3T	1200	559x660

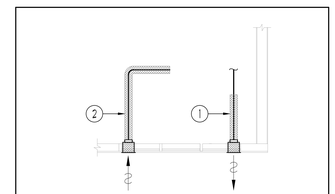
NOTE:
A MIN. OF 125mm IS REQUIRED ON THE SIDE OF PIPE RISER.



INSUITE FCU DIMENSIONS — NTS

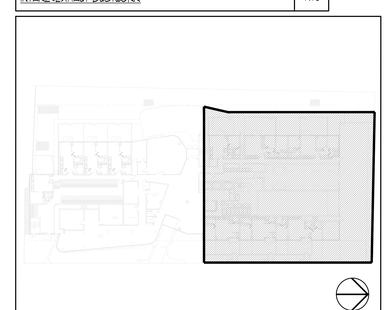


TYPICAL MECH. CLOSET FOR VERTICAL FCU (FCC-1T TO 1.5T) AT COMMON AREA — N.T.S.



1. EXHAUST DUCTWORK TO BE C/W 25mm THICK THERMAL INSULATION 6FT. FROM EXTERIOR WALL. (TYPICAL)
2. F/A INTAKE DUCTWORK TO BE C/W 25mm THICK THERMAL INSULATION FOR ENTIRE LENGTH FROM EXTERIOR WALL TO ERV FCU. (TYPICAL)

TYPICAL DETAIL:INSULATION FOR INTAKE&EXHAUST DUCTWORK — NTS



KEY PLAN — N.T.S.

REFER TO DWG M-9 FOR ACOUSTIC NOTES

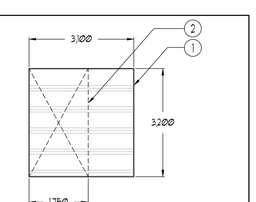
GENERAL NOTES:

1) CONTRACTOR SHALL CO-ORDINATE ARCHITECTURAL, STRUCTURAL, LIGHTING, HVAC, SPRINKLER DRAWINGS TO AVOID AREAS OF CONFLICT AND TO MAINTAIN CEILING HEIGHTS.
2) CONTRACTOR SHALL REPORT ALL DISCREPANCIES AND AREA OF CONFLICTS TO THE ENGINEER PRIOR TO WORK BEGINS.
3) PROVIDE EXPANSION CHAMBERS FOR ALL KITCHEN SINKS.
4) SEE INSTALLATION DETAILS DRAWING FOR WASHER DOM. H+C WATER, SANITARY CONNECTION DETAILS.
5) SUPPLY AND INSTALL COMPLETE DOMESTIC HOT AND COLD WATER LINES, SANITARY AND VENT LINES TO EACH FIXTURE /EQUIPMENT INCLUDING WATER CLOSETS, LAVATORIES, BATHS, SHOWERS, KITCHEN SINK, WASHING MACHINES, DISHWASHERS, AND FLOOR DRAINS. KITCHEN SINK, LAVATORIES, WATER CLOSETS AND WASHING MACHINE TO BE C/W LOCALIZED SHUT-OFF VALVES.
6) ALL VENT PIPE INSTALLATION TO COMPLY WITH PLUMBING CODES.
7) FOR D.H.C. W. RISER SIZES, REFER TO RISER DIAGRAM
8) FIRE DAMPERS ARE REQUIRED TO BE LISTED AND ARE TO HAVE FIRE PROTECTION RATING OF THE PENETRATED FIRE SEPARATION.
9) THE PIPING PENETRATING THE VARIOUS FIRE SEPARATION IS REQUIRED TO BE FIRESTOPPED WITH A LISTED FIRESTOPPING MATERIAL IN ACCORDANCE WITH OBC ARTICLE 3.1.9.1
10) THE FIRE HOSE CABINET THAT ARE RECESSED INTO THE EXIT STAIR SHAFTS ARE REQUIRED TO BE SEPARATED FROM THE EXIT STAIR BY A 2 HR. FIRE SEPARATION.
11) NO FLEXIBLE DUCT SHALL BE USED FOR ANY IN-SUITE DUCTWORK.
12) PROVIDE 25MM EXTERNAL INSULATION TO ENTIRE FRESH AIR DUCT FROM EXTERIOR WALL TO ERV FAN COIL UNIT.
13) DRYER EXHAUST DUCT SHALL BE SMOOTH AND CORROSION-RESISTANT MATERIAL (FLEXIBLE CONNECTION IS NOT ACCEPTABLE).

CLEAR FLOOR TO UNDERSLAB = 4050mm
CLEAR PRODUCT= 3000mm
COMPLETE DROP CEILING =1000mm FOR DUCT/PIPES
ROOF DRAINS + TERRACE DRAINS FROM 2/F

NOTES:

1. 3,300x2250 (7.3 M², 78.2 FT²) FRESH AIR INTAKE SHAFT FOR PARKING GARAGE AND 3,300x2,300 (7.6 M², 81.7 FT²) INTAKE SHAFT FOR AHU-1.
2. 2,250x1300 (2.93 M², 31.5 FT²) FRESH AIR INTAKE SHAFT FOR P-1 LEVEL C/W GRATE BY OTHERS.
3. 3,200x3800 WEATHERPROOF INTAKE LOUVRE C/W BIRDSCREEN. (26500 CFM)
4. 3,740x3800 WEATHERPROOF INTAKE LOUVRE C/W BIRDSCREEN. (26500 CFM)
5. INTERLOCK W / EF-21.
6. SMOKE DETECTOR BY DIV.16.
7. 1500x650 F/A DUCT FROM BELOW C/W FIRE DAMPER AT SLAB.
8. 1,250x500 F/A DUCT UP TO NORTH SHAFT C/W FIRE DAMPER AT SLAB.
9. 2Hr FIRE RATED ENCLOSURE. FIRE RATED ENCLOSURE BY OTHERS.
10. 300X250 TRANSFER AIR DUCT c/w INTERNAL ACOUSTIC LINING AND TWO 300x250 TRANSFER AIR GRILLES.
11. 600ø GARBAGE CHUTE UP.
12. 1,000x1,000 WEATHERPROOF INTAKE LOUVRE C/W BIRDSCREEN. BOTTOM OF THE LOUVRE (1200MM HIGH) TO BE BLANKED OFF. (1000 CFM)
13. 700x350 STAIR PRESSURIZATION DUCT DOWN C/W FIRE RATED ENCLOSURE. FIRE RATED ENCLOSURE BY OTHERS.
14. (2) 1500x1,750 FRESH AIR DUCT FOR PARKING P-1 INTAKE C/W WIRE MESH GRILLE. DUCTS WITHIN FIRE RATED SOFFIT, SOFFIT BY OTHERS.
15. EACH PRESSURIZATION SUPPLY FAN TO BE C/W INDIVIDUAL SMOKE DETECTOR AND FIRE RATED ENCLOSURE. SMOKE DETECTOR TO BE INSTALLED AT DOWNSTREAM OF SUPPLY FAN. SMOKE DETECTOR BY DIV.16 AND FIRE RATED ENCLOSURE BY OTHERS.
16. 750x500 EXHAUST DUCT FROM BELOW C/W FIRE DAMPER AT SLAB.
17. 150ø EXHAUST DUCT FROM BELOW.
18. 150ø DUCT.
19. 150ø EXHAUST DUCT UP TO HIGH LEVEL.
20. 300x300 EXHAUST DUCT UP TO HIGH LEVEL.
21. 250x200 EXHAUST DUCT UP TO HIGH LEVEL.
22. 850x350 EXHAUST DUCT UP TO HIGH LEVEL.
23. 750x500 EXHAUST DUCT UP TO HIGH LEVEL.
24. 1,750x1,000x3,200(H) FRESH AIR PLENUM ATTACH TO THE INTAKE LOUVER AT G/F, WITH 1,750x1,000 FRESH AIR DUCT DOWN. FRESH AIR PLENUM AND AIR DUCT SHALL BE INSULATED WITH 25MM EXTERNAL INSULATION.
25. CONTINUOUS LINEAR SLOT DIFFUSER BY THIS CONTRACTOR.
26. 600x400 FRESH AIR DUCT FOR GARBAGE ROOM INTAKE AND 400x400 FRESH AIR DUCT FOR LOADING AREA INTAKE. DUCTS WITHIN FIRE RATED SOFFIT, SOFFIT BY OTHERS.
27. MOTORIZED DOOR TO BE CONNECTED TO FIRE ALARM SYSTEM BY DIV.16.



1. 3,100x3200 WEATHERPROOF INTAKE LOUVRE
2. 1,750x3200 FRESH AIR PLENUM ATTACH TO INTAKE LOUVRE

INTAKE LOUVRE SECTION A-A — NTS

LEGEND MECHANICAL

SYMBOL	DESCRIPTION
	SUPPLY AIR DIFFUSER
	SUPPLY AIR TROFFER
	LINEAR SUPPLY DIFFUSER
T	THERMOSTAT
S	FAN SWITCH
	RETURN AIR GRILLE
	EXHAUST AIR GRILLE
	SUPPLY DUCT UP
	SUPPLY DUCT DOWN
	RETURN DUCT UP
	RETURN DUCT DOWN
	EXHAUST DUCT UP
	EXHAUST DUCT DOWN
FD	FIRE DAMPER
BD	BALANCING DAMPER
MD	MOTORIZED DAMPER
MFD	MOTORIZED FIRE DAMPER
BDD	BACKDRAFT DAMPER
OBD	OPPOSED BLADE VOLUME CONTROL DAMPER C/W LOCKING QUADRANT
	TURNING VANES
	FLEXIBLE CONNECTION
	ACOUSTIC INSULATION
	TYPE OF EQUIPMENT / EQUIPMENT IDENTIFICATION
	TYPE OF DIFFUSER OR GRILLE / GRILLE SIZE OR DIFFUSER NECK SIZE / AIRFLOW (CFM OR L/s)
	STARTER / 3 PHASE / PHASE / IN-SUITE ERV PASTER SWITCH
	FAN SWITCH / IN-SUITE ERV OVERRIDE BUTTON
	CO SENSOR
	GAS LINE
	GAS METER
	GAS COCK
	PRESSURE REDUCING VALVE
	SANITARY ABOVE GRADE
	SANITARY BELOW GRADE
	STORM ABOVE GRADE
	STORM BELOW GRADE
	DOMESTIC COLD WATER
	DOMESTIC HOT WATER
	DOMESTIC HOT WATER RECIRCULATION
	SANITARY VENT
	WATER METER
FD	FLOOR DRAIN
FFD	FUNNEL FLOOR DRAIN
HD	HUB DRAIN
RD	ROOF DRAIN
BLD	BLAB DRAIN
AD	AREA DRAIN
BLAD	BI-LEVEL AREA DRAIN
CB	CATCH BASIN
	SANITARY TRAP
	ELBOW UP
	ELBOW DOWN
CO	WALL CLEANOUT
CO	FLOOR CLEANOUT
HB	HOSE BIBB
NF-HB	NON-FREEZE HOSE BIBB
	GLOBE VALVE
	GATE VALVE
	BALL VALVE
	BUTTERFLY VALVE
	PRESSURE REDUCING VALVE
	CHECK VALVE
	CAP
	COMPRESSED AIR OUTLET
NV	BACKFLOW PREVENTER
	CIRCUIT BALANCING VALVE
	*MULTIPLE PIPES / - DENOTES NO. OF PIPES
T	TEMPERATURE SENSOR
T	THERMOSTAT
	2-WAY MODULATING VALVE
	3-WAY MODULATING VALVE
T	10"x4"(D) THERMOWELL C/W 1/2" BUSHING + 1/2" PLUG
	FLOOR ELEVATION ABOVE LEVEL
	FLOOR ELEVATION THIS LEVEL
	HEADROOM (FLOOR TO U/S HEIGHT)

DATE	NO.	DESCRIPTION	BY
2015/01/14	3	ISSUED FOR TENDER	E.P.
2013/08/14	2	RE-ISSUED FOR PERMIT	E.P.
2013/06/14	1	ISSUED FOR PERMIT	E.P.

MARK VOID ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

REVISIONS

CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS ON THE JOB AND REPORT DISCREPANCIES TO THE ENGINEERS BEFORE PROCEEDING WITH THE WORK. THIS DRAWING IS THE PROPERTY OF THE ENGINEERS AND MUST BE RETURNED UPON COMPLETION OF THE WORK.

DRAWINGS ARE NOT TO BE SCALED

NOVA TREND DEVELOPMENT CORPORATION

LICENSED PROFESSIONAL ENGINEER 02/12/15 ERIC PIK KAI PAN PROVINCE OF ONTARIO

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Richmond Hill, Ontario L4B 3M1
Tel: 905 882-5445
Fax: 905 882-5447

DRAWING TITLE:
G/F NORTH
HVAC DUCTWORK LAYOUT

PROJECT TITLE:
9Q ALEXANDRA PARK
BLOCK 11
38 CAMERON STREET
TORONTO ONTARIO

DRAWN BY:	CHECKED BY:	SCALE:
G.S.	E.P.	1:50

DATE:	PROJECT NUMBER:	DRAWING NUMBER:
FEB. 13	1313	M-7 OF 43