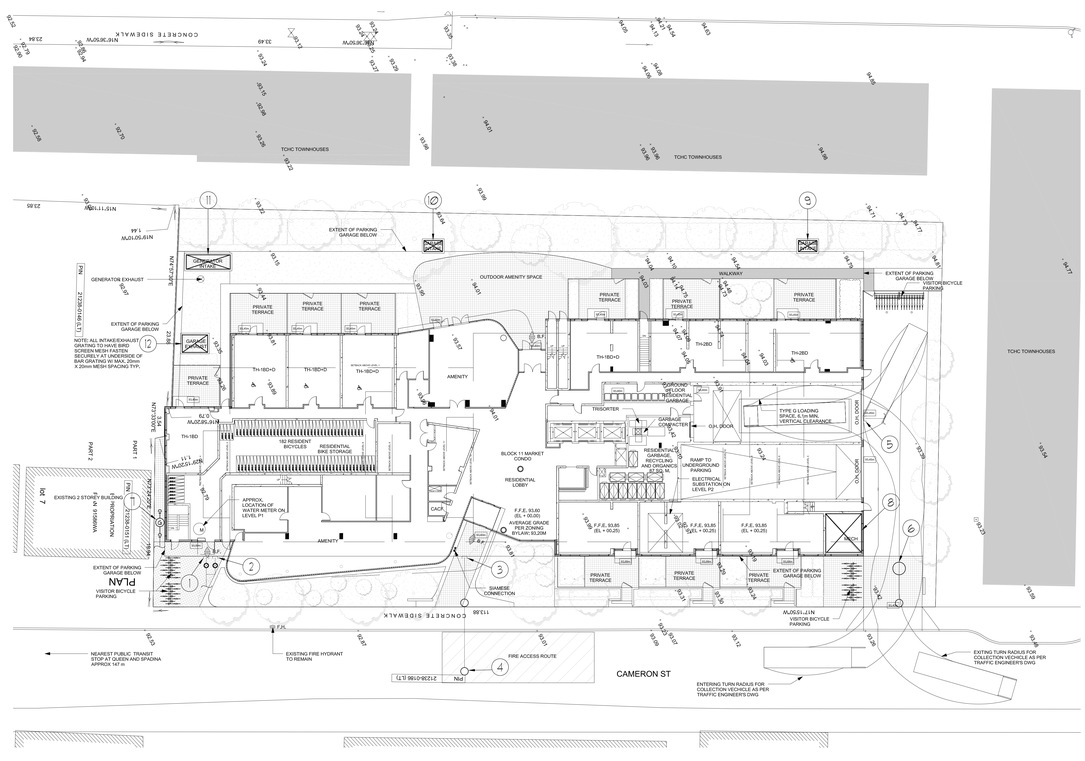

ALEXANDRA PARK (#1313)
MECHANICAL DRAWING LIST

		SCALE	√
M-1	SITE PLAN	1:200	√
M-2	P-2 FLOOR PLAN - SUB-SLAB DRAINAGE LAYOUT	1:100	
M-3	P-2 FLOOR PLAN - MECHANICAL LAYOUT	1:100	
M-4	P-1 FLOOR PLAN - HVAC LAYOUT	1:100	
M-5	P-1 FLOOR PLAN - P&D LAYOUT	1:100	
M-6	G/F - SOUTH HVAC DUCTWORK LAYOUT	1:50	
M-7	G/F - NORTH HVAC DUCTWORK LAYOUT	1:50	
M-8	G/F - SOUTH HVAC PIPING LAYOUT	1:50	
M-9	G/F - NORTH HVAC PIPING LAYOUT	1:50	
M-10	G/F - SOUTH P&D LAYOUT	1:50	
M-11	G/F - NORTH P&D LAYOUT	1:50	
M-12	2/F - SOUTH MECHANICAL LAYOUT	1:50	
M-13	2/F - NORTH MECHANICAL LAYOUT	1:50	
M-14	3/F - SOUTH MECHANICAL LAYOUT	1:50	
M-15	3/F - NORTH MECHANICAL LAYOUT	1:50	
M-16	4/F - SOUTH MECHANICAL LAYOUT	1:50	
M-17	4/F - NORTH MECHANICAL LAYOUT	1:50	
M-18	5/F - SOUTH MECHANICAL LAYOUT	1:50	
M-19	5/F - NORTH MECHANICAL LAYOUT	1:50	
M-20	6/F - SOUTH MECHANICAL LAYOUT	1:50	
M-21	6/F - NORTH MECHANICAL LAYOUT	1:50	
M-22	7/F - SOUTH MECHANICAL LAYOUT	1:50	
M-23	7/F - NORTH MECHANICAL LAYOUT	1:50	
M-24	8/F - SOUTH MECHANICAL LAYOUT	1:50	
M-25	8/F - NORTH MECHANICAL LAYOUT	1:50	
M-26	9/F - SOUTH MECHANICAL LAYOUT	1:50	
M-27	9/F - NORTH MECHANICAL LAYOUT	1:50	
M-28	10/F - MECHANICAL LAYOUT	1:50	
M-29	11/F - MECHANICAL LAYOUT	1:50	
M-30	12/F - MECHANICAL LAYOUT	1:50	
M-31	13/F - MECHANICAL LAYOUT	1:50	
M-32	14/F - MECHANICAL LAYOUT	1:50	
M-33	ROOF - HVAC PIPING AND P&D LAYOUT	1:25	
M-34	SYSTEM WATER RISER DIAGRAM	N.T.S.	
M-35	DCW, DHW & DHWR RISER DIAGRAM	N.T.S.	
M-36	PRESSURIZATION / VENTILATION RISER DIAGRAM	N.T.S.	
M-37	SCHEMATICS	N.T.S.	
M-38	DETAILS #1	N.T.S.	
M-39	SCHEDULES	N.T.S.	

NOTES:

1. INCOMING 50ø FIRE LINE. SEE SITE SERVICE ENGINEER'S DRAWINGS FOR DETAILS.
2. INCOMING 100ø DCW. SEE SITE SERVICE ENGINEER'S DRAWINGS FOR DETAILS.
3. 300ø SAN LEAVING PIPE @ 2% AT INV. 88.00. SEE SITE SERVICE ENGINEER'S DRAWINGS FOR DETAILS.
4. XXXø MANHOLE BY OTHERS.
5. 250ø STORM LEAVING PIPE @ 2% AT INV. 91.13. SEE SITE SERVICE ENGINEER'S DRAWINGS FOR DETAILS.
6. XXXø STORM MANHOLE BY OTHERS.
7. INCOMING GAS STATION C/W 5 LB. REGULATOR AND METERS BY ENBRIDGE.
   APPROX BUILDING LOAD= XXX CFH
   APPROX. EMERGENCY GENERATOR = XXX CFH
   xxø (5 LB) FOR BUILDING AND xxø (5 LB) FOR GENERATOR DOWN TO P-1.
   PROVIDE LABEL ON EMERGENCY GENERATOR SHUT-OFF VALVE:
   "EMERGENCY GENERATOR SUPPLY - DO NOT CLOSE".
   SEE "ENBRIDGE GAS METER/REGULATING STATION DETAIL" ON THIS DRAWING FOR DETAIL.
8. 4200x4,700 (19.7 M², 212.5 FT²) FRESH AIR INTAKE SHAFT FOR P-1 & P-2 LEVEL AND MAU-1.
9. 2250x1300 (2.93 M², 31.5 FT²) FRESH AIR INTAKE SHAFT FOR P-1 LEVEL C/W GRATE BY OTHERS.
10. 2250x1300 (2.93 M², 31.5 FT²) FRESH AIR INTAKE SHAFT FOR P-2 LEVEL C/W GRATE BY OTHERS.
11. 5,200x1,700 (8.84 M², 95 FT²) AIR SHAFT FOR GENERATOR INTAKE & EXHAUST C/W GRATE BY OTHERS.
12. 3,100x2,000 (6.2 M², 68 FT²) EXHAUST AIR SHAFT FOR P-1 & P-2 LEVEL C/W GRATE BY OTHERS.

LEGEND
SITE MECHANICAL

SYMBOL	DESCRIPTION
	SANITARY ABOVE GRADE
	SANITARY BELOW GRADE
	STORM ABOVE GRADE
	STORM BELOW GRADE
	DOMESTIC COLD WATER
G	GAS LINE
F	FIRE LINE
	CATCH BASIN
	DOUBLE CATCH BASIN
	MAN HOLE
	CATCH BASIN MAN HOLE
M	GAS METER
M	WATER METER
RD	ROOF DRAIN
	ELBOW UP
	ELBOW DOWN
CO	WALL CLEANOUT
CO	FLOOR CLEANOUT
	SIAMESE CONNECTION
ENT. INV.	ENTERING INVERT
LVG. INV.	LEAVING INVERT

PROJECT#		ISSUED FOR :-	E.P.
DATE	NO	DESCRIPTION	BY

PLANK VOID ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

REVISIONS

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DRAWINGS ARE NOT TO BE SCALED

NOVA TREND ENGINEERING ASSOCIATES

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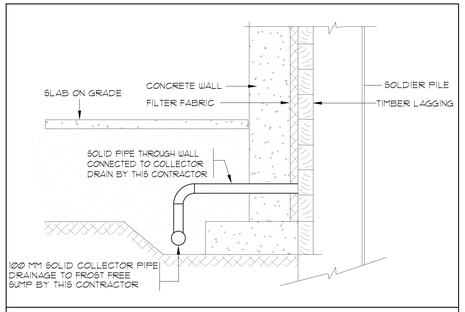
DRAWING TITLE:
SITE PLAN

PROJECT TITLE:
ALEXANDRA PARK

XXX
TORONTO ONTARIO

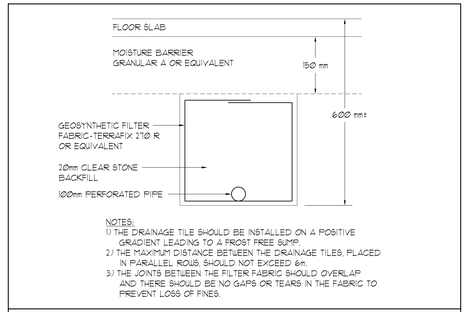
DRAWN BY:	CHECKED BY:	SCALE:
G.S.	E.P.	1:200
DATE:	PROJECT NUMBER:	DRAWING NUMBER:
FEB. 13	1313	M-1 OF 39

Drawing name: C:\Users\Gabriel\Appdata\Local\Temp\AcPublish_3888\(13)M - 1 (SITE PLAN).dwg Plotted: May 23, 2014 - 4:15pm



WEEPING TILE INSTALLATION DETAILS

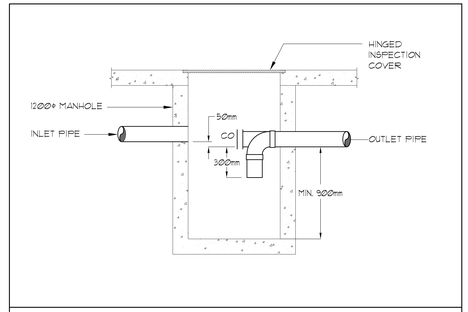
N.T.S.



NOTES:
1) THE DRAINAGE TILE SHOULD BE INSTALLED ON A POSITIVE GRADIENT LEADING TO A FROST FREE SUMP.
2) THE MAXIMUM DISTANCE BETWEEN THE DRAINAGE TILES, PLACED IN PARALLEL ROWS, SHOULD NOT EXCEED 6m.
3) THE JOINTS BETWEEN THE FILTER FABRIC SHOULD OVERLAP AND THERE SHOULD BE NO GAPS OR TEARS IN THE FABRIC TO PREVENT LOSS OF FINES.

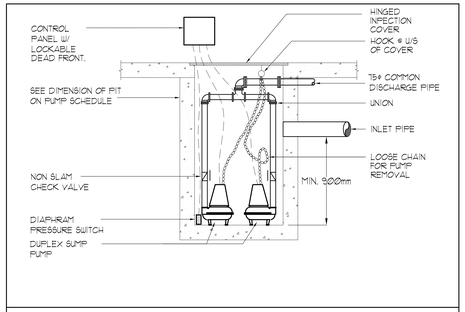
SUBFLOOR DRAINAGE DETAIL

N.T.S.



SAND TRAP DETAIL

N.T.S.



TYPICAL SUMP PIT DETAIL

N.T.S.

REFER TO DWG. M-X FOR GENERAL AND ACOUSTIC NOTES

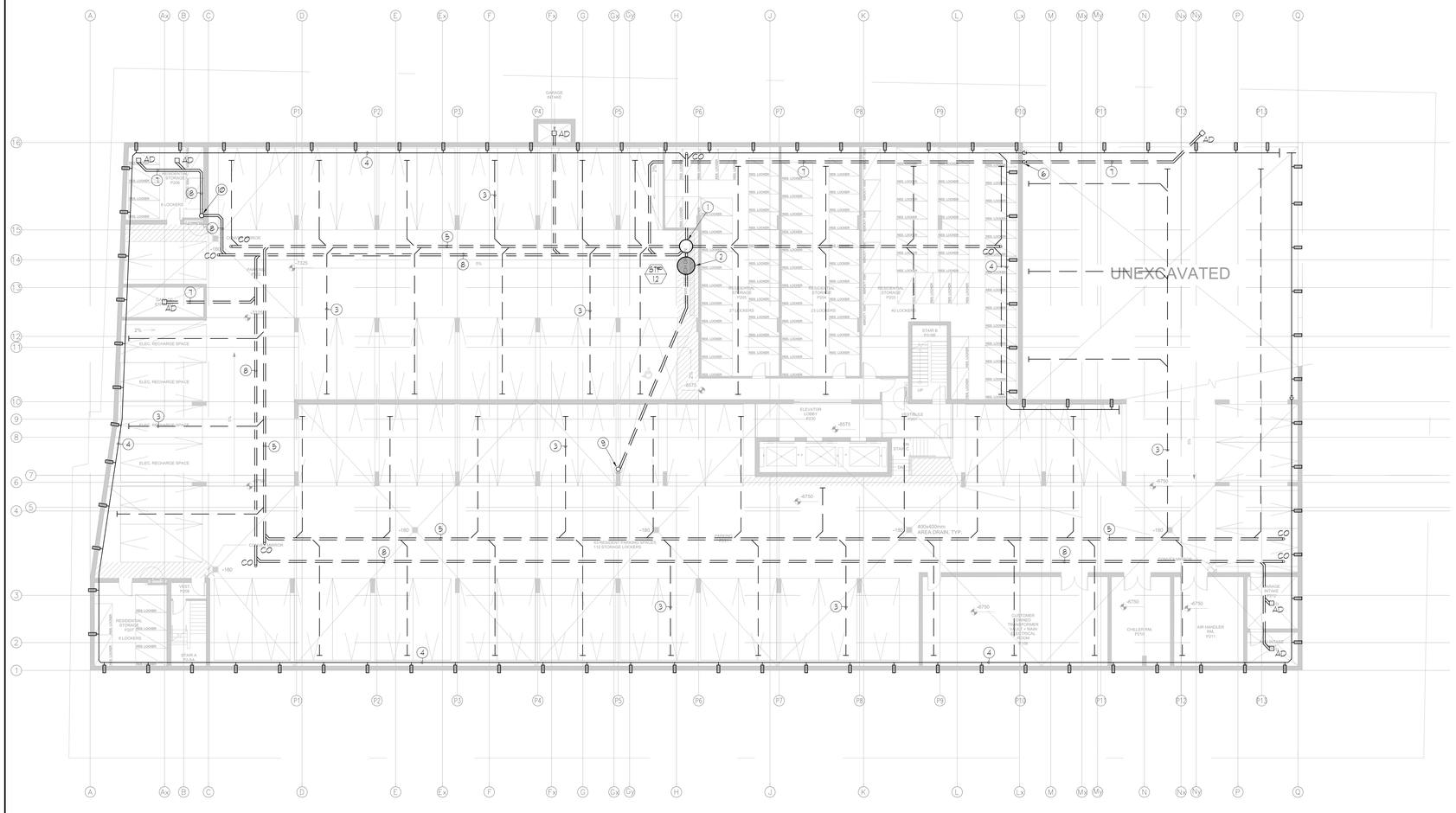
-mm CLEAR FLOOR TO UNDERSLAB

NOTES:

1. SAND TRAP. SEE DETAIL ON THIS DRAWING.
2. STORM SUMP PUMP PIT. FOR EQUIPMENT SCHEDULE OF PUMP AND PIT SIZE SEE DETAIL ON DWG. M-3.
3. 100ø SUB-FLOOR WEEPING TILE @ 1%. SEE SUB-FLOOR DRAINAGE DETAIL ON THIS DRAWING. (TYPICAL)
4. 100ø SOLID COLLECTOR PIPE @ 1%. SEE WEEPING TILE INSTALLATION DETAIL ON THIS DRAWING. (TYPICAL)
5. 150ø SOLID COLLECTOR PIPE @ 1%.
6. 100ø STM FROM ABOVE AND DOWN.
7. 100ø STM @ 1%.
8. 150ø STM @ 1%.
9. 75ø STM PUMPED UP c/w HEAT TRACING. HEAT TRACING BY DIV. 16. INSULATION AND JACKET BY THIS CONTRACTOR.
10. 150ø STM DOWN c/w CLEANOUT AT BASE.

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/G LOCKING QUADRANT
	TURNING VANES
	FLEXIBLE CONNECTION
	ACOUSTIC INSULATION
XX	TYPE OF EQUIPMENT EQUIPMENT IDENTIFICATION
XX	TYPE OF DIFFUSER OR GRILLE
XXX	GRILLE SIZE OR DIFFUSER NECK SIZE
XXX	AIRFLOW CFM OR L/S
XX	STARTER (3 PHASE , 1 PHASE)
S	N-SUITE ERV MASTER SWITCH
S	FAN SWITCH / N-SUITE ERV OVERRIDE BUTTON
CO	CO SENSOR
G	GAS LINE
G	GAS METER
G	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	BALAB 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
NFHB	NON-FREEZE HOSE BIBB
	GLOBE VALVE
	GATE VALVE
	BALL VALVE
	BUTTERFLY VALVE
	PRESSURE REDUCING VALVE
	CHECK VALVE
	CAP
	COMPRESSED AIR OUTLET
	BACKFLOW PREVENTER
	CIRCUIT BALANCING VALVE
	MULTIPLE PIPES / - DENOTES NO. OF PIPES
T	TEMPERATURE SENSOR
T	THERMOMETER
	2-WAY MODULATING VALVE
	3-WAY MODULATING VALVE
	1/2"x4 1/2" THERMOWELL C/G 1/2" BUSHING + 1/2" PLUG
XXX	FLOOR ELEVATION ABOVE LEVEL
XXX	FLOOR ELEVATION THIS LEVEL
XXX	HEADROOM (FLOOR TO U/S HEIGHT)



NOVA TREND ENGINEERING GROUP LTD.
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Email: cad@novatrendeng.com

PROJ/YY		ISSUED FOR ----	E.P.
DATE	NO	DESCRIPTION	BY

THANK YOU ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

REVISIONS

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DRAWINGS ARE NOT TO BE SCALED

DRAWING TITLE
P-2 FLOOR PLAN
SUB -SLAB DRAINAGE LAYOUT

PROJECT TITLE
ALEXANDRA PARK

XXX
TORONTO ONTARIO

DRAWN BY:	CHECKED BY:	SCALE:
G.S.	E.P.	1:100
DATE: FEB. 13	PROJECT NUMBER: 1313	DRAWING NUMBER: M-2 OF 35

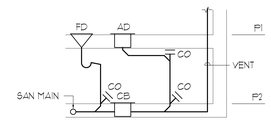
Drawing name: \\CADSERVER\Current Dwg\1313\1313 - Alexandra Park\DWG\1313M1.dwg Plotted: May 23, 2014 - 4:19pm

SANITARY PIT SP-1, SP-2

QTY.	DESCRIPTION
2	BARNES 25E-1054L SUBMERSIBLE PUMPS INSIDE A 1200MM SUMP PIT, EACH C/W 1 HP, 575 VOLT, 3 PHASE, 60 CYCLE MOTOR WITH 20 FT POWER CORD, 2" N.P.T. DISCHARGE, HANDLES 2" DIAMETER SOLIDS AND DELIVERS 50 U.S. G.P.M. AT 30 FT TOTAL HEAD.
1	LDP 575 DUPLEX ELECTRICAL ALTERNATOR STARTER AND CONTROL PANEL WITH LOCKABLE DEAD-FRONT, 575 VOLT, 3 PHASE, 60 CYCLE C/W H.O.A. SELECTOR SWITCHES, RUN LIGHTS, THERMAL OVERLOAD HEATERS TO SUIT PUMP MOTORS WITH RESET BUTTON, AND CIRCUIT BREAKERS IN EEMAC 3R ENCLOSURE.
4	LS 20 MECHANICAL LEVEL SENSORS, 1 FOR PUMP "ON", 1 FOR PUMP "OFF", 1 FOR BOTH PUMPS "ON", AND 1 FOR ALARM LEVEL.
1	LHW 115 HIGH WATER ALARM PANEL, 115 VOLT, 1 PHASE WITH PILOT LIGHT, ON-OFF-TEST SWITCH, BUZZER AND EXTRA RELAY FOR REMOTE SIGNALING, IN EEMAC 1 ENCLOSURE.
1	TRIM BAR CURB FRAME C/W CHECKERED COVER PLATE IN 2 SECTIONS, FOR INSPECTION AND ACCESS.

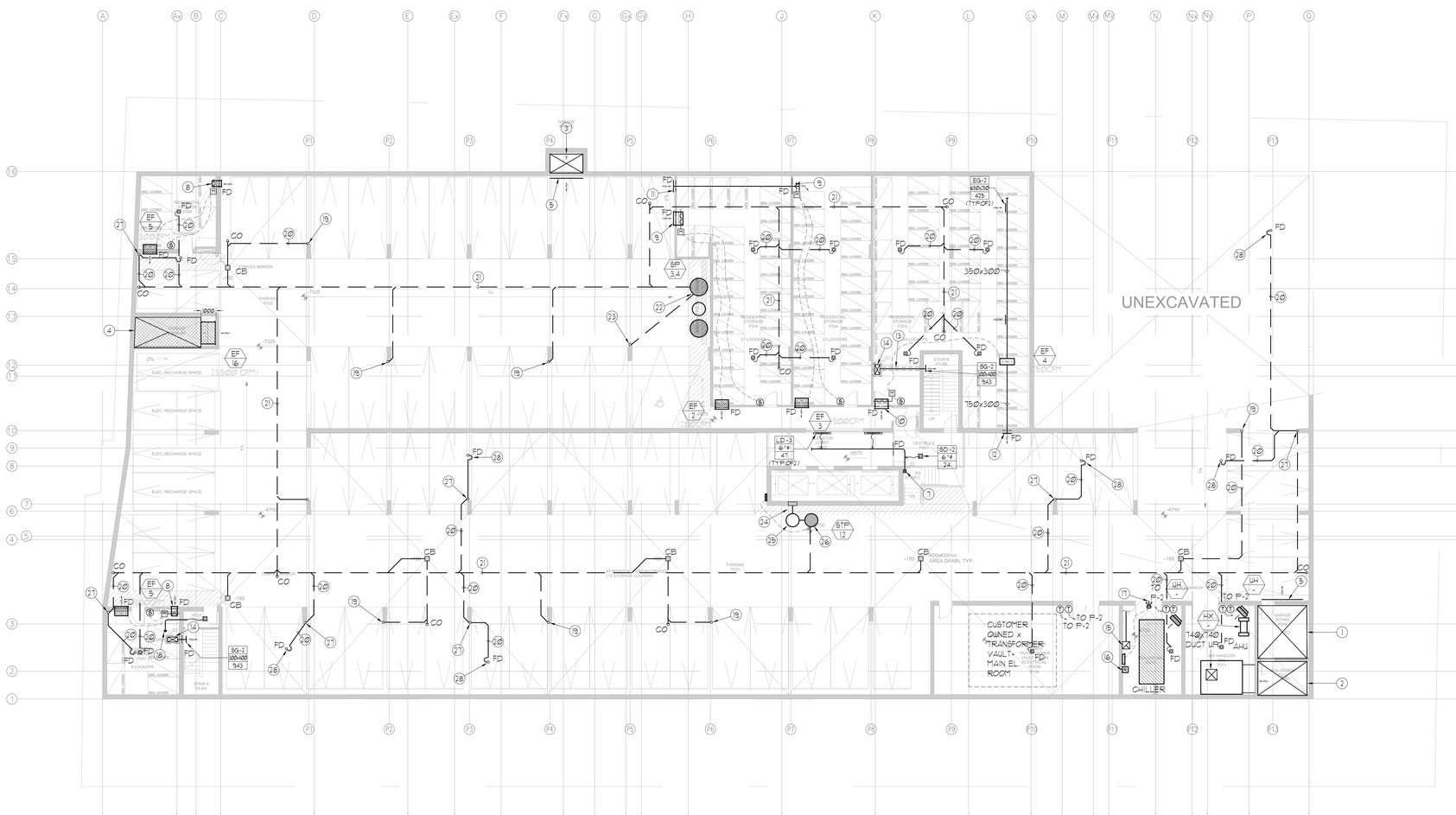
STORM PIT STP-1, STP-2

QTY.	DESCRIPTION
2	BARNES 25E-1054L SUBMERSIBLE PUMPS INSIDE A 1200MM SUMP PIT, EACH C/W 1 HP, 575 VOLT, 3 PHASE, 60 CYCLE MOTOR WITH 20 FT POWER CORD, 2" N.P.T. DISCHARGE, HANDLES 2" DIAMETER SOLIDS AND DELIVERS 50 U.S. G.P.M. AT 30 FT TOTAL HEAD.
1	LDP 575 DUPLEX ELECTRICAL ALTERNATOR STARTER AND CONTROL PANEL WITH LOCKABLE DEAD-FRONT, 575 VOLT, 3 PHASE, 60 CYCLE C/W H.O.A. SELECTOR SWITCHES, RUN LIGHTS, THERMAL OVERLOAD HEATERS TO SUIT PUMP MOTORS WITH RESET BUTTON, AND CIRCUIT BREAKERS IN EEMAC 3R ENCLOSURE.
4	LS 20 MECHANICAL LEVEL SENSORS, 1 FOR PUMP "ON", 1 FOR PUMP "OFF", 1 FOR BOTH PUMPS "ON", AND 1 FOR ALARM LEVEL.
1	LHW 115 HIGH WATER ALARM PANEL, 115 VOLT, 1 PHASE WITH PILOT LIGHT, ON-OFF-TEST SWITCH, BUZZER AND EXTRA RELAY FOR REMOTE SIGNALING, IN EEMAC 1 ENCLOSURE.
1	TRIM BAR CURB FRAME C/W CHECKERED COVER PLATE IN 2 SECTIONS, FOR INSPECTION AND ACCESS.



NOTE:
PRIME AND VENT TRAP OF FD/CB PER OBC PART 7 SECTION 7.5 (TYPICAL).

PARKING AREA DRAIN/CATCH BASIN SCHEMATIC



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 AREAS OF CONFLICT TO THE ENGINEER PRIOR TO BEGINNING WORK.

3) MINIMUM HEAD ROOM IS 2100 mm ABOVE FINISH FLOOR LEVEL.

4) WHERE THERE IS A DROPPED CEILING, GAS PIPING SHALL BE HUNG BELOW AND TIGHT TO CEILING.

5) ALL EQUIPMENT TO BE INSTALLED PER SPECIFICATION AND MANUFACTURER'S INSTALLATION MANUAL. PROVIDE ACCESS PANEL FOR CONCEALED EQUIPMENT VALVES, ETC.

6) ALLOW 3M SEPARATION BETWEEN THE CONNECTION OF THE MAIN SANITARY RISER AND ITS AUXILIARY RISER.

7) ALL SANITARY PIPE OUTSIDE OF HEATED CEILING SPACE SHALL BE INSULATED, CANVASSED AND PAINTED.

8) ALL VENTS SHALL COMPLY WITH O.B.C. AND PLUMBING CODE.

9) FOR STORAGE ROOM VENTILATION SYSTEM, DIV.16 TO PROVIDE CONDUIT, WIRING AND SWITCH TO START / STOP FAN & DAMPER. FAN AND 110V ACTUATOR TO BE SUPPLIED AND INSTALLED BY DIV. 15.

10) FOR UTILITY ROOM VENTILATION SYSTEM, DIV.15 WILL PROVIDE LINE VOLTAGE THERMOSTAT TO DIV.16. DIV.16 TO PROVIDE CONDUIT & WIRING TO START/STOP FAN & DAMPER VIA THERMOSTAT. FAN AND 110V ACTUATOR TO BE SUPPLIED AND INSTALLED BY DIV. 15.

11) FOR UNIT HEATER, DIV. 15 TO PROVIDE LINE VOLTAGE THERMOSTAT TO DIV. 16. DIV. 16 TO PROVIDE CONDUIT & WIRING TO START/STOP UNIT HEATER.

12) FIRE DAMPERS ARE REQUIRED TO BE LISTED AND ARE TO HAVE FIRE-PROTECTION RATING OF THE PENETRATED FIRE SEPARATION.

13) 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.

14) DIV. 16 TO PROVIDE START/STOP FOR ALL THE MAIN GARAGE EXHAUST FANS INSIDE CACF ROOM.

15) ALL TRAPS & PRIMERS TO BE HEAT TRACED BY DIV.16, INSULATED & JACKETTED BY THIS CONTRACTOR.

⚠ 2550 mm CLEAR FLOOR TO UNDERSLAB

NOTES:

1. 3,300x3,600 (12.26 M², 132 FT²) FRESH AIR INTAKE SHAFT FOR P-1 & P-2 LEVEL.
2. 3,300x2,300 (7.8 M², 84 FT²) FRESH AIR INTAKE SHAFT FOR MAU.
3. 2,250x1,300 (2.93 M², 31.5 FT²) FRESH AIR SHAFT FOR P-2 LEVEL.
4. 5,500x2,000 (11.61 M², 125 FT²) EXHAUST AIR SHAFT FOR P-1 & P-2 LEVEL.
5. 3,100x2,000 WEATHERPROOF INTAKE LOUVRE C/W BIRDSCREEN. (16,500 CFM)
6. 2,000x1,300 WEATHERPROOF INTAKE LOUVRE C/W BIRDSCREEN. (7,000 CFM)
7. 200x200 FRESH AIR DUCT FROM ABOVE C/W FIRE DAMPER AT SLAB.
8. 400x200 INTAKE LOUVRE C/W MOTORIZED DAMPER, FIRE DAMPER & WIRE MESH.
9. 800x400 INTAKE LOUVRE C/W MOTORIZED DAMPER, FIRE DAMPER & WIRE MESH.
10. 800x800 INTAKE LOUVRE C/W MOTORIZED DAMPER, FIRE DAMPER & WIRE MESH.
11. 800x400 INTAKE LOUVRE C/W FIRE DAMPER& WIRE MESH.
12. 600x400 EXHAUST LOUVRE C/W FIRE DAMPER & WIRE MESH.
13. DUCT INSIDE 2HR FIRE RATED ENCLOSURE. ENCLOSURE BY OTHERS.
14. 700x350 STAIR PRESSURIZATION DUCT FROM ABOVE C/W FIRE RATED ENCLOSURE. FIRE RATED ENCLOSURE BY OTHERS.
15. ---x--- DUCT DOWN TO 450 mm AFFL C/W OPEN END AND WIRE MESH.
16. REFRIGERANT MONITORING MASTER & SLAVE PANELS AND SENSOR. SLAVE PANEL SHOWING STATUS OF REFRIGERATION MONITORING SYSTEM TO BE MOUNTED OUTSIDE OF CHILLER ROOM. UPON SENSING OF REFRIGERANT LEAKAGE CHILLER WILL BE SHUT DOWN AND EF-10 TO BE ACTIVATED TO RUN IN HIGH SPEED.
17. ALARM STROBE LIGHT SUPPLIED AND WIRED TO THE REFRIGERANT MONITORING SYSTEM BY MECHANICAL CONTRACTOR.
18. 150x100 FRESH AIR DUCT FROM ABOVE C/W FIRE DAMPER AT SLAB.
19. 100ø SAN FROM ABOVE AND DOWN C/W CLEANOUT AT BASE.
20. 100ø SAN @ 1%.
21. 150ø SAN @ 1%.
22. SANITARY SUMP PIT. SEE DETAIL ON THIS DRAWING.
23. 75ø PUMPED SAN UP C/W HEAT TRACING. HEAT TRACING BY DIV. 16. INSULATION AND JACKET BY THIS CONTRACTOR.
24. SCUPPER DRAIN.
25. BACKWATER VALVE AND CLEANOUT PRIMED & VENTED INSIDE 900ø MANHOLE C/W COVER. SEE DETAIL ON THIS DRAWING.
26. ELEVATOR SUMP PIT. SEE DETAIL ON THIS DRAWING.
27. 100ø SAN DOWN C/W CLEANOUT AT BASE.
28. DRAIN TRAP TO BE HEAT TRACED BY DIV. 16. THIS CONTRACTOR TO INSULATE & JACKET (TYPICAL).

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 , 1 PHASE)
S	IN-SUITE ERV MASTER SWITCH
S	FAN SWITCH / IN-SUITE ERV OVERRIDE BUTTON
CO	CO SENSOR
G	GAS LINE
G	GAS METER
G	GAS COCK
PR	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
WM	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
NFHB	NON-FREEZE HOSE BIBB
	GLOBE VALVE
	GATE VALVE
	BALL VALVE
	BUTTERFLY VALVE
	PRESSURE REDUCING VALVE
	CHECK VALVE
	CAP
	COMPRESSED AIR OUTLET
BV	BACKFLOW PREVENTER
	CIRCUIT BALANCING VALVE
	MULTIPLE PIPES - / - DENOTES NO. OF PIPES
T	TEMPERATURE SENSOR
T	THERMOMETER
2W	2-WAY MODULATING VALVE
3W	3-WAY MODULATING VALVE
T	10"x4"ID THERMOWELL C/W 1/2" BUSHING & 1/2" PLUG
XXX	FLOOR ELEVATION ABOVE LEVEL
XXX	FLOOR ELEVATION THIS LEVEL
XXX	HEADROOM (FLOOR TO U/S HEIGHT)

REV/QTY		ISSUED FOR --->		EP
DATE	NO	DESCRIPTION		BY

MARK VOID ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

REVISIONS

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DRAWINGS ARE NOT TO BE SCALED

NOVA TREND ENGINEERING GROUP LTD.
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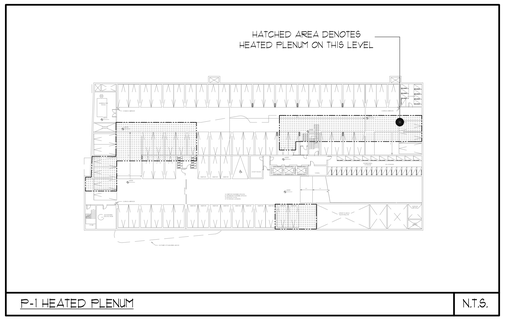
Richmond Hill, Ontario L4B 3M1
Tel: 905 882-5445
Fax: 905 882-5447
Email: cad@novatrendeng.com

DRAWING TITLE:
P-2 FLOOR PLAN MECHANICAL LAYOUT

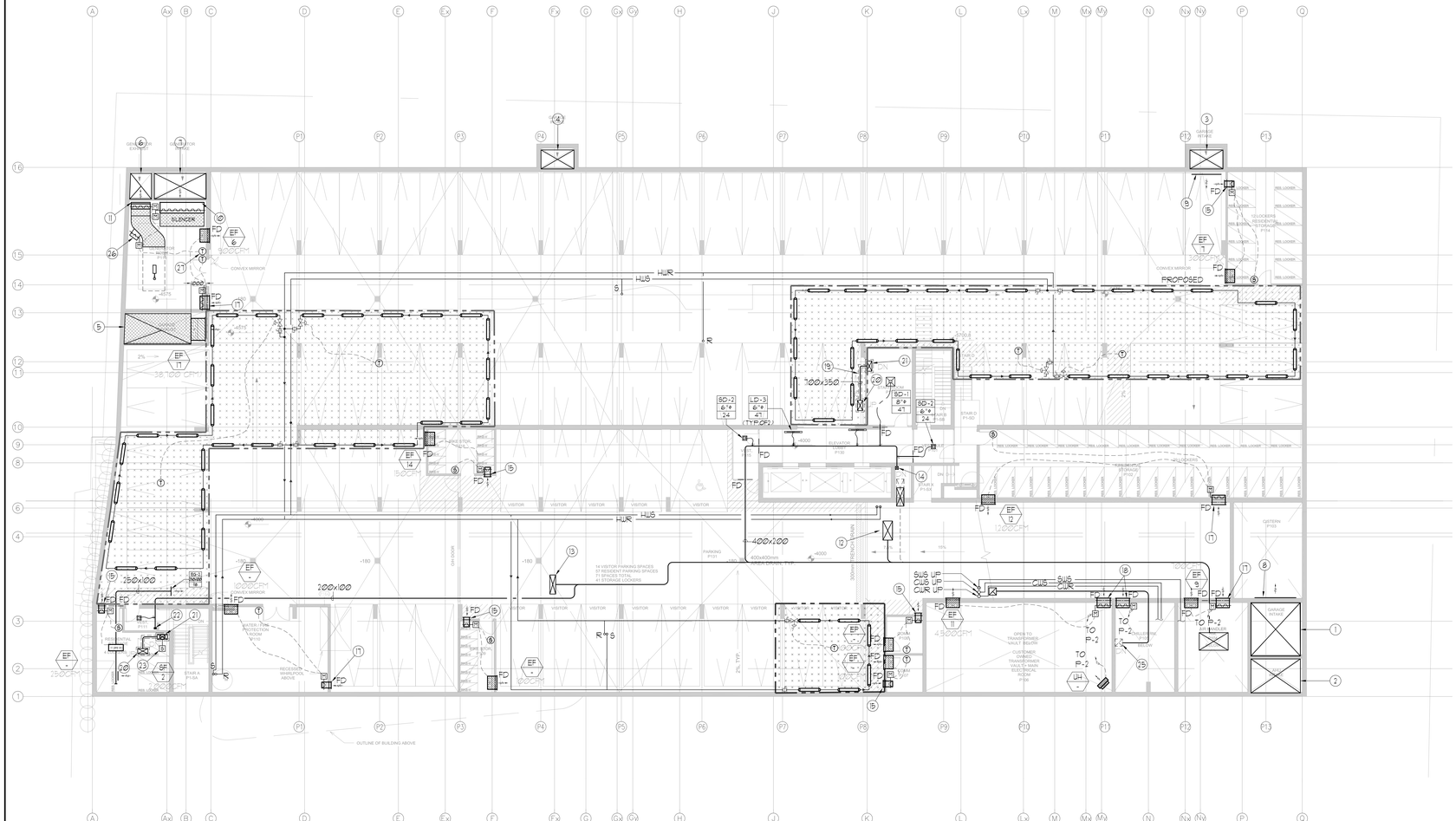
PROJECT TITLE:
ALEXANDRA PARK
XXX
TORONTO ONTARIO

DRAWN BY:	CHECKED BY:	SCALE:
G.S.	E.P.	1:100
DATE: FEB. 13	PROJECT NUMBER: 1313	DRAWING NUMBER: M-3 OF 35

Drawing name: \\CADSERVER\Current Dwgs\1313\1313M - 3P-2 PLAN - MECHANICAL LAYOUT.dwg Plotted: May 23, 2014 - 4:19pm



P-1 HEATED PLENUM | N.T.S.



REFER TO DWG. M-X FOR GENERAL AND ACOUSTIC NOTES

⚠ 3800 mm CLEAR
FLOOR TO UNDERSLAB

NOTES:

1. 3,300x3,600 (12.26 M², 132 FT²) FRESH AIR INTAKE SHAFT FOR P-1 & P-2 LEVEL.
2. 3,300x2,300 (7.8 M², 84 FT²) FRESH AIR INTAKE SHAFT FOR MAU.
3. 2,250x1,300 (2.93 M², 31.5 FT²) FRESH AIR INTAKE SHAFT FOR P-1 LEVEL.
4. 2,250x1,300 (2.93 M², 31.5 FT²) FRESH AIR INTAKE SHAFT FOR P-2 LEVEL.
5. 5,500x2,000 (11.61 M², 125 FT²) EXHAUST AIR SHAFT FOR P-1 & P-2 LEVEL.
6. 3,500x1,700 (6.2 M², 66.8 FT²) INTAKE AIR SHAFT FOR GENERATOR.
7. 1,400x1,700 (2.5 M², 27.6 FT²) EXHAUST AIR SHAFT FOR GENERATOR.
8. 3,100x2,900 WEATHERPROOF INTAKE LOUVRE C/W BIRDSCREEN. (75,000 CFM)
9. 2,000x2,500 WEATHERPROOF INTAKE LOUVRE C/W BIRDSCREEN. (13,700 CFM)
10. 3,400x2,500 WEATHERPROOF INTAKE LOUVRE C/W MOTORIZED DAMPER AND WIRE MESH. (24,100 CFM)
11. 1,300x3,200 WEATHERPROOF EXHAUST LOUVRE C/W MOTORIZED DAMPER AND WIRE MESH. (23,000 CFM)
12. 1,350x800 F/A DUCT UP C/W FIRE DAMPER AT SLAB.
13. 1,300x400 F/A DUCT UP C/W FIRE DAMPER AT SLAB.
14. 200x200 F/A DUCT DOWN C/W FIRE DAMPER AT SLAB.
15. 400x200 INTAKE LOUVRE C/W MOTORIZED DAMPER, FIRE DAMPER & WIRE MESH.
16. 400x400 INTAKE LOUVRE C/W MOTORIZED DAMPER, FIRE DAMPER & WIRE MESH.
17. 800x400 INTAKE LOUVRE C/W MOTORIZED DAMPER, FIRE DAMPER & WIRE MESH.
18. 1,200x800 400x400 INTAKE LOUVRE C/W MOTORIZED DAMPER, FIRE DAMPER & WIRE MESH.
19. DUCT INSIDE 2HR FIRE RATED ENCLOSURE. ENCLOSURE BY OTHERS.
20. 700x350 STAIR PRESSURIZATION DUCT FROM ABOVE C/W FIRE RATED ENCLOSURE. FIRE RATED ENCLOSURE BY OTHERS.
21. 700x350 STAIR PRESSURIZATION DUCT DOWN C/W FIRE RATED ENCLOSURE. RIRE RATED ENCLOSURE BY OTHERS.
22. 150x100 FRESH AIR DUCT DOWN c/w FIRE DAMPER AT SLAB.
23. SMOKE DETECTOR BY DIV.16 TO BE INSTALLED AT THE DISCHARGE SIDE OF THE FAN.
24. NOTE REMOVED.
25. ---x--- DUCT DOWN TO P-2 LEVEL.
26. ---x--- BY PASS MOTORIZED DAMPER CONNECTS TO THE TEMPERATURE CONTROLLER.
27. TEMPERATURE CONTROLLER TO BE INTERLOCKED TO GENERATOR INTAKE, RECIRCULATED AND EXHAUST MOTORIZED DAMPERS TO MAINTAIN ROOM TEMPERATURE @10 DEGREES F.

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
TA	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 , 1 PHASE)
S	IN-SUITE ERV MASTER SWITCH
S	FAN SWITCH / IN-SUITE ERV OVERRIDE BUTTON
CO	CO SENSOR
G	GAS LINE
G	GAS METER
G	GAS COCK
PR	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
W	WATER METER
FD	FLOOR DRAIN
FFD	FUNNEL FLOOR DRAIN
HD	HUB DRAIN
RD	ROOF DRAIN
SLD	SLAB 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
NFHB	NON-FREEZE HOSE BIBB
	GLOBE VALVE
	GATE VALVE
	BALL VALVE
	BUTTERFLY VALVE
	PRESSURE REDUCING VALVE
	CHECK VALVE
	CAP
	COMPRESSED AIR OUTLET
	BACKFLOW PREVENTER
	CIRCUIT BALANCING VALVE
	MULTIPLE PIPES / - DENOTES NO. OF PIPES
T	TEMPERATURE SENSOR
T	THERMOMETER
2W	2-WAY MODULATING VALVE
3W	3-WAY MODULATING VALVE
TW	1/2"x4 1/2" THERMOWELL C/W 1/2" BUSHING X 1/2" PLUG
XXX	FLOOR ELEVATION ABOVE LEVEL
XXX	FLOOR ELEVATION THIS LEVEL
XXX	HEADROOM (FLOOR TO UFS HEIGHT)

PROJ/ITT	0	ISSUED FOR ----	E.P.
DATE	NO	DESCRIPTION	BY

MARK VOID ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

REVISIONS

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Tel: 905 882-9445
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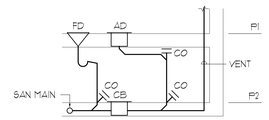
Email: cadtrend@rogers.com

DRAWING TITLE
P-1 FLOOR PLAN
HVAC LAYOUT

PROJECT TITLE
ALEXANDRA PARK
XXX
TORONTO ONTARIO

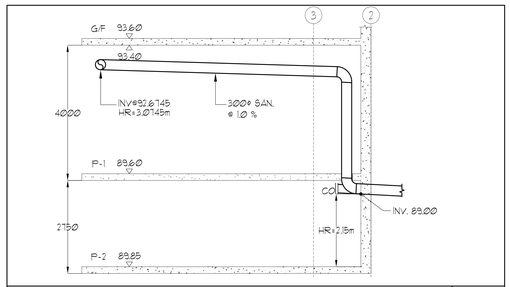
DRAWN BY:	CHECKED BY:	SCALE:
G.S.	E.P.	1:100
DATE: FEB. 13	PROJECT NUMBER: 1313	DRAWING NUMBER: M-4 OF 35

Drawing name: \\CADSERVER\Current Dwgs\1313\1313M - 4(P-1 PLAN - HVAC LAYOUT).dwg Plotted: May 23, 2014 - 4:13pm



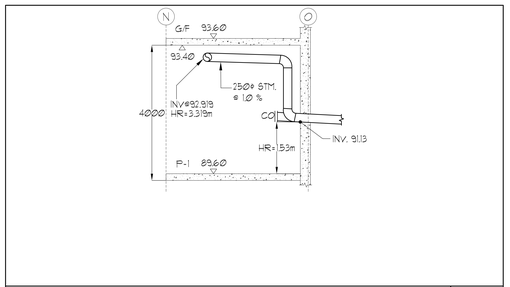
NOTE:
PRIME AND VENT TRAP OF FD/CB PER OBC PART 7 SECTION 7.5 (TYPICAL).

PARKING AREA DRAIN/CATCH BASIN SCHEMATIC



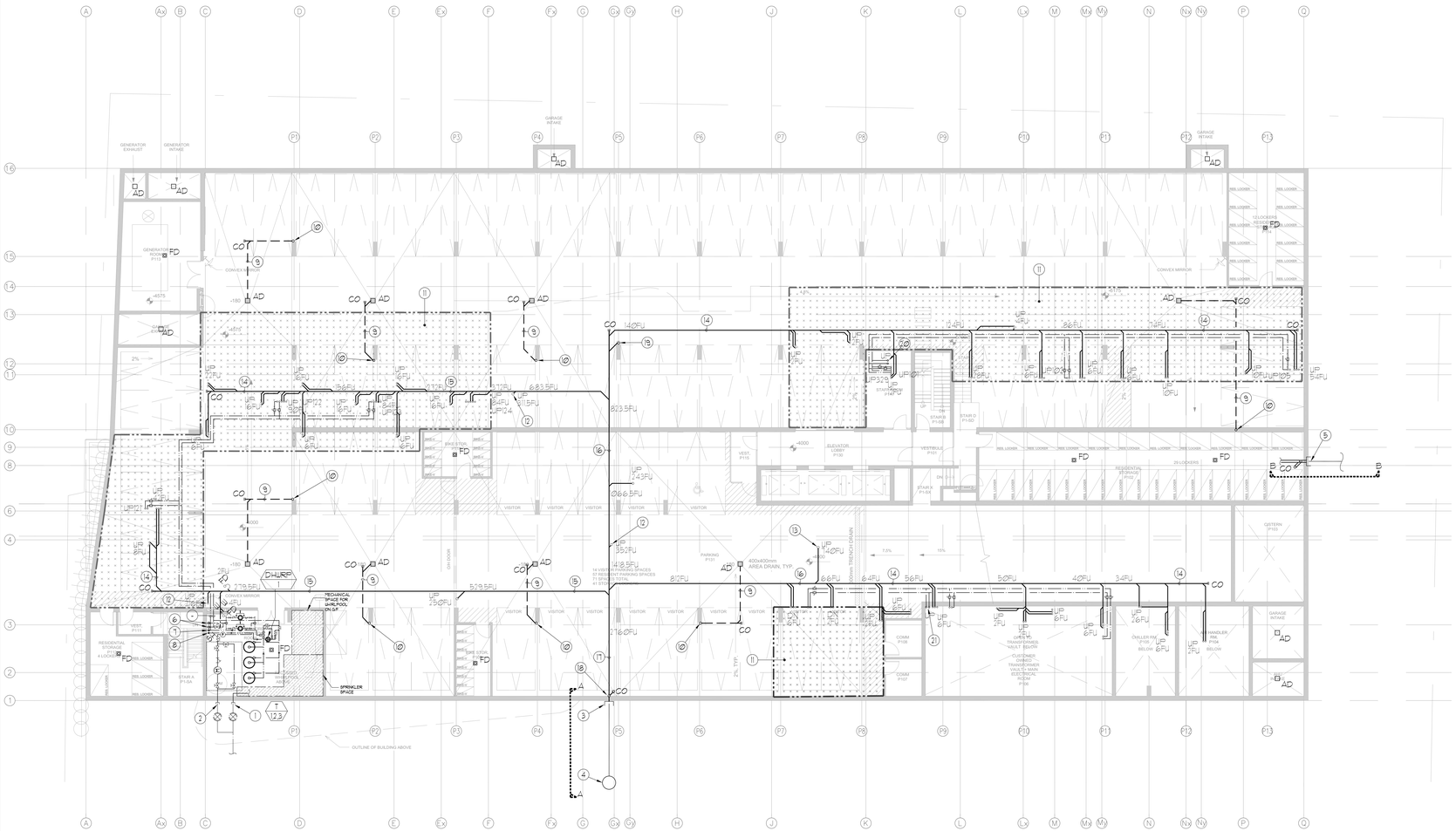
SANITARY PIPE DETAIL SECTION A-A

N.T.S.



STORM PIPE DETAIL SECTION B-B

N.T.S.



REFER TO DWG. M-X FOR GENERAL AND ACOUSTIC NOTES

-/- -mm CLEAR
FLOOR TO UNDERSLAB

KEYNOTES:

1. 150ø FIRE LINE CONNECTION FROM SITE SERVICE. SEE SPRINKLER DRAWING FOR CONTINUATION.
2. 100ø DCW MAIN CONNECTION FROM SITE SERVICE.
3. 300ø SAN LEAVING PIPE @ 2% AT INV. 89.00.
4. XXXø MANHOLE BY OTHERS.
5. 250ø STORM LEAVING PIPE @ 2% AT INV. 91.13
6. 100ø DCW (LZ) & 100ø DCW (HZ) UP TO G/F.
7. 63ø DHW (LZ) UP TO G/F.
8. 50ø DHWR (LZ) FROM ABOVE.
9. 100ø SAN @ 1% ON CEILING OF P-2.
10. 100ø SAN DOWN.
11. HEATED PLENUM BELOW TOWNHOUSES BY OTHERS.
12. 150ø SAN FROM ABOVE.
13. 200ø SAN FROM ABOVE.
14. 100ø SAN @ 1%.
15. 150ø SAN @ 1%.
16. 200ø SAN @ 1%.
17. 250ø SAN @ 1%.
18. 250ø SAN DOWN c/w CLEANOUT AT BASE AND CONNECT TO SITE SERVICE LEAVING SAN MAIN.
19. 75ø SAN PUMPED FROM BELOW c/w HEAT TRACING. HEAT TRACING BY DIV. 16. INSULATION & JACKET BY THIS CONTRACTOR.
20. xxø DCW FROM ABOVE.
21. xxø DCW FROM ABOVE.
22. xxø DCW & xxø DHW.
23. xxø DCW & xxø DHW
24. xxø DCW & xxø DHW

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
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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
XX	TYPE OF EQUIPMENT
XX	EQUIPMENT IDENTIFICATION
XX	TYPE OF DIFFUSER OR GRILLE
XXX	GRILLE SIZE OR DIFFUSER NECK SIZE
XXX	AIRFLOW CFM OR L/S
	STARTER (3 PHASE / PHASE)
S	N-SITE ERV MASTER SWITCH
S	FAN SWITCH / N-SITE ERV OVERRIDE BUTTON
CO	CO SENSOR
G	GAS LINE
G	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
W	WATER METER
FD	FLOOR DRAIN
FFD	FUNNEL FLOOR DRAIN
HD	HUB DRAIN
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SLD	SLAB DRAIN
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BLAD	BI-LEVEL AREA DRAIN
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	ELBOW UP
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CO	FLOOR CLEANOUT
HB	HOSE BIBB
NFHB	NON-FREEZE HOSE BIBB
	GLOBE VALVE
	GATE VALVE
	BALL VALVE
	BUTTERFLY VALVE
	PRESSURE REDUCING VALVE
	CHECK VALVE
	CAP
	COMPRESSED AIR OUTLET
N	BACKFLOW PREVENTER
	CIRCUIT BALANCING VALVE
	MULTIPLE PIPES / / - DENOTES NO. OF PIPES
T	TEMPERATURE SENSOR
T	THERMOMETER
M	2-WAY MODULATING VALVE
M	3-WAY MODULATING VALVE
TW	1/2"x4"(2) THERMOWELL C/W 1/2" BUSHING & 1/2" PLUG
XXX	FLOOR ELEVATION ABOVE LEVEL
XXX	FLOOR ELEVATION THIS LEVEL
XXX	HEADROOM (FLOOR TO U/S HEIGHT)

REV/QTY		ISSUED FOR:		E.P.
DATE	NO	DESCRIPTION		BY

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Tel: 905 882-5445
Fax: 905 882-5447
Email: cad@novatrendeng.com

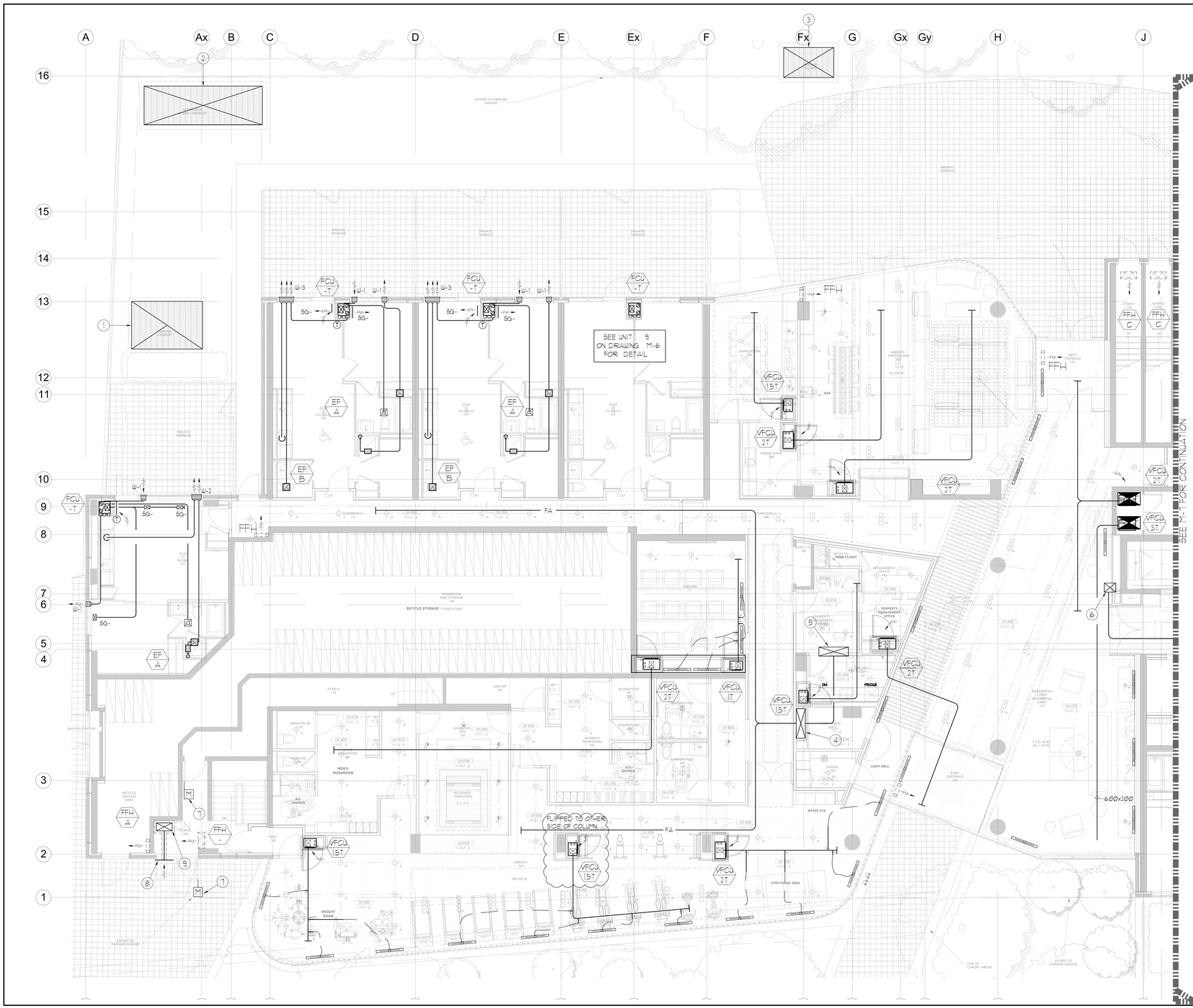
DRAWING TITLE:
P-1 FLOOR PLAN
P4D LAYOUT

PROJECT TITLE:
ALEXANDRA PARK

XXX
TORONTO ONTARIO

DRAWN BY:	CHECKED BY:	SCALE:
G.S.	E.P.	1:100
DATE: FEB. 13	PROJECT NUMBER: 1313	DRAWING NUMBER: M-5 OF 35

Drawing name: \\CADSERVER\Current Dwgs\1313\1313M - 5D-1 PLAN - P4D LAYOUT.dwg Plotted: May 25, 2014 - 4:20pm



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. H4C 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.4C. 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.

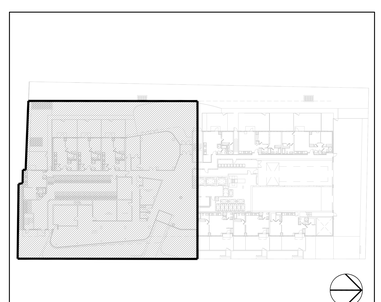
13) DRYER EXHAUST DUCT SHALL BE SMOOTH AND CORROSION-RESISTANT MATERIAL (FLEXIBLE CONNECTION IS NOT ACCEPTABLE).

REFER TO DWG. M-X FOR GENERAL AND ACOUSTIC NOTES

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

NOTES:

1. 3,000x2,000 (6.2 M², 68 FT²) EXHAUST AIR SHAFT FOR P-1 & P-2 LEVEL C/W GRATE BY OTHERS.
2. 5,200x1,700 (8.84 M², 95 FT²) AIR SHAFT FOR GENERATOR INTAKE & EXHAUST C/W GRATE BY OTHERS.
3. 2,250x1,300 (2.93 M², 31.5 FT²) FRESH AIR INTAKE SHAFT FOR P-2 LEVEL C/W GRATE BY OTHERS.
4. 1,300x400 F/A DUCT FROM BELOW C/W FIRE DAMPER AT SLAB.
5. 1,300x400 F/A DUCT UP TO SOUTH SHAFT A C/A FIRE DAMPER AT SLAB.
6. 500x400 F/A DUCT UP TO SOUTH SHAFT B C/W FIRE DAMPER AT SLAB.
7. MOTORIZED DOOR TO BE CONNECTED TO FIRE ALARM SYSTEM BY DIV.16.
8. 1000x750 WEATHERPROOF INTAKE LOUVRE c/w BIRDSCREEN.
9. 700x350 STAIR PRESSURIZATION DUCT DOWN c/w 2HR FIRE RATED ENCLOSURE. ENCLOSURE BY OTHERS.



KEY PLAN — N.T.S.

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
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	TURNING VANES
	FLEXIBLE CONNECTION
	ACOUSTIC INSULATION
XX	TYPE OF EQUIPMENT / EQUIPMENT IDENTIFICATION
XX-X	TYPE OF DIFFUSER OR GRILLE
XXX	GRILLE SIZE OR DIFFUSER NECK SIZE
XXX	AIRFLOW CFM OR L/S
XX, X	STARTER (3 PHASE / PHASE)
S	IN-SUITE ERV MASTER SWITCH
S	FAN SWITCH / IN-SUITE ERV OVERRIDE BUTTON
CO	CO SENSOR
G	GAS LINE
G	GAS METER
G	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	BALAB DRAIN
AD	AREA DRAIN
BLAD	BI-LEVEL AREA DRAIN
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	SANITARY TRAP
	ELBOW UP
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CO	WALL CLEANOUT
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HB	HOSE BIBB
NFHB	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	THERMOMETER
	2-WAY MODULATING VALVE
	3-WAY MODULATING VALVE
	10"x10"D THERMOWELL C/W 1/2" BUSHING + 1/2" PLUG
XXX	FLOOR ELEVATION ABOVE LEVEL
XXX	FLOOR ELEVATION THIS LEVEL
XXX	-(EXCAVATION FLOOR TO U/S HEIGHT)

PROD/YY		ISSUED FOR ---	E.P.
DATE	NO	DESCRIPTION	BY

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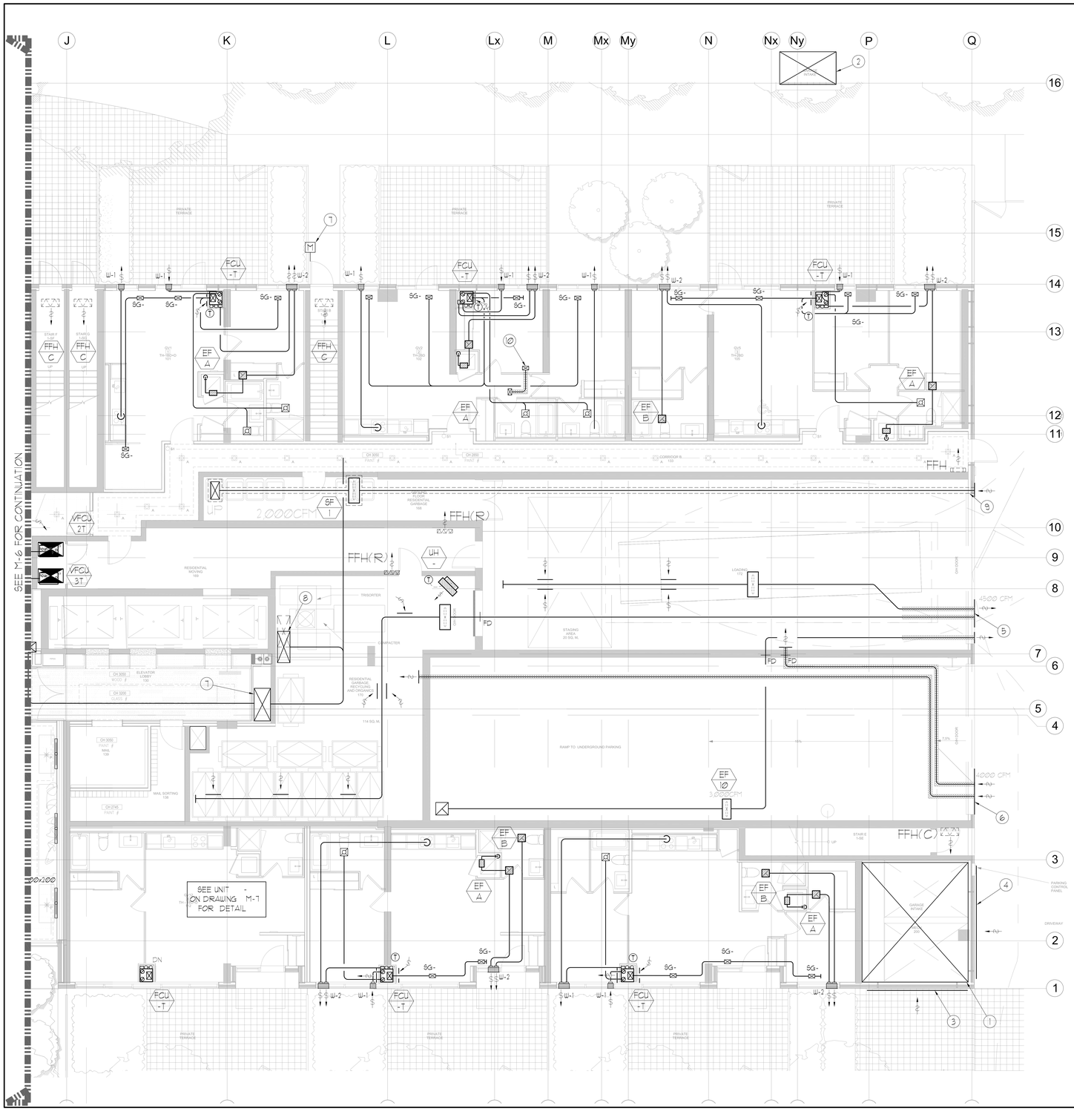
Email: cad@novatrendeng.com

DRAWING TITLE
G/F SOUTH
HVAC DUCTWORK LAYOUT

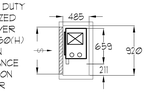
PROJECT TITLE
ALEXANDRA PARK
XXX
TORONTO — ONTARIO

DRAWN BY	CHECKED BY	SCALE
G.S.	E.P.	1:50
DATE	PROJECT NUMBER	DRAWING NUMBER
FEB. 13	1313	M-6 OF 35

Drawing name: \\CADSERVER\Current Dwg\1313 - Alexandra Park\2013\1313M - 6 G'FLOR PLAN -SOUTH & NORTH DUCTWORK LAYOUT.dwg Plotted: May 23, 2014 - 4:20pm

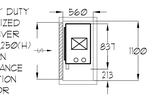


"VENTEX" HEAVY DUTY HINGED ANODIZED ALUMINUM LOUVER DOOR 870(W)X1250(H) FOR RETURN AIR & MAINTENANCE -BY VENTILATION CONTRACTOR

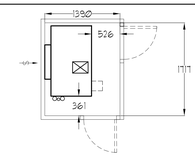


TYPICAL MECH. CLOSET FOR VERTICAL FCU (FCC-1T TO 15T) AT COMMON AREA — N.T.S.

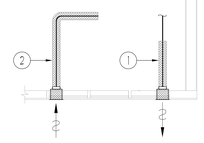
"VENTEX" HEAVY DUTY HINGED ANODIZED ALUMINUM LOUVER DOOR 1050(W)X1250(H) FOR RETURN AIR & MAINTENANCE -BY VENTILATION CONTRACTOR



TYPICAL MECH. CLOSET FOR VERTICAL FCU (FCC-21 TO 37) AT COMMON AREA — N.T.S.



TYPICAL MECH. CLOSET FOR VERTICAL FCU (FCC-57) AT COMMON AREA — N.T.S.



1. EXHAUST DUCTWORK TO BE C/W 25mm THICK THERMAL INSULATION 6FT. FROM EXTERNAL 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

GENERAL NOTES:

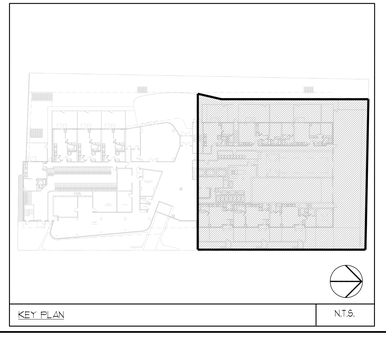
1) CONTRACTOR SHALL CO-ORDINATE ARCHITECTURAL, STRUCTURAL, LIGHTING, HVAC, SPRINKLER DRAWINGS TO AVOID AREAS OF CONFLICT AND TO MAINTAIN CEILING HEIGHTS.
2) CONTRACTOR SHALL REPORT ALL DISCREPANCIES AND AREA OF CONFLICTS TO THE ENGINEER PRIOR TO WORK BEGINS.
3) PROVIDE EXPANSION CHAMBERS FOR ALL KITCHEN 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).

REFER TO DWG. M-X FOR GENERAL AND ACOUSTIC NOTES.

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

NOTES:

1. 4200x4700 (19.7 M², 212.5 FT²) FRESH AIR INTAKE SHAFT FOR P-1 & P-2 LEVEL AND MAU-1.
2. 2250x1300 (2.93 M², 31.5 FT²) FRESH AIR INTAKE SHAFT FOR P-1 LEVEL C/W GRATE BY OTHERS.
3. 4,000x3,200 WEATHERPROOF INTAKE LOUVRE C/W BIRDSCREEN. (35,000 CFM)
4. 4500x3,200 WEATHERPROOF INTAKE LOUVRE C/W BIRDSCREEN. (40,100 CFM)
5. 2,000x8.00 WEATHERPROOF INTAKE LOUVRE c/w BIRDSCREEN. (4,000 CFM)
6. 1,100x8.00 WEATHERPROOF EXHAUST LOUVRE c/w BIRDSCREEN. (4500 CFM)
7. 650x1300 F/A DUCT FROM BELOW C/W FIRE DAMPER AT 5LAB.
8. 1250x500 F/A DUCT UP TO NORTH SHAFT C/W FIRE DAMPER AT 5LAB.
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.



KEY PLAN — N.T.S.

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
XX/XX	TYPE OF EQUIPMENT / EQUIPMENT IDENTIFICATION
XXX/XX	TYPE OF DIFFUSER OR GRILLE
XXX/XX	GRILLE SIZE OR DIFFUSER NECK SIZE
XXX/XX	AIRFLOW CFM OR L/S
SD, SV	STARTER / 3 PHASE / PHASE /
S	IN-SUITE ERV FASTER SWITCH
S	FAN SWITCH / IN-SUITE ERV OVERRIDE BUTTON
CO	CO SENSOR
G	GAS LINE
G	GAS METER
G	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
W	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
NFHB	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	THERMOMETER
	2-WAY MODULATING VALVE
	3-WAY MODULATING VALVE
	10"x4"D / THERMOWELL C/W 1/2" BUSHING x 1/2" PLUG
XXX	FLOOR ELEVATION ABOVE LEVEL
XXX	FLOOR ELEVATION THIS LEVEL
XXX	HEADROOM (FLOOR TO U/S HEIGHT)

PROJ/TT		ISSUED FOR ----		E.P.
DATE	NO	DESCRIPTION		BY

THINK 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

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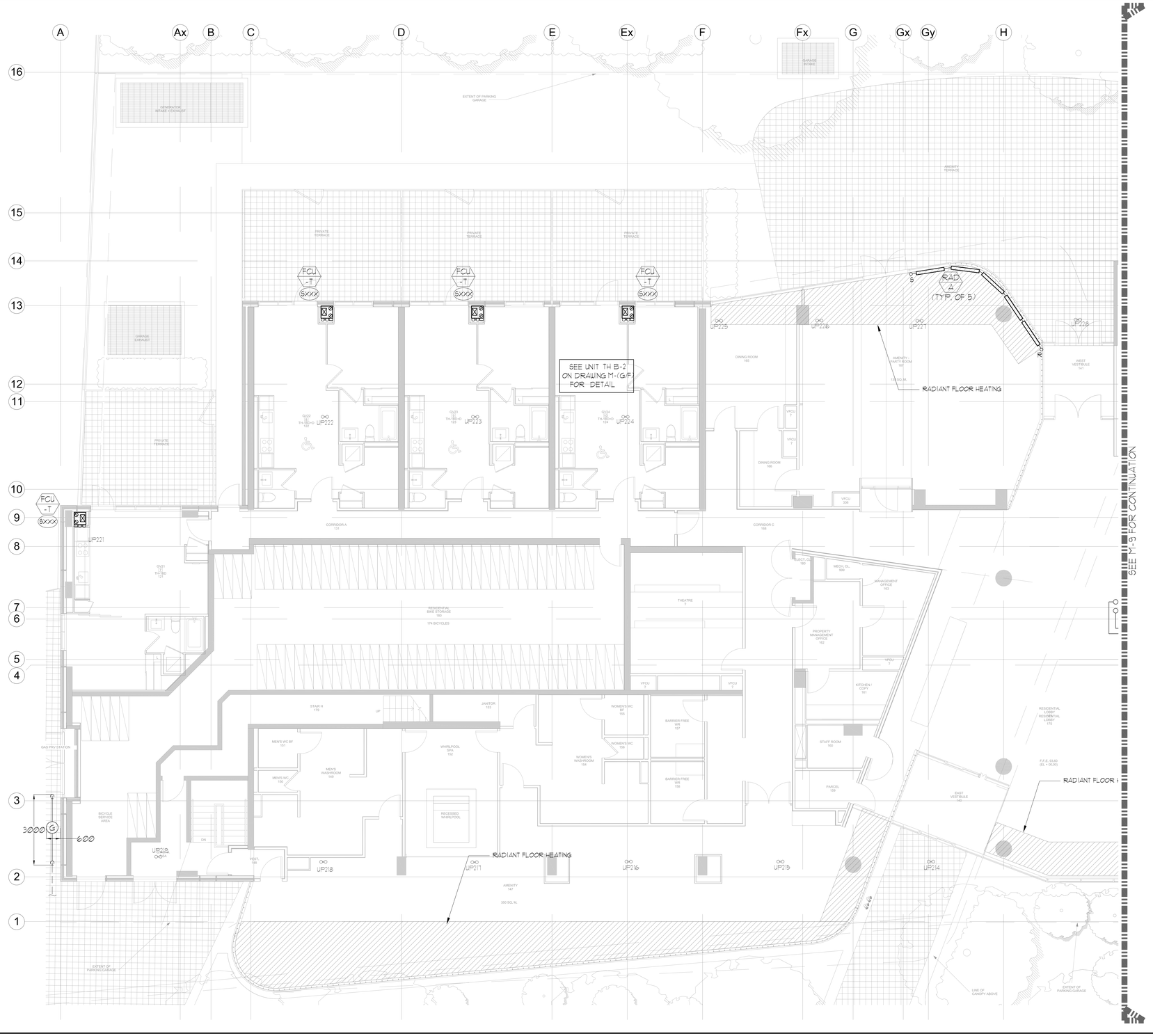
Fax: 905 882-5447
Email: cad@novatrendeng.com

DRAWING TITLE
G/F NORTH
HVAC DUCTWORK LAYOUT

PROJECT TITLE
ALEXANDRA PARK

XXX
TORONTO ONTARIO

DRAWN BY:	CHECKED BY:	SCALE:
G.S.	E.P.	1:50
DATE: FEB. 13	PROJECT NUMBER: 1313	DRAWING NUMBER: M-7 OF 39

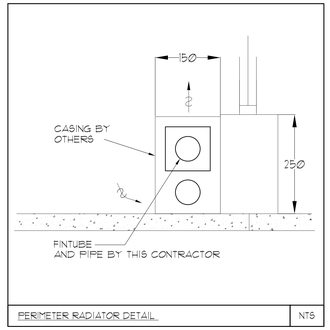


REFER TO DWG. M-X FOR GENERAL AND ACOUSTIC NOTES

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

NOTES:

1. PIPE SHAFT - REFER TO PIPE RISER DETAIL ON THIS DRAWING FOR DETAILS.
2.
3.
4.



PERIMETER RADIATOR DETAIL | 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/U LOCKING QUADRANT
	TURNING VANES
	FLEXIBLE CONNECTION
	ACOUSTIC INSULATION
XX	TYPE OF EQUIPMENT
X	EQUIPMENT IDENTIFICATION
XXX X XXX X XXX X	TYPE OF DIFFUSER OR GRILLE GRILLE SIZE OR DIFFUSER NECK SIZE AIRFLOW CFM OR L/S
XX X	STARTER (3 PHASE | PHASE)
S	N-SUITE ERV MASTER SWITCH
S	FAN SWITCH / N-SUITE ERV OVERRIDE BUTTON
CO	CO SENSOR
G	GAS LINE
G	GAS METER
G	GAS COCK
PR	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	BALAB 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
NFHB	NON-FREEZE HOSE BIBB
	GLOBE VALVE
	GATE VALVE
	BALL VALVE
	BUTTERFLY VALVE
	PRESSURE REDUCING VALVE
	CHECK VALVE
	CAP
CA	COMPRESSED AIR OUTLET
BP	BACKFLOW PREVENTER
	CIRCUIT BALANCING VALVE
	MULTIPLE PIPES / - DENOTES NO. OF PIPES
T	TEMPERATURE SENSOR
T	THERMOMETER
	2-WAY MODULATING VALVE
	3-WAY MODULATING VALVE
	10"x4"(D) THERMOWELL C/U 1/2" BUSHING & 1/2" PLUG
XXX.X	FLOOR ELEVATION (ABOVE LEVEL)
XXX.X	FLOOR ELEVATION THIS LEVEL
XXX.X	HEADROOM (FLOOR TO U/S HEIGHT)

PROJECT		ISSUED FOR :-	E.P.
DATE	NO.	DESCRIPTION	BY

MARK VOID ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

REVISIONS

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DRAWINGS ARE NOT TO BE SCALED

NOVA TREND ENGINEERING SERVICES LTD.

115 West Beaver Creek Road, Unit 31
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Email: cad@novatrendeng.com

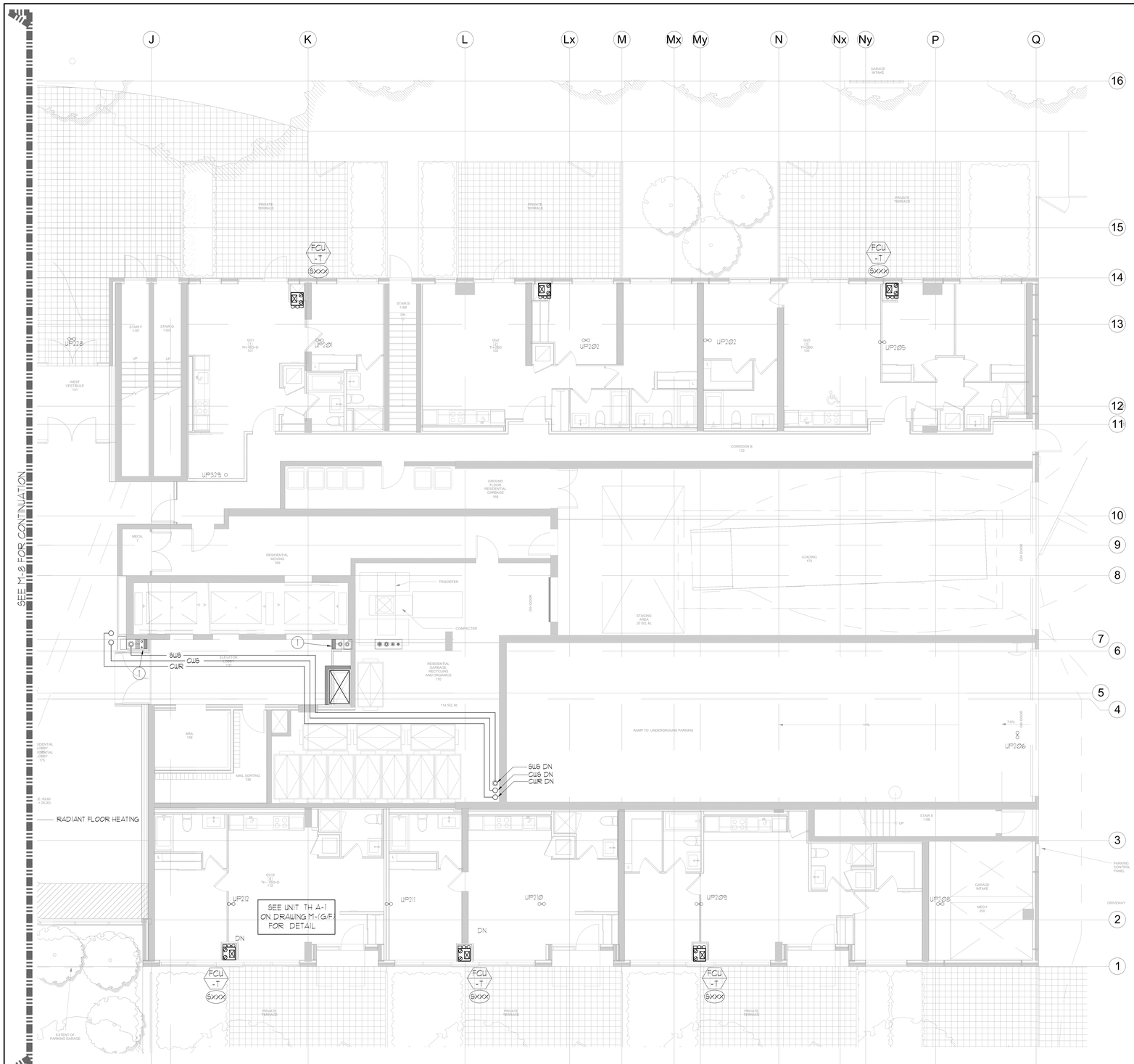
DRAWING TITLE
G/F SOUTH
HVAC PIPING LAYOUT

PROJECT TITLE
ALEXANDRA PARK

XXX
TORONTO ONTARIO

DRAWN BY:	CHECKED BY:	SCALE:
G.S.	E.P.	1:50
DATE: FEB. 13	PROJECT NUMBER: 1313	DRAWING NUMBER: M-8 OF 99

Drawing name: \\CADSERVER\Current Dwg\1313\1313-M - 8 (G/F PLAN - SOUTH & NORTH HVAC PIPING).DWG\M1313.dwg Printed: May 23, 2014 - 4:20pm



REFER TO DWG. M-X FOR GENERAL AND ACOUSTIC NOTES

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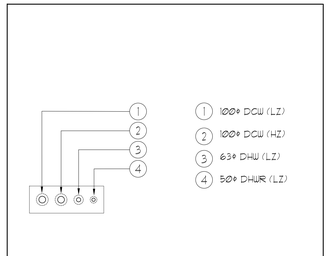
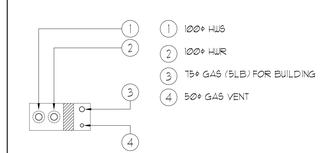
CLEAR PRODUCT= 3000mm
COMPLETE DROP CEILING =1000mm FOR DUCT/PIPES
ROOF DRAINS & TERRACE DRAINS FROM 2/F

NOTES:

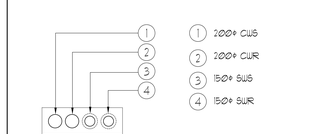
1. PIPE SHAFT - REFER TO PIPE RISER DETAIL ON THIS DRAWING FOR DETAILS.
2.
3.
4.



NORTH PIPE SHAFT 2: G/F. NTS



NORTH PIPE SHAFT 1: G/F. NTS



SOUTH PIPE SHAFT: G/F. 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/U LOCKING QUADRANT
	TURNING VANES
	FLEXIBLE CONNECTION
	ACOUSTIC INSULATION
XX	TYPE OF EQUIPMENT EQUIPMENT IDENTIFICATION
XX	TYPE OF DIFFUSER OR GRILLE GRILLE SIZE OR DIFFUSER NECK SIZE AIRFLOW CFM OR L/S
	STARTER (3 PHASE) (PHASE)
S	N-SUITE ERV MASTER SWITCH
S	FAN SWITCH / N-SUITE ERV OVERRIDE BUTTON
CO	CO SENSOR
G	GAS LINE
G	GAS METER
G	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
M	WATER METER
FD	FLOOR DRAIN
FFD	FUNNEL FLOOR DRAIN
HD	HUB DRAIN
RD	ROOF DRAIN
BLD	BALAB 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
NFHB	NON-FREEZE HOSE BIBB
	GLOBE VALVE
	GATE VALVE
	BALL VALVE
	BUTTERFLY VALVE
	PRESSURE REDUCING VALVE
	CHECK VALVE
	CAP
	COMPRESSED AIR OUTLET
N	BACKFLOW PREVENTER
	CIRCUIT BALANCING VALVE
	MULTIPLE PIPES / - DENOTES NO. OF PIPES
T	TEMPERATURE SENSOR
T	THERMOMETER
	2-WAY MODULATING VALVE
	3-WAY MODULATING VALVE
T	1/2"x4"(D) THERMOWELL C/U 1/2" BUSHING x 1/2" PLUG
XXX	FLOOR ELEVATION ABOVE LEVEL
XXX	FLOOR ELEVATION THIS LEVEL
XXX	HEADROOM (FLOOR TO U/S HEIGHT)

PROJECT		ISSUED FOR ...	E.P.
DATE	NO	DESCRIPTION	BY

THINK VOID ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

REVISIONS

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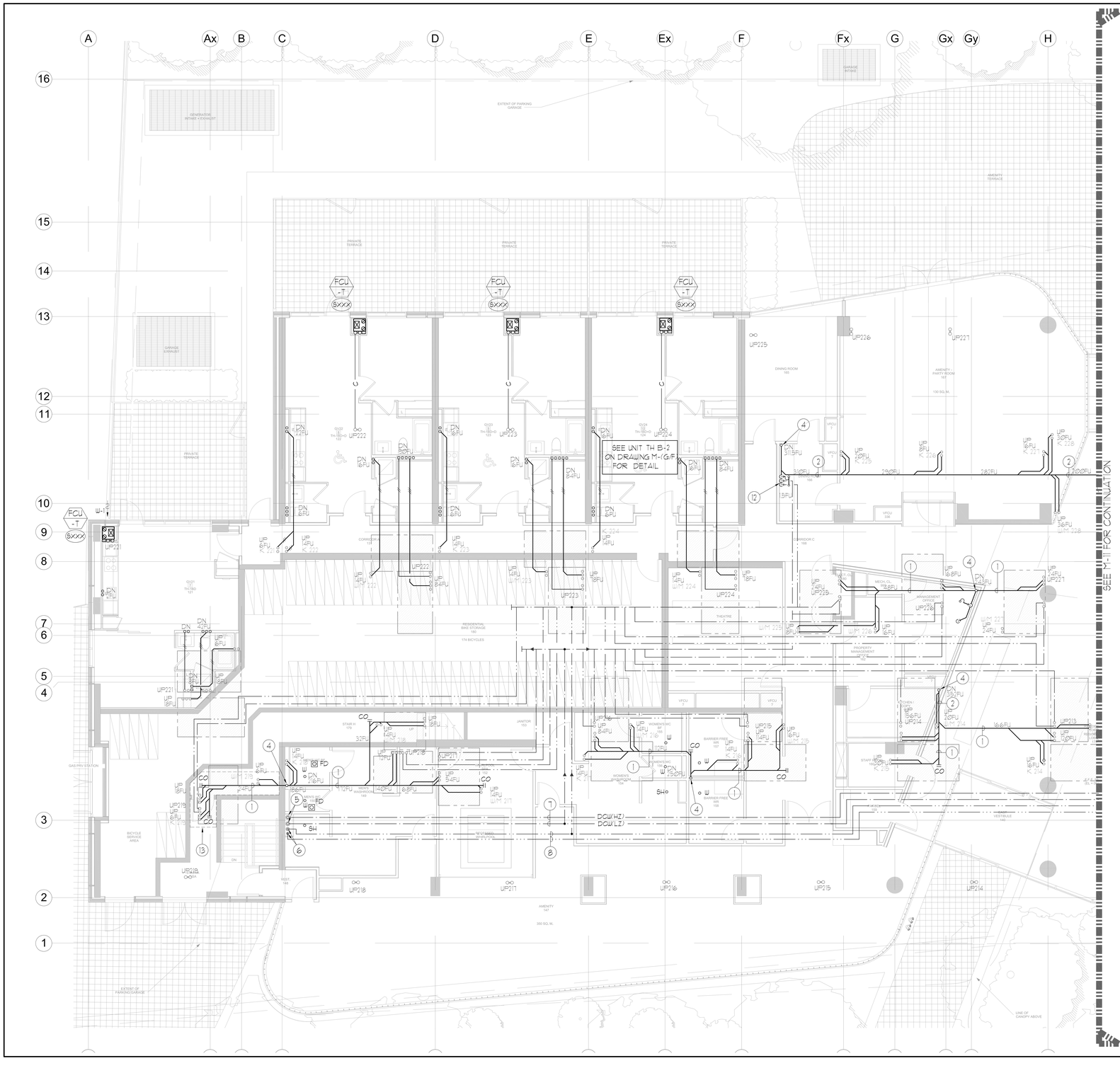
NOVA TREND ENGINEERING
179 West Beaver Creek Road, Unit 31
Richmond Hill, Ontario L4B 3M1
Tel: 905 882-9449
Fax: 905 882-9447
Email: cad@novatrendeng.com

DRAWING TITLE
G/F NORTH
HVAC PIPING LAYOUT

PROJECT TITLE
ALEXANDRA PARK
XXX
TORONTO ONTARIO

DRAWN BY:	CHECKED BY:	SCALE:
G.S.	E.P.	1:50
DATE: FEB. 13	PROJECT NUMBER: 1313	DRAWING NUMBER: M-9 OF 39

Drawing name: \\CADSERVER\Current Dwg's\1313 - Alexandra Park\DWG's\1313M - B_2ND PLAN -SOUTH & NORTH HVAC PIPING LAYOUT.dwg Plotted: May 23, 2014 - 4:20pm



REFER TO DWG. M-X FOR GENERAL AND ACOUSTIC NOTES

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

NOTES:

1. 100ø SAN @ 1%.
2. 150ø SAN @ 1%.
3. 100ø SAN DOWN.
4. 150ø SAN DOWN.
5. 100ø DCW (LZ) & 100ø DCW (HZ) FROM BELOW.
6. 63ø DHW (LZ) FROM BELOW & 50ø DHWR (LZ) DOWN.
7. 100ø DCW (LZ) & 100ø DCW (HZ).
8. 63ø DHW & 50ø DHWR.
9. xxø DCW & xxø DHW.
10. xxø DHW & xxø DHW.
11. xxø DHW & xxø DHW.
12. PIPES INSIDE 2HR FIRE RATED ENCLOSURE. ENCLOSURE BY OTHERS.
13. 19ø DCW & DHW DOWN TO SERVE (1) SINK.

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
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BD	BALANCING DAMPER
MD	MOTORIZED DAMPER
MFD	MOTORIZED FIRE DAMPER
BDD	BACKDRAFT DAMPER
OBD	OPPOSED BLADE VOLUME CONTROL DAMPER C/U 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 / 1 PHASE)
S	IN-SUITE ERV MASTER SWITCH
S	FAN SWITCH / IN-SUITE ERV OVERRIDE BUTTON
CO	CO SENSOR
G	GAS LINE
G	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	BALAD 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
NHB	NON-FREEZE HOSE BIBB
	GLOBE VALVE
	GATE VALVE
	BALL VALVE
	BUTTERFLY VALVE
	PRESSURE REDUCING VALVE
	CHECK VALVE
	CAP
	COMPRESSED AIR OUTLET
N	BACKFLOW PREVENTER
	CIRCUIT BALANCING VALVE
	MULTIPLE PIPES / / - DENOTES NO. OF PIPES
T	TEMPERATURE SENSOR
T	THERMOMETER
	2-WAY MODULATING VALVE
	3-WAY MODULATING VALVE
	10"x4"(D) THERMOWELL C/U 10" BUSHING X 10" PLUG
XXX	FLOOR ELEVATION ABOVE LEVEL
XXX	FLOOR ELEVATION THIS LEVEL
XXX	HEADROOM (FLOOR TO U/S HEIGHT)

DATE	NO	DESCRIPTION	BY
PROJECT		ISSUED FOR ---	E.P.

MARK VOID ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

REVISIONS

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DRAWINGS ARE NOT TO BE SCALED

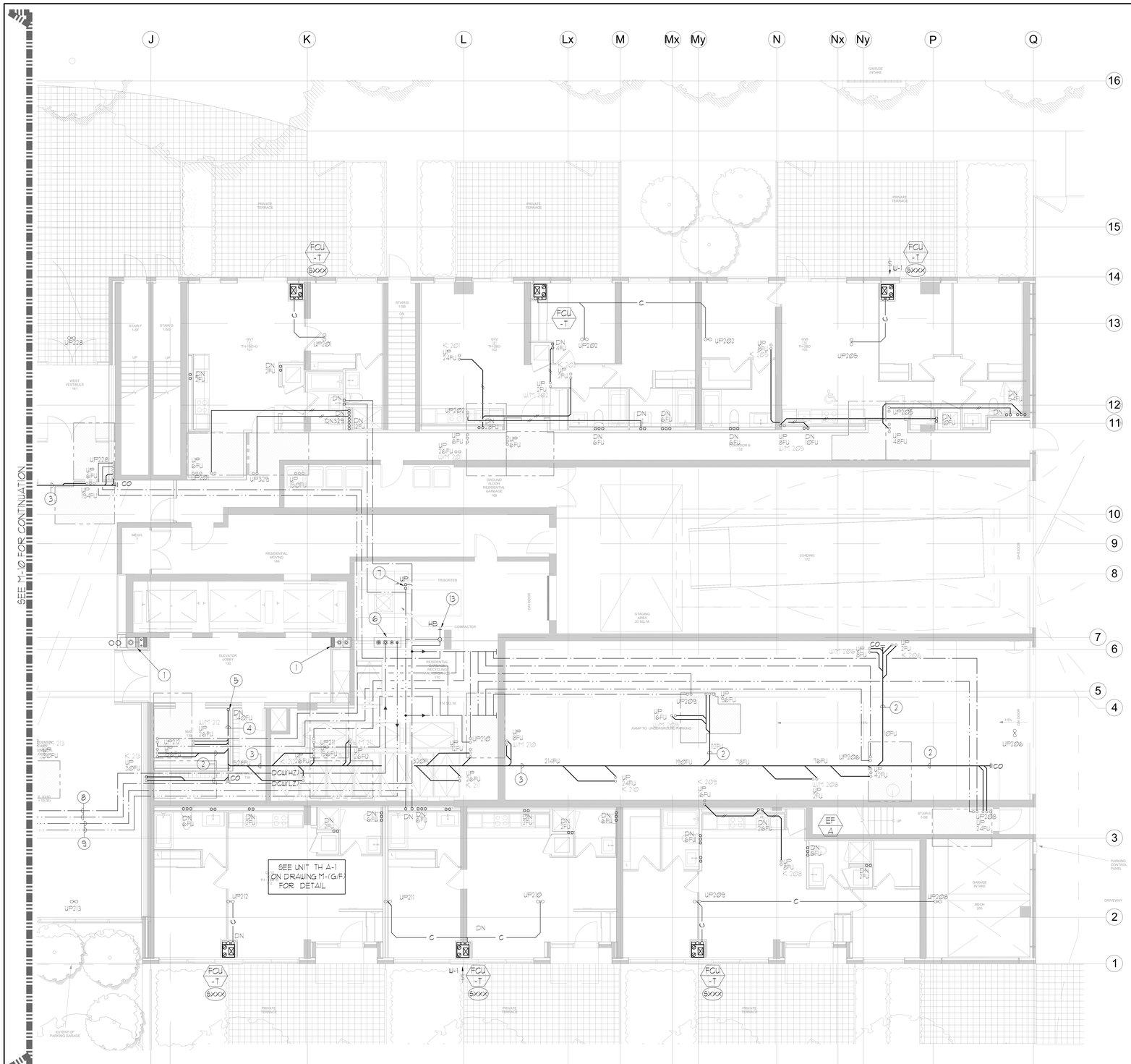
NOVA TREND ENGINEERING GROUP LTD.
179 West Beaver Creek Road, Unit 31
Richmond Hill, Ontario L4B 3M1
Tel: 905 882-5445
Fax: 905 882-5447
Email: cad@novatrendeng.com

DRAWING TITLE
G/F SOUTH
P4D LAYOUT

PROJECT TITLE
ALEXANDRA PARK
XXX
TORONTO ONTARIO

DRAWN BY:	CHECKED BY:	SCALE:
G.S.	E.P.	1:50
DATE: FEB. 13	PROJECT NUMBER: 1313	DRAWING NUMBER: M-10 OF 35

Drawing name: \\CADSERVER\Current Dwgs\1313 - Alexandra Park\DWG\1313-M - 10 _1100" PLAN -SOUTH & NORTH HVAC P4D.dwg Plotted: May 23, 2014 - 4:21pm

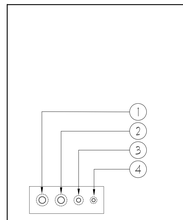


REFER TO DWG. M-X FOR GENERAL AND ACOUSTIC NOTES

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

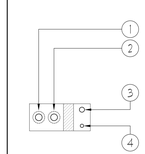
NOTES:

1. PIPE SHAFT - REFER TO PIPE RISER DETAIL ON THIS DRAWING FOR DETAILS.
2. 100ø SAN @ 1%.
3. 150ø SAN @ 1%.
4. 200ø SAN @ 1%.
5. 200ø SAN DOWN.
6. 100ø DCW (HZ) UP & 50ø DHWR FROM PIPE RISER ABOVE.
7. xxø DCW & xxø DHW UP.
8. xxø DCW (LZ) & xxø DCW (HZ)
9. xxø DHW (LZ) & xxø DHWR (LZ)
10. xxø DCW & xxø DHW.
11. xxø DCW & xxø DHW.
12. xxø DCW & xxø DHW.
13. 19ø DCW & DHW DOWN TO SERVE (1) HOSEBIB FOR GARBAGE ROOM.



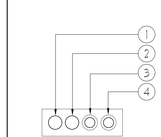
1. 100ø DCW (LZ)
2. 100ø DCW (HZ)
3. 63ø DHW (LZ)
4. 50ø DHWR (LZ)

NORTH PIPE SHAFT 2: G/F. | NTS



1. 100ø HWS
2. 100ø HWR
3. 75ø GAS (5LB) FOR BUILDING
4. 50ø GAS VENT

NORTH PIPE SHAFT 1: G/F. | NTS



1. 200ø CWS
2. 200ø CWR
3. 150ø SWS
4. 150ø SWR

SOUTH PIPE SHAFT: G/F. | 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/U LOCKING QUADRANT
	TURNING VANES
	FLEXIBLE CONNECTION
	ACOUSTIC INSULATION
XX	TYPE OF EQUIPMENT - EQUIPMENT IDENTIFICATION
XX	TYPE OF DIFFUSER OR GRILLE
XXX	GRILLE SIZE OR DIFFUSER NECK SIZE
XXX	AIRFLOW CFM OR L/S
	STARTER (3 PHASE / PHASE)
S	N-SUITE ERV MASTER SWITCH
S	FAN SWITCH / N-SUITE ERV OVERRIDE BUTTON
CO	CO SENSOR
G	GAS LINE
G	GAS METER
G	GAS COCK
PR	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	BALAB 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
NFHB	NON-FREEZE HOSE BIBB
	GLOBE VALVE
	GATE VALVE
	BALL VALVE
	BUTTERFLY VALVE
	PRESSURE REDUCING VALVE
	CHECK VALVE
	CAP
	COMPRESSED AIR OUTLET
N	BACKFLOW PREVENTER
	CIRCUIT BALANCING VALVE
	MULTIPLE PIPES / - DENOTES NO. OF PIPES
T	TEMPERATURE SENSOR
T	THERMOMETER
	2-WAY MODULATING VALVE
	3-WAY MODULATING VALVE
T	10"x4"(D) THERMOWELL C/U 1/2" BUSHING x 1/2" PLUG
XXX	FLOOR ELEVATION ABOVE LEVEL
XXX	FLOOR ELEVATION THIS LEVEL
XXX	HEADROOM (FLOOR TO U/S HEIGHT)

PROJ/ITT			
DATE	NO	DESCRIPTION	BY
		ISSUED FOR ~	E.P.

THINK VOID ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

REVISIONS

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Richmond Hill, Ontario L4B 3M1
Tel: 905 882-9448
Fax: 905 882-9447
Email: cad@novatrendeng.com

DRAWING TITLE
G/F NORTH
P4D LAYOUT

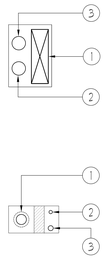
PROJECT TITLE
ALEXANDRA PARK

XXX
TORONTO ONTARIO

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

DATE:	PROJECT NUMBER:	DRAWING NUMBER:
FEB. 13	1313	M-11 OF 35

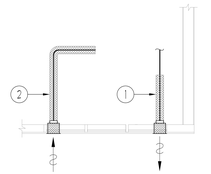
Drawing name: \\CADSERVER\Current Dwg's\1313 - Alexandra Park\DWG's\1313M - 10_1FLOOR PLAN -SOUTH & NORTH HVAC P4D LAYOUT.dwg Plotted: May 23, 2014 - 4:21pm



1. SOUTH F/A SHAFT B
2. 200ø CWS
3. 200ø CWR

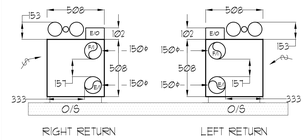
1. 150ø SWS
2. 50ø GAS VENT
3. 75ø GAS (5LB.) FOR BUILDING

SOUTH PIPE SHAFT: 2/F -T/F. | NTS



1. EXHAUST DUCTWORK TO BE C/W 25mm THICK THERMAL INSULATION 6FT. FROM EXTERNAL 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



NOTE:
- ALL DIMENSIONS IN MM.
- HEIGHT OF FCU IS 2,023.

INSUITE FCU DIMENSIONS | NTS

UNIT	NAME	AREA (SQ. FT.)	# OF WR	# OF POWDER	SIZE (T)	FIXTURE UNITS	BR	SQ. FT/T
201	2N-MT	830	2	Ø		16		
202	2VT	655	2	Ø				
205	2RT	670	2	Ø				
206	1F	510	1	Ø				
208	1UT	560	1	Ø				
209	1GT	530	1	Ø				
210	1C+DDT	590	2	Ø				
211	1C+DT4	590	2	Ø				
212	1C+DT3	590	2	Ø				
213	1C+D	590	2	Ø				
214	1C+DT2	590	2	Ø				
215	1C+DcT	600	2	Ø				
216	1C+DIT	610	2	Ø				
217	1DT	480	1	Ø				
218	1C+DaT	570	1	1				
219	2G	700	2	Ø				

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.

DUCT SIZING TABLE
(4.06 m/s, 800 FPM)

DESIGNATION	L/s	DUCT SIZE	DESIGNATION	L/s	DUCT SIZE
A	47	100x150	G	188	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			

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.

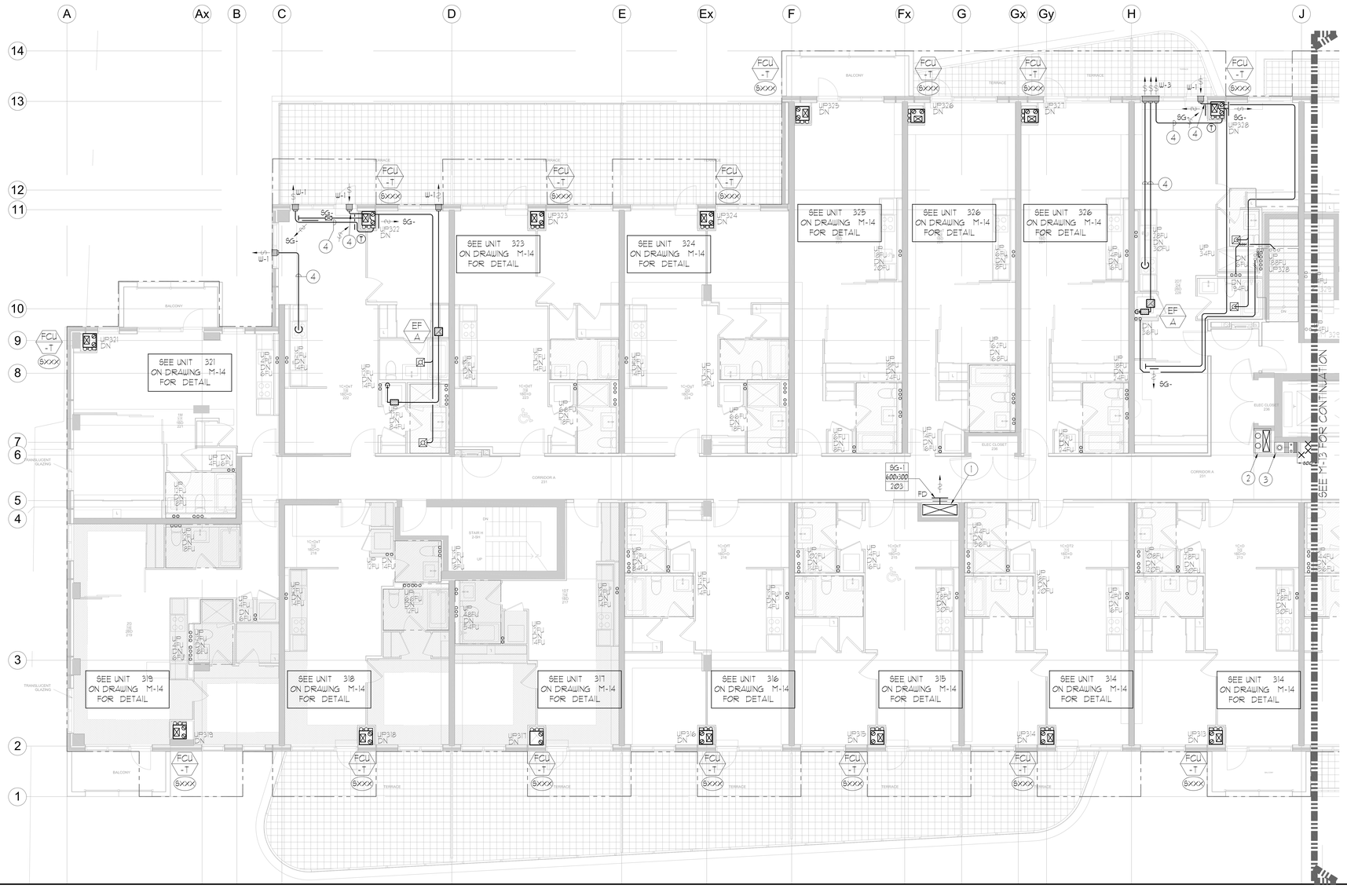
13) DRYER EXHAUST DUCT SHALL BE SMOOTH AND CORROSION-RESISTANT MATERIAL (FLEXIBLE CONNECTION IS NOT ACCEPTABLE).

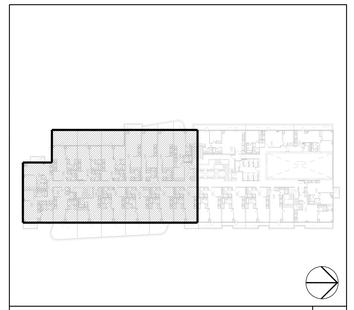
REFER TO DWG. M-X FOR ACOUSTIC NOTES

CLEAR FLOOR TO UNDERSLAB = 2750mm
CLEAR PRODUCT= 2700mm

NOTES:

1. SOUTH F/A SHAFT A FROM G/F TO 8/F DUCT SERVING CORRIDOR FROM G/F TO 8/F. SEE VENTILATION RISER DIAGRAM FOR DETAILS.
2. SOUTH F/A SHAFT B FROM G/F TO 14/F. F/A DUCT SERVING CORRIDOR FROM 9/F TO 14/F. SEE VENTILATION RISER DIAGRAM FOR DETAILS.
3. PIPE SHAFT - REFER TO PIPE RISER DETAIL ON THIS DRAWING FOR DETAILS.
4. 150ø KITCHEN / DRYER / W/R / FCU INTAKE / FCU EXHAUST DUCT. (TYPICAL UNLESS OTHERWISE NOTED)





KEY PLAN | N.T.S.

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
XX	TYPE OF EQUIPMENT - EQUIPMENT IDENTIFICATION
XX/XX	TYPE OF DIFFUSER ON GRILLE - GRILLE SIZE OR DIFFUSER NECK SIZE
XXX/XX	AIRFLOW CFM OR L/S
SD	STARTER (3 PHASE , 1 PHASE)
S	IN-SUITE ERV PASTER SWITCH
S	FAN SWITCH / IN-SUITE ERV OVERRIDE BUTTON
CO	CO SENSOR
G	GAS LINE
G	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
H	WATER METER
FD	FLOOR DRAIN
FFD	FUNNEL FLOOR DRAIN
HD	HUB DRAIN
RD	ROOF DRAIN
SLD	SLAB 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
NFHB	NON-FREEZE HOSE BIBB
	GLOBE VALVE
	GATE VALVE
	BALL VALVE
	BUTTERFLY VALVE
	PRESSURE REDUCING VALVE
	CHECK VALVE
	CAP
	COMPRESSED AIR OUTLET
	BACKFLOW PREVENTER
	CIRCUIT BALANCING VALVE
	MULTIPLE PIPES / - DENOTES NO. OF PIPES
T	TEMPERATURE SENSOR
T	THERMOSTER
	2-WAY MODULATING VALVE
	3-WAY MODULATING VALVE
	1/2"x4 1/2 " THERMOWELL C/W 1/2" BUSHING + 1/2" PLUG
XXX	FLOOR ELEVATION ABOVE LEVEL
XXX	FLOOR ELEVATION THIS LEVEL
XXX	HEADROOM (FLOOR TO U/S HEIGHT)

PROD/ITT	TO	ISSUED FOR ---	E.P.
DATE	NO.	DESCRIPTION	BY

MARK VOID ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

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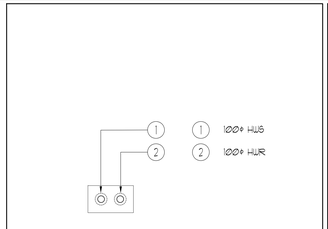
Tel: 905 882-9449
Fax: 905 882-9447
Email: cad@novatrendeng.com

DRAWING TITLE
2/F SOUTH
MECHANICAL LAYOUT

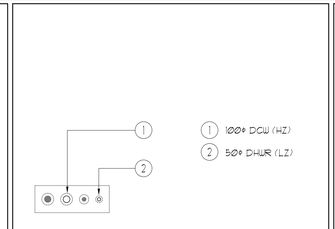
PROJECT TITLE
ALEXANDRA PARK
XXX
TORONTO ONTARIO

DRAWN BY:	CHECKED BY:	SCALE:
G.S.	E.P.	1:50
DATE: FEB. 13	PROJECT NUMBER: 1313	DRAWING NUMBER: M-12 OF 35

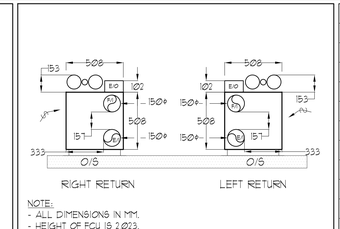
Drawing name: \\CADSERVER\Current Dwg\1313 - Alexandra Park\SHTS\1313M- 12.13 (2F PLAN - SOUTH & NORTH MECHANICAL LAYOUT).dwg Plotted: May 23, 2014 - 4:27pm



NORTH PIPE SHAFT A; 2/F -T/F. | NTS



NORTH PIPE SHAFT B; 2/F -T/F. | NTS



NOTE:
- ALL DIMENSIONS IN MM.
- HEIGHT OF FCU IS 2,023.

INSUITE FCU DIMENSIONS | NTS

UNIT	NAME	AREA (SQ. FT.)	# OF WR	# OF POWDER	SIZE (T)	FIXTURE UNITS	BR	SQ. FT/T
201	2N-MT	830	2	Ø		16		
202	2VT	655	2	Ø				
205	2RT	670	2	Ø				
206	IF	510	1	Ø				
208	UT	560	1	Ø				
209	IGT	530	1	Ø				
210	IC-DDT	590	2	Ø				
211	IC-DT4	590	2	Ø				
212	IC-DT3	590	2	Ø				
213	IC-D	590	2	Ø				
214	IC-DT2	590	2	Ø				
215	IC-DcT	600	2	Ø				
216	IC-DFT	610	2	Ø				
217	IDT	480	1	Ø				
218	IC-DaT	570	1	1				
219	2G	700	2	Ø				

GRILLE SIZING TABLE

DESIGNATION	SIZE	L/S (UNLESS SPECIFIED OTHERWISE)
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	675x200	WALL BOX

VERTICAL FAN COIL SIZE

DESIGNATION	MODEL	W x D
FCU-1T	450	508x660
FCU-1ST	600	508x660
FCU-2T	800	508x660
FCU-2ST	1000	559x660
FCU-3T	1200	559x660

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

DUCT SIZING TABLE
(4.06 m/s, 800 FPM)

DESIGNATION	L/s	DUCT SIZE	DESIGNATION	L/s	DUCT SIZE
A	47	100x150	G	188	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			

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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.

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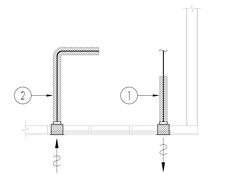
11) NO FLEXIBLE DUCT SHALL BE USED FOR ANY IN-SUITE DUCTWORK.

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).

REFER TO DWG. M-X FOR ACOUSTIC NOTES

CLEAR FLOOR TO UNDERSLAB = 2750mm
CLEAR PRODUCT= 2700mm



1 EXHAUST DUCTWORK TO BE C/W 25mm THICK THERMAL INSULATION 6FT. FROM EXTERNAL 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/EXHAUT DUCTWORK | NTS

NOTES:

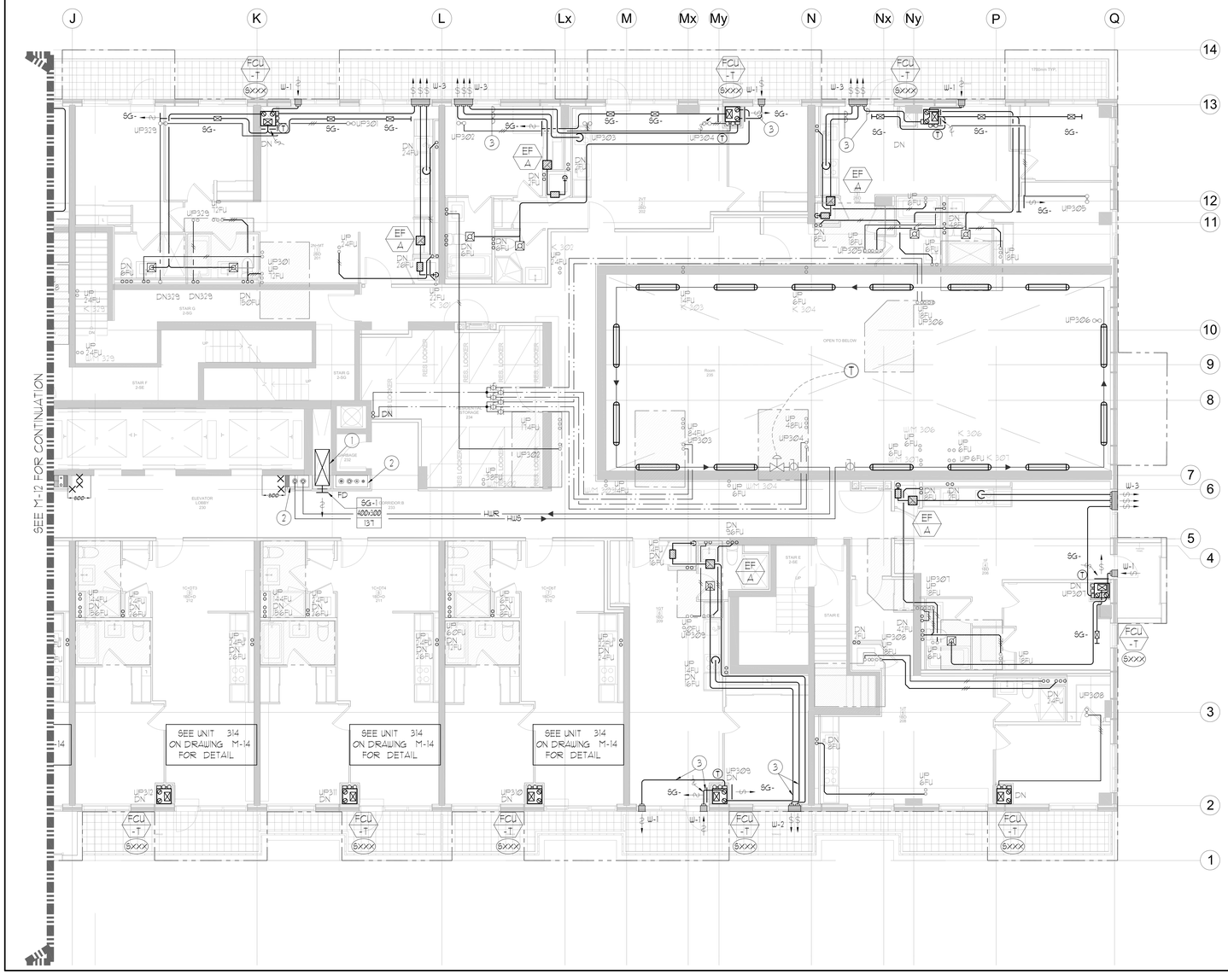
1 NORTH F/A SHAFT SERVING FROM G/F TO 14/F. F/A DUCT SERVING CORRIDOR FROM G/F TO 14/F. SEE VENTILATION RISER DIAGRAM FOR DETAILS.

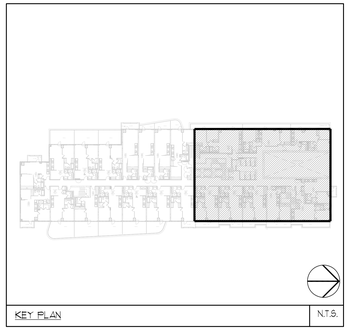
2 PIPE SHAFT - REFER TO PIPE RISER DETAIL ON THIS DRAWING FOR DETAILS.

3 150ø KITCHEN / DRYER / W/R / FCU INTAKE / FCU EXHAUST DUCT. (TYPICAL UNLESS OTHERWISE NOTED)

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/U 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 MASTER SWITCH
	FAN SWITCH / IN-SUITE ERV OVERRIDE BUTTON
CO	CO SENSOR
G	GAS LINE
G	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
NHB	NON-FREEZE HOSE BIBB
	GLOBE VALVE
	GATE VALVE
	BALL VALVE
	BUTTERFLY VALVE
	PRESSURE REDUCING VALVE
	CHECK VALVE
	CAP
	COMPRESSED AIR OUTLET
N	BACKFLOW PREVENTER
	CIRCUIT BALANCING VALVE
	MULTIPLE PIPES / - DENOTES NO. OF PIPES
T	TEMPERATURE SENSOR
T	THERMOMETER
	2-WAY MODULATING VALVE
	3-WAY MODULATING VALVE
	10"x4"(D) THERMOWELL C/U 1/2" BUSHING + 1/2" PLUG
XXX	FLOOR ELEVATION ABOVE LEVEL
XXX	FLOOR ELEVATION THIS LEVEL
XXX	HEADROOM (FLOOR TO U/S HEIGHT)





KEY PLAN | N.T.S.

REVISIONS

PROJ/CT		ISSUED FOR ---	E.P.
DATE	NO.	DESCRIPTION	BY

MARK VOID ALL PRINTS DATED PREVIOUS TO THIS DATE ABOVE

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 ENGINEERING
179 West Beaver Creek Road, Unit 31
Richmond Hill, Ontario L4B 3M1
Tel: 905-882-5448
Fax: 905-882-5447
Email: cad@novatrendeng.com

DRAWING TITLE
2/F NORTH
MECHANICAL LAYOUT

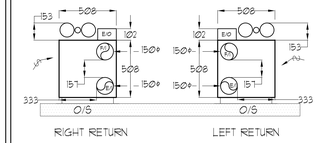
PROJECT TITLE
ALEXANDRA PARK
XXX
TORONTO ONTARIO

DRAWN BY:	CHECKED BY:	SCALE:
G.S.	E.P.	1:50
DATE: FEB. 13	PROJECT NUMBER: 1313	DRAWING NUMBER: M-13 OF 35

Drawing name: \\CADSERVER\Current Dwg\1313\1313 - Alexandra Park\DWG\1313M- 12,13 (2F PLAN - SOUTH & NORTH MECHANICAL LAYOUT).dwg Plotted: May 23, 2014 - 4:27pm

NORTH PIPE SHAFT A: 2/F -T/F | NTS

NORTH PIPE SHAFT B: 2/F -T/F | NTS



NOTE:
- ALL DIMENSIONS IN MM.
- HEIGHT OF FCU IS 2,023.

INSUITE FCU DIMENSIONS | NTS

UNIT	NAME	AREA (SQ. FT.)	# OF WR	# OF POWDER	SIZE (T)	FIXTURE UNITS	BR	SQ. FT/T
201	2N-MT	830	2	Ø		16		
202	2VT	655	2	Ø				
205	2RT	670	2	Ø				
206	IF	510	1	Ø				
208	UT	560	1	Ø				
209	IGT	530	1	Ø				
210	IC-DDT	590	2	Ø				
211	IC-DT4	590	2	Ø				
212	IC-DT3	590	2	Ø				
213	IC-D	590	2	Ø				
214	IC-DT2	590	2	Ø				
215	IC-DcT	600	2	Ø				
216	IC-DFT	610	2	Ø				
217	IDT	480	1	Ø				
218	IC-DaT	570	1	1				
219	2G	700	2	Ø				

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.

DUCT SIZING TABLE
(4.06 m/s, 800 FPM)

DESIGNATION	L/s	DUCT SIZE	DESIGNATION	L/s	DUCT SIZE
A	47	100x150	G	188	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			

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.

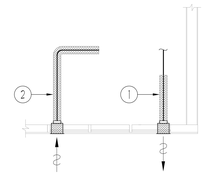
13) DRYER EXHAUST DUCT SHALL BE SMOOTH AND CORROSION-RESISTANT MATERIAL (FLEXIBLE CONNECTION IS NOT ACCEPTABLE).

REFER TO DWG. M-X FOR ACOUSTIC NOTES

CLEAR FLOOR TO UNDERSLAB = 2750mm

NOTES:

1. NORTH F/A SHAFT SERVING FROM G/F TO 14/F. F/A DUCT SERVING CORRIDOR FROM G/F TO 14/F. SEE VENTILATION RISER DIAGRAM FOR DETAILS.
2. PIPE SHAFT - REFER TO PIPE RISER DETAIL ON THIS DRAWING FOR DETAILS.
3. 150Ø KITCHEN / DRYER / W/R / FCU INTAKE / FCU EXHAUST DUCT. (TYPICAL UNLESS OTHERWISE NOTED)



1. EXHAUST DUCTWORK TO BE C/W 25mm THICK THERMAL INSULATION 6FT. FROM EXTERNAL 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

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/U LOCKING QUADRANT
	TURNING VANES
	FLEXIBLE CONNECTION
	ACOUSTIC INSULATION
XX/X	TYPE OF EQUIPMENT / EQUIPMENT IDENTIFICATION
XX/X	TYPE OF DIFFUSER ON GRILLE
XXX	GRILLE SIZE OR DIFFUSER NECK SIZE
XXX	AIRFLOW CFM OR L/S
	STARTER (3 PHASE) PHASE)
S	IN-SUITE ERV MASTER SWITCH
S	FAN SWITCH / IN-SUITE ERV OVERRIDE BUTTON
CO	CO SENSOR
G	GAS LINE
G	GAS METER
G	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
W	WATER METER
FD	FLOOR DRAIN
FFD	FUNNEL FLOOR DRAIN
HD	HUB DRAIN
RD	ROOF DRAIN
SLD	SLAB 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
NFHB	NON-FREEZE HOSE BIBB
	GLOBE VALVE
	GATE VALVE
	BALL VALVE
	BUTTERFLY VALVE
	PRESSURE REDUCING VALVE
	CHECK VALVE
	CAP
CA	COMPRESSED AIR OUTLET
BF	BACKFLOW PREVENTER
	CIRCUIT BALANCING VALVE
	MULTIPLE PIPES / / - DENOTES NO. OF PIPES
T	TEMPERATURE SENSOR
T	THERMOMETER
	2-WAY MODULATING VALVE
	3-WAY MODULATING VALVE
	1/2"x4"(1) THERMOWELL C/W 1/2" BUSHING & 1/2" PLUG
XXX	FLOOR ELEVATION ABOVE LEVEL
XXX	FLOOR ELEVATION THIS LEVEL
XXX	HEADROOM (FLOOR TO U/S HEIGHT)

DATE	NO.	DESCRIPTION	BY
09/05/17		ISSUED FOR ----	E.P.

THANK VOID ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

REVISIONS

CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS ON THE JOB AND REPORT ANY ERRORS OR OMISSIONS TO THE ENGINEER PRIOR TO 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 DEVELOPMENTS

73 West Beaver Creek Road, Unit 31
Richmond Hill, Ontario L4B 3M1
Tel: 905 882-9449
Fax: 905 882-9447
Email: cad@novatrendeng.com

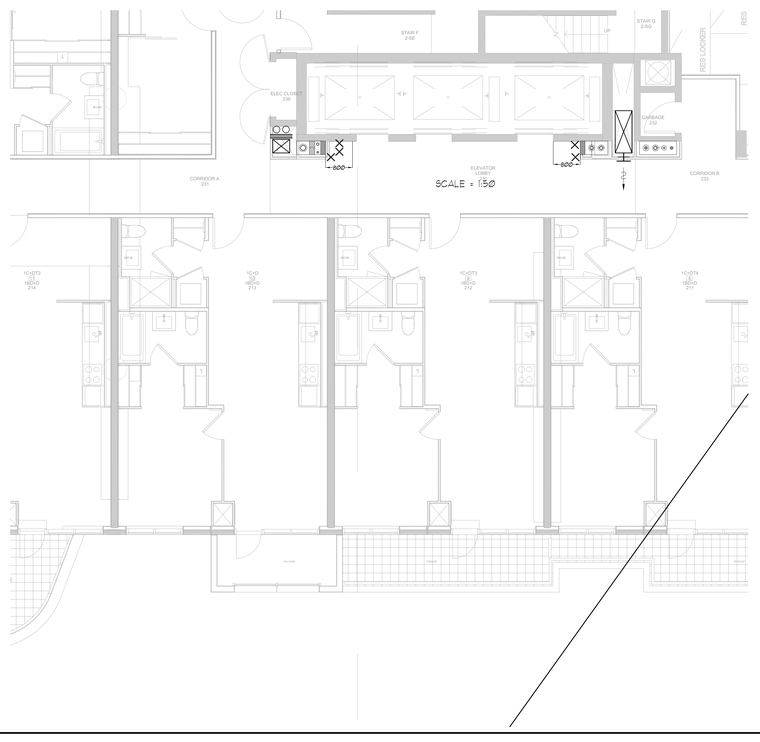
DRAWING TITLE
2/F NORTH
MECHANICAL LAYOUT

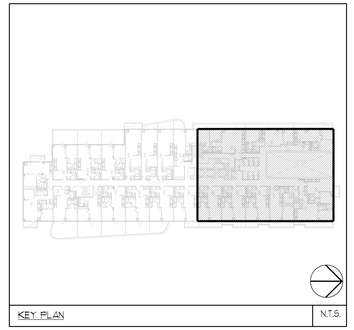
PROJECT TITLE
ALEXANDRA PARK

XXX
TORONTO ONTARIO

DRAWN BY:	CHECKED BY:	SCALE:
G.S.	E.P.	1:50
DATE: FEB. 13	PROJECT NUMBER: 1313	DRAWING NUMBER: M-13 OF 35

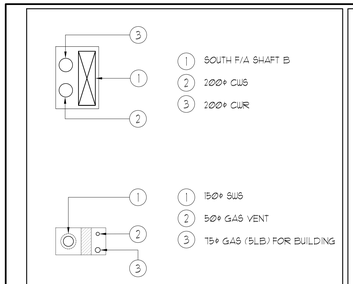
SEE M-12 FOR CONTINUATION



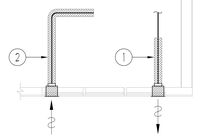


KEY PLAN | N.T.S.

Drawing name: \\CADSERVER\Current Dwg's\1313\1313M - 1313 (2F PLAN - SOUTH & NORTH MECHANICAL LAYOUT).dwg Plotted: May 23, 2014 - 4:21pm

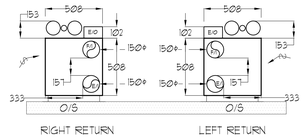


SOUTH PIPE SHAFT, 2/F -T/F. NTS



1. EXHAUST DUCTWORK TO BE C/W 25mm THICK THERMAL INSULATION 6FT. FROM EXTERNAL 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/EXHAUT DUCTWORK NTS



NOTE:
- ALL DIMENSIONS IN MM.
- HEIGHT OF FCU IS 2,023.

INSUITE FCU DIMENSIONS NTS

UNIT	NAME	AREA (SQ. FT.)	# OF WR	# OF POWDER	SIZE (T)	FIXTURE UNITS	BR	SQ. FT/T

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 175mm IS REQUIRED ON THE SIDE OF PIPE RISER.

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			

GENERAL NOTES:

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4) SEE INSTALLATION DETAILS DRAWING FOR WASHER DOM. H+C WATER, SANITARY CONNECTION DETAILS.
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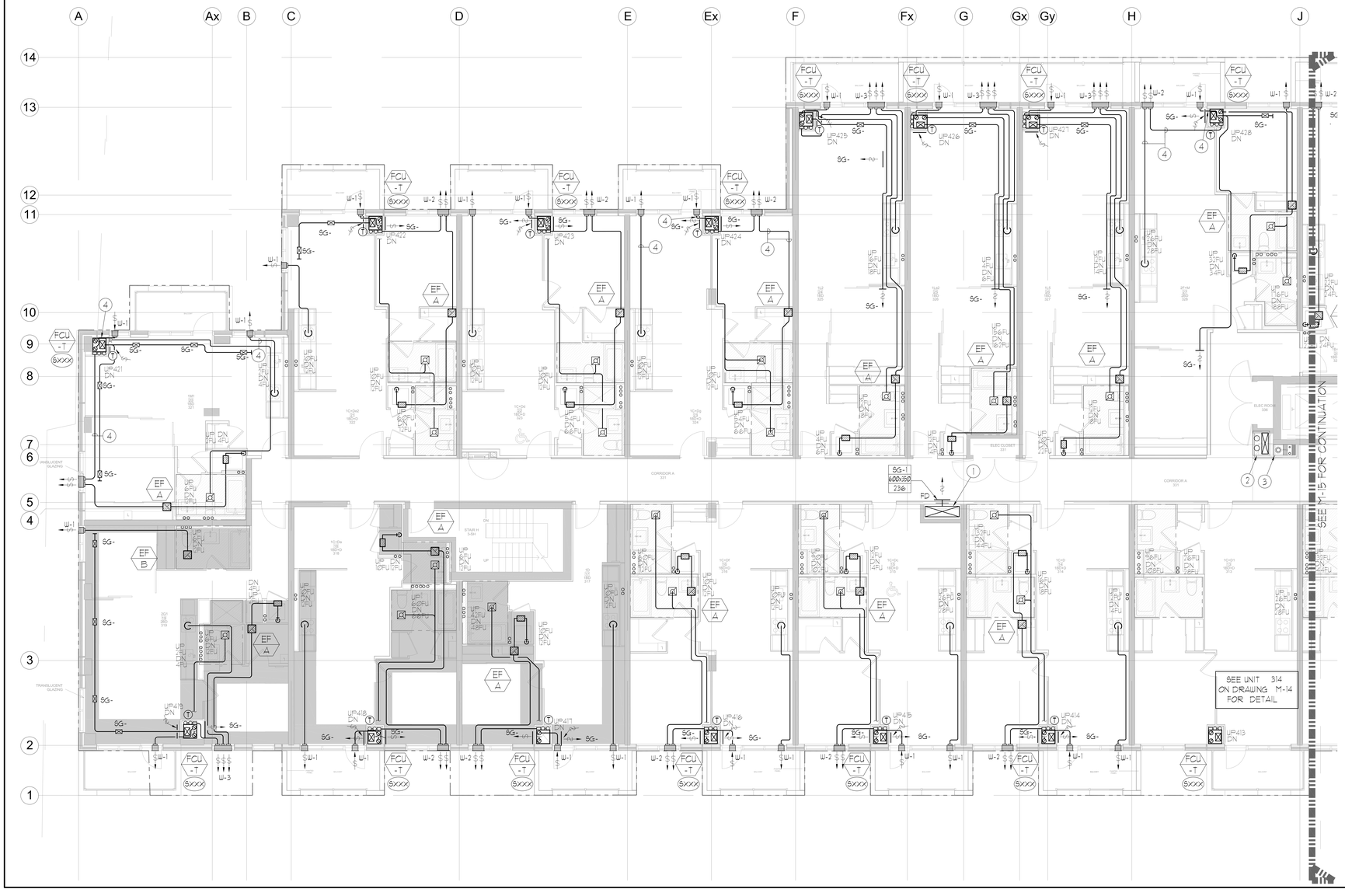
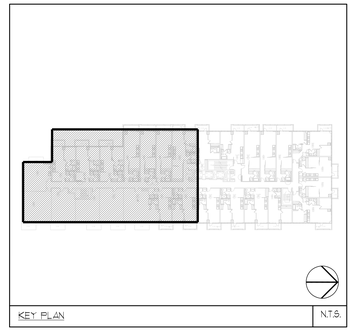
REFER TO DWG. M-X FOR ACOUSTIC NOTES

CLEAR FLOOR TO UNDERSLAB = 2590mm
CLEAR PRODUCT= 2550mm

NOTES:

1. SOUTH F/A SHAFT A FROM G/F TO 8/F DUCT SERVING CORRIDOR FROM G/F TO 8/F. SEE VENTILATION RISER DIAGRAM FOR DETAILS.
2. SOUTH F/A SHAFT B FROM G/F TO 14/F. F/A DUCT SERVING CORRIDOR FROM 9/F TO 14/F. SEE VENTILATION RISER DIAGRAM FOR DETAILS.
3. PIPE SHAFT - REFER TO PIPE RISER DETAIL ON THIS DRAWING FOR DETAILS.
4. 150ø KITCHEN / DRYER / W/R / FCU INTAKE / FCU EXHAUST DUCT. (TYPICAL UNLESS OTHERWISE NOTED)





KEY PLAN N.T.S.

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
XX	TYPE OF EQUIPMENT - EQUIPMENT IDENTIFICATION
XX-X XXX	TYPE OF DIFFUSER OR GRILLE - GRILLE SIZE OR DIFFUSER NECK SIZE - AIRFLOW (CFM OR L/s)
XX XX	STARTER (3 PHASE / PHASE)
S	N-SUITE ERV MASTER SWITCH
S	FAN SWITCH / N-SUITE ERV OVERRIDE BUTTON
D	CO SENSOR
G	GAS LINE
G	GAS METER
	GAS COCK
R	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
NFHB	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	THERMOSTER
	2-WAY MODULATING VALVE
	3-WAY MODULATING VALVE
	3-WAY MODULATING VALVE
	12"x4"(D) THERMOWELL C/W 12" BUSHING X 1/2" PLUG
XXX	FLOOR ELEVATION ABOVE LEVEL
XXX	FLOOR ELEVATION THIS LEVEL
XXX	HEADROOM (FLOOR TO U/S HEIGHT)

PROJECT		ISSUED FOR:	E.P.
DATE	NO.	DESCRIPTION	BY

PLAN VOID ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

REVISIONS

CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS ON THE JOB AND THE ARCHITECT/ENGINEER NOTIFIED OF ANY DISCREPANCIES. THIS DRAWING IS THE PROPERTY OF THE PROFESSIONAL ENGINEER AND MUST BE RETURNED UPON COMPLETION OF THE WORK.

DRAWINGS ARE NOT TO BE SCALED

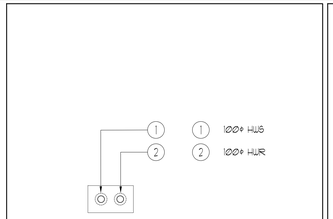
NOVA TREND DEVELOPMENT CORPORATION
179 West Beaver Creek Road, Unit 31
Richmond Hill, Ontario L4B 3M1
Tel: 905 882-9445
Fax: 905 882-9447
Email: cad@novatrendeng.com

DRAWING TITLE
3/F SOUTH
MECHANICAL LAYOUT

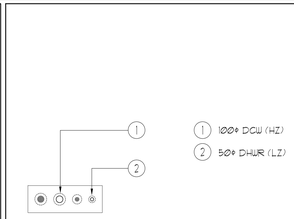
PROJECT TITLE
ALEXANDRA PARK
XXX
TORONTO ONTARIO

DRAWN BY	CHECKED BY	SCALE
G.S.	E.P.	1:50
DATE	PROJECT NUMBER	DRAWING NUMBER
FEB. 13	1313	M-14 OF 35

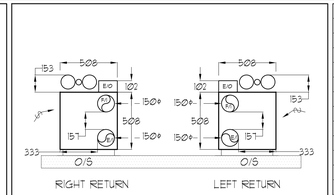
Drawing name: \\CADSERVER\Current Dwgs\1313\1313 - Alexandra Park\3/F\1313M - 14.DWG Plotted: May 23, 2014 - 4:21pm



NORTH PIPE SHAFT A: 2/F -T/F | NTS



NORTH PIPE SHAFT B: 2/F -T/F | NTS



NOTE:
- ALL DIMENSIONS IN MM.
- HEIGHT OF FCU IS 2023.

INSUITE FCU DIMENSIONS | NTS

UNIT	NAME	AREA (SQ. FT.)	# OF WR	# OF POWDER	SIZE (T)	FIXTURE UNITS	BR	SQ. FT/T

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.

DUCT SIZING TABLE
(4.06 m/s, 800 FPM)

DESIGNATION	L/s	DUCT SIZE	DESIGNATION	L/s	DUCT SIZE
A	47	100x150	G	188	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			

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.

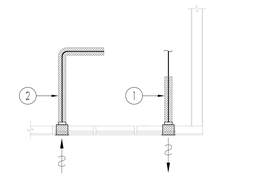
9) THE PIPING PENETRATING THE VARIOUS FIRE SEPARATION IS REQUIRED TO BE FIRESTOPPED WITH A LISTED FIRESTOPPING MATERIAL IN ACCORDANCE WITH OBC ARTICLE 3.1.9.1

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).



1. EXHAUST DUCTWORK TO BE C/W 25mm THICK THERMAL INSULATION 6FT. FROM EXTERNAL 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)

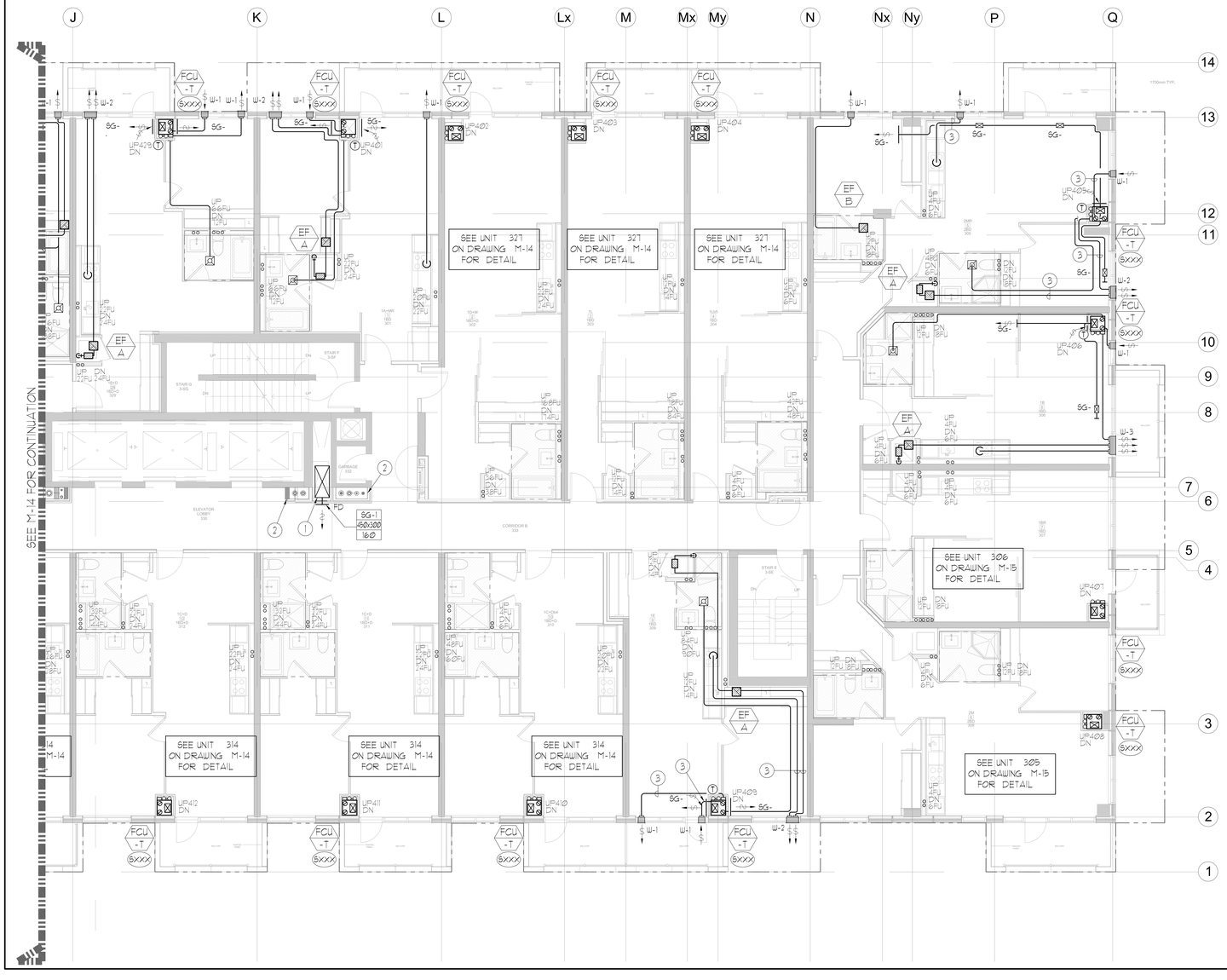
TYPICAL DETAIL:INSULATION FOR INTAKE/EXHAUST DUCTWORK | NTS

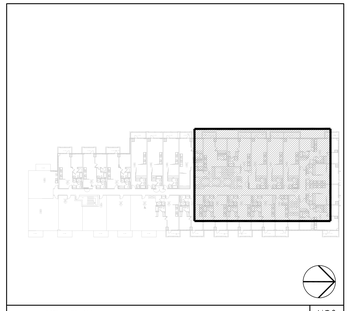
REFER TO DWG. M-X FOR ACOUSTIC NOTES

CLEAR FLOOR TO UNDERSLAB = 2590mm
CLEAR PRODUCT= 2550mm

NOTES:

1. NORTH F/A SHAFT SERVING FROM G/F TO 14/F. F/A DUCT SERVING CORRIDOR FROM G/F TO 14/F. SEE VENTILATION RISER DIAGRAM FOR DETAILS.
2. PIPE SHAFT - REFER TO PIPE RISER DETAIL ON THIS DRAWING FOR DETAILS.
3. 150ø KITCHEN / DRYER / W/R / FCU INTAKE / FCU EXHAUST DUCT. (TYPICAL UNLESS OTHERWISE NOTED)





KEY PLAN | N.T.S.

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/U LOCKING QUADRANT
	TURNING VANES
	FLEXIBLE CONNECTION
	ACOUSTIC INSULATION
XX	TYPE OF EQUIPMENT - EQUIPMENT IDENTIFICATION
XX X	TYPE OF DIFFUSER OR GRILLE
XXX X	GRILLE SIZE OR DIFFUSER NECK SIZE
XXX	AIRFLOW CFM OR L/S
XX X	STARTER (3 PHASE , 1 PHASE)
S	IN-SUITE ERV MASTER SWITCH
S	FAN SWITCH / IN-SUITE ERV OVERRIDE BUTTON
CO	CO SENSOR
G	GAS LINE
G	GAS METER
G	GAS COCK
PR	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
NHB	NON-FREEZE HOSE BIBB
	GLOBE VALVE
	GATE VALVE
	BALL VALVE
	BUTTERFLY VALVE
	PRESSURE REDUCING VALVE
	CHECK VALVE
	CAP
	COMPRESSED AIR OUTLET
	BACKFLOW PREVENTER
	CIRCUIT BALANCING VALVE
	MULTIPLE PIPES / / - DENOTES NO. OF PIPES
T	TEMPERATURE SENSOR
T	THERMOMETER
	2-WAY MODULATING VALVE
	3-WAY MODULATING VALVE
T	10"x4"(2) THERMOWELL C/U 1/2" BUSHING + 1/2" PLUG
XXX	FLOOR ELEVATION ABOVE LEVEL
XXX	FLOOR ELEVATION THIS LEVEL
XXX	HEADROOM (FLOOR TO U/S HEIGHT)

DATE	NO	DESCRIPTION	BY
PROJECT		ISSUED FOR :	E.P.

THANK YOU ALL PRINTS DATED PREVIOUS TO THIS DATE ABOVE

REVISIONS

CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS ON THE JOB AND REPORT ANY ERRORS AND OMISSIONS TO THE ENGINEER 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 DEVELOPMENTS

179 West Beaver Creek Road, Unit 31
Richmond Hill, Ontario L4B 3M1
Tel: 905 882-9448
Fax: 905 882-9447
Email: cad@novatrendeng.com

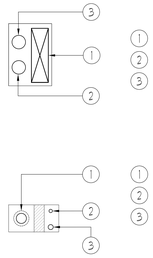
DRAWING TITLE
3/F NORTH
MECHANICAL LAYOUT

PROJECT TITLE
ALEXANDRA PARK

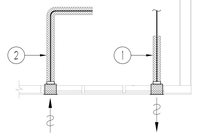
XXX
TORONTO ONTARIO

DRAWN BY:	CHECKED BY:	SCALE:
G.S.	E.P.	1:50
DATE: FEB. 13	PROJECT NUMBER: 1313	DRAWING NUMBER: M-15 OF 35

Drawing name: \\CADSERVER\Current Dwg\1313 - Alexandra Park\3F\1313M - 14/15/F PLAN - SOUTH & NORTH MECHANICAL LAYOUT.dwg Plotted: May 23, 2014 - 4:21pm

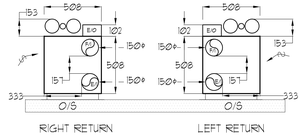


SOUTH PIPE SHAFT: 2/F -T/F. | NTS



1. EXHAUST DUCTWORK TO BE C/W 25mm THICK THERMAL INSULATION 6FT. FROM EXTERNAL 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



NOTE:
- ALL DIMENSIONS IN MM.
- HEIGHT OF FCU IS 2,023.

INSUITE FCU DIMENSIONS | NTS

UNIT	NAME	AREA (SQ. FT.)	# OF WR	# OF POWDER	SIZE (T)	FIXTURE UNITS	BR	SQ. FT./T

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.

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			

GENERAL NOTES:

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6) ALL VENT PIPE INSTALLATION TO COMPLY WITH PLUMBING CODES.
7) FOR D.H.C. W. RISER SIZES, REFER TO RISER DIAGRAM
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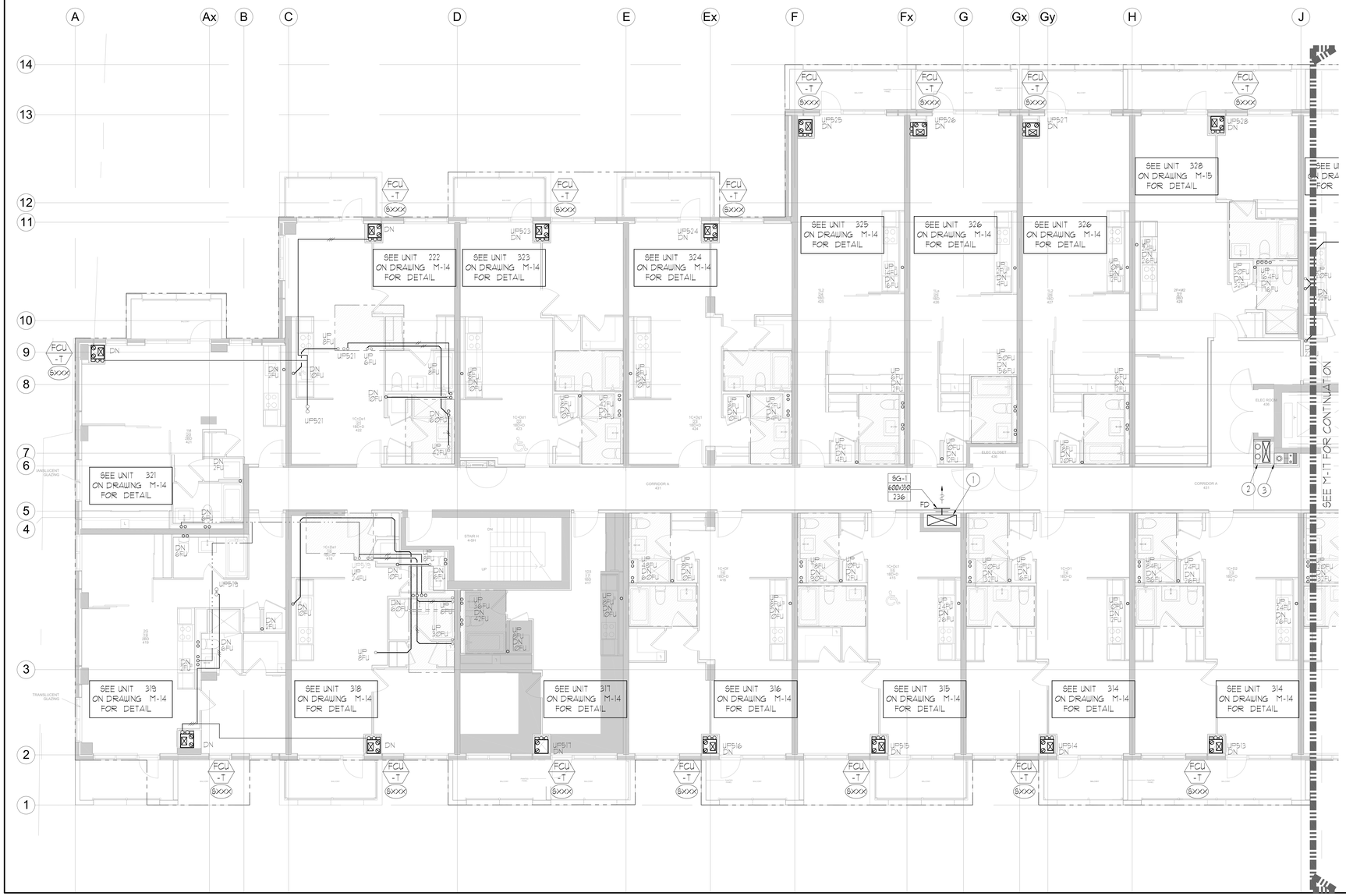
13) DRYER EXHAUST DUCT SHALL BE SMOOTH AND CORROSION-RESISTANT MATERIAL (FLEXIBLE CONNECTION IS NOT ACCEPTABLE).

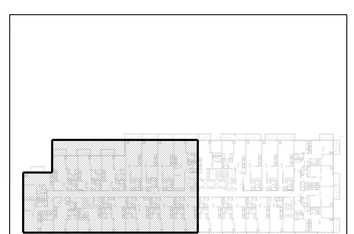
REFER TO DWG. M-X FOR ACOUSTIC NOTES

CLEAR FLOOR TO UNDERSLAB = 2590mm
CLEAR PRODUCT = 2350mm
UNITS 419/421: DRAINS FROM TERRACE ON 5/F

NOTES:

1. SOUTH F/A SHAFT A FROM G/F TO 8/F DUCT SERVING CORRIDOR FROM G/F TO 8/F. SEE VENTILATION RISER DIAGRAM FOR DETAILS.
2. SOUTH F/A SHAFT B FROM G/F TO 14/F. F/A DUCT SERVING CORRIDOR FROM 9/F TO 14/F. SEE VENTILATION RISER DIAGRAM FOR DETAILS.
3. PIPE SHAFT - REFER TO PIPE RISER DETAIL ON THIS DRAWING FOR DETAILS.
4. 150ø KITCHEN / DRYER / W/R / FCU INTAKE / FCU EXHAUST DUCT. (TYPICAL UNLESS OTHERWISE NOTED)





KEY PLAN | N.T.S.

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 ON GRILLE GRILLE SIZE OR DIFFUSER NECK SIZE AIRFLOW (CFM OR L/S)
	STARTER (3 PHASE / PHASE)
S	IN-SUITE ERV MASTER SWITCH
S	FAN SWITCH / IN-SUITE ERV OVERRIDE BUTTON
	CO SENSOR
G	GAS LINE
G	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
NFHB	NON-FREEZE HOSE BIBB
	GLOBE VALVE
	GATE VALVE
	BALL VALVE
	BUTTERFLY VALVE
	PRESSURE REDUCING VALVE
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	CAP
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	CIRCUIT BALANCING VALVE
	MULTIPLE PIPES / - DENOTES NO. OF PIPES
T	TEMPERATURE SENSOR
T	THERMOMETER
	2-WAY MODULATING VALVE
	3-WAY MODULATING VALVE
	10"x4"(D) THERMOWELL C/W 10" BUSHING x 10" PLUG
XXX	FLOOR ELEVATION ABOVE LEVEL
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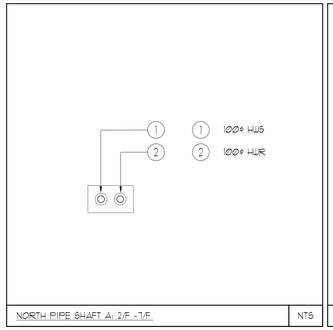
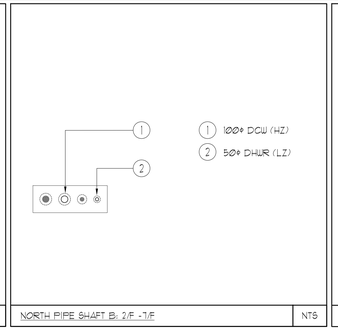
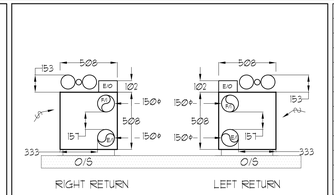


NORTH PIPE SHAFT A: 2/F -T/F — NTS



NORTH PIPE SHAFT B: 2/F -T/F — NTS



NOTE:
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- HEIGHT OF FCU IS 2,023.

INSUITE FCU DIMENSIONS — NTS

UNIT	NAME	AREA (SQ. FT.)	# OF WR	# OF POWDER	SIZE (T)	FIXTURE UNITS	BR	SQ. FT/T

GRILLE SIZING TABLE

DESIGNATION	SIZE	L/S (UNLESS SPECIFIED ELSEWHERE)
SG-A	300x100	47-70
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W-1	225x200	210mm(L)
W-2	425x200	INSULATED
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VERTICAL FAN COIL SIZE

DESIGNATION	MODEL	W x D
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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.

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			

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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).

REFER TO DWG. M-X FOR ACOUSTIC NOTES

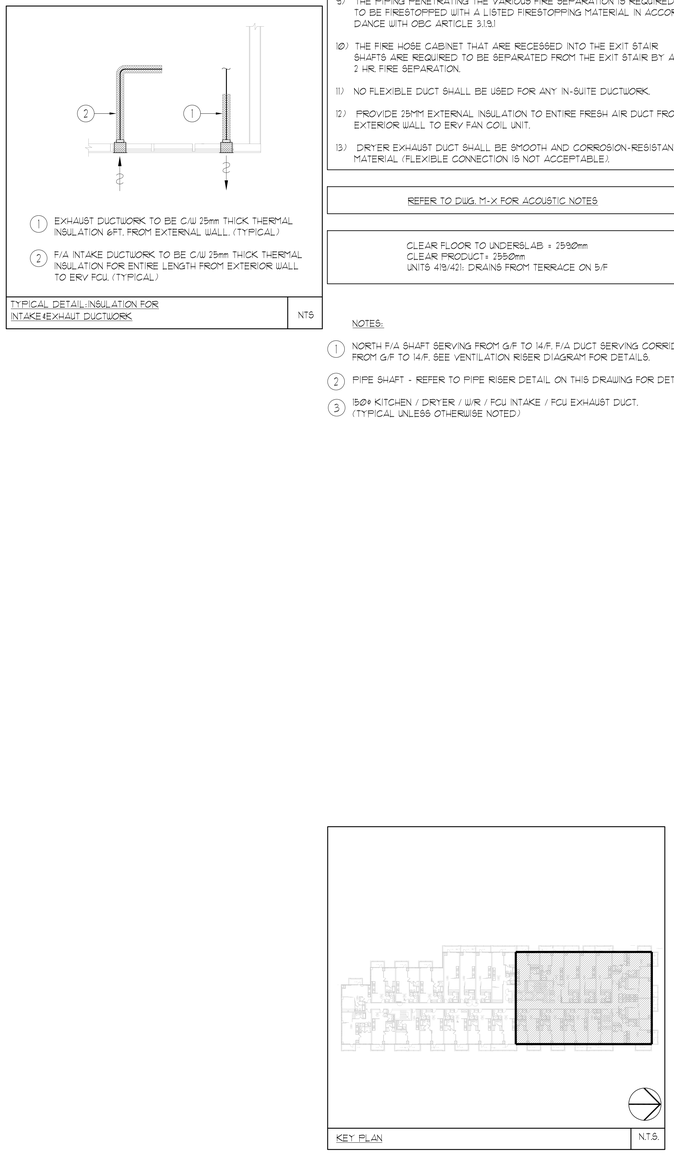
CLEAR FLOOR TO UNDERSLAB = 2590mm
CLEAR PRODUCT = 2350mm
UNITS 419/421: DRAINS FROM TERRACE ON 5/F

NOTES:

1) NORTH F/A SHAFT SERVING FROM G/F TO 14/F. F/A DUCT SERVING CORRIDOR FROM G/F TO 14/F. SEE VENTILATION RISER DIAGRAM FOR DETAILS.

2) PIPE SHAFT - REFER TO PIPE RISER DETAIL ON THIS DRAWING FOR DETAILS.

3) 150ø KITCHEN / DRYER / W/R / FCU INTAKE / FCU EXHAUST DUCT. (TYPICAL UNLESS OTHERWISE NOTED)



1 EXHAUST DUCTWORK TO BE C/W 25mm THICK THERMAL INSULATION 6FT. FROM EXTERNAL 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.

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/U LOCKING QUADRANT
	TURNING VANES
	FLEXIBLE CONNECTION
	ACOUSTIC INSULATION
XX	TYPE OF EQUIPMENT EQUIPMENT IDENTIFICATION
XX-X	TYPE OF DIFFUSER OR GRILLE
XXX	GRILLE SIZE OR DIFFUSER NECK SIZE
XXX	AIRFLOW CFM OR L/S
XX	STARTER (3 PHASE) PHASE)
S	IN-SUITE ERV MASTER SWITCH
S	FAN SWITCH / IN-SUITE ERV OVERRIDE BUTTON
CO	CO SENSOR
G	GAS LINE
G	GAS METER
G	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
NHB	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	THERMOMETER
	2-WAY MODULATING VALVE
	3-WAY MODULATING VALVE
T	10"x4"(I) THERMOWELL C/U 1/2" BUSHING + 1/2" PLUG
XXX	FLOOR ELEVATION ABOVE LEVEL
XXX	FLOOR ELEVATION THIS LEVEL
XXX	HEADROOM (FLOOR TO U/S HEIGHT)

PROD-TY		ISSUED FOR :-		E.P.
DATE	NO	DESCRIPTION		BY

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

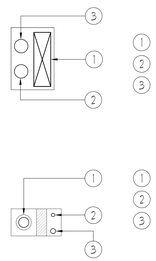
NOVA TREND ENGINEERING GROUP LTD.
179 West Beaver Creek Road, Unit 31
Richmond Hill, Ontario L4B 3M1
Tel: 905 882-5445
Fax: 905 882-5447
Email: cad@novatrendeng.com

DRAWING TITLE
4/F NORTH
MECHANICAL LAYOUT

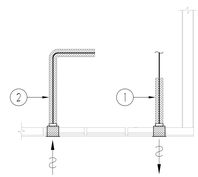
PROJECT TITLE
ALEXANDRA PARK
XXX
TORONTO ONTARIO

DRAWN BY:	CHECKED BY:	SCALE:
G.S.	E.P.	1:50
DATE: FEB. 13	PROJECT NUMBER: 1313	DRAWING NUMBER: M-17 OF 35

Drawing name: \\CADSERVER\Current Dwgs\1313 - Alexandra Park\2013\13-M- 16/17 GF PLAN - SOUTHS NORTH MECHANICAL LAYOUT.dwg Plotted: May 23, 2014 - 4:22pm



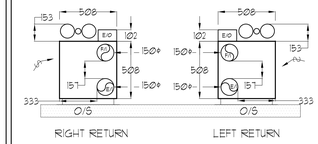
SOUTH PIPE SHAFT: 2/F - T/F. NTS



1 EXHAUST DUCTWORK TO BE C/W 25mm THICK THERMAL INSULATION 6FT. FROM EXTERNAL 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



NOTE:
- ALL DIMENSIONS IN MM.
- HEIGHT OF FCU IS 2,023.

INSUITE FCU DIMENSIONS NTS

UNIT	NAME	AREA (SQ. FT.)	# OF WR	# OF POWDER	SIZE (T)	FIXTURE UNITS	BR	SQ. FT/T

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	500x660
FCU-1.5T	600	500x660
FCU-2T	800	500x660
FCU-2.5T	1000	550x660
FCU-3T	1200	550x660

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

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			

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.

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4) SEE INSTALLATION DETAILS DRAWING FOR WASHER DOM. H+C WATER, SANITARY CONNECTION DETAILS.

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6) ALL VENT PIPE INSTALLATION TO COMPLY WITH PLUMBING CODES.

7) FOR D.H.C. W. RISER SIZES, REFER TO RISER DIAGRAM

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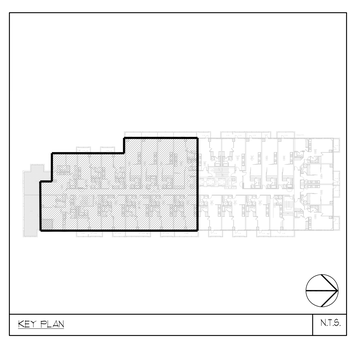
REFER TO DWG. M-X FOR ACOUSTIC NOTES

CLEAR FLOOR TO UNDERSLAB = 2850mm
CLEAR PRODUCT= 2800mm
EXCEPT UNIT: 503 CLEAR PRODUCT = 2550mm
EXCEPT UNITS: 516/521 CLEAR PRODUCT = 2600mm
UNITS 519/521: DRAINS FROM TERRACE ON 6/F

NOTES:

1. SOUTH F/A SHAFT A FROM G/F TO 8/F DUCT SERVING CORRIDOR FROM G/F TO 8/F. SEE VENTILATION RISER DIAGRAM FOR DETAILS.
2. SOUTH F/A SHAFT B FROM G/F TO 14/F. F/A DUCT SERVING CORRIDOR FROM 9/F TO 14/F. SEE VENTILATION RISER DIAGRAM FOR DETAILS.
3. PIPE SHAFT - REFER TO PIPE RISER DETAIL ON THIS DRAWING FOR DETAILS.
4. 150ø KITCHEN / DRYER / W/R / FCU INTAKE / FCU EXHAUST DUCT. (TYPICAL UNLESS OTHERWISE NOTED)



KEY PLAN N.T.S.

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
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	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 MASTER 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
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AD	AREA DRAIN
BLAD	BI-LEVEL AREA DRAIN
CB	CATCH BASIN
	SANITARY TRAP
	ELBOW UP
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CO	WALL CLEANOUT
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HB	HOSE BIBB
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	GLOBE VALVE
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	BALL VALVE
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	PRESSURE REDUCING VALVE
	CHECK VALVE
	CAP
	COMPRESSED AIR OUTLET
	BLACKFLOW PREVENTER
	CIRCUIT BALANCING VALVE
	MULTIPLE PIPES / - DENOTES NO. OF PIPES
	TEMPERATURE SENSOR
	THERMOMETER
	2-WAY MODULATING VALVE
	3-WAY MODULATING VALVE
	10"x4"(2) THERMOWELL C/W 1/2" BUSHING + 1/2" PLUG
XXX	FLOOR ELEVATION ABOVE LEVEL
XXX	FLOOR ELEVATION THIS LEVEL
XXX	HEADROOM (FLOOR TO U/S HEIGHT)

PROJECT #		ISSUED FOR:	BY
DATE	NO.	DESCRIPTION	BY

MARK VOID ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

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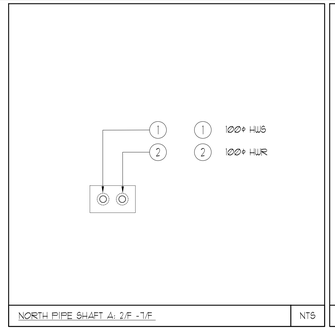
Email: cad@novatrendeng.com

DRAWING TITLE:
5/F SOUTH
MECHANICAL LAYOUT

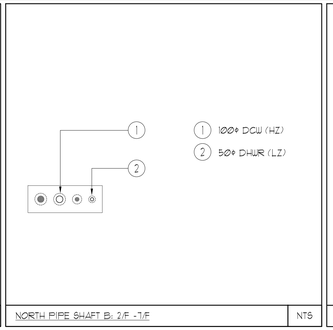
PROJECT TITLE:
ALEXANDRA PARK
XXX
TORONTO ONTARIO

DRAWN BY:	CHECKED BY:	SCALE:
G.S.	E.P.	1:50
DATE: FEB. 13	PROJECT NUMBER: 1313	DRAWING NUMBER: M-18 OF 35

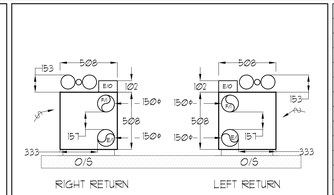
Drawing name: \\CADSERVER\Current Dwg\1313\1313M - 18,19 5F PLAN - SOUTH & NORTH MECHANICAL LAYOUT.dwg Plotted: May 23, 2014 - 4:22pm



NORTH PIPE SHAFT A: 2/F -T/F | NTS



NORTH PIPE SHAFT B: 2/F -T/F | NTS



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INSUITE FCU DIMENSIONS | NTS

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NOTE:
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DUCT SIZING TABLE
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DESIGNATION	L/s	DUCT SIZE	DESIGNATION	L/s	DUCT SIZE
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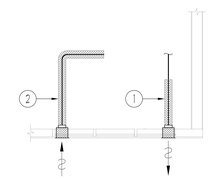

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TYPICAL DETAIL:INSULATION FOR INTAKE/EXHAUT DUCTWORK | NTS

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UNITS 519/521: DRAINS FROM TERRACE ON 6/F

NOTES:

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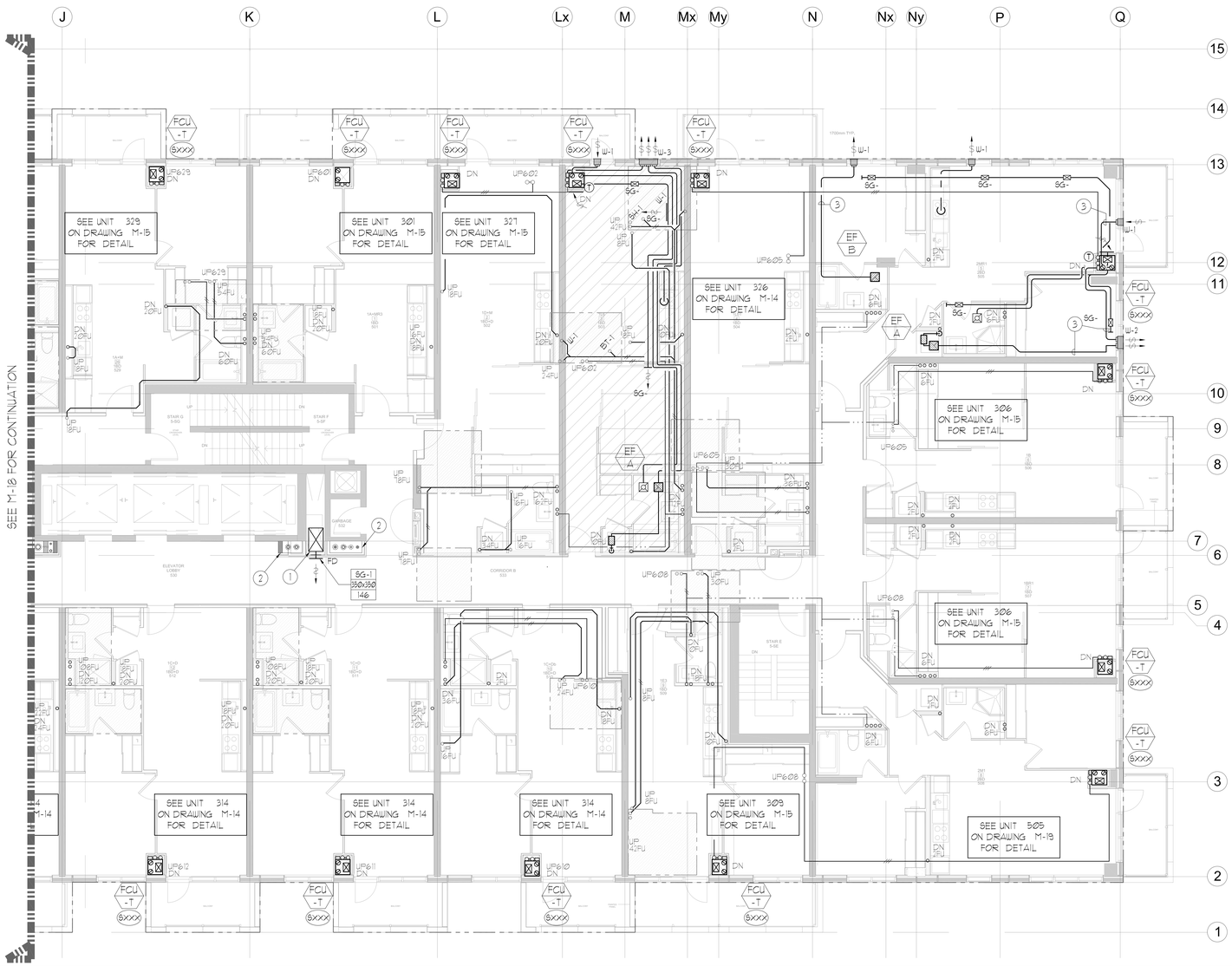

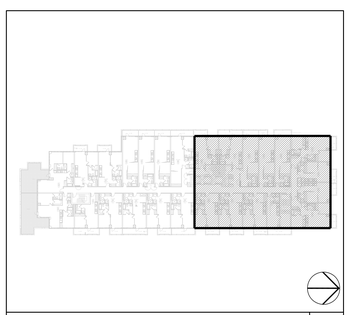

KEY PLAN | N.T.S.

LEGEND
MECHANICAL

SYMBOL	DESCRIPTION
	SUPPLY AIR DIFFUSER
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	TURNING VANES
	FLEXIBLE CONNECTION
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	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 MASTER 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
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	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
NFHB	NON-FREEZE HOSE BIBB
	GLOBE VALVE
	GATE VALVE
	BALL VALVE
	BUTTERFLY VALVE
	PRESSURE REDUCING VALVE
	CHECK VALVE
	CAP
	COMPRESSED AIR OUTLET
	BLACKFLOW PRE-VENTER
	CIRCUIT BALANCING VALVE
	MULTIPLE PIPES / - DENOTES NO. OF PIPES
T	TEMPERATURE SENSOR
T	THERMOMETER
	2-WAY MODULATING VALVE
	3-WAY MODULATING VALVE
	1/2"x4 1/2" THERMOWELL C/U 1/2" BUSHING x 1/2" PLUG
	FLOOR ELEVATION ABOVE LEVEL
	FLOOR ELEVATION THIS LEVEL
	HEADROOM (FLOOR TO U/S HEIGHT)

REVISION DATE	NO.	ISSUED FOR -- DESCRIPTION	BY

MARK VOID ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

REVISIONS

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DRAWINGS ARE NOT TO BE SCALED

NOVA TREND ENGINEERING GROUP LTD.
179 West Beaver Creek Road, Unit 31
Richmond Hill, Ontario L4B 3M1
Tel: 905 882-5445
Fax: 905 882-5447
Email: cad@novatrendeng.com

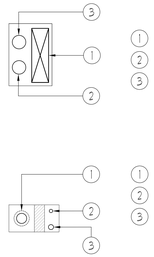
DRAWING TITLE:
B/F NORTH
MECHANICAL LAYOUT

PROJECT TITLE:
ALEXANDRA PARK
XXX
TORONTO ONTARIO

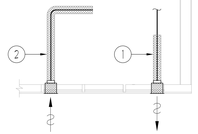
DRAWN BY:	CHECKED BY:	SCALE:
G.S.	E.P.	1:50

DATE:	PROJECT NUMBER:	DRAWING NUMBER:
FEB. 13	1313	M-13 OF 35

Drawing name: \\CADSERVER\Current Dwg\1313\1313M - ALEXANDRA PARK\DWG\1313M - 13/F PLAN - SOUTH & NORTH MECHANICAL LAYOUT.dwg Plotted: May 23, 2014 - 4:22pm

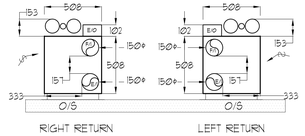


SOUTH PIPE SHAFT: 2/F -T/F. NTS



1. EXHAUST DUCTWORK TO BE C/W 25mm THICK THERMAL INSULATION 6FT. FROM EXTERNAL 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



NOTE:
- ALL DIMENSIONS IN MM.
- HEIGHT OF FCU IS 2,023.

INSUITE FCU DIMENSIONS NTS

UNIT	NAME	AREA (SQ. FT.)	# OF WR	# OF POWDER	SIZE (T)	FIXTURE UNITS	BR	SQ. FT./T

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	553x660
FCU-3T	1200	553x660

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

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			

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.

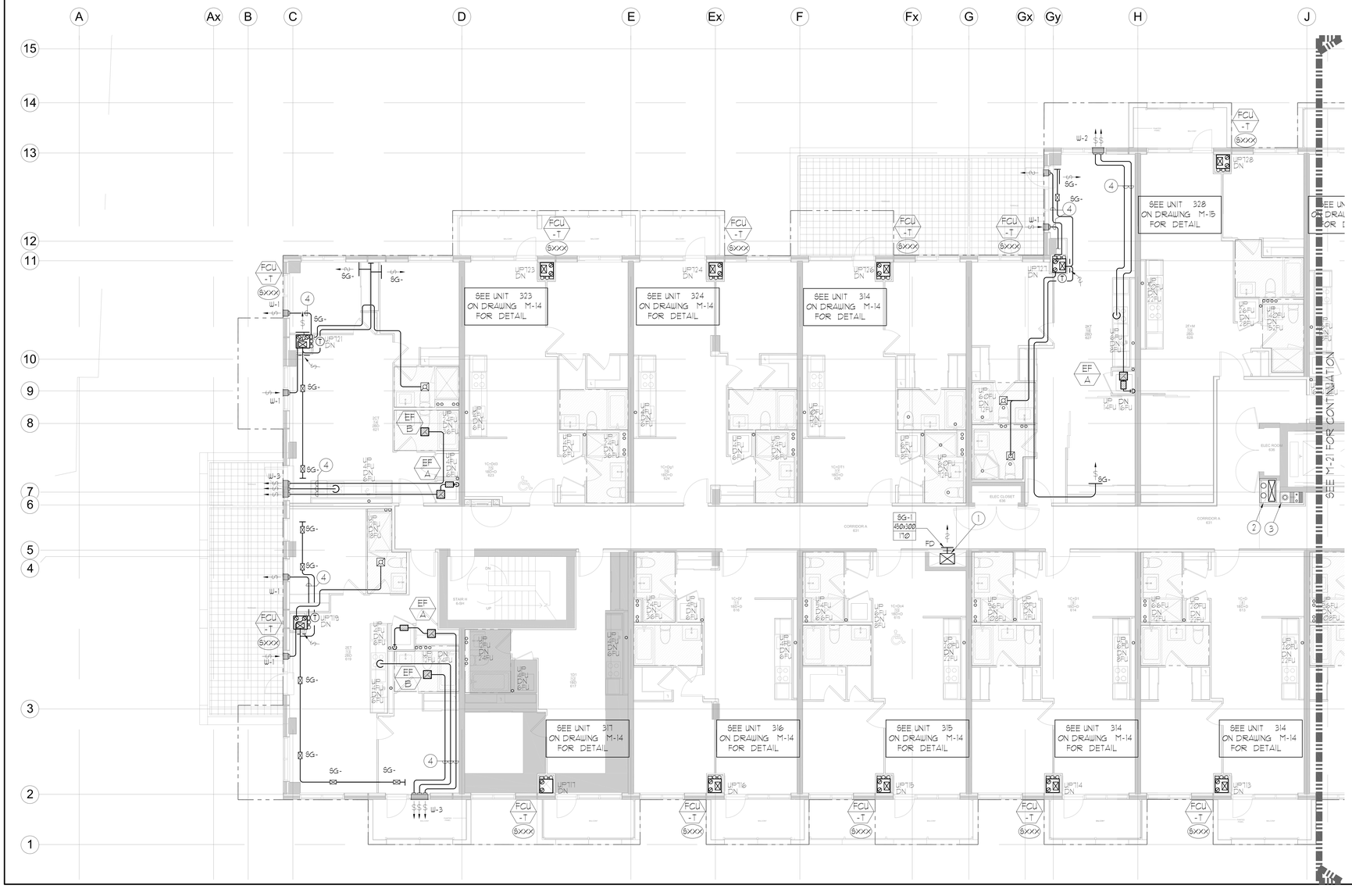
13) DRYER EXHAUST DUCT SHALL BE SMOOTH AND CORROSION-RESISTANT MATERIAL (FLEXIBLE CONNECTION IS NOT ACCEPTABLE).

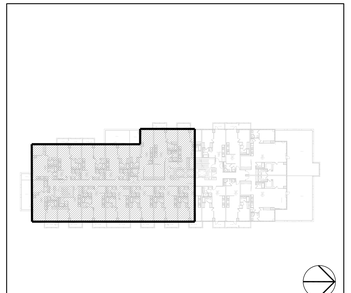
REFER TO DWG. M-X FOR ACOUSTIC NOTES

CLEAR FLOOR TO UNDERSLAB = 2750mm
CLEAR PRODUCT = 2700mm
UNITS 605/608: DRAINS FROM TERRACE ON 7/F

NOTES:

1. SOUTH F/A SHAFT A FROM G/F TO 8/F DUCT SERVING CORRIDOR FROM G/F TO 8/F. SEE VENTILATION RISER DIAGRAM FOR DETAILS.
2. SOUTH F/A SHAFT B FROM G/F TO 14/F. F/A DUCT SERVING CORRIDOR FROM 9/F TO 14/F. SEE VENTILATION RISER DIAGRAM FOR DETAILS.
3. PIPE SHAFT - REFER TO PIPE RISER DETAIL ON THIS DRAWING FOR DETAILS.
4. 150ø KITCHEN / DRYER / W/R / FCU INTAKE / FCU EXHAUST DUCT. (TYPICAL UNLESS OTHERWISE NOTED)





KEY PLAN N.T.S.

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
TV	TURNING VANES
	FLEXIBLE CONNECTION
	ACOUSTIC INSULATION
XXX	TYPE OF EQUIPMENT EQUIPMENT IDENTIFICATION
XX-X XXX	TYPE OF DIFFUSER OR GRILLE GRILLE SIZE OR DIFFUSER NECK SIZE AIRFLOW (CFM OR L/S)
XX XX	STARTER (3 PHASE / PHASE)
S	IN-SUITE ERV MASTER SWITCH
S	FAN SWITCH / IN-SUITE ERV OVERRIDE BUTTON
CO	CO SENSOR
G	GAS LINE
G	GAS METER
G	GAS COCK
PR	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
NFHB	NON-FREEZE HOSE BIBB
	GLOBE VALVE
	GATE VALVE
	BALL VALVE
	BUTTERFLY VALVE
	PRESSURE REDUCING VALVE
	CHECK VALVE
	CAP
CA	COMPRESSED AIR OUTLET
N2	BACKFLOW PREVENTER
	CIRCUIT BALANCING VALVE
	MULTIPLE PIPES / / - DENOTES NO. OF PIPES
T	TEMPERATURE SENSOR
T	THERMOMETER
	2-WAY MODULATING VALVE
	3-WAY MODULATING VALVE
	12"x4'(2) THERMOWELL C/W 1/2" BUSHING X 1/2" PLUG
XXX	FLOOR ELEVATION ABOVE LEVEL
XXX	FLOOR ELEVATION THIS LEVEL
XXX	HEADROOM (FLOOR TO U/S HEIGHT)

PROJECT #	ISSUED FOR ---	E.P.
DATE	NO. DESCRIPTION	BY

MARK VOID ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

REVISIONS

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NOVA TREND DEVELOPMENT ENGINEERING LTD.
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Richmond Hill, Ontario L4B 3M1
Tel: 905 882-9445
Fax: 905 882-9447
Email: cad@novatrendeng.com

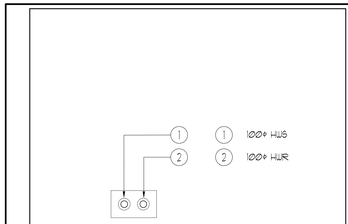
DRAWING TITLE
6/F SOUTH
MECHANICAL LAYOUT

PROJECT TITLE
ALEXANDRA PARK
XXX
TORONTO ONTARIO

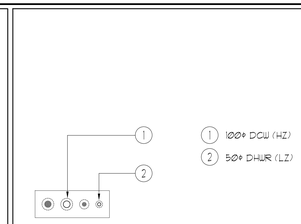
DRAWN BY	CHECKED BY	SCALE
G.S.	E.P.	1:50

DATE	PROJECT NUMBER	DRAWING NUMBER
FEB. 13	1313	M-20 OF 39

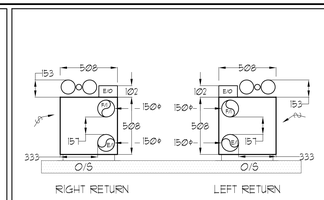
Drawing name: \\CADSERVER\Current Dwgs\1313\1313M - 2021 6/F PLAN - SOUTH & NORTH MECHANICAL LAYOUT.dwg Plotted: May 23, 2014 - 4:23pm



NORTH PIPE SHAFT A: 2/F -T/F | NTS



NORTH PIPE SHAFT B: 2/F -T/F | NTS



NOTE:
- ALL DIMENSIONS IN MM.
- HEIGHT OF FCU IS 2023.

INSUITE FCU DIMENSIONS | NTS

UNIT	NAME	AREA (SQ. FT.)	# OF WR	# OF POWDER	SIZE (T)	FIXTURE UNITS	BR	SQ. FT/T

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
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VERTICAL FAN COIL SIZE

DESIGNATION	MODEL	W x D
FCU-1T	450	508x660
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FCU-2T	800	508x660
FCU-2ST	1000	559x660
FCU-3T	1200	559x660

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

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
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REFER TO DWG. M-X FOR ACOUSTIC NOTES

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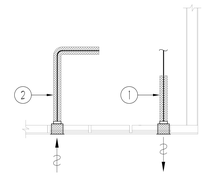
CLEAR PRODUCT = 2700mm
UNITS 605/608: DRAINS FROM TERRACE ON 7/F



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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/EXHAUT DUCTWORK | 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
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BD	BALANCING DAMPER
MD	MOTORIZED DAMPER
MFD	MOTORIZED FIRE DAMPER
BDD	BACKDRAFT DAMPER
OBD	OPPOSED BLADE VOLUME CONTROL DAMPER C/U LOCKING QUADRANT
	TURNING VANES
	FLEXIBLE CONNECTION
	ACOUSTIC INSULATION
XX/XX	TYPE OF EQUIPMENT - EQUIPMENT IDENTIFICATION
XX/XX	TYPE OF DIFFUSER OR GRILLE - GRILLE SIZE OR DIFFUSER NECK SIZE - AIRFLOW CFM OR L/S
XX	STARTER (3 PHASE ; PHASE)
S	IN-SUITE ERV MASTER SWITCH
S	FAN SWITCH / IN-SUITE ERV OVERRIDE BUTTON
CO	CO SENSOR
G	GAS LINE
G	GAS METER
G	GAS COCK
PR	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
V	SANITARY VENT
W	WATER METER
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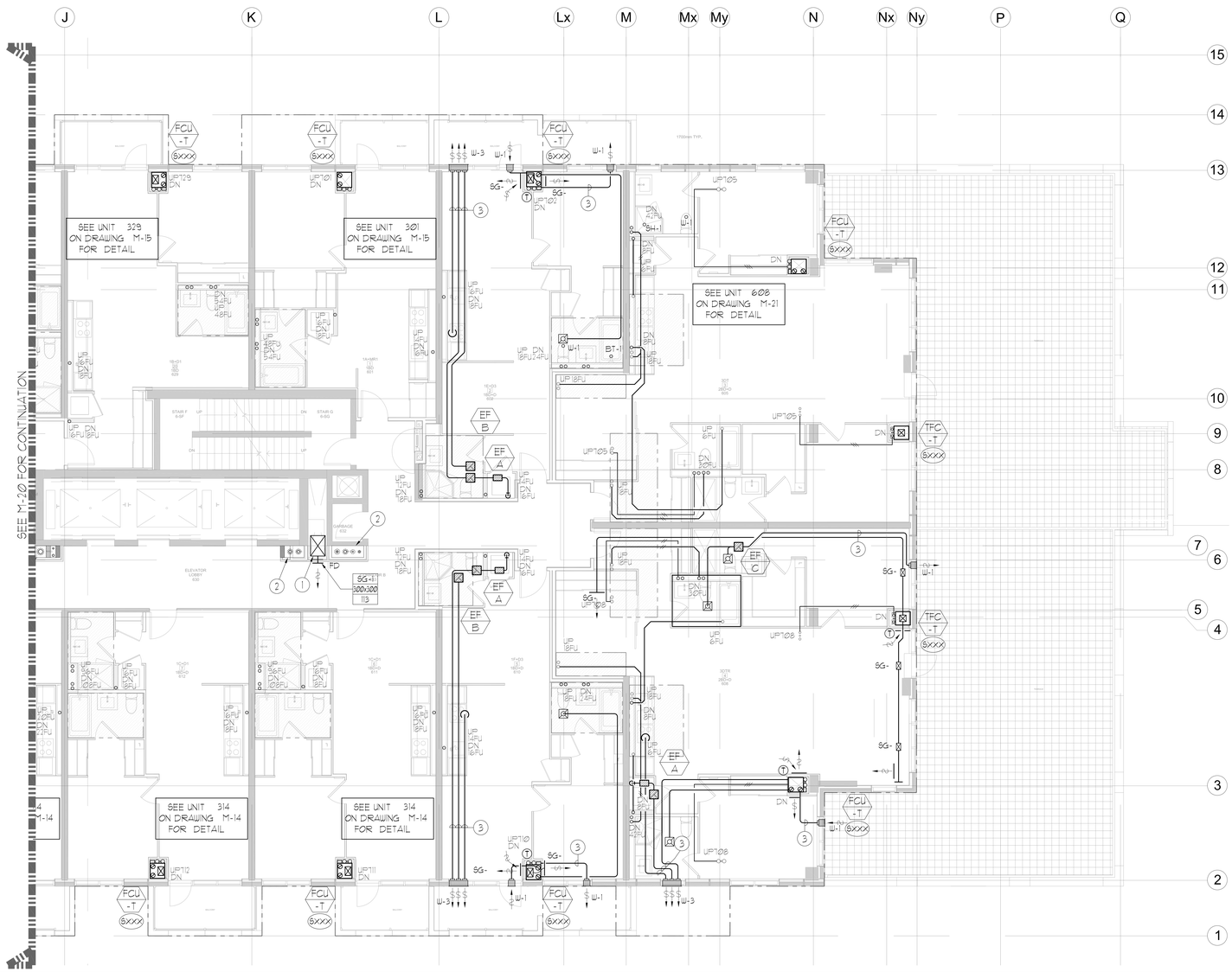
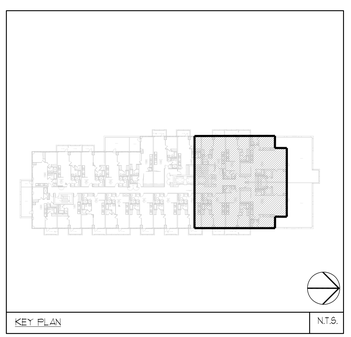
BLAD	BI-LEVEL AREA DRAIN
CB	CATCH BASIN
	SANITARY TRAP
	ELBOW UP
	ELBOW DOWN
CO	WALL CLEANOUT
CO	FLOOR CLEANOUT
HB	HOSE BIBB
NHB	NON-FREEZE HOSE BIBB
	GLOBE VALVE
	GATE VALVE
	BALL VALVE
	BUTTERFLY VALVE
	PRESSURE REDUCING VALVE
	CHECK VALVE
	CAP
CA	COMPRESSED AIR OUTLET
N	BACKFLOW PREVENTER
	CIRCUIT BALANCING VALVE
	MULTIPLE PIPES / / - DENOTES NO. OF PIPES
T	TEMPERATURE SENSOR
T	THERMOMETER
	2-WAY MODULATING VALVE
	3-WAY MODULATING VALVE
T	10"x4"(2) THERMOWELL C/U 1/2" BUSHING + 1/2" PLUG
XXX	FLOOR ELEVATION ABOVE LEVEL
XXX	FLOOR ELEVATION THIS LEVEL
XXX	HEADROOM (FLOOR TO U/S HEIGHT)





KEY PLAN | N.T.S.

NOVA TREND ENGINEERING
179 West Beaver Creek Road, Unit 31
Richmond Hill, Ontario L4B 3M1
Tel: 905 882-8445
Fax: 905 882-9447
Email: cad@novatrendeng.com

PROD/YY		ISSUED FOR :-	E.P.
DATE	NO.	DESCRIPTION	BY

MARK VOID ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

REVISIONS

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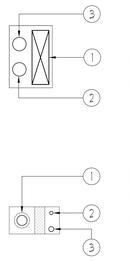
DRAWINGS ARE NOT TO BE SCALED

DRAWING TITLE
6/F NORTH
MECHANICAL LAYOUT

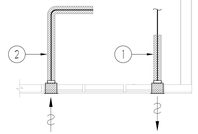
PROJECT TITLE
ALEXANDRA PARK
XXX
TORONTO ONTARIO

DRAWN BY:	CHECKED BY:	SCALE:
G.S.	E.P.	1:50
DATE: FEB. 13	PROJECT NUMBER: 1313	DRAWING NUMBER: M-21 OF 35

Drawing name: \\CADSERVER\Current Dwgs\1313 - Alexandra Park\DWG\1313M - 20.2/6F PLAN - SOUTHS NORTH MECHANICAL LAYOUT.dwg Plotted: May 23, 2014 - 4:22pm



SOUTH PIPE SHAFT, 2/F -T/F. NTS



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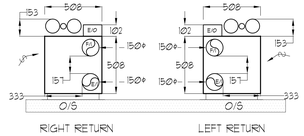
2. F/A INTAKE DUCTWORK TO BE C/W 25mm THICK THERMAL INSULATION FOR ENTIRE LENGTH FROM EXTERIOR WALL TO ERV FCU. (TYPICAL)

TYPICAL DETAIL:INSULATION FOR INTAKE/EXHAUST DUCTWORK NTS



NOTE:
- ALL DIMENSIONS IN MM.
- HEIGHT OF FCU IS 2,073.

INSUITE FCU DIMENSIONS NTS

UNIT	NAME	AREA (SQ. FT.)	# OF WR	# OF POWDER	SIZE (T)	FIXTURE UNITS	BR	SQ. FT/T

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	553x660
FCU-3T	1200	553x660

NOTE:
A MIN. OF 175mm IS REQUIRED ON THE SIDE OF PIPE RISER.

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			

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.)

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.

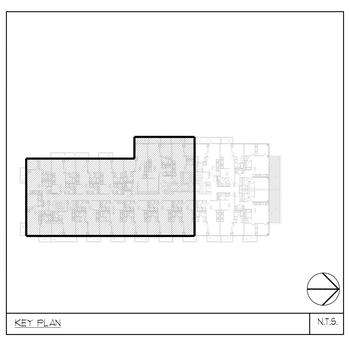
13) DRYER EXHAUST DUCT SHALL BE SMOOTH AND CORROSION-RESISTANT MATERIAL (FLEXIBLE CONNECTION IS NOT ACCEPTABLE).

REFER TO DWG. M-X FOR ACOUSTIC NOTES

CLEAR FLOOR TO UNDERSLAB = 2750mm
CLEAR PRODUCT= 2700mm

NOTES:

1. SOUTH F/A SHAFT A FROM G/F TO 8/F DUCT SERVING CORRIDOR FROM G/F TO 8/F. SEE VENTILATION RISER DIAGRAM FOR DETAILS.
2. SOUTH F/A SHAFT B FROM G/F TO 14/F. F/A DUCT SERVING CORRIDOR FROM 9/F TO 14/F. SEE VENTILATION RISER DIAGRAM FOR DETAILS.
3. PIPE SHAFT - REFER TO PIPE RISER DETAIL ON THIS DRAWING FOR DETAILS.
4. 150ø KITCHEN / DRYER / W/R / FCU INTAKE / FCU EXHAUST DUCT. (TYPICAL UNLESS OTHERWISE NOTED)



KEY PLAN N.T.S.

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
XX	TYPE OF EQUIPMENT - EQUIPMENT IDENTIFICATION
XX/XX XXX/XX	TYPE OF DIFFUSER OR GRILLE - GRILLE SIZE OR DIFFUSER NECK SIZE - AIRFLOW CFM OR L/S
XX XX	STARTER / 3 PHASE / PHASE /
S	IN-SUITE ERV MASTER SWITCH
S	FAN SWITCH / IN-SUITE ERV OVERRIDE BUTTON
CO	CO SENSOR
G	GAS LINE
G	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
SLD	SLAB 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
NFHB	NON-FREEZE HOSE BIBB
	GLOBE VALVE
	GATE VALVE
	BALL VALVE
	BUTTERFLY VALVE
	PRESSURE REDUCING VALVE
	CHECK VALVE
	CAP
CA	COMPRESSED AIR OUTLET
N	BACKFLOW PREVENTER
	CIRCUIT BALANCING VALVE
	MULTIPLE PIPES / - DENOTES NO. OF PIPES
T	TEMPERATURE SENSOR
T	THERMOMETER
	2-WAY MODULATING VALVE
	3-WAY MODULATING VALVE
	12"x4"(D) THERMOWELL C/W 1/2" BUSHING x 1/2" PLUG
XXX	FLOOR ELEVATION ABOVE LEVEL
XXX	FLOOR ELEVATION THIS LEVEL
XXX	HEADROOM (FLOOR TO U/S HEIGHT)

REVISION DATE	NO.	ISSUED FOR / DESCRIPTION	BY

MARK VOID ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

REVISIONS

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DRAWINGS ARE NOT TO BE SCALED

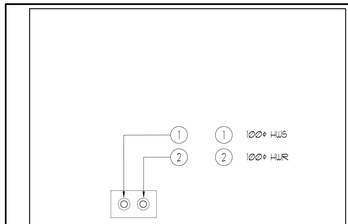
NOVA TREND ENGINEERING GROUP LTD.
178 West Beaver Creek Road, Unit 31
Richmond Hill, Ontario L4B 3M1
Tel: 905 882-5445
Fax: 905 882-5447
Email: cad@novatrendeng.com

DRAWING TITLE:
7/F SOUTH
MECHANICAL LAYOUT

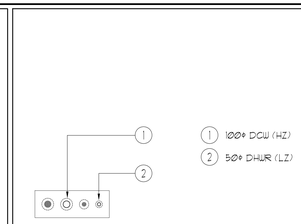
PROJECT TITLE:
ALEXANDRA PARK
XXX
TORONTO ONTARIO

DRAWN BY:	CHECKED BY:	SCALE:
G.S.	E.P.	1:50
DATE: FEB. 13	PROJECT NUMBER: 1313	DRAWING NUMBER: M-22 OF 35

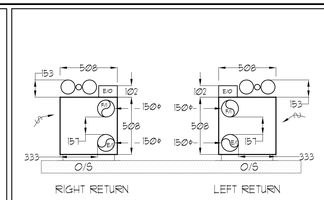
Drawing name: \\CADSERVER\Current Dwg\1313 - Alexandra Park\DWG\7\1313M - 22.DWG\7F PLAN - SOUTH & NORTH MECHANICAL LAYOUT.dwg Plotted: May 23, 2014 - 4:23pm



NORTH PIPE SHAFT A: 2/F -T/F | NTS



NORTH PIPE SHAFT B: 2/F -T/F | NTS



NOTE:
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- HEIGHT OF FCU IS 2,023.

INSUITE FCU DIMENSIONS | NTS

UNIT	NAME	AREA (SQ. FT.)	# OF WR	# OF POWDER	SIZE (T)	FIXTURE UNITS	BR	SQ. FT/T

GRILLE SIZING TABLE

DESIGNATION	SIZE	L/S (UNLESS SPECIFIED ELSEWHERE)
SG-A	300x100	47-70
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NOTE:
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DUCT SIZING TABLE
(4.06 m/s, 800 FPM)

DESIGNATION	L/s	DUCT SIZE	DESIGNATION	L/s	DUCT SIZE
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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).

REFER TO DWG. M-X FOR ACOUSTIC NOTES

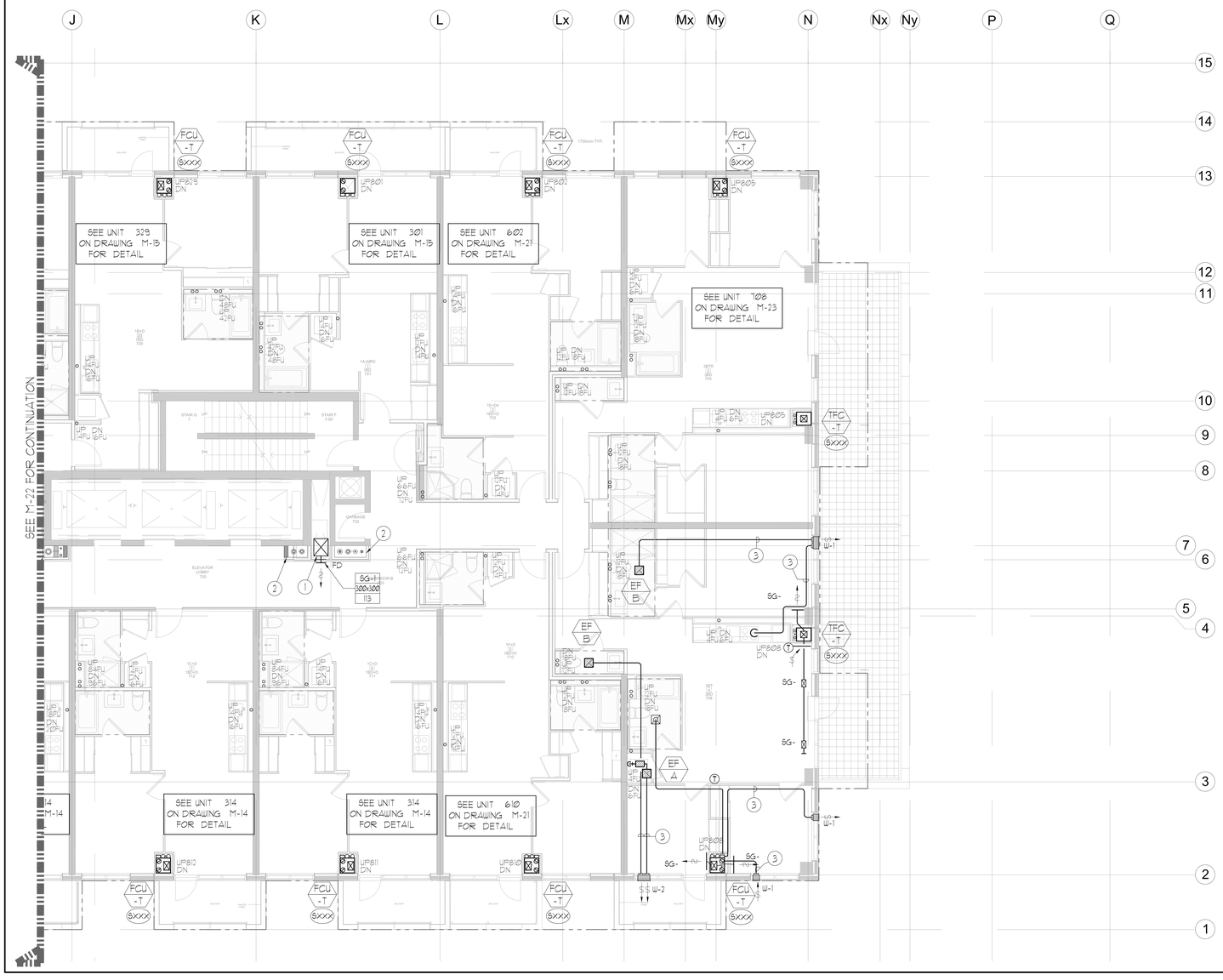
CLEAR FLOOR TO UNDERSLAB = 2750mm
CLEAR PRODUCT= 2700mm

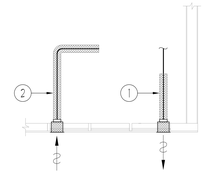
NOTES:

1) NORTH F/A SHAFT SERVING FROM G/F TO 14/F. F/A DUCT SERVING CORRIDOR FROM G/F TO 14/F. SEE VENTILATION RISER DIAGRAM FOR DETAILS.

2) PIPE SHAFT - REFER TO PIPE RISER DETAIL ON THIS DRAWING FOR DETAILS.

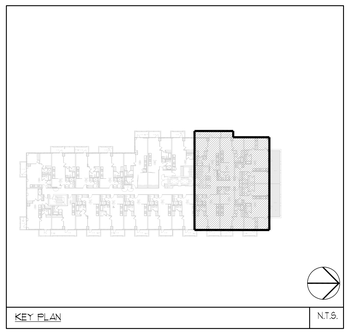
3) 150Ø KITCHEN / DRYER / W/R / FCU INTAKE / FCU EXHAUST DUCT. (TYPICAL UNLESS OTHERWISE NOTED)





1. EXHAUST DUCTWORK TO BE C/W 25mm THICK THERMAL INSULATION 6FT. FROM EXTERNAL 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/EXHAUT DUCTWORK | NTS



KEY PLAN | N.T.S.

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
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FD	FIRE DAMPER
BD	BALANCING DAMPER
MD	MOTORIZED DAMPER
MFD	MOTORIZED FIRE DAMPER
BDD	BACKDRAFT DAMPER
OBD	OPPOSED BLADE VOLUME CONTROL DAMPER C/U LOCKING QUADRANT
	TURNING VANES
	FLEXIBLE CONNECTION
	ACOUSTIC INSULATION
XX	TYPE OF EQUIPMENT
V	EQUIPMENT IDENTIFICATION
XX/X	TYPE OF DIFFUSER OR GRILLE
XXX	GRILLE SIZE OR DIFFUSER NECK SIZE
XXX	AIRFLOW CFM OR L/S
XX, V	STARTER (3 PHASE , 1 PHASE)
S	IN-SUITE ERV MASTER SWITCH
S	FAN SWITCH / IN-SUITE ERV OVERRIDE BUTTON
CO	CO SENSOR
G	GAS LINE
G	GAS METER
G	GAS COCK
PR	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
V	SANITARY VENT
M	WATER METER
FD	FLOOR DRAIN
FFD	FUNNEL FLOOR DRAIN
HD	HUB DRAIN
RD	ROOF DRAIN
BLD	BLAIB DRAIN
AD	AREA DRAIN
BLAD	BI-LEVEL AREA DRAIN
CB	CATCH BASIN
	SANITARY TRAP
	ELBOW UP
	ELBOW DOWN
CO	WALL CLEANOUT
CO	FLOOR CLEANOUT
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	GLOBE VALVE
	GATE VALVE
	BALL VALVE
	BUTTERFLY VALVE
	PRESSURE REDUCING VALVE
	CHECK VALVE
	CAP
	COMPRESSED AIR OUTLET
N	BACKFLOW PREVENTER
	CIRCUIT BALANCING VALVE
	MULTIPLE PIPES / / - DENOTES NO. OF PIPES
T	TEMPERATURE SENSOR
T	THERMOMETER
	2-WAY MODULATING VALVE
	3-WAY MODULATING VALVE
	12"x4"(2) THERMOWELL C/U 1/2" BUSHING + 1/2" PLUG
XXX	FLOOR ELEVATION ABOVE LEVEL
XXX	FLOOR ELEVATION THIS LEVEL
XXX	HEADROOM (FLOOR TO U/S HEIGHT)

PROJ/CT	NO.	ISSUED FOR ---	BY
DATE	NO.	DESCRIPTION	BY

MARK VOID ALL PRINTS DATED PREVIOUS TO THIS DATE ABOVE

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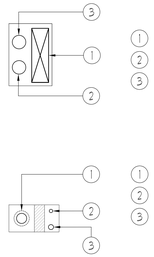
179 West Beaver Creek Road, Unit 31
Richmond Hill, Ontario L4B 3M1
Tel: 905 882-5449
Fax: 905 882-5447
Email: cad@novatrendeng.com

DRAWING TITLE
7/F NORTH
MECHANICAL LAYOUT

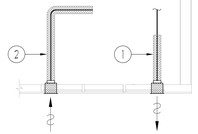
PROJECT TITLE
ALEXANDRA PARK
XXX
TORONTO ONTARIO

DRAWN BY:	CHECKED BY:	SCALE:
G.S.	E.P.	1:50
DATE: FEB. 13	PROJECT NUMBER: 1313	DRAWING NUMBER: M-23 OF 35

Drawing name: \\CADSERVER\Current Dwg\1313\1313 - Alexandra Park\DWG\1313M- 22.DWG PLAN - SOUTH & NORTH MECHANICAL LAYOUT.dwg Printed May 23, 2014 - 4:23pm

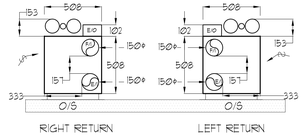


SOUTH PIPE SHAFT: B/F — NTS



1. EXHAUST DUCTWORK TO BE C/W 25mm THICK THERMAL INSULATION 6FT. FROM EXTERNAL 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



NOTE:
- ALL DIMENSIONS IN MM.
- HEIGHT OF FCU IS 2,Ø23.

INSUITE FCU DIMENSIONS — NTS

UNIT	NAME	AREA (SQ. FT.)	# OF WR	# OF POWDER	SIZE (T)	FIXTURE UNITS	BR	SQ. FT/T

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VERTICAL FAN COIL SIZE

DESIGNATION	MODEL	W x D
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NOTE:
A MIN. OF 125mm IS REQUIRED ON THE SIDE OF PIPE RISER.

DUCT SIZING TABLE
(4.06 m/s, 800 FPM)

DESIGNATION	L/s	DUCT SIZE	DESIGNATION	L/s	DUCT SIZE
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C	94	200x150	J	283	500x150
D	118	200x150	K	330	600x150
E	141	250x150	L	377	500x200
F	165	300x150			

ACOUSTIC NOTES:

FOR FLOORS WITH ERVS:

XX) ERVS SHALL BE ISOLATED USING ISOLATORS INCORPORATING BOTH A SPRING ELEMENT AND A SECONDARY NEOPRENE-IN-SHEAR ELEMENT IN SERIES. DUCTWORK SHALL BE DE-COUPLED FROM FAN BY FLEXIBLE CONNECTORS. ASSOCIATED DUCTWORK SHALL BE SUSPENDED ON HANGERS WITH NEOPRENE PADS.

FOR TRANSITION FLOORS:

XX) ALL HORIZONTAL SUPPLY AIR DUCTWORK SHALL BE C/W 25MM INTERNAL ACOUSTIC LINING AND SHALL BE SUSPENDED ON RUBBER PADS IN THE HANGERS. ELBOWS SHALL BE COMPLETE WITH TURNING VANES.

XX) ALL SYSTEM/DOMESTIC PIPE LOOPS OR OFFSETS WHICH ARE LARGER THAN 75 MM SHALL BE ISOLATED USING NEOPRENE-IN-SHEAR HANGERS, AND ADDITIONAL 25 MM THICK RIBBED OR WAFFLED NEOPRENE PADS IN THE SADDLES OF CLEVIS HANGERS.

12) ALL PIPES 50MM DIA. AND SMALLER SHALL BE ISOLATED WITH NEOPRENE PADS.

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UNITS 816/817/819/821/823/824: DRAINS FROM AMENITY TERRACE ON 9/F

NOTES:

1. SOUTH F/A SHAFT A FROM G/F TO B/F DUCT SERVING CORRIDOR FROM G/F TO B/F. SEE VENTILATION RISER DIAGRAM FOR DETAILS.
2. SOUTH F/A SHAFT B FROM G/F TO 14/F. F/A DUCT SERVING CORRIDOR FROM 9/F TO 14/F. SEE VENTILATION RISER DIAGRAM FOR DETAILS.
3. PIPE SHAFT - REFER TO PIPE RISER DETAIL ON THIS DRAWING FOR DETAILS.
4. 150ø KITCHEN / DRYER / W/R / FCU INTAKE / FCU EXHAUST DUCT. (TYPICAL UNLESS OTHERWISE NOTED)

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/U LOCKING QUADRANT
	TURNING VANES
	FLEXIBLE CONNECTION
	ACOUSTIC INSULATION
XX	TYPE OF EQUIPMENT - EQUIPMENT IDENTIFICATION
XX/XX	TYPE OF DIFFUSER ON GRILLE
XXX	GRILLE SIZE OR DIFFUSER NECK SIZE
XXX	AIRFLOW (CFM OR L/S)
SD, SI	STARTER (3 PHASE , 1 PHASE)
S	IN-SUITE ERV MASTER SWITCH
S	FAN SWITCH / IN-SUITE ERV OVERRIDE BUTTON
CO	CO SENSOR
G	GAS LINE
G	GAS METER
G	GAS COCK
PR	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
W	WATER METER
FD	FLOOR DRAIN
FFD	FUNNEL FLOOR DRAIN
HD	HUB DRAIN
RD	ROOF DRAIN
BLD	BALAB 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
NFHB	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	THERMOSTER
	2-WAY MODULATING VALVE
	3-WAY MODULATING VALVE
	1/2"x1/2" THERMOWELL C/U 1/2" BUSHING x 1/2" PLUG
XXX	FLOOR ELEVATION ABOVE LEVEL
XXX	FLOOR ELEVATION TWO LEVEL
XXX	HEADROOM (FLOOR TO U/S HEIGHT)

PROJECT #	ISSUED FOR: —	E.P.
DATE	NO. DESCRIPTION	BY

PLAN: VOID ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

REVISIONS

CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS ON THE JOB AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. THIS DRAWING IS THE PROPERTY OF THE ENGINEER AND MUST BE RETURNED UPON COMPLETION OF THE WORK.

DRAWINGS ARE NOT TO BE SCALED

NOVA TREND DEVELOPMENT CORPORATION
179 West Beaver Creek Road, Unit 31
Richmond Hill, Ontario L4B 3M1
Tel: 905 882-9445
Fax: 905 882-9447
Email: cad@novatrendeng.com

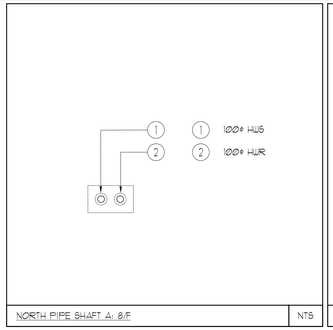
DRAWING TITLE
B/F SOUTH
MECHANICAL LAYOUT

PROJECT TITLE
ALEXANDRA PARK
XXX
TORONTO ONTARIO

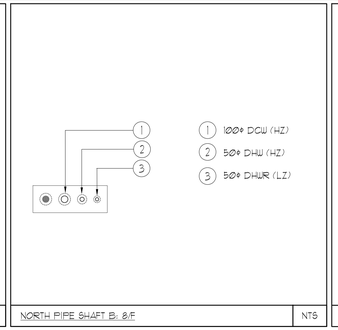
DRAWN BY	CHECKED BY	SCALE
G.S.	E.P.	1:50
DATE	PROJECT NUMBER	DRAWING NUMBER
FEB. 13	1313	M-24 OF 39

KEY PLAN — N.T.S.

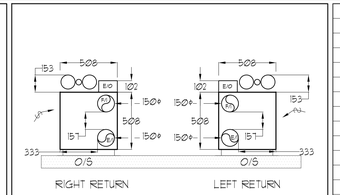
Drawing name: \\CADSERVER\Current Dwgs\1313\1313 - Alexandra Park\DWG\1313M - 24.25MF PLAN - SOUTH & NORTH MECHANICAL LAYOUT.dwg Plotted: May 23, 2014 - 4:23pm



NORTH PIPE SHAFT A: B/F — NTS



NORTH PIPE SHAFT B: B/F — NTS



NOTE:
- ALL DIMENSIONS IN MM.
- HEIGHT OF FCU IS 2,023.

INSUITE FCU DIMENSIONS — NTS

UNIT	NAME	AREA (SQ. FT.)	# OF WR	# OF POWDER	SIZE (T)	FIXTURE UNITS	BR	SQ. FT/T

GRILLE SIZING TABLE

DESIGNATION	SIZE	L/S (UNLESS SPECIFIED OTHERWISE)
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.

DUCT SIZING TABLE
(4.06 m/s, 800 FPM)

DESIGNATION	L/s	DUCT SIZE	DESIGNATION	L/s	DUCT SIZE
A	47	100x150	G	188	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			

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).

ACOUSTIC NOTES:

FOR FLOORS WITH ERVS:

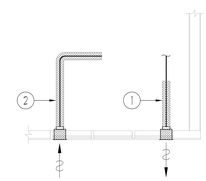
XX) ERVS SHALL BE ISOLATED USING ISOLATORS INCORPORATING BOTH A SPRING ELEMENT AND A SECONDARY NEOPRENE-IN-SHEAR ELEMENT IN SERIES. DUCTWORK SHALL BE DE-COUPLED FROM FAN BY FLEXIBLE CONNECTORS. ASSOCIATED DUCTWORK SHALL BE SUSPENDED ON HANGERS WITH NEOPRENE PADS.

FOR TRANSITION FLOORS:

XX) ALL HORIZONTAL SUPPLY AIR DUCTWORK SHALL BE C/W 25MM INTERNAL ACOUSTIC LINING AND SHALL BE SUSPENDED ON RUBBER PADS IN THE HANGERS. ELBOWS SHALL BE COMPLETE WITH TURNING VANES.

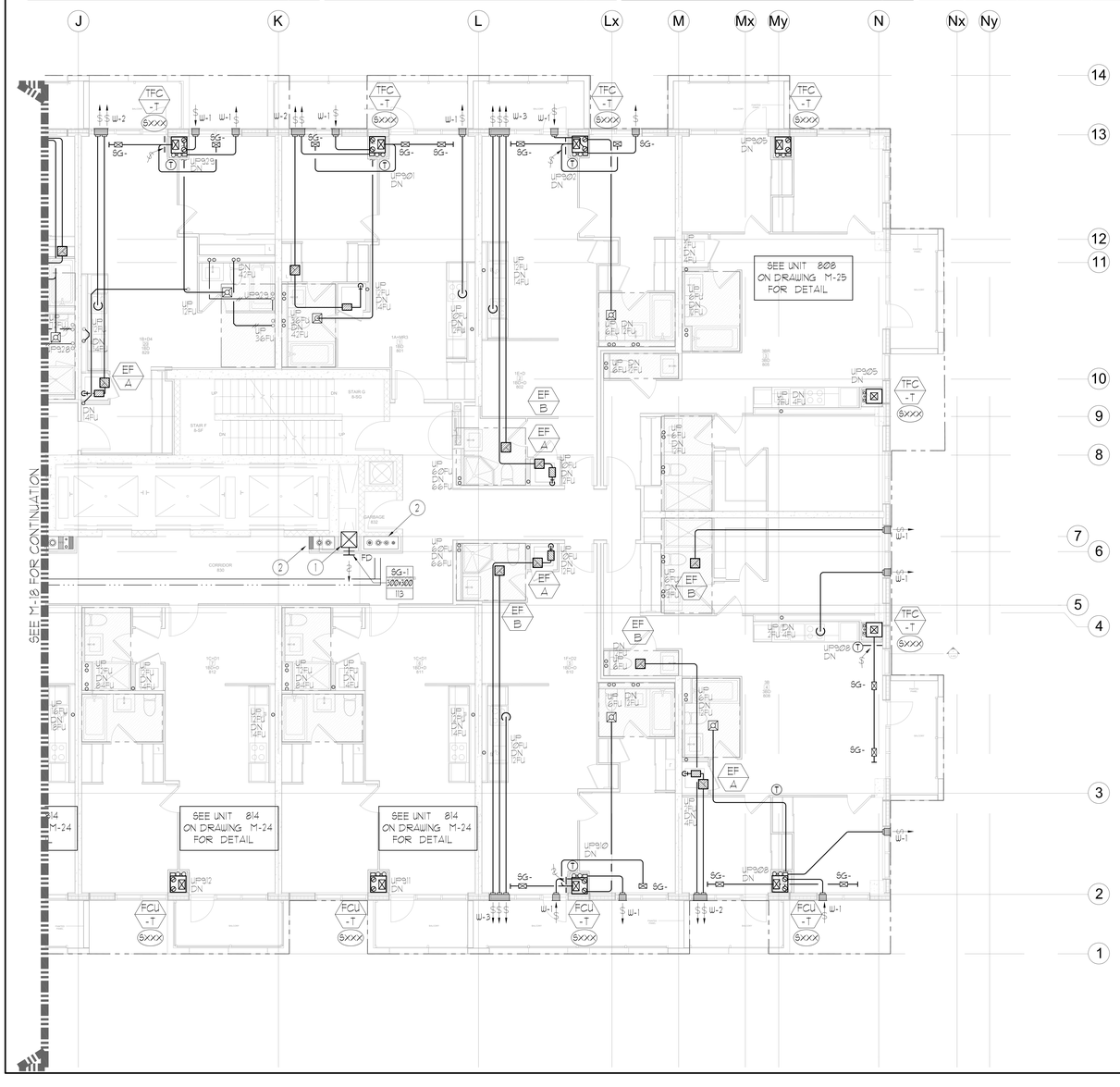
XX) ALL SYSTEM/DOMESTIC PIPE LOOPS OR OFFSETS WHICH ARE LARGER THAN 75 MM SHALL BE ISOLATED USING NEOPRENE-IN-SHEAR HANGERS, AND ADDITIONAL 25 MM THICK RIBBED OR WAFFLED NEOPRENE PADS IN THE SADDLES OF CLEVIS HANGERS.

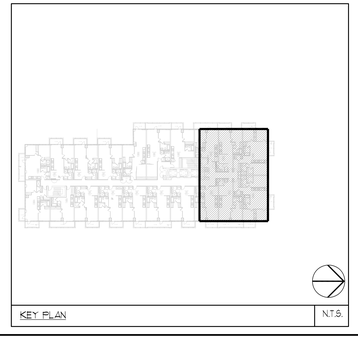
12) ALL PIPES 50MM DIA. AND SMALLER SHALL BE ISOLATED WITH NEOPRENE PADS.



1. EXHAUST DUCTWORK TO BE C/W 25mm THICK THERMAL INSULATION 6FT. FROM EXTERNAL 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.

CLEAR FLOOR TO UNDERSLAB = 3050mm
CLEAR PRODUCT= 2700mm
COMPLETE DROP CEILING = 350mm
UNITS 816/817/818/821/823/824: DRAINS FROM AMENITY TERRACE ON 9/F

NOTES:

1. NORTH F/A SHAFT SERVING FROM G/F TO 14/F. F/A DUCT SERVING CORRIDOR FROM G/F TO 14/F. SEE VENTILATION RISER DIAGRAM FOR DETAILS.
2. PIPE SHAFT - REFER TO PIPE RISER DETAIL ON THIS DRAWING FOR DETAILS.
3. 150Ø KITCHEN / DRYER / W/R / FCU INTAKE / FCU EXHAUST DUCT. (TYPICAL UNLESS OTHERWISE NOTED)

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/U LOCKING QUADRANT
	TURNING VANES
	FLEXIBLE CONNECTION
	ACOUSTIC INSULATION
XX	TYPE OF EQUIPMENT - EQUIPMENT IDENTIFICATION
XX/XX	TYPE OF DIFFUSER OR GRILLE
XXX/XXX	GRILLE SIZE OR DIFFUSER NECK SIZE
XXX/XXX	AIRFLOW CFM OR L/S
SD, XX	STARTER (3 PHASE) (PHASE)
S	N-SUITE ERV MASTER SWITCH
S	FAN SWITCH / N-SUITE ERV OVERRIDE BUTTON
CO	CO SENSOR
G	GAS LINE
G	GAS METER
G	GAS COCK
PR	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
NFHB	NON-FREEZE HOSE BIBB
	GLOBE VALVE
	GATE VALVE
	BALL VALVE
	BUTTERFLY VALVE
	PRESSURE REDUCING VALVE
	CHECK VALVE
	CAP
	COMPRESSED AIR OUTLET
N	BACKFLOW PREVENTER
	CIRCUIT BALANCING VALVE
	MULTIPLE PIPES / / - DENOTES NO. OF PIPES
T	TEMPERATURE SENSOR
T	THERMOMETER
	2-WAY MODULATING VALVE
	3-WAY MODULATING VALVE
	10"x4"(2) THERMOWELL C/W 1/2" BUSHING + 1/2" PLUG
XXX	FLOOR ELEVATION ABOVE LEVEL
XXX	FLOOR ELEVATION THIS LEVEL
XXX	HEADROOM (FLOOR TO U/S HEIGHT)

PROJECT#		ISSUED FOR: —	E.P.
DATE	NO.	DESCRIPTION:	BY:

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 ENGINEERING GROUP LTD.
179 West Beaver Creek Road, Unit 31
Richmond Hill, Ontario L4B 3M1
Tel: 905 882-9445
Fax: 905 882-9447
Email: cad@novatrendeng.com

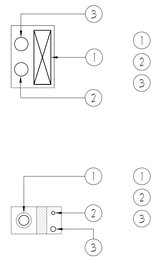
DRAWING TITLE
B/F NORTH
MECHANICAL LAYOUT

PROJECT TITLE
ALEXANDRA PARK

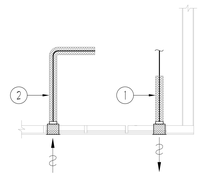
XXX
TORONTO ONTARIO

DRAWN BY:	CHECKED BY:	SCALE:
G.S.	E.P.	1:50
DATE: FEB. 13	PROJECT NUMBER: 1313	DRAWING NUMBER: M-25 OF 35

Drawing name: \\CADSERVER\Current Dwgs\1313 - Alexandra Park\DWG\1313M- 24,25&R PLAN - SOUTH & NORTH MECHANICAL LAYOUT.dwg Plotted: May 23, 2014 - 4:23pm

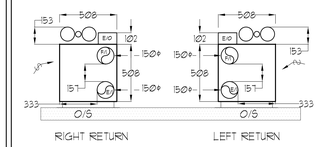


SOUTH PIPE SHAFT: 9/F -13/F — NTS



1. EXHAUST DUCTWORK TO BE C/W 25mm THICK THERMAL INSULATION 6FT. FROM EXTERNAL 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



NOTE:
- ALL DIMENSIONS IN MM.
- HEIGHT OF FCU IS 2,Ø23.

INSUITE FCU DIMENSIONS — NTS

UNIT	NAME	AREA (SQ. FT.)	# OF WR	# OF POWDER	SIZE (T)	FIXTURE UNITS	BR	SQ. FT/T

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
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VERTICAL FAN COIL SIZE

DESIGNATION	MODEL	W x D
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FCU-2.5T	1000	559x660
FCU-3T	1200	559x660

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

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			

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.
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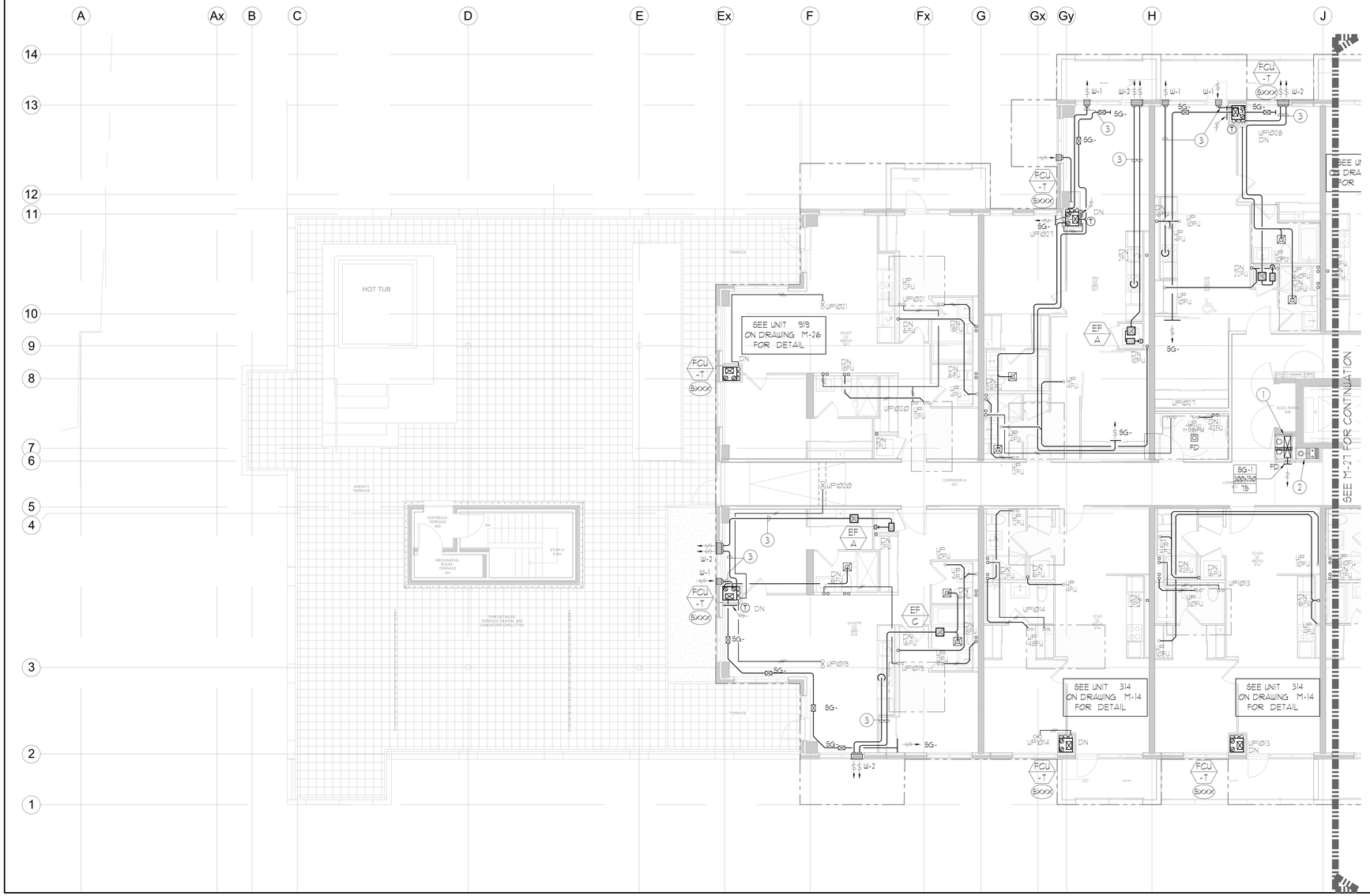
10) THE FIRE HOSE CABINET THAT ARE RECESSED INTO THE EXIT STAIR SHAFTS ARE REQUIRED TO BE SEPARATED FROM THE EXIT STAIR BY A 2 HR. FIRE SEPARATION.
11) NO FLEXIBLE DUCT SHALL BE USED FOR ANY IN-SUITE DUCTWORK.
12) PROVIDE 25MM EXTERNAL INSULATION TO ENTIRE FRESH AIR DUCT FROM EXTERIOR WALL TO ERV FAN COIL UNIT.
13) DRYER EXHAUST DUCT SHALL BE SMOOTH AND CORROSION-RESISTANT MATERIAL (FLEXIBLE CONNECTION IS NOT ACCEPTABLE).

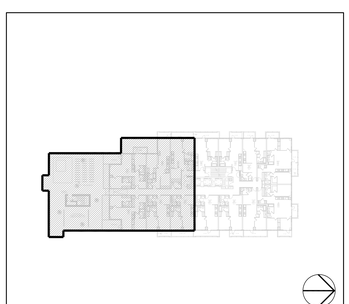
REFER TO DWG. M-X FOR ACOUSTIC NOTES

CLEAR FLOOR TO UNDERSLAB = 2850mm
ALL UNITS CLEAR PRODUCT = 2800mm
EXCEPT UNITS: 905/908 CLEAR PRODUCT = 2700m
UNITS 905/908/919/921: DRAINS FROM TERRACE ON 10/F

NOTES:

1. SOUTH F/A SHAFT B FROM G/F TO 14/F DUCT SERVING CORRIDOR FROM 9/F TO 14/F. SEE VENTILATION RISER DIAGRAM FOR DETAILS.
2. PIPE SHAFT - REFER TO PIPE DIAGRAM FOR DETAILS.
3. 150ø KITCHEN / DRYER / W/R / FCU INTAKE / FCU EXHAUST DUCT. (TYPICAL UNLESS OTHERWISE NOTED)





KEY PLAN — N.T.S.

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
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	EXHAUST DUCT UP
	EXHAUST DUCT DOWN
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BD	BALANCING DAMPER
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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 ON GRILLE — GRILLE SIZE OR DIFFUSER NECK SIZE — AIRFLOW CFM OR L/s
	STARTER / 3 PHASE / PHASE /
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S	FAN SWITCH / IN-SUITE ERV OVERRIDE BUTTON
CO	CO SENSOR
G	GAS LINE
G	GAS METER
	GAS COCK
PR	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
M	WATER METER
FD	FLOOR DRAIN
FFD	FUNNEL FLOOR DRAIN
HD	HUB DRAIN
RD	ROOF DRAIN
SLD	SLAB DRAIN
AD	AREA DRAIN
BLAD	BI-LEVEL AREA DRAIN
CB	CATCH BASIN
	SANITARY TRAP
	ELBOW UP
	ELBOW DOWN
CO	WALL CLEANOUT
CO	FLOOR CLEANOUT
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NFHB	NON-FREEZE HOSE BIBB
	GLOBE VALVE
	GATE VALVE
	BALL VALVE
	BUTTERFLY VALVE
PR	PRESSURE REDUCING VALVE
	CHECK VALVE
	CAP
CA	COMPRESSED AIR OUTLET
N	BACKFLOW PREVENTER
	CIRCUIT BALANCING VALVE
	MULTIPLE PIPES / - DENOTES NO. OF PIPES
T	TEMPERATURE SENSOR
T	THERMOMETER
2	2-WAY MODULATING VALVE
3	3-WAY MODULATING VALVE
TW	1/2"x4 1/2" THERMOWELL C/W 1/2" BUSHING x 1/2" PLUG
XXX	FLOOR ELEVATION ABOVE LEVEL
XXX	FLOOR ELEVATION TWO LEVEL
XXX	HEADROOM (FLOOR TO U/S HEIGHT)

DATE	NO.	DESCRIPTION	BY
19/03/17	1	ISSUED FOR ----	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

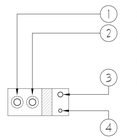
NOVA TREND ENGINEERING GROUP LTD.
179 West Beaver Creek Road, Unit 31
Richmond Hill, Ontario L4B 3M1
Tel: 905 882-9449
Fax: 905 882-9447
Email: cad@novatrendeng.com

DRAWING TITLE
9/F SOUTH
MECHANICAL LAYOUT

PROJECT TITLE
ALEXANDRA PARK
XXX
TORONTO ONTARIO

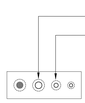
DRAWN BY:	CHECKED BY:	SCALE:
G.S.	E.P.	1:50
DATE: FEB. 13	PROJECT NUMBER: 1313	DRAWING NUMBER: M-26 OF 35

Drawing name: \\CADSERVER\Current Dwg\1313\1313 - Alexandra Park\2015\1313M- 26.2F (9F PLAN -SOUTH & NORTH MECHANICAL LAYOUT).dwg Plotted: May 25, 2014 - 4:23pm



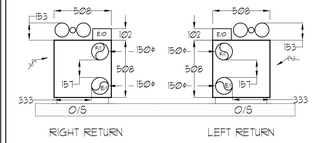
1. 100ø HWS
2. 100ø HWR
3. 75ø GAS (BLIB) FOR BUILDING
4. 50ø GAS VENT

NORTH PIPE SHAFT A: G/F -13/F — NTS



1. 63ø DCW (HZ)
2. 50ø DHW (HZ)

NORTH PIPE SHAFT B: G/F -13/F — NTS



NOTE:
- ALL DIMENSIONS IN MM.
- HEIGHT OF FCU IS 2023.

INSUITE FCU DIMENSIONS — NTS

UNIT	NAME	AREA (SQ. FT.)	# OF WR	# OF POWDER	SIZE (T)	FIXTURE UNITS	BR	SQ. FT/T

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.

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			

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.

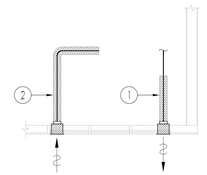
13) DRYER EXHAUST DUCT SHALL BE SMOOTH AND CORROSION-RESISTANT MATERIAL (FLEXIBLE CONNECTION IS NOT ACCEPTABLE).

REFER TO DWG. M-X FOR ACOUSTIC NOTES

CLEAR FLOOR TO UNDERSLAB = 2850mm
ALL UNITS CLEAR PRODUCT= 2800mm
EXCEPT UNITS: 905/908 CLEAR PRODUCT= 2700m
UNITS 905/908/919/921: DRAINS FROM TERRACE ON 10/F

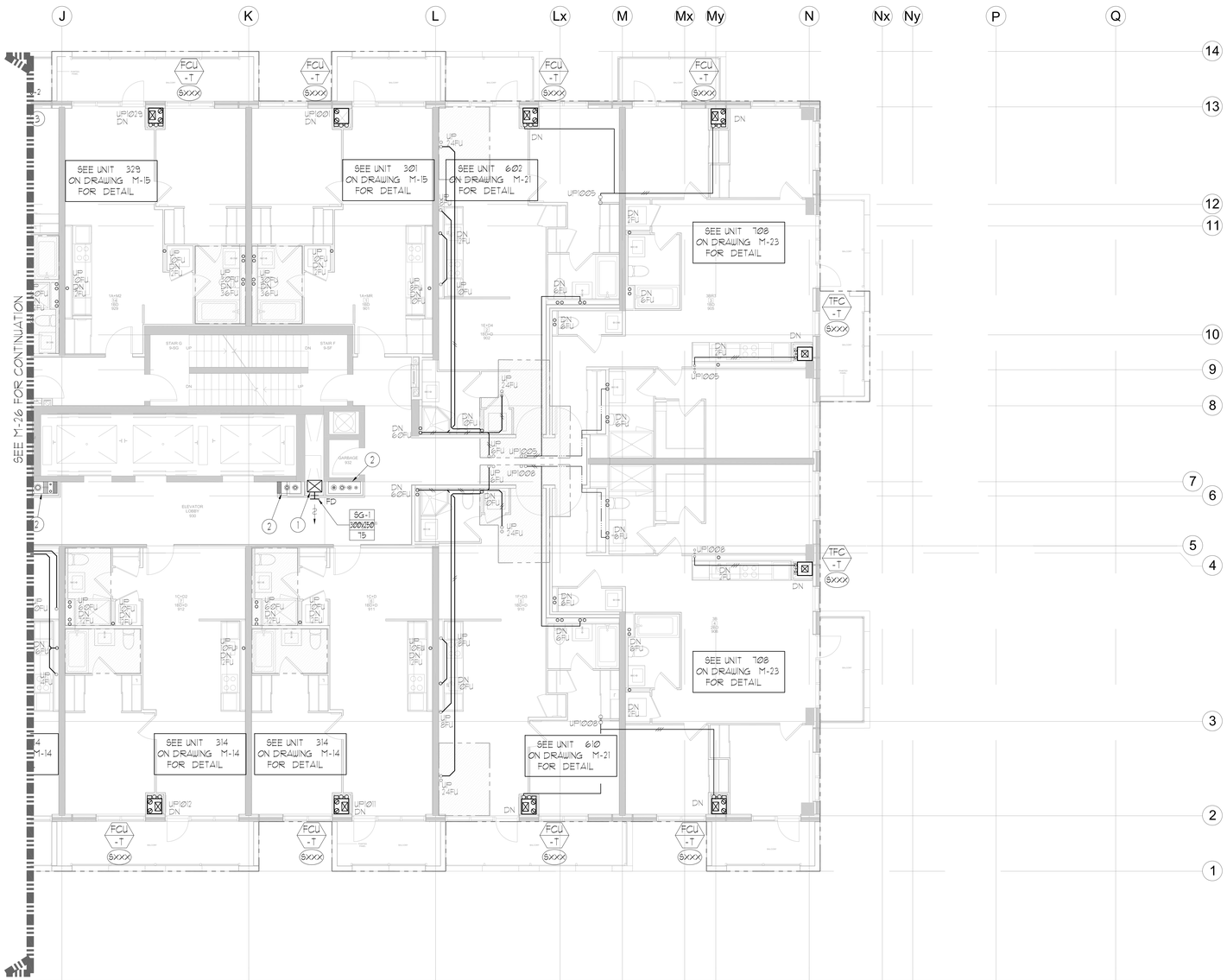
NOTES:

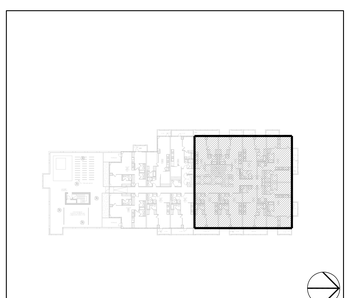
1. NORTH F/A SERVING FROM G/F TO 14/F. F/A DUCT SERVING CORRIDOR FROM G/F TO 14/F. SEE VENTILATION RISER DIAGRAM FOR DETAILS.
2. PIPE SHAFT - REFER TO PIPE DIAGRAM FOR DETAILS.
3. 150ø KITCHEN / DRYER / W/R / FCU INTAKE / FCU EXHAUST DUCT. (TYPICAL UNLESS OTHERWISE NOTED)



1. EXHAUST DUCTWORK TO BE C/W 25mm THICK THERMAL INSULATION 6FT. FROM EXTERNAL 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/EXHAUT DUCTWORK — NTS





KEY PLAN — N.T.S.

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/U 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)
S	IN-SUITE ERV MASTER SWITCH
S	FAN SWITCH / IN-SUITE ERV OVERRIDE BUTTON
CO	CO SENSOR
G	GAS LINE
G	GAS METER
	GAS COCK
PR	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
NHB	NON-FREEZE HOSE BIBB
	GLOBE VALVE
	GATE VALVE
	BALL VALVE
	BUTTERFLY VALVE
	PRESSURE REDUCING VALVE
	CHECK VALVE
	CAP
	COMPRESSED AIR OUTLET
N	BACKFLOW PREVENTER
	CIRCUIT BALANCING VALVE
	MULTIPLE PIPES / - DENOTES NO. OF PIPES
T	TEMPERATURE SENSOR
T	THERMOMETER
	2-WAY MODULATING VALVE
	3-WAY MODULATING VALVE
T	10"x4"(D) THERMOWELL C/U 1/2" BUSHING + 1/2" PLUG
XXX	FLOOR ELEVATION ABOVE LEVEL
XXX	FLOOR ELEVATION THIS LEVEL
XXX	HEADROOM (FLOOR TO U/S HEIGHT)

PROJ/CYT		ISSUED FOR :-	E.P.
DATE	NO	DESCRIPTION	BY

MARK VOID ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

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179 West Beaver Creek Road, Unit 31
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Tel: 905 882-9445
Fax: 905 882-9447
Email: cad@novatrendeng.com

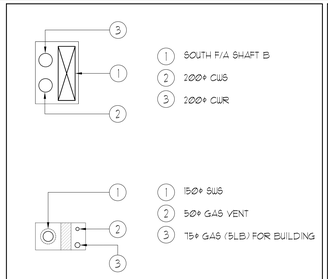
DRAWING TITLE
9/F NORTH
MECHANICAL LAYOUT

PROJECT TITLE
ALEXANDRA PARK

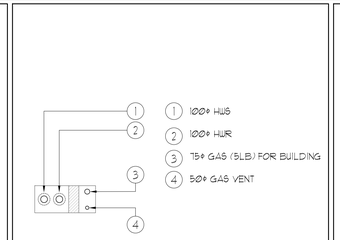
XXX
TORONTO ONTARIO

DRAWN BY:	CHECKED BY:	SCALE:
G.S.	E.P.	1:50
DATE: FEB. 13	PROJECT NUMBER: 1313	DRAWING NUMBER: M-27 OF 35

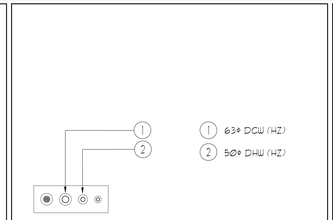
Drawing name: \\CADSERVER\Current Dwgs\1313 - Alexandra Park\CAD\13-M - 2627 (9F PLAN - 300PM & NORTH - MECHANICAL LAYOUT).dwg Plotted: May 23, 2014 - 4:23pm



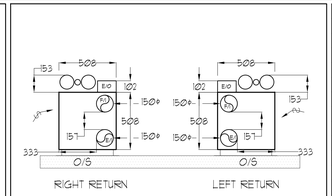
SOUTH PIPE SHAFT: 9/F -13/F — NTS



NORTH PIPE SHAFT A: 9/F -13/F — NTS



NORTH PIPE SHAFT B: 9/F -13/F — NTS



NOTE:
- ALL DIMENSIONS IN MM.
- HEIGHT OF FCU IS 2,023.

INSUITE FCU DIMENSIONS — NTS

UNIT	NAME	AREA (SQ. FT.)	# OF W/R	# OF POWDER	SIZE (T)	FIXTURE UNITS	BR	SQ. FT/T

ACOUSTIC NOTES:

FOR FLOORS WITH ERV'S:

XX) ERV'S SHALL BE ISOLATED USING ISOLATORS INCORPORATING BOTH A SPRING ELEMENT AND A SECONDARY NEOPRENE-IN-SHEAR ELEMENT IN SERIES. DUCTWORK SHALL BE DE-COUPLED FROM FAN BY FLEXIBLE CONNECTORS. ASSOCIATED DUCTWORK SHALL BE SUSPENDED ON HANGERS WITH NEOPRENE PADS.

FOR TRANSITION FLOORS:

XX) ALL HORIZONTAL SUPPLY AIR DUCTWORK SHALL BE C/W 25MM INTERNAL ACOUSTIC LINING AND SHALL BE SUSPENDED ON RUBBER PADS IN THE HANGERS. ELBOWS SHALL BE COMPLETE WITH TURNING VANES.

XX) ALL SYSTEM/DOMESTIC PIPE LOOPS OR OFFSETS WHICH ARE LARGER THAN 75 MM SHALL BE ISOLATED USING NEOPRENE-IN-SHEAR HANGERS, AND ADDITIONAL 25 MM THICK RIBBED OR WAFFLED NEOPRENE PADS IN THE SADDLES OF CLEVIS HANGERS.

12) ALL PIPES 50MM DIA. AND SMALLER SHALL BE ISOLATED WITH NEOPRENE PADS.

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3) PROVIDE EXPANSION CHAMBERS FOR ALL KITCHEN SINKS.

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12) PROVIDE 25MM EXTERNAL INSULATION TO ENTIRE FRESH AIR DUCT FROM EXTERIOR WALL TO ERV FAN COIL UNIT.

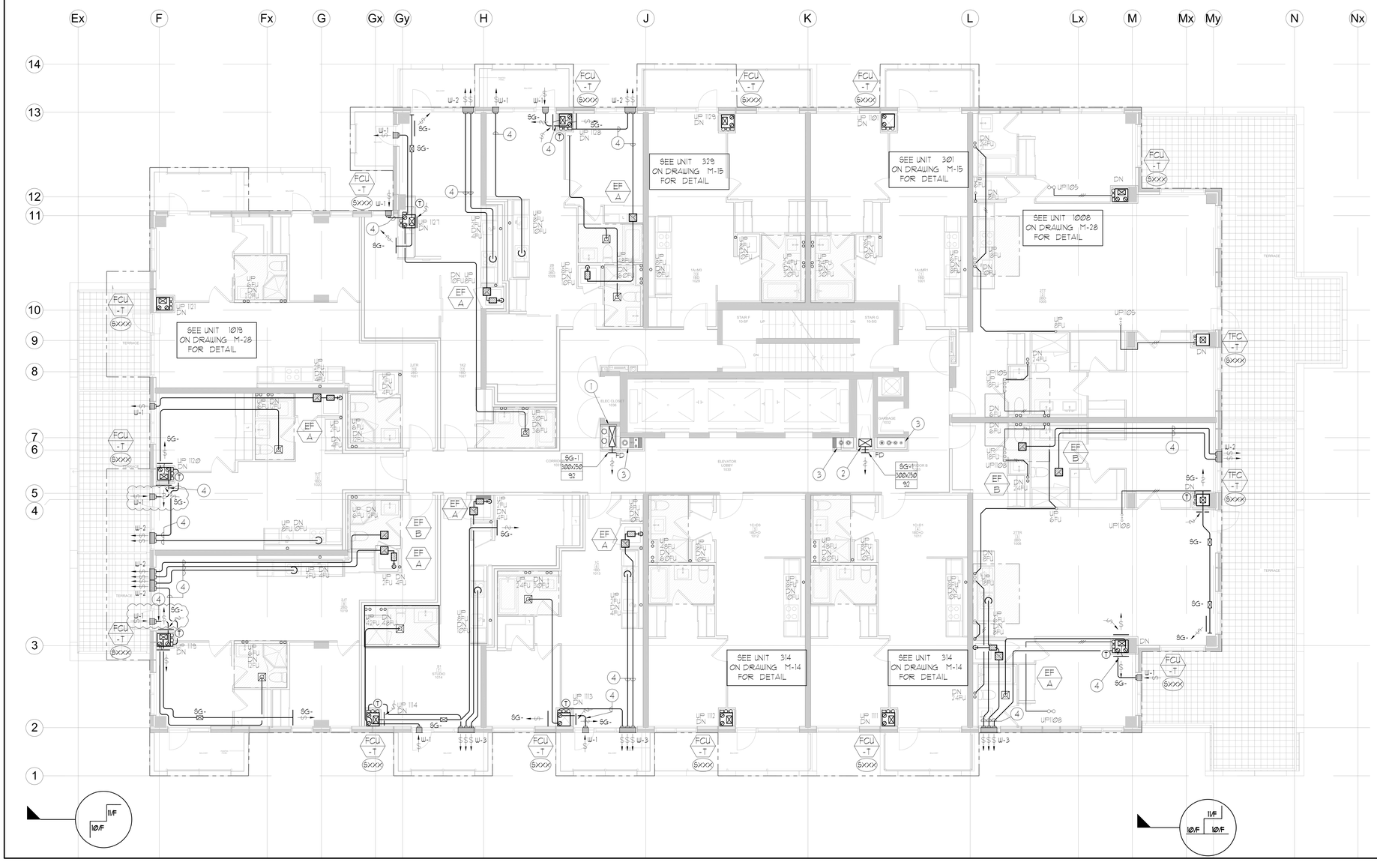
13) DRYER EXHAUST DUCT SHALL BE SMOOTH AND CORROSION-RESISTANT MATERIAL (FLEXIBLE CONNECTION IS NOT ACCEPTABLE).

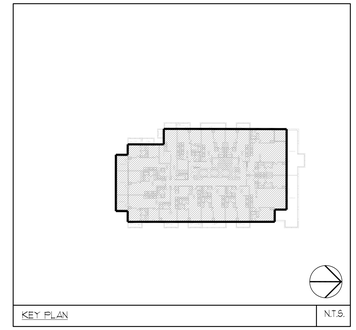
REFER TO DWG. M-X FOR ACOUSTIC NOTES

CLEAR FLOOR TO UNDERSLAB = 2750mm
CLEAR FROM U/S = 2100mm
UNITS 1005/1008: DRAINS FROM TERRACE ON 11/F

NOTES:

1. SOUTH F/A SHAFT B FROM G/F TO 14/F DUCT SERVING CORRIDOR FROM 9/F TO 14/F. SEE VENTILATION RISER DIAGRAM FOR DETAILS.
2. NORTH F/A SERVING FROM G/F TO 14/F. F/A DUCT SERVING CORRIDOR FROM G/F TO 14/F. SEE VENTILATION RISER DIAGRAM FOR DETAILS.
3. PIPE SHAFT - REFER TO PIPE DIAGRAM FOR DETAILS.
4. 150ø KITCHEN / DRYER / W/R / FCU INTAKE / FCU EXHAUST DUCT. (TYPICAL UNLESS OTHERWISE NOTED)





KEY PLAN — N.T.S.

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
XX/XX	TYPE OF EQUIPMENT / EQUIPMENT IDENTIFICATION
XXX/XX	TYPE OF DIFFUSER OR GRILLE
XXX	GRILLE SIZE OR DIFFUSER NECK SIZE
XXX	AIRFLOW CFM OR L/S
XX	STARTER (3 PHASE / PHASE)
S	IN-SUITE ERV MASTER SWITCH
S	FAN SWITCH / IN-SUITE ERV OVERRIDE BUTTON
CO	CO SENSOR
G	GAS LINE
G	GAS METER
G	GAS COCK
PR	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
NFHB	NON-FREEZE HOSE BIBB
	GLOBE VALVE
	GATE VALVE
	BALL VALVE
	BUTTERFLY VALVE
	PRESSURE REDUCING VALVE
	CHECK VALVE
	CAP
	COMPRESSED AIR OUTLET
	BACKFLOW PREVENTER
	CIRCUIT BALANCING VALVE
	MULTIPLE PIPES / - DENOTES NO. OF PIPES
T	TEMPERATURE SENSOR
T	THERMOMETER
	2-WAY MODULATING VALVE
	3-WAY MODULATING VALVE
T	10"x4"(D) THERMOWELL C/W 1/2" BUSHING + 1/2" PLUG
XXX	FLOOR ELEVATION ABOVE LEVEL
XXX	FLOOR ELEVATION THIS LEVEL
XXX	HEADROOM (FLOOR TO U/S HEIGHT)

PROJECT #		ISSUED FOR: —	E.P.
DATE	NO.	DESCRIPTION	BY

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 OR BE RESPONSIBLE FOR THE ERROR. ENGINEERS AND / NOT BE RETURNED UPON COMPLETION OF THE WORK.

DRAWINGS ARE NOT TO BE SCALED

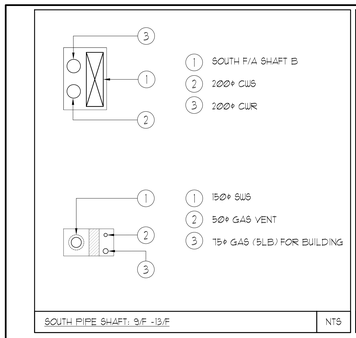
NOVA TREND ENGINEERING SERVICES LTD.
119 West Beaver Creek Road, Unit 31
Richmond Hill, Ontario L4B 3M1
Tel: 905 882-9449
Fax: 905 882-9447
Email: cad@novatrendeng.com

DRAWING TITLE
10/F
MECHANICAL LAYOUT

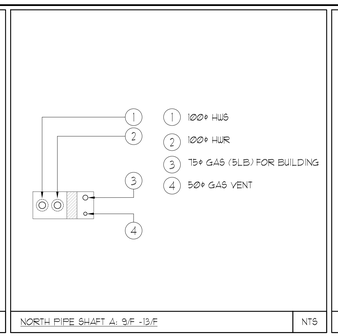
PROJECT TITLE
ALEXANDRA PARK
XXX
TORONTO ONTARIO

DRAWN BY:	CHECKED BY:	SCALE:
G.S.	E.P.	1:50
DATE: FEB. 13	PROJECT NUMBER: 1313	DRAWING NUMBER: M-28 OF 35

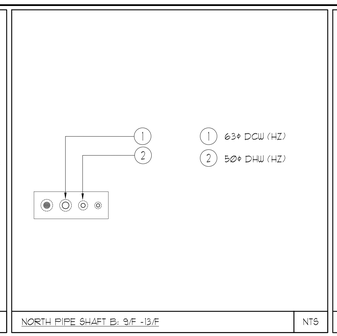
Drawing name: \\CADSERVER\Current Dwg\1313 - Alexandra Park\2013\1313M- 28(10F PLAN - MECHANICAL LAYOUT).dwg Plotted: May 23, 2014 - 4:24pm



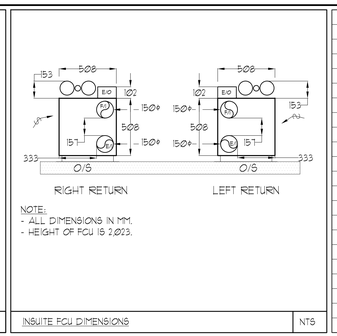
SOUTH PIPE SHAFT: 9/F -13/F — NTS



NORTH PIPE SHAFT A: 9/F -13/F — NTS



NORTH PIPE SHAFT B: 9/F -13/F — NTS



INSUITE FCU DIMENSIONS — NTS

UNIT	NAME	AREA (SQ. FT.)	# OF WR	# OF POWDER	SIZE (T)	FIXTURE UNITS	BR	SQ. FT/T

GENERAL NOTES:

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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).

REFER TO DWG. M-X FOR ACOUSTIC NOTES

CLEAR FLOOR TO UNDERSLAB = 2850mm
ALL UNITS CLEAR PRODUCT= 2800mm
EXCEPT UNITS: 1113/1114/1121/1127/1128 CLEAR PRODUCT= 2700mm
UNITS 1119/1120/1121/1127: DRAINS FROM TERRACE ON 12/F

NOTES:

1. SOUTH F/A SHAFT B FROM G/F TO 14/F DUCT SERVING CORRIDOR FROM 9/F TO 14/F. SEE VENTILATION RISER DIAGRAM FOR DETAILS.
2. NORTH F/A SERVING FROM G/F TO 14/F. F/A DUCT SERVING CORRIDOR FROM G/F TO 14/F. SEE VENTILATION RISER DIAGRAM FOR DETAILS.
3. PIPE SHAFT - REFER TO PIPE DIAGRAM FOR DETAILS.
4. 150ø KITCHEN / DRYER / WR / FCU INTAKE / FCU EXHAUST DUCT. (TYPICAL UNLESS OTHERWISE NOTED)

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) INSULATED WALL BOX
W-2	425x200	
W-3	625x200	

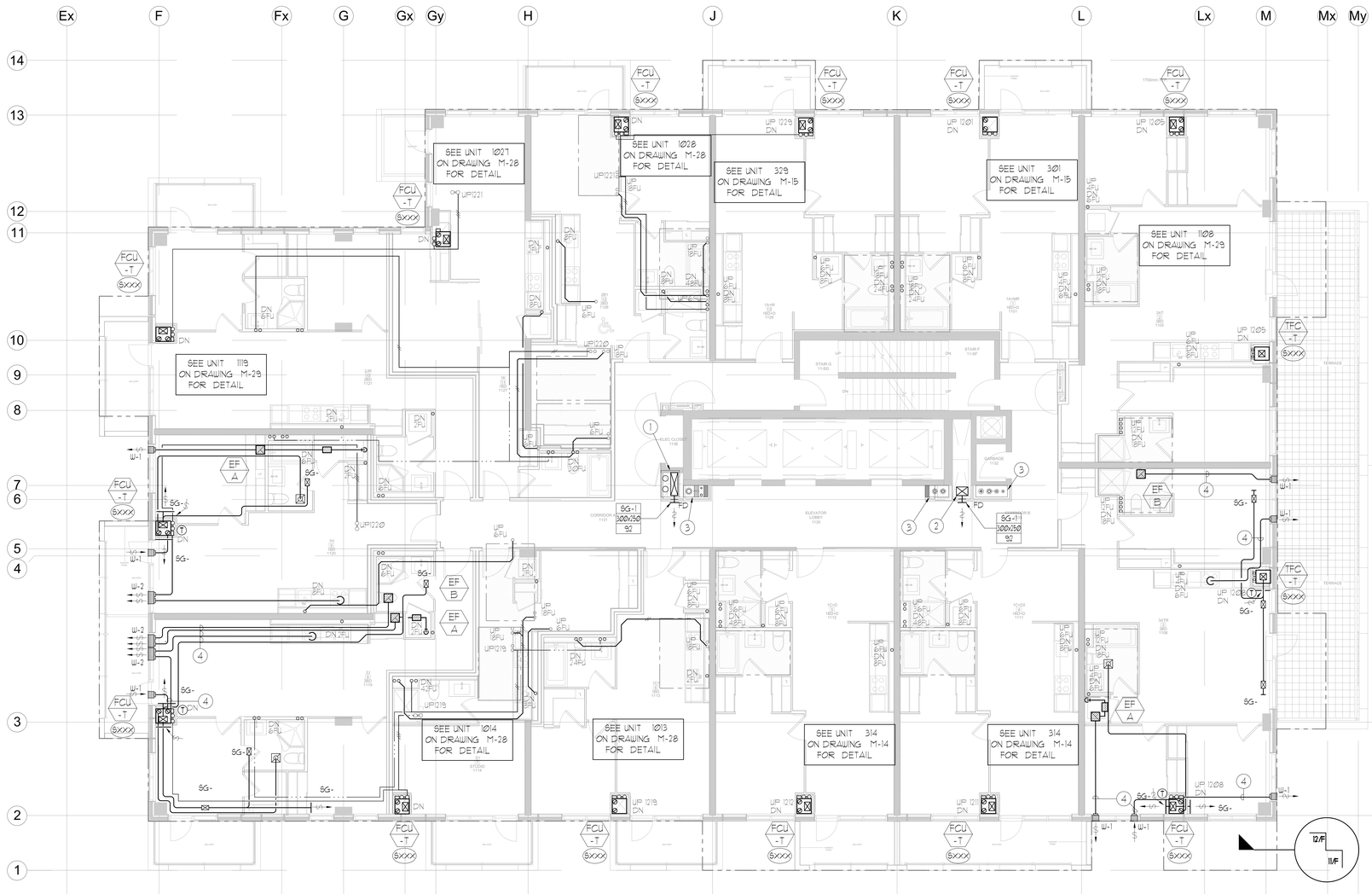
VERTICAL FAN COIL SIZE

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.

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			



KEY PLAN — N.T.S.

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 MASTER SWITCH
	FAN SWITCH / IN-SUITE ERV OVERRIDE BUTTON
CO	CO SENSOR
G	GAS LINE
G	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
NFHB	NON-FREEZE HOSE BIBB
	GLOBE VALVE
	GATE VALVE
	BALL VALVE
	BUTTERFLY VALVE
	PRESSURE REDUCING VALVE
	CHECK VALVE
	CAP
	COMPRESSED AIR OUTLET
	BACKFLOW PREVENTER
	CIRCUIT BALANCING VALVE
	MULTIPLE PIPES / - DENOTES NO. OF PIPES
T	TEMPERATURE SENSOR
T	THERMOMETER
	2-WAY MODULATING VALVE
	3-WAY MODULATING VALVE
	1/2"x1/2" THERMOWELL C/W 1/2" BUSHING + 1/2" PLUG
XXX	FLOOR ELEVATION ABOVE LEVEL
XXX	FLOOR ELEVATION THIS LEVEL
XXX	HEADROOM (FLOOR TO U/S HEIGHT)

REV'D/CY'T		ISSUED FOR ----	E.P.
DATE	NO.	DESCRIPTION	BY

MARK VOID ALL PRINTS DATED PREVIOUS TO THIS 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

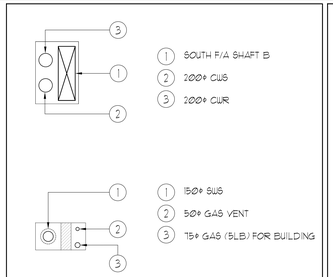
NOVA TREND ENGINEERING
179 West Beaver Creek Road, Unit 31
Richmond Hill, Ontario L4B 3M1
Tel: 905 882-5445
Fax: 905 882-5447
Email: cad@novatrendeng.com

DRAWING TITLE
11/F
MECHANICAL LAYOUT

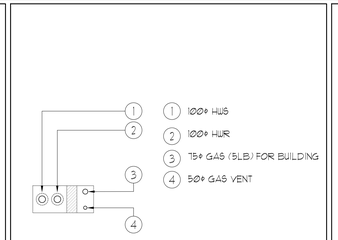
PROJECT TITLE
ALEXANDRA PARK
XXX
TORONTO ONTARIO

DRAWN BY:	CHECKED BY:	SCALE:
G.S.	E.P.	1:50
DATE: FEB. 13	PROJECT NUMBER: 1313	DRAWING NUMBER: M-29 OF 35

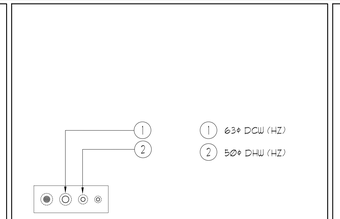
Drawing name: \\CADSERVER\Current Dwg\1313 - Alexandra Park\DWG\1313M- 29(11F PLAN - MECHANICAL LAYOUT).dwg Plotted: May 23, 2014 - 4:24pm



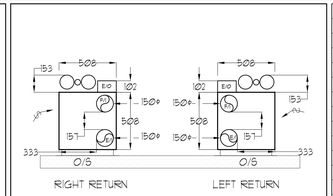
SOUTH PIPE SHAFT: 9/F -13/F — NTS



NORTH PIPE SHAFT A: 9/F -13/F — NTS



NORTH PIPE SHAFT B: 9/F -13/F — NTS



NOTE:
- ALL DIMENSIONS IN MM.
- HEIGHT OF FCU IS 2,023.

INSUITE FCU DIMENSIONS — NTS

UNIT	NAME	AREA (SQ. FT.)	# OF WR	# OF POWDER	SIZE (T)	FIXTURE UNITS	BR	SQ. FT/T

GENERAL NOTES:

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UNITS 1219/1220: DRAIN FROM TERRACE ON 13/F

NOTES:

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LEGEND
MECHANICAL

SYMBOL	DESCRIPTION
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	SUPPLY AIR TROFFER
	LINEAR SUPPLY DIFFUSER
T	THERMOSTAT
S	FAN SWITCH
	RETURN AIR GRILLE
	EXHAUST AIR GRILLE
	SUPPLY DUCT UP
	SUPPLY DUCT DOWN
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	FLEXIBLE CONNECTION
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	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 MASTER SWITCH
	FAN SWITCH / IN-SUITE ERV OVERRIDE BUTTON
	CO SENSOR
G	GAS LINE
G	GAS METER
	GAS COCK
	PRESSURE REDUCING VALVE
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	MULTIPLE PIPES / - DENOTES NO. OF PIPES
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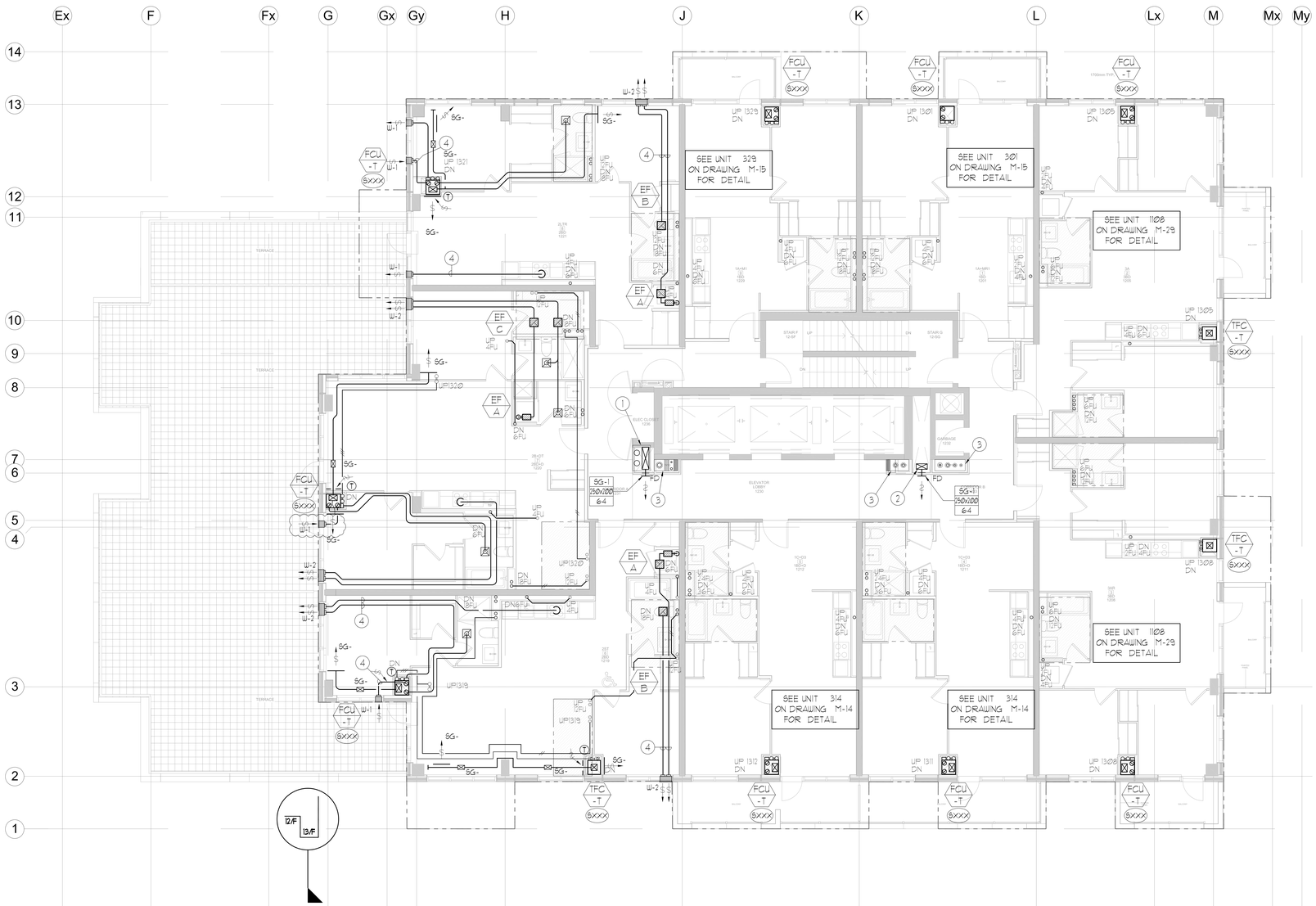
T	THERMOMETER
	2-WAY MODULATING VALVE
	3-WAY MODULATING VALVE
	10"x4"(D) THERMOWELL C/W 1/2" BUSHING X 1/2" PLUG
XXX	FLOOR ELEVATION ABOVE LEVEL
XXX	FLOOR ELEVATION THIS LEVEL
XXX	-ELEVATION FROM 12/F (-8'0x4")



GRILLE SIZING TABLE

DESIGNATION	SIZE	L/S (UNLESS SPECIFIED ELSEWHERE)
SG-A	300x100	47-70
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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

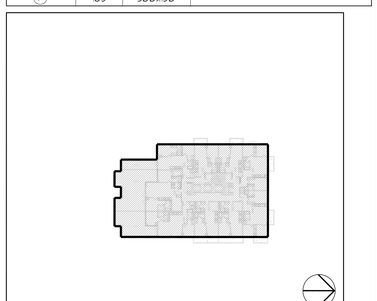
VERTICAL FAN COIL SIZE

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.

DUCT SIZING TABLE
(406 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			



KEY PLAN — N.T.S.

PROJECT	ISSUED FOR:	BY
DATE NO.	DESCRIPTION	

MARK VOID ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

REVISIONS

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DRAWINGS ARE NOT TO BE SCALED

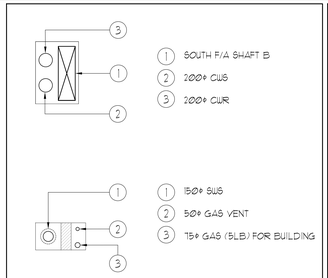
NOVA TREND ENGINEERING GROUP LTD.
113 West Beaver Creek Road, Unit 31
Richmond Hill, Ontario L4B 3M1
Tel: 905 882-5445
Fax: 905 882-5447
Email: cad@novatrending.com

DRAWING TITLE:
12/F
MECHANICAL LAYOUT

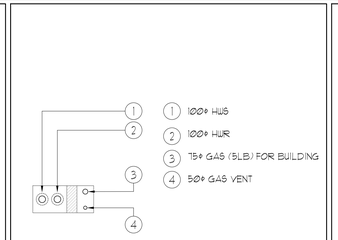
PROJECT TITLE:
ALEXANDRA PARK
XXX
TORONTO ONTARIO

DRAWN BY:	CHECKED BY:	SCALE:
G.S.	E.P.	1:50
DATE: FEB. 13	PROJECT NUMBER: 1313	DRAWING NUMBER: M-30 OF 35

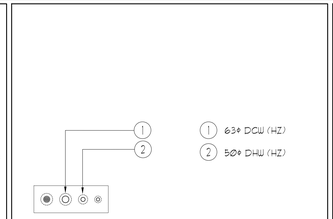
Drawing name: \\CADSERVER\Current Dwgs\1313 - Alexandra Park\DWG\1313M - 30 (12F PLAN - MECHANICAL LAYOUT).dwg Plotted: May 23, 2014 - 4:23pm



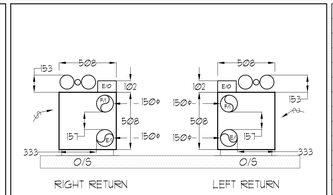
SOUTH PIPE SHAFT: 9/F -13/F — NTS



NORTH PIPE SHAFT A: 9/F -13/F — NTS



NORTH PIPE SHAFT B: 9/F -13/F — NTS



NOTE:
- ALL DIMENSIONS IN MM.
- HEIGHT OF FCU IS 2,023.

INSUITE FCU DIMENSIONS — NTS

UNIT	NAME	AREA (SQ. FT.)	# OF W/R	# OF POWDER	SIZE (T)	FIXTURE UNITS	BR	SQ. FT/T

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EXCEPT UNITS: 1305/1308 CLEAR PRODUCT= 2700mm
UNITS 1305/1308 COMPLETE DROP CEILING = 350mm

NOTES:

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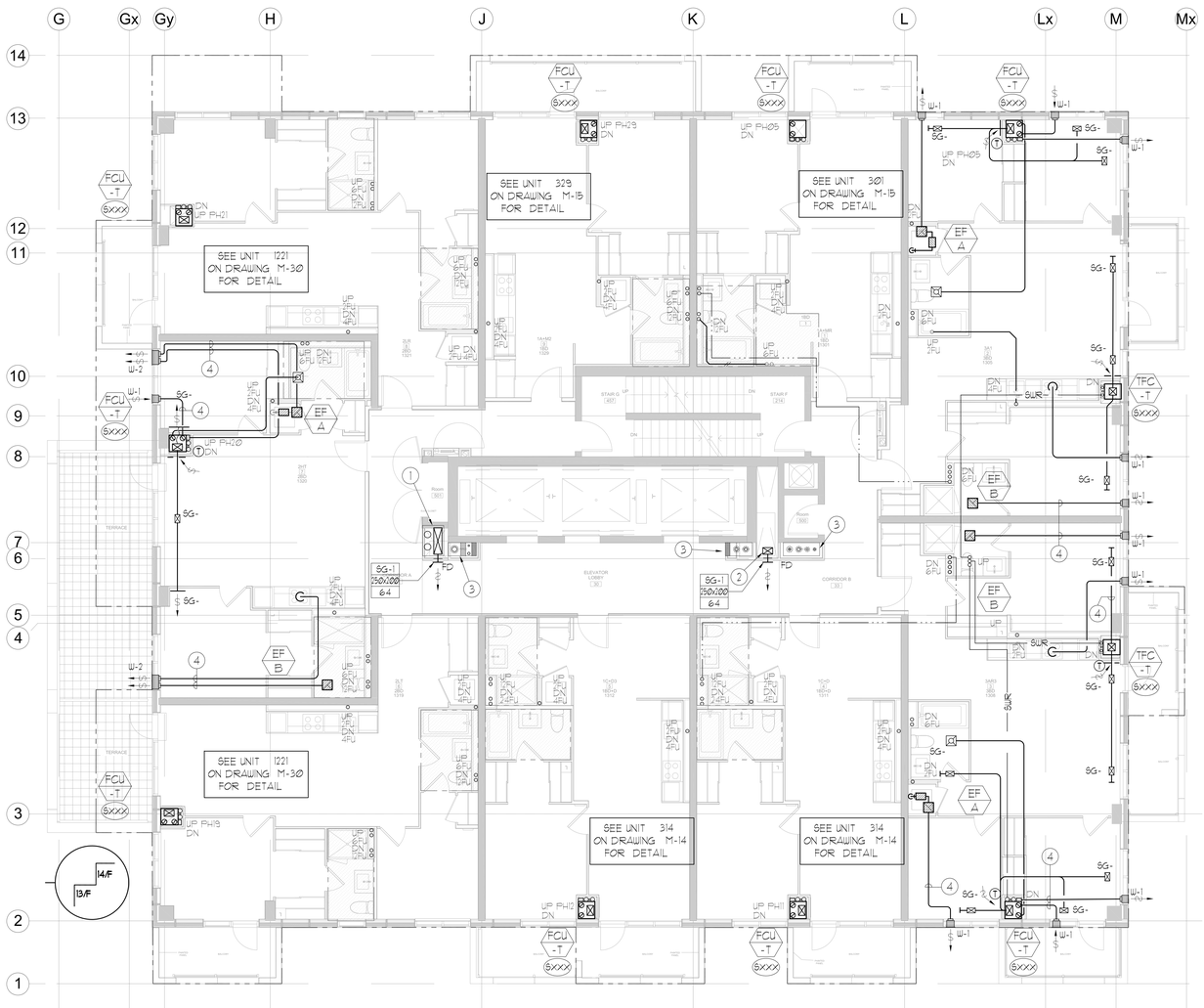
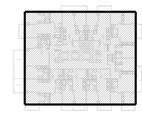
F	165	300x150			





KEY PLAN — N.T.S.

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
XX	TYPE OF EQUIPMENT / EQUIPMENT IDENTIFICATION
XX/XX	TYPE OF DIFFUSER OR GRILLE / GRILLE SIZE OR DIFFUSER NECK SIZE
XXX/XXX	AIRFLOW CFM OR L/S
SQ.	STARTER (3 PHASE , 1 PHASE)
S	IN-SUITE ERV MASTER SWITCH
S	FAN SWITCH / IN-SUITE ERV OVERRIDE BUTTON
CO	CO SENSOR
G	GAS LINE
G	GAS METER
G	GAS COCK
PR	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
NFHB	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	THERMOMETER
2W	2-WAY MODULATING VALVE
3W	3-WAY MODULATING VALVE
	1/2"x4"D / THERMOWELL C/W 1/2" BUSHING & 1/2" PLUG
XXX	FLOOR ELEVATION ABOVE LEVEL
XXX	FLOOR ELEVATION THIS LEVEL
XXX	HEADROOM (FLOOR TO U/S HEIGHT)

PROJ/CYT	NO.	ISSUED FOR ---	BY
DATE	NO.	DESCRIPTION	BY

MARK VOID ALL PRINTS DATED PREVIOUS TO THIS DATE ABOVE

REVISIONS

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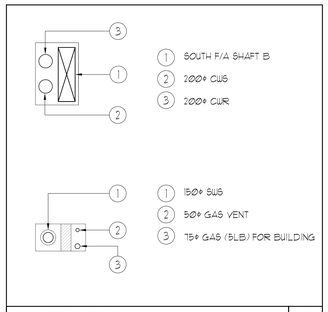
NOVA TREND DEVELOPMENT
179 West Beaver Creek Road, Unit 31
Richmond Hill, Ontario L4B 3M1
Tel: 905 882-5445
Fax: 905 882-5447
Email: cad@novatrendeng.com

DRAWING TITLE
13/F
MECHANICAL LAYOUT

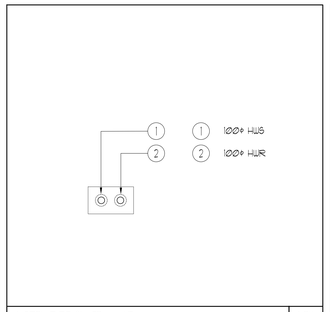
PROJECT TITLE
ALEXANDRA PARK
XXX
TORONTO ONTARIO

DRAWN BY:	CHECKED BY:	SCALE:
G.S.	E.P.	1:50
DATE: FEB, 13	PROJECT NUMBER: 1313	DRAWING NUMBER: M-31 OF 35

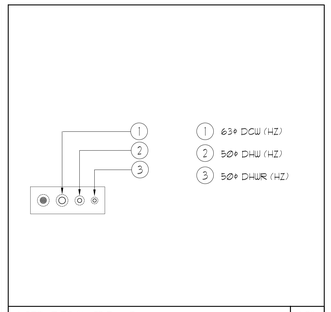
Drawing name: \\CADSERVER\Current Dwg\1313 - Alexandra Park\DWG\1313M - 13/F PLAN - MECHANICAL LAYOUT.dwg Plotted: May 23, 2014 - 4:23pm



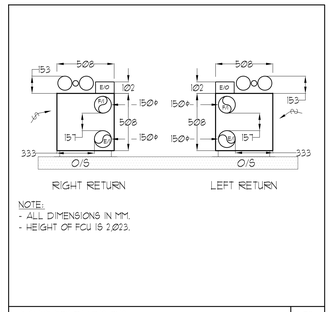
SOUTH PIPE SHAFT: 14/F — NTS



NORTH PIPE SHAFT A: 14/F — NTS



NORTH PIPE SHAFT B: 14/F — NTS



INSUITE FCU DIMENSIONS — NTS

UNIT	NAME	AREA (SQ. FT.)	# OF WR	# OF POWDER	SIZE (T)	FIXTURE UNITS	BR	SQ. FT/T
1	3BD	990	2	Ø	1	16	3	990Ø
2	1BD+D	590	2	Ø	1	16	1	590Ø
3	1BD+D	590	2	Ø	1	16	1	590Ø
4	2BD+D	755	2	Ø	1	16	2	
5	2BD	740	2	Ø	1	16	2	
6	2BD+D	755	2	Ø	1	16	2	
7	1BD	580	1	Ø	1	10	1	

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	500x660
FCU-1.5T	600	500x660
FCU-2T	800	500x660
FCU-2.5T	1000	553x660
FCU-3T	1200	553x660

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

DUCT SIZING TABLE (4.0m/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			

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.)

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.

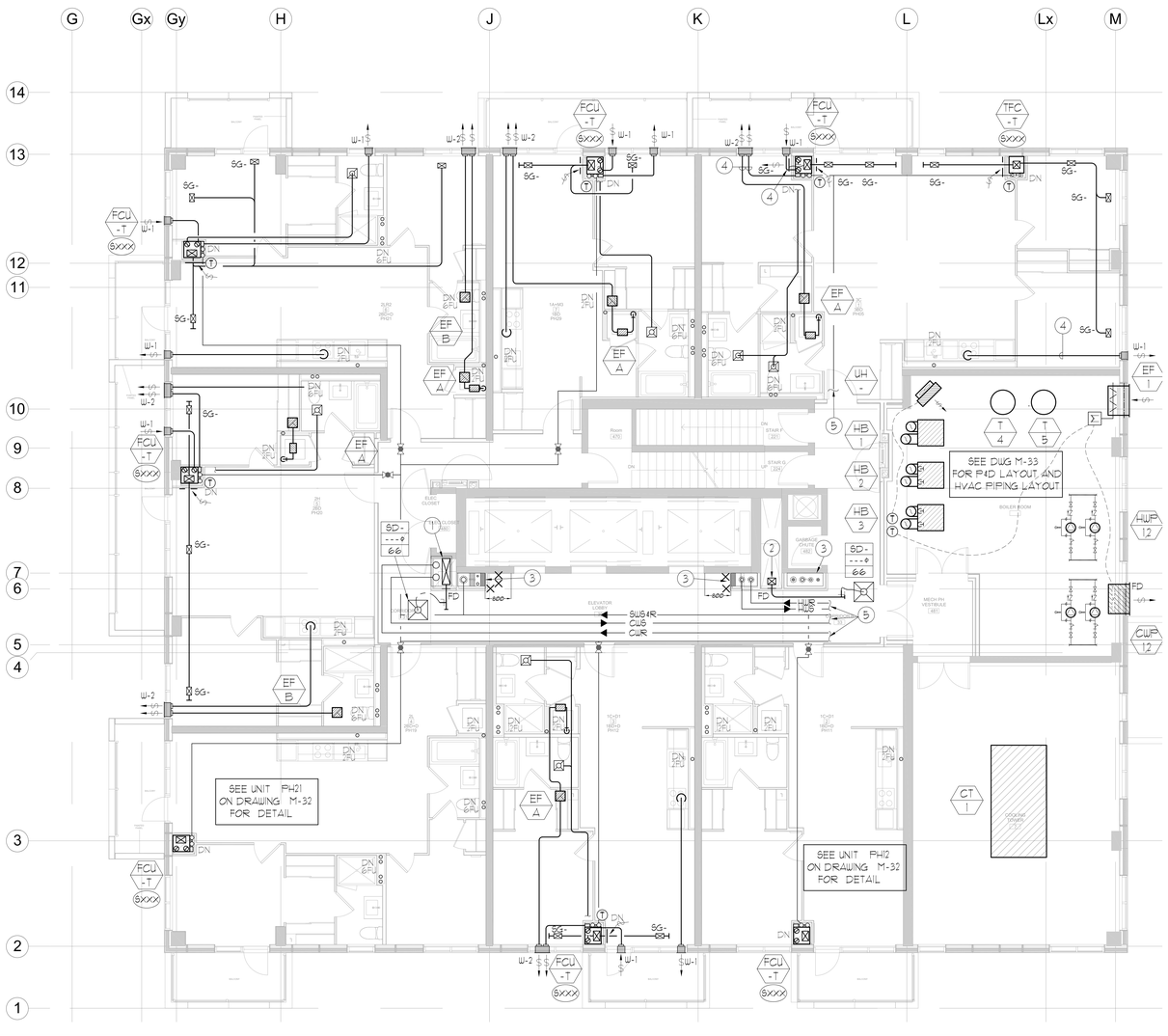
13) DRYER EXHAUST DUCT SHALL BE SMOOTH AND CORROSION-RESISTANT MATERIAL (FLEXIBLE CONNECTION IS NOT ACCEPTABLE.)

REFER TO DWG. M-X FOR ACOUSTIC NOTES

CLEAR FLOOR TO UNDERSLAB = 3210mm
CLEAR PRODUCT= 2700mm
COMPLETE DROP CEILING = 570mm

NOTES:

1. SOUTH F/A SHAFT B FROM G/F TO 14/F DUCT SERVING CORRIDOR FROM G/F TO 14/F. SEE VENTILATION RISER DIAGRAM FOR DETAILS.
2. NORTH F/A SERVING FROM G/F TO 14/F. F/A DUCT SERVING CORRIDOR FROM G/F TO 14/F. SEE VENTILATION RISER DIAGRAM FOR DETAILS.
3. PIPE SHAFT - REFER TO PIPE DIAGRAM FOR DETAILS.
4. 150Ø KITCHEN / DRYER / W/R / FCU INTAKE / FCU EXHAUST DUCT. (TYPICAL UNLESS OTHERWISE NOTED)
5. SEE DWG. M-33 FOR PIPING CONNECTION DETAIL.



LEGEND
MECHANICAL

SYMBOL	DESCRIPTION
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	SUPPLY AIR TROFFER
	LINEAR SUPPLY DIFFUSER
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S	FAN SWITCH
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	EXHAUST AIR GRILLE
	SUPPLY DUCT UP
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	ACOUSTIC INSULATION
XX/XX	TYPE OF EQUIPMENT - EQUIPMENT IDENTIFICATION
XX-X	TYPE OF DIFFUSER ON GRILLE
XXX	GRILLE SIZE OR DIFFUSER NECK SIZE
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	STARTER (3 PHASE / PHASE)
S	IN-SUITE ERV MASTER SWITCH
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CO	CO SENSOR
G	GAS LINE
G	GAS METER
G	GAS COCK
PR	PRESSURE REDUCING VALVE
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	SANITARY TRAP
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	GLOBE VALVE
	GATE VALVE
	BALL VALVE
	BUTTERFLY VALVE
	PRESSURE REDUCING VALVE
	CHECK VALVE
	CAP
	COMPRESSED AIR OUTLET
N	BACKFLOW PREVENTER
	CIRCUIT BALANCING VALVE
	MULTIPLE PIPES / / - DENOTES NO. OF PIPES
T	TEMPERATURE SENSOR
T	THERMOMETER
	2-WAY MODULATING VALVE
	3-WAY MODULATING VALVE
	10"x4"(2) THERMOWELL C/W 1/2" BUSHING x 1/2" PLUG
XXX	FLOOR ELEVATION ABOVE LEVEL
XXX	FLOOR ELEVATION THIS LEVEL
XXX	HEADROOM (FLOOR TO U/S HEIGHT)

17/03/17	1	ISSUED FOR ----	E.P.
DATE	NO.	DESCRIPTION	BY

MARK VOID ALL PRINTS DATED PREVIOUS TO THIS DATE ABOVE

REVISIONS

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NOVA TREND ENGINEERING GROUP LTD.
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Tel: 905 882-9448
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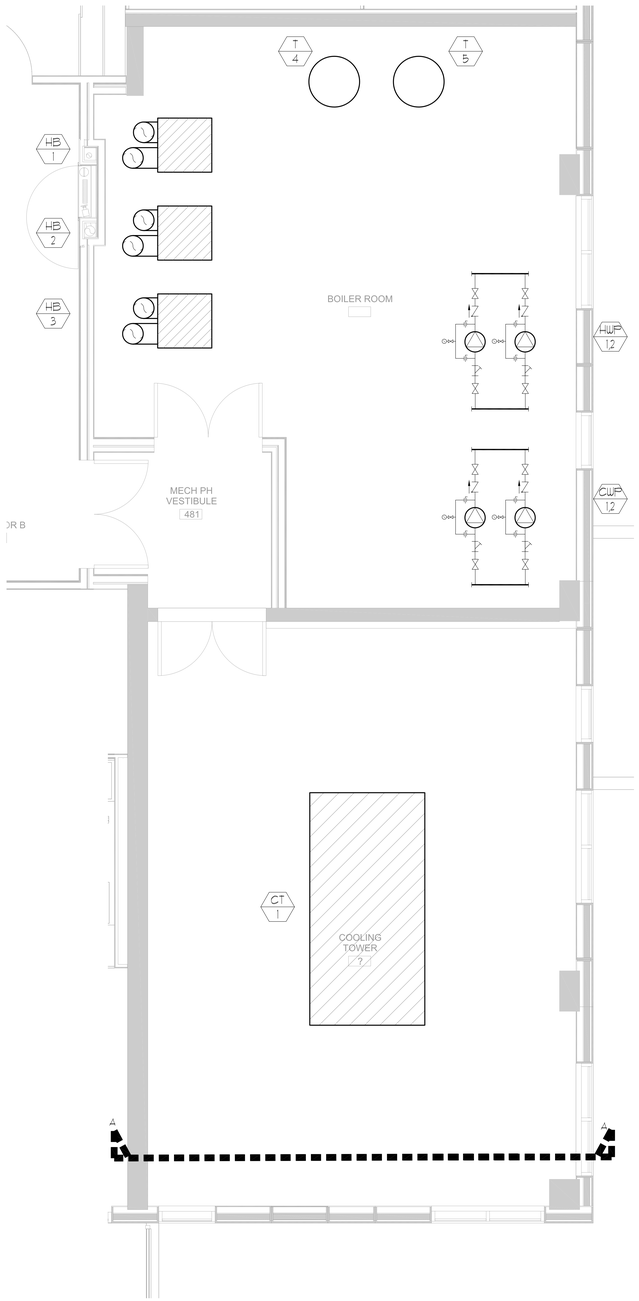
Email: cad@novatrendeng.com

DRAWING TITLE
14/F
MECHANICAL LAYOUT

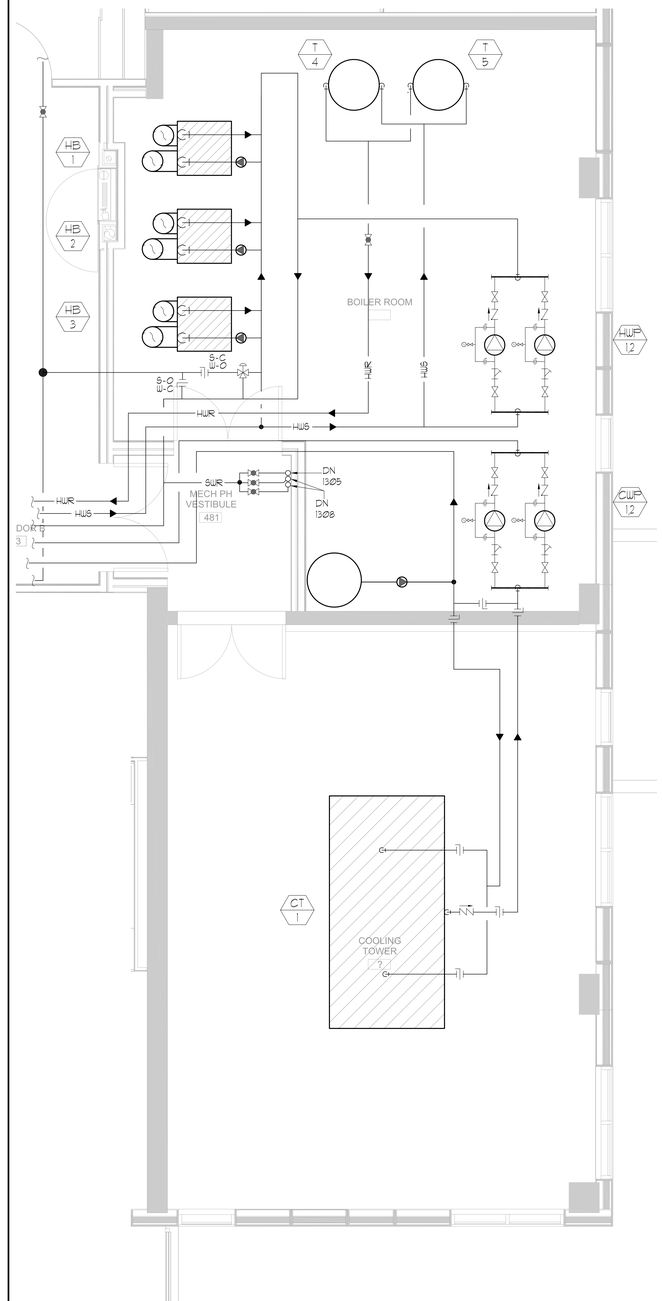
PROJECT TITLE
ALEXANDRA PARK
XXX
TORONTO ONTARIO

DRAWN BY:	CHECKED BY:	SCALE:
G.S.	E.P.	1:50
DATE: FEB. 13	PROJECT NUMBER: 1313	DRAWING NUMBER: M-32 OF 35

Drawing name: \\CADSERVER\Current Dwgs\1313 - Alexandra Park\2015\1313M- 201-M Plan - MECHANICAL LAYOUT.dwg Plotted: May 23, 2014 - 4:25pm



ENLARGED COOLING TOWER & BOILER ROOM P&D LAYOUT — SCALE 1:25



ENLARGED COOLING TOWER & BOILER ROOM HVAC PIPING LAYOUT — SCALE 1:25

GENERAL AND ACOUSTIC NOTES:

1) CONTRACTOR SHALL CO-ORDINATE ARCHITECTURAL, STRUCTURAL, LIGHTING, HVAC AND 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) REFER TO ACOUSTIC ENGINEER'S REPORT FOR ACOUSTIC TREATMENT REQUIRED.

4) FIRE DAMPERS ARE REQUIRED TO BE LISTED AND ARE TO HAVE FIRE-PROTECTION RATING OF THE PENETRATED FIRE SEPARATION.

5) 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.

6) THE FIRE HOSE CABINETS THAT ARE RECESSED INTO THE EXIT STAIR SHAFTS ARE REQUIRED TO BE SEPARATED FROM THE EXIT STAIR BY A 2 HR. FIRE SEPARATION.

7) ALL AHU/FAU/MAU SHALL BE MOUNTED ON DOUBLE LAYER (NSN) PADS BETWEEN UNIT CASING AND HOUSEKEEPING PAD. EXTERNAL HEAT RECOVERY FAN SHALL BE ISOLATED USING SPRING ISOLATORS WITH MINIMUM 38MM STATIC DEFLECTION, PLUS A NEOPRENE-IN-SHEAR ELEMENT IN SERIES. ALL UNIT DUCTWORK WITHIN THE MECHANICAL ROOM SHALL BE C/W 25MM INTERNAL ACOUSTIC LINING. 25MM INSULATION AND JACKETTING. ALL ASSOCIATED DUCTWORK SHALL BE HUNG BY HANGERS WITH NEOPRENE PADS.

8) MAIN FRESH AIR SHAFT TO BE C/W 25MM THICK ACOUSTIC DUCT LINER STARTING FROM THE MECHANICAL PENTHOUSE AND DOWN THREE FLOORS.

9) CHILLER ROOM IS TO BE CONSTRUCTED WITH A MINIMUM 100MM FLOATING CONCRETE FLOOR ON 50 MM THICK ISOLATORS, DESIGNED FOR A FUNDAMENTAL FREQUENCY OF 10 HZ OR LESS, WITH BATT INSULATION IN THE CAVITY.

THE FLOATING FLOOR DESIGN SHALL INCLUDE SEPARATE CONCRETE PIERS UNDERNEATH THE FLOATING FLOOR TO SUPPORT THE CHILLER. THE PAD MATERIAL UNDER THE PIER SHALL BE CDM-42 OR EQUIVALENT.

THE CHILLER BODY SHALL BE ISOLATED FROM THE PIERS USING MULTIPLE-COIL SPRING ISOLATORS HAVING A STATIC DEFLECTION OF APPROXIMATELY 2", PLUS A THICK NOISE PAD UNDER THE SPRING BASE. THE NOISE PAD SHALL CONSIST OF MULTIPLE LAYERS OF RUBBER, MAXIMUM 45 DUROMETER, SEPARATED BY STEEL SHIMS AND TOPPED BY A STEEL LOAD PLATE. THE NOISE PAD SHALL BE SIZED TO ACHIEVE A STATIC DEFLECTION OF APPROXIMATELY 0.3" AT A LOAD EQUAL TO 2/3 OF THE MAXIMUM EXPECTED POINT LOAD OF THE CHILLER.

CHILLER SHALL BE COMPLETE WITH ACOUSTIC BLANKET.

10) ALL CONNECTIONS BETWEEN THE CHILLER AND THE ATTACHED PIPING SHALL INCLUDE TWIN-SPHERE RUBBER EXPANSION JOINTS.

11) COOLING TOWER SHALL BE ISOLATED USING DISCRETE SPRING ISOLATORS, WITH MINIMUM 75MM STATIC DEFLECTION AND DOUBLE-LAYER PADS UNDER THE SPRING BASE. TWIN-SPHERE RUBBER EXPANSION JOINTS THAT ARE RATED FOR OUTDOOR USE SHALL BE PROVIDED BETWEEN THE COOLING TOWER AND ATTACHED PIPING.

12) BOILERS AND HEAT EXCHANGERS SHALL BE SUPPORTED ON DOUBLE-LAYER NEOPRENE-STEEL-NEOPRENE RUBBER PADS BETWEEN THE SUPPORT CHANNELS AND THE HOUSEKEEPING PADS BELOW.

13) CWP, SWP, CHWP AND HWP SHALL BE DECOUPLED FROM THE ATTACHED PIPING USING TWIN-SPHERE RUBBER EXPANSION JOINTS ON BOTH THE SUCTION AND DISCHARGE SIDES. FOR VIL PUMPS, THESE EXPANSION JOINTS ARE TYPICALLY LOCATED IN THE VERTICAL SECTION ABOVE THE SUCTION STRAINER AND SHUT-OFF VALVE. THE PUMPS AND DIRECTLY ATTACHED PIPING (UP TO THE TWIN-SPHERE JOINT) SHALL BE MOUNTED ON CONCRETE INERTIA BASES, AND ISOLATED FROM THE FLOATING FLOOR BELOW USING SPRING ISOLATORS WITH MINIMUM 38 MM STATIC DEFLECTION AND 25 MM THICK NSN PADS UNDER THE SPRING BASE, PROPERLY LOADED.

14) ALL BASE MOUNTED PUMPS SHALL BE MOUNTED C/W CONCRETE INERTIA BASES SUPPORTED ON STEEL SPRINGS WITH A STATIC DEFLECTION OF AT LEAST 15" AND INCLUDING AT LEAST TWO LAYERS OF WAFFLED NEOPRENE PADS BELOW.

15) SMALLER PUMPS MAY BE SUPPORTED USING PIPE STANDS UNDER THE ELBOWS (NOT DIRECTLY FROM THE CASING ITSELF) WITH 38MM DEFLECTION SPRING ISOLATORS PLUS NEOPRENE. SMALL PUMPS SHALL BE ISOLATED USING NEOPRENE-IN-SHEAR ISOLATORS FOR THE FIRST 3 POINTS OF SUPPORT ON EITHER SIDE OF THE PUMP.

16) ALL VFD'S TO BE MOUNTED ON RUBBER PADS.

17) IN-LINE AND CABINET FANS SHALL BE ISOLATED WITH SPRINGS OR NEOPRENE-IN-SHEAR MOUNTS. SIDEWALL FANS SHALL BE ISOLATED USING NEOPRENE MOUNTS, PADS OR GROMMETS.

NOTES:

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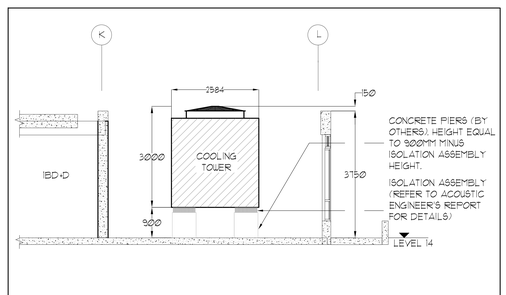

SECTION A-A — N.T.S.

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
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	FLEXIBLE CONNECTION
	ACOUSTIC INSULATION
XX	TYPE OF EQUIPMENT EQUIPMENT IDENTIFICATION
XX	TYPE OF DIFFUSER OR GRILLE
XXX	GRILLE SIZE OR DIFFUSER NECK SIZE
XXX	AIRFLOW CFM OR L/S
XX	STARTER (3 PHASE , 1 PHASE)
S	N-SUITE ERV MASTER SWITCH
S	FAN SWITCH / N-SUITE ERV OVERRIDE BUTTON
CO	CO SENSOR
G	GAS LINE
G	GAS METER
G	GAS COCK
PR	PRESSURE REDUCING VALVE
	SANITARY ABOVE GRADE
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	DOMESTIC COLD WATER
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FD	FLOOR DRAIN
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SLD	SLAB DRAIN
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	PRESSURE REDUCING VALVE
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	CAP
	COMPRESSED AIR OUTLET
N	BACKFLOW PREVENTER
	CIRCUIT BALANCING VALVE
	MULTIPLE PIPES / - DENOTES NO. OF PIPES
T	TEMPERATURE SENSOR
T	THERMOMETER
	2-WAY MODULATING VALVE
	3-WAY MODULATING VALVE
T	1/2"x4 1/2" THERMOWELL C/W 1/2" BUSHING x 1/2" PLUG
XXX	FLOOR ELEVATION ABOVE LEVEL
XXX	FLOOR ELEVATION THIS LEVEL
XXX	HEADROOM (FLOOR TO U/S HEIGHT)

PRIORITY		ISSUED FOR :		E.P.
DATE	NO.	DESCRIPTION		BY

PLANS VOID ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

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Richmond Hill, Ontario L4B 3M1
Tel: 905 882-8445
Fax: 905 882-5447
Email: cad@novatrendeng.com

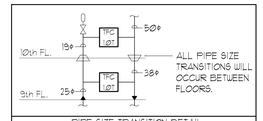
DRAWING TITLE:
ROOF
MECHANICAL LAYOUT

PROJECT TITLE:
ALEXANDRA PARK

XXX
TORONTO ONTARIO

DRAWN BY:	CHECKED BY:	SCALE:
G.S.	E.P.	1:25
DATE: FEB. 13	PROJECT NUMBER: 1313	DRAWING NUMBER: M-33 OF 35

Drawing name: \\CADSERVER\Current Dwgs\1313\1313 - Alexandra Park\CAD\1313M - 33ROOF PLAN - MECHANICAL LAYOUT.dwg Plotted: May 22, 2014 - 4:25pm



PIPE SIZE TRANSITION DETAIL
N.T.S.

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH SCHEMATICS DRAWINGS.

ACOUSTIC NOTES:

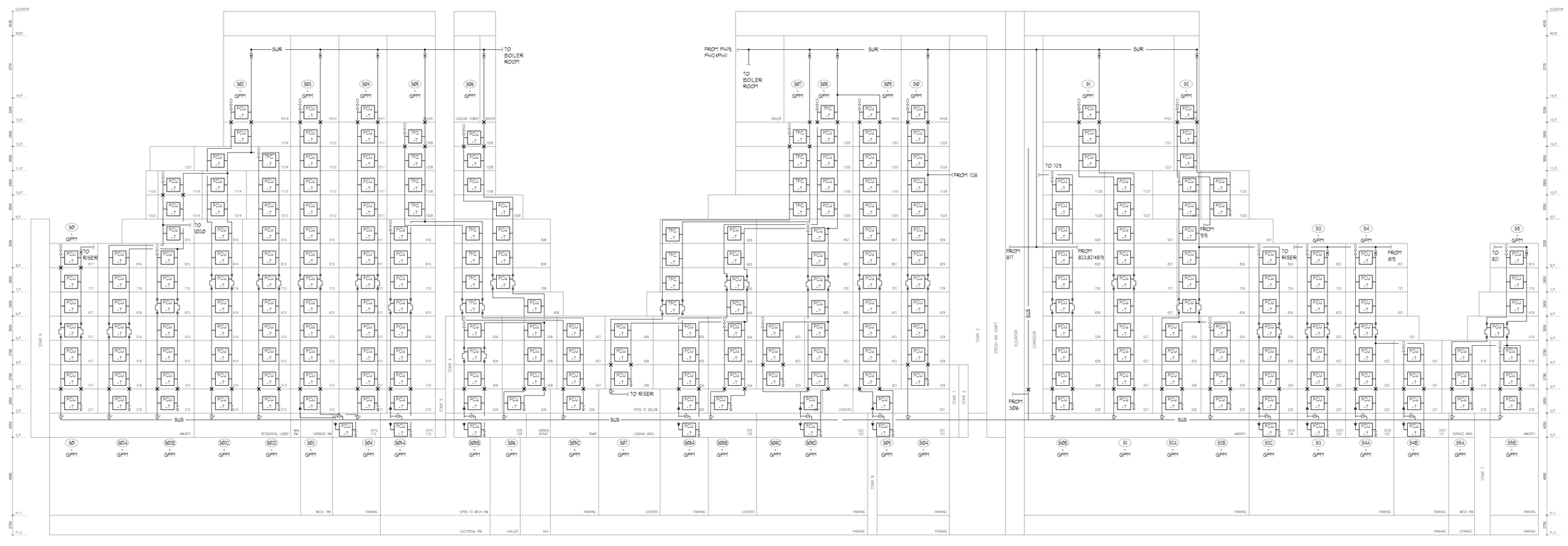
1) ALL RISER ANCHORS MUST INCLUDE 25MM THICK N&N ISOLATION PADS. THE PADS ARE TO BE HELD IN PLACE WITH HORIZONTAL STEEL PLATES WELDED TO BRACKETS THAT ARE IN TURN WELDED TO THE RISER.

2) WHERE RISERS ARE SUPPORTED BY T-CLAMPS RATHER THAN ANCHORS, N&N PADS ARE TO BE INCLUDED BELOW THE T-CLAMP.

3) ANY PIPE GUIDES USED IN CONNECTION WITH EXPANSION JOINTS OR LOOPS ARE TO BE THE PRE-FABRICATED TYPE WITH INTEGRAL RUBBER ISOLATION.

NOTES:

1. 19φ CHWS & 19φ HWS
2. 25φ CHWS & 19φ HWS
3. 25φ CHWS & 25φ HWS
4. 19φ CHWR & 19φ HWR



PROJ/TYP		ISSUED FOR ---	E.P.
DATE	NO	DESCRIPTION	BY

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.

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Fax: 905 881-5447
Email: cad@novatrending.com

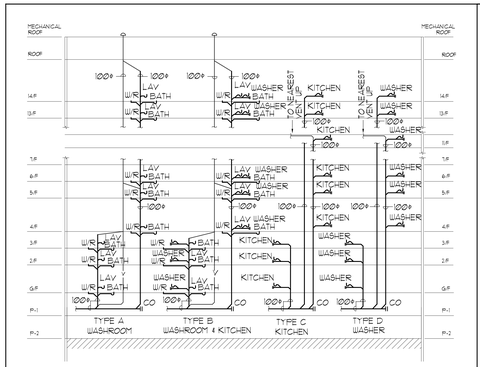
DRAWING TITLE
SYSTEM WATER
RISER DIAGRAM

PROJECT TITLE
ALEXANDRA PARK

XXX
TORONTO ONTARIO

DRAWN BY:	CHECKED BY:	SCALE:
G.S.	E.P.	N.T.S.
DATE:	PROJECT NUMBER:	DRAWING NUMBER:
FEB. 13	1313	M-34 OF 35

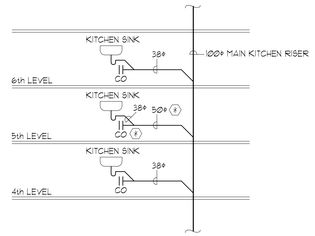
Drawing name: \\CADSERVER\Current Dwgs\1313-Alexandra Park\DWG\1313M-34SYSTEM WATER RISER DIAGRAM.dwg Plotted: May 23, 2014 - 4:25pm



GENERAL SANITARY RISER NOTES:

1. ALL INSTALLATION SHALL BE ACCORDING TO LATEST EDITION OF THE PLUMBING CODE.
2. PROVIDE YOKE VENT AT EVERY FIVE STOREYS OR AS REQUIRED BY CODE.
3. PROVIDE MINIMUM 3000mm SEPARATION BETWEEN CONNECTION OF MAIN SANITARY AND AUXILIARY SANITARY RISERS TO THE SANITARY BRANCH AT THE BASE OR THE RISERS.

TYPICAL SANITARY RISER DIAGRAM — N.T.S.



NOTES:

4. INSTALL 50ø CLEANOUT FOR KITCHEN RISER EVERY 5 FLOORS.

KITCHEN RISER CLEANOUT DETAIL — N.T.S.

FRV SCHEDULE

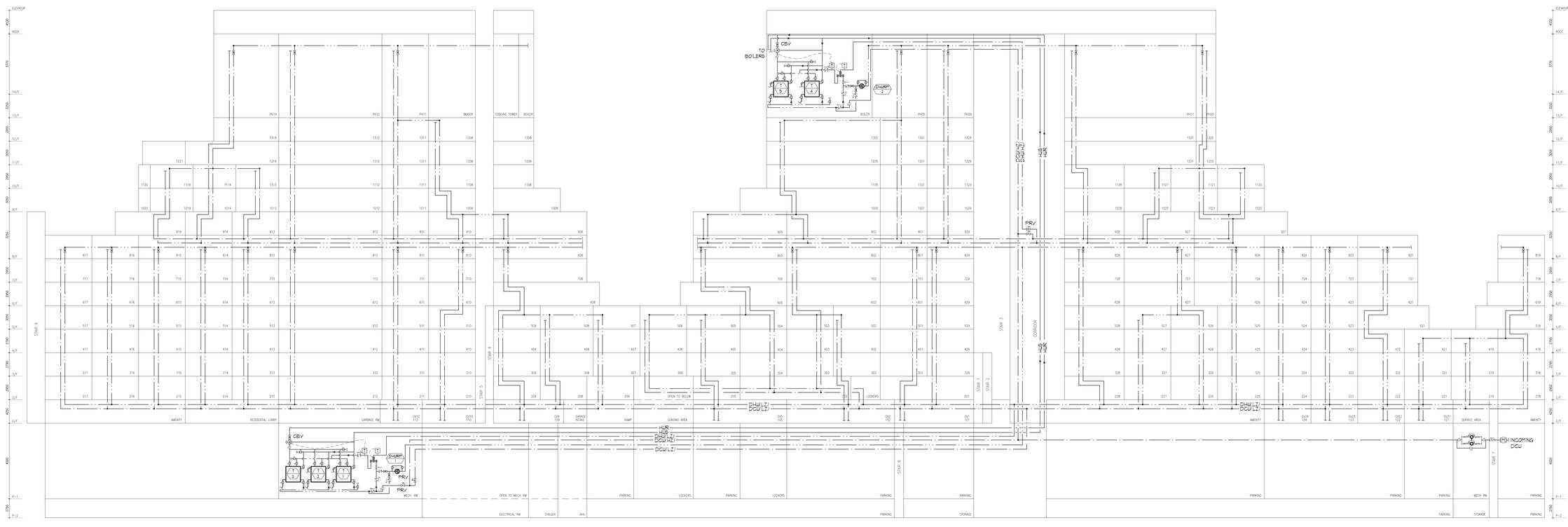
FRV #	DUTY	FLOW RATE (GPM)	INLET PRESSURE (PSI)	OUTLET PRESSURE (PSI)	REMARKS
1	LOW ZONE DHW	-	-	-	CLA-VAL MODEL 90G-01ASKG -mm ø OR EQUAL.
2	LOW ZONE DCW	-	-	-	CLA-VAL MODEL 90G-01ASKG -mm ø OR EQUAL.
3	HIGH ZONE DHW	-	-	-	CLA-VAL MODEL 90G-01ASKG -mm ø OR EQUAL.
4	HIGH ZONE DCW	-	-	-	CLA-VAL MODEL 90G-01ASKG -mm ø OR EQUAL.

GENERAL NOTES:

1) SIZES SHOWN INDICATE REDUCTIONS AFTER DH4CW HEADERS ON STOREY INDICATED.
2) REFER TO FLOOR PLANS FOR SIZING OF HORIZONTAL PIPE.
3) PROVIDE 19ø SHUT OFF VALVES FOR EACH SUITE.
4) PROVIDE DRAIN VALVE AT BOTTOM OF EACH RISER.
5) PROVIDE AIR VENT AT TOP OF EACH RISER.
6) PROVIDE 19ø CIRCUIT BALANCING VALVE ON TOP OF EACH DOMESTIC HOT WATER RISER EACH CIRCUIT VALVE TO BE BALANCED TO EQUAL FLOW.
7) ALL RISER ANCHORS MUST INCLUDE 25MM THICK NSN ISOLATION PADS. THE PADS ARE TO BE HELD IN PLACE WITH HORIZONTAL STEEL PLATES WELDED TO BRACKETS THAT ARE IN TURN WELDED TO THE RISER.
8) WHERE RISERS ARE SUPPORTED BY T-CLAMPS RATHER THAN ANCHORS, NSN PADS ARE TO BE INCLUDED BELOW THE T-CLAMP.
9) ANY PIPE GUIDES USED IN CONNECTION WITH EXPANSION JOINTS OR LOOPS ARE TO BE THE PRE-FABRICATED TYPE WITH INTEGRAL RUBBER ISOLATION.

NOTES:

1. WATER METER ASSEMBLY c/w BACK WATER VALVE AND EXPANSION TANK PER CITY'S STANDARDS. SEE DETAILS ON DWG M-27.
2. 19ø CIRCUIT BALANCING VALVE AT TOP OF EACH DHW RISER UNLESS OTHERWISE SPECIFIED (TYPICAL)
3. --
4. 19ø SHUT-OFF VALVE FOR EACH SUITE. (TYPICAL)
5. SET AT 120°F DHW & COMBINED DCW & DHWR TO MAINTAIN MAXIMUM SUPPLY TEMPERATURE AT 120°F.
6. BYPASS HUB ONCE DHW SUPPLY TEMPERATURE REACHES 140°F.
7. 19ø DCW & 19ø DHW.
8. 25ø DCW & 19ø DHW.
9. 32ø DCW & 25ø DHW.
10. 38ø DCW & 32ø DHW.
11. 50ø DCW & 38ø DHW.
12. THERMOMETER AND PRESSURE GAUGE.



DATE	NO.	DESCRIPTION	BY
PROJECT		ISSUED FOR: —	E.P.

PLANS VOID ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

REVISIONS

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NOVA TREND DEVELOPMENT CORPORATION

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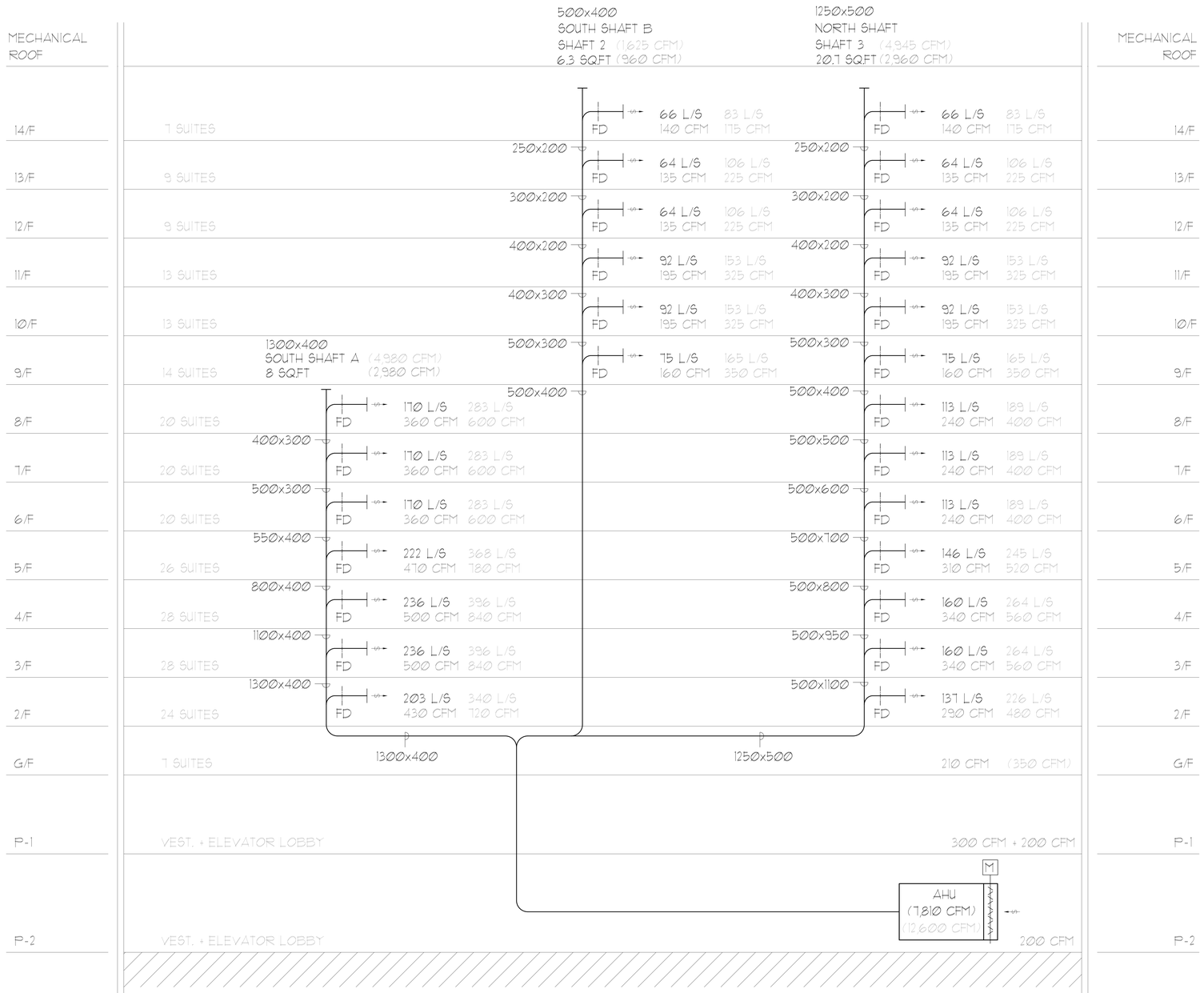
DRAWING TITLE
DCW, DHW & DHWR
RISER DIAGRAM

PROJECT TITLE
ALEXANDRA PARK
XXX
TORONTO ONTARIO

DRAWN BY	CHECKED BY	SCALE
G.S.	E.P.	N.T.S.
DATE	PROJECT NUMBER	DRAWING NUMBER
FEB. 13	1313	M-35 OF 35

Drawing name: \\CADSERVER\Current Dwg's\1313 - Alexandra Park\DWG\1313M - 3500M, DHW, DHWR RISER DIAGRAM.dwg Plotted: May 23, 2014 - 4:25pm



PROD/TY		ISSUED FOR --	E.P.
DATE	NO	DESCRIPTION	BY

MARK VOID ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

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Email: cad@novatrendeng.com

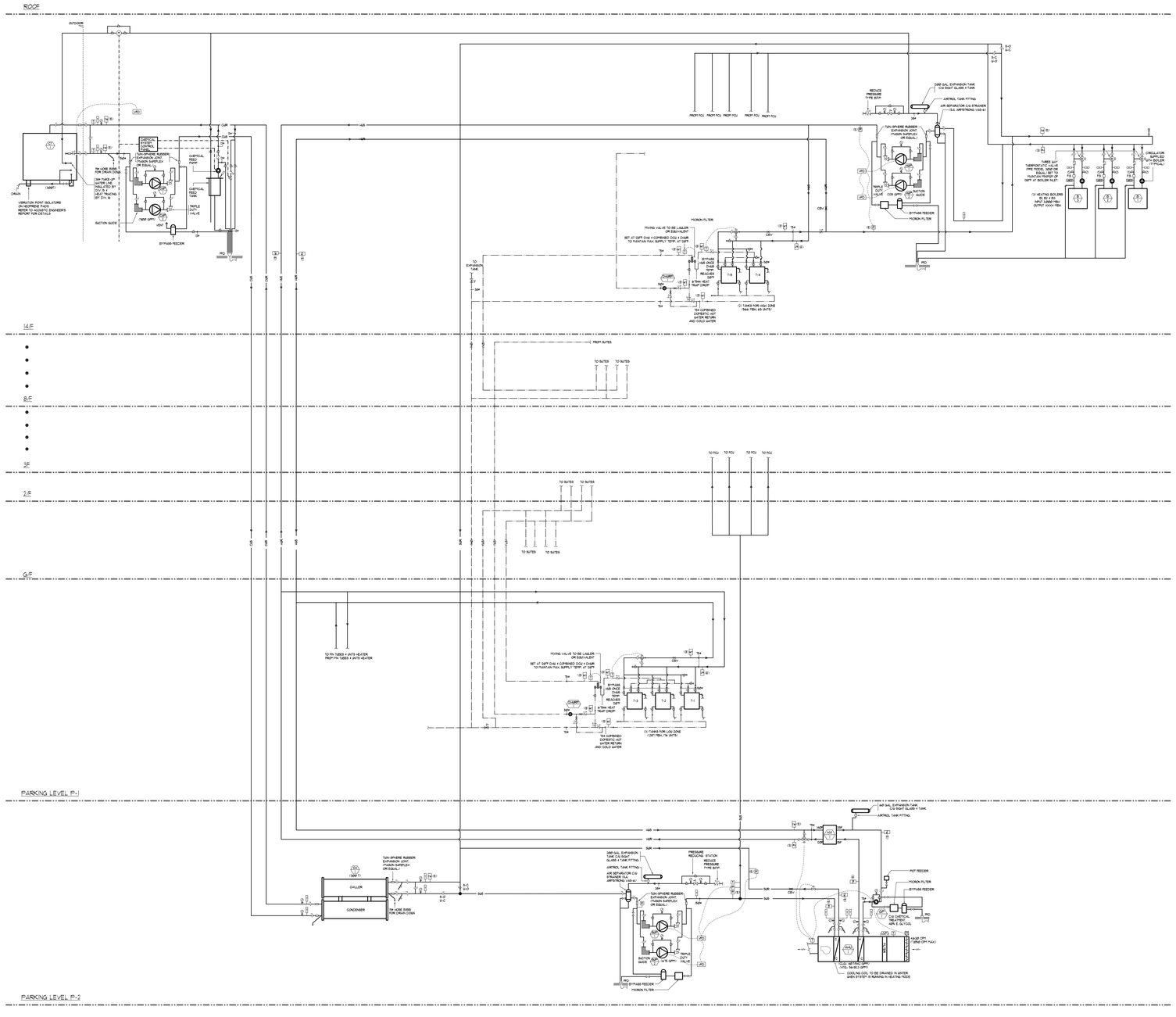
DRAWING TITLE
PRESSURIZATION/VENTILATION RISER DIAGRAM

PROJECT TITLE
ALEXANDRA PARK

XXX
TORONTO ONTARIO

DRAWN BY:	CHECKED BY:	SCALE:
G.S.	E.P.	N.T.S.
DATE: FEB. 13	PROJECT NUMBER: 1313	DRAWING NUMBER: M-36 OF 35

Drawing name: \\CADSERVER\Current Dwgs\1313 - Alexandra Park\2013\1313-M - 36(PRESSURIZATION & VENTILATION RISER DIAGRAM).dwg Plotted: May 23, 2014 - 4:29pm



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DATE	NO	DESCRIPTION	BY

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REVISIONS

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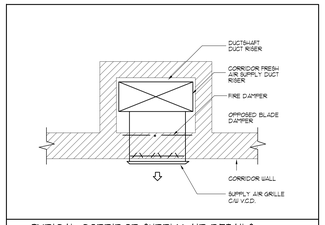
DRAWING TITLE
SCHEMATICS

PROJECT TITLE
ALEXANDRA PARK

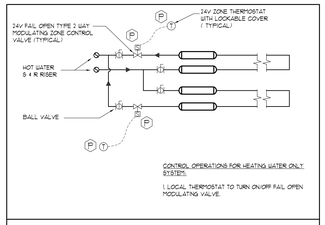
XXX
TORONTO ONTARIO

DRAWN BY:	CHECKED BY:	SCALE:
G.S.	E.P.	N.T.S.
DATE: FEB. 13	PROJECT NUMBER: 1313	DRAWING NUMBER: M-37 OF 35

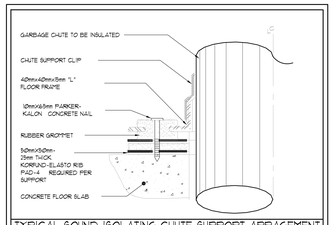
Drawing name: \\CADSERVER\Current Dwg\1313 - Alexandra Park\2013\1313-M-37CHEMATICS.dwg Plotted: May 23, 2014 - 4:25pm



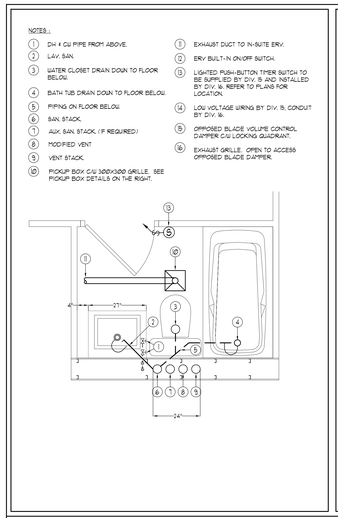
TYPICAL CORRIDOR SUPPLY AIR DETAILS
N.T.S.



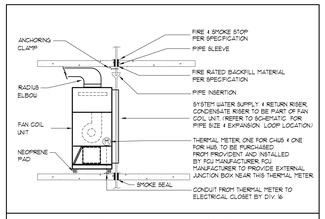
FIN TUBE HEATING CONTROL DETAIL (HTG. WATER ONLY)
N.T.S.



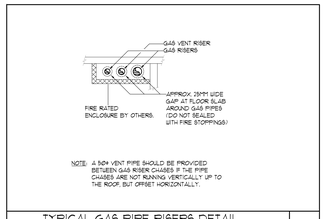
TYPICAL SOUND ISOLATING CHUTE SUPPORT ARRAGEMENT
N.T.S.



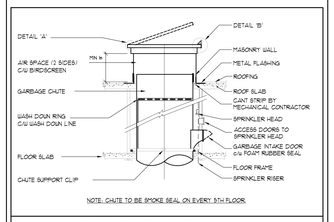
WASHROOM EXHAUST DETAIL
N.T.S.



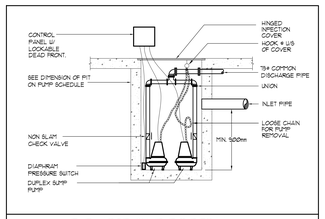
FAN COIL UNIT INSTALLATION DETAIL
N.T.S.



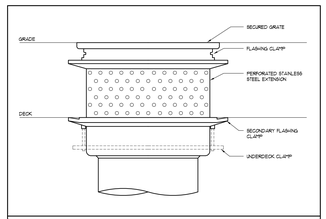
TYPICAL GAS PIPE RISERS DETAIL
IF ENCLOSED BY FIRE RATED ENCLOSURE
NTS



GARBAGE CHUTE DETAIL
N.T.S.



ELEVATOR SUMP PIT DETAIL
N.T.S.



BI-LEVEL AREA DRAIN DETAIL
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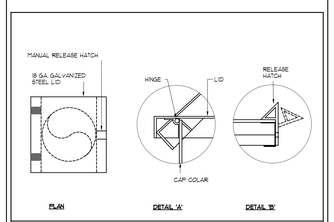
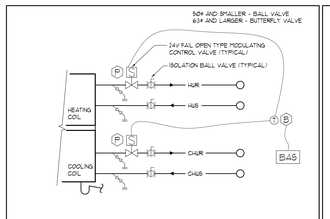
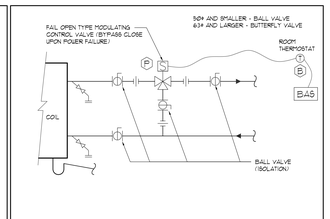


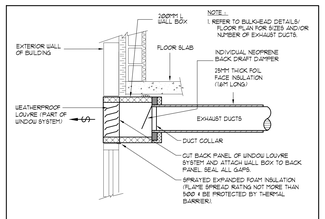
GARBAGE CHUTE OPENING DETAIL
N.T.S.



2-WAY VALVE PIPING ARRANGEMENT FOR 4-PIPE SYSTEM (SEPARATE COOLING/HEATING COILS)
N.T.S.



3-WAY VALVE PIPING ARRANGEMENT
N.T.S.



WALL BOX DETAIL
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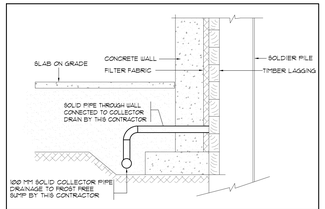
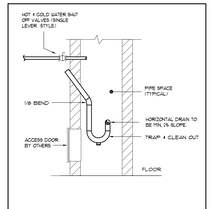


WEEPING TILE INSTALLATION DETAILS
N.T.S.



WASHER CONNECTION DETAIL
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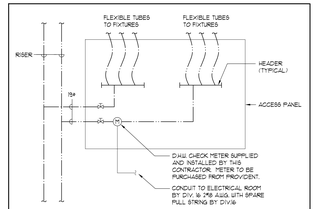
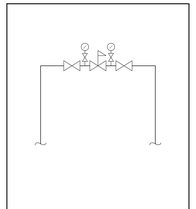
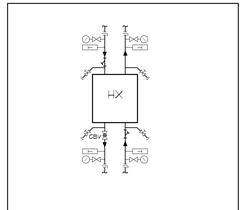


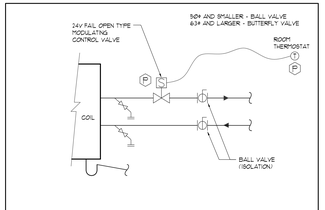
IN-SUITE D.H. & C.W. ARRANGEMENT BEHIND KITCHEN CABINET
N.T.S.



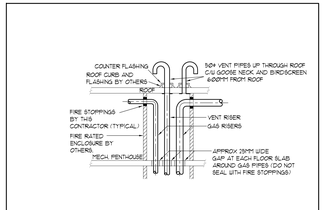
DOMESTIC PRV CONNECTION DETAILS
N.T.S.



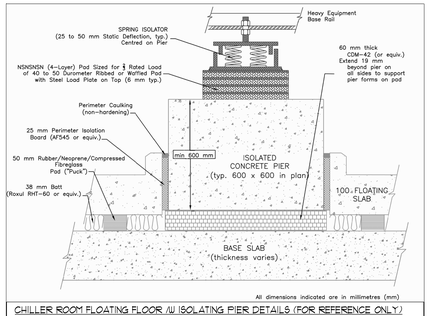
HEAT EXCHANGER
N.T.S.



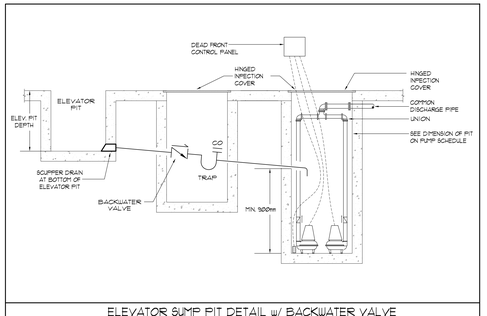
2-WAY VALVE PIPING ARRANGEMENTFOR 2-PIPE SYSTEM
N.T.S.



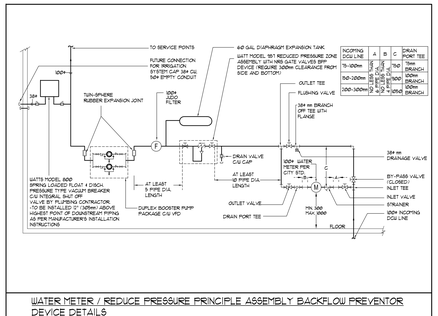
TYPICAL SECTION VIEW OF GAS PIPE RISERS
IF ENCLOSED BY FIRE RATED ENCLOSURE
NTS



CHILLER ROOM FLOATING FLOOR /W ISOLATING PIER DETAILS (FOR REFERENCE ONLY)
N.T.S.

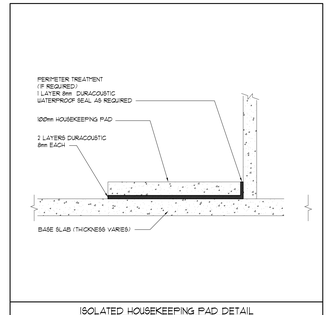


ELEVATOR SUMP PIT DETAIL w/ BACKWATER VALVE
N.T.S.

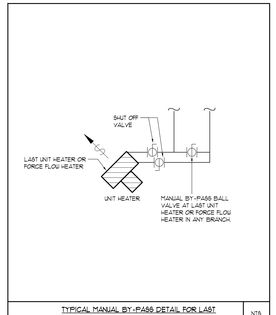


INCOMING DCW LINE	A	B	C	DRAIN PORT TEE
75-100mm	100mm	100mm	75Ø	75mm BRANCH
150-200mm	150mm	150mm	150mm	150mm BRANCH
250-300mm	200mm	200mm	200mm	200mm BRANCH

WATER METER / REDUCE PRESSURE PRINCIPLE ASSEMBLY BACKFLOW PREVENTOR DEVICE DETAILS
N.T.S.



ISOLATED HOUSEKEEPING PAD DETAIL
N.T.S.



TYPICAL MANUAL BY-PASS DETAIL FOR LAST UNIT OR FORCE FLOW HEATER IN SYSTEM
NTS

PRIORITY		ISSUED FOR:		E.P.
DATE	NO	DESCRIPTION		BY

MARK VOID ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

REVISIONS

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Fax: 905 882-9447
Email: cad@novatrendeng.com

DRAWING TITLE
DETAILS #1

PROJECT TITLE
ALEXANDRA PARK
XXX
TORONTO ONTARIO

DRAWN BY:	CHECKED BY:	SCALE:
G.S.	E.P.	N.T.S.
DATE:	PROJECT NUMBER:	DRAWING NUMBER:
FEB. 13	1313	M-38 OF 39

Drawing name: \\CADSERVER\Current Dwgs\1313 - Alexandra Park\DWG\1313M - SECTIONS.dwg Plotted: May 23, 2014 - 4:25pm

AIR HANDLING UNIT

SYMBOL	MANUFACTURER	MODEL	DUTY	CHILLED WATER COIL SECTION: AIR FLOW (CFM)	EAT (DB/WB) (°F)	LAT (DB/WB) (°F)	TOTAL CAP. (MBH)	SEN.CAP (MBH)	EWT (°F)	LWT (°F)	FLOW (USGPM)	FLUID	WPD (FT.)	APD (IN.)	FACE AREA (SQFT)	FARR VEL. (FPM)	SIZE	ROWS	FPI	HEATING COIL SECTION: AIR FLOW (CFM)	EAT (DB/WB) (°F)	LAT (DB/WB) (°F)	TOTAL CAP. (MBH)	EWT (°F)	LWT (°F)	FLOW (USGPM)	FLUID	WPD (FT.)	APD (IN.)	FACE AREA (SQFT)	FARR VEL. (FPM)	SIZE	ROWS	FPI	SUPPLY FAN SECTION: E.S.P.(IN)	REMARKS
AHU-1	YORK	SOLUTION SDV/D2	FRESH AIR	16,000 (13,500 MAX)	1.1.4	57.2/56.6	1213.00 0	1213.00 0	45	55	204.300 0	WATER	8.8	0	35.500 0	456	57.0x85	4	12	16,000 (13,500 MAX)	-10.0	14.3	1325.1	180	115	218.1000	40% E GLYCOL	8.8	0.26	5.0	4.50	80x50	3	11	25"	25	FAN TO CAU ABB VFD (U BYPASS), CLG COIL TO HAVE FACE AND 25% BYPASS DAMPER, INLET MOTORIZED DAMPER, FREESTAT TO SHUT DOWN FAN AND INLET MOTORIZED DAMPER. "ERV" D FILTERS AND "ERV" B PREFILTER, WITH MAGNAHELIC GAUGES TO MONITOR DIFFERENTIAL PRESSURE OF AIR FILTERS. UNIT SHALL HAVE SPARE CAPACITY TO SUPPLY 1600CFM AIRFLOW

FAN COIL UNIT (IN SUITE WITH INTEGRATE ERV)

FAN SECTION: SYMBOL	MAKE	MODEL	DESCRIPTION	DUTY	AIR FLOW	ESP (IN)	HP	V/HZ/Z	CHILLED WATER COIL PERFORMANCE: SUPPLY AIR (ERV) (CFM)	SUPPLY AIR (COIL) (CFM)	ERV NLET AIR TEMP (°F)	ERV SUPPLY AIR TEMP (°F)	LAT (°F)	TOTAL CAP. (MBH)	SEN. CAP (MBH)	EWT (°F)	LWT (°F)	FLOW (USGPM)	WPD (FT.)	HEATING WATER COIL PERFORMANCE: SUPPLY AIR (ERV) (CFM)	SUPPLY AIR (COIL) (CFM)	ERV NLET AIR TEMP (°F)	ERV SUPPLY AIR TEMP (°F)	LAT (°F)	TOTAL CAP. (MBH)	SEN. CAP (MBH)	EWT (°F)	LWT (°F)	FLOW (USGPM)	REMARKS

FAN COIL UNIT (IN-SUITE WITH INTEGRATED ERV)

FAN SECTION: SYMBOL	MAKE	MODEL	DESCRIPTION	DUTY	AIR FLOW	ESP (IN)	HP	V/HZ/Z	CHILLED WATER COIL PERFORMANCE: SUPPLY AIR (ERV) (CFM)	SUPPLY AIR (COIL) (CFM)	ERV NLET AIR TEMP (°F)	ERV SUPPLY AIR TEMP (°F)	LAT (°F)	TOTAL CAP. (MBH)	SEN. CAP (MBH)	EWT (°F)	LWT (°F)	FLOW (USGPM)	WPD (FT.)	HEATING WATER COIL PERFORMANCE: SUPPLY AIR (ERV) (CFM)	SUPPLY AIR (COIL) (CFM)	ERV NLET AIR TEMP (°F)	ERV SUPPLY AIR TEMP (°F)	LAT (°F)	TOTAL CAP. (MBH)	EWT (°F)	LWT (°F)	FLOW (USGPM)	WPD (FT.)	REMARKS
FCU-1T	UNILUX	DLE4ENT-ERV-TB	STACKED VERTICAL 2 PIPE	N-SUITE	450	0.2	1/3	115/1/60	75	375	69.6	77.1	54.2	9.5	8.2	45	54	2	1.2	75	375	-13	46.3	0.4.8	21.7	14.0	17.9	2	1.2	1) CAU ECM MOTOR (1.5KW HEATER AND RISERS, RISER SIZE SHALL MATCH RISER DIAGRAM, 3 WAY CONTROL VALVE FOR TOP 4 BOTTOM OF STACK, 2 WAY CONTROL VALVE FOR REMAINING UNITS, THERMAL METERS, PROGRAMTMABLE HEATING/COOLING THERMOSTAT HONEYWELL TB7220A1000 OR EQUAL), RETURN AIR LOUVRE, FCU TO BE PLACED ON RAISED LEGS SUCH THAT THE TOP OF THE SIDEWALL SUPPLY AIR GRILLE ARE TO BE 300m BELOW CEILING. FCU - 1T TO BE c/w "ERV" B FILTER. FCU - 1ST, 2T TO BE c/w "ERV" D FILTER.
FCU-1ST	UNILUX	DLE4ENT-ERV-TB	STACKED VERTICAL 2 PIPE	N-SUITE	400	0.2	1/3	115/1/60	75	325	69.6	77.1	54.3	11.5	9.6	45	54	2.5	2.6	75	325	-13	46.3	0.2.4	28.0	14.0	17.2	2.5	2.6																								
FCU-2T	UNILUX	DLE4ENT-ERV-TB	STACKED VERTICAL 2 PIPE	N-SUITE	400	0.2	1/3	115/1/60	75	325	69.6	77.1	54.3	11.5	9.6	45	54	2.5	2.6	75	325	-13	46.3	0.2.1	42.6	14.0	19.2	3.5	5.2																								
FCU-2ST	UNILUX	DLE4ENT-ERV-TB	STACKED VERTICAL 2 PIPE	N-SUITE					325		69.6	77.1	53.5	26	21.8	45	51	4	8.3	75	325	-13	46.3	0.3.0	53.1	14.0	12.6	4	8.3																								

FAN COIL UNIT (IN SUITE WITHOUT ERV)

FAN SECTION: SYMBOL	MAKE	MODEL	DESCRIPTION	DUTY	AIR FLOW	ESP (IN)	HP	V/HZ/Z	CHILLED WATER COIL PERFORMANCE: EAT (DB/WB) (°F)	LAT (DB/WB) (°F)	TOTAL CAP. (MBH)	SEN. CAP (MBH)	EWT (°F)	LWT (°F)	FLOW (USGPM)	WPD (FT.)	HEATING WATER COIL PERFORMANCE: EAT (DB) (°F)	LAT (DB) (°F)	TOTAL CAP. (MBH)	GLYCOL	EWT (°F)	LWT (°F)	FLOW (USGPM)	WPD (FT.)	WEIGHT (LBS)	REMARKS
TFC-1T	UNILUX	DLE4HD	2-PIPE VERTICAL FAN COIL	N-SUITE	450	0.2	1/6	115/1/60	78/67.1	55.7/54.5	14.5	13.0	45	55	2.6	2.5	70	120	26.8	0%	140	0.0	2.6	2.5		
TFC-1ST	UNILUX	DLE4HD	2-PIPE VERTICAL FAN COIL	N-SUITE	300	0.2	1/6	115/1/60	78/67.1	55.7/53.8	11.2	10.4	45	55	2.0	6.3	70	120	22.4	0%	140	0.0	2.0	6.3		
TFC-2T	UNILUX	DLE4HD	2-PIPE VERTICAL FAN COIL	N-SUITE	450	0.2	1/3	115/1/60	78/67.1	54.9/53.7	26.1	16.8	45	55	3.5	1	70	120	42.5	0%	140	0.0	3.5	1		

FAN COIL UNIT (AMENITY AND COMMON AREAS)

FAN SECTION: SYMBOL	MAKE	MODEL	DESCRIPTION	DUTY	AIR FLOW	ESP (IN)	HP	V/HZ/Z	CHILLED WATER COIL PERFORMANCE: EAT (DB/WB) (°F)	LAT (DB/WB) (°F)	TOTAL CAP. (MBH)	SEN. CAP (MBH)	EWT (°F)	LWT (°F)	FLOW (USGPM)	WPD (FT.)	HEATING WATER COIL PERFORMANCE: EAT (DB) (°F)	LAT (DB) (°F)	TOTAL CAP. (MBH)	GLYCOL	EWT (°F)	LWT (°F)	FLOW (USGPM)	WPD (FT.)	EAT (DB/WB) (°F)	LAT (DB/WB) (°F)	TOTAL CAP. (MBH)	SEN. CAP (MBH)	REFRIG. TYPE	COIL FV (FPM)	SUCTION CONN. (IN)	LIQUID CONN. (IN)	SYMBOL	HORIZONTAL DISCHARGE CONDENSER: MODEL	V/HZ/Z	MCA	FUSE SIZE	WEIGHT (LBS)	REMARKS

SPLIT HEAT PUMP SYSTEM

SYMBOL	MAKE	MODEL	DESCRIPTION	AIR FLOW (CFM)	ESP (IN)	TOT. HTG. CAP. (MBH)	TOT. CLG. CAP. (MBH)	SEN. CLG. CAP. (MBH)	MCA	MOCP	V/HZ/Z	WT. (LBS)	REMARKS

SELF-CONTAINED COOLING UNIT (FOR RETAIL)

SYMBOL	MAKE	MODEL	DESCRIPTION	AIR FLOW (CFM)	ESP (IN)	TOT. HTG. CAP. (MBH)	TOT. CLG. CAP. (MBH)	SEN. CLG. CAP. (MBH)	MCA	MOCP	V/HZ/Z	WT. (LBS)	REMARKS

INSTANTANEOUS INDIRECT WATER HEATER

SYMBOL	MAKE	MODEL	DESCRIPTION	TANK VOLUME (US GAL)	HEAT TRANSFER AREA (SQ.FT.)	UTILITY CONNECTION	BOILER CONNECTION	DIMENSIONS	REMARKS

COOLING TOWER SCHEDULE

SYMBOL	MAKE	MODEL	DESCRIPTION	DUTY	NOM. TONS	GPM	P.D. FT	ENTER. WTR °F	LVG. WTR °F	CFM	FAN HP	FAN VOLT.	WEIGHT (LBS)	SIZE	REMARKS
CT-1	BALTIMORE AIRCOIL	83E-022-0718	OPEN COOLING TOWER SINGLE CELL	CONDENSER WATER	6.00	1.800	-	95	85	14,5.6.0	40	NL	24,000	12'x12'L'x12'H	C/U ABB VFD WITH BAGNET COMPATIBLE WITH SIEMENS CONTROLS, ACCESS LADDER 4 HANDRAILS, CONTROL POWER PANEL, 23 INCHES DEFLECTION ISOLATOR, 2 LAYERS OF SAPILED NEOPRENE PADS.

BOILER SCHEDULE

SYMBOL	MAKE	MODEL	DESCRIPTION	DUTY	INPUT (MBH)	OUTPUT (MBH)	GPM	∆ T	P.D. FT	ENTER WTR °F	LVG WTR °F	WGHT (LBS)	VENT FLUE	INTAKE FLUE	SIZE	GAS	WATER CONNECTION	ELECTRICAL VOLTAGE	ELECTRICAL AMPERE	MOCP	CIR. HP	CIR. VOLTAGE	REMARKS

PUMP SCHEDULE

(ALL MOTORS SHALL BE HI-EFF. TYPE, ABB VFD WITH BAGNET COMPATIBLE WITH SIEMENS CONTROLS)

SYMBOL	MAKE	MODEL	DESCRIPTION	DUTY	GPM	FT HEAD	RPM	HP	V/HZ/Z	WEIGHT	REMARKS
DCUBP-1	ARMSTRONG	4.6.00 1-15-DE-2.6.0-H	DOMESTIC BOOSTER DUPLEX PACKAGE SYSTEM	DOMESTIC COLD WATER BOOSTER	21.0	3.6.1	3.4.0.0	3.0	575-3/60	2.2.6.4	C/U VFD, CONTROL PANEL.
DCUBP-2											

PLATE HEAT EXCHANGERS

SYMBOL	MAKE	MODEL	DESCRIPTION	DUTY	HEAT TRANSFER (MBH)	SIDE 1: ENTER	LVT	FLOW (GPM)	P.D. (psi)	FLUID	SIDE 2: ENTER	LVT	FLOW (GPM)	P.D. (psi)	FLUID	WGHT (LBS)	REMARKS

HOT WATER EQUIPMENT SCHEDULE

SYMBOL	MAKE	MODEL	DESCRIPTION	DUTY	HEAT TRANSFER (MBH)	HOT WATER COIL: ENTER	LVT	FLOW (GPM)	GPM	ESP.	HP	V/HZ/Z	WGHT (LBS)	REMARKS

FAN SCHEDULE

NOTE:
- ALL MOTOR 1 HP AND ABOVE SHALL BE HIGH-EFFICIENCY TYPE. — ALL FANS 15 HP AND LARGER TO BE C/U HOA STARTER
- VFD TO BE ABB C/U BAGNET COMPATIBLE WTH SIEMENS CONTROLS

SYMBOL	MAKE	MODEL	DESCRIPTION	DUTY	CFM	ESP (")	RPM	HP	V/HZ/Z	FAN DIMENSIONS	BALL OPENING	WEIGHT	REMARKS
EF-A	ZONEX	DSF15D	N-LINE	DRYER EXHAUST	140	0.4	0.7.5.0	"0.5	0.0/1.6.0			11	C/U LINT TRAP, RELAY TO INTERLOCK W DRYER.
EF-B	ZONEX	GF13D	N-LINE	WASHROOM EXHAUST	100	0.25	"1.0.0	0.0.2	0.0/1.6.0			14	C/U B.D.D., EXTRA LARGE HOUSING 4 SLIDING DAMPER, SOUND DATA NOT MORE THAN 1 SONE 4 ENERGY STAR COMPLIANT.
EF-1	CARNES	LTCK10K	WALL PROPELLER	P-2 STORAGE ROOM EXHAUST	3.0.0	0.25	1113	1/6	0.0/1.6.0			4.0	C/U MOTORIZED DAMPER WALL HOUSING WTH GUARD, BUTCH DAMPER GUARD 4 SPEED CONTROLLER.
EF-2	CARNES	LTCK10K	WALL PROPELLER	P-2 RESI. STORAGE ROOM 1 EXHAUST	12.0.0	0.25	8.6.1	1/6	0.0/1.6.0			5.0	C/U MOTORIZED DAMPER WALL HOUSING WTH GUARD, BUTCH DAMPER GUARD 4 SPEED CONTROLLER.
EF-3	CARNES	LTCK10K	WALL PROPELLER	P-2 RESI. STORAGE ROOM 2 EXHAUST	5.0.0	0.25	0.4.0	1/6	0.0/1.6.0			4.2	C/U MOTORIZED DAMPER WALL HOUSING WTH GUARD, BUTCH DAMPER GUARD 4 SPEED CONTROLLER.
EF-4	CARNES	VBK13L	N-LINE	P-2 RESI. STORAGE ROOM 3 EXHAUST	17.5.0	0.25	8.8.1	1/4	0.0/1.6.0				C/U B.D.D., ISOLATION KIT, AND BUTCH.
EF-5	CARNES	LTCK10K	WALL PROPELLER	P-2 STORAGE ROOM	3.0.0	0.25	1113	1/6	0.0/1.6.0			4.0	C/U MOTORIZED DAMPER WALL HOUSING WTH GUARD, BUTCH DAMPER GUARD 4 SPEED CONTROLLER.
EF-6	CARNES	LTCK10K	WALL PROPELLER	P-1 GENERATOR ROOM EXHAUST	5.0.0	0.25	0.4.0	1/6	0.0/1.6.0			4.2	C/U MOTORIZED DAMPER WALL HOUSING WTH GUARD, THERMOSTAT, DAMPER GUARD 4 SPEED CONTROLLER.
EF-7	CARNES	LTCK10K	WALL PROPELLER	P-1 LOCKER ROOM	3.0.0	0.25	1113	1/6	0.0/1.6.0			4.0	C/U MOTORIZED DAMPER WALL HOUSING WTH GUARD, BUTCH DAMPER GUARD 4 SPEED CONTROLLER.
EF-8	CARNES	LTCK12H	WALL PROPELLER	P-1 COMMUNICATION ROOM	3.0.0	0.25	1231	1/2	0.0/1.6.0			3.5	C/U MOTORIZED DAMPER WALL HOUSING WTH GUARD, THERMOSTAT, DAMPER GUARD 4 SPEED CONTROLLER.
EF-9	CARNES	LTCK10K	WALL PROPELLER	P-1 AHU ROOM EXHAUST	7.0.0	0.375	14.75	1/6	0.0/1.6.0			4.2	C/U MOTORIZED DAMPER WALL HOUSING WTH GUARD, THERMOSTAT, DAMPER GUARD 4 SPEED CONTROLLER.
EF-10	CARNES	VBK13R	N-LINE	P-1 CHILLER ROOM EXHAUST	3,0.0.0	0.375	1.55	3/4	575-3/60			16.2	C/U B.D.D., ISOLATION KIT, BUTCH 4 HOA STARTER(2- SPEED MOTOR (1 SPEED TO T-STAT, FULL SPEED TO REFRIGE SENSOR)
EF-11	CARNES	LUBK24S	WALL PROPELLER	P-1 TRANSFORMER ROOM EXHAUST	4.0.0.0	0.375	1.6.4	1	575-3/60			8.1	C/U MOTORIZED DAMPER WALL HOUSING WTH GUARD, THERMOSTAT, DAMPER GUARD 4 SPEED CONTROLLER.
EF-12	CARNES	LTCK10K	WALL PROPELLER	P-1 RESI. STORAGE ROOM EXHAUST	12.0.0	0.25	8.6.1	1/6	0.0/1.6.0			5.0	C/U MOTORIZED DAMPER WALL HOUSING WTH GUARD, BUTCH DAMPER GUARD 4 SPEED CONTROLLER.
EF-13	CARNES	LTCK10K	WALL PROPELLER	P-1 MECH ROOM (TURBOMAX) EXHAUST	2.5.0	0.25	11.8	1/6	0.0/1.6.0			4.0	C/U MOTORIZED DAMPER WALL HOUSING WTH GUARD, THERMOSTAT, DAMPER GUARD 4 SPEED CONTROLLER.
EF-14	CARNES	LTCK12H	WALL PROPELLER	P-1 LOCKER ROOM EXHAUST	1.5.0	0.25	5.7.0	1/2	0.0/1.6.0			3.5	C/U MOTORIZED DAMPER WALL HOUSING WTH GUARD, BUTCH DAMPER GUARD 4 SPEED CONTROLLER.
EF-15	CARNES	LTCK10K	WALL PROPELLER	P-1 MECH/SPRINK ROOM	6.0.0	0.25	13.8.6	1/6	0.0/1.6.0			4.2	C/U MOTORIZED DAMPER WALL HOUSING WTH GUARD, THERMOSTAT, DAMPER GUARD 4 SPEED CONTROLLER.
EF-16	CARNES	LTCK10K	WALL PROPELLER	P-1 COMMUNICATION ROOM 2 EXHAUST	3.0.0	0.25	1113	1/6	0.0/1.6.0			4.0	C/U MOTORIZED DAMPER WALL HOUSING WTH GUARD, THERMOSTAT, DAMPER GUARD 4 SPEED CONTROLLER.
EF-17	CARNES	LRBK34	WALL PROPELLER	P-2 PARKING EXHAUST	23,6.0.0	0.25	5.7.5	3	575-3/60			37.6.0	C/U MOTORIZED DAMPER WALL HOUSING WTH GUARD, DAMPER GUARD, VFD STEPP CONTROL TYPE 12 BY-PASS, AND GEAR/GENERIBOOT MOTOR, 600V/3V/1V STEP DOWN TRANSFORMER FOR MOTORIZED DAMPER. THE FAN SHALL BE ACTIVATED AND RUN AT 50% SPEED UPON RECEIPT OF CO SIGNAL FROM CO SENSOR. (SYSTEM IF THE CO SIGNAL STILL PRESENCE AFTER CONTINUOUS RUNNING FOR 10 MINUTES, THE FAN SHALL BE SWITCHED TO FULL SPEED AND RUN UNTIL THE CO SIGNAL IS OUT.
EF-18	CARNES	LRBK40	WALL PROPELLER	P-1 PARKING EXHAUST	38,7.0.0	0.25	5.7.2	5	575-3/60			48.0	C/U MOTORIZED DAMPER WALL HOUSING WTH GUARD, DAMPER GUARD, VFD STEPP CONTROL TYPE 12 BY-PASS, AND GEAR/GENERIBOOT MOTOR, 600V/3V/1V STEP DOWN TRANSFORMER FOR MOTORIZED DAMPER. THE FAN SHALL BE ACTIVATED AND RUN AT 50% SPEED UPON RECEIPT OF CO SIGNAL FROM CO SENSOR. (SYSTEM IF THE CO SIGNAL STILL PRESENCE AFTER CONTINUOUS RUNNING FOR 10 MINUTES, THE FAN SHALL BE SWITCHED TO FULL SPEED AND RUN UNTIL THE CO SIGNAL IS OUT.
EF-19	CARNES	VBK13M	N-LINE	G/F BIKE STORAGE ROOM EXHAUST	4.0.0	0.375	1.6.3	1/3	0.0/1.6.0			12.1	C/U B.D.D., ISOLATION KIT, AND BUTCH.
EF-20	CARNES	VBK13R	N-LINE	G/F GARBAGE ROOM EXHAUST	3,0.0.0	0.375	1.55	3/4	575-3/60			8.6	C/U MOTORIZED DAMPER WALL HOUSING WTH GUARD, DAMPER GUARD, THERMOSTAT, HOA STARTER AND SPEED CONTROLLER
EF-21	CARNES	VBK13M	N-LINE	G/F MOVING ROOM EXHAUST	1,3.0.0	0.375	1.3.0	5/6	0.0/1.6.0			12.1	C/U B.D.D., ISOLATION KIT, BUTCH 4 HOA STARTER.
EF-22	CARNES	LVTK7L	WALL PROPELLER	M/F BOILER ROOM EXHAUST	1,2.0.0	0.375	10.6.4	1/4	0.0/1.6.0			6.0	C/U B.D.D., ISOLATION KIT, BUTCH 4 HOA STARTER.
EF-23	GOODS		N-LINE	STAIR PRESSURIZATION	2,0.0.0	1	3.5.0.0	1	575-3/60			1.5.0	C/U B.D.D., ISOLATION KIT 4 HOA STARTER (6 VOLTAGE SENSING TIME DELAY RELAY SETTING (0-15s)

GRILLE AND DIFFUSER SCHEDULE

(ALL GRILLES AND DIFFUSERS HAVE STANDARD WHITE FINISH UNLESS SPECIFIED ELSEWHERE)

SYMBOL	MAKE	MODEL	DESCRIPTION	SIZE	REMARKS
SG-A	EH PRICE	S-4D	SINGLE DEFLECTION SUPPLY AIR GRILLE	3.0.0x0.0.0	C/U MULTI-DAMPER, COLOUR TO BE COORDINATED WITH ARCHITECT.
SG-B	EH PRICE	S-4D	SINGLE DEFLECTION SUPPLY AIR GRILLE	3.0.0x1.5.0	C/U MULTI-DAMPER, COLOUR TO BE COORDINATED WITH ARCHITECT.
SG-C	EH PRICE	S-4D	SINGLE DEFLECTION SUPPLY AIR GRILLE	4.0.0x1.5.0	C/U MULTI-DAMPER, COLOUR TO BE COORDINATED WITH ARCHITECT.
SG-D	EH PRICE	S-4D	SINGLE DEFLECTION SUPPLY AIR GRILLE	4.0.0x1.5.0	C/U MULTI-DAMPER, COLOUR TO BE COORDINATED WITH ARCHITECT.
SG-1	EH PRICE	CVD	TWO WAY CURVED VANE DIFFUSER	SEE DWG.	C/U O.B.D., COLOUR TO BE COORDINATED WITH INTERIOR DESIGNER.
SG-2	EH PRICE	S.1.D	SINGLE DEFLECTION SUPPLY AIR GRILLE	SEE DWG.	C/U O.B.D., COLOUR TO BE COORDINATED WITH INTERIOR DESIGNER.
SG-3	EH PRICE	6.1D.D.AL	SINGLE DEFLECTION ALUMINUM SUPPLY AIR GRILLE	SEE DWG.	C/U ALUMINUM O.B.D., COLOUR TO BE COORDINATED WITH INTERIOR DESIGNER.
SD-1	EH PRICE	SCD	4 WAY SUPPLY AIR DIFFUSER	4.0.0x4.0.0	C/U O.B.D., COLOUR TO BE COORDINATED WITH INTERIOR DESIGNER.
SD-2	EH PRICE	SCD	4 WAY SUPPLY AIR DIFFUSER	3.0.0x3.0.0	C/U O.B.D., COLOUR TO BE COORDINATED WITH INTERIOR DESIGNER.
LD-1	EH PRICE	SCD1.0.0	4 SLOT LINEAR DIFFUSER	1,2.0.0 LENGTH	C/U O.B.D. 4 PLENUM, COLOUR TO BE COORDINATED WITH INTERIOR DESIGNER.
LD-2	EH PRICE	SCD1.0.0	3 SLOT LINEAR DIFFUSER	1,2.0.0 LENGTH	C/U O.B.D. 4 PLENUM, COLOUR TO BE COORDINATED WITH INTERIOR DESIGNER.
LD-3	EH PRICE	SCD1.0.0	2 SLOT LINEAR DIFFUSER	1,2.0.0 LENGTH	C/U O.B.D. 4 PLENUM, COLOUR TO BE COORDINATED WITH INTERIOR DESIGNER.
EG-1	EH PRICE	6.1D.D.AL	SINGLE DEFLECTION ALUMINUM EXHAUST AIR GRILLE	SEE DWG.	C/U ALUMINUM O.B.D., COLOUR TO BE COORDINATED WITH INTERIOR DESIGNER.
EG-2	EH PRICE	S.1.D.D	SINGLE DEFLECTION EXHAUST AIR GRILLE	SEE DWG.	C/U O.B.D., COLOUR TO BE COORDINATED WITH ARCHITECT
EG-3	EH PRICE	6.0D.AL	EGG CRATE EXHAUST AIR GRILLE	SEE DWG.	C/U ALUMINUM O.B.D., COLOUR TO BE COORDINATED WITH INTERIOR DESIGNER.
RG-1	EH PRICE	80	EGG CRATE RETURN AIR GRILLE	4.0.0x4.0.0	COLOUR TO BE COORDINATED WITH INTERIOR DESIGNER.
RG-2	EH PRICE	80	EGG CRATE RETURN AIR GRILLE	3.0.0x3.0.0	COLOUR TO BE COORDINATED WITH INTERIOR DESIGNER.
RG-3	EH PRICE	80	EGG CRATE RETURN AIR GRILLE	6.0.0x3.0.0	COLOUR TO BE COORDINATED WITH INTERIOR DESIGNER.
LRD-1	EH PRICE	SCR1.0.0	2 SLOT LINEAR RETURN AIR DIFFUSER	1,2.0.0 LENGTH	C/U RETURN AIR PLENUM AND PAINTED BLACK INSIDE, COLOUR TO BE COORDINATED WITH INTERIOR DESIGNER.
LRD-2	EH PRICE	SCR1.0.0	3 SLOT LINEAR RETURN AIR DIFFUSER	1,2.0.0 LENGTH	C/U RETURN AIR PLENUM AND PAINTED BLACK INSIDE, COLOUR TO BE COORDINATED WITH INTERIOR DESIGNER.

PROJECT:		ISSUED FOR:	BY:
DATE	NO.	DESCRIPTION	BY

PLANS 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

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DRAWING TITLE: SCHEDULES

PROJECT TITLE: ALEXANDRA PARK

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TORONTO ONTARIO

DRAWN BY:	CHECKED BY:	SCALE:
G.S.	E.P.	N.T.S.
DATE: FEB. 13	PROJECT NUMBER: 1313	DRAWING NUMBER: M-39 OF 39

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