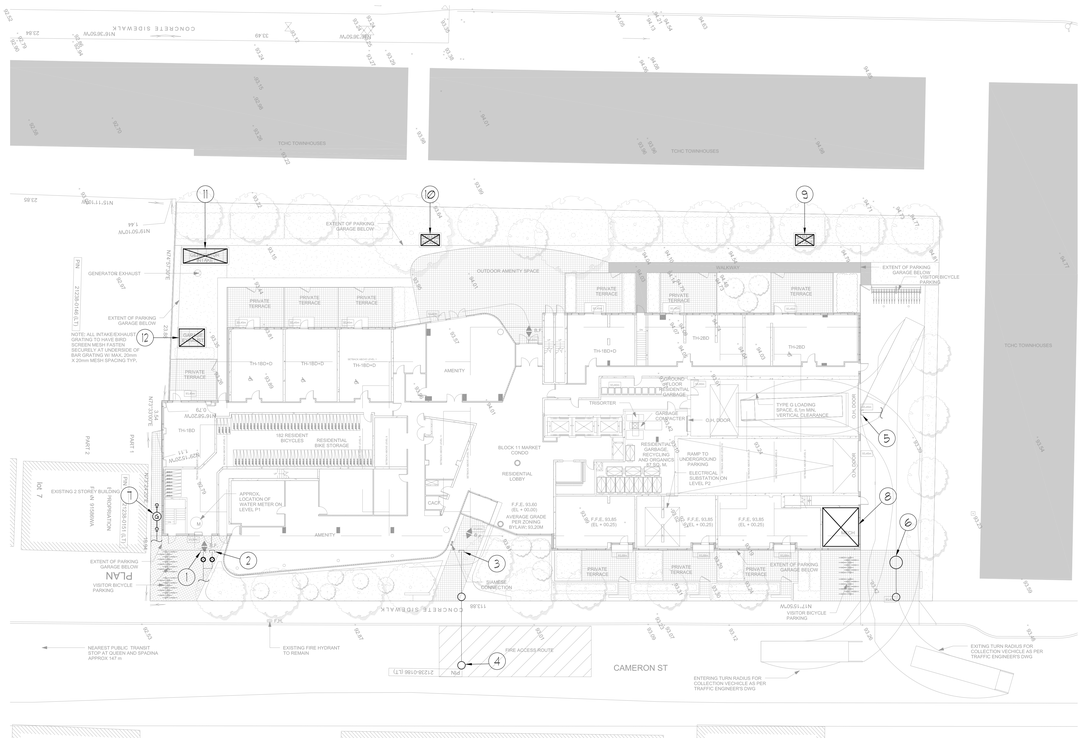
# ALEXANDRA PARK (#1313)
# MECHANICAL DRAWING LIST

| | | SCALE | 05/30/14 ISSUED FOR PERMIT |
|---|---|---|---|
| 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 ¶ | N.T.S. | √ |
| M-39 | SCHEDULES | N.T.S. | √ |

## 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 |
| | GAS METER |
| WM | 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 |




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. 89.00. 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. 2,250x1,300 (2.93 M², 31.5 FT²) FRESH AIR INTAKE SHAFT FOR P-1 LEVEL C/W GRATE BY OTHERS.
10. 2,250x1,300 (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.

| | | |
|---|---|---|
| 05/30/14 | ISSUED FOR PERMIT | E.P. |
| DATE | NO. DESCRIPTION | BY |

THARK 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 DISCREPANCIES TO THE ENGINEER 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 MANAGEMENT

LICENCED PROFESSIONAL ENGINEER 05/30/14 ERIC PUI KAI PUN PROVINCE OF ONTARIO

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Tel: 905 882-9449
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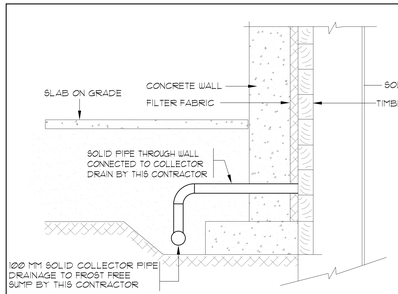

DRAWING TITLE:
SITE PLAN

PROJECT TITLE:
ALEXANDRA PARK

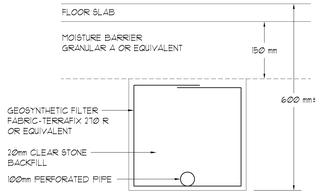
XXX
TORONTO ONTARIO

| 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\Updated Icloud Items\1\Alexandra_3560\13-136-1 (SITE PLAN).dwg Plotted: May 29, 2014 - 4:34pm

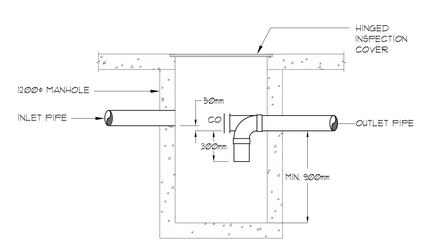



## WEEPING TILE INSTALLATION DETAILS
N.T.S.

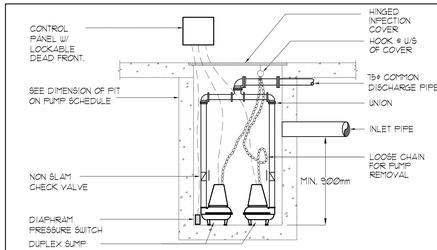



NOTES:
1) THE DRAINAGE TILE SHOULD BE INSTALLED ON A POSITIVE GRADIENT LEADING TO A FROST FREE SUMP.
2) THE MAXIMUM DISTANCE BETWEEN THE DRAINAGE TILES, PLACED IN PARALLEL ROWS, SHOULD NOT EXCEED 6m.
3) THE JOINTS BETWEEN THE FILTER FABRIC SHOULD OVERLAP AND THERE SHOULD BE NO GAPS OR TEARS IN THE FABRIC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

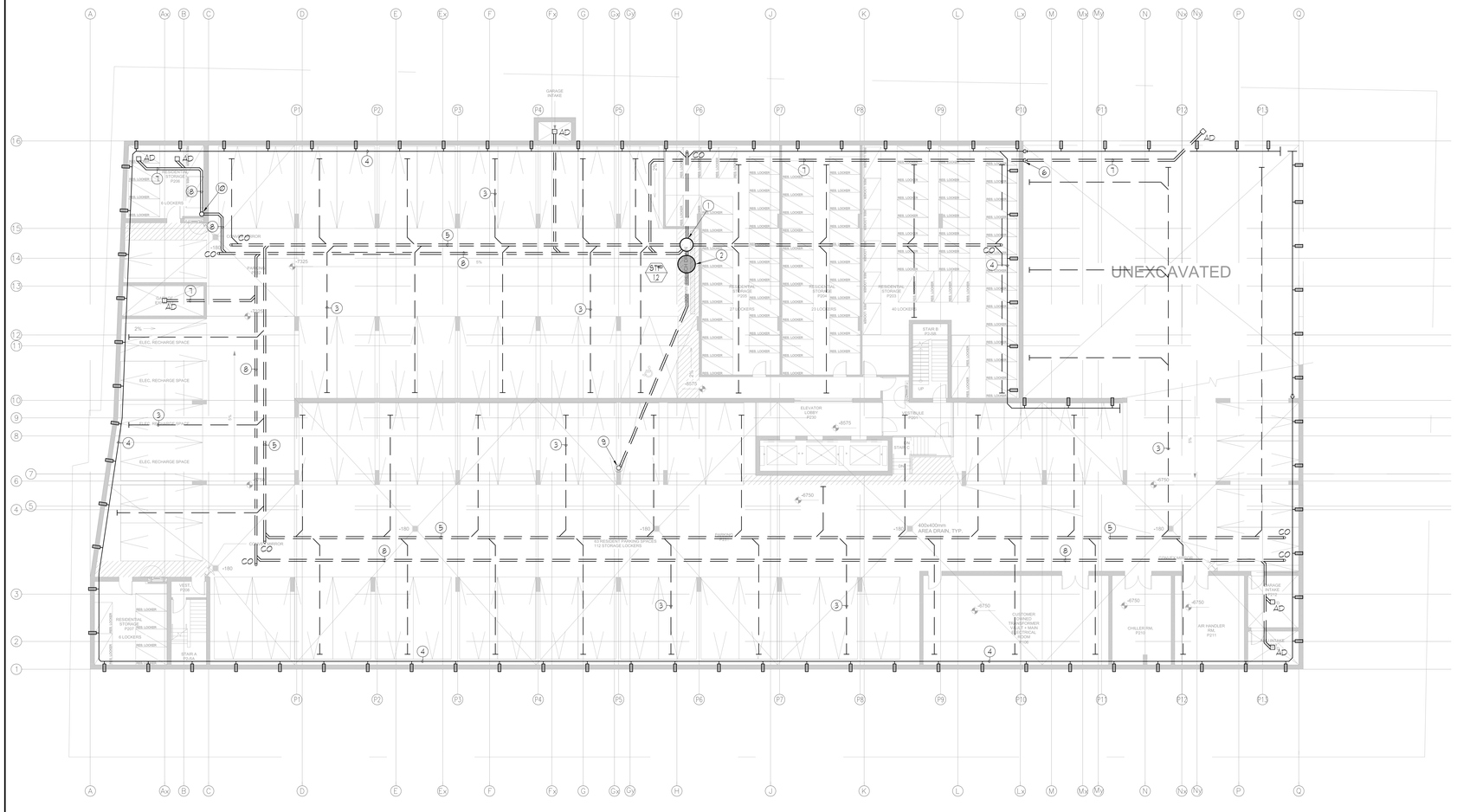
△ -mm CLEAR FLOOR TO UNDERSLAB

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 |
| | 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 | 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 |
| WM | 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 |
| T | 10' (+410) THERMOWELL C/G 1/2" BUSHING + 1/2" PLUG |
| | FLOOR ELEVATION ABOVE LEVEL |
| | FLOOR ELEVATION THIS LEVEL |
| | HEADROOM (FLOOR TO U/S HEIGHT) |



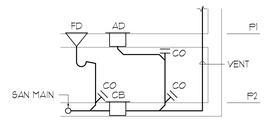

| | | | |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

## SANITARY PIT SP-1, SP-2

| QTY. | DESCRIPTION |
|---|---|
| 2 | BARNES 2SE-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 2SE-1054L SUBMERSIBLE PUMPS INSIDE A 1200MM SUMP PIT, EACH C/W 1 HP, 575 VOLT, 3 PHASE, 60 CYCLE C/W 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 REFRIGERANT 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 TROPFEN |
| | 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 | N-SUITE ERV MASTER SWITCH |
| S | N-SUITE ERV / 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 |
| BL-AD | 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 | 10"x4"ID 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) |

| DD.MM.YY | DATE NO | ISSUED FOR PERMIT / DESCRIPTION | BY |
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REVISIONS

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DRAWINGS ARE NOT TO BE SCALED


NOVA TREND ENGINEERING SERVICES LTD.

ERIC POI KAI PUN — 09/30/14 — LICENCE PROFESSIONAL ENGINEER — PROVINCE OF ONTARIO

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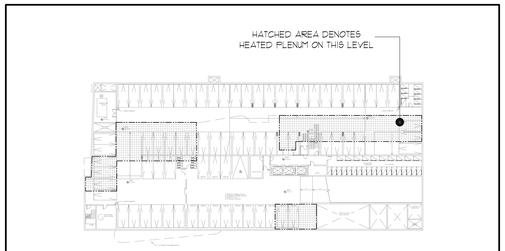

DRAWING TITLE:
P-2 FLOOR PLAN MECHANICAL LAYOUT

PROJECT TITLE:
ALEXANDRA PARK

XXX TORONTO ONTARIO

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

Drawing name: \\CADSERVER\Current Dwgs\1313 - Alexandra Park\1313-2M-2 PLAN - MECHANICAL LAYOUT.dwg Plotted: May 25, 2014 - 4:34pm



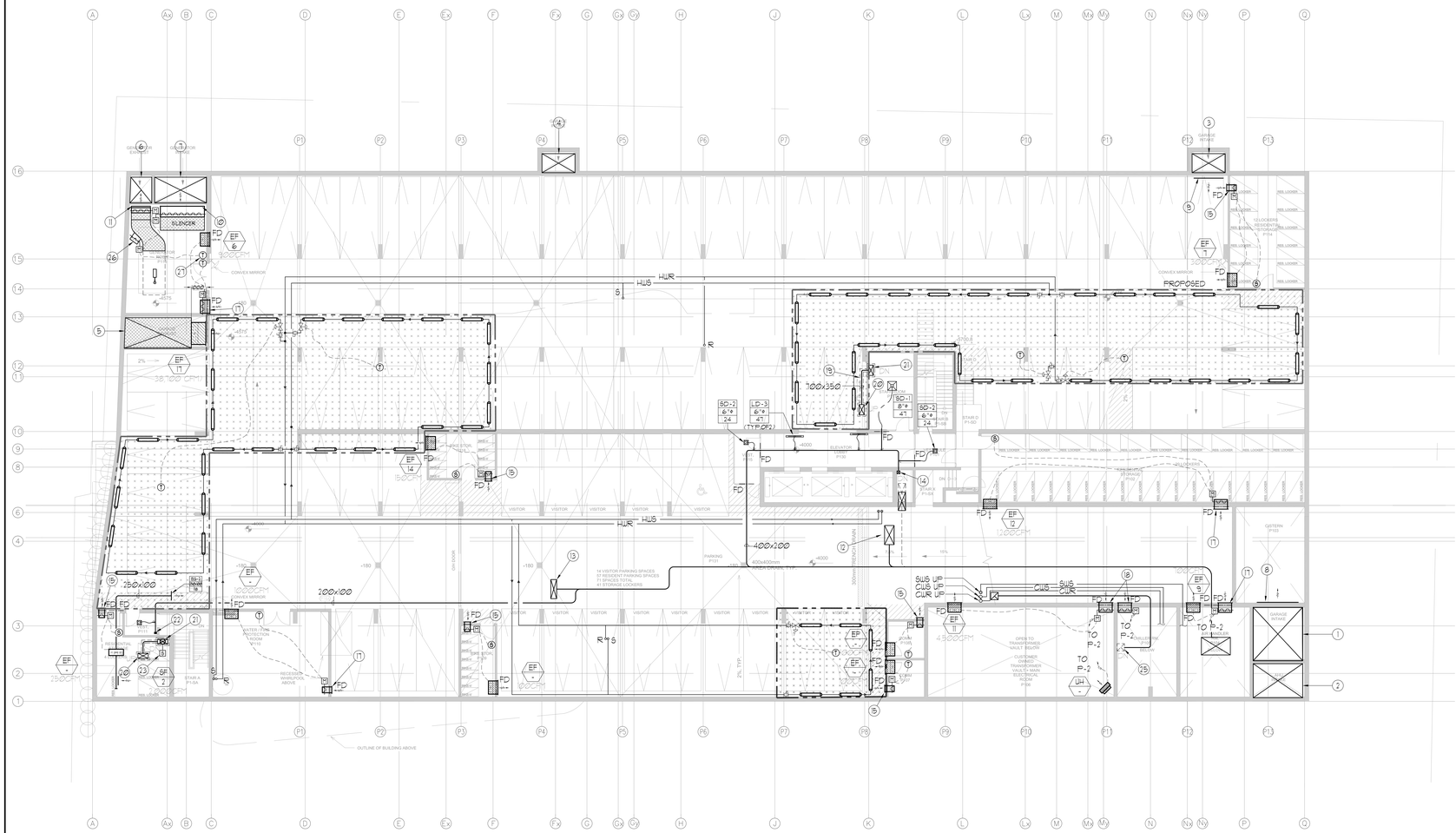

P-1 HEATED PLENUM | N.T.S.

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. 2,250x1300 (2.93 M², 31.5 FT²) FRESH AIR INTAKE SHAFT FOR P-1 LEVEL.
4. 2,250x1300 (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. (73,700 CFM)
10. 3,400x2,500 WEATHERPROOF INTAKE LOUVRE C/W MOTORIZED DAMPER AND WIRE MESH. (124,100 CFM)
11. 1,300x3,200 WEATHERPROOF EXHAUST LOUVRE C/W MOTORIZED DAMPER AND WIRE MESH. (73,000 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. 700x700 F/A DUCT DOWN C/W FIRE DAMPER AT SLAB.
15. 400x700 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 DOUN 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 |
| | 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 ) |
| | N-SUITE ERV MASTER SWITCH |
| | FAN SWITCH / N-SUITE ERV OVERRIDE BUTTON |
| | CO SENSOR |
| G | GAS LINE |
| | GAS METER |
| | GAS COCK |
| | PRESSURE REDUCING VALVE |
| | SANITARY ABOVE GRADE |
| | SANITARY BELOW GRADE |
| | STORM ABOVE GRADE |
| | STORM BELOW GRADE |
| | DOMESTIC COLD WATER |
| | DOMESTIC HOT WATER |
| | DOMESTIC HOT WATER RECIRCULATION |
| | SANITARY VENT |
| | WATER METER |
| FD | FLOOR DRAIN |
| FFD | FUNNEL FLOORR DRAIN |
| HD | HUB DRAIN |
| RD | ROOF DRAIN |
| BLD | BLAB DRAIN |
| AD | AREA DRAIN |
| BL-AD | BI-LEVEL AREA DRAIN |
| CB | CATCH BASIN |
| | SANITARY TRAP |
| | ELBOW UP |
| | ELBOU 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 |
| | 10"x4"ID THERMOWELL C/W 1/2" BUSHING X 1/2" PLUG |
| XXX' | FLOOR ELEVATION ABOVE LEVEL |
| XXX' | FLOOR ELEVATION THIS LEVEL |
| XXX' | HEADROOM (FLOOR TO UP 8' HEIGHT) |

| BY | NO | DESCRIPTION | DATE |
|---|---|---|---|
| E.P. | 1 | ISSUED FOR PERMIT | 05/30/14 |
| E.P. | NO | DESCRIPTION | DATE |

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05/30/14 — ERIC PUI KAI PUN — PROFESSIONAL ENGINEER — PROVINCE OF ONTARIO

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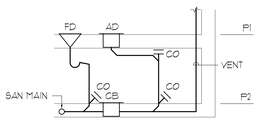
DRAWING TITLE:
P-1 FLOOR PLAN
HVAC LAYOUT

PROJECT TITLE:
ALEXANDRA PARK

XXX TORONTO ONTARIO

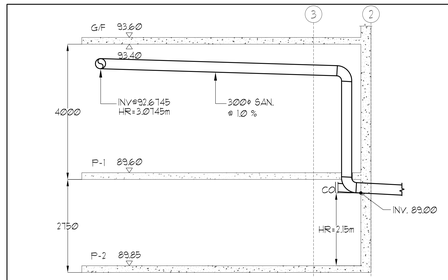
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| G.S. | E.P. | 1:100 |
| DATE: FEB. 13 | PROJECT NUMBER: 1313 | DRAWING NUMBER: M-4 OF 35 |

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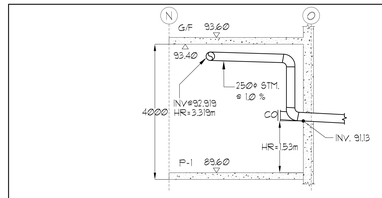



NOTE:
PRIME AND VENT TRAP OF FD/CB PER OBC PART 7 SECTION 7.5 (TYPICAL).

PARKING AREA DRAIN/CATCH BASIN SCHEMATIC




SANITARY PIPE DETAIL SECTION A-A | N.T.S.



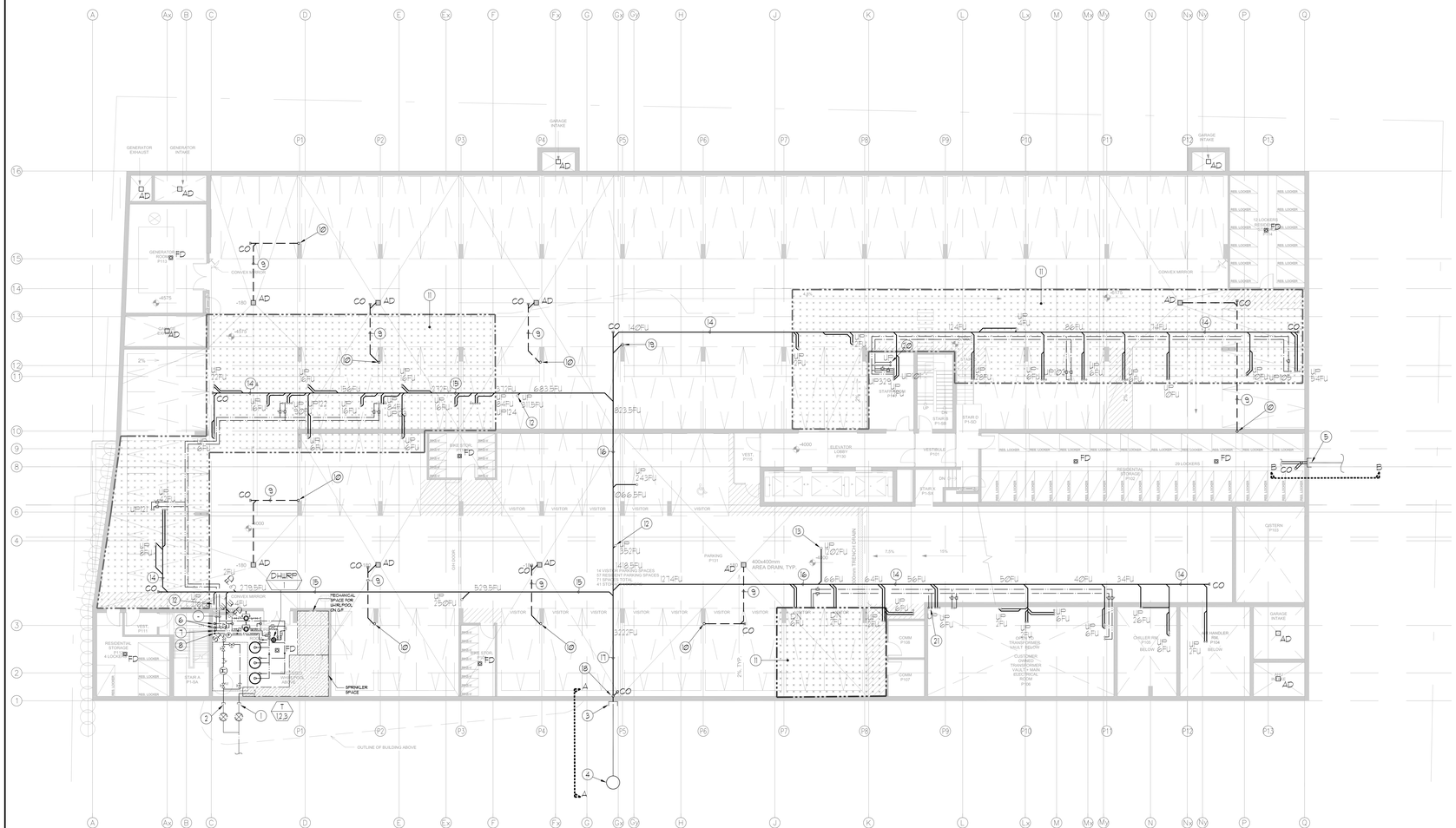

STORM PIPE DETAIL SECTION B-B | N.T.S.

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. 300ø 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




Drawing name: \\ADS05\RVDS\Current Dwgs\1313 - Alexandra Park\UP\1313-36e - 30P-1 PLAN - P&D LAYOUT.dwg
Printed: May 29, 2014 - 4:34pm

## LEGEND
## MECHANICAL

| SYMBOL | DESCRIPTION |
|---|---|
| | SUPPLY AIR DIFFUSER |
| | SUPPLY AIR TROPFER |
| | 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 |
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| | EXHAUST DUCT DOWN |
| FD | FIRE DAMPER |
| BD | BALANCING DAMPER |
| MD | MOTORIZED DAMPER |
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| BDD | BACKDRAFT DAMPER |
| OBD | OPPOSED BLADE VOLUME CONTROL DAMPER C/W LOCKING QUADRANT |
| | TURNING VANES |
| | FLEXIBLE CONNECTION |
| | ACOUSTIC INSULATION |
| XX | TYPE OF EQUIPMENT<br>EQUIPMENT IDENTIFICATION |
| XX<br>XXX | TYPE OF DIFFUSER OR GRILLE<br>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 FLOORE DRAIN |
| HD | HUB DRAIN |
| RD | ROOF DRAIN |
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| BLAD | BI-LEVEL AREA DRAIN |
| CB | CATCH BASIN |
| | SANITARY TRAP |
| | ELBOW UP |
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| 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 |
| | COMPRESSED AIR OUTLET |
| PV | BACKFLOW PREVENTER |
| | CIRCUIT BALANCING VALVE |
| | MULTIPLE PIPES<br>/ - DENOTES NO. OF PIPES |
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| T | THERMOMETER |
| 2W | 2-WAY MODULATING VALVE |
| 3W | 3-WAY MODULATING VALVE |
| T/P | 10"x4"ID THERMOWELL<br>C/W 1/2" BUSHING x 1/2" PLUG |
| XXX | FLOOR ELEVATION ABOVE LEVEL |
| XXX | FLOOR ELEVATION THIS LEVEL |
| XXX | ELEVATION (FLOOR TO U/S HEIGHT) |

| | | | |
|---|---|---|---|
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| DATE | NO | DESCRIPTION | BY |

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PROFESSIONAL ENGINEER
05/30/14
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PROVINCE OF ONTARIO

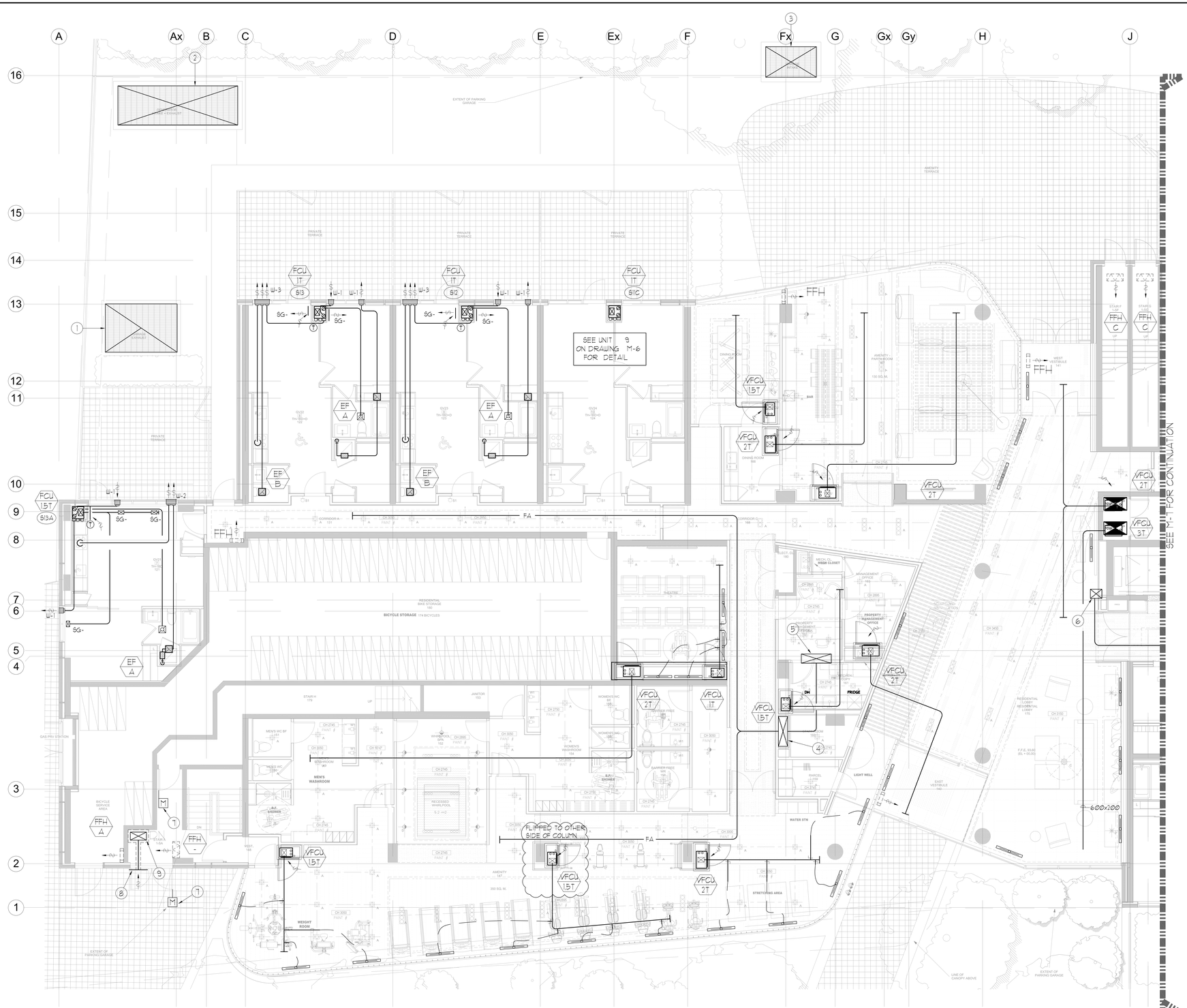
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Tel: 905 882-5445
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DRAWING TITLE:
P-1 FLOOR PLAN
P4D LAYOUT

PROJECT TITLE:
ALEXANDRA PARK

XXX
TORONTO ONTARIO

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




## 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.W.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 3.1.8.1

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.

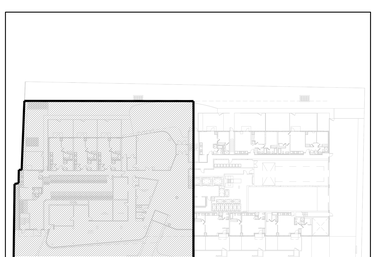
13) DRYER EXHAUST DUCT SHALL BE SMOOTH AND CORROSION-RESISTANT MATERIAL (FLEXIBLE CONNECTION IS NOT ACCEPTABLE).

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. 3,100x2,000 (6.2 M², 68 FT²) EXHAUST AIR SHAFT FOR P-1 & P-2 LEVEL C/W GRATE BY OTHERS.
2. 3,200x1,700 (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. 1,000x750 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 |
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| XX/XX | TYPE OF EQUIPMENT / EQUIPMENT IDENTIFICATION |
| XXX/XXX | TYPE OF DIFFUSER OR GRILLE / GRILLE SIZE OR DIFFUSER NECK SIZE |
| XXX/XX | AIRFLOW CFM OR L/S |
| XX/ XX | 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 SOCK |
| PR | PRESSURE REDUCING VALVE |
| | SANITARY ABOVE GRADE |
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| | DOMESTIC HOT WATER RECIRCULATION |
| | SANITARY VENT |
| WM | WATER METER |
| FD | FLOOR DRAIN |
| FFD | FUNNEL FLOORR DRAIN |
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| | 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 |
| | 10"x4"TO 7"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) |

| DATE | NO | DESCRIPTION | BY |
|---|---|---|---|
| 05/30/14 | | ISSUED FOR PERMIT | E.P. |

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## REVISIONS

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DRAWINGS ARE NOT TO BE SCALED


NOVA TREND ENGINEERING TECHNOLOGIES

LICENCED PROFESSIONAL ENGINEER — ERIC PUI KAI PUN — 05/30/14 — PROVINCE OF ONTARIO

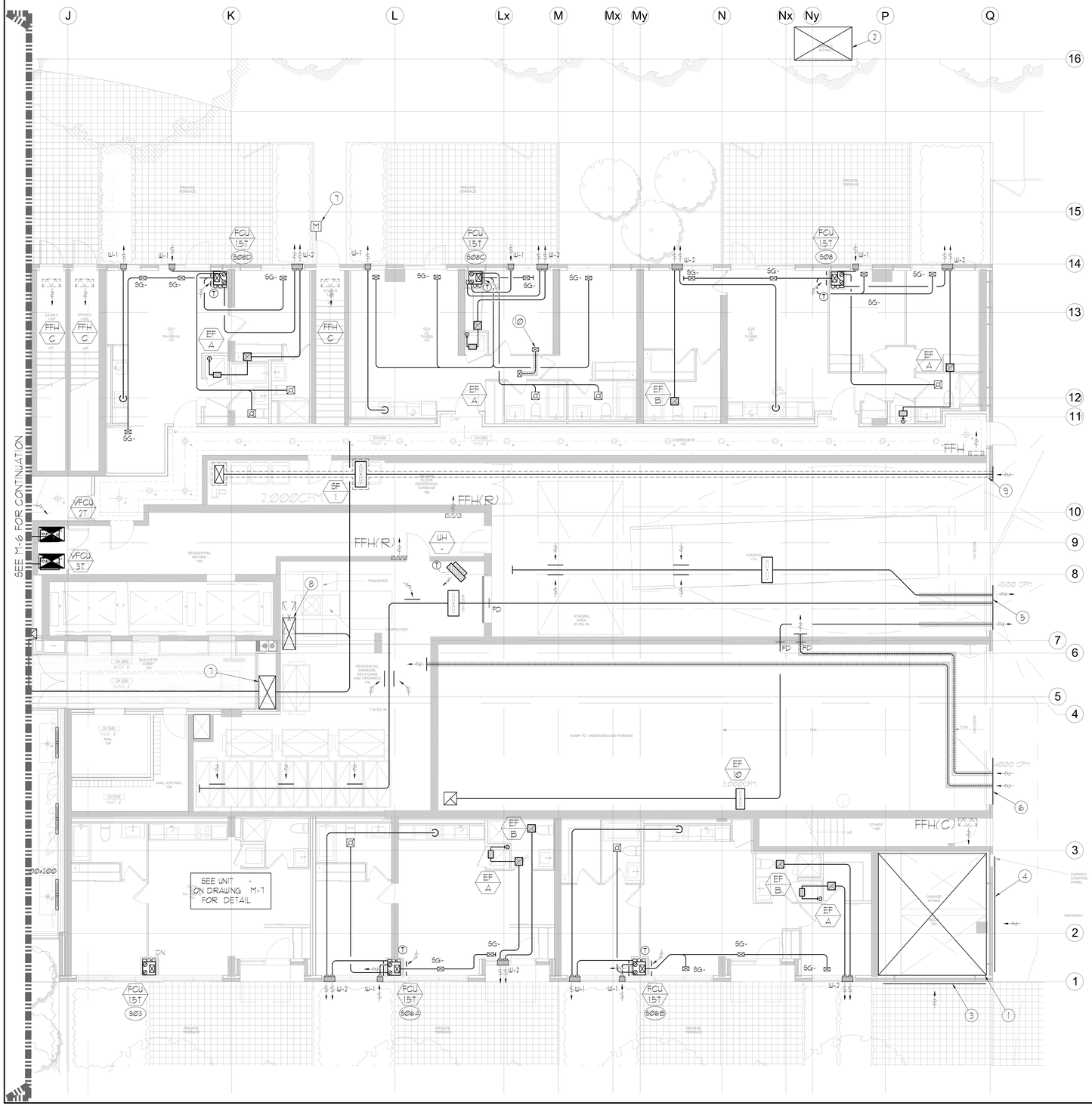
175 West Beaver Creek Road Unit 31
Richmond Hill, Ontario L4B 3M1
Tel: 905 882-5445
Fax: 905 882-5447
Email: cad@novatrendeng.com

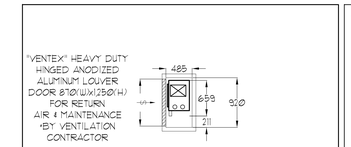

DRAWING TITLE
G/F SOUTH
HVAC DUCTWORK LAYOUT

PROJECT TITLE
ALEXANDRA PARK
XXX
TORONTO ONTARIO

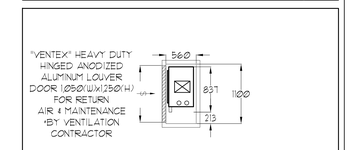
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| G.S. | E.P. | 1:50 |
| DATE: | PROJECT NUMBER: | DRAWING NUMBER: |
| FEB. 13 | 1313 | M-6 OF 35 |

Drawing name: \\CADSERVER\Current Dwg\1\1313 - Alexandra Park\Dwf\1\1313M - 6 (7)G.F PLAN - SOUTH & NORTH DUCTWORK LAYOUT.dwg Printed: May 29, 2014 - 4:33pm

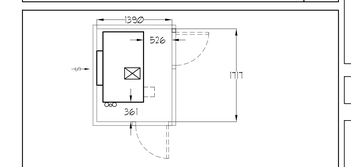


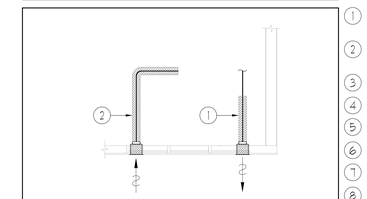

TYPICAL MECH. CLOSET FOR VERTICAL FCU (FCC-1T TO 15T) AT COMMON AREA — N.T.S.




TYPICAL MECH. CLOSET FOR VERTICAL FCU (FCC-2T TO 3T) AT COMMON AREA — N.T.S.




TYPICAL MECH. CLOSET FOR VERTICAL FCU (FCC-5T) 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:

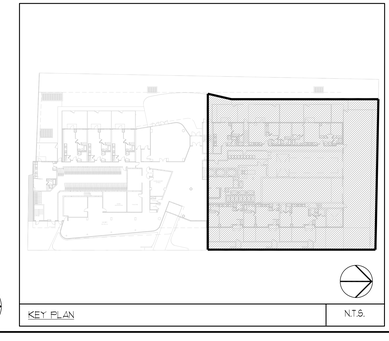
1) CONTRACTOR SHALL CO-ORDINATE ARCHITECTURAL, STRUCTURAL, LIGHTING, HVAC, SPRINKLER DRAWINGS TO AVOID AREAS OF CONFLICT AND TO MAINTAIN CEILING HEIGHTS.
2) CONTRACTOR SHALL REPORT ALL DISCREPANCIES AND AREA OF CONFLICTS TO THE ENGINEER PRIOR TO WORK BEGINS.
3) PROVIDE EXPANSION CHAMBERS FOR ALL KITCHEN SINKS.
4) SEE INSTALLATION DETAILS DRAWING FOR WASHER DOM. 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.W.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. 4,200x4,700 (19.7 M², 212.5 FT²) FRESH AIR INTAKE SHAFT FOR P-1 & P-2 LEVEL AND MAU-1.
2. 2,250x1,300 (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. 4,500x3,200 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. (4,500 CFM)
7. 650x1,300 F/A DUCT FROM BELOW C/W FIRE DAMPER AT SLAB.
8. 1,250x500 F/A DUCT UP TO NORTH SHAFT C/W FIRE DAMPER AT SLAB.
9. 2Hr FIRE RATED ENCLOSURE. FIRE RATED ENCLOSURE BY OTHERS.
10. 300X1,250 TRANSFER AIR DUCT c/w INTERNAL ACOUSTIC LINING AND TWO 300x1,250 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) | TYPE OF EQUIPMENT EQUIPMENT IDENTIFICATION |
| XXX/XXX | 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 |
| | 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 |
| | 10"x4"ID 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) |

| BY/DATE | NO. | DESCRIPTION | BY |
|---|---|---|---|
| | | ISSUED FOR PERMIT | E.P. |

MARK VOID ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

REVISIONS

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NOVA TREND ENGINEERING CONSULTING LTD.

ERIC PUI KAI AU — 25,320 — PROFESSIONAL ENGINEER — PROVINCE OF ONTARIO

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


DRAWING TITLE
G/F NORTH
HVAC DUCTWORK LAYOUT

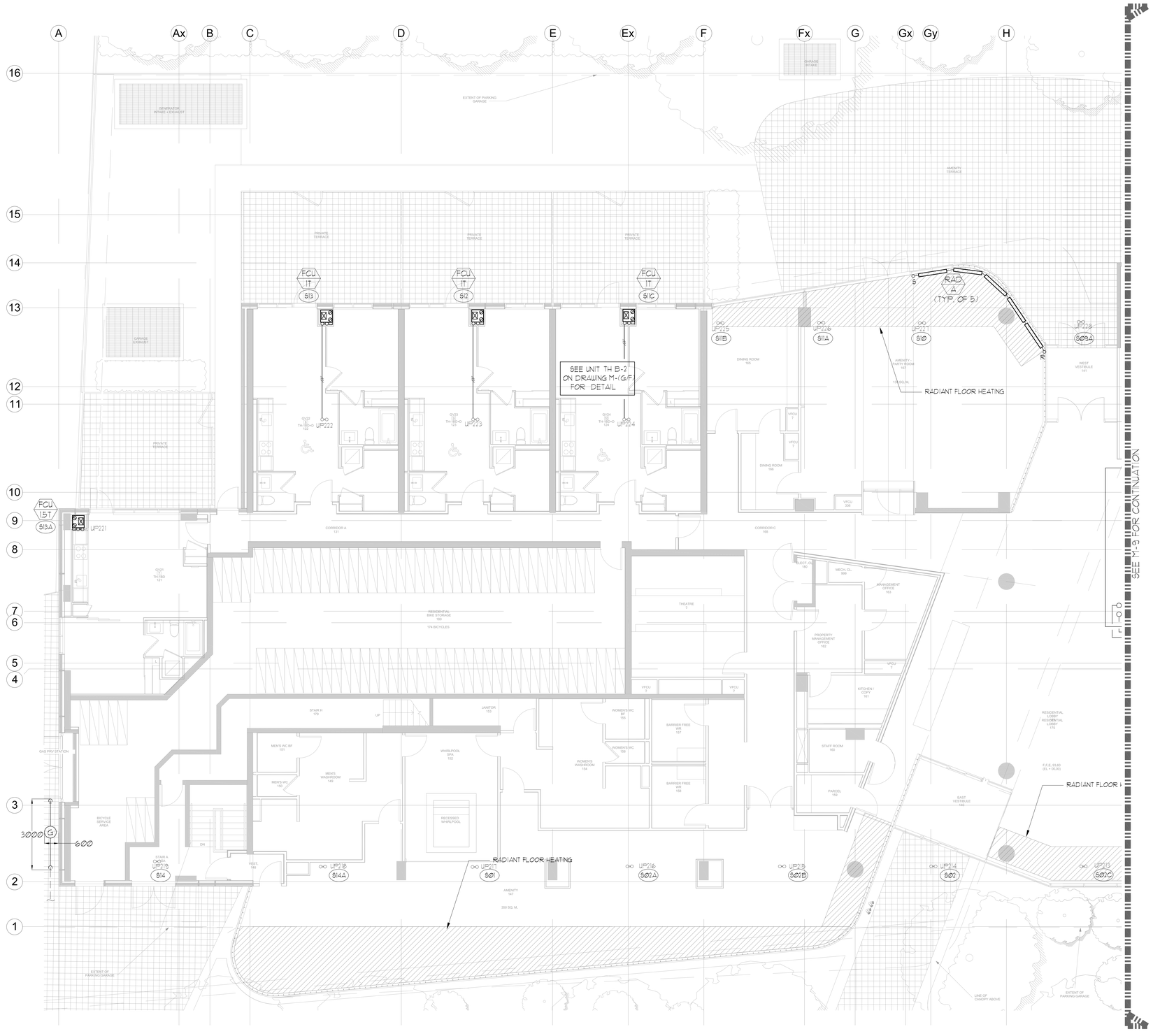
PROJECT TITLE
ALEXANDRA PARK

XXX
TORONTO ONTARIO

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| G.S. | E.P. | 1:50 |
| DATE: | PROJECT NUMBER: | DRAWING NUMBER: |
| FEB. 13 | 1313 | M-7 |

OF 35


Drawing name: \\CADSERVER\Current Dwgs\1313 - Alexandra Park\M\1313-M-7 P1 PLAN - 2000m & NORTH DUCTWORK LAYOUT.dwg Plotted: May 29, 2014 - 4:25pm




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.

## LEGEND MECHANICAL

| SYMBOL | DESCRIPTION |
|---|---|
| | SUPPLY AIR DIFFUSER |
| | SUPPLY AIR TROFFER |
| | LINEAR SUPPLY DIFFUSER |
| T | THERMOSTAT |
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| | TURNING VANES |
| | FLEXIBLE CONNECTION |
| | ACOUSTIC INSULATION |
| XX/X | 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 |
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| BL-AD | BI-LEVEL AREA DRAIN |
| CB | CATCH BASIN |
| | SANITARY TRAP |
| | ELBOW UP |
| | ELBOW DOWN |
| CO | WALL CLEANOUT |
| CO | FLOOR CLEANOUT |
| HB | HOSE BIBB |
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| | 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 |
| | 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 TAG LEVEL |
| XXX | HEADROOM FLOOR TO U/S HEIGHT |

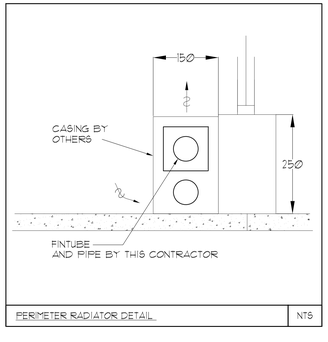
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| 05/30/14 | | ISSUED FOR PERMIT | E.P. |
| DATE | NO. | DESCRIPTION | BY |

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REVISIONS

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PERIMETER RADIATOR DETAIL — NTS

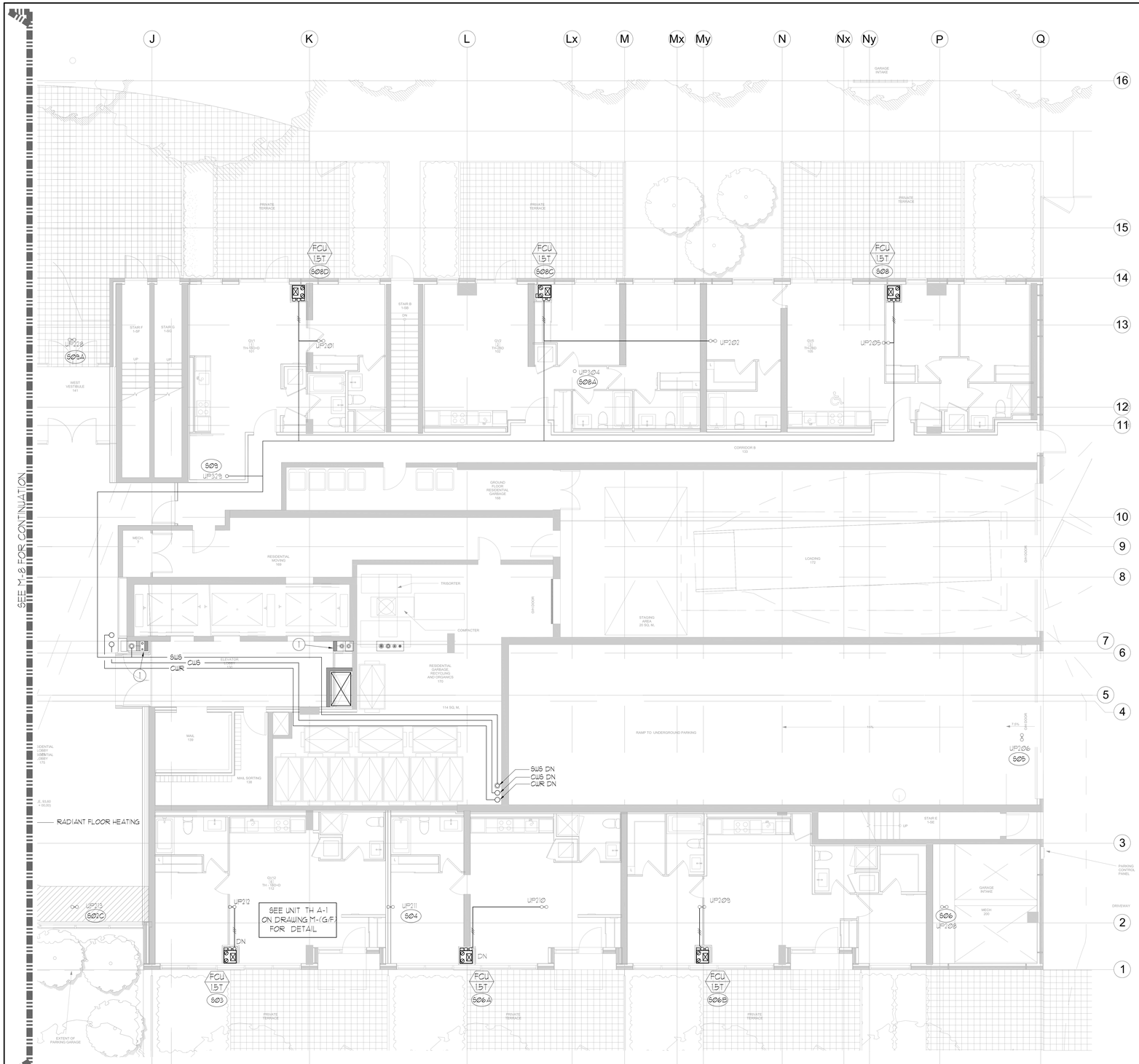
NOVA TREND ENGINEERING SERVICES LTD.
LICENCE OF AUTHORITY
05/30/14
ERIC PUI KAI PUN
POWER PROFESSIONAL ENGINEER
PROVINCE OF ONTARIO
115 West Beaver Creek Road, Unit 31
Richmond Hill, Ontario L4B 3M1
Tel: 905 882-9445
Fax: 905 882-9447
Email: ca@novatrendeng.com

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: | PROJECT NUMBER: | DRAWING NUMBER: |
| FEB. 13 | 1313 | M-2 OF 39 |

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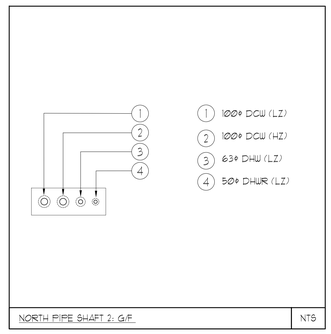



REFER TO DWG. M-X FOR GENERAL AND ACOUSTIC NOTES

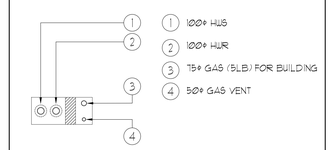
CLEAR FLOOR TO UNDERSLAB = 4050mm
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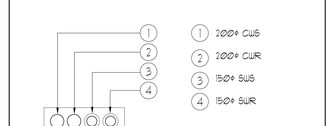
1. PIPE SHAFT - REFER TO PIPE RISER DETAIL ON THIS DRAWING FOR DETAILS.
2.
3.
4.




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 TROPFER |
| | LINEAR SUPPLY DIFFUSER |
| T | THERMOSTAT |
| S | FAN SWITCH |
| | RETURN AIR GRILLE |
| | EXHAUST AIR GRILLE |
| | SUPPLY DUCT UP |
| | SUPPLY DUCT DOWN |
| | RETURN DUCT UP |
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| | 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 |
| M/A | TYPE OF EQUIPMENT EQUIPMENT IDENTIFICATION |
| XX/A | TYPE OF DIFFUSER OR GRILLE |
| XXX | GRILLE SIZE OR DIFFUSER NECK SIZE |
| XXX | AIRFLOW CFM OR L/S |
| 3Ø/ | 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 |
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| | 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 |
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| 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 |
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| | PRESSURE REDUCING VALVE |
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| | CAP |
| | COMPRESSED AIR OUTLET |
| | BACKFLOW PREVENTER |
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| | MULTIPLE PIPES / - DENOTES NO. OF PIPES |
| T | TEMPERATURE SENSOR |
| T | THERMOMETER |
| | 2-WAY MODULATING VALVE |
| | 3-WAY MODULATING VALVE |
| | 1/2"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) |

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| 29/05/14 | 1 | ISSUED FOR PERMIT | E.P. |
| DATE | NO. | DESCRIPTION | BY |

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REVISIONS

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NOVA TREND ENVIRONMENTAL GROUP LTD.

ERIC PUI KAI AU
29/05/14
PROFESSIONAL ENGINEER
PROVINCE OF ONTARIO

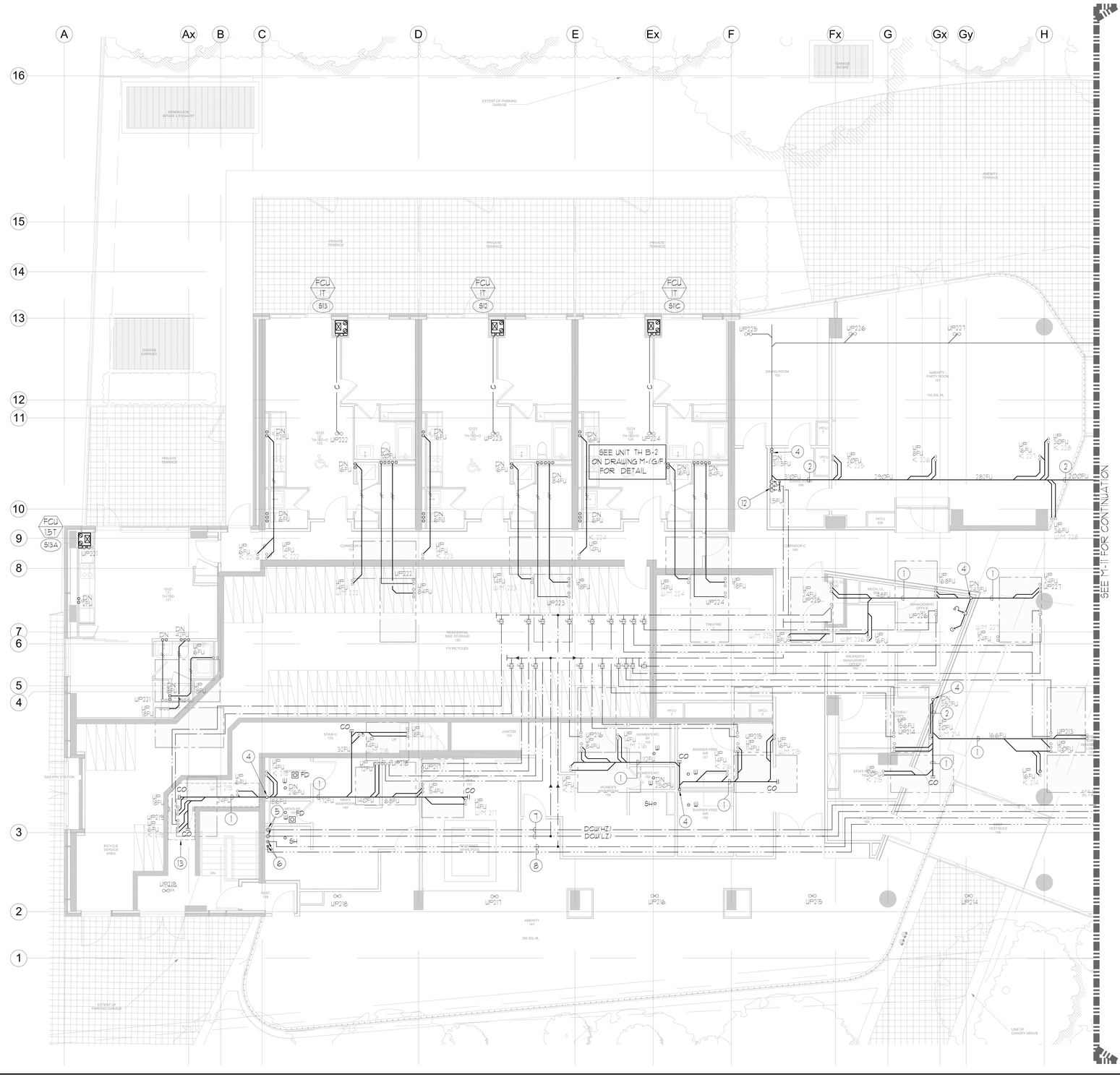
73 West Beaver Creek Road, Unit 31
Richmond Hill, Ontario L4B 3M1
Tel: 905 882-5448
Fax: 905 882-5447
Email: cad@novatrendeng.com


DRAWING TITLE
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: | PROJECT NUMBER: | DRAWING NUMBER: |
| FEB. 13 | 1313 | M-9 OF 39 |


Drawing name: \\CADSERVER\Current Dwg's\1313 - Alexandra Park\DWG\1313M-9_G/F PLAN -500cm & NORTH HVAC PIPING LAYOUT.dwg Plotted: May 29, 2014 - 4:50pm




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 |
| 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 | N-SUITE ERV MASTER SWITCH |
| S | FAN SWITCH / N-SUITE ERV OVERRIDE BUTTON |
| CO | CO SENSOR |
| G | GAS LINE |
| G | GAS METER |
| G | GAS SOCK |
| 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 |
| 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 |
| BV | 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"ID 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) |

| BY | DESCRIPTION | DATE | NO |
|---|---|---|---|
| EP | ISSUED FOR PERMIT | 05/30/14 | |
| BY | DESCRIPTION | DATE | NO |

PLEASE VOID ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

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DRAWINGS ARE NOT TO BE SCALED


NOVA TREND ENGINEERING GROUP, LTD.

05/30/14
ERIC PUI KAI PUN
100113611
PROFESSIONAL ENGINEER
PROVINCE OF ONTARIO

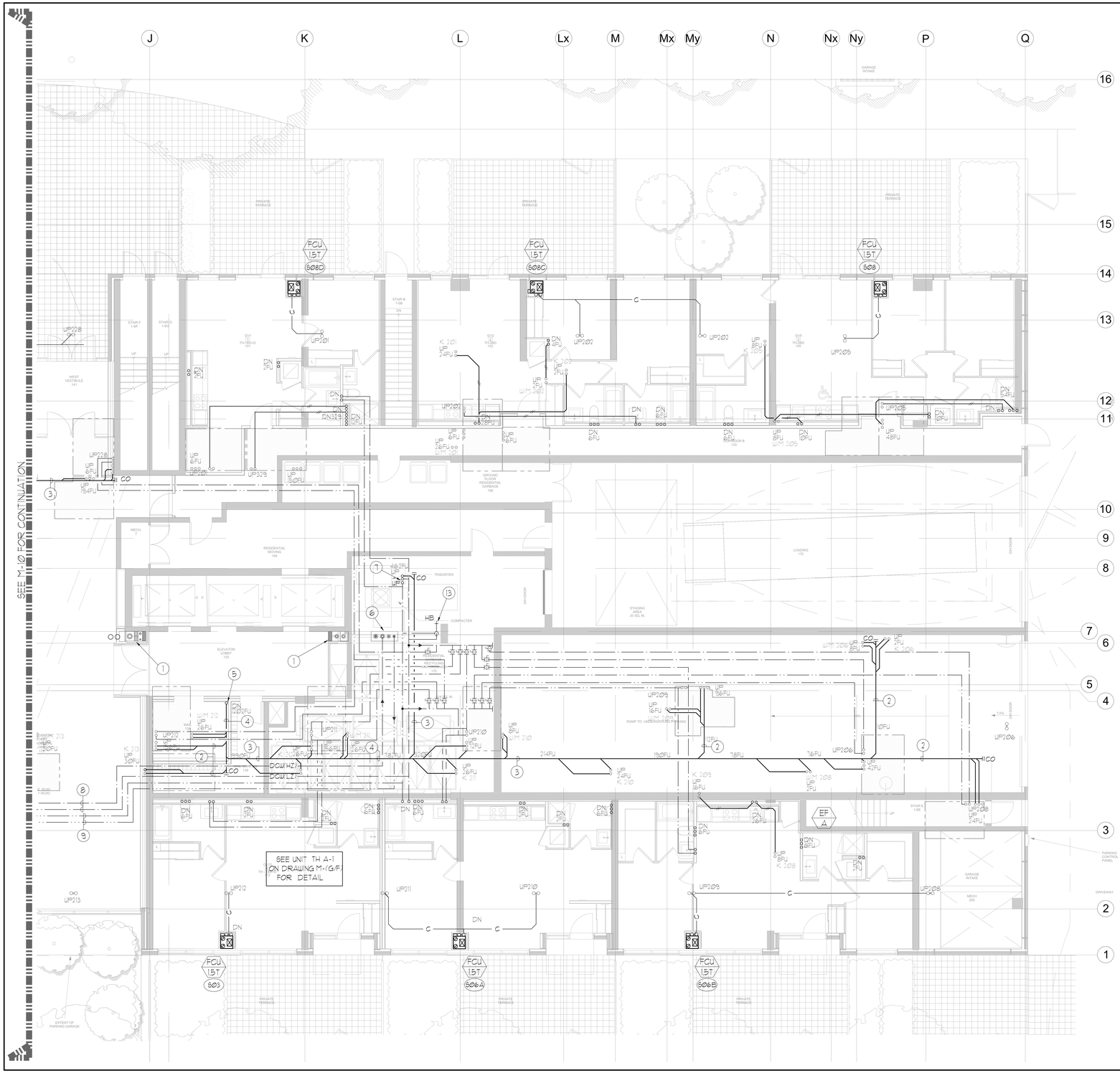
179 West Beaver Creek Road Unit 31
Richmond Hill, Ontario L4B 3M1
Tel: 905 882-5445
Fax: 905 882-5447
Email: cad@novatrendeng.com

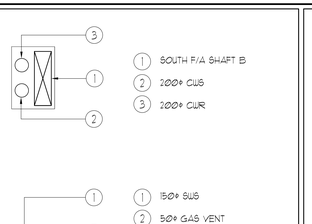

DRAWING TITLE
G/F SOUTH
P4D LAYOUT

PROJECT TITLE
ALEXANDRA PARK
XXX
TORONTO ONTARIO

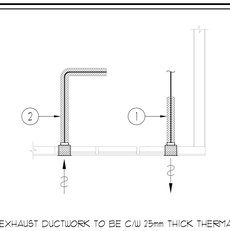
| DRAWN BY | CHECKED BY | SCALE |
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| G.S. | E.P. | 1:50 |
| DATE | PROJECT NUMBER | DRAWING NUMBER |
| FEB. 13 | 1313 | M-10 OF 35 |


Drawing name: \\CADSERVER\Current Dwg\1\1313 - Alexandra Park\Dwf\1\1313M - 10_1100 PLAN - SOUTH & NORTH HVAC P&D (a0%20).dwg Plotted: May 29, 2014 - 4:35pm


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PRIVATE TERRACE
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FCU 1.5T 608D
FCU 1.5T 608C
FCU 1.5T 608
FCU 1.5T 603
FCU 1.5T 606A
FCU 1.5T 606B
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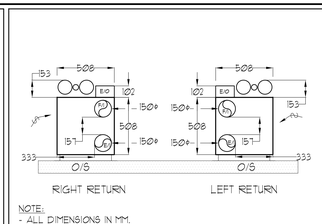



SOUTH PIPE SHAFT: 2/F - T/F. | NTS




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 | 15 | 16 | 2 | 553 |
| 202 | 2VT | 655 | 2 | Ø | 15 | 16 | 2 | 437 |
| 205 | 2RT | 670 | 2 | Ø | 15 | 16 | 2 | 447 |
| 206 | 1F | 510 | 1 | Ø | 1 | 10 | 1 | 510 |
| 208 | 1JT | 560 | 1 | Ø | 15 | 10 | 1 | 560 |
| 209 | 1GT | 530 | 1 | Ø | 1 | 10 | 1 | 530 |
| 210 | 1C+D2T | 590 | 2 | Ø | 1 | 16 | 1 | 590 |
| 211 | 1C+D1T4 | 590 | 2 | Ø | 1 | 16 | 1 | 590 |
| 212 | 1C+D1T3 | 590 | 2 | Ø | 1 | 16 | 1 | 590 |
| 213 | 1C+D | 590 | 2 | Ø | 1 | 16 | 1 | 590 |
| 214 | 1C+D1T2 | 590 | 2 | Ø | 1 | 16 | 1 | 590 |
| 215 | 1C+D2T | 600 | 2 | Ø | 1 | 16 | 1 | 600 |
| 216 | 1C+D1T | 610 | 2 | Ø | 1 | 16 | 1 | 610 |
| 217 | 1DT | 480 | 1 | Ø | 1 | 10 | 1 | 480 |
| 218 | 1C+D2T | 570 | 1 | 1 | 1 | 16 | 1 | 570 |
| 219 | 2G | 700 | 2 | Ø | 15 | 16 | 1 | 467 |

| 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:

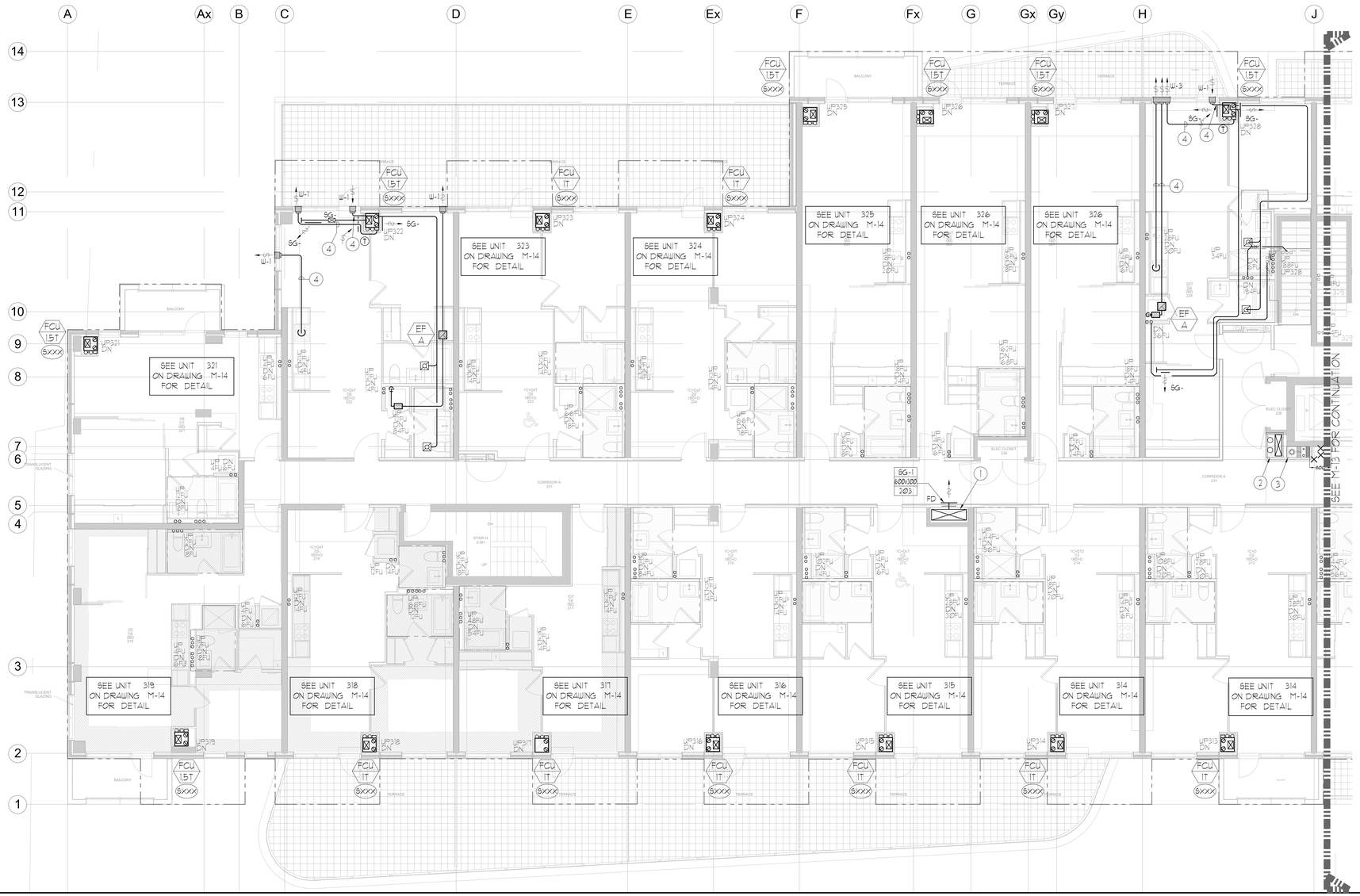
1) CONTRACTOR SHALL CO-ORDINATE ARCHITECTURAL, STRUCTURAL, LIGHTING, HVAC, SPRINKLER DRAWINGS TO AVOID AREAS OF CONFLICT AND TO MAINTAIN CEILING HEIGHTS.
2) CONTRACTOR SHALL REPORT ALL DISCREPANCIES AND AREA OF CONFLICTS TO THE ENGINEER PRIOR TO WORK BEGINS.
3) PROVIDE EXPANSION CHAMBERS FOR ALL KITCHEN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

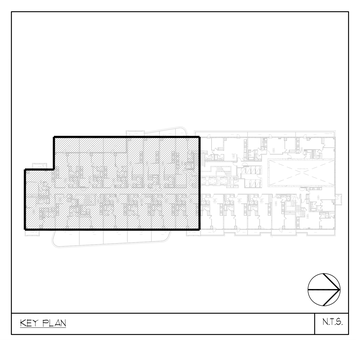
REFER TO DWG. M-X FOR ACOUSTIC NOTES

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

NOTES:

1. SOUTH F/A SHAFT A FROM G/F TO 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)



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 |
| XXX | TYPE OF EQUIPMENT EQUIPMENT IDENTIFICATION |
| XXX XXX | TYPE OF DIFFUSER OR GRILLE GRILLE SIZE OR DIFFUSER NECK SIZE AIRFLOW CFM OR L/S |
| S | STARTER ( 3 PHASE / PHASE ) |
| S | IN-SUITE ERV MASTER SWITCH |
| S | FAN SWITCH / IN-SUITE ERV OVERRIDE BUTTON |
| D | 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 |
| PR | 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 |
| T/P | 10"x410 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 |

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| 05/30/14 | | ISSUED FOR PERMIT | E.P. |
| DATE | NO | DESCRIPTION | BY |

MARK VOID ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

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NOVA TREND ENGINEERING ASSOCIATES

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Fax: 905 882-9441
Email: ca@novatrendeng.com

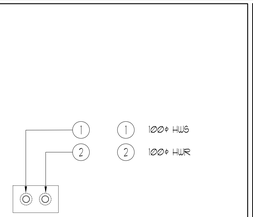

DRAWING TITLE:
2/F SOUTH
MECHANICAL LAYOUT

PROJECT TITLE:
ALEXANDRA PARK

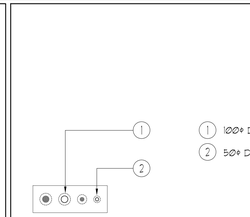
XXX
TORONTO ONTARIO

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

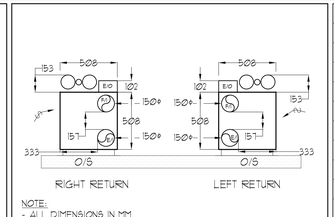

Drawing name: \\GROSERVER\Current Dwg\1313 - Alexandra Park\DWGS\1313M - 12.1 2/F PLAN - SOUTH & NORTH MECHANICAL LAYOUT.dwg Plotted: May 29, 2014 - 4:35pm




NORTH PIPE SHAFT A; 2/F -1/F | NTS




NORTH PIPE SHAFT B; 2/F -1/F | NTS




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

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 | 1.5 | 16 | 2 | 553 |
| 202 | 2VT | 655 | 2 | Ø | 1.5 | 16 | 2 | 437 |
| 205 | 2RT | 670 | 2 | Ø | 1.5 | 16 | 2 | 447 |
| 206 | 1F | 510 | 1 | Ø | 1 | 10 | 1 | 510 |
| 208 | UT | 560 | 1 | Ø | 1.5 | 10 | 1 | 560 |
| 209 | 1GT | 530 | 1 | Ø | 1 | 10 | 1 | 530 |
| 210 | 1C+D2T | 590 | 2 | Ø | 1 | 16 | 1 | 590 |
| 211 | 1C+D1T4 | 590 | 2 | Ø | 1 | 16 | 1 | 590 |
| 212 | 1C+D1T3 | 590 | 2 | Ø | 1 | 16 | 1 | 590 |
| 213 | 1C-D | 590 | 2 | Ø | 1 | 16 | 1 | 590 |
| 214 | 1C+D1T2 | 590 | 2 | Ø | 1 | 16 | 1 | 590 |
| 215 | 1C+D2T | 600 | 2 | Ø | 1 | 16 | 1 | 600 |
| 216 | 1C+D1T | 610 | 2 | Ø | 1 | 16 | 1 | 610 |
| 217 | 1DT | 480 | 1 | Ø | 1 | 10 | 1 | 480 |
| 218 | 1C+D2T | 570 | 1 | 1 | 1 | 16 | 1 | 570 |
| 219 | 2G | 700 | 2 | Ø | 1.5 | 16 | 1 | 467 |

## 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.

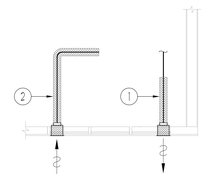
11) NO FLEXIBLE DUCT SHALL BE USED FOR ANY IN-SUITE DUCTWORK.

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

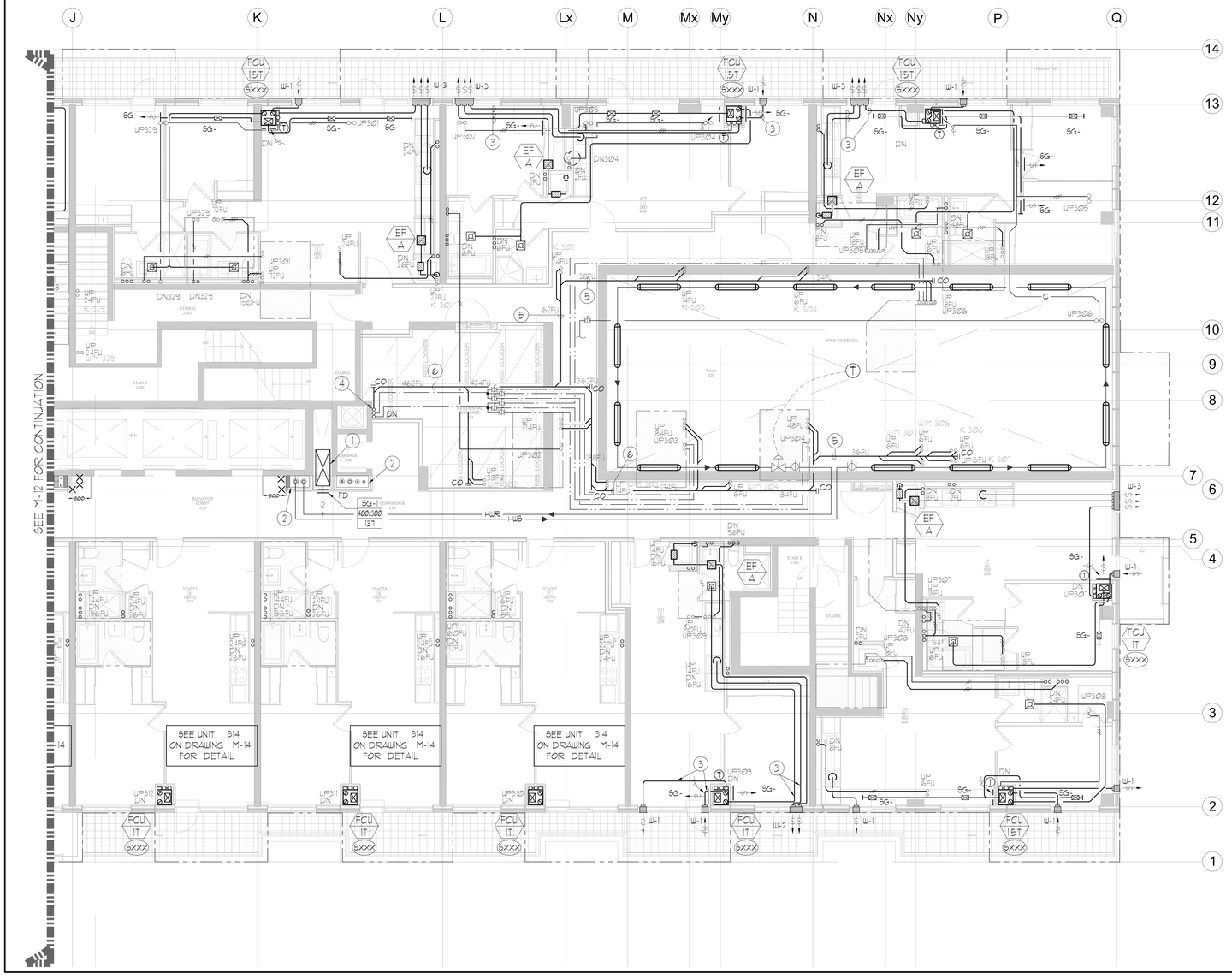
CLEAR FLOOR TO UNDERSLAB = 2750mm
CLEAR PRODUCT= 2700mm

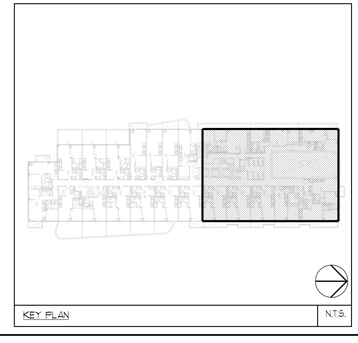



1 EXHAUST DUCTWORK TO BE C/W 25mm THICK THERMAL INSULATION 6FT. FROM EXTERNAL WALL. (TYPICAL)

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



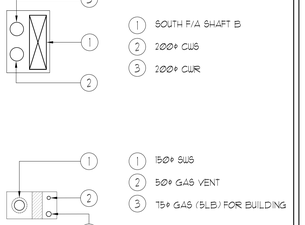



KEY PLAN | N.T.S.

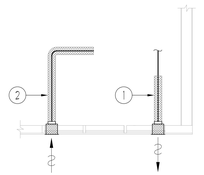
## LEGEND MECHANICAL

| 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/W LOCKING QUADRANT |
| | TURNING VANES |
| | FLEXIBLE CONNECTION |
| | ACOUSTIC INSULATION |
| XX | TYPE OF EQUIPMENT EQUIPMENT IDENTIFICATION |
| XXX | TYPE OF DIFFUSER OR 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 |
| D | 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 |
| 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"(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) |

| | | | |
|---|---|---|---|
| | | | |
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| | | | |

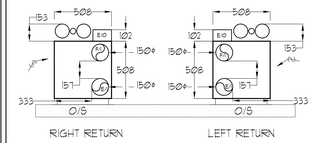



SOUTH PIPE SHAFT: 2/F -1/F. | NTS




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,Ø13.

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 | 675X200 | 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.Ø6 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 |
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| E | 141 | 250X150 | L | 377 | 500X200 |
| F | 165 | 300X150 | | | |

GENERAL NOTES:

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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)

**LEGEND MECHANICAL**

| SYMBOL | DESCRIPTION |
|---|---|
| | SUPPLY AIR DIFFUSER |
| | SUPPLY AIR TROFFER |
| | LINEAR SUPPLY DIFFUSER |
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| | SUPPLY DUCT UP |
| | SUPPLY DUCT DOWN |
| | RETURN DUCT UP |
| | RETURN DUCT DOWN |
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| | EXHAUST DUCT DOWN |
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| TAG | TURNING VANES |
| | FLEXIBLE CONNECTION |
| | ACOUSTIC INSULATION |
| (XX) | TYPE OF EQUIPMENT / EQUIPMENT IDENTIFICATION |
| XXX/XX | TYPE OF DIFFUSER OR GRILLE |
| XXX | GRILLE SIZE OR DIFFUSER NECK SIZE |
| XXX/XX | AIRFLOW (CFM) OR L/S |
| (S) | STARTER ( 3 PHASE / PHASE ) |
| (S) | IN-SUITE ERV MASTER SWITCH |
| (S) | FAN SWITCH / IN-SUITE ERV OVERRIDE BUTTON |
| (C) | CO SENSOR |
| G | GAS LINE |
| (G) | GAS METER |
| G | GAS COCK |
| | PRESSURE REDUCING VALVE |
| | SANITARY ABOVE GRADE |
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| | 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 |
| 3W | 3-WAY MODULATING VALVE |
| | 1/2"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) |

| NO. | DESCRIPTION | BY |
|---|---|---|
| 05/30/14 | ISSUED FOR PERMIT | E.P. |
| DATE | DESCRIPTION | BY |

THANK YOU ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

REVISIONS

CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS ON THE JOB. ANY DISCREPANCIES TO BE REPORTED IMMEDIATELY TO THE ENGINEER. 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 DEVELOPMENTS
05/30/14 LICENCE OF ONTARIO ERIC FUI KAI PUN
175 West Beaver Creek Road, Unit 31
Richmond Hill, Ontario L4B 3M1
Tel: 905 882-9449
Fax: 905 882-9447
Email: cad@novatrendeng.com

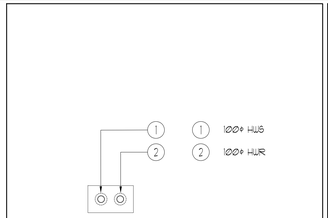

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3/F SOUTH
MECHANICAL LAYOUT

PROJECT TITLE:
ALEXANDRA PARK
XXX
TORONTO ONTARIO

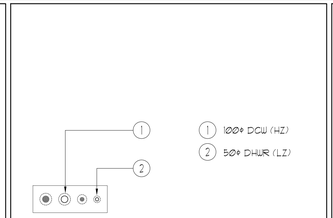
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| FEB. 13 | 1313 | M-14 OF 35 |

KEY PLAN | N.T.S.

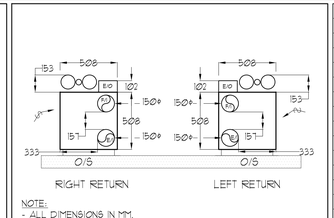
Drawing name: \\CADSERVER\Current Dwg's\1313 - Alexandra Park\DWG\1313M - 14.DGN PLAN - SOUTH & NORTH MECHANICAL LAYOUT.dwg Plotted: May 29, 2014 - 8:38pm




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 2Ø13.

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) |
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| 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 |
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| FCU-1T | 450 | 508x660 |
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| FCU-2T | 800 | 508x660 |
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| FCU-3T | 1200 | 559x660 |

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| A | 47 | 100x150 | G | 188 | 350x150 |
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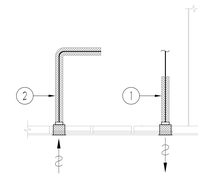
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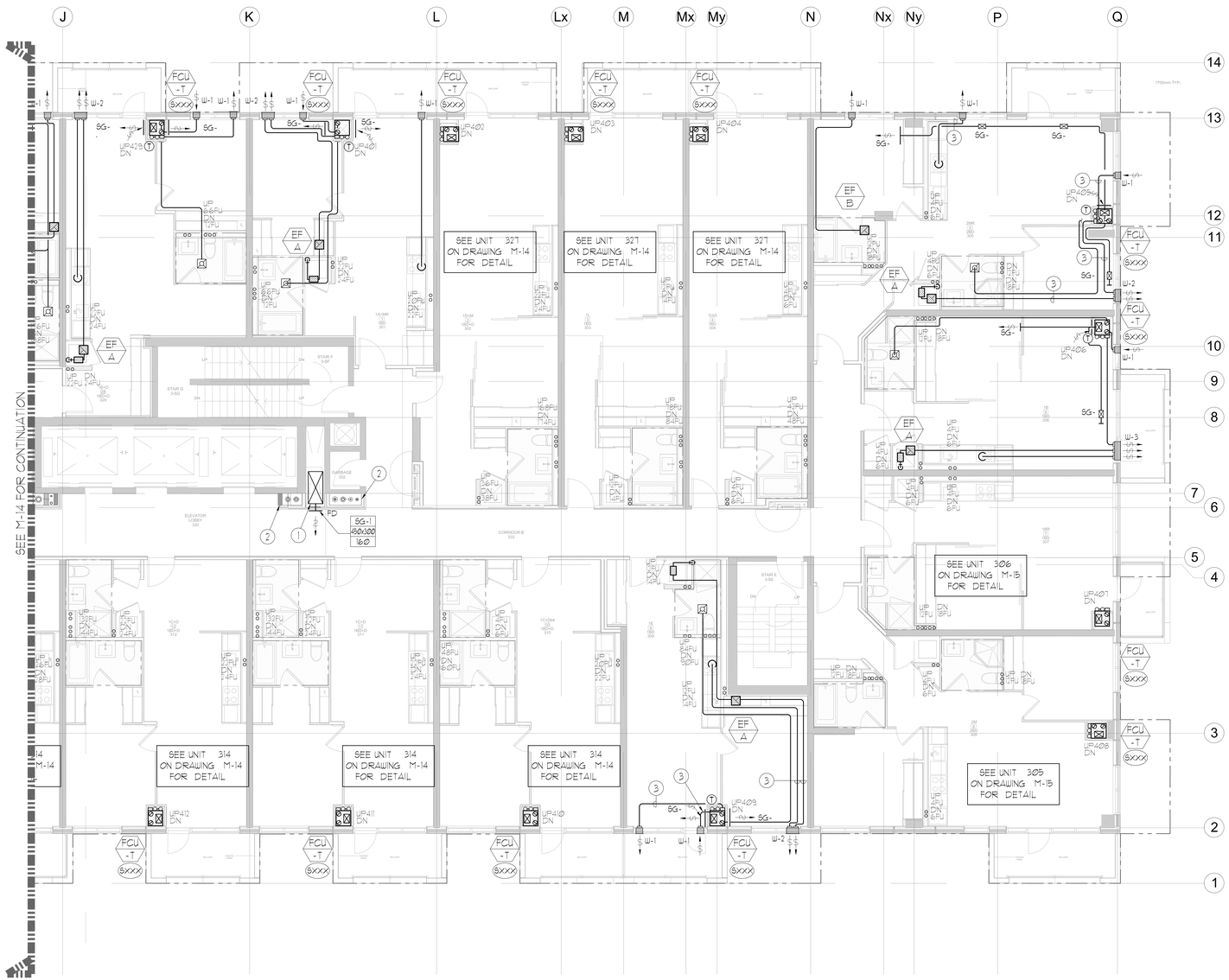
REFER TO DWG. M-X FOR ACOUSTIC NOTES

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




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

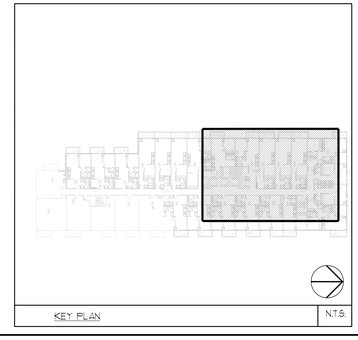



NOTES:

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/W LOCKING QUADRANT |
| | TURNING VANES |
| | FLEXIBLE CONNECTION |
| | ACOUSTIC INSULATION |
| (XX) | TYPE OF EQUIPMENT EQUIPMENT IDENTIFICATION |
| XXX | TYPE OF DIFFUSER OR GRILLE |
| XXX | GRILLE SIZE OR DIFFUSER NECK SIZE |
| XXX | AIRFLOW CFM OR L/S |
| SD | STARTER ( 3 PHASE / PHASE ) |
| S | IN-SUITE ERV MASTER SWITCH |
| S | FAN SWITCH / IN-SUITE ERV OVERRIDE BUTTON |
| C | CO SENSOR |
| G | GAS LINE |
| GM | 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 |
| PR | 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 |
| T | 10"x4"ID 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) |

| | | |
|---|---|---|
| 05/30/14 | ISSUED FOR PERMIT | E.P. |
| DATE | NO. DESCRIPTION | BY |

THANK YOU ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

REVISIONS

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

05/30/14
ERIC PO KAI LAU
LICENCE
LICENSED PROFESSIONAL ENGINEER PROVINCE OF ONTARIO

179 West Beaver Creek Road, Unit 31
Richmond Hill, Ontario L4B 3M1
Tel: 905 882-9449
Fax: 905 882-5447
Email: csd@novatrendeng.com

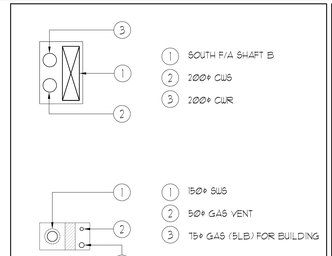

DRAWING TITLE:
3/F NORTH
MECHANICAL LAYOUT

PROJECT TITLE:
ALEXANDRA PARK

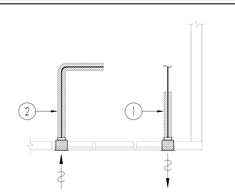
XXX
TORONTO ONTARIO

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

Drawing name: \\DATASERVER\Current Dwg's\1\1313 - Alexandra Park\DWG'S\1313M - 14.1%3F Plan - South & North MECHANICAL LAYOUT.dwg Plotted: May 29, 2014 - 4:56pm

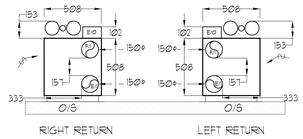



SOUTH PIPE SHAFT: 2/F -T/F | NTS




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,Ø13.

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.)

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 = 2590mm
UNITS 419/421: DRAINS FROM TERRACE ON 5/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/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 ) |
| 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 |
| PR | 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 |
| T | 10"x4"ID 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) |

| | | | |
|---|---|---|---|
| 28/08/14 | 1 | ISSUED FOR PERMIT | 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 GROUP LTD.

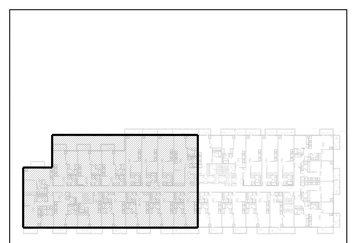
ONTARIO PROFESSIONAL ENGINEER 28/08/14 ERIC PUI KAI PUN PROVINCE OF ONTARIO

178 West Beaver Creek Road, Unit 31
Richmond Hill, Ontario L4B 3M1
Tel: 905 881-9449
Fax: 905 881-9447
Email: ca@novatrendeng.com


DRAWING TITLE:
4/F SOUTH
MECHANICAL LAYOUT

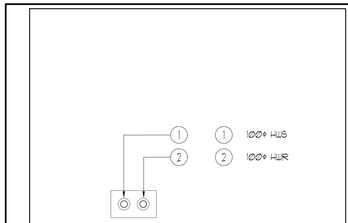
PROJECT TITLE:
ALEXANDRA PARK
XXX
TORONTO ONTARIO

| DRAWN BY: | CHECKED BY: | SCALE: |
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| DATE: FEB. 13 | PROJECT NUMBER: 1313 | DRAWING NUMBER: M-16 OF 35 |

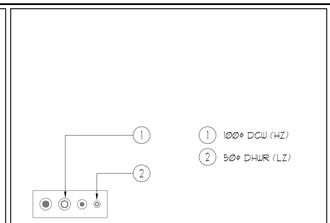


KEY PLAN | N.T.S.

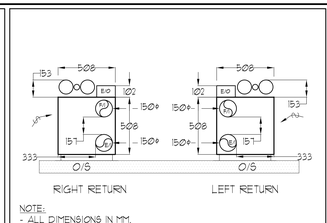
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NORTH RISER SHAFT A; 2/F -T/F. | NTS




NORTH RISER SHAFT B; 2/F -T/F | NTS




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

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 |
|---|---|---|---|---|---|
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| D | 118 | 200x150 | K | 330 | 600x150 |
| E | 141 | 250x150 | L | 377 | 500x200 |
| F | 165 | 300x150 | | | |

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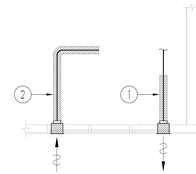
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1. EXHAUST DUCTWORK TO BE C/W 25mm THICK THERMAL INSULATION 6FT. FROM EXTERNAL WALL. (TYPICAL)
2. F/A INTAKE DUCTWORK TO BE C/W 25mm THICK THERMAL INSULATION FOR ENTIRE LENGTH FROM EXTERIOR WALL TO ERV FCU. (TYPICAL)

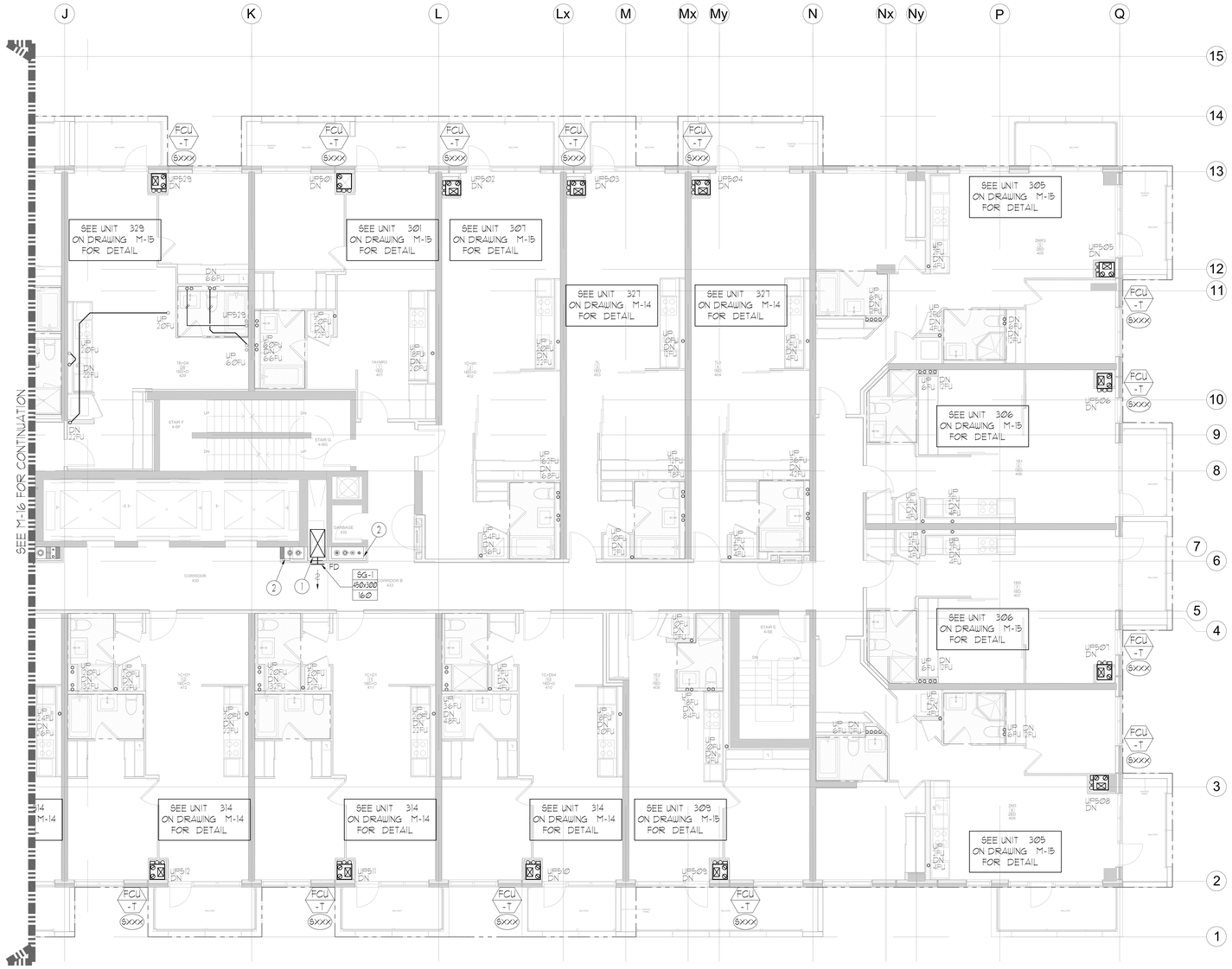
TYPICAL DETAIL:INSULATION FOR INTAKE/EXHAUST DUCTWORK | NTS

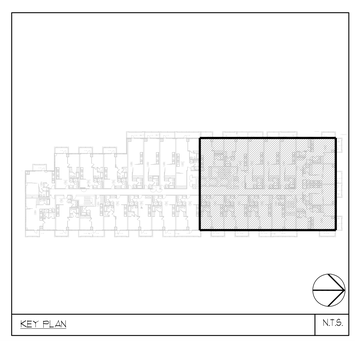
REFER TO DWG. M-X FOR ACOUSTIC NOTES

CLEAR FLOOR TO UNDERSLAB = 2590mm
CLEAR PRODUCT = 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.
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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/W LOCKING QUADRANT |
| | TURNING VANES |
| | FLEXIBLE CONNECTION |
| | ACOUSTIC INSULATION |
| V | TYPE OF EQUIPMENT / EQUIPMENT IDENTIFICATION |
| XXX | TYPE OF DIFFUSER OR 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 |
| 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 | 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 |
| 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"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) |

| DATE | NO | DESCRIPTION | BY |
|---|---|---|---|
| 05/30/14 | | ISSUED FOR PERMIT | E.P. |

PLANK 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 INC.

05/30/14
ERIC PUI KAI PUN
POWER OF ONTARIO

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

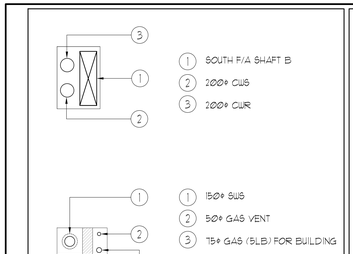

DRAWING TITLE:
4/F NORTH
MECHANICAL LAYOUT

PROJECT TITLE:
ALEXANDRA PARK

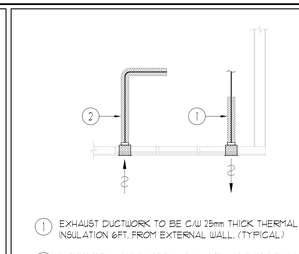
XXX
TORONTO ONTARIO

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


Drawing name: \\CADSERVER\Current Dwg\1313 - Alexandra Park\Dwf\1313M - 16/17 GF Plan - South& North MECHANICAL LAYOUT.dwg Plotted: May 29, 2014 - 4:36pm



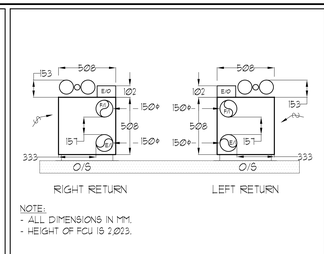

SOUTH PIPE SHAFT: 2/F - T/F. | NTS




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 2,013.

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-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 | 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 = 2850mm
CLEAR PRODUCT= 2800mm
EXCEPT UNIT: 503 CLEAR PRODUCT = 2550mm
EXCEPT UNITS: 518/521 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.

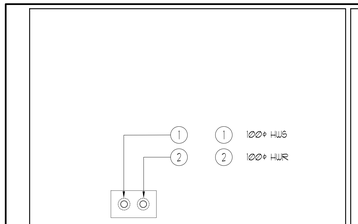
3) PIPE SHAFT - REFER TO PIPE RISER DETAIL ON THIS DRAWING FOR DETAILS.

4) 150ø KITCHEN / DRYER / W/R / FCU INTAKE / FCU EXHAUST DUCT. (TYPICAL UNLESS OTHERWISE NOTED)

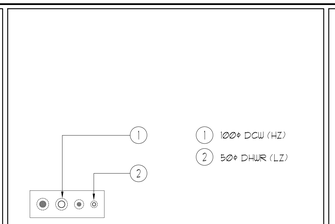
**LEGEND MECHANICAL**

| SYMBOL | DESCRIPTION |
|---|---|
| | SUPPLY AIR DIFFUSER |
| | SUPPLY AIR TROPFEN |
| | 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 |
| GM | GAS METER |
| GS | 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 |
| 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 |
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| | 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 x 1/2" PLUG |
| XXX | FLOOR ELEVATION ABOVE LEVEL |
| XXX | FLOOR ELEVATION THIS LEVEL |
| XXX | HEADROOM FLOOR TO U/S HEIGHT |

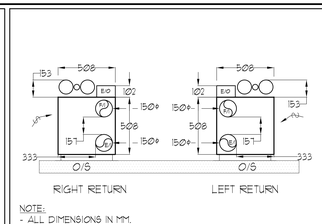
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| | | | |
| | | | |




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 2Ø23.

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.W. & 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

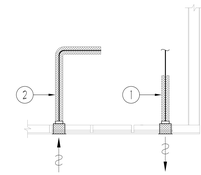
CLEAR FLOOR TO UNDERSLAB = 2850mm
CLEAR PRODUCT= 2800mm
EXCEPT UNIT: 503 CLEAR PRODUCT = 2550mm
EXCEPT UNITS: 518/521 CLEAR PRODUCT = 2600mm
UNITS 519/521: DRAINS FROM TERRACE ON G/F

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.

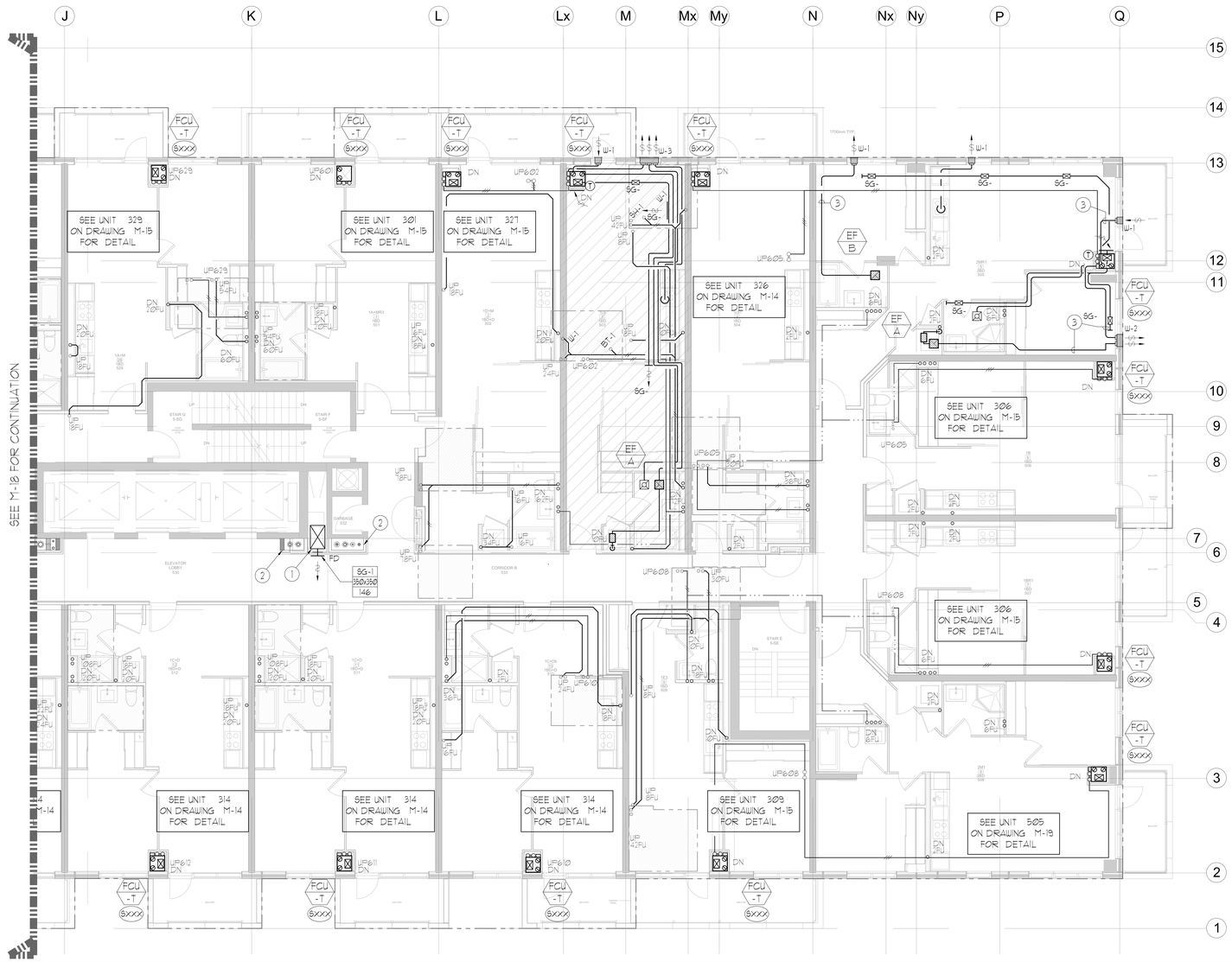
3) 150ø KITCHEN / DRYER / W/R / FCU INTAKE / FCU EXHAUST DUCT. (TYPICAL UNLESS OTHERWISE NOTED)

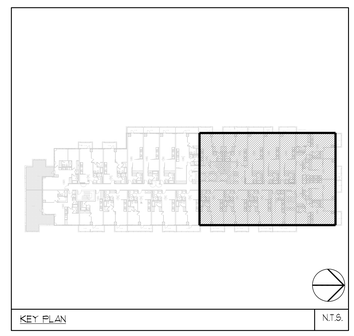



1 EXHAUST DUCTWORK TO BE C/W 25mm THICK THERMAL INSULATION 6FT. FROM EXTERNAL WALL. (TYPICAL)

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



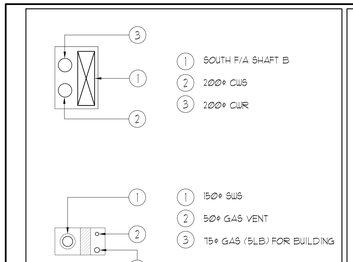



KEY PLAN | N.T.S.

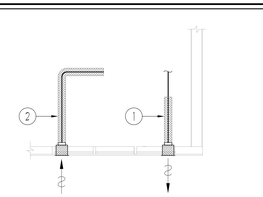
LEGEND
MECHANICAL

| SYMBOL | DESCRIPTION |
|---|---|
| | SUPPLY AIR DIFFUSER |
| | SUPPLY AIR TROPFEN |
| | 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 ) |
| 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 |
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| | DOMESTIC COLD WATER |
| | DOMESTIC HOT WATER |
| | DOMESTIC HOT WATER RECIRCULATION |
| | SANITARY VENT |
| | WATER METER |
| FD | FLOOR DRAIN |
| FFD | FUNNEL FLOOR DRAIN |
| HD | HUB DRAIN |
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| BLAD | BI-LEVEL AREA DRAIN |
| CB | CATCH BASIN |
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| | 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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| | 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"ID 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) |

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|---|---|---|---|
| | | | |
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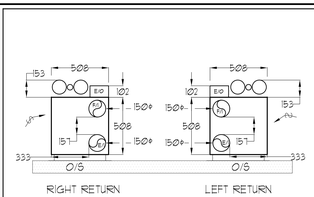

SOUTH PIPE SHAFT: 2/F -T/F | NTS




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,Ø13.

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 | 675x200 | 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.)

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

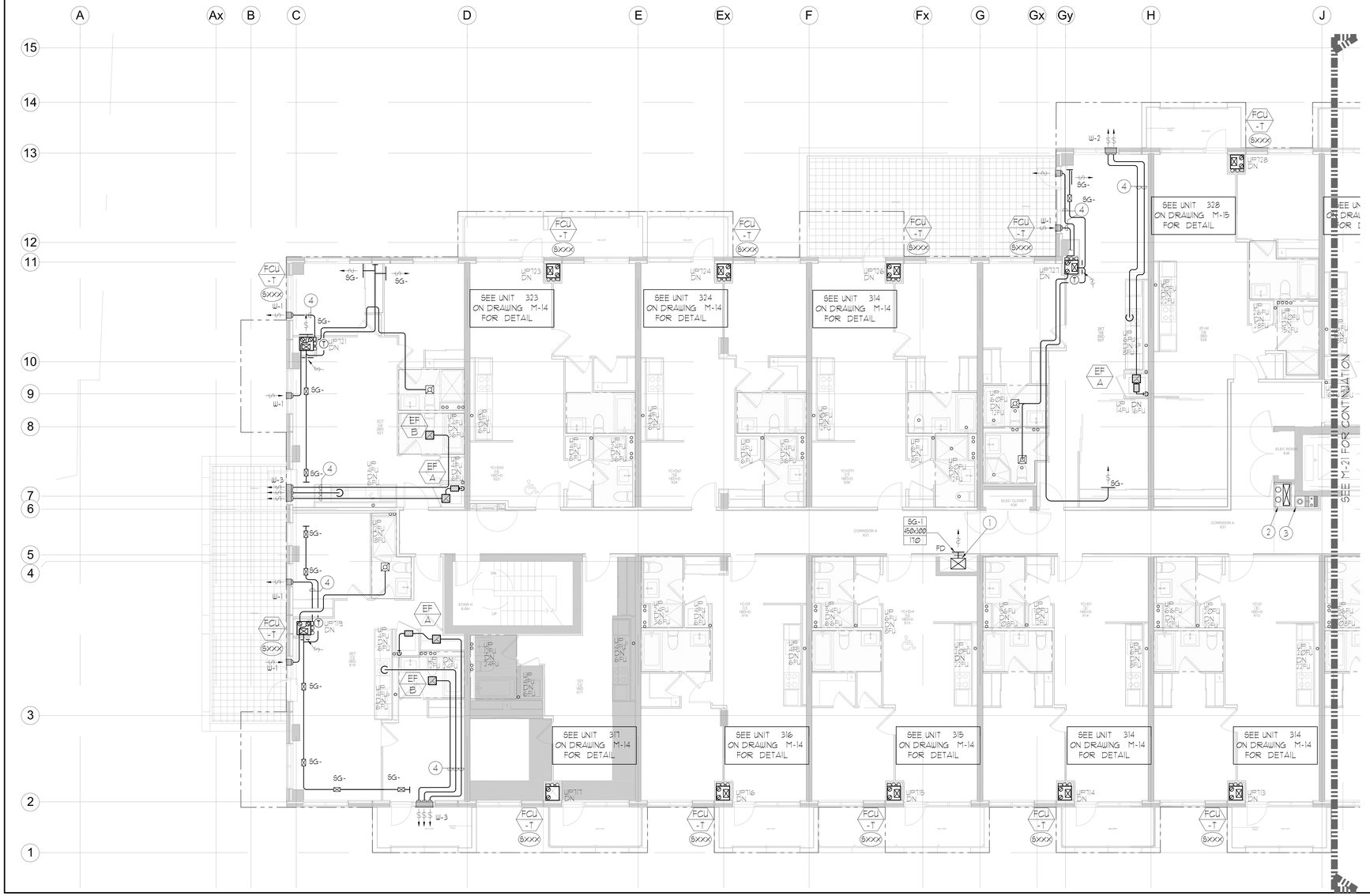
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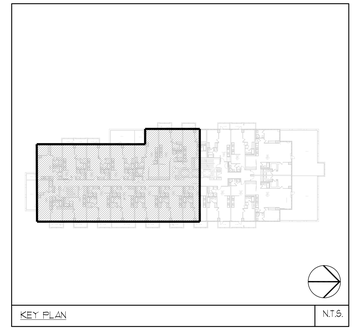
1 SOUTH F/A SHAFT A FROM G/F TO 8/F DUCT SERVING CORRIDOR FROM G/F TO 8/F. SEE VENTILATION RISER DIAGRAM FOR DETAILS.

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 TROPFER |
| | 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 ) |
| 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 |
| | 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 |
| PR | 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 |
| T | 10"x4"ID 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) |

| DATE | NO. | DESCRIPTION | BY |
|---|---|---|---|
| 05/30/14 | | ISSUED FOR PERMIT | E.P. |

THINK GREEN. ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

REVISIONS

CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS ON THE JOB. ANY DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE ENGINEER WITH THE WORK NOT CALLED TO BE PROCEEDED WITH. 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 DEVELOPMENTS
05/30/14
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PROFESSIONAL ENGINEER
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Tel: 905 882-9449
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DRAWING TITLE
6/F SOUTH
MECHANICAL LAYOUT

PROJECT TITLE
ALEXANDRA PARK

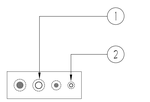
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TORONTO ONTARIO

| DRAWN BY | CHECKED BY | SCALE |
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| G.G. | E.P. | 1:50 |
| DATE | PROJECT NUMBER | DRAWING NUMBER |
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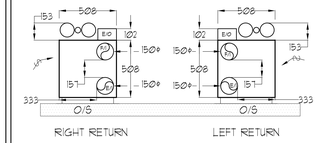
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NORTH PIPE SHAFT A; 2/F -T/F. | NTS




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




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

INSUITE FCU DIMENSIONS | NTS

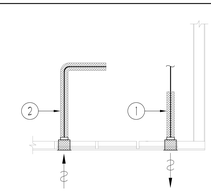
| UNIT | NAME | AREA (SQ. FT.) | # OF WR | # OF POWDER | SIZE (T) | FIXTURE UNITS | BR | SQ. FT/T |
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NOTE:
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| C | 94 | 200x150 | J | 283 | 500x150 |
| D | 118 | 200x150 | K | 330 | 600x150 |
| E | 141 | 250x150 | L | 377 | 500x200 |
| F | 165 | 300x150 | | | |




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TYPICAL DETAIL;INSULATION FOR INTAKE/EXHAUST DUCTWORK | NTS

GENERAL NOTES:

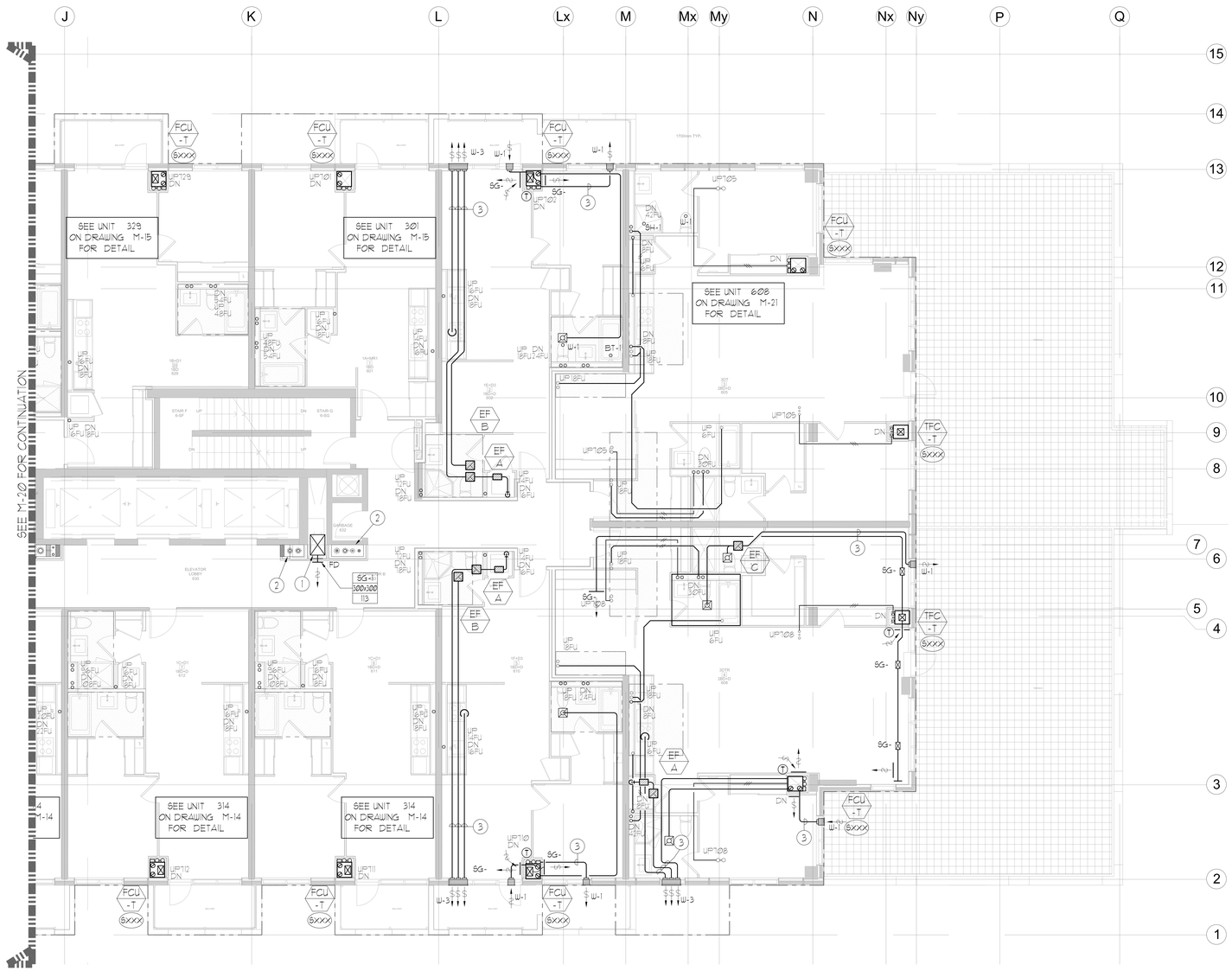
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6) ALL VENT PIPE INSTALLATION TO COMPLY WITH PLUMBING CODES.
7) FOR D.H.W. & H.C. W. RISER SIZES, REFER TO RISER DIAGRAM
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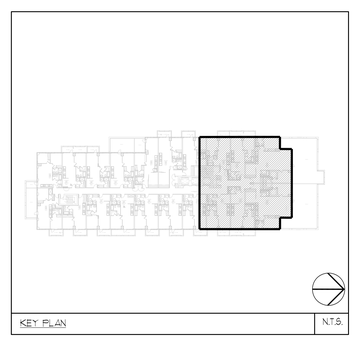
REFER TO DWG. M-X FOR ACOUSTIC NOTES

CLEAR FLOOR TO UNDERSLAB = 2750mm
CLEAR PRODUCT = 2700mm
UNITS 605/608: DRAINS FROM TERRACE ON T/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 / WIR / 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 |
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| MFD | MOTORIZED 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 ) |
| S | IN-SUITE ERV MASTER SWITCH |
| S | FAN SWITCH / IN-SUITE ERV OVERRIDE BUTTON |
| CO | CO SENSOR |
| G | GAS LINE |
| GM | GAS METER |
| D | GAS DOCK |
| 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 |
| NHB | NON-FREEZE HOSE BIBB |
| | GLOBE VALVE |
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| | CHECK VALVE |
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| | MULTIPLE PIPES / - DENOTES NO. OF PIPES |
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| XXX | FLOOR ELEVATION ABOVE LEVEL |
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| | | | |
|---|---|---|---|
| 05/30/14 | | ISSUED FOR PERMIT | E.P. |
| DATE | NO. | DESCRIPTION | BY |

PLANS VOID ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

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DRAWINGS ARE NOT TO BE SCALED


NOVA TREND ENGINEERING

05/30/14
ERIC PUI KAI PAN
100128579
PROVINCE OF ONTARIO

179 West Beaver Creek Road, Unit 31
Richmond Hill, Ontario L4B 3M1
Tel: 905 882-8445
Fax: 905 882-5447
Email: cad@novatrending.com

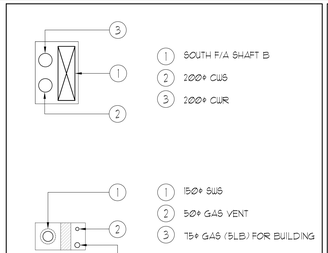

DRAWING TITLE
6/F NORTH
MECHANICAL LAYOUT

PROJECT TITLE
ALEXANDRA PARK

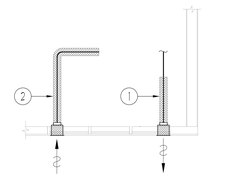
XXX
TORONTO ONTARIO

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

Drawing name: \\CADSERVER\Current Dwg's\13\1313 - Alexandra Park\Dwt\13-13-Mar- 20\21ST PLAN - SOUTHSIDE NORTH MECHANICAL LAYOUT.dwg Plotted: May 29, 2014 - 4:23pm

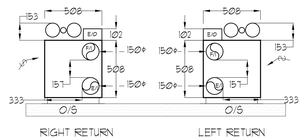



SOUTH PIPE SHAFT: 2/F -T/F. NTS




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| 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 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 TROPFER |
| | 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 |
| 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 FLOORS 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 |
| | BALANCING PRESSURE METER |
| | CIRCUIT BALANCING VALVE |
| | MULTIPLE PIPES / - DENOTES NO. OF PIPES |
| T | TEMPERATURE SENSOR |
| T | THERMOMETER |
| 2W | 2-WAY MODULATING VALVE |
| 3W | 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) |




| | | | |
|---|---|---|---|
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| DATE | NO | DESCRIPTION | BY |

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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 SERVICES LTD.

ONTARIO PROFESSIONAL ENGINEER 25/10/12 ERIC PUI KAI PUN

178 West Beaver Creek Road, Unit 31
Richmond Hill, Ontario L4B 3M1
Tel: 905 882-9445
Fax: 905 882-9447
Email: ca@novatrendeng.com

DRAWING TITLE:
7/F SOUTH
MECHANICAL LAYOUT

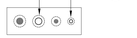
PROJECT TITLE:
ALEXANDRA PARK
XXX TORONTO ONTARIO

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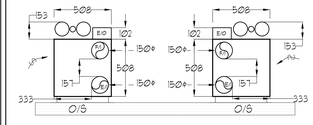
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NORTH PIPE SHAFT A: 2/F -T/F | NTS




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




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

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:

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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.W. & 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.

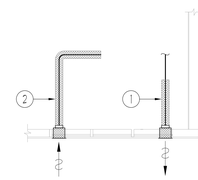
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10) THE FIRE HOSE CABINET THAT ARE RECESSED INTO THE EXIT STAIR SHAFTS ARE REQUIRED TO BE SEPARATED FROM THE EXIT STAIR BY A 2 HR. FIRE SEPARATION.

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)

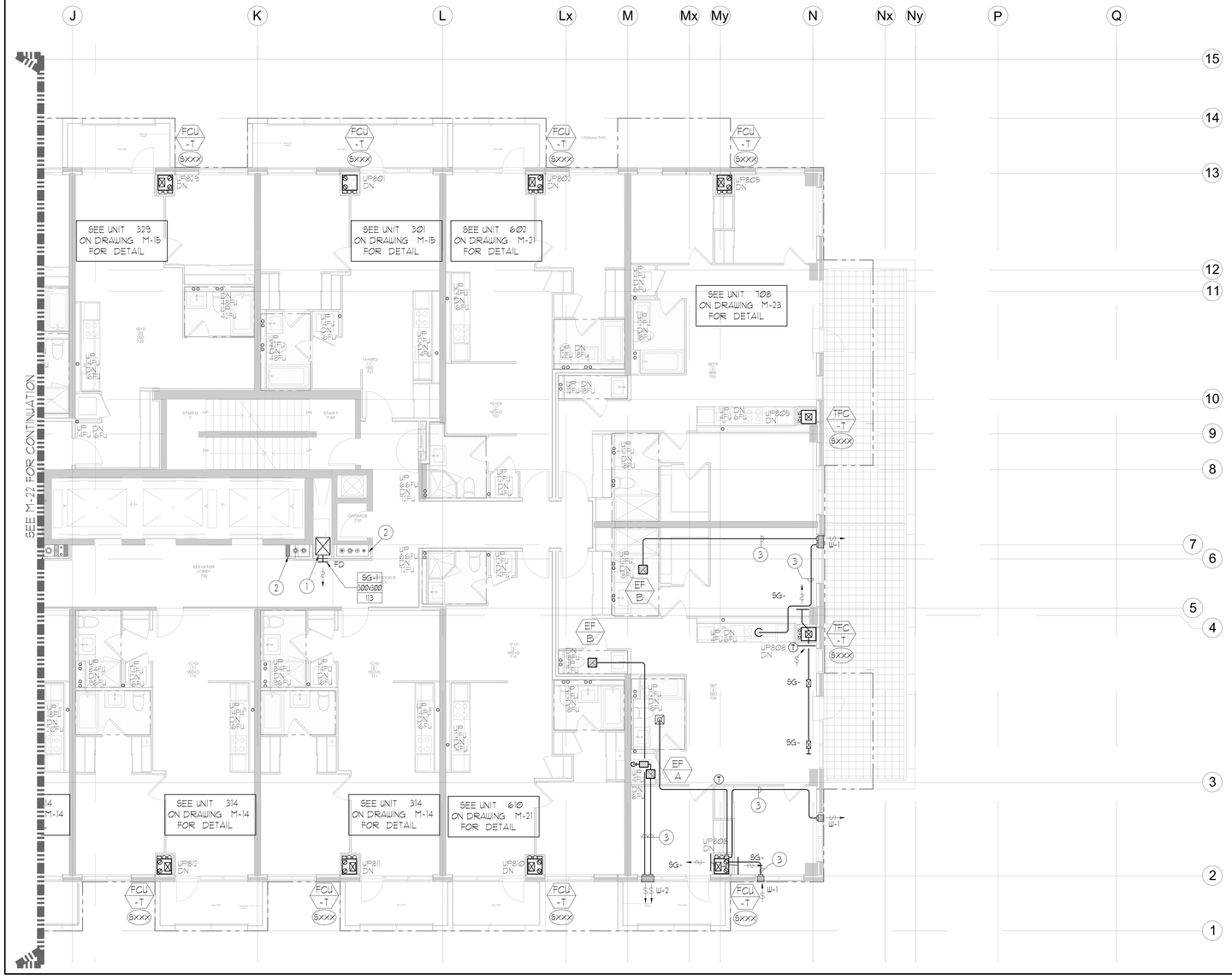
TYPICAL DETAIL:INSULATION FOR INTAKE/EXHAUST DUCTWORK | NTS

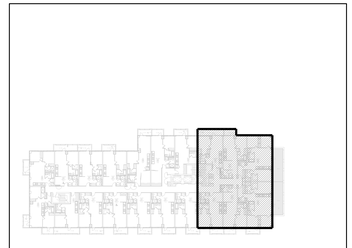
REFER TO DWG. M-X FOR ACOUSTIC NOTES

CLEAR FLOOR TO UNDERSLAB = 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)



KEY PLAN | N.T.S.

## LEGEND MECHANICAL

| SYMBOL | DESCRIPTION |
|---|---|
| | SUPPLY AIR DIFFUSER |
| | SUPPLY AIR TROPFEN |
| | 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 |
| XXX | TYPE OF DIFFUSER OR GRILLE |
| XXX | GRILLE SIZE OR DIFFUSER NECK SIZE |
| XXX | 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 |
| | 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 FLOORE 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 |
| | 10"x4"ID 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 |

| | | | |
|---|---|---|---|
| 05/30/14 | ISSUED FOR PERMIT | | 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 DEVELOPMENT

05/30/14
ERIC PUI KAI PUN
PROFESSIONAL ENGINEER
PROVINCE OF ONTARIO

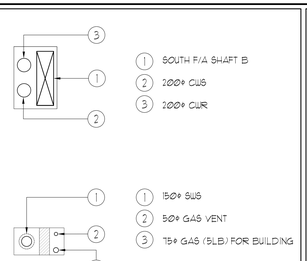
175 West Beaver Creek Road, Unit 31
Richmond Hill, Ontario L4B 3M1
Tel: 905-882-5448
Fax: 905-882-5447
Email: cad@novatrendeng.com

DRAWING TITLE
T/F NORTH
MECHANICAL LAYOUT

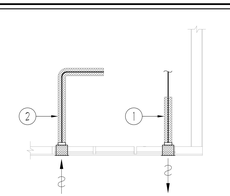
PROJECT TITLE
ALEXANDRA PARK
XXX
TORONTO ONTARIO

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|---|---|---|
| G.S. | E.P. | 1:50 |
| DATE: | PROJECT NUMBER: | DRAWING NUMBER: |
| FEB. 13 | 1313 | M-13 OF 39 |

Drawing name: \\CADSERVER\Current Dwg\1313 - Alexandra Park\2015\1313M - 2ND/3RD & NORTH MECHANICAL LAYOUT.dwg Printed: May 29, 2014 - 4:37pm

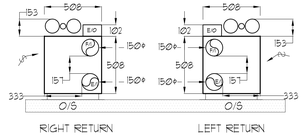



SOUTH PIPE SHAFT: B/F | NTS




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,Ø13.

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-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 |
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| 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 | | | |

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.

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.

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

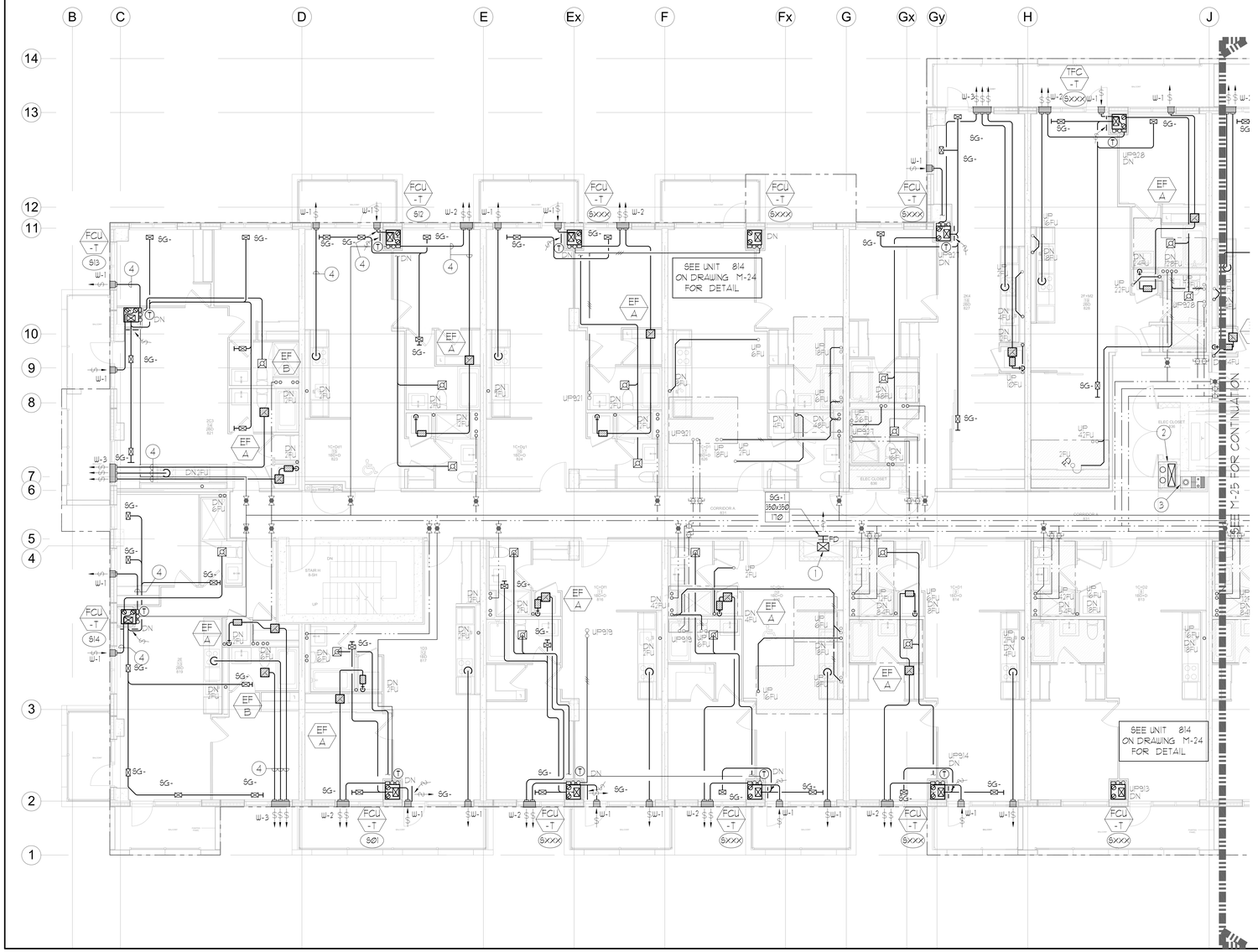
12) PROVIDE 25MM EXTERNAL INSULATION TO ENTIRE FRESH AIR DUCT FROM EXTERIOR WALL TO ERV FAN COIL UNIT.

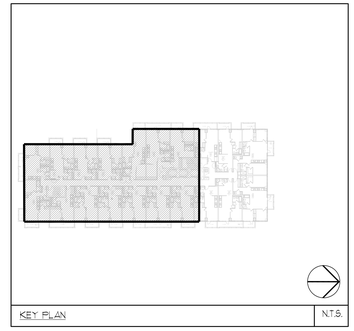
13) DRYER EXHAUST DUCT SHALL BE SMOOTH AND CORROSION-RESISTANT MATERIAL (FLEXIBLE CONNECTION IS NOT ACCEPTABLE.)

CLEAR FLOOR TO UNDERSLAB = 3050mm
CLEAR PRODUCT= 2700mm
COMPLETE DROP CEILING = 350mm
UNITS 816/817/818/819/821/823/824: 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)



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 |
| EA | 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 |
| (XX) | TYPE OF EQUIPMENT EQUIPMENT IDENTIFICATION |
| XX/XX | TYPE OF DIFFUSER OR GRILLE |
| XXX | GRILLE SIZE OR DIFFUSER NECK SIZE |
| XXX | AIRFLOW (CFM OR L/S) |
| 3Ø | STARTER / 3 PHASE / FUSE / |
| 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 |
| PR | 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"ID 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) |

| NO. | DESCRIPTION | BY |
|---|---|---|
| 05/30/14 | ISSUED FOR PERMIT | E.P. |

PLANS VOID ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

REVISIONS

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DRAWINGS ARE NOT TO BE SCALED


NOVA TREND DEVELOPMENTS
05/30/14
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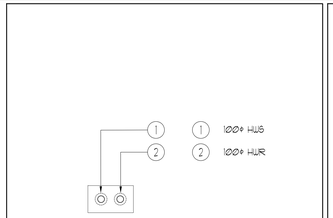

DRAWING TITLE:
B/F SOUTH
MECHANICAL LAYOUT

PROJECT TITLE:
ALEXANDRA PARK

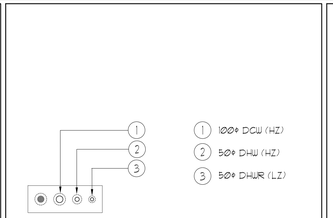
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TORONTO ONTARIO

| DRAWN BY: | CHECKED BY: | SCALE: |
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| G.G. | E.P. | 1:50 |
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| FEB. 13 | 1313 | M-24 OF 35 |

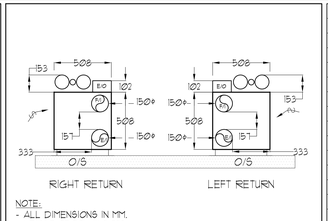
Drawing name: \\CADSERVER\Current Dwg's\1313 - Alexandra Park\Drf\1313-M-24-2ND FLR PLAN - SOUTH & NORTH MECHANICAL LAYOUT.dwg Plotted: May 29, 2014 - 4:38pm




NORTH RISER SHAFT A: B/F | NTS




NORTH RISER SHAFT B: B/F | NTS




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

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.W. & 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.)

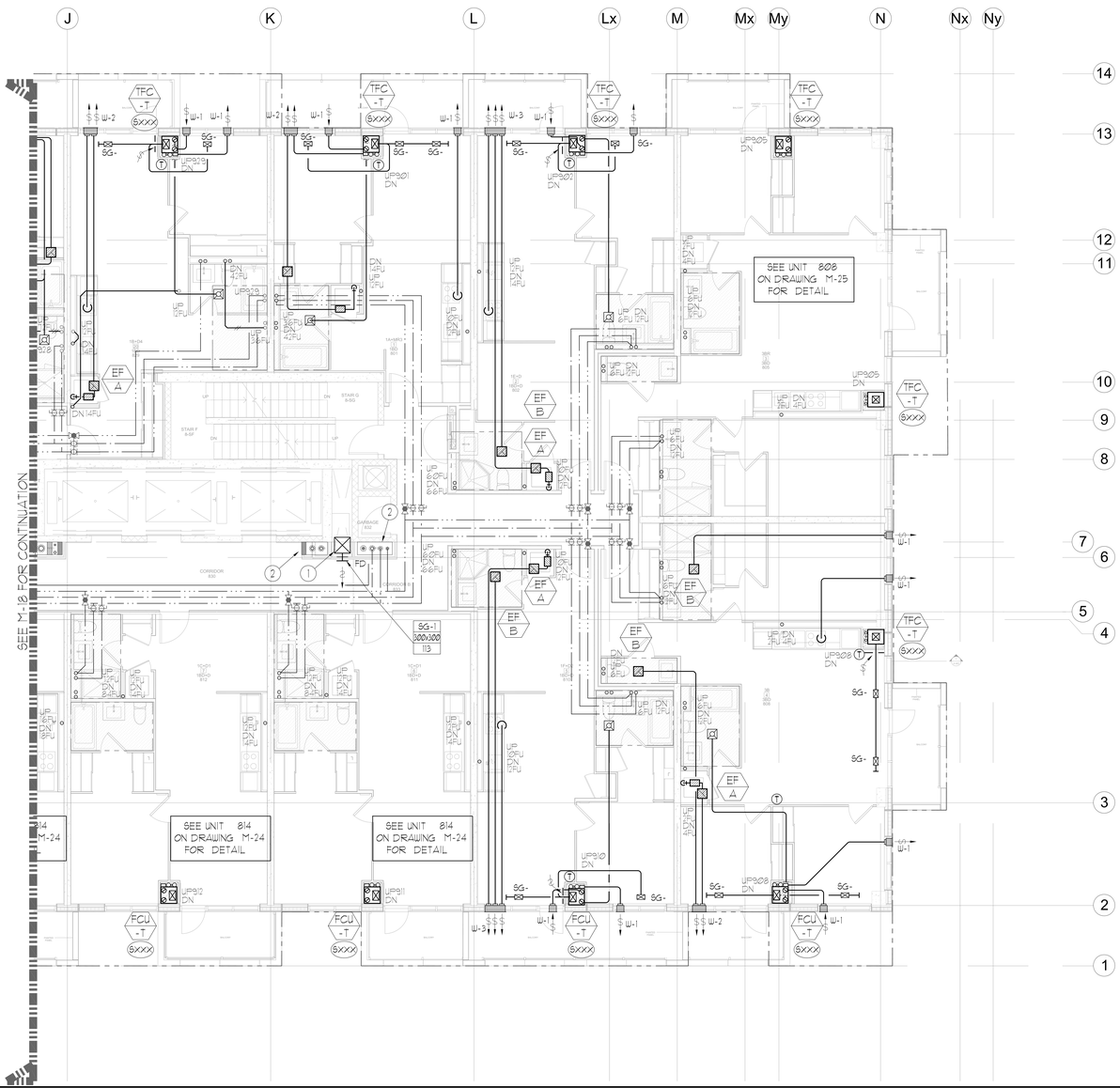
CLEAR FLOOR TO UNDERSLAB = 3050mm
CLEAR PRODUCT= 2700mm
COMPLETE DROP CEILING = 350mm
UNITS 816/817/818/821/823/824: DRAINS FROM AMENITY TERRACE ON 9/F

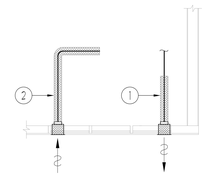
NOTES:

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)




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

ACOUSTIC NOTES:

FOR FLOORS WITH ERV'S:

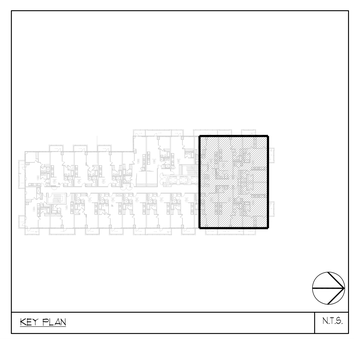
XX) ERV'S SHALL BE ISOLATED USING ISOLATORS INCORPORATING BOTH A SPRING ELEMENT AND A SECONDARY NEOPRENE-IN-SHEAR ELEMENT IN SERIES. DUCTWORK SHALL BE DE-COUPLED FROM FAN BY FLEXIBLE CONNECTORS. ASSOCIATED DUCTWORK SHALL BE SUSPENDED ON HANGERS WITH NEOPRENE PADS.

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 15 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.



KEY PLAN | N.T.S.

## LEGEND MECHANICAL

| SYMBOL | DESCRIPTION |
|---|---|
| | SUPPLY AIR DIFFUSER |
| | SUPPLY AIR TROPFEN |
| | 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 |
| XXX | TYPE OF EQUIPMENT / EQUIPMENT IDENTIFICATION |
| XXX | TYPE OF DIFFUSER OR 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 SOCC |
| | 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 |
| | 10"x4"ID 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) |

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| DATE | NO | DESCRIPTION | BY |

MARK VOID ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

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NOVA TREND ENGINEERING GROUP LTD.

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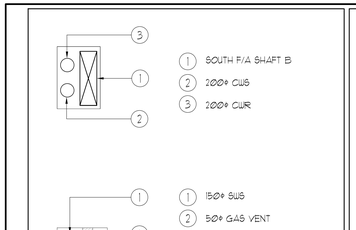

DRAWING TITLE:
8/F NORTH
MECHANICAL LAYOUT

PROJECT TITLE:
ALEXANDRA PARK

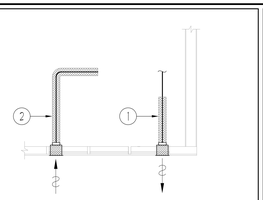
XXX
TORONTO ONTARIO

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


Drawing name: \\CADSERVER\Current Dwg's\1313 - Alexandra Park\LAYOUTS\1313M - 24-25.DWF PLAN - SOUTH & NORTH MECHANICAL LAYOUTS.dwg Plotted: May 29, 2014 - 4:38pm

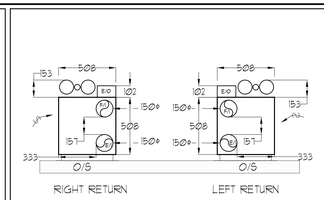



SOUTH PIPE SHAFT: 9/F -13/F | NTS




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,Ø13.

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) |
|---|---|---|
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| SG-B | 300x150 | 71-93 |
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| 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 |
|---|---|---|---|---|---|
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| 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.

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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.

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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.

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

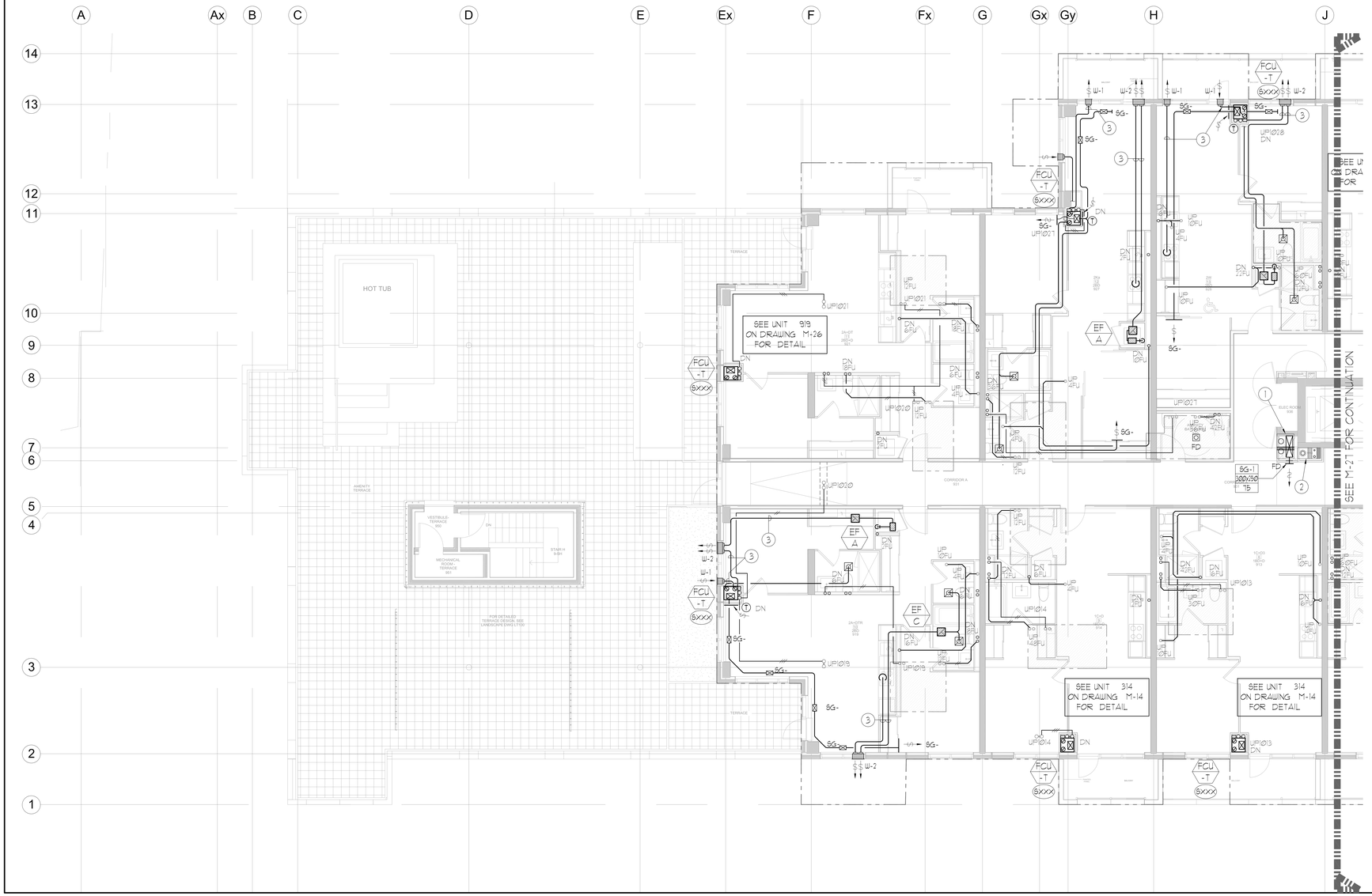
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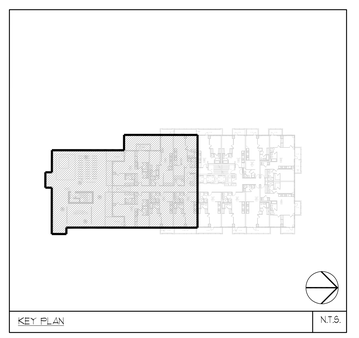
REFER TO DWG. M-X FOR ACOUSTIC NOTES

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 TROPFER |
| | 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 BUTTON |
| | FAN BUTTON / IN-SUITE ERV OVERRIDE BUTTON |
| | CO SENSOR |
| | GAS LINE |
| | GAS METER |
| | GAS COCK |
| | PRESSURE REDUCING VALVE |
| | SANITARY ABOVE GRADE |
| | SANITARY BELOW GRADE |
| | STORM ABOVE GRADE |
| | STORM BELOW GRADE |
| | DOMESTIC COLD WATER |
| | DOMESTIC HOT WATER |
| | DOMESTIC HOT WATER RECIRCULATION |
| | SANITARY VENT |
| | WATER METER |
| FD | FLOOR DRAIN |
| FFD | FUNNEL FLOORS 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 |
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| | BACKFLOW PREVENTER |
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| | MULTIPLE PIPES / - DENOTES NO. OF PIPES |
| T | TEMPERATURE SENSOR |
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| | 2-WAY MODULATING VALVE |
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| | 10"x4"ID THERMOWELL C/W 1/2" BUSHING x 1/2" PLUG |
| XXX | FLOOR ELEVATION ABOVE LEVEL |
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| 09/30/14 | 1 | ISSUED FOR PERMIT | E.P. |
| DATE | NO. | DESCRIPTION | BY |

MARK VOID ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

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DRAWINGS ARE NOT TO BE SCALED


NOVA TREND ENGINEERING CONSULTANTS

ONTARIO PROFESSIONAL ENGINEERS 09/30/14 ERIC PUI KAI PUN PROVINCE OF ONTARIO

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

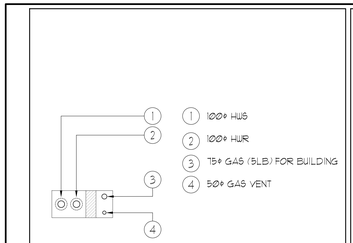

DRAWING TITLE:
9/F SOUTH
MECHANICAL LAYOUT

PROJECT TITLE:
ALEXANDRA PARK

XXX
TORONTO ONTARIO

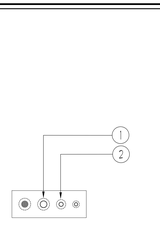
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| G.S. | E.P. | 1:50 |
| DATE: | PROJECT NUMBER: | DRAWING NUMBER: |
| FEB. 13 | 1313 | M-26 OF 35 |

Drawing name: \\CADSERVER\Current Dwg\1313 - Alexandra Park\DWGS\1313M-26-27 (9F PLAN -SOUTH & NORTH MECHANICAL LAYOUT).dwg Plotted: May 29, 2014 - 4:38pm



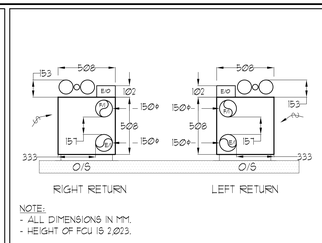

1 100ø HWS
2 100ø HWR
3 75ø GAS (BLBE) FOR BUILDING
4 50ø GAS VENT

NORTH PIPE SHAFT A: 9/F -13/F | NTS




1 63ø DCW (HZ)
2 50ø DHW (HZ)

NORTH PIPE SHAFT B: 9/F -13/F | NTS




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

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.W.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

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REFER TO DWG. M-X FOR ACOUSTIC NOTES

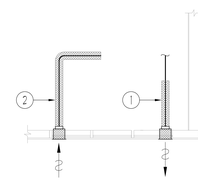
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EXCEPT UNITS: 905/908/909/921: CLEAR PRODUCT= 2700m
UNITS 905/908/909/921: DRAINS FROM TERRACE ON 10/F

NOTES:

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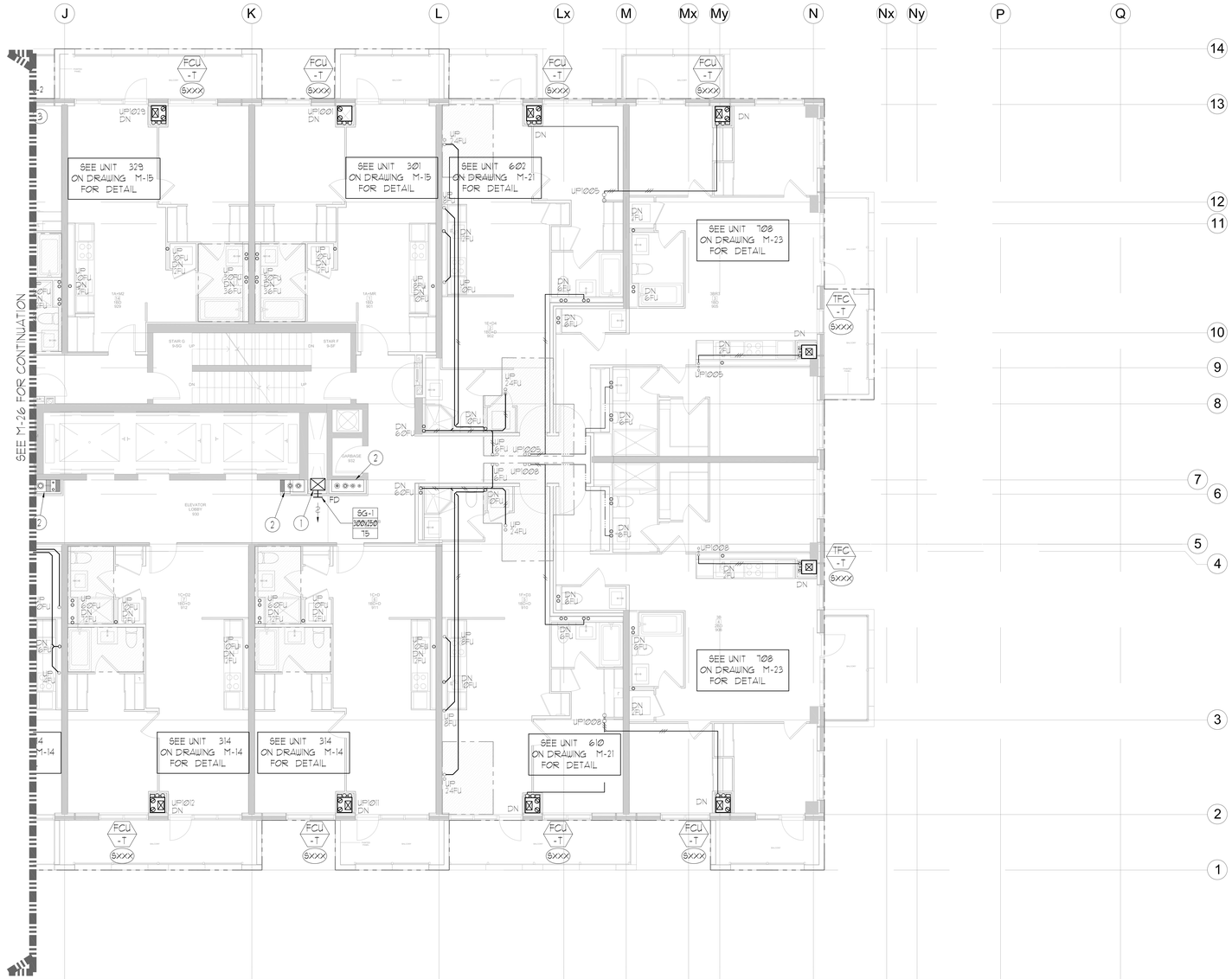
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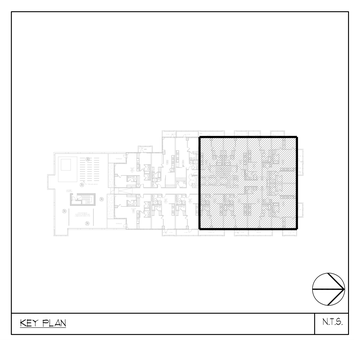



1 EXHAUST DUCTWORK TO BE C/W 25mm THICK THERMAL INSULATION 6FT. FROM EXTERNAL WALL. (TYPICAL)

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 |
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| | RETURN DUCT DOWN |
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| FD | FIRE DAMPER |
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| 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 |
| 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 |
| GM | 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 | 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 |
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| | 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 |
| | 10"x4"ID 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) |

| DATE | NO | DESCRIPTION | BY |
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| 05/30/14 | | ISSUED FOR PERMIT | E.P. |

PLANS VOID ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

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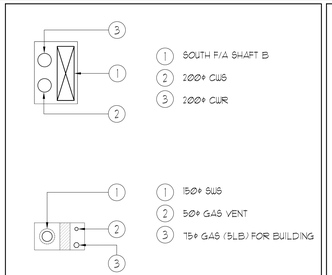

NOVA TREND ENGINEERING INC.
05/30/14
ERIC PUI KAI AU
100128010
REGISTERED PROFESSIONAL ENGINEER
PROVINCE OF ONTARIO
179 West Beaver Creek Road, Unit 31
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DRAWING TITLE
9/F NORTH
MECHANICAL LAYOUT

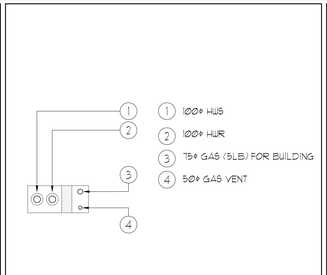
PROJECT TITLE
ALEXANDRA PARK
XXX
TORONTO ONTARIO

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

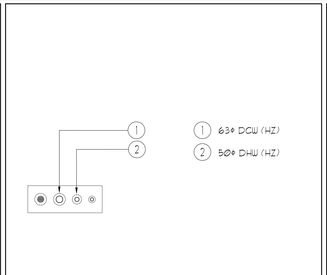
Drawing name: \\CADSERVER\Current Dwg\1313 - Alexandra Park\Dwf\1313M - 26.27 (9F PLAN - SOUTH & NORTH) MECHANICAL LAYOUT.dwg Plotted: May 29, 2014 - 4:38pm



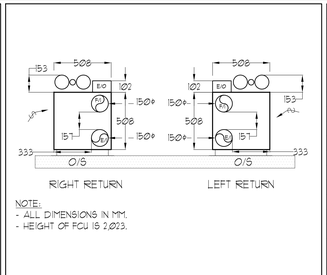

SOUTH PIPE SHAFT, 9/F -13/F | NTS




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 90MM DIA. AND SMALLER SHALL BE ISOLATED WITH NEOPRENE PADS.

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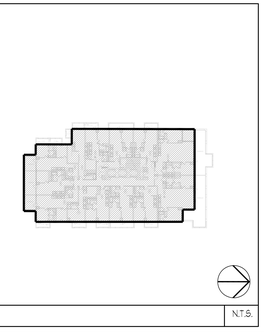
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| | LINEAR SUPPLY DIFFUSER |
| T | THERMOSTAT |
| S | FAN SWITCH |
| | RETURN AIR GRILLE |
| | EXHAUST AIR GRILLE |
| | SUPPLY DUCT UP |
| | SUPPLY DUCT DOWN |
| | RETURN DUCT UP |
| | RETURN DUCT DOWN |
| | EXHAUST DUCT UP |
| | EXHAUST DUCT DOWN |
| 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 |
| XXX | TYPE OF EQUIPMENT EQUIPMENT IDENTIFICATION |
| XXX XXX | TYPE OF DIFFUSER ON GRILLE GRILLE SIZE OR DIFFUSER NECK SIZE AIRFLOW CFM OR L/S |
| S/D | STARTER ( 3 PHASE / PHASE ) |
| S | IN-SUITE ERV MASTER SWITCH |
| S | FAN SWITCH / IN-SUITE ERV OVERRIDE BUTTON |
| CO | CO SENSOR |
| G | GAS LINE |
| GM | 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 |
| | BL/SOV UP |
| | BL/SOV 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"LG / THERMOWELL C/W 1/2" BUSHING X 1/2" PLUG |
| XXX | FLOOR ELEVATION ABOVE LEVEL |
| XXX | FLOOR ELEVATION TO LEVEL |
| XXX | HEADROOM FLOOR TO U/S HEIGHT |

| | | | |
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| 28/08/14 | 1 | ISSUED FOR PERMIT | E.P. |
| DATE | NO. | DESCRIPTION | BY |

MARK VOID ALL PRINTS DATED PREVIOUS TO FINAL DATE ABOVE

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DRAWINGS ARE NOT TO BE SCALED


NOVA TREND ENGINEERING LIMITED

ERIC PUI KAI PUN — 08/30/14 — PROFESSIONAL ENGINEER — PROVINCE OF ONTARIO

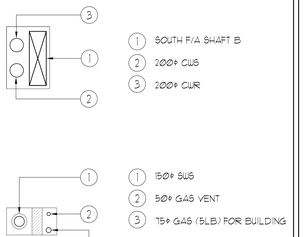
119 West Beaver Creek Road, Unit 31
Richmond Hill, Ontario L4B 3M1
Tel: 905 882-9449
Fax: 905 882-5447
Email: ca@novatrendeng.com


DRAWING TITLE:
Ø/F
MECHANICAL LAYOUT

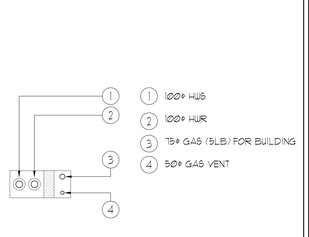
PROJECT TITLE:
ALEXANDRA PARK
XXX
TORONTO ONTARIO

| DRAWN BY: | CHECKED BY: | SCALE: |
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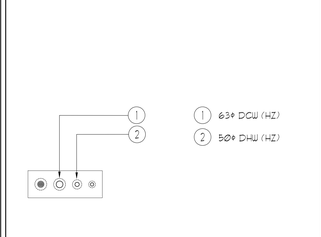
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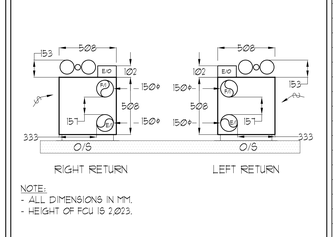

SOUTH PIPE SHAFT, 9/F -13/F | NTS




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:

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 = 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:

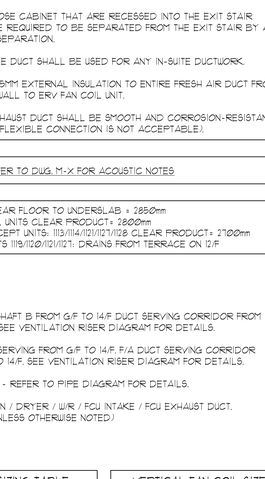
1. SOUTH F/A SHAFT B FROM G/F TO 14/F DUCT SERVING CORRIDOR FROM 9/F TO 14/F. SEE VENTILATION RISER DIAGRAM FOR DETAILS.
2. NORTH F/A SERVING FROM G/F TO 14/F. F/A DUCT SERVING CORRIDOR FROM G/F TO 14/F. SEE VENTILATION RISER DIAGRAM FOR DETAILS.
3. PIPE SHAFT - REFER TO PIPE DIAGRAM FOR DETAILS.
4. 150ø KITCHEN / DRYER / W/R / 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) |
| W-2 | 425x100 | INSULATED WALL BOX |
| W-3 | 625x100 | |

| 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 | | | |




LEGEND
MECHANICAL

| SYMBOL | DESCRIPTION |
|---|---|
| | SUPPLY AIR DIFFUSER |
| | SUPPLY AIR TROPFER |
| | 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 ) |
| 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 |
| PR | 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 |
| T | 10'V-ATO / 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 |

| | | | |
|---|---|---|---|
| 20-12-04 | ISSUED FOR PERMIT | | E.P. |
| DATE | NO. DESCRIPTION | | BY |

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DRAWINGS ARE NOT TO BE SCALED

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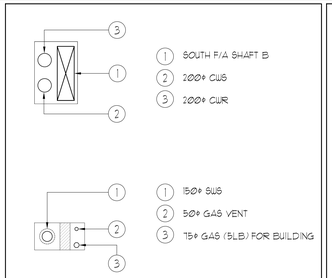
175 West Beaver Creek Road, Unit 31
Richmond Hill, Ontario L4B 3M1
Tel: 905-882-5445
Fax: 905-882-5447
Email: cad@novatrendeng.com

DRAWING TITLE
11/F
MECHANICAL LAYOUT

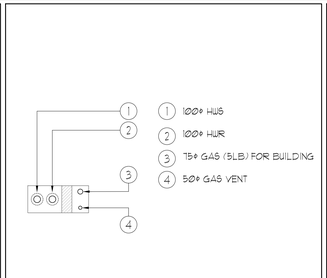
PROJECT TITLE
ALEXANDRA PARK
XXX
TORONTO ONTARIO

| DRAWN BY: | CHECKED BY: | SCALE: |
|---|---|---|
| G.S. | E.P. | 1:50 |
| DATE: | PROJECT NUMBER: | DRAWING NUMBER: |
| FEB. 13 | 1313 | M-29 OF 39 |

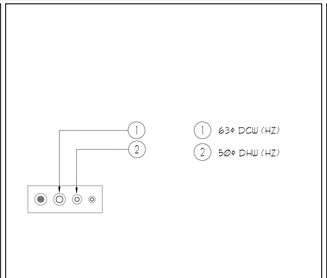
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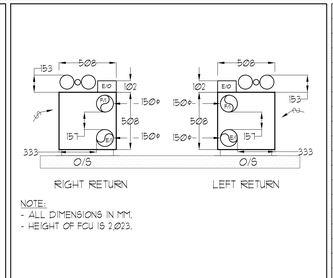

SOUTH PIPE SHAFT, 9/F -13/F | NTS




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:

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

NOTES:

1. 50ø 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)

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 |

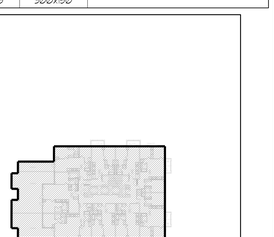
VERTICAL FAN COIL SIZE

| DESIGNATION | MODEL | W x D |
|---|---|---|
| FCU-1T | 450 | 508x660 |
| FCU-1.5T | 600 | 508x660 |
| FCU-2T | 800 | 508x660 |
| FCU-2.5T | 1000 | 555x660 |
| 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 TROPFEN |
| | 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 |
| FC | FLEXIBLE CONNECTION |
| | ACOUSTIC INSULATION |
| (X) | TYPE OF EQUIPMENT EQUIPMENT IDENTIFICATION |
| XX/XXX | 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 |
| GM | 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 |
| | 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 | 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) |

| | | | |
|---|---|---|---|
| 05/2014 | ISSUED FOR PERMIT | | E.P. |
| 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


NOVA TREND ENGINEERING INC. LIMITED

ERIC PUI KAI PUN — 05/30/14 — ONTARIO PROFESSIONAL ENGINEER — PROVINCE OF ONTARIO

715 West Beaver Creek Road, Unit 31
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Tel: 905 882-5445
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Email: cad@novatrending.com

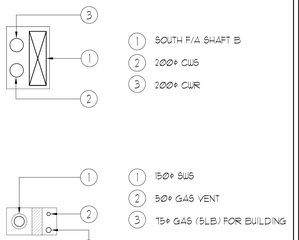

DRAWING TITLE:
12/F
MECHANICAL LAYOUT

PROJECT TITLE:
ALEXANDRA PARK

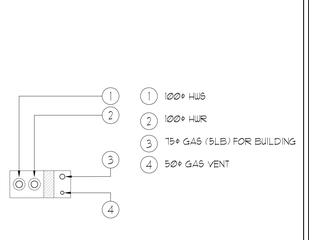
XXX
TORONTO ONTARIO

| DRAWN BY: | CHECKED BY: | SCALE: |
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| DATE: | PROJECT NUMBER: | DRAWING NUMBER: |
| FEB. 13 | 1313 | M-30 OF 35 |

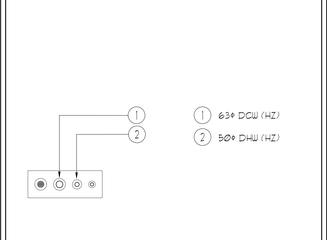

Drawing name: \\CAD\DWGS\Current Dwg\1313 - Alexandra Park\DWG\1313-M- 30 (12F PLAN - MECHANICAL LAYOUT).dwg Plotted: May 29, 2014 - 4:39pm



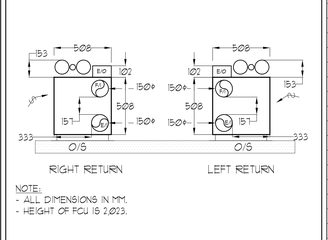

SOUTH PIPE SHAFT, 9/F -13/F | NTS




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:

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.

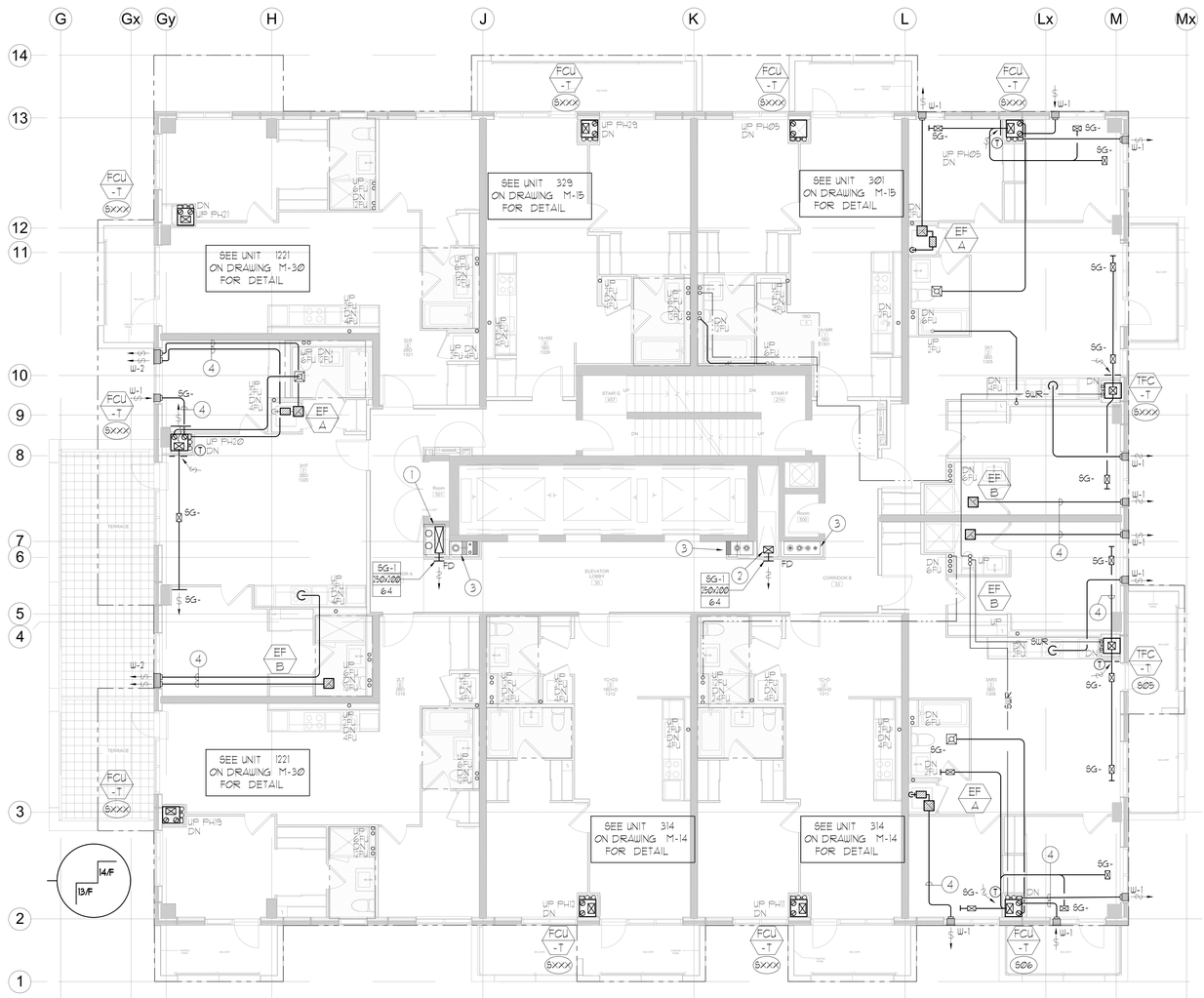
11) NO FLEXIBLE DUCT SHALL BE USED FOR ANY IN-SUITE DUCTWORK.

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 = 3050mm
ALL UNITS CLEAR PRODUCT= 3000mm
EXCEPT UNITS: 1305/1308 CLEAR PRODUCT= 2700mm
UNITS 1305/1308 COMPLETE DROP CEILING = 350mm




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)

GRILLE SIZING TABLE

| DESIGNATION | SIZE | L/S (UNLESS SPECIFIED ELSEWHERE) |
|---|---|---|
| 5G-A | 300x100 | 47-70 |
| 5G-B | 300x150 | 71-93 |
| 5G-C | 400x150 | 94-140 |
| 5G-D | 450x150 | 141-188 |
| EG-A | 150x150 | 35 |
| W-1 | 225x200 | 210mm(L) |
| W-2 | 425x200 | INSULATED |
| W-3 | 625x200 | WALL BOX |

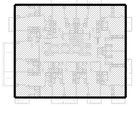
VERTICAL FAN COIL SIZE

| 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 | | | |



KEY PLAN | N.T.S.

LEGEND
MECHANICAL

| SYMBOL | DESCRIPTION |
|---|---|
| | SUPPLY AIR DIFFUSER |
| | SUPPLY AIR TROPFER |
| | 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 |
| FC | FLEXIBLE CONNECTION |
| | ACOUSTIC INSULATION |
| XXX | TYPE OF EQUIPMENT EQUIPMENT IDENTIFICATION |
| XXX 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 |
| | 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"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 |

| NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| 1 | 29/08/14 | ISSUED FOR PERMIT | E.P. |

MARK VOID ALL PRINTS DATED PREVIOUS TO THIS DATE ABOVE

REVISIONS

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DRAWINGS ARE NOT TO BE SCALED

NOVA TREND ENGINEERING

PROFESSIONAL ENGINEER
ERIC PUI KAI PUN
29/08/14
PROVINCE OF ONTARIO

175 West Beaver Creek Road, Unit 31
Richmond Hill, Ontario L4B 3M1
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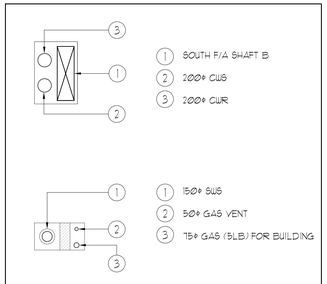
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13/F
MECHANICAL LAYOUT

PROJECT TITLE
ALEXANDRA PARK
XXX
TORONTO ONTARIO

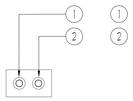
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| DATE: | PROJECT NUMBER: | DRAWING NUMBER: |
| FEB. 13 | 1313 | M-31 |

OF 35

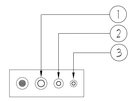
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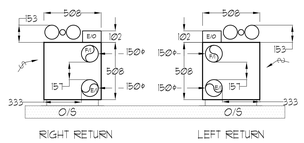

SOUTH PIPE SHAFT: 14/F | NTS




NORTH PIPE SHAFT A: 14/F | NTS




NORTH PIPE SHAFT B: 14/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 |
|---|---|---|---|---|---|---|---|---|
| 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 | 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
(4.0Pa 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. 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.)

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.

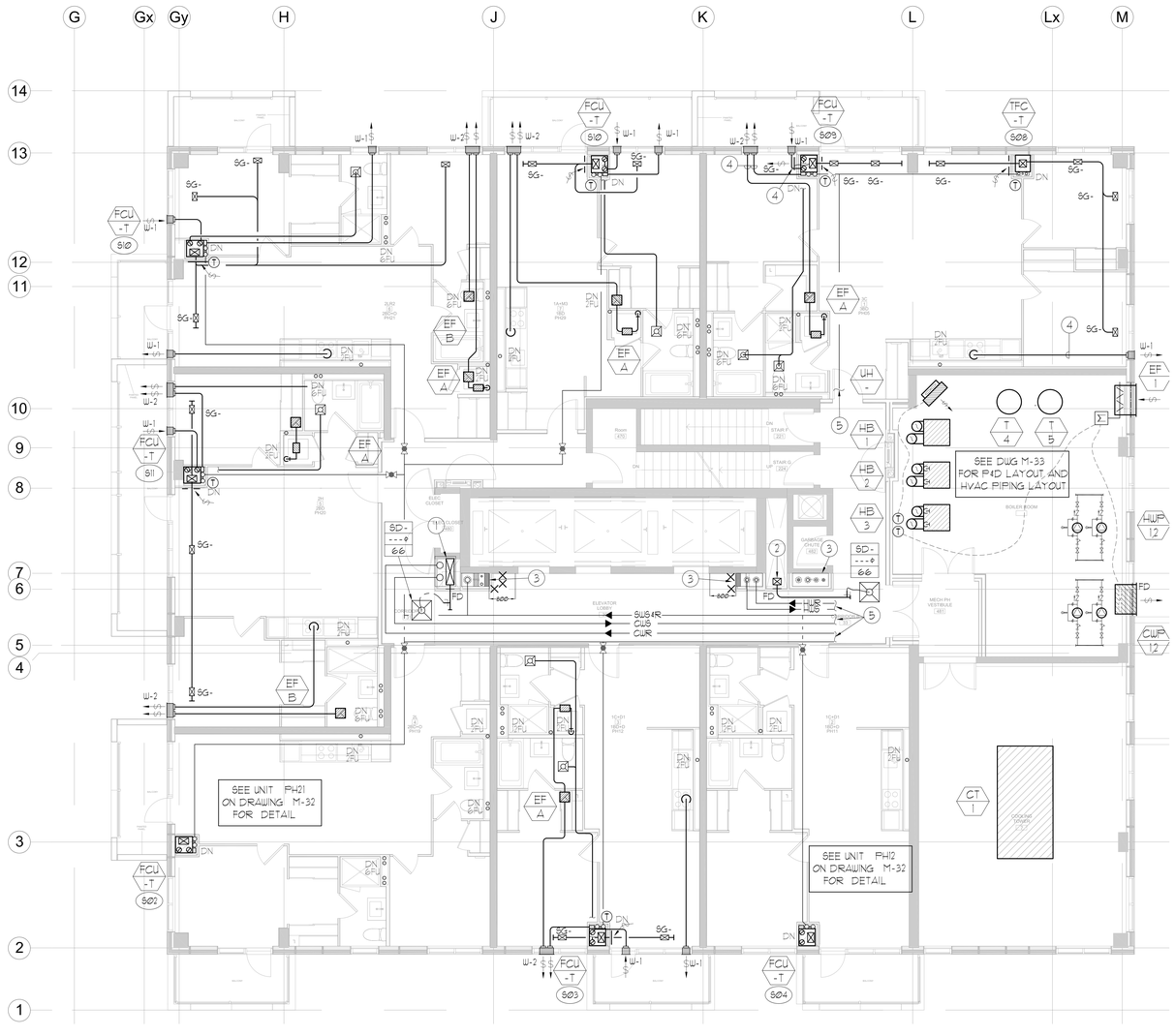
13) DRYER EXHAUST DUCT SHALL BE SMOOTH AND CORROSION-RESISTANT MATERIAL (FLEXIBLE CONNECTION IS NOT ACCEPTABLE).

REFER TO DWG. M-X FOR ACOUSTIC NOTES

CLEAR FLOOR TO UNDERSLAB = 3210mm
CLEAR PRODUCT = 2100mm
COMPLETE DROP CEILING = 570mm

NOTES:

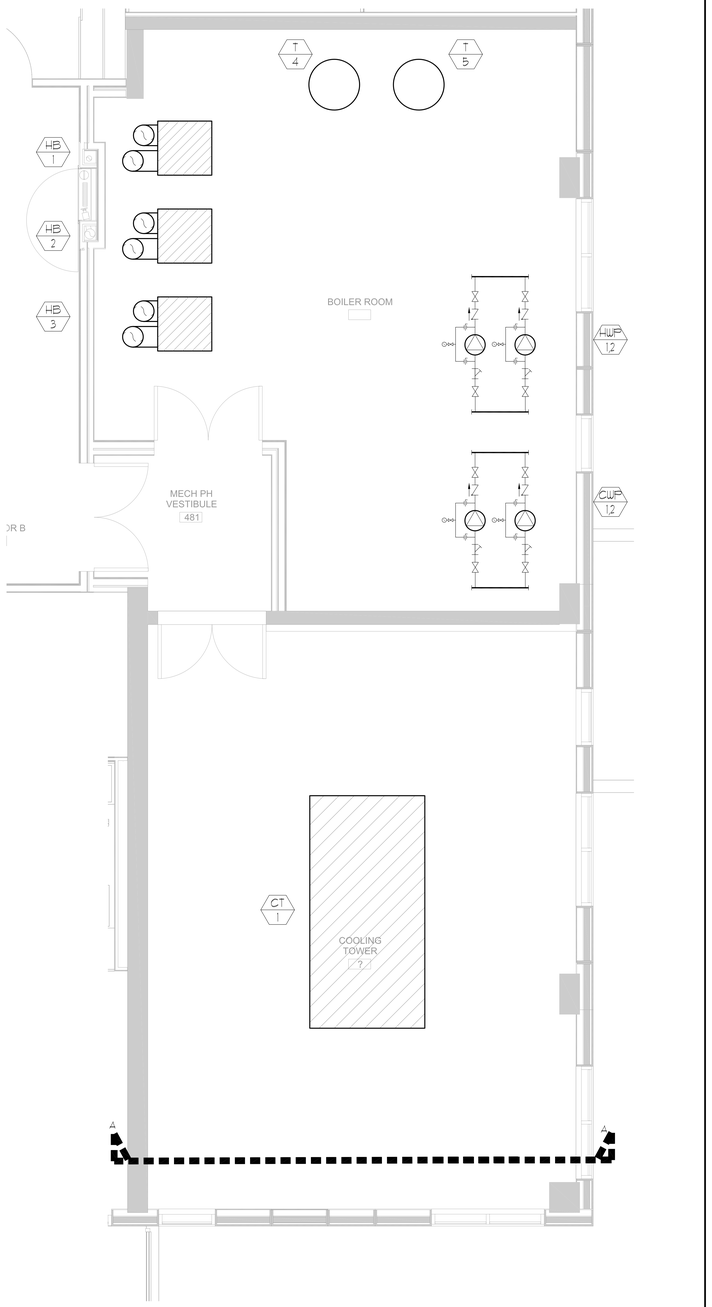
1. SOUTH F/A SHAFT B FROM G/F TO 14/F DUCT SERVING CORRIDOR FROM G/F TO 14/F. SEE VENTILATION RISER DIAGRAM FOR DETAILS.
2. NORTH F/A SERVING FROM G/F TO 14/F. F/A DUCT SERVING CORRIDOR FROM G/F TO 14/F. SEE VENTILATION RISER DIAGRAM FOR DETAILS.
3. PIPE SHAFT - REFER TO PIPE DIAGRAM FOR DETAILS.
4.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



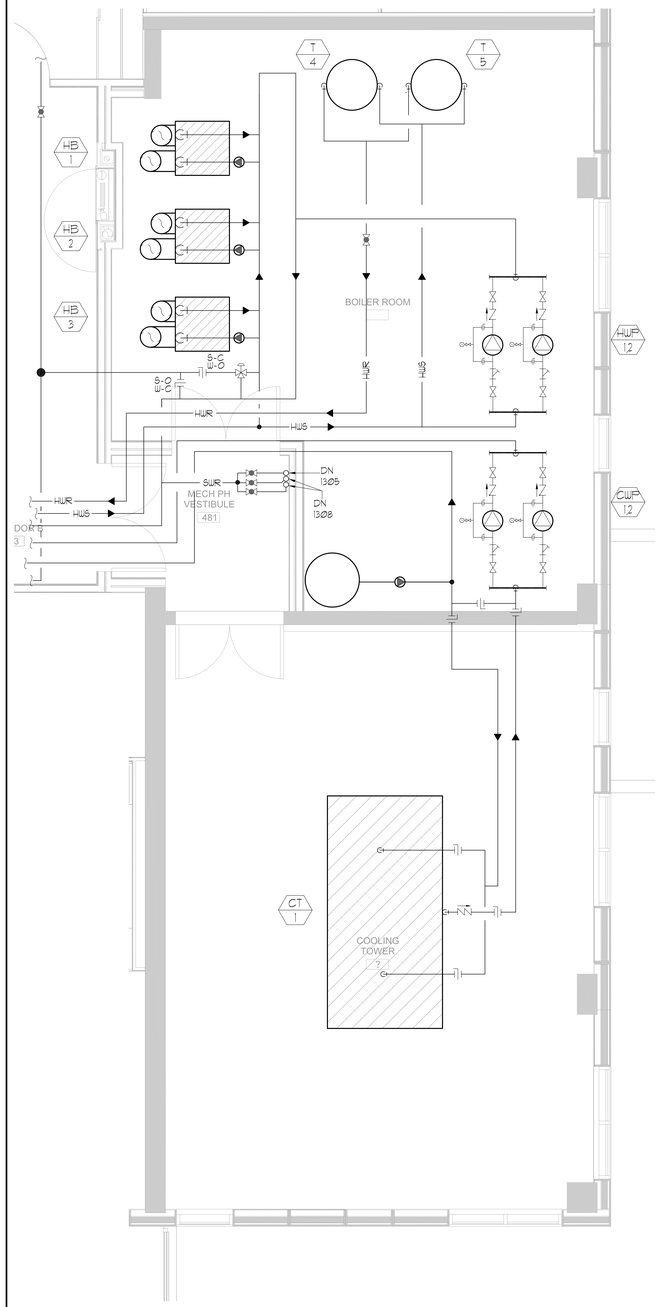

## LEGEND
MECHANICAL

| SYMBOL | DESCRIPTION |
|---|---|
| | SUPPLY AIR DIFFUSER |
| | SUPPLY AIR TROPFER |
| | 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 ) |
| S | IN-SUITE ERV MASTER SWITCH |
| S | FAN SWITCH / IN-SUITE ERV OVERRIDE BUTTON |
| D | 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 FLOORR DRAIN |
| HD | HUB DRAIN |
| RD | ROOF DRAIN |
| BLD | BLAB DRAIN |
| AD | AREA DRAIN |
| BL-AD | 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 |
| PR | 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 |
| TW | 1/2"x4"(T) 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) |

| | | | |
|---|---|---|---|
| | | | |
| | | | |
| | | | |




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




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

NOTES:

1
2
3
4

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 3-1.8-1.

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'S/FAU'S/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/U 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 WHICH PENETRATE 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.

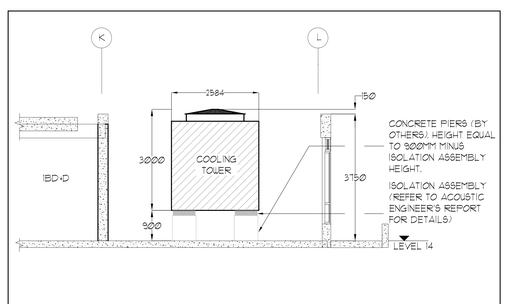
13) CWP, SWP, CHWP AND HWP SHALL BE DECOUPLED FROM THE ATTACHED PIPING USING TWIN-SPHERE RUBBER EXPANSION JOINTS ON BOTH THE SUCTION AND DISCHARGE SIDES FOR V.I.L. PUMPS. THESE EXPANSION JOINTS ARE TYPICALLY LOCATED IN THE VERTICAL SECTION ABOVE THE SUCTION STRAINER AND SHUT-OFF VALVE. THE PUMPS AND 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.




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 |
| | 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 |
| SD, CB | 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 |
| | 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"ID 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) |

| DATE | NO | DESCRIPTION | BY |
|---|---|---|---|
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05/30/14
ERIC PUI KAI PAN
100126809
PROVINCE OF ONTARIO

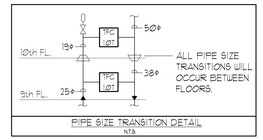
DRAWING TITLE:
ROOF
MECHANICAL LAYOUT

PROJECT TITLE:
ALEXANDRA PARK

XXX
TORONTO ONTARIO

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| FEB. 13 | 1313 | M-33 OF 35 |


Drawing name: \\CADSERVER\Current Dwg's\13\1313 - Alexandra Park\Dwf\1313M-33ROOF PLAN - MECHANICAL LAYOUT.dwg Plotted: May 29, 2014 - 4:40pm




PIPE SIZE TRANSITION DETAIL
N.T.S.

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

ACOUSTIC NOTES:

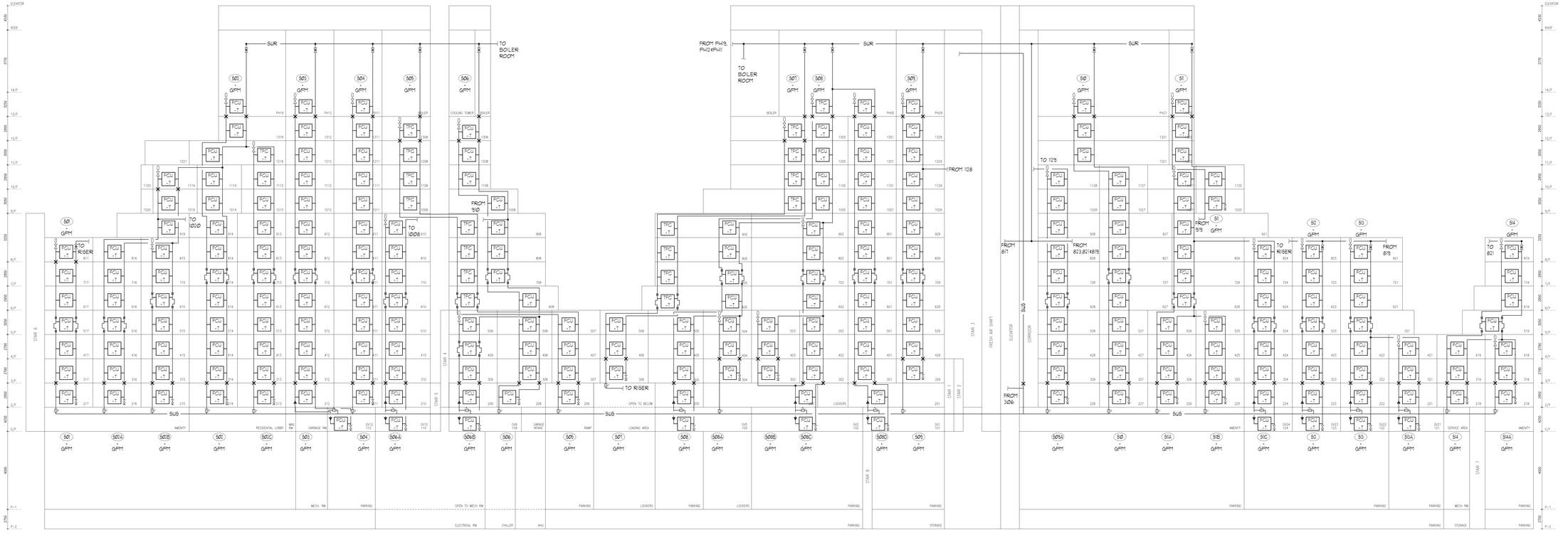
1) ALL RISER ANCHORS MUST INCLUDE 25MM THICK N&N ISOLATION PADS. THE PADS ARE TO BE HELD IN PLACE WITH HORIZONTAL STEEL PLATES WELDED TO BRACKETS THAT ARE IN TURN WELDED TO THE RISER.

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. 19ø CHWS & 19ø HWS
2. 25ø CHWS & 19ø HWS
3. 25ø CHWS & 25ø HWS
4. 19ø CHWR & 19ø HWR




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PROFESSIONAL ENGINEER — 05/30/14 — ERIC PUI KAI PUN — PROVINCE OF ONTARIO

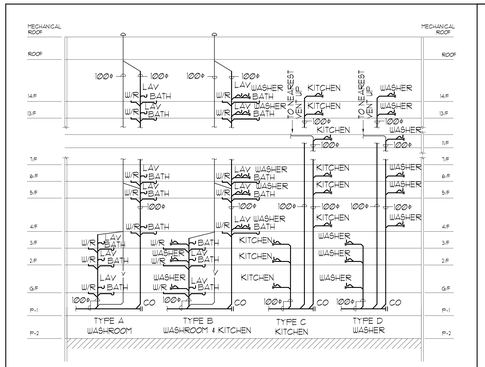
DRAWING TITLE:
# SYSTEM WATER RISER DIAGRAM

PROJECT TITLE:
## ALEXANDRA PARK

XXX
TORONTO ONTARIO

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| FEB. 13 | 1313 | M-34 OF 35 |

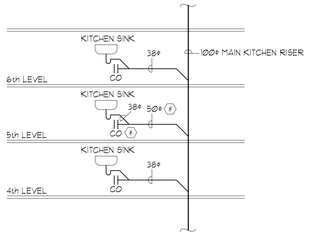
Drawing name: \\CADD\PROJECTS\Current Dwg\1313 - Alexandra Park\DWG\1313-M- SYSTEM WATER RISER DIAGRAM.dwg Plotted: May 29, 2014 - 4:40pm




TYPICAL SANITARY RISER DIAGRAM — N.T.S.

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.




NOTES:

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

KITCHEN RISER CLEANOUT DETAIL — N.T.S.

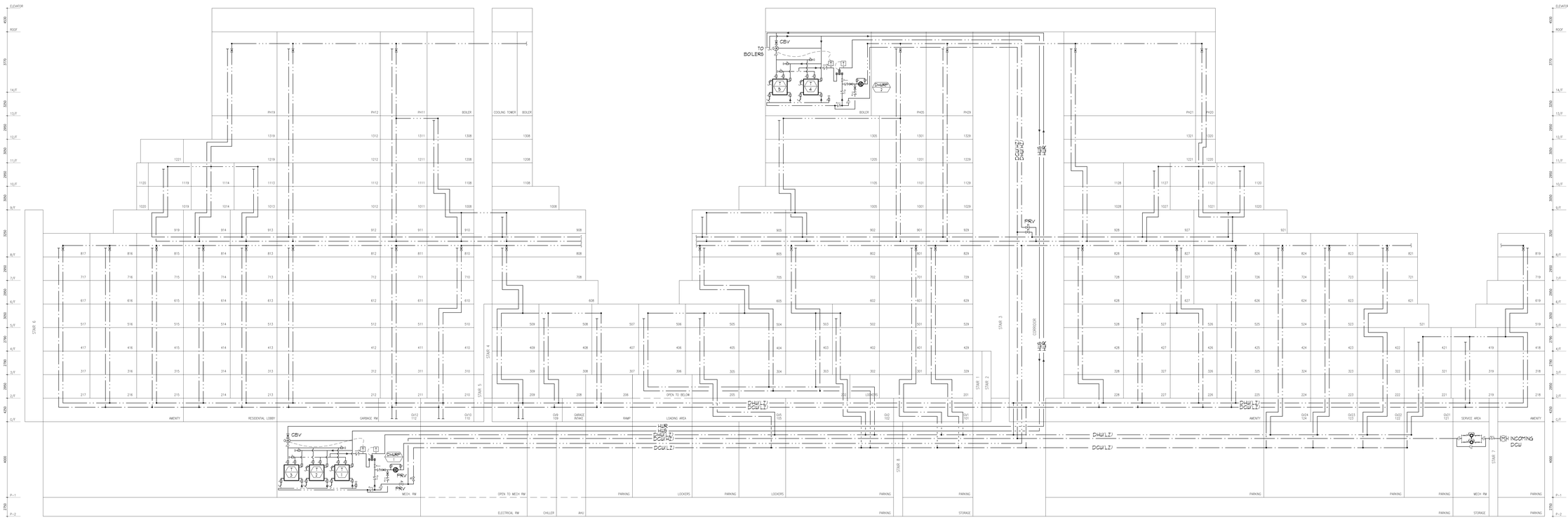
| PRV SCHEDULE | | | | | |
|---|---|---|---|---|---|
| PRV # | DUTY | FLOW RATE (GPM) | INLET PRESSURE (PSI) | OUTLET PRESSURE (PSI) | REMARKS |
| 1 | LOW ZONE DHW | - | - | - | CLA-VAL MODEL 90G-01ASKC -mm ø OR EQUAL. |
| 2 | LOW ZONE DCW | - | - | - | CLA-VAL MODEL 90G-01ASKC -mm ø OR EQUAL. |
| 3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

GENERAL NOTES:

1) SIZES SHOWN INDICATE REDUCTIONS AFTER DHW/CW 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.





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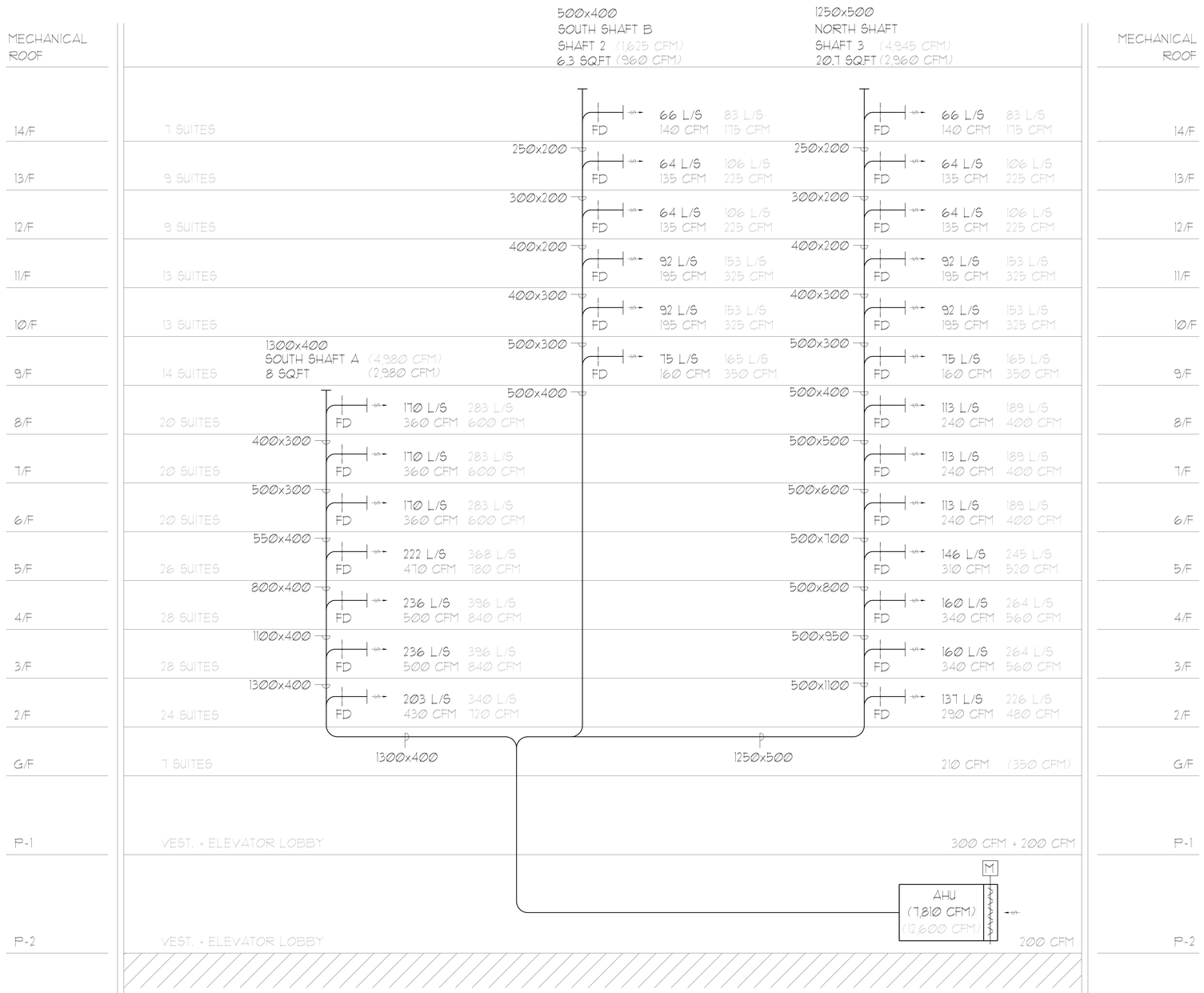
DRAWING TITLE:
DCW, DHW & DHWR
RISER DIAGRAM

PROJECT TITLE:
ALEXANDRA PARK

XXX
TORONTO — ONTARIO

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

Drawing name: \\LADSERVER\Current Dwg's\1313 - Alexandra Park\Drwgs\1313M - 2SDCW, DHW, DHWR RISER DIAGRAM.dwg Plotted: May 29, 2014 - 4:40pm




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DRAWING TITLE
PRESSURIZATION/VENTILATION RISER DIAGRAM

PROJECT TITLE
ALEXANDRA PARK

XXX
TORONTO ONTARIO

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|---|---|---|
| G.S. | E.P. | N.T.S. |
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Drawing name: \\CADSERVER\Current Dwg\13\1313 - Alexandra Park\DWG\1313M - 36(PRESSURIZATION &VENTILATION RISER DIAGRAM).dwg Plotted: May 29, 2014 - 4:40pm

ROOF

OUTDOOR

(1)MAU-1

DRAIN

VIBRATION POINT ISOLATORS ON MECHANICAL EQUIPMENT AS PER STRUCTURAL ENGINEER'S REPORT FOR DETAILS

3M HARD-UP WATER LINE INSULATED BY ARMAFLEX HEAT TRACING BY OTHERS

SUCTION GUIDE

CHEMICAL FEEDER PUMP COMPLETE WITH TANK

TURN-SPHERE RUBBER EXPANSION JOINT TYGON SUPPLY OR EQUAL

CHEMICAL FEED PIPE

CHEMICAL FEED TANK

TRIPLE DUTY VALVE

1500 GPM

VENT

BYPASS FEEDER

IRO

FROM PCU FROM PCU FROM PCU FROM PCU FROM PCU

REDUCE PRESSURE TYPE B.P.P.

1500 GAL. EXPANSION TANK C/U RIGHT GLASS 4 TANK

AIRTROL TANK FITTING

AIR SEPARATOR C/U STRAINER (S.A. ARMSTRONG V.A.S-4)

TURN-SPHERE RUBBER EXPANSION JOINT TYGON SUPPLY OR EQUAL

TRIPLE DUTY VALVE

1200 GPM

POT FEEDER

BYPASS FEEDER

HYDRON FILTER

IRO

THREE WAY THERMOSTATIC VALVE (PRE TACEL SIM) OR EQUAL SET AT 60°C MIN. INSTALLED ON FRONT OF SUPPLY AT BOILER INLET

(3) HEATING BOILERS 85.50 # KG INPUT 1,000 MBH OUTPUT XXXX MBH

CIRCULATOR PUMP FOR EACH BOILER (TYPICAL)

CWS FE.S

HWS FE.S

CWR FE.S

HWR FE.S

CWS BVO

HWS BVO

CWR BVO

HWR BVO

CWS GBV

HWS GBV

CWR GBV

HWR GBV

CWS

HWS

CWR

HWR

CBV

HBV

TM

TSH

TSH CONDENSED DOMESTIC HOT WATER RETURN AND COLD WATER

MIXING VALVE TO BE LAUER OR EQUIVALENT

SET AT DIFF CHG 4 CONDENSED DOM H CHAR TO MAINTAIN TANK SUPPLY TEMP. AT DIFF

BYPASS HAS ONCE THRU FLOW WHEN REACHES TEMP. SET

4.75m HEAT TRAP DROP

(1) TANKS FOR HIGH ZONE TANK TBN. AR UNITS

TO EXPANSION TANK

14.F

FROM SUITES

TO SUITES TO SUITES

8.F

5.F

2.F

TO SUITES TO SUITES

TO SUITES TO SUITES

TO PCU TO PCU TO PCU TO PCU

G.F

TO TH TUBES 4 UNITS HEATER

FROM TH TUBES 4 UNITS HEATER

PARKING LEVEL P-1

CHILLER

CONDENSER

TURN-SPHERE RUBBER EXPANSION JOINT TYGON SUPPLY OR EQUAL

RH HOSE BIBB FOR DRAIN DOWN

1500 GAL. EXPANSION TANK C/U RIGHT GLASS 4 TANK

AIRTROL TANK FITTING

AIR SEPARATOR C/U STRAINER (S.A. ARMSTRONG V.A.S-4)

PRESSURE REDUCING STATION REDUCE PRESSURE TYPE B.P.P.

TURN-SPHERE RUBBER EXPANSION JOINT TYGON SUPPLY OR EQUAL

SUCTION GUIDE

TRIPLE DUTY VALVE

1200 GPM

POT FEEDER

HYDRON FILTER

BYPASS FEEDER

C/U CHEMICAL TREATMENT WITH E. GLYCOL

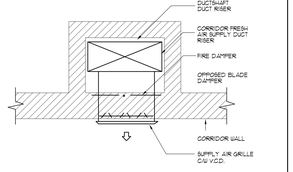
HWR OFF TURNS OFF HWU

IRO

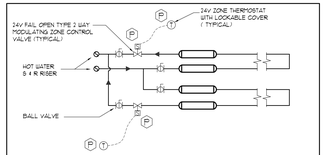
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TSH

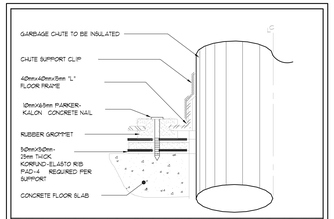
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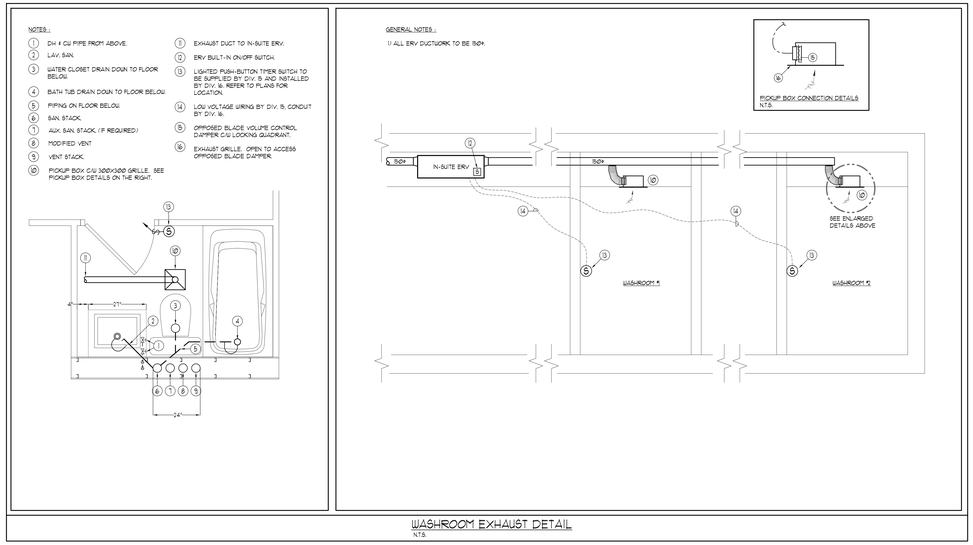

TYPICAL CORRIDOR SUPPLY AIR DETAILS
N.T.S.



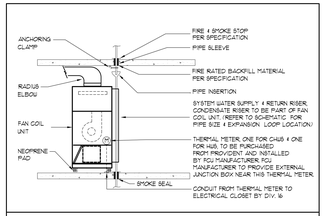

FIN TUBE HEATING CONTROL DETAIL (HTG. WATER ONLY)
N.T.S.



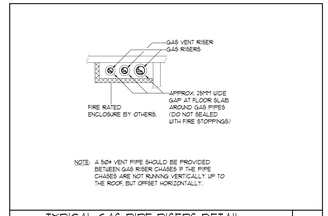

TYPICAL SOUND ISOLATING CHUTE SUPPORT ARRAGEMENT
N.T.S.



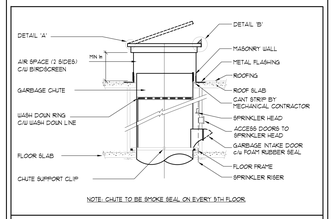

WASHROOM EXHAUST DETAIL
N.T.S.



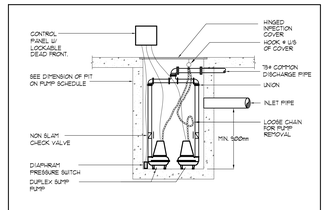

FAN COIL UNIT INSTALLATION DETAIL
N.T.S.



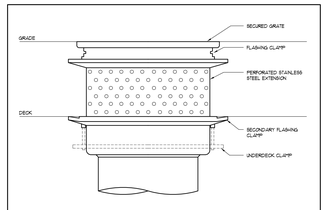

TYPICAL GAS PIPE RISERS DETAIL IF ENCLOSED BY FIRE RATED ENCLOSURE
NTS



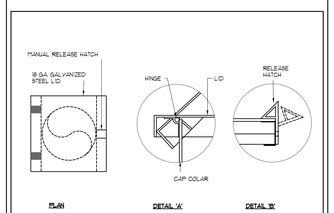

GARBAGE CHUTE DETAIL
N.T.S.



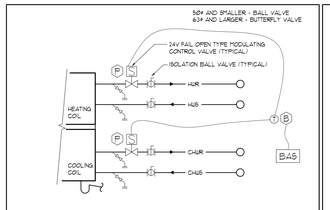

ELEVATOR SUMP PIT DETAIL
N.T.S.



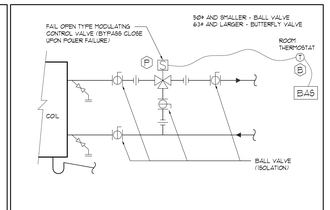

BI-LEVEL AREA DRAIN DETAIL
N.T.S.



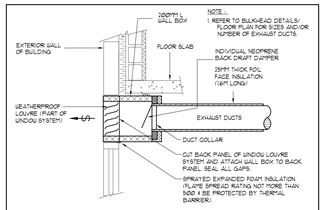

GARBAGE CHUTE OPENING DETAIL
N.T.S.



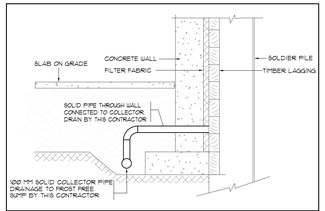

2-WAY VALVE PIPING ARRANGEMENT FOR 4-PIPE SYSTEM (SEPARATE COOLING/HEATING COILS)
N.T.S.



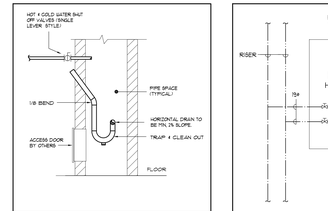

3-WAY VALVE PIPING ARRANGEMENT
N.T.S.



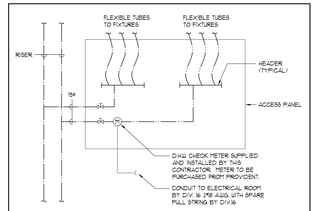

WALL BOX DETAIL
N.T.S.



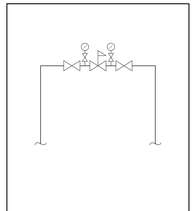

WEEPING TILE INSTALLATION DETAILS
N.T.S.



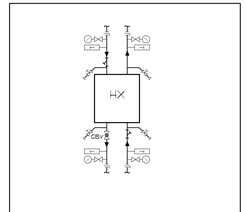

WASHER CONNECTION DETAIL
N.T.S.



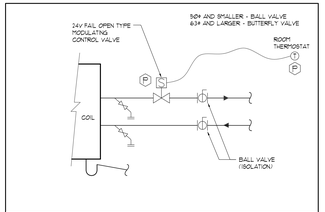

IN-SUITE D.H. & C.W. ARRANGEMENT BEHIND KITCHEN CABINET
N.T.S.



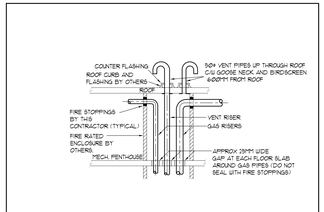
DOMESTIC PRV CONNECTION DETAILS
N.T.S.



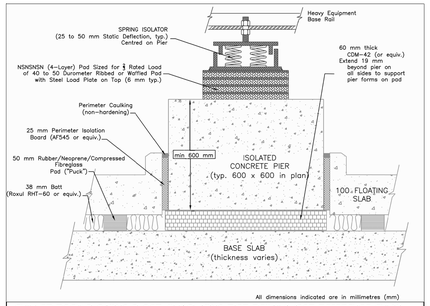

HEAT EXCHANGER
N.T.S.



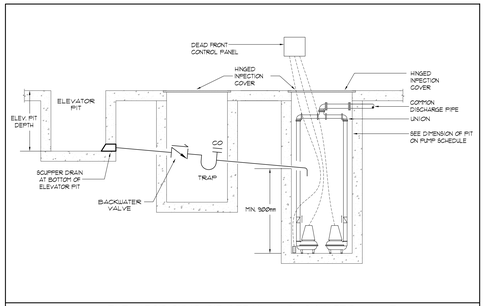

2-WAY VALVE PIPING ARRANGEMENTFOR 2-PIPE SYSTEM
N.T.S.



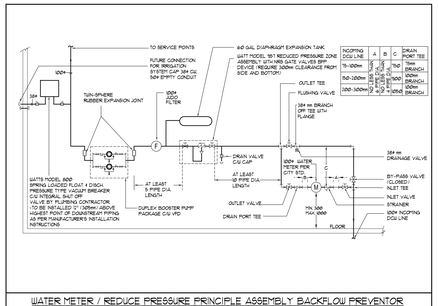

TYPICAL SECTION VIEW OF GAS PIPE RISERS IF ENCLOSED BY FIRE RATED ENCLOSURE
NTS



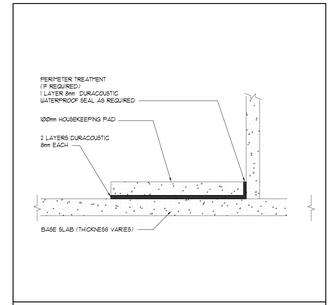

CHILLER ROOM FLOATING FLOOR /W ISOLATING PIER DETAILS (FOR REFERENCE ONLY)
N.T.S.



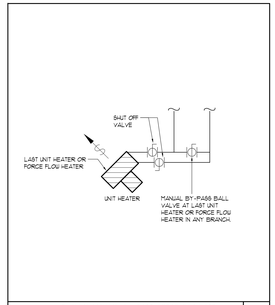

ELEVATOR SUMP PIT DETAIL w/ BACKWATER VALVE
N.T.S.




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

| DATE | NO | DESCRIPTION | BY |
|---|---|---|---|
| 05/2014 | 4 | ISSUED FOR PERMIT | E.P. |

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

NOVA TREND ENGINEERING

05/30/14
ERIC PUI KAN FOK
LICENCE OF ONTARIO

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Richmond Hill, Ontario L4B 3M1
Tel: 905 882-8448
Fax: 905 882-8447
Email: csd@novatrending.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 Dwg's\1313 - Alexandra Park\Drwfs\1313-M-38DETAILS#1.dwg Plotted: May 29, 2014 - 4:41pm

## AIR HANDLING UNIT

| SYMBOL | MANUFACTURER | MODEL | DUTY | CHILLED WATER COIL SECTION | | | | | | | | | | | | | HEATING COIL SECTION | | | | | | | | | | | SUPPLY FAN SECTION E.S.P./HP | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | AIR FLOW (CFM) | EAT (DB/WB) (°F) | LAT (DB/WB) (°F) | TOTAL CAP. (MBH) | SEN. CAP (MBH) | EST (°F) | LST (°F) | FLOW (USGPM) | FLUID | WPD (FT.) | APD (IN.) | FACE AREA (SQFT) | FARE VEC. (FPM) | SIZE | ROWS | FPI | AIR FLOW (CFM) | EAT (DB/WB) (°F) | LAT (DB/WB) (°F) | TOTAL CAP. (MBH) | EST (°F) | LST (°F) | FLOW (USGPM) | FLUID | WPD (FT.) | APD (IN.) | FACE AREA (SQFT) | FARE VEC. (FPM) | SIZE | ROWS | FPI | | |
| AHU-1 | YORK | SOLITON SDV120 | FRESH AIR | 16,000 (13,500 MAX) | 11.4 | 51/50.8 | 1213.00 0 | 693,100 0 | 45 | 55 | 324,300 0 | WATER | 8.8 | 0 | 35.500 0 | 456 | 515x915 | 4 | 12 | 16,000 (13,500 MAX) | -10.0 | 14.3 | 1305.1 | 105 | 115 | 218.1000 | 40% E GLYCOL | 8.8 | 0.26 | 5.0 | 470 | 610x350 | 3 | 11 | 2.5" | 2.5 | FAN TO CU ABB VFD (U BYPASS, CLG. COIL TO HAVE FACE AND 25% BYPASS DAMPER, INLET MOTORIZED DAMPER, FREEZESTAT TO SHUT DOWN FAN AND INLET MOTORIZED DAMPER. MERV 13 FILTERS AND MERV 8 PREFILTER. WITH MAGNAHELIC GAUGES TO MONITOR DIFFERENTIAL PRESSURE OF AIR FILTERS. UNIT SHALL HAVE SPARE CAPACITY TO SUPPLY 1BEDROM APARTMENT |

## FAN COIL UNIT (IN SUITE WITH INTEGRATE ERV)

| FAN SECTION | | | | | | | | CHILLED WATER COIL PERFORMANCE | | | | | | | | | | HEATING WATER COIL PERFORMANCE | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SYMBOL | MAKE | MODEL | DESCRIPTION | DUTY | AIR FLOW | ESP (IN) | HP | VHMZ | SUPPLY AIR (ERV) (CFM) | SUPPLY AIR (COIL) (CFM) | ERV INLET AIR TEMP (°F) | ERV SUPPLY AIR TEMP (°F) | LAT (°F) | TOTAL CAP. (MBH) | SEN. CAP (MBH) | EST (°F) | LST (°F) | FLOW (USGPM) | WPD (FT.) | SUPPLY AIR (ERV) (CFM) | SUPPLY AIR (COIL) (CFM) | ERV INLET AIR TEMP (°F) | ERV SUPPLY AIR TEMP (°F) | LAT (°F) | TOTAL CAP. (MBH) | SEN. CAP (MBH) | EST (°F) | LST (°F) | FLOW (USGPM) | REMARKS |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

## FAN COIL UNIT (IN-SUITE WITH INTEGRATED ERV)

| FAN SECTION | | | | | | | | CHILLED WATER COIL PERFORMANCE | | | | | | | | | | HEATING WATER COIL PERFORMANCE | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SYMBOL | MAKE | MODEL | DESCRIPTION | DUTY | AIR FLOW | ESP (IN) | HP | VHMZ | SUPPLY AIR (ERV) (CFM) | SUPPLY AIR (COIL) (CFM) | ERV INLET AIR TEMP (°F) | ERV SUPPLY AIR TEMP (°F) | LAT (°F) | TOTAL CAP. (MBH) | SEN. CAP (MBH) | EST (°F) | LST (°F) | FLOW (USGPM) | WPD (FT.) | SUPPLY AIR (ERV) (CFM) | SUPPLY AIR (COIL) (CFM) | ERV INLET AIR TEMP (°F) | ERV SUPPLY AIR TEMP (°F) | LAT (°F) | TOTAL CAP. (MBH) | EST (°F) | LST (°F) | FLOW (USGPM) | WPD (FT.) | REMARKS |
| FCU-17 | UNILUX | DLE4IND-ERV7B | STACKED VERTICAL 2 PIPE | N-SUITE | 450 | .02 | 1/3 | 115/1.6A | 75 | 375 | 69.6 | 77.7 | 54.2 | 9.5 | 8.2 | 45 | 54 | 2 | 1.2 | 375 | -13 | 46.3 | 0.48 | 21.7 | 140 | 117.8 | 2 | 1.2 | CU ECT MOTOR (1 HG 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, PROGRAMMABLE HEATING/COOLING THERMOSTAT HONEYWELL T8776D4009 OR EQUAL). RETURN AIR LOUVRE TO BE PLACED ON RAISED LEGS SUCH THAT THE TOP OF THE BOSEWALL SUPPLY AIR GRILLE ARE TO BE 300m BELOW CEILING. |
| FCU-27 | UNILUX | DLE4IND-ERV7B | STACKED VERTICAL 2 PIPE | N-SUITE | 525 | .02 | 1/3 | 115/1.6A | 75 | 525 | 69.6 | 77.7 | 54.3 | 11.3 | 9.6 | 45 | 54 | 2.5 | 2.6 | 525 | -13 | 46.3 | 0.624 | 28.62 | 140 | 117.2 | 2.5 | 2.6 | FCU = TT TO BE 4% MERV 8 FILTER. |
| FCU-237 | UNILUX | DLE4IND-ERV7B | STACKED VERTICAL 2 PIPE | N-SUITE | 600 | .02 | 1/3 | 115/1.6A | 75 | 725 | 69.6 | 77.7 | 54.3 | 11.3 | 9.6 | 45 | 54 | 2.5 | 3.2 | 725 | -13 | 46.3 | 0.71 | 42.6 | 140 | 119.2 | 3.5 | 3.2 | FCU = 137, 27 TO BE 6% MERV 13 FILTER. |
| | | | | | | | | | | 525 | 69.6 | 77.7 | 53.5 | 26 | 21.8 | 45 | 51 | 4 | 8.3 | 75 | | | | | | | | |

## FAN COIL UNIT (IN SUITE WITHOUT ERV)

| FAN SECTION | | | | | | | | CHILLED WATER COIL PERFORMANCE | | | | | | HEATING WATER COIL PERFORMANCE | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SYMBOL | MAKE | MODEL | DESCRIPTION | DUTY | AIR FLOW | ESP (IN) | HP | VHMZ | EAT (DB/WB) (°F) | LAT (DB/WB) (°F) | TOTAL CAP. (MBH) | SEN. CAP (MBH) | EST (°F) | LST (°F) | FLOW (USGPM) | WPD (FT.) | EAT (DB) (°F) | LAT (DB) (°F) | TOTAL CAP. (MBH) | GLYCOL | EST (°F) | LST (°F) | FLOW (USGPM) | WPD (FT.) | WEIGHTS (LBS) | REMARKS |
| TFC-17 | UNILUX | DLE450 | 2-PIPE VERTICAL FAN COIL | N-SUITE | 450 | .02 | 1/6 | 120/1.6A | 78.6/67 | 55.7/54.5 | 1.45 | 1.0 | 45 | 55 | 2.6 | 2.5 | 70 | 100 | 3.6.8 | 0% | 140 | 120 | 3.6 | 2.5 | | CU ECT MOTOR, (HG HEATER AND RISERS, RISER SIZE SHALL MATCH RISER DIAGRAM) 3 WAY CONTROL VALVE, THERMAL METERS, PROGRAMMABLE HEATING/COOLING THERMOSTAT HONEYWELL T8776D4009 OR EQUAL) RETURN AIR LOUVRE MERV 8 FILTER, RCU TO BE PLACED ON RAISED LEGS SUCH THAT THE TOP OF THE BOSEWALL SUPPLY AIR GRILLE ARE TO BE 300m BELOW CEILING. |
| TFC-187 | UNILUX | DLE600 | 2-PIPE VERTICAL FAN COIL | N-SUITE | 500 | .02 | 1/6 | 120/1.6A | 78.6/67 | 56.2/55.8 | 1.62 | 1.0 | 45 | 55 | 3.8 | 6.3 | 70 | 100 | 10.4 | 0% | 140 | 120 | 3.8 | 6.3 | | |
| TFC-27 | UNILUX | DLE800 | 2-PIPE VERTICAL FAN COIL | N-SUITE | 650 | .02 | 1/3 | 120/1.6A | 78.6/67 | 54.9/53.7 | 2.61 | 1.0 | 45 | 55 | 5.5 | 1 | 70 | 100 | 47.5 | 0% | 140 | 120 | 5.5 | 1 | | |

## FAN COIL UNIT (AMENITY AND COMMON AREAS)

| FAN SECTION | | | | | | | | CHILLED WATER COIL PERFORMANCE | | | | | | | HEATING WATER COIL PERFORMANCE | | | | | | | | | | | | | HORIZONTAL DISCHARGE CONDENSER | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SYMBOL | MAKE | MODEL | DESCRIPTION | DUTY | AIR FLOW | ESP (IN) | HP | VHMZ | EAT (DB/WB) (°F) | LAT (DB/WB) (°F) | TOTAL CAP. (MBH) | SEN. CAP (MBH) | EST (°F) | LST (°F) | FLOW (USGPM) | WPD (FT.) | EAT (DB) (°F) | LAT (DB) (°F) | TOTAL CAP. (MBH) | GLYCOL | EST (°F) | LST (°F) | FLOW (USGPM) | WPD (FT.) | SYMBOL | 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 | MODEL | VHMZ | MCA | FUSE SIZE | WEIGHT (LBS) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

## 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 | VHMZ | LT. (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 | VHMZ | LT. (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. LVG. °F | LVG. LVG. °F | GPH | FAN HP | FAN VOL | WEIGHT (LBS) | SIZE | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CT-1 | BALTIMORE AIRCOIL | S3E-022-07W | OPEN COOLING TOWER SINGLE CELL | CONDENSER WATER | 600 | 1800 | - | 95 | 85 | 14,586.0 | 40 | NL | 24,000 | 5'-0"x21'-1 1/2"H | CU ABB VFD WITH BACNET COMPATIBLE WITH SIEMENS CONTROLS ACCESS LADDER 4 HANDRAILS CONTROL POWER PANEL, 1.5 INCHES DEFLECTION ISOLATION 2 LAYERS OF RIPPLED NEOPRENE PADS. |

## BOILER SCHEDULE

| SYMBOL | MAKE | MODEL | DESCRIPTION | DUTY | INPUT (MBH) | OUTPUT (MBH) | GPM | ↑ T | P.D. FT | ENTER LTR °F | LVG LTR °F | LIGHT (LBS) | VENT FLUE | INTAKE FLUE | SIZE | GAS | WATER CONNECTION | ELECTRICAL VOLTAGE | ELECTRICAL AMPERE | HOOP | CIR. HP | CIR. VOLTAGE | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | | | | | | |

## PUMP SCHEDULE (ALL MOTORS SHALL BE HI-EFF. TYPE, ABB VFD WITH BACNET COMPATIBLE WITH SIEMENS CONTROLS)

| SYMBOL | MAKE | MODEL | DESCRIPTION | DUTY | GPM | FT HEAD | RPM | HP | VHMZ | WEIGHT | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DOMP-1<br>DOMP-2 | ARMSTRONG | 4600 VS-DE-26KH | DOMESTIC BOOSTER DUPLEX PACKAGE SYSTEM | DOMESTIC COLD WATER BOOSTER | 210 | 387 | 3600 | 30 | 575/3/60 | 2284 | CU VFD, CONTROL PANEL |
| | | | | | | | | | | | |

## PLATE HEAT EXCHANGERS

| SYMBOL | MAKE | MODEL | DESCRIPTION | DUTY | HEAT TRANSFER (MBH) | SIDE 1 | | | | SIDE 2 | | | | | WEIGHT (LBS) | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | ENTER | LIST | FLOW (GPM) | P.D. (psi) | FLUID | ENTER | LIST | FLOW (GPM) | P.D. (psi) | FLUID | | |
| | | | | | | | | | | | | | | | | | |

## HOT WATER EQUIPMENT SCHEDULE

| SYMBOL | MAKE | MODEL | DESCRIPTION | DUTY | HEAT TRANSFER (MBH) | HOT WATER COIL | | | GPH | E.P. | H.P. | V/HMZ | WEIGHT (LBS) | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | ENTER | LIST | FLOW (GPM) | | | | | | |
| | | | | | | | | | | | | | | |

## FAN SCHEDULE

NOTE:
- ALL MOTOR 1 HP AND ABOVE SHALL BE HIGH-EFFICIENCY TYPE.
- VFD TO BE ABB CU BACNET COMPATIBLE WITH SIEMENS CONTROLS
- ALL FANS 10 HP AND LARGER TO BE CSU HOA STARTER

| SYMBOL | MAKE | MODEL | DESCRIPTION | DUTY | CFM | ESP (") | RPM | HP | V/HMZ | FAN DIMENSIONS | WALL OPENING | WEIGHT | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EF-A | ZONEX | DSP150 | IN-LINE | DRYER EXHAUST | 140 | Ø.4 | 1750 | 1/2 @ | 120/1/60 | | | 11 | CU LINT TRAP, RELAY TO INTERLOCK W DRYER. |
| EF-B | ZONEX | GP150 | IN-LINE | WASHROOM EXHAUST | 100 | Ø.25 | 1200 | 6/30 | 120/1/60 | | | 14 | CU B.D.D., EXTRA LARGE HOUSING + SLIDING DAMPER, SOUND DATA NOT MORE THAN 1 SONE + ENERGY STAR COMPLIANT. |
| | | | | | | | | | | | | | |
| EF-1 | CARNES | LYDK24K | WALL PROPELLER | P-2 STORAGE ROOM EXHAUST | 300 | Ø.25 | 1150 | 1/6 | 120/1/60 | | | 40 | CU MOTORIZED DAMPER WALL HOUSING WITH GUARD, BUTCH DAMPER GUARD 4 SPEED CONTROLLER. |
| EF-2 | CARNES | LYDK18K | WALL PROPELLER | P-2 RESI. STORAGE ROOM 1 EXHAUST | 200 | Ø.25 | 867 | 1/6 | 120/1/60 | | | 30 | CU MOTORIZED DAMPER WALL HOUSING WITH GUARD, BUTCH DAMPER GUARD 4 SPEED CONTROLLER. |
| EF-3 | CARNES | LYDK12K | WALL PROPELLER | P-2 RESI. STORAGE ROOM 2 EXHAUST | 500 | Ø.25 | 1240 | 1/6 | 120/1/60 | | | 42 | CU MOTORIZED DAMPER WALL HOUSING WITH GUARD, BUTCH DAMPER GUARD 4 SPEED CONTROLLER. |
| EF-4 | CARNES | VBK18L | IN-LINE | P-2 RESI. STORAGE ROOM 3 EXHAUST | 1150 | Ø.25 | 881 | 1/4 | 120/1/60 | | | | CU B.D.D., ISOLATION KIT, AND BUTCH. |
| EF-5 | CARNES | LYDK18K | WALL PROPELLER | P-2 STORAGE ROOM | 300 | Ø.25 | 1150 | 1/6 | 120/1/60 | | | 40 | CU MOTORIZED DAMPER WALL HOUSING WITH GUARD, BUTCH DAMPER GUARD 4 SPEED CONTROLLER. |
| EF-6 | CARNES | LYDK12K | WALL PROPELLER | P-1 GENERATOR ROOM EXHAUST | 500 | Ø.25 | 1240 | 1/6 | 120/1/60 | | | 42 | CU MOTORIZED DAMPER WALL HOUSING WITH GUARD, THERMOSTAT, DAMPER GUARD 4 SPEED CONTROLLER. |
| EF-7 | CARNES | LYDK18K | WALL PROPELLER | P-1 LOCKER ROOM | 300 | Ø.25 | 1150 | 1/6 | 120/1/60 | | | 40 | CU MOTORIZED DAMPER WALL HOUSING WITH GUARD, THERMOSTAT, DAMPER GUARD 4 SPEED CONTROLLER. |
| EF-8 | CARNES | LYDK09H | WALL PROPELLER | P-1 COMMUNICATION ROOM | 100 | Ø.25 | 1031 | 1/12 | 120/1/60 | | | 35 | CU MOTORIZED DAMPER WALL HOUSING WITH GUARD, THERMOSTAT, DAMPER GUARD 4 SPEED CONTROLLER. |
| EF-9 | CARNES | LYDK12K | WALL PROPELLER | P-1 MECH/SPRINK ROOM | 600 | Ø.25 | 1386 | 1/6 | 120/1/60 | | | 42 | CU MOTORIZED DAMPER WALL HOUSING WITH GUARD, THERMOSTAT, DAMPER GUARD 4 SPEED CONTROLLER. |
| EF-10 | CARNES | LYDK18K | WALL PROPELLER | P-1 COMMUNICATION ROOM 2 EXHAUST | 300 | Ø.25 | 1150 | 1/6 | 120/1/60 | | | 40 | CU MOTORIZED DAMPER WALL HOUSING WITH GUARD, THERMOSTAT, DAMPER GUARD 4 SPEED CONTROLLER. |
| EF-11 | CARNES | LXB24 | WALL PROPELLER | P-2 PARKING EXHAUST | 23500 | Ø.25 | 575 | 3 | 575/3/60 | | | 390 | CU MOTORIZED DAMPER WALL HOUSING WITH GUARD, DAMPER GUARD, VFD STEP CONTROL TYPE 12 B3P, PASS, AND GELATENPROOF MOTOR, 600V/15V 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-12 | CARNES | LXB36 | WALL PROPELLER | P-1 PARKING EXHAUST | 38500 | Ø.25 | 592 | 5 | 575/3/60 | | | 480 | CU MOTORIZED DAMPER WALL HOUSING WITH GUARD, DAMPER GUARD, VFD STEP CONTROL TYPE 12 B3P, PASS, AND GELATENPROOF MOTOR, 600V/15V 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-13 | CARNES | VBK09H | IN-LINE | G/F BIKE STORAGE ROOM EXHAUST | 400 | Ø.25 | 1143 | 1/3 | 120/1/60 | | | 101 | CU B.D.D., ISOLATION KIT, AND BUTCH. |
| EF-20 | CARNES | VBK09R | IN-LINE | G/F GARBAGE ROOM EXHAUST | 3,000 | Ø.375 | 1555 | 3/4 | 575/3/60 | | | 156 | CU MOTORIZED DAMPER WALL HOUSING WITH GUARD, DAMPER GUARD, THERMOSTAT, HOA STARTER AND SPEED CONTROLLER |
| EF-21 | CARNES | VBK09H | IN-LINE | G/F MOVING ROOM EXHAUST | 1,500 | Ø.375 | 1130 | 5/6 | 120/1/60 | | | 101 | CU B.D.D., ISOLATION KIT, BUTCH + HOA STARTER. |
| EF-22 | CARNES | LYDK7L | WALL PROPELLER | M/F BOILER ROOM EXHAUST | 1,200 | Ø.375 | 1264 | 1/4 | 120/1/60 | | | 449 | CU B.D.D., ISOLATION KIT, BUTCH + HOA STARTER. |
| | | | | | | | | | | | | | |
| EF-12 | GOODS | | IN-LINE | STAIR PRESSURIZATION | 2,000 | 1 | 1500 | 1 | 575/3/60 | | | 150 | CU B.D.D., ISOLATION KIT 4 HOA STARTER & VOLTAGE SENSING TIME DELAY RELAY SETTING (0-5M) |
| | | | | | | | | | | | | | |

## 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 | 540 | SINGLE DEFLECTION SUPPLY AIR GRILLE | 300x300 | CU MULTI-DAMPER, COLOUR TO BE COORDINATED WITH ARCHITECT. |
| SG-B | EH PRICE | 540 | SINGLE DEFLECTION SUPPLY AIR GRILLE | 300x150 | CU MULTI-DAMPER, COLOUR TO BE COORDINATED WITH ARCHITECT. |
| SG-C | EH PRICE | 540 | SINGLE DEFLECTION SUPPLY AIR GRILLE | 400x150 | CU MULTI-DAMPER, COLOUR TO BE COORDINATED WITH ARCHITECT. |
| SG-D | EH PRICE | 540 | SINGLE DEFLECTION SUPPLY AIR GRILLE | 450x150 | CU MULTI-DAMPER, COLOUR TO BE COORDINATED WITH ARCHITECT. |
| SG-1 | EH PRICE | CVD | TWO WAY CURVED VANE DIFFUSER | SEE DWG. | CU O.B.D. COLOUR TO BE COORDINATED WITH INTERIOR DESIGNER. |
| SG-2 | EH PRICE | 510D | SINGLE DEFLECTION SUPPLY AIR GRILLE | SEE DWG. | CU O.B.D. COLOUR TO BE COORDINATED WITH INTERIOR DESIGNER. |
| SG-3 | EH PRICE | 610DAL | SINGLE DEFLECTION ALUMINUM SUPPLY AIR GRILLE | SEE DWG. | CU ALUMINUM O.B.D. COLOUR TO BE COORDINATED WITH INTERIOR DESIGNER. |
| SD-1 | EH PRICE | SCD | 4 WAY SUPPLY AIR DIFFUSER | 600x600 | CU O.B.D. COLOUR TO BE COORDINATED WITH INTERIOR DESIGNER. |
| SD-2 | EH PRICE | SCD | 4 WAY SUPPLY AIR DIFFUSER | 300x300 | CU O.B.D. COLOUR TO BE COORDINATED WITH INTERIOR DESIGNER. |
| LD-1 | EH PRICE | SDB200 | 4 SLOT LINEAR DIFFUSER | 1200 LENGTH | CU O.B.D 4 PLENUM, COLOUR TO BE COORDINATED WITH INTERIOR DESIGNER. |
| LD-2 | EH PRICE | SDB300 | 3 SLOT LINEAR DIFFUSER | 1200 LENGTH | CU O.B.D 4 PLENUM, COLOUR TO BE COORDINATED WITH INTERIOR DESIGNER. |
| LD-3 | EH PRICE | SDB200 | 2 SLOT LINEAR DIFFUSER | 1200 LENGTH | CU O.B.D 4 PLENUM, COLOUR TO BE COORDINATED WITH INTERIOR DESIGNER. |
| EG-1 | EH PRICE | 630DAL | SINGLE DEFLECTION ALUMINUM EXHAUST AIR GRILLE | SEE DWG. | CU ALUMINUM O.B.D. COLOUR TO BE COORDINATED WITH INTERIOR DESIGNER. |
| EG-2 | EH PRICE | 530D | SINGLE DEFLECTION EXHAUST AIR GRILLE | SEE DWG. | CU O.B.D. COLOUR TO BE COORDINATED WITH ARCHITECT. |
| EG-3 | EH PRICE | 600DAL | EGG CRATE EXHAUST AIR GRILLE | SEE DWG. | CU ALUMINUM O.B.D. COLOUR TO BE COORDINATED WITH INTERIOR DESIGNER. |
| RG-1 | EH PRICE | 80 | EGG CRATE RETURN AIR GRILLE | 600x600 | COLOUR TO BE COORDINATED WITH INTERIOR DESIGNER. |
| RG-2 | EH PRICE | 80 | EGG CRATE RETURN AIR GRILLE | 300x300 | COLOUR TO BE COORDINATED WITH INTERIOR DESIGNER. |
| RG-3 | EH PRICE | 80 | EGG CRATE RETURN AIR GRILLE | 600x300 | COLOUR TO BE COORDINATED WITH INTERIOR DESIGNER. |
| LRD-1 | EH PRICE | SDR200 | 2 SLOT LINEAR RETURN AIR DIFFUSER | 1200 LENGTH | CU RETURN AIR PLENUM AND PAINTED BLACK INSIDE, COLOUR TO BE COORDINATED WITH INTERIOR DESIGNER. |
| LRD-2 | EH PRICE | SDR300 | 3 SLOT LINEAR RETURN AIR DIFFUSER | 1200 LENGTH | CU RETURN AIR PLENUM AND PAINTED BLACK INSIDE, COLOUR TO BE COORDINATED WITH INTERIOR DESIGNER. |
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NOVA TREND ENVIRONMENTAL ENGINEERING

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PROJECT TITLE:
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