

0507 INDUSTRIES LTD.
PROPOSED NEW FACILITY
8 EASY STREET
PORT PERRY, ONTARIO
Mechanical Drawing Set

DRAWING INDEX

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0507 INDUSTRIES LTD.
Mechanical Drawing Set

PROJECT #: 21016
DRAWING SET: R5 - ISSUED FOR PERMIT

GENERAL NOTES

- ALL WORK AND NEW EQUIPMENT INSTALLATION TO MEET SMACNA AND ASHRAE STANDARDS, O.B.C., PLUMBING AND WATER STANDARDS, AS WELL AS MANUFACTURERS' INSTRUCTIONS. ALL NEW HVAC EQUIPMENT TO MEET OR EXCEED ASHRAE 90.1 FOR ENERGY EFFICIENCY.
- REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS, ROOM LAYOUT, AND GENERAL CEILING INFORMATION.
- ANY DISCREPANCIES WITH THE DESIGN, OBSTRUCTIONS TO EQUIPMENT OR INSTANTLY, OR INCOMPATIBILITY WITH EQUIPMENT MUST BE BROUGHT UP WITH THE ENGINEER FOR CONSIDERATION AND ALTERNATE SOLUTIONS. THIS DESIGN IS BASED ON THE INFORMATION AVAILABLE AT THE TIME AND EQUIPMENT SPECIFIED.
- SHOP DRAWINGS REQUIRED FOR ALL EQUIPMENT. SUBMIT TO ENGINEER FOR APPROVAL.
- DOORS FOR WASHROOMS, AND ROOMS WITH EXHAUST VENTS REQUIRE PROVISIONS FOR RETURN AIR. GRILLES IN DOORS RECOMMENDED AS SHOWN. PROVIDE FIRE DAMPER IF FIRE-RATED DOOR. IF UNDERCUTTING, 1" MINIMUM SPACE REQUIRED.
- PROVISIONS FOR RETURN AIR FROM ROOMS AND SPACES WHERE CEILING PLENUM IS BLOCKED BY WALLS THAT GO TO BOTTOM OF ROOF DECK. OPENING WILL BE REQUIRED THROUGH WALLS INTO OPEN SPACES ABOVE CEILING TILES. TYPICAL SIZE: 16"x16".

EQUIPMENT

- THIS DESIGN IS INTENDED TO HAVE A HEATING AND COOLING SYSTEMS AS SPECIFIED AND OPTIONS LISTED. DEHUMIDIFICATION IS REQUIRED WHERE LISTED AND ARE TO PROVIDE HEAT RECOVERY THROUGH THE USE OF BUILT-IN FACTORY RE-HEAT COILS, OR WITH THE USE OF ADD-ON HYDRONIC COILS. THE OVERALL SYSTEM SHALL HAVE THE ABILITY TO PROVIDE SIMULTANEOUS HEATING AND COOLING BETWEEN ALL UNITS. ADDITIONAL HEAT RECOVERY MAY BE PROVIDED BY HYDRONIC HEAT EXCHANGERS AND/OR HYDRONIC COILS WITHIN AIR HANDLERS.
- HYDRONIC AIR HANDLERS LISTED MAY BE CARRIER, FIRSTCO, MITSUBISHI, OR OTHER. COOLING TO BE DX COOLING WITH EXTERIOR CONDENSERS MOUNTED AS SHOWN. CHILLED WATER SYSTEMS MAY BE USED AND WILL REQUIRE COORDINATION. HEATING TO BE PROVIDED BY HOT WATER BOILER SYSTEM AS SHOWN.
- EQUIPMENT TO BE AS SPECIFIED, OR ACCEPTABLE EQUAL. ALTERNATE UNITS REQUIRE COORDINATION AND APPROVAL.
- USE LINEAR EXPANSION VALVE KIT FOR ANY AIR HANDLERS BY OTHER MANUFACTURERS AND CONNECT TO COMMON R410A NETWORK, IF USING MULTI-CITY SYSTEM, VRF, OR EQUAL.
- ALL EQUIPMENT TO BE INSTALLED AS PER MANUFACTURERS' INSTRUCTIONS AND TO UTILIZE FITTINGS, VALVES, UNIONS, AND OTHER METHODS TO ENSURE FUTURE SERVICEABILITY AND REPLACEMENT WITH MINIMAL DOWNTIME TO OTHER EQUIPMENT AND SYSTEMS.
- RELAYS/POWER MODULES FOR ALL ZONE EQUIPMENT, THERMOSTATS, ETC. THAT REQUIRE 24VAC ARE TO BE SUPPLIED BY MECHANICAL CONTRACTOR. THIS EQUIPMENT IS NOT SHOWN. COORDINATE WITH ELECTRICAL TRADE FOR CONNECTION AND POWER REQUIREMENTS.
- RTU UNITS MOUNTED ON GROUND REQUIRE CURBS AND CONCRETE PAD. CURBS TO BE 24" CONCRETE PADS TO BE SIZED WITH 24" MARGIN AROUND ALL UNITS.
- ALL RTU'S REQUIRE DRAIN FITTINGS - TO BE 3/4"-14 NPT PVC W/ TRAP AS PER MANUFACTURERS' INSTRUCTIONS. PROVIDE HEAT TRACE ON GROW ROOM UNITS AND CONNECT TO POWER PROVIDED BY ELECTRICAL.
- GAS CONNECTIONS TO EQUIPMENT UNIONS AND SHUT-OFF VALVES SIZED AS SHOWN.

DUCT WORK

- ALL DUCTWORK TO BE GALVANIZED AND TO HAVE ALL JOINTS SEALED & WRAPPED.
- INSULATE ALL DUCTS FOR OFFICE AREAS, INCLUDING SUPPLY AIR DUCTS AND HRV FRESH AIR DUCTS. INSULATE ALL GROW ROOM DUCTS FOR ALL HVAC EQUIPMENT, INCLUDING FAN AND INTAKE SYSTEMS. INSULATION TO BE 1" FOIL BACKED INSULATION (R5). INSULATION TO BE ON EXTERIOR OF DUCT WORK WHEREVER POSSIBLE. INSULATION ON INTERIOR OF DUCTS REQUIRE DIMENSIONS SHOWN TO BE INCREASED TO ACCOUNT FOR INSULATION.
- EXTERIOR DUCTS TO BE FULLY INSULATED WITH 1.5" (R6) INSULATION. INCLUDE SURFACE PROTECTION WRAP SUCH AS ALUMINUM, STEEL, OR OTHER COVERING SUITABLE FOR WEATHER AND SUN EXPOSURE.
- ALL INTERIOR AIR HANDLERS TO HAVE DUCT ISOLATION BETWEEN UNITS AND MAIN DUCT. USE CANVAS FITTING OR SIMILAR FLEXIBLE SECTION.
- INSTALL SOUND DEADENING INSULATION WHERE REQUIRED AT GRILLE BOXES OR AS SHOWN.
- DUCTS SHOWN AS ROUND SIZES MAY BE CONVERTED TO EQUIVALENT BOX SECTIONS, AND VICE VERSA.
- SUPPORT OF ALL MECHANICAL WORK TO BE FROM STRUCTURAL SUPPORTS AND NOT THE ROOF DECK. STRUCTURAL APPROVAL BY OTHERS.
- BALANCING DAMPERS TO BE INSTALLED AS SHOWN AND TO HAVE LOCKING HAND QUADRANTS.

CONTROLS

- OFFICE AREAS AND GENERAL CORRIDOR SYSTEM TO USE PROGRAMMABLE THERMOSTATS SETUP WITH TEMPERATURES OF 72F(22C) OCCUPIED, AND 65F(18C) UN-OCCUPIED FOR WINTER; AND 72F(22C) OCCUPIED & 80F(26C) UN-OCCUPIED FOR SUMMER.
- GROW ROOM HVAC UNITS TO OPERATE WITH WALL CONTROL CAPABLE OF HEAT/COOL/DEHUMIDIFICATION OPERATION. THIRD PARTY CONTROL SYSTEM MAY BE USED, SUPPLIED BY OWNER.
- CO2 GAS DETECTION SYSTEM TO OPERATE A HIGH ALARM SEQUENCE AND RELATIVE TO EACH ROOM. SEQUENCE TO INCLUDE AUDIBLE AND VISUAL ALARMS INSIDE THE ROOM AND VISUAL ALERT SIGN OR BEACON OUTSIDE THE ROOM. INCLUDE SIGNAGE THAT READS "HIGH CO2 ALARM". ACTIVATION LEVELS AS PER #4 BELOW.
- ALL GROW ROOMS WILL HAVE CO2 INJECTION SYSTEMS TO MAINTAIN ELEVATED LEVELS AS REQUIRED FOR PLANT GROWTH. GAS DETECTION SYSTEMS SPECIFIED AND SHOWN FOR EACH ROOM AND ARE REQUIRED TO SOUND ALARM IF CO2 LEVELS RAISE ABOVE ACCEPTABLE LEVELS. RECOMMENDED CO2 LEVELS: NAUSEA AT TLV-TWA: 5,000 PPM (RECOMMENDED DETECTION LEVEL) MAXIMUM TWA LIMIT PER 8-hr = 10,000 PPM ASPHYXIATION AT 40,000 PPM.
- FAN COIL SYSTEMS LISTED ARE SETUP TO BE CARRIER VRF HEAT PUMP SYSTEM OR SIMILAR, RE-HEAT AND AUXILIARY HEAT TO BE HYDRONIC HEATING COILS AS SHOWN. OVERALL SYSTEM WILL REQUIRE MULTIPORT DISTRIBUTION CONTROLLER AND OUTDOOR UNIT AS LISTED.
- FAN COIL SYSTEMS IN GROW ROOMS REQUIRE THIRD-PARTY WALL CONTROLLER AND USE OF 24V INTERFACE DEVICE AS LISTED. WALL CONTROL TO HAVE HEAT/COOL/DEHUMIDIFY OPERATION AND REQUIRES SIGNALING OF HEAT/COOL THROUGH INTERFACE AND ACTIVATION OF HYDRONIC HEATING CIRCUIT FOR RE-HEAT DURING DEHUMIDIFY OPERATION.
- HRV UNITS TO OPERATE CONTINUOUSLY. REQUIRES MAIN CENTRAL CONTROL FOR MONITORING OF RUNNING CONDITIONS AND SYSTEM SIGNALS.

HYDRONIC & PIPING NOTES

- CONTRACTOR SHALL CONFORM TO GENERAL SPECIFICATION, PLUMBING CODES AND LOCAL CODES HAVING JURISDICTION.
- ALL PIPING LINES TO BE SECURED IN REGULAR INTERVALS TO PREVENT SAGGING, VIBRATION, AND NOISE FROM THERMAL EXPANSION.
- INSULATE ALL PIPING THROUGHOUT. INSULATION TO INCLUDE SERVICE JACKET WITH PVC FITTINGS. FOR HEATING SYSTEMS, USE 1" FOR PIPING UP TO 1-1/4" AND 1.5" FOR PIPING 1-1/2" AND LARGER. FOR COOLING SYSTEMS, ALL INSULATION TO BE 1".
- SEAL ALL PENETRATIONS THROUGH FIRE-RATED ASSEMBLIES AS REQUIRED AND AS PER THE ONTARIO BUILDING CODE WITH APPROVED FIRE STOPPING SYSTEM. SEAL ALL PENETRATIONS BETWEEN GROW ROOMS.
- ALL DRAINAGE PIPES TO BE 2% SLOPE (1/4" PER FOOT) MINIMUM. ROUTE TO APPROPRIATE DRAIN OUTLET, OR USE CONDENSATE PUMPS AS REQUIRED. CONDENSATE DRAIN LOCATIONS PROVIDED IN CORRIDOR 150 AND IRRIGATION ROOM AS SHOWN.
- CEILING SPACE IS A RETURN AIR PLENUM, ALL PIPES ABOVE SUSPENDED CEILING ARE REQUIRED TO HAVE A FLAME SPREAD RATING OF <25 AND SMOKE DEVELOPED CLASSIFICATION OF <50, USE NON-COMBUSTIBLE PIPING, VFR, OR APPROVED EQUAL.
- ZONE CIRCULATORS AND/OR VALVES TO BE CONTROLLED AS REQUIRED WITH ROOM THERMOSTATS SHOWN ON DRAWINGS.
- ZONE CONTROL MAY BE PERFORMED THROUGH DIRECT CONNECTION WITH BOILER, SUGGESTED ALTERNATE CONTROLLER(S), TACO ZVC406, OR SR506. FINAL ZONE NUMBERS TO BE CONFIRMED.
- CONTROL TO BE WALL THERMOSTATS CONTROLLING ZONE PUMPS. SIGNAL TO BOILER WITH BOILER PUMP CONTROL AS PER BOILER INSTRUCTIONS.

AIR BALANCE AND COMMISSIONING

- AIR BALANCE AND ADJUSTMENT TO BE PERFORMED BY CERTIFIED MEMBERS OF AABC, NEBB, OR NBCTA. COMMISSIONING OF SYSTEMS TO BE PERFORMED AT THAT TIME. COPIES OF THE REPORT MUST BE SUBMITTED TO THE MECHANICAL ENGINEER.
- AIR BALANCING TO BE COMPLETED PRIOR TO INSTALLATION AND CLOSING IN OF CEILING SPACES. CONTRACTOR MUST BE PREPARED TO PROVIDE A SPOT TESTING OF ANY DIFFUSERS AT THE REQUEST OF THE ENGINEER.
- ALL MECHANICAL SYSTEMS REQUIRE PROPER COMMISSIONING AND SETUP AS PER MANUFACTURERS' INSTRUCTIONS INCLUDING ANY OPERATING NOTES AND SETTING STATED ON THESE DRAWINGS. FINAL REPORTS W/ SETPOINT LISTING REQUIRED TO BE SUBMITTED TO OWNER AND ENGINEER.
- GAS MONITOR REQUIRES FINAL SETUP AND COMMISSIONING OF GAS SENSORS. FINAL COMMISSIONING REPORT REQUIRED FOR FINAL OCCUPANCY.

MECHANICAL EQUIPMENT LIST

ITEM (SYM)	DESCRIPTION	TONS	CFM	EX. STATIC	COOLING BTUH	HEATING BTUH	MOTOR HP	ELECTRIC 2	FRESH AIR	REMARKS
RTU1	CARRIER HIGH EFF. 480C 05	4	1500	0.5	47,000	110,000	1	575/3PH 8A MCA	160 cfm 10% MIN	CO2 CONTROL ECONOMIZER, BAROMETRIC RELIEF, PROGRAMMABLE THERMOSTAT, 14" ROOF CURB, CONDENSATE TRAPS, R410A, CONDENSATE OUTLET
RTU2	CARRIER HIGH EFF. 480C 04	3	1160	0.6	36,000	110,000	1	575/3PH 7A MCA	160 cfm 10% MIN	DIFF. ENTHALPHY ECONOMIZER, BAROMETRIC RELIEF, PROGRAMMABLE THERMOSTAT, 14" ROOF CURB, CONDENSATE TRAPS, R410A.
RTU3	CARRIER HIGH EFF. 48HC 07	6	2400	0.8	73,000	125,000		575/3PH 18A MCA		2-SPEED, NO ECONOMIZER, HUMID-MIZER DEHUMIDIFICATION, COLD WEATHER OPERATION, GROUND MOUNTED W/ 24" CURB. T-STAT CONDENSATE OVERFLOW SWITCH, 4" MERV 13 FILTER & INDICATOR. INCLUDE HEAT TRACE ON CONDENSATE TRAP
RTUX	CARRIER HIGH EFF. 48HC 08	7.5	2625	0.8	89,000	180,000		575/3PH 18A MCA		2-SPEED, NO ECONOMIZER, HUMID-MIZER DEHUMIDIFICATION, COLD WEATHER OPERATION, GROUND MOUNTED W/ 24" CURB. T-STAT CONDENSATE OVERFLOW SWITCH, 4" MERV 13 FILTER & INDICATOR. INCLUDE HEAT TRACE ON CONDENSATE TRAP.
AHA	AIR HANDLER 40VMM W/ RE-HEAT COIL CL1	3	900	0.6	34,000	30,000		208V/1PH 5A MCA		CASED FAN COIL HEAT PUMP W/ DX COOLING AND HYDRONIC HEATING COIL (LISTED BELOW). CEILING MOUNT SLM UNIT. STANDARD T-STAT CONTROL W/ 24V INTERFACE CONVERSION (40VM900008).
AHB	AIR HANDLER 40VMM W/ RE-HEAT COIL CL1	4	1320	0.6	54,000	48,000		208V/1PH 5A MCA		CASED FAN COIL HEAT PUMP W/ DX COOLING AND HYDRONIC HEATING COIL (LISTED BELOW). CEILING MOUNT SLM UNIT. STANDARD T-STAT CONTROL W/ 24V INTERFACE CONVERSION (40VM900008).
AH2	AIR HANDLER 40VMM CARRIER	2	840	0.6	24,000	24,000		208V/1PH 3.1A MCA		CASED FAN COIL W/ DX COOLING. CEILING MOUNT SLM UNIT, PROGRAMMABLE THERMOSTAT, 3/8"-5/8" PIPING, AUXILIARY HEAT COIL.
AH3	AIR HANDLER 40VMM CARRIER	2	710	0.4	24,000	24,000		208V/1PH 3.1A MCA		CASED FAN COIL W/ DX COOLING. CEILING MOUNT SLM UNIT, PROGRAMMABLE THERMOSTAT, 3/8"-5/8" PIPING, AUXILIARY HEAT COIL.
AH4	AIR HANDLER 40VMM CARRIER	2.5	910	0.5	34,000	30,000		208V/1PH 5A MCA		CASED FAN COIL W/ DX COOLING. CEILING MOUNT SLM UNIT, PROGRAMMABLE THERMOSTAT, 3/8"-5/8" PIPING, AUXILIARY HEAT COIL.
AH5	HYDRONIC AIR HANDLER CARRIER 40MM	4	1380	0.4	54,000	48,000		208V/1PH 5A MCA		CASED FAN COIL W/ DX COOLING. CEILING MOUNT SLM UNIT, PROGRAMMABLE WALL THERMOSTAT, 3/8"-5/8" PIPING, AUXILIARY HEAT COIL.
HP1	CARRIER WALL UNIT 40MMW 009	.75	190		10,500	9,000		208V/1PH 0.45 MCA		HIGH WALL CASSETTE 1-WAY FLOW, VRF SYSTEM. NON-PROGRAMMABLE WALL CONTROLLER. REQUIRES 3/4" CONDENSATE DRAIN, 0.25/0.5" PIPING
HP2	CARRIER WALL UNIT 40MMW 009	.75	370		10,500	9,500		208V/1PH 0.45 MCA		HIGH WALL CASSETTE 1-WAY FLOW, VRF SYSTEM. NON-PROGRAMMABLE WALL CONTROLLER. REQUIRES 3/4" CONDENSATE DRAIN, 0.25/0.5" PIPING
AC	EXTERIOR VRF AC UNIT CARRIER 38VMA192RDS	16			182,000	188,000		208V/3PH 71 MCA		EXTERIOR MOUNTED HEAT RECOVERY COMPRESSOR UNIT. REQUIRES MULTIPORT DISTRIBUTION CONTROLLER AND PIPING TO ALL HEAT PUMP UNITS. CONFIGURATION AND PIPING TO BE CONFIRMED BY CARRIER.
DEH	HONEYWELL DR656A-3000 DEHUMIDIFIER	0.2	150					120V/1PH 5.2A		DUCTED UNIT MOUNTED ABOVE CEILING. REQUIRES CONDENSATE DRAIN
EF1	BATHROOM FAN AIR-KING BFQ110	90	0.25					120V/1PH 70W		VENT TO EXTERIOR. INCLUDE WEATHER HOOD W/ BACKDRAFT DAMPER. (EXCEPT ELEVATOR FAN).
EF2	UP-BLAST FAN GREENHECK CUBE-131	2,000	0.125				1/2	120V/1PH 5A		INCLUDE 24" ROOF CURB, HINGED BASE, BACKDRAFT SHUTTER W/ SEALS, WEATHER HOOD W/ SCREEN, DISCONNECT SWITCH, ROOF OPENING 14.5"x14.5"
HRV1	NU-AIR NU0820	850	1.0				2X 1/2	208V/3PH 9.2A		EXHAUST ONLY DEFROST, BOTTOM SUPPLY & RETURN (VERTICAL), MERV 13 FILTERS. OPERATION TO BE CONTINUOUS.
HRV2	ALDES H650-FI	600	0.3					120V/1PH 5.5A		EXHAUST ONLY DEFROST, REQUIRES DRAIN, MERV 13 FILTERS. OPERATION TO BE CONTINUOUS.
UV	SANUOX UV-WALL ODOOR TREATMENT							120V/1PH 54W		SINGLE 24" 54W OW24-X OR AS RECOMMENDED BY SUPPLIER. FOR EXHAUST AIR SYSTEM W/ 600-cfm 400-fpm AIRFLOW. MOUNT BALLAST AS LOW AS POSSIBLE OR USE AUXILIARY CONTACT FOR SUPERVISION.
UV2	SANUOX UV-WALL DIS & ODOOR TREATMENT							120V/1PH 109W		DOUBLE 24" 54W OW24-X2 OR AS RECOMMENDED BY SUPPLIER. FOR RTU SYSTEMS W/ 2,600-cfm 900-fpm AIRFLOW. MOUNT BALLAST AS LOW AS POSSIBLE OR USE AUXILIARY CONTACT FOR SUPERVISION.
CO3	CET PDC-DGX CO2 DETECTOR CONTROLLER							120V/1PH 290W		INCLUDE SENSOR FOR CO2 MOUNTED AS PER MFRS INSTRUCTIONS. SET LIMIT = 5000-10,000 PPM. INCLUDE STROB/WARNING BEACON INSIDE ROOM AND REMOTE WARNING/BEACON OUTSIDE ROOMS AS SHOWN.

- NOTES:
 1 GAS INPUT/OUTPUT RATINGS, 2ND STAGE ONLY WHERE APPLICABLE.
 2 CONFIRM ELECTRICAL SUPPLY BEFORE ORDERING.
 3 CO2 DETECTION AND WARNING FOR FAULTY CO2 RELEASE SYSTEM IN GROWING ROOMS, WARNING/BEACONS TO BE VISUAL AND AUDIBLE AND MAY HAVE SILENCE BUTTON. SEE NOTES UNDER 'CONTROLS' SECTION FOR MORE INFORMATION.

GRILLE AND DIFFUSOR SCHEDULE

ITEM (SYM)	DESCRIPTION	MAKE	DESCRIPTION, MANUFACTURER OR APPROVED EQUAL	FURN. BY	REMARKS
A	24X24 CEILING DIFFUSER	KRUEGER	PL0 24X24 DROP-IN CEILING DIFFUSER W/ T-BAR CEILING FRAME.	CONTR.	1
B	ROUND CEILING DIFFUSER	KRUEGER	RM2 ADJUSTABLE DUCT MOUNTED GRILLE.	CONTR.	1
C	ALUMINUM LONG BLADE SUPPLY GRILLE	KRUEGER	5880 DOUBLE DEFLECTION GRILLE, 3/4" SPACING.	CONTR.	2
D	DOOR TRANSFER GRILLE	KRUEGER	5600A ALUMINUM SIGHT-PROOF GRILL W/ REAR FRAME, MIL FINISH, 24"x12".	CONTR.	-
E	RETURN GRILLE	KRUEGER	EG5 EGGRATE DROP-IN STYLE. 24X24, OR CUT TO SHAPE AS SHOWN.	CONTR.	-
F	RETURN GRILLE W/ FRAME	KRUEGER	EG5 EGGRATE WITH MOUNTING FRAME.	CONTR.	2
G	RETURN GRILLE W/ 1" FILTER	KRUEGER	5880 ALUMINUM SHORT BLADE GRILLE, 3/4 SPACING ZERO DEFLECTION. C/W FILTER FRAME AND INERLED KNDS.	CONTR.	25"x16"
H	RETURN/HRV CONE GRILLE	-	TYPICAL ROUND HRV ADJUSTABLE CONE DUCT GRILLE	CONTR.	1
I	CEILING REGISTER	IMPERIAL	RQ0133 STEEL WHITE 4X10 REGISTER W/ MOUNTING HOLES.	CONTR.	1
J	RETURN GRILLE	KRUEGER	5580 ALUMINUM SHORT BLADE GRILLE, 3/4 SPACING ZERO DEFLECTION.	CONTR.	2
K	24X24 CEILING DIFFUSER	KRUEGER	55HR/CAD DROP-IN CEILING DIFFUSER W/ CENTRE DISCHARGE.	CONTR.	1
S	HEAVY DUTY WEATHERPROOF GRILLE	VENTEX	2415 ALUMINUM FLANGE MOUNT GRILLE FOR EXTERIOR WALL. INCLUDE INSECT SCREEN.	CONTR.	2

- REMARKS:
 1 NECK SIZES AS NOTED ON DRAWING.
 2 GRILLE SIZES AS NOTED ON DRAWING.
 3 ADJUST BLADES FOR 30-DEGREE DISPLACEMENT BOTH SIDES, AND FRONT, AS PER DETAIL. FOR INSTALLATION.
 3 REQUIRES SPECIAL FRAMING AND PLENUM BOXES. CONSULT WITH GENERAL CONTRACTOR FOR INSTALLATION.

LEGEND

HVAC SYMBOLS	PLUMBING SYMBOLS
THERMOSTAT	BALL VALVE
HUMIDISTAT	MANUAL BALANCING VALVE WATTS ACCU-FLO ACUF
EXHAUST FAN DUCTED TO OUTSIDE SEE EF1 IN SCHEDULE	SOLENOID VALVE (24VAC) ZONE THERMOSTAT CONTROLLED
SUPPLY DIFFUSER	PRESSURE REDUCING VALVE
SUPPLY REGISTER TYPE 1 - 70cfm	CHECK VALVE
RETURN GRILLE (TYPE E) (SIZE SHOWN MAY VARY)	AIR VENT
DIFFUSER & GRILLE SYMBOL A= TYPE LISTED IN SCHEDULE	FLOOR DRAIN (3" MINIMUM W/ TRAP)
RADIATOR SPECIFICATION C = TYPE LISTED IN SCHEDULE	FLOOR CLEAN OUT
RADIATOR SPECIFICATION	WALL CLEAN OUT
AIR FLOW THRU OPENING/VENT/ OR GRILLE DOOR GRILLES TO BE 14"x10" TYPE D	TRAP
RIGID TO ROUND FLEXIBLE DUCT (SHOWING 6" MANUAL DAMPER)	ELBOW TURNED UP
FIRE DAMPERS (LARGE & SMALL)	ELBOW TURNED DOWN
BACKDRAFT DAMPER	HOSE BIB, 1/2" WITH VAC. BREAK UNION
PROPOSED DUCTWORK (FIRST DIM. LISTED IS THE DIMENSION IN VIEW)	SANITARY DRAIN BELOW FLOOR
POWERED (MOTORIZED) DAMPER a = CONTROLLING ZONE T-STAT (IF OTHER THAN ROOM T-STAT)	SANITARY DRAIN ABOVE FLOOR
FRESH AIR SUPPLY DUCT, INSULATED	STORM DRAIN BELOW FLOOR
DUCT INSULATION	STORM DRAIN ALONG CEILING
VERTICAL SUPPLY DUCT OR OPENING	INSULATION ON STORM DRAIN
VERTICAL RETURN DUCT OR OPENING	COLD WATER LINE
HYDRONIC RADIATOR	HOT WATER LINE
WALL HEATER - FAN FORCED	GAS LINE
	HYDRONIC HOT WATER SUPPLY
	HYDRONIC HOT WATER RETURN
	PUMP
	WATER METER
	GAS METER

NOTES

- THIS DRAWING IS 24X36. CAUTION WHEN SCALING FROM PRINTED DRAWINGS.
- ALL DIMENSIONS ARE TO BE CHECKED ON SITE.
- ALL DRAWINGS REMAIN THE PROPERTY OF NFR ENGINEERING LTD. AND SHALL NOT BE REPRODUCED OR REUSED WITHOUT WRITTEN PERMISSION.

HVAC DESIGN INFORMATION

HEAT LOSS WAS DETERMINED WITH:
 INDOOR WINTER TEMPERATURE OF 22C (72F)
 OUTDOOR WINTER TEMPERATURE OF -20C (-5F)
 WIND SPEED OF 29KPH (18MPH) FROM NNW
 SUPPLY AIR TEMPERATURE: 40C (104F).
 NO OTHER HEAT LOADS INCLUDED.

2-STORY AREA:
 MAIN FLOOR = 32,500 BTH/hr
 SECOND FLOOR = 41,200 BTH/hr
 REAR AREA = 87,300 BTH/hr

HEAT GAIN CALCULATIONS WERE DETERMINED WITH:
 INDOOR SUMMER TEMPERATURE OF 22C (72F)
 OUTDOOR SUMMER TEMPERATURE OF 29C (84F)
 WIND SPEED OF 16KPH (10MPH) FROM SW
 SUPPLY AIR TEMPERATURE: 16C (62F)
 DESIGN PARAMETERS AS FOLLOWS:
 18 PEOPLE & 1400 cfm O.A.
 LIGHTING = 1W/sq-ft.
 EQUIPMENT = 1W/sq-ft.

2-STORY AREA:
 MAIN FLOOR = 25,500 BTH/hr
 SECOND FLOOR = 44,000 BTH/hr

GAS LOADS

ITEM	DESCRIPTION	NO. REQ'D.	DESCRIPTION, MANUFACTURER, OR APPROVED EQUAL	CONNECTIONS (in.) SUPPLY DRAIN VENT	FURN. BY	REMARKS
4 X	RTUX @ 180,000 BTU ea					720,000 BTU/hr
1 X	RTU1					110,000 BTU/hr
	RTU2					110,000 BTU/hr
	RTU3					125,000 BTU/hr
2 X	BOILERS @ 110,000 BTU ea					220,000 BTU/hr
	DWH					42,000 BTU/hr
	FUTURE					1,050 BTU/hr
TOTAL: 2,352,000 BTU/hr						

PRESSURE: 2-LBS SYSTEM
 PIPE LENGTH: 250' (INCLUDES 75' FOR FUTURE)

HYDRONIC EQUIPMENT SCHEDULE NOT COMPLETED.

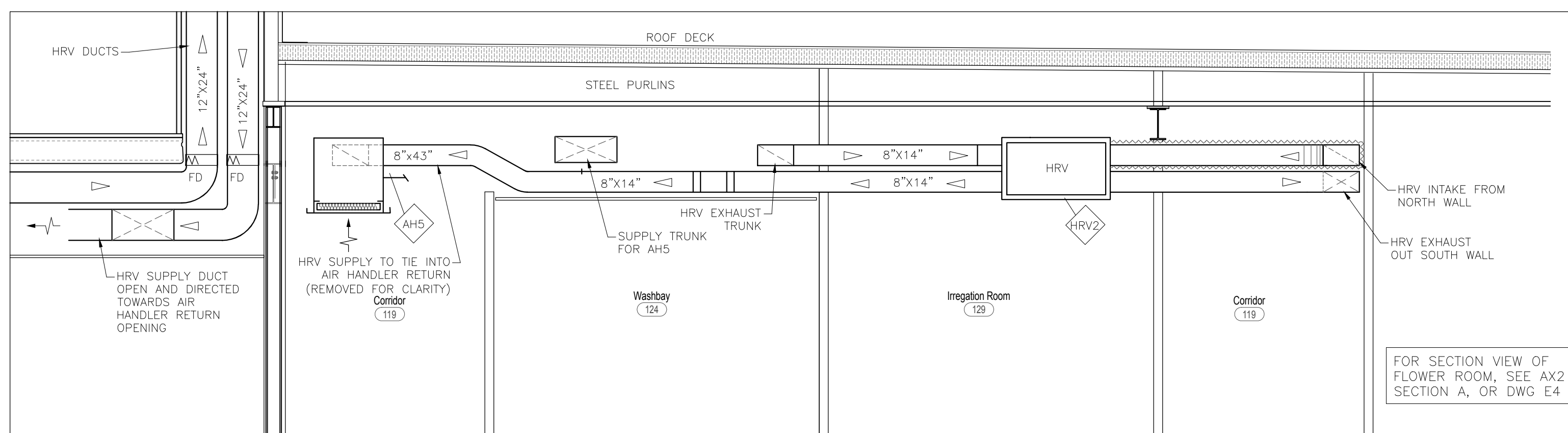
ITEM (SYM)	DESCRIPTION	NO. REQ'D.	DESCRIPTION, MANUFACTURER, OR APPROVED EQUAL	CONNECTIONS (in.) SUPPLY DRAIN VENT	FURN. BY	REMARKS
BOIL	WATER BOILER	2	TRIANGLE TUBE PRESTIGE SOLO110 HIGH TURN-DOWN RATIO BOILER IN CASCADE SETUP. INCLUDE PRESSURE RELIEF, AIR VENT, GAUGES, LOW-WATER CUT-OFF & VALVE PACKAGE. 2X110,000 BTU/hr	1" 3/4" 3"	CONTR.	1
AS-1	AIR SEPARATOR	1	TACO 490XXXX-XXX HIGH EFFICIENCY AIR AND DIRT SEPARATOR. 1-1/2" NPT CONNECTIONS AND AUTO AIR VENT.	1-1/4"	-	CONTR.
ET-1	EXPANSION TANK	1	WATTS PLT-20 BLADDER TANK W/ 5.8-GAL CAPACITY (5.8-GAL ACCEPTANCE VOLUME).	3/4"	-	CONTR.
P1	PUMP	2	BOILER CIRCULATOR, AS PER MANUFACTURER.	1" F	-	CONTR.
P2	PUMP	6	TACO 007 PUMP. 3/4" FLANGES, 0.5A 5-GPM 9-FT HEAD.	3/4" F	-	CONTR.
P7	PUMP	5	TACO 0111 PUMP. 1" FLANGES, 1.76A 10-GPM 19-FT HEAD.	1" F	-	CONTR.
BFV	BOILER FEED VALVE	1	TACO 329 BACKFLOW & PRESSURE DEVICE. 1/2" SWEAT/UNION INLET, NPT OUTLET.	1/2"	-	CONTR.

- REMARKS:
 1 CONNECT GAS SUPPLY & VENT TO EXTERIOR AS PER MANUFACTURER'S INSTRUCTIONS.

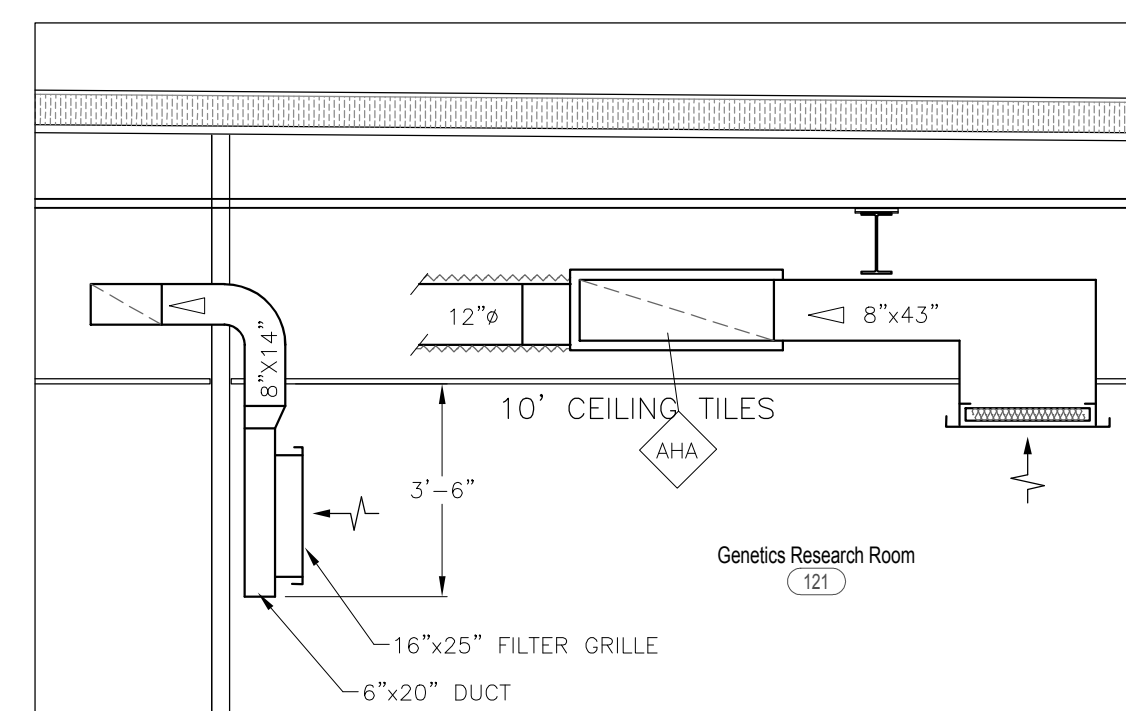
HOT WATER HEATER/COIL/RADIATOR SCHEDULE

ITEM (SYM)	DESCRIPTION	PIPE SIZE	FLOW (gpm)	REMARKS
C	EMBASSY PANEL-TRACK BASEBOARD. LENGTH AS SHOWN (4' SECTIONS).	3/4"	1.0	WALL MOUNTED. INCLUDE END CAPS. SPLICERS AS REQUIRED FOR ARRANGEMENTS LENGTH. INCLUDE LOCKSHIELD BALANCING VALVES FOR EACH ZONE.
K	SLAM/FIN KICKER TK-90 FORCED AIR HEATER	1/2"	2.0	CONFIRM MOUNTING OPTIONS, SURFACE W/ SMK KIT, OR RECESSED WITH RMK KIT.
CL1	DUCT HEATING COIL - 18"x15" 900cfm AIRFLOW, LOSS: 0.029"	1"	5.2	CUSTOM COIL FOR AIR HANDLER DUCTS AS SHOWN. CONTROL TO BE REMOTE SIGNAL W/ RELAY. 2-ROW, 2.5" SPACING 6-PASS. 1" CONNECTIONS.
CL1	DUCT HEATING COIL - 18"x15" 900cfm AIRFLOW, LOSS: 0.029"	1"	5.2	CUSTOM COIL FOR AIR HANDLER DUCTS AS SHOWN. CONTROL TO BE AUXILIARY HEAT CALL. 2-ROW, 2.5" SPACING 6-PASS. 1" CONNECTIONS.

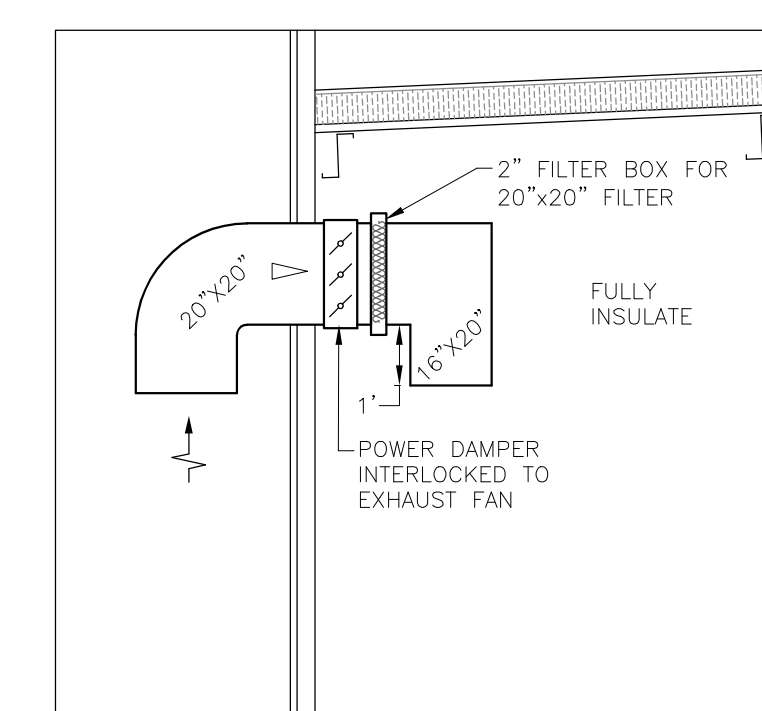
MECHAN



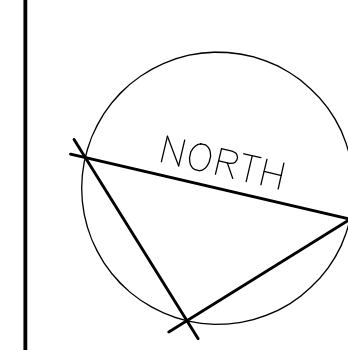
DETAIL VIEW 1 - SECTION THROUGH CORRIDORS



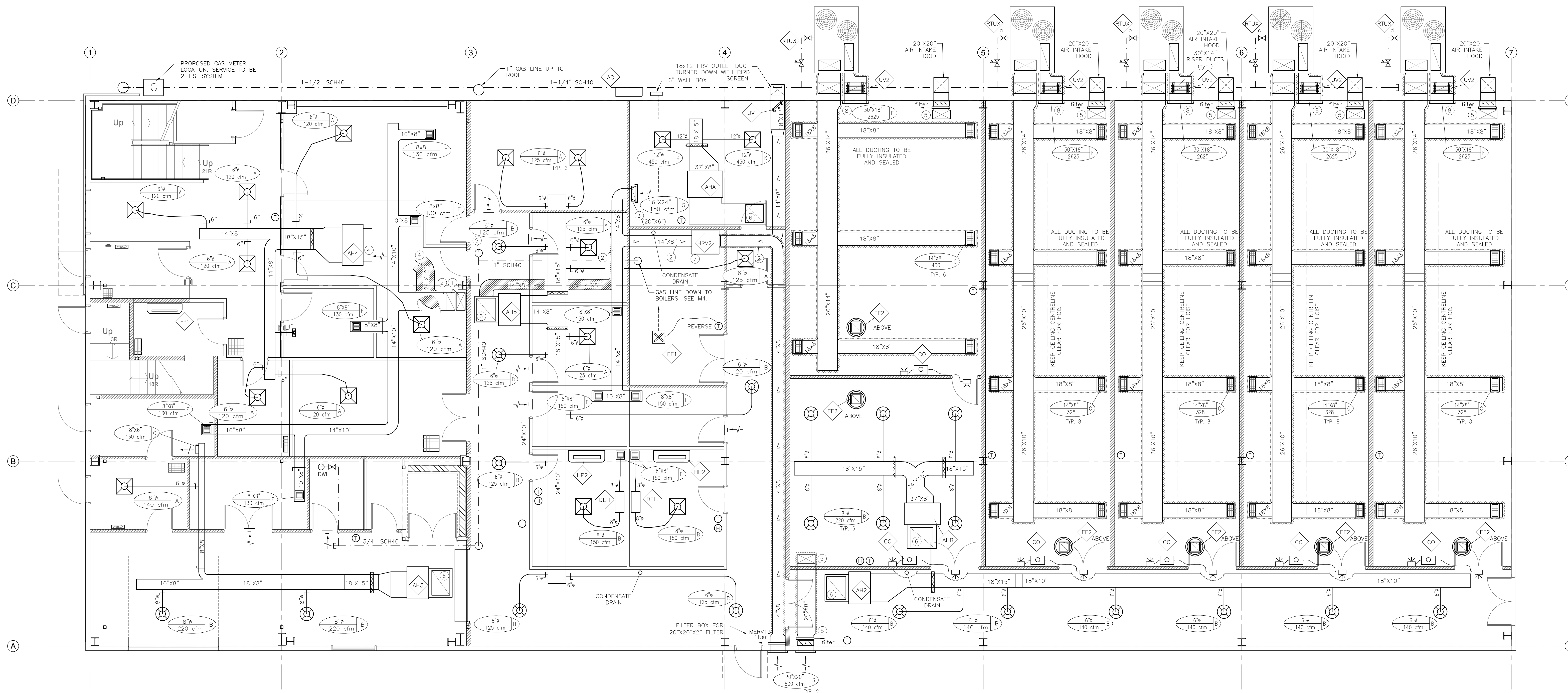
DETAIL VIEW 2 - SECTION THROUGH ROOM 121



DETAIL VIEW 3 - SECTION VIEW OF AIR INTAKE



- NOTES**
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NUMBERED NOTES:

1. DUCT DROPS FROM ABOVE. PROVIDE FIRE DAMPERS AT CEILING.
2. DUCTS STACKED ON TOP OF EACH OTHER. SEE DETAIL VIEW 1 ABOVE.
3. DUCT TURNS DOWN AND ENLARGES TO 20"x6". TERMINATE 36" BELOW CEILING AS PER DETAIL 2. FILTER GRILLE G.
4. DUCT OPEN ABOVE CEILING.
5. 20"x20" AIR INTAKE OPENING AND POWER DAMPER W/ WEATHER PROOF SEALS. PROVIDE FILTER BOX AND INSIDE DUCTING AS PER DETAIL 3 ABOVE.
6. RETURN DUCTED DOWN TO CEILING W/ GRILLE F & FRAME. SEE DETAIL 2 ABOVE.
7. HRV TO BE MOUNTED 10- FEET ABOVE FLOOR, SEE DETAIL 1 ABOVE.
8. RETURN DUCT ENLARGES TO 18" AND TURNS IN 22.5-DEGREES WITH UV SYSTEM ACCESSIBLE WITH GRILLE REMOVED. SEE SECTION DETAIL ON M3.
9. GAS LINE FROM ABOVE. SEE ROOF LAYOUT ON M1

NO.	REVISIONS	DATE
5	ISSUED FOR PERMIT	APR 15/24
4	REVISE FOR STEEL STRUCTURE	AUG 11/23
3	REVISE ELEVATION VIEW FOR SITE PLAN	MAY 5/23
2	ISSUED FOR PRICING	DEC 10/21
1	ISSUED FOR REVIEW	NOV 12/21

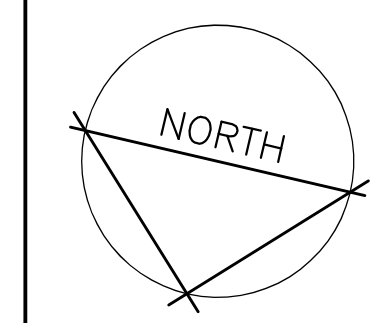
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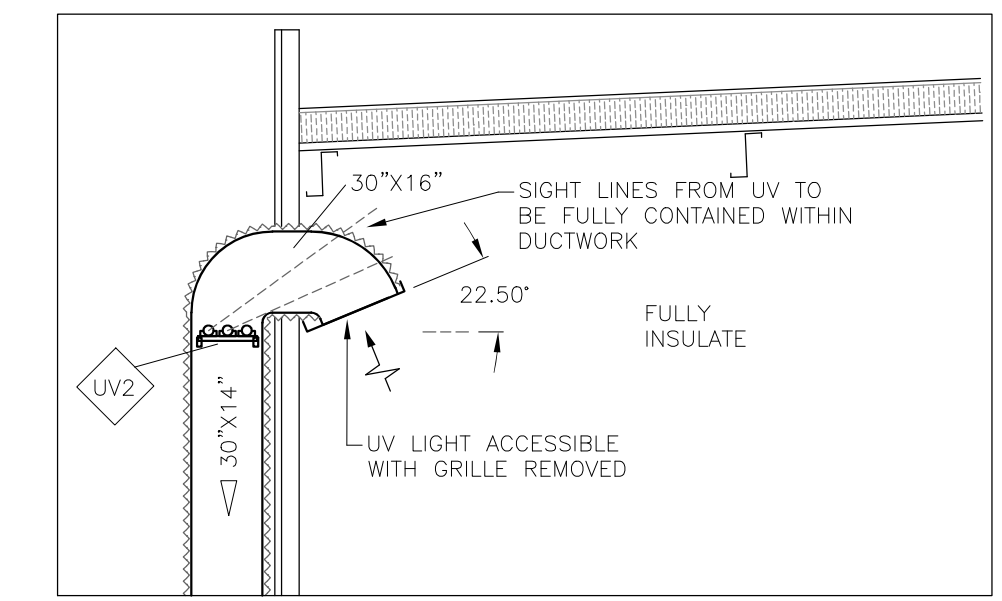
PROJECT:
**0507 INDUSTRIES LTD.
 PROPOSED NEW FACILITY**
 8 EASY STREET
 PORT PERRY, ONTARIO

DRAWING TITLE:
**MECHANICAL LAYOUT
 MAIN FLOOR**
 SCALE: 3/16" = 1'-0"
 DRAWING: NC
 CHECKED: NC
 PROJECT NO.: 21016
 DRAWING: M2

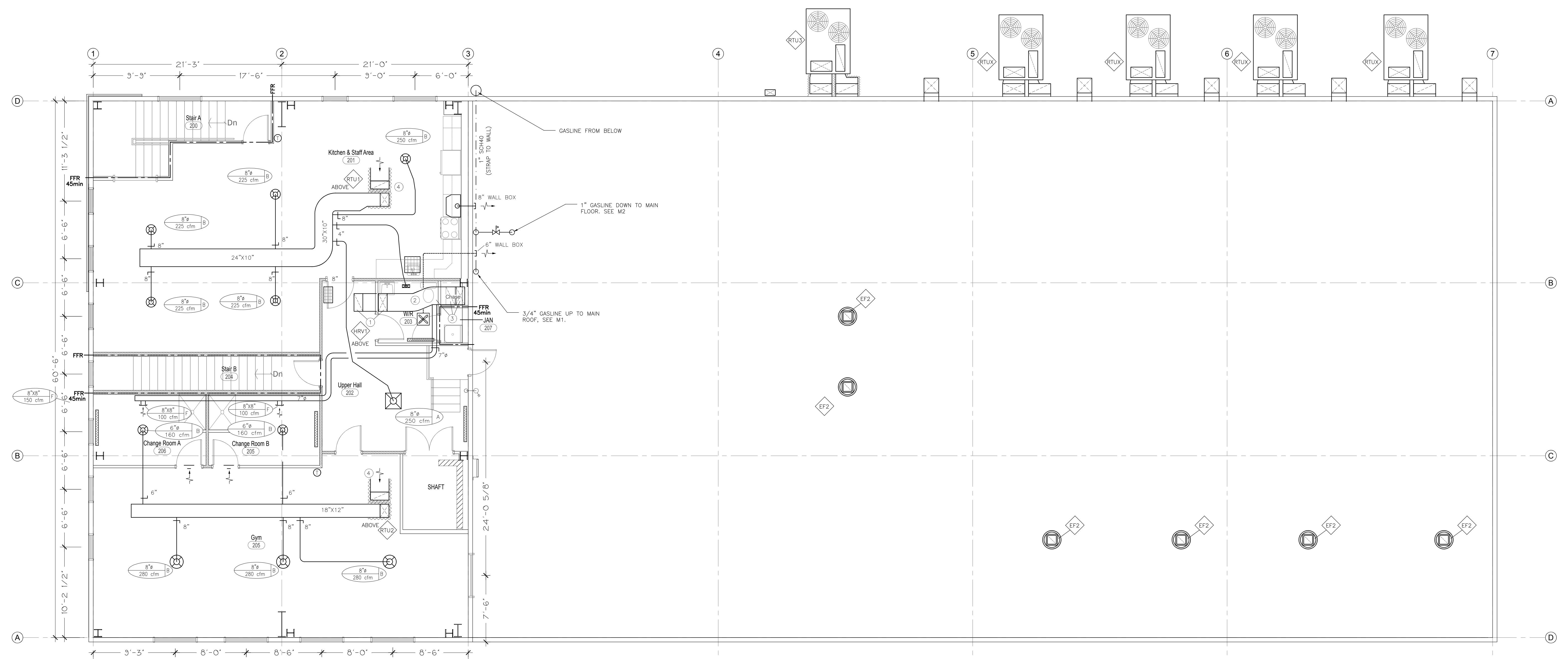
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DETAIL VIEW 4 - SECTION VIEW OF VERTICAL RETURN AIR DUCT ARRANGEMENT

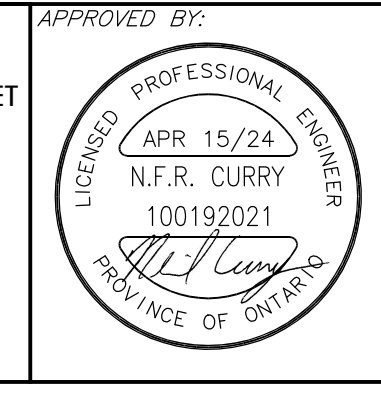


Second Floor Plan

- NUMBERED NOTES:**
1. DUCT DROPS FROM ABOVE.
 2. 24"x12" HRV DUCTS, SUPPLY DUCT STACKED ABOVE EXHAUST DUCTS.
 3. DOWN TO LOWER LEVEL. PROVIDE FIRE DAMPERS AT LOWER CEILING. SEE DETAIL 1 ON M2.
 4. DUCT OPEN ABOVE CEILING.
 5. -
 6. RETURN DUCTED DOWN W/ GRILLE F & FRAME.

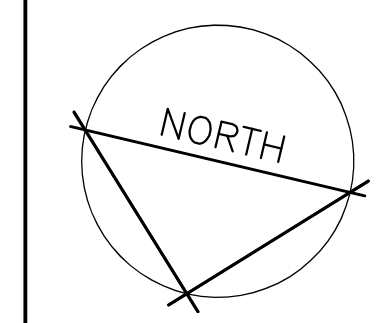
NO.	REVISIONS	DATE
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1	ISSUED FOR REVIEW	NOV 12/21

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0507 INDUSTRIES LTD. PROPOSED NEW FACILITY
 8 EASY STREET
 PORT PERRY, ONTARIO

DRAWING TITLE:
MECHANICAL LAYOUT SECOND FLOOR
 SCALE: 3/16" = 1'-0"
 PROJECT NO.: 21016
 DRAWN: NC
 CHECKED: NC
M3



BOILER DESIGN NOTES

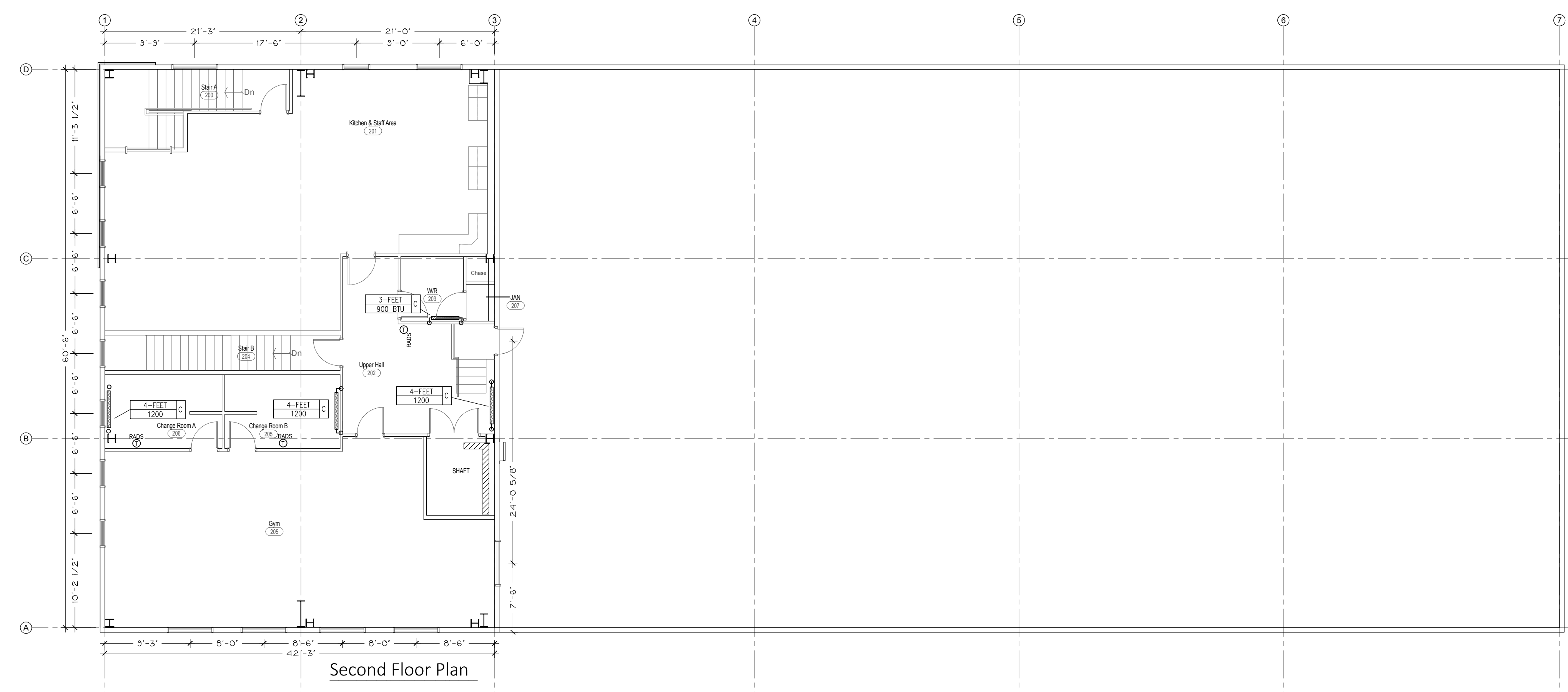
DESIGN REQUIREMENTS FOR BOILER AND CIRCULATION SYSTEM AS FOLLOWS:
 TOTAL HEATING CAPACITY: 194.5 MBH
 CIRCULATION TOTAL FLOW: 15 gpm

DESIGN PRESSURE DROP: 8-FT
 160F SUPPLY, 25F TEMP. DROP & 25-PSIG OPERATING PRESSURE
 WATER W/ 15% GLYCOL. SOFT WATER ONLY.

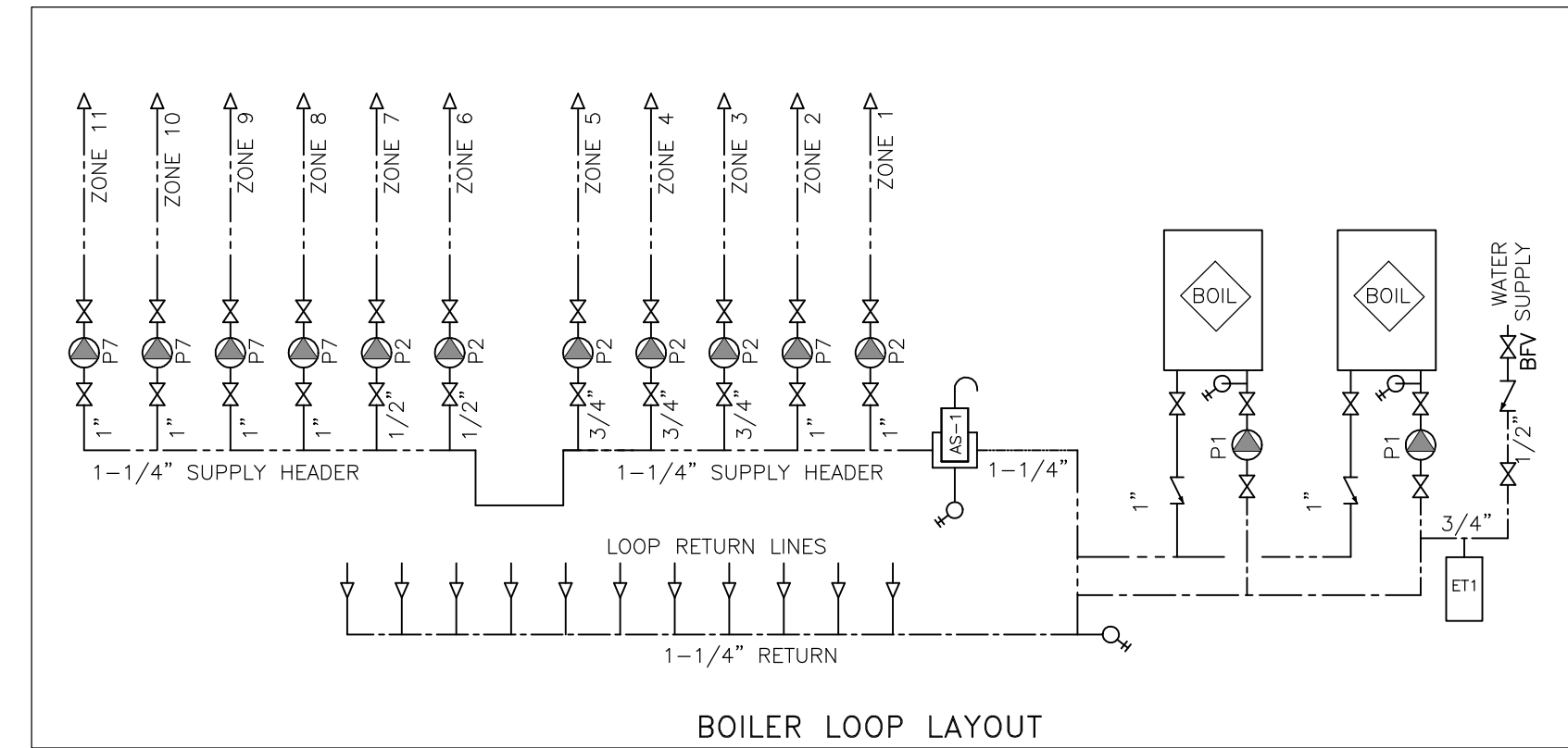
SETUP WITH INDIVIDUAL ZONES. ALTERNATIVELY, ZONES CAN BE COMBINED WITH DIVERTER TEES ON EACH RAD AND WATER CIRCUIT BALANCING REQUIRED FOR FINAL COMMISSIONING. UNDER FULL FLOW, EACH RADIATOR LOOP IS TO BE SET FIRST WITH EQUAL PRESSURE DROPS. SECOND, ALL LOOPS TO BE BALANCED TO ACHIEVE RATED FLOW AND PRESSURE DROPS FOR SPECIFIED EQUIPMENT.

NOTES

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Second Floor Plan

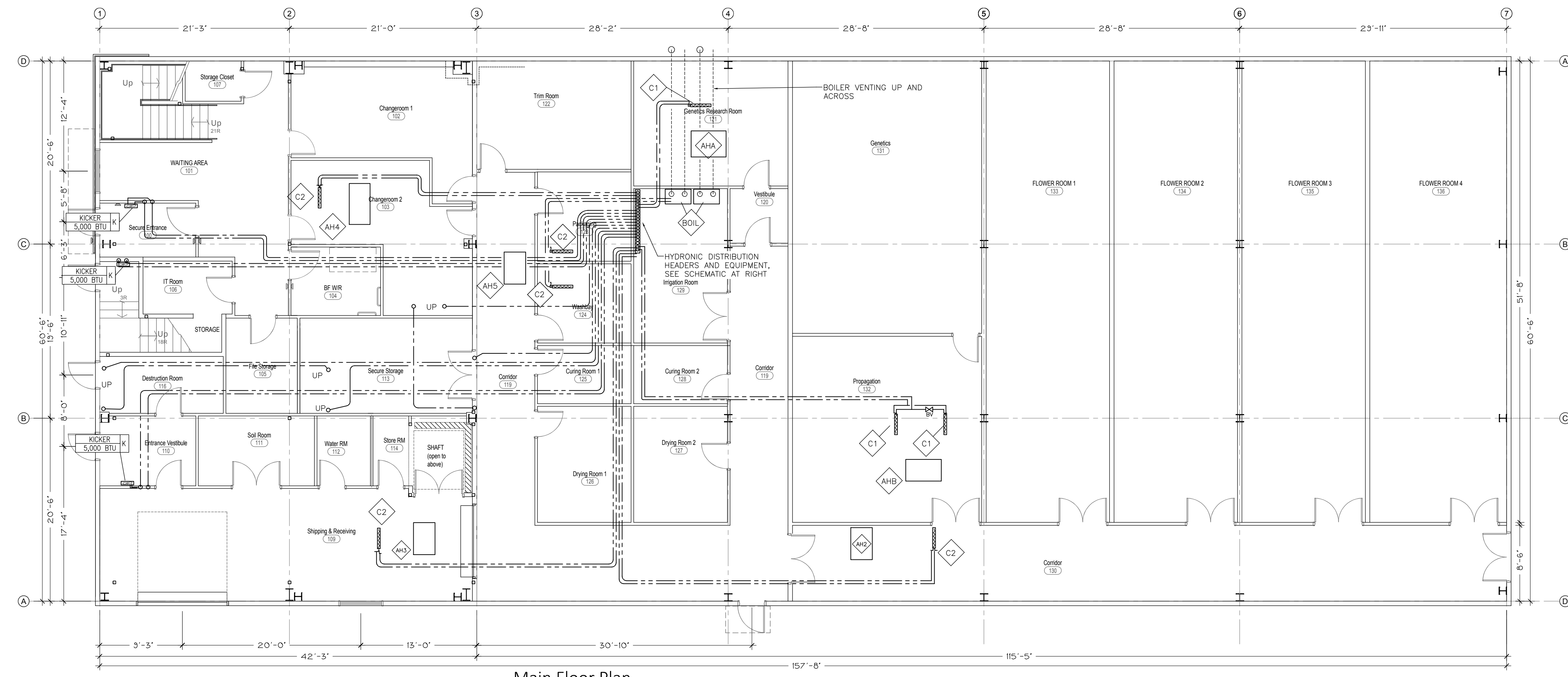


BOILER LOOP LAYOUT

HYDRONIC ZONE SCHEDULE

ZONE	DESCRIPTION	HEAT (BTU/hr)	WATER FLOW	LOOP LENGTH	PIPE SIZE	PRESSURE DROP (FT)
ZONE 1	AHA - CL1 (HEAT/DEHUMIDIFY)	25,000	5.2 gpm	80-FT	1"	5
ZONE 2	AHB - 2X CL1 (HEAT/DEHUMIDIFY)	38,000	8 gpm	100-FT	1"	7
ZONE 3	KICKER HEATER - MAIN ENTRANCE	5,000	2 gpm	190-FT	3/4"	6
ZONE 4	KICKER HEATER - STAIRWELL	5,000	2 gpm	190-FT	3/4"	6
ZONE 5	KICKER HEATER - SECURE ENTRANCE	5,000	2 gpm	225-FT	3/4"	6
ZONE 6	UPPER CHANGEROOMS	2,400	1 gpm	220-FT	1/2"	7
ZONE 7	UPPER HALL & BATHROOM	2,100	1 gpm	140-FT	1/2"	7
ZONE 8	AH2 - CL2 (AUX HEAT)	25,000	5.2 gpm	125-FT	1"	5
ZONE 9	AH3 - CL2 (AUX HEAT)	25,000	5.2 gpm	180-FT	1"	7
ZONE 10	AH4 - CL2 (AUX HEAT)	25,000	5.2 gpm	120-FT	1"	6
ZONE 11	AH5 - 2X CL2 (AUX HEAT)	50,000	8 gpm	80-FT	1"	5

1 LENGTHS LISTED INCLUDE ADDITIONAL EQUIVALENT LENGTHS FOR ELBOWS & CONNECTIONS. (26-FEET ADDED)

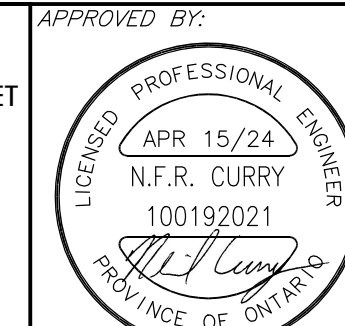


Main Floor Plan

NO.	REVISIONS	DATE
5	ISSUED FOR PERMIT	APR 15/24
4	REVISE FOR STEEL STRUCTURE	AUG 11/23
3	REVISE ELEVATION VIEW FOR SITE PLAN	MAY 5/23
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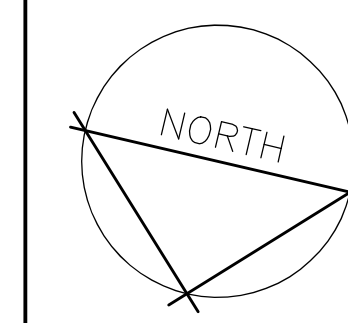


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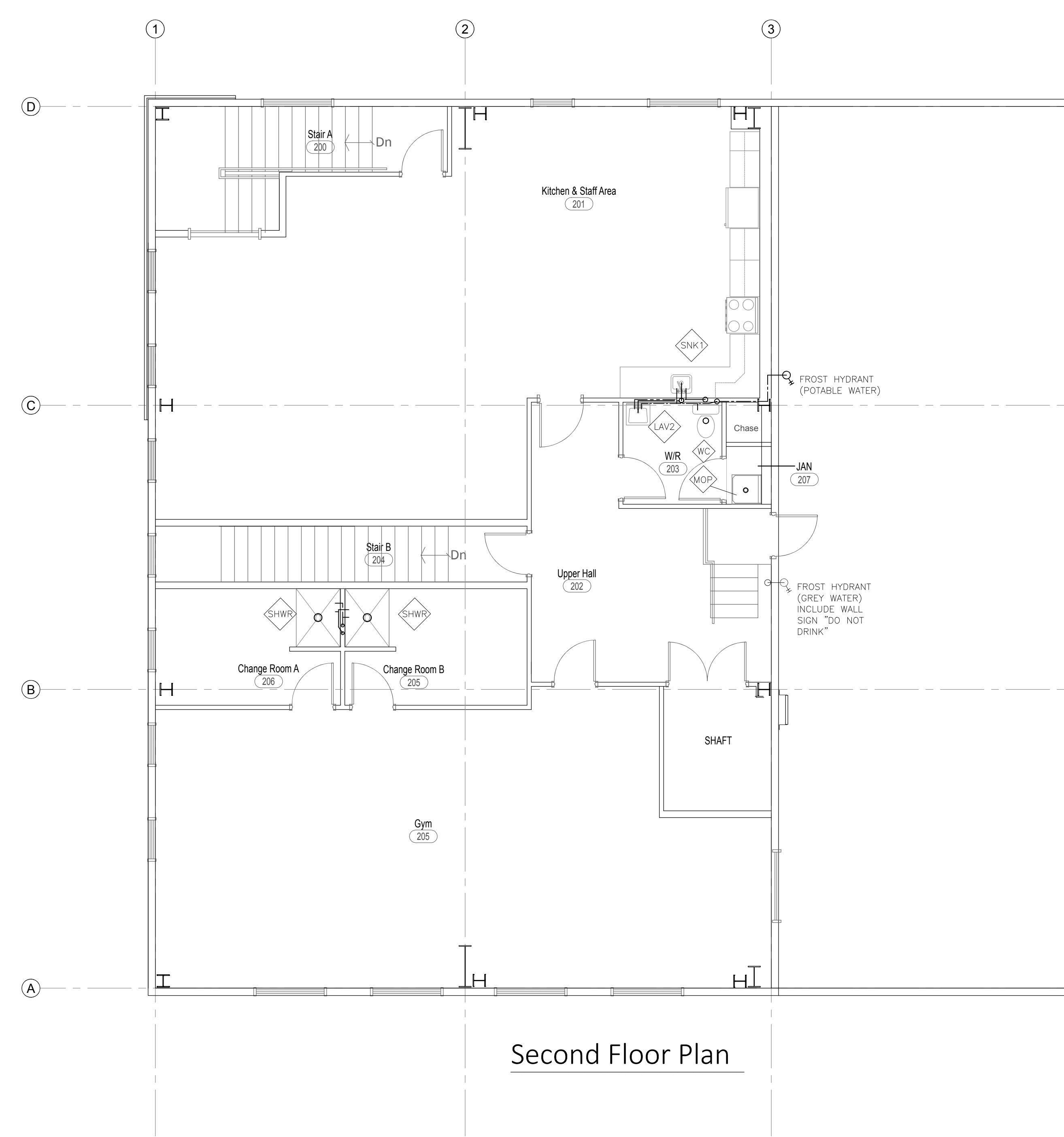


APPROVED BY: PROJECT:
0507 INDUSTRIES LTD. PROPOSED NEW FACILITY
 8 EASY STREET
 PORT PERRY, ONTARIO

DRAWING TITLE:
HYDRONIC LAYOUT
 SCALE: 1/8" = 1'-0"
 PROJECT NO.: 21016
 DRAWN: NC
 CHECKED: NC
M4



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Second Floor Plan

PLUMBING EQUIPMENT SCHEDULE							
ITEM (SYM)	DESCRIPTION	NO. REQ'D.	DESCRIPTION, MANUFACTURER, OR APPROVED EQUAL	CONNECTIONS (in.)		FURN. BY	REMARKS
				WATER	DRAIN / VENT		
DWH	WATER HEATER	1	50-GAL POWER VENTED HOT WATER HEATER W/ 42,000 BTU INPUT. gsw 6G50NVH W/ 36 GPH RECOVERY.	1"	1"	CONTR.	1
WP	WELL PUMP	1	SUBMERSIBLE PUMP. GRUNDFOS 30SQ10-130 1HP, 230V 7.6A. APPROXIMATELY 11-gpm AT 50-psi, 190-FEET TOTAL HEAD.	1-1/2"		CONTR.	3
PRES	PRESSURE TANK	1	PRESSUREWAVE PWPB130V 34-gal PRESSURE TANK. INCLUDE CONNECTION FITTINGS & UNION.	1"		CONTR.	3
SOFT	WATER SOFTENER	1	GREENWAY GAWS-1465-90 W/ 1" CONNECTIONS, 90,000 GRAINS, 19-GPM FLOW RATING. INCLUDE FINE MESH FOR HI IRON LEVELS.	1"		CONTR.	2
FILTER	CARTRIDGE FILTER	2	CARTRIDGE FILTER HOUSING W/ CARBON FILTER. 20".	1"		CONTR.	
UV	UV TREATMENT	2	TROJAN VIQUA VP600M 70W 18-gpm SYSTEM W/ SENSOR. IN TANDAM FOR REDUNDANCY. 120V 2.5A.	1"		CONTR.	
ET	EXPANSION TANK	1	WATTS PLT-12 BLADDER TANK W/ 4.5-GAL CAPACITY (2.5-GAL ACCEPTANCE VOLUME). LEAD FREE.	3/4"		CONTR.	
MIX	MIXING VALVE	1	ZURN ZW1017XL MIXING VALVE 95F-131F RANGE	1"		CONTR.	
RP	RECIRC. PUMP	1	TACO 008-10SF6 SMART CIRCULATOR FLANGED. 6-gpm @ 9-FT HEAD. 120V/1/4.6A.	1-1/2"		CONTR.	
WC	WATER CLOSET	4	AMERICAN STANDARD 3461 & CENTOCO 820, WHITE, B.F. REGULAR MANUAL FLUSH (LEFT).	1/2"	3"	CONTR.	
WC2	WATER CLOSET	1	AMERICAN STANDARD 3461 & CENTOCO 820, WHITE, B.F. RIGHT-HAND MANUAL FLUSH.	1/2"	3"	CONTR.	
UR	URINAL	1	AMERICAN STANDARD 6550.005, WHITE, BARRIER FREE SLOAN 8186-0.5 SENSOR FLUSH	3/4"	2" 1-1/2"	CONTR.	
LAV1	LAVATORY	4	AMERICAN STANDARD 0355 WALL MOUNT SINK, 4" CENTRES DELTA FAUCET 27C152, OPEN GRID DRAIN.	1/2"	1-1/2" 1-1/2"	CONTR.	
LAV2	LAVATORY (BF)	2	AMERICAN STANDARD 0954 & OPTIONAL SHROUD, WHITE DELTA FAUCET 27C4133, OPEN GRID DRAIN.	1/2"	1-1/2" 1-1/2"	CONTR.	
SNK1	SINGLE KITCHEN	1	STANDARD DROP-IN SS SINK W/ 3 HOLES & LEVER HANDLE FAUCET. KINDRED LBS6808 & DELTA 26C3143	1/2"	1-1/2" 1-1/2"	CONTR.	
SNK2	LAUNDRY SINK	1	22X25 STAINLESS STEEL DEEP LAUNDRY/WASH SINK W/ LEGS. FAUCET - DELTA 27C4344.	1/2"	1-1/2" 2"	CONTR.	
SNK3	SHOP SINK	2	FRANK WHB1819-6 STAINLESS WALL HUNG SINK 3-HOLE 4"C DELTA FAUCET 27C4233, OPEN GRID DRAIN.	1/2"	2" 1-1/2"	CONTR.	
SHWR	SHOWER TRAY & VAVLE	2	SHOWER HEAD AND AUTO VALVE CONTROL, AMERICAN STANDARD STUDIO 48"x36" THRESHOLD SHOWER BASE.	1/2"	2" 1-1/2"	CONTR.	
HT1	HOLDING TANK (IRRIGATION)	1	2400-gal HOLDING TANK. REQUIRES ALUMINUM COVER W/ FLUSH FRAME, POTABLE WATER. TANK DIMENSIONS: 159"LX92"WX69"H.	4"	-	CONTR.	4
HT2	HOLDING TANK (GREY WATER)	1	1500-gal TANK WITH OUTLET AND TWO CHAMBERS. REQUIRES FLUSH FRAME ALUMINUM COVER. TANK DIMENSIONS: 120"x90"x70"H.	4"	-	CONTR.	4
IP1	IRRIGATION PUMP	1	IRRIGATION PUMP. MYERS P102 SUBMERSIBLE 15-gpm @ 110-FT HEAD FOR 35-psi IRRIGATION DESIGN PRESSURE. 1hp 208V/1/4.6A.	1-1/2"		CONTR.	
GWP	GREY WATER PUMP	1	GREY WATER PUMP PACKAGE. INCLUDES PUMP W/ PRESSURE TANK AND CONTROL. INCLUDE FILTER & UV ARRANGEMENT ON WALL.	1" FPT	1" FPT	CONTR.	5
INT	INTERCEPTOR	1	ZURN Z1189-12 SEDIMENT INTERCEPTOR. W/ 12X12 LID 17X11"x25-15". INCLUDE 4"-2" ADAPTOR FITTING		4"	CONTR.	
TD	TRENCH DRAIN	14	U-DRAIN SYSTEM W/ 12X12 GRIT SUMP ON OUTLET. 36" LENGTH, 1/2" SLOT OPENING, STEEL CAST IN PLACE.		3"	CONTR.	

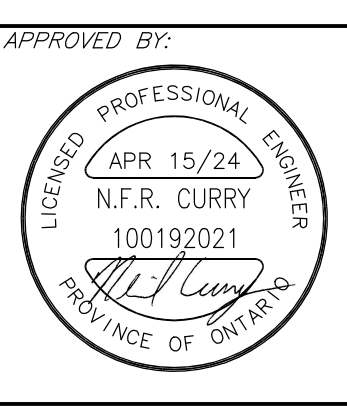
- REMARKS:**
1. PROVIDE SHUT-OFF VALVES & UNIONS ON BOTH HOT AND COLD. PROVIDE TEMPERING VALVE AS PER SERVICING DETAIL.
 2. INCLUDES BRINE TANK, 18" x 40".
 3. PROVIDE FULL WELL PACKAGE INCLUDING PUMP, PIPING, PITLESS ADAPTOR, WELL CAP & SEAL, ETC. EXISTING WELL, PLACE PUMP AT 70-FOOT DEPTH.
 4. SEE DETAIL SCHEMATIC FOR INSTALLATION LAYOUT AND ADDITIONAL OPTIONS, REQUIRES PIPING OUT OF FLOOR AS SHOWN FOR FILL AND DISCHARGE LINES.
 5. RAINWATER HARVEST PACKAGE TO INCLUDE PUMP, SKIMMER, AND CONTROLS AND FILTERING. PUMP MAY BE SUBMERSIBLE GRUNDFOS SBA, OR SELF-PRIMING FLOOR MOUNTED (GRUNDFOS MG, CMBE). CAPACITY TARGET = 26 gpm @ 18' HEAD PRESSURE.

- PLUMBING NOTES**
1. PLUMBING CONTRACTOR SHALL CONFORM TO GENERAL SPECIFICATION, ARCHITECTURAL DRAWINGS, PLUMBING CODES AND LOCAL CODES HAVING JURISDICTION.
 2. PLUMBING CONTRACTOR AND GENERAL CONTRACTOR TO ENSURE THAT PUBLIC WASHROOMS MEET HANDICAP REQUIREMENTS AS REQUIRED BY BUILDING CODES.
 3. ALL DRAINAGE PIPES TO BE 2% SLOPE (1/4" PER FOOT) MINIMUM, OR AS LISTED. NON-COMBUSTIBLE BUILDING. ALL ABOVE FLOOR EXPOSED PIPING REQUIRED TO HAVE A FLAME SPREAD RATING OF <25. USE APPROPRIATE MATERIALS SUCH AS SYSTEM 15.
 4. CEILING SPACE IS A RETURN AIR PLENUM. ALL PIPES ABOVE SUSPENDED CEILING ARE REQUIRED TO HAVE A FLAME SPREAD RATING OF <25 AND SMOKE DEVELOPED CLASSIFICATION OF <50. USE NON-COMBUSTIBLE PIPING, XFR, OR APPROVED EQUAL.
 5. SANITARY SEWER TO CONNECT TO SEPTIC SYSTEM BY OTHER. PLUMBER TO COORDINATE WITH SEPTIC INSTALLER AND SEPTIC DESIGN PLAN TO ENSURE PIPE EXISTS BUILDING IN REQUIRED LOCATION & DEPTH FOR CONNECTION TO SEPTIC TANK. TAKE NOTE OF FUTURE BUILDING ADDITION LOCATION AND REQUIREMENTS FOR FUTURE DRAIN CONNECTIONS.
 6. CLEANOUTS SHALL BE INSTALLED AS NECESSARY TO MEET THE O.B.C. AND AS INDICATED ON THIS PLAN. SIZE AS NECESSARY AND TO PROVIDE SUFFICIENT SPACE FOR RODDING. URINAL CLEANOUTS TO BE ZURN Z-1666-1 2" VANDAL-PROOF OR EQUAL. FLOOR CLEANOUTS WAITS CO-200-R OR EQUAL.
 7. ALL FLOOR DRAINS TO BE 3" ZURN Z-556 OR EQUAL. INCLUDE TRAP PRIMER FROM WATER LINE. SEE DRAWING FOR LOCATIONS OF T.P. DEVICES TO SERVE MULTIPLE TRAPS WITH DISTRIBUTION LINES.
 8. TRENCH DRAINS ARE TO BE INSTALLED AS PER MANUFACTURERS INSTRUCTIONS. COORDINATE WITH GENERAL CONTRACTOR FOR INSTALLATION AND FLOOR SLOPES.
 9. WATER WELL SERVICE IS AN EXISTING DRILLED WELL. REQUIRES ALL EQUIPMENT INCLUDING PUMP, 1.5" PIPING, PITLESS ADAPTOR, & WELL CAP W/ SEAL. REVIEW WELL DOCUMENTS FROM TESTING. ANTICIPATED WELL DEPTH TO HAVE PUMP AT 70-FOOT DEPTH AND A TOTAL PIPE LENGTH OF 145-FOOT (TO BE CONFIRMED).
 10. WATER WELL SERVICE: FOR PRICING PURPOSES, "WELL PACKAGE" TO BE PRICED SEPARATELY BY PLUMBING CONTRACTOR. WELL PACKAGE EQUIPMENT TO BE AS PER REMARK #5 ON EQUIPMENT SCHEDULE. STATE WHETHER THIS ITEM IS INCLUDED OR EXCLUDED FROM PRICING.
 11. ALL FIXTURES REQUIRE APPROPRIATE SHUT-OFF VALVES AS PER OBC. USE DAHL 13-2277 OR EQUIVALENT
 12. CONTRACTOR TO BLOCK AND SECURE ALL WATER LINES THROUGH TO AVOID NOISY PIPES. WATERLINES TO BE INSTALLED ACROSS CEILINGS AS SHOWN. PIPING TO BE COPPER, AQUARISE CPVC, OR SIMILAR MATERIAL APPROVED FOR PLENUM SPACES AND NON-COMBUSTIBLE BUILDINGS. SEE NOTE 4 ABOVE.
 13. WATER LAYOUT MAY NOT DRAWN IN IT'S ENTIRETY. ALL PLUMBING FIXTURES ARE TO BE FED WITH WATER AS PER EQUIPMENT SCHEDULE.
 14. INSULATE ALL EXPOSED WATERLINES THROUGHOUT. INSULATION TO BE 1-INCH SERVICE JACKET WITH PVC FITTINGS.
 15. GREY WATER SYSTEM PROPOSED WITH INTERCEPTOR AND COLLECTION/HOLDING TANK AS SHOWN. OVERTFLOW TO SEPTIC SYSTEM. SIZING BASED ON AN ESTIMATED MAXIMUM FLOW 1,400L/DAY. USE OF GREYWATER PROPOSED FOR SPECIFIC HOSE BIB FIXTURES AND AS PER OWNER. IF USING FOR LAWN IRRIGATION, OUTDOOR PIPING SYSTEM TO BE BY OTHERS AND PUMP SIZING TO BE REVIEWED/UPSIZED. PRICE SEPARATELY. PACKAGE MAY BE SOURCED FROM RH20 BRESLAU OR RAINSOURCE CAMBRIDGE.
 16. IRRIGATION SYSTEM PROPOSED AS SHOWN WITH HOLDING TANK, LID, AND EQUIPMENT. SYSTEM TO OPERATE WITH SOLOINOID FILL VALVE KEEP FULL AS PER FLOAT. IRRIGATION PUMP IN TANK TO BE CONTROLLED BY BUILDING CONTROL SYSTEM OR WATER TIMER FOR SUPPLY OF WATER TO EACH ROOM AS REQUIRED. CONTROL SYSTEM NOT PART OF THIS CONTRACT OR AS PER ELECTRICAL SPECIFICATIONS.
 17. INTERIOR IRRIGATION PIPING SYSTEM BY OTHERS. MAIN WATER DISTRIBUTION LINES SHOWN FOR REFERENCE. CONFIRM SIZING AND LOCATIONS IF INSTALLING FOR OWNER. PRICE SEPARATELY.
 18. HOLDING TANKS MAY BE SOURCED FROM CONCRETE PRECAST COMPANY, SEPTIC SUPPLIER, OR SIMILARY. TANKS MAY ALSO BE PLASTIC SUCH AS INFILTRATOR TANKS. CONTACT UNIT-PRECAST OR BROOKLIN CONCRETE PRODUCTS. SEE NOTES REGARDING GREYWATER PACKAGE AND POSSIBLE SUPPLY OF TANK WITH COMPLETE SYSTEM.

- LEGEND**
- WATER VALVE
 - MIXING VALVE
 - MANUAL BALANCING VALVE WAITS ACCU-FLO ACUF
 - SOLENOID VALVE (24VAC)
 - CHECK VALVE
 - FLOOR DRAIN (3" MINIMUM W/ TRAP)
 - FFD = FUNNEL FLOOR DRAIN
 - ROOF DRAIN
 - FLOOR CLEAN OUT
 - WALL CLEAN OUT
 - TRAP
 - ELBOW TURNED UP
 - ELBOW TURNED DOWN
 - HOSE BIB, 1/2" WITH VAC. BREAK
 - UNION
 - WATER METER
 - GAS METER
 - PUMP
 - COLD WATER LINE
 - HOT WATER LINE
 - GAS LINE
 - SANITARY UNDER FLOOR
 - SANITARY ABOVE FLOOR
 - STORM DRAIN LINE
 - GREY WATER LINE
 - COLD WATER LINE
 - HOT WATER LINE
 - GREY WATER LINE
 - HOT WATER RETURN LINE
 - TRAP PRIMER DEVICE

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0507 INDUSTRIES LTD. PROPOSED NEW FACILITY
 8 EASY STREET
 PORT PERRY, ONTARIO

DRAWING TITLE:
PLUMBING - 2ND FLOOR NOTES & SCHEDULES
 SCALE: 3/16" = 1'-0" PROJECT NO.: 21016
 DRAWN: NC DRAWING: P1
 CHECKED: NC

