

Water-Cooled Chillers

ITEM NUMBER	SYSTEM REFERENCE	MODEL NUMBER	UNIT TYPE	CAPACITY				CHILLED FLUID				CONDENSER FLUID				ELECTRICAL	NOTES		
				TON	No.	EA	ILA	EA	GPM	EFT	F	IPD	FT	IN	GPM			EFT	F
CH-1	77CCH02	MA030-18F04	MAGNETIC CENTRIF	80	1	68	190.0	48.0	38.0	9.0	WATER	4.0	233.0	85.0	16.0	WATER	4.0	575/3/60	MCA, BSA, MOCP 15.5A

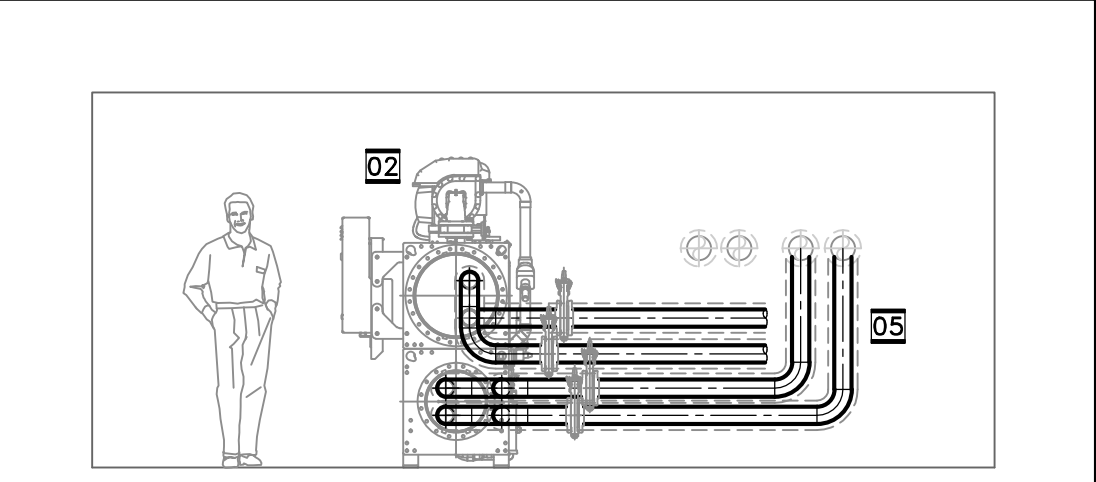
NOTE THAT CHILLER IS EXISTING IN-PLACE

Circulating Pumps

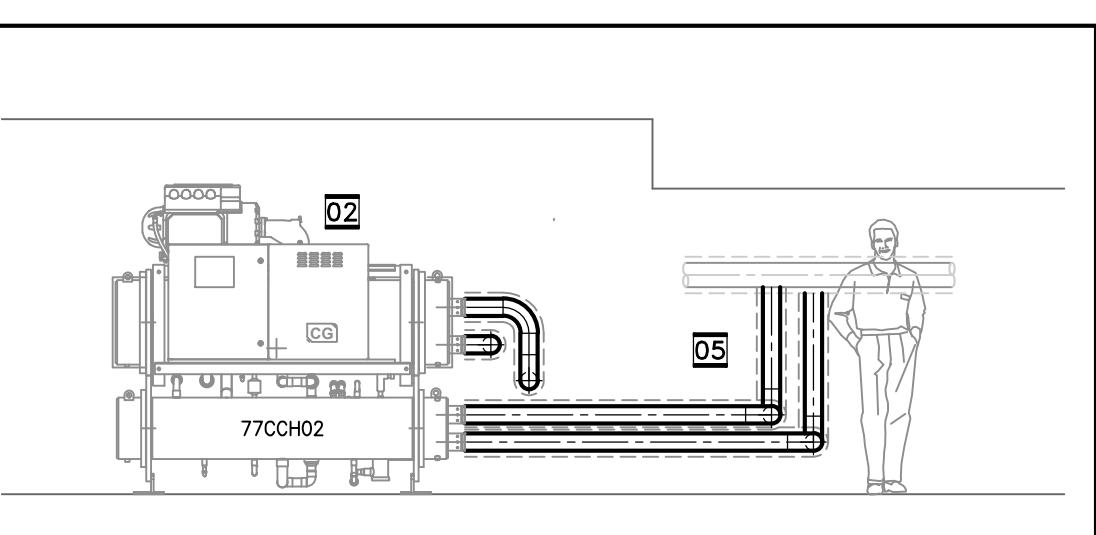
ITEM NUMBER	SYSTEM REFERENCE	MODEL NUMBER	PUMP TYPE	PUMP		PUMP MOTOR		ELECTRICAL	VIBRATION	NOTES	
				GPM	FT	HP	RPM				V/Ph/Hz
CP-1	77CWP03	VLS-40121	IN-LINE	225.0	140.0	1760	20	1760	575/3/60	-	C/W SUCTION DIFFUSER & TRIPLE-DUTY VALVE
CP-2	77CWP04	VLS-40121	IN-LINE	225.0	140.0	1760	20	1760	575/3/60	-	C/W SUCTION DIFFUSER & TRIPLE-DUTY VALVE

Fancoil Units

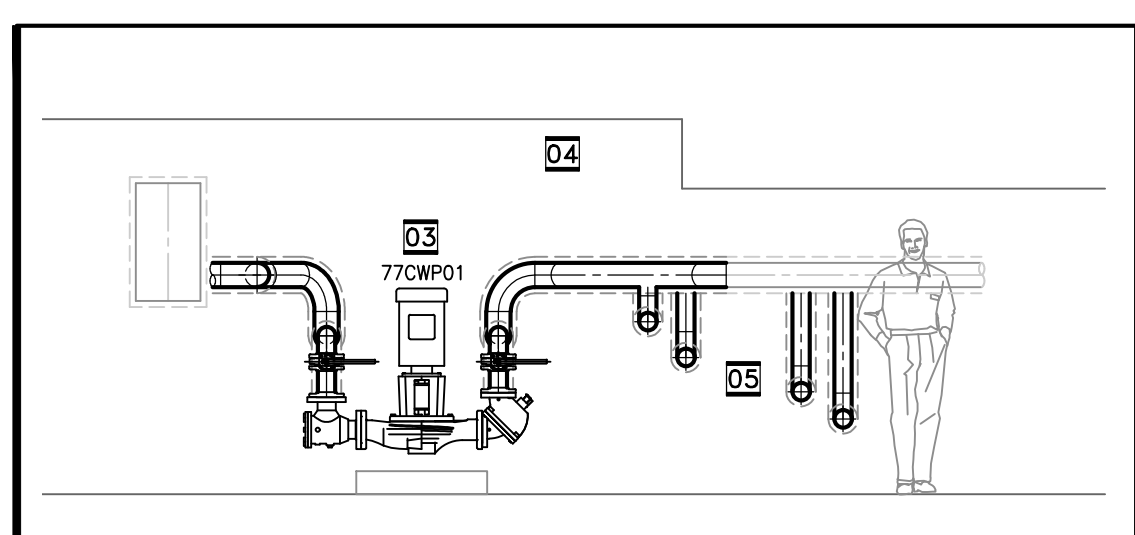
ITEM NUMBER	SYSTEM REFERENCE	MODEL NUMBER	UNIT TYPE	FAN		ELECTRICAL	COOLING CAPACITY		COOLING		HEATING		NOTES		
				CFM	IN		TOTAL	SENSIBLE	MEDIUM	GPM	PD	FT		MEDIUM	PD
FC-1	77FCUB162A	FM12	HORIZONTAL	500	0.30	9.6	-	115/1/60	42.21	16.14	WATER	8.7	7.87	-	FAN SELECTED ON LOW SPEED



02 SECTION THROUGH ROOM B38



03 SECTION THROUGH ROOM B38



04 SECTION THROUGH ROOM B38

ADDITIONAL EQUIPMENT REFERENCE NOTES

77C003B	CP-1 VARIABLE SPEED DRIVE
77C004B	CP-2 VARIABLE SPEED DRIVE
77BFD10	SECONDARY CHILLED WATER BACKFLOW PREVENTER
77PPE06	SECONDARY CHILLED WATER EXPANSION TANK
77CWP06	SECONDARY CHILLED WATER CHEMICAL POT FEEDER

GENERAL NOTES

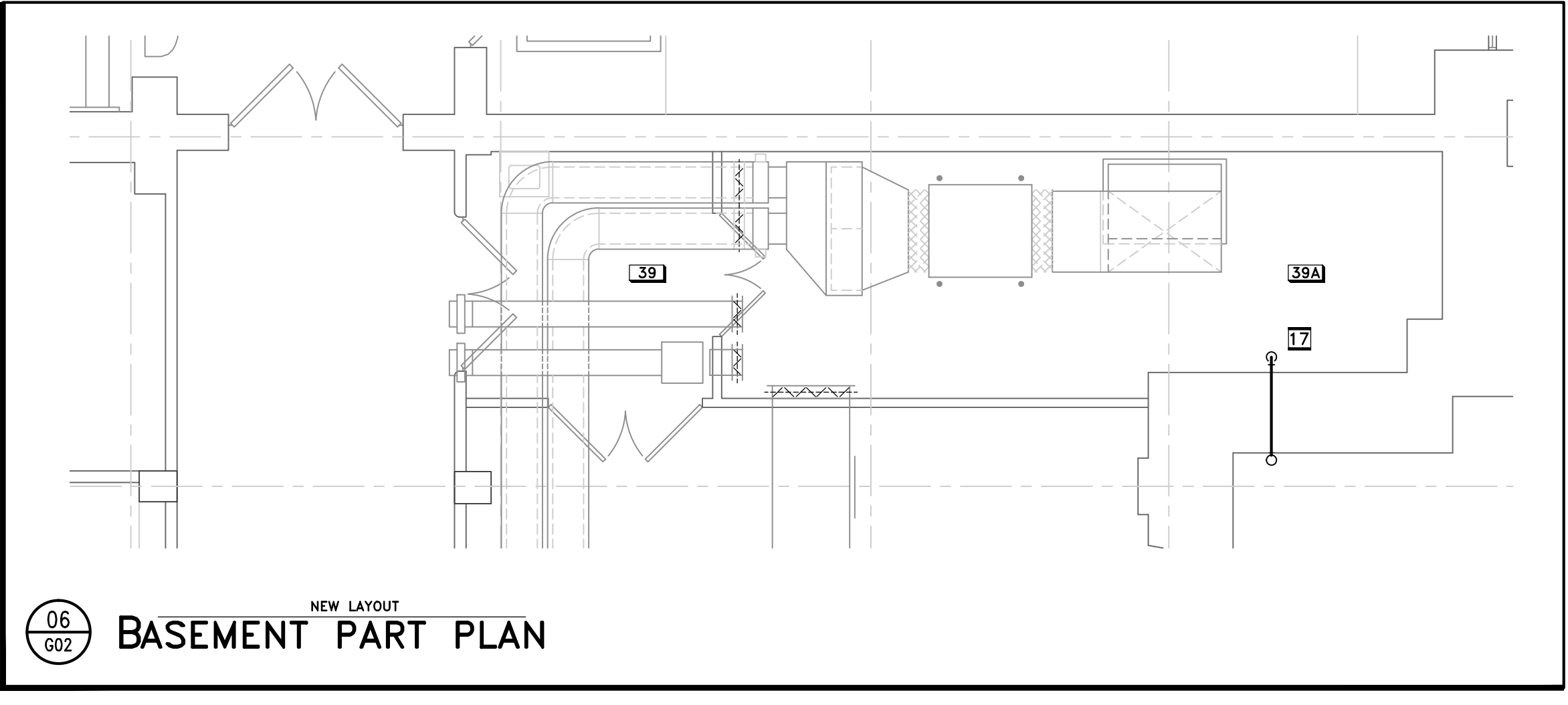
A IT SHALL REMAIN THE RESPONSIBILITY OF THE CONTRACTOR TO SELECT APPROPRIATE EQUIPMENT FOR THIS PROJECT TAKING INTO ACCOUNT ALL INTERFERENCES.

B NEW PIPING MATERIALS SHALL MATCH THOSE EXISTING FOR EACH SYSTEM.

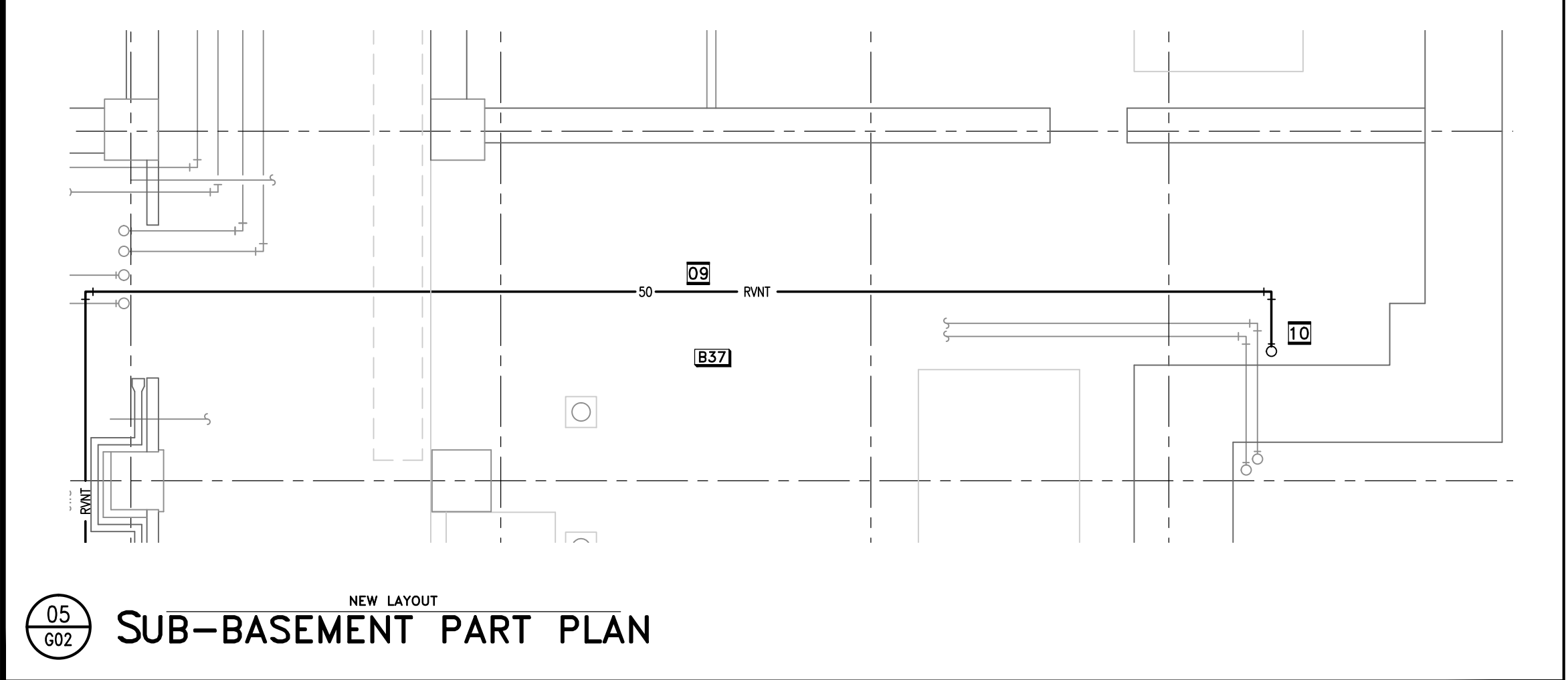
C NEW INSULATION MATERIALS SHALL MATCH THOSE EXISTING FOR EACH SYSTEM.

NEW LAYOUT NOTES

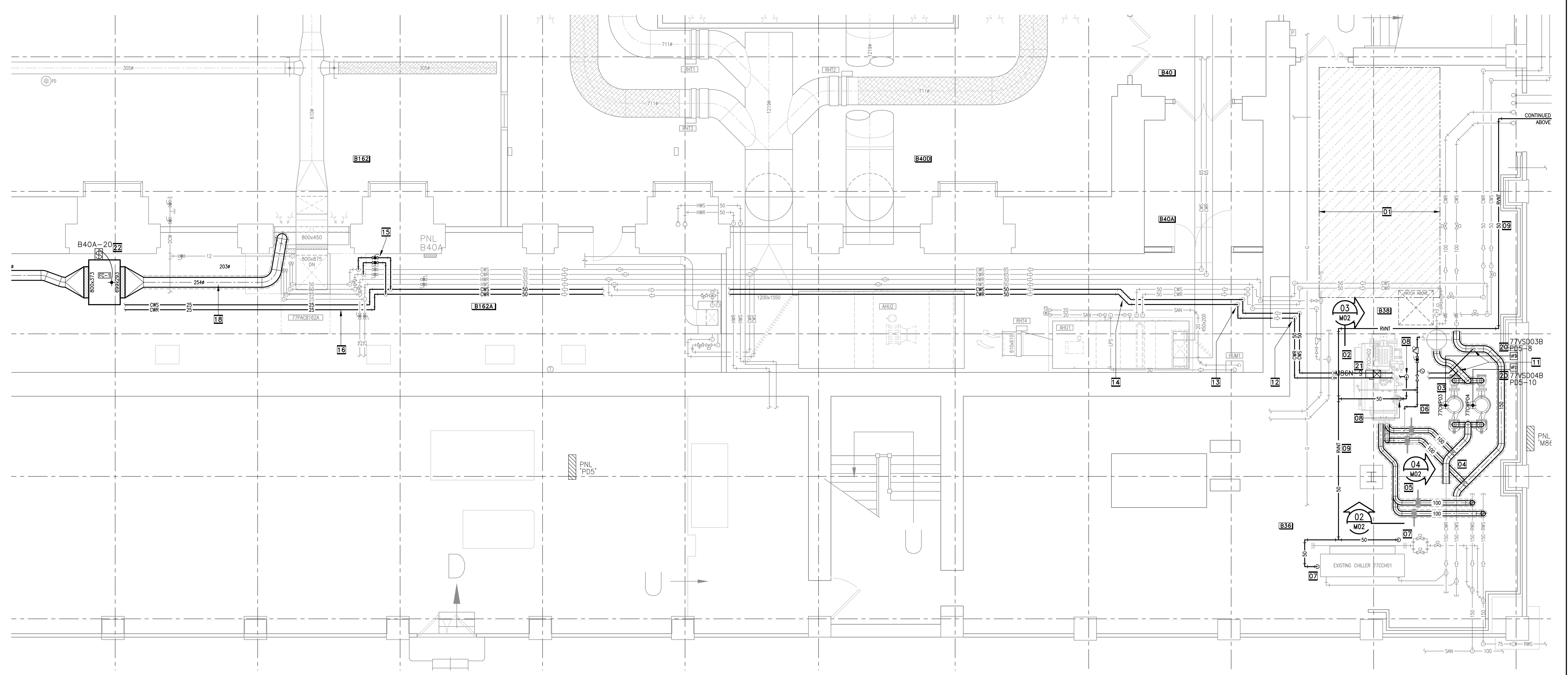
- NOTE THIS AREA IS TO BE LEFT CLEAR FOR POSSIBLE FUTURE PRIMARY CHILLED WATER HEAT EXCHANGER AND PUMP ARRANGEMENT.
- EXISTING SMARTO CHILLER 77CCH02 PRE-POSITIONED BY NRC.
- PROVIDE NEW IN-LINE CHILLED WATER PUMPS C/W SUCTION DIFFUSERS AND TRIPLE-DUTY VALVES. REFER TO EQUIPMENT SCHEDULE. INSTALL TO MANUFACTURER'S RECOMMENDATIONS. WIRING BY ELECTRICAL TRADES.
- PROVIDE NEW NOMINAL 150 DIA. CHILLED WATER SAN PIPING GENERALLY AS INDICATED TO ALLOW FOR NEW CHILLED WATER PUMPS.
- PROVIDE NOMINAL 100 DIA. PIPING CONNECTIONS TO CHILLER C/W BUTTERFLY ISOLATION VALVES. CONNECT PIPING TO CHILLER PER SMARTO CHILLER RECOMMENDATIONS.
- REINSTALL DOMESTIC COLD WATER PIPING GENERALLY AS INDICATED INCLUDING ALL RETAINED VALVES & FITTINGS.
- PROVIDE REFRIGERANT VENT PIPING CONNECTING TO EXISTING CHILLER 77CCH01. PROVIDE LINE-SIZE PIPING FROM INDIVIDUAL VENT CONNECTIONS, RISING TO MAIN VENT PIPE AT HIGH LEVEL.
- PROVIDE REFRIGERANT VENT PIPING CONNECTING TO EXISTING CHILLER 77CCH02. PROVIDE LINE-SIZE PIPING FROM INDIVIDUAL VENT CONNECTIONS, RISING TO MAIN VENT PIPE AT HIGH LEVEL.
- ROUTING FOR COMBINED VENT PIPE IS DIAGRAMMATIC. CONTRACTOR TO FIND ROUTE WHICH WILL ALLOW VENT TO RUN HORIZONTALLY WITH NO DROPS. COMBINED VENT PIPING SHALL BE BLACK STEEL THROUGHOUT.
- RISE COMBINED VENT THROUGH FLOOR SLAB ABOVE INTO MECHANICAL ROOM 39A.
- PROVIDE VALVED 50 DIA. CHILLED WATER SAN BRANCHES TO SERVE LAB B162.
- RUN 50 DIA. BRANCHES OVER CHILLER AT HIGHEST LEVEL POSSIBLE AND THEN DROP TO PASS THROUGH INTO ROOM B40A NEXT TO EXISTING SIMILAR PIPING.
- RISE TO JOIN EXISTING PIPING SUSPENDED ON UNISTRUT.
- MODIFY AND EXTEND UNISTRUT TO ALLOW FOR ADDITION OF NEW 50 DIA. BRANCHES AS INDICATED.
- PROVIDE 50 DIA. CHILLED WATER SAN BRANCHES TO ALLOW FOR MANUAL VALVED CHANGE-OVER OF CHILLED WATER SUPPLY TO SERVE VERTICAL AC UNIT. PROVIDE NEW VALVES AS SHOWN, AND PROVIDE NEW VALVES ON EXISTING PIPING AS REQUIRED TO ALLOW FOR CHANGE-OVER.
- PROVIDE 20 DIA. CHILLED WATER SAN PIPING TO SERVE NEW FANCOIL UNIT.
- RUN COMBINED VENT THROUGH EXTERNAL WALL AT APPROX. 1500 AFF. AND TERMINATE WITH 180deg BEND.
- PROVIDE 254# INSULATED SPIRAL DUCTING DOWNSTREAM OF NEW FAN COIL UNIT TO REPLACE THAT REMOVED.
- PROVIDE 254# INSULATED SPIRAL DUCTING DOWNSTREAM OF NEW FAN COIL UNIT TO REPLACE THAT REMOVED.
- NEW PUMP C/W VFD TO BE SUPPLIED BY DIV.23. DIV.26 TO INSTALL VFD ON WALL AND MAKE ALL FINAL CONNECTIONS. PROVIDE TWO NEW 50# BREAKERS IN PANEL 'P05' AND CONNECT TO TWO VFDs. RUN 3/4"Ø+GND IN EXISTING CONDUITS BETWEEN P05 AND ROOM B38. RUN 3/4"Ø+GND IN FLEXIBLE CONDUIT TO NEW LOCATION AND MAKE ALL FINAL CONNECTIONS.
- PROVIDE 600V, 100A, 3PH DISCONNECT SWITCH BESIDE NEW CHILLER CONTROL CABINET. PROVIDE UNISTRUT TO SUPPORT INSTALLATION. PROVIDE NEW 600V, 100A, 3PH BREAKER IN PANEL 'M09' AND MAKE ALL FINAL CONNECTIONS. RUN 3/4"Ø+GND-35mm² EMT CONDUIT FROM PANEL TO DISCONNECT SWITCH AND FROM DISCONNECT SWITCH TO CONTROL CABINET.
- EXISTING BOOSTER FAN TO BE REPLACED BY DIV.23. DIV.26 TO PROVIDE NEW MANUAL STARTER. EXTEND EXISTING WIRING AND CONDUIT AND MAKE ALL FINAL CONNECTIONS. PROVIDE NEW 20A, 1P BREAKER IN PANEL 'B40A' CIRCUIT#20 AND CONNECT TO NEW FAN. REDIRECT EXISTING WIRES INSIDE PANEL FROM COT#18 TO CIRCUIT#20 TO SUIT. TURN BREAKER COT#18 TO 'OFF' POSITION AND MARK 'SPARE'. NEW MANUAL START TO C/W PILOT LIGHT, OVER CURRENT PROTECTION AND HANDLE GUARD. STANDARD OF ACCEPTANCE: SQUARE D FOSP.



06 BASEMENT PART PLAN

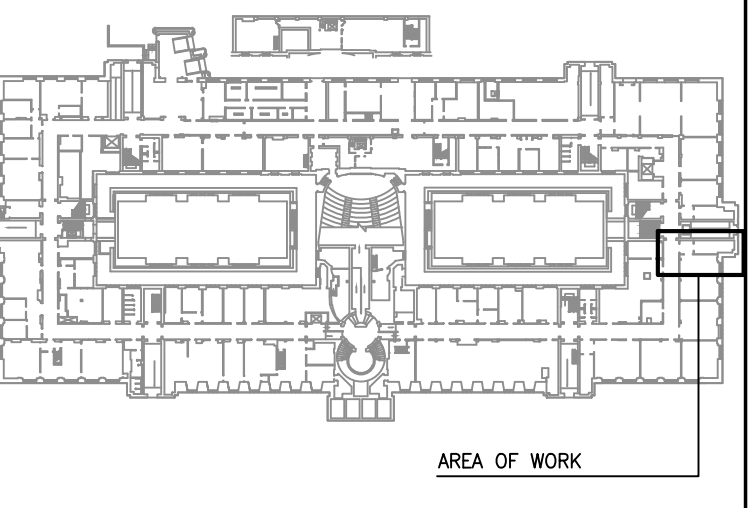
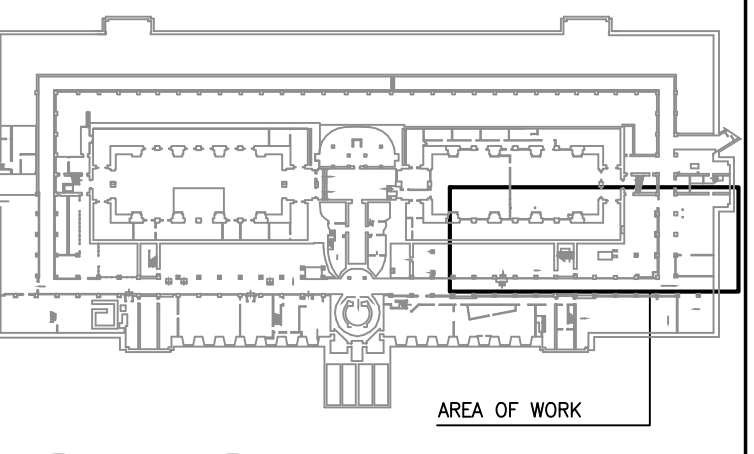


05 SUB-BASEMENT PART PLAN



01 SUB-BASEMENT PART PLAN

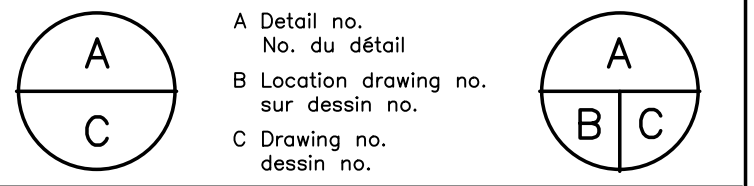
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 www.rodgerscas.com info@rodgerscas.com
 cell 613.266.2334
 3 Rochester St. Carleton Place ON K7C 2P9 Canada
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 ...motivation is key™



keyplan - basement

00	OCTOBER 2016	ISSUED FOR TENDER	RC
No.	Date	Revision	By: / Per:
Date Printed	Date imprimée		

- Verify all dimensions and site conditions and be responsible for same
- Vérifier toutes les dimensions et l'état des lieux et en assumer la responsabilité



project: BUILDING 9-77 LASER LABS CHILLER 2

SUSSEX DRIVE CAMPUS

drawing: SUB-BASEMENT PART PLANS
 BASEMENT PART PLANS
 NEW LAYOUT
 DETAILS AND SCHEDULES

designed	conçu	date	date
R CRAIG		September 2016	
drawn	dessiné	scale	échelle
RODDERS CAS		1:50	
checked	vérifié	sheet	feuille
R CRAIG		G02 of/ de 02	
approved	approuvé	W.O.no.	D.T.no.
B VALLIERES			
dwg.no.	dessin no.		

4060-G02