TENANCY COOLING SCHEDULE											
TENANCY	TITLE	COOLING TYPE	SUPPLY AIR l/s TOTAL	OUTSIDE AIR l/s TOTAL	COOLING kW	SENSIBLE kW	CHW L/S	EST. STATIC	AIR ON DB/WB	AIR OFF DB	CHW ENT/LV
00MEN018	ALICE & GEORGE	CHILLED WATER	1000	–	12.2	11.9	0.35	200 Pa	24°C/17.2°C	14.2°C	7/15.5°C
00MEN019	BOOST JUICE	CHILLED WATER	1000	–	12.2	11.9	0.35	200 Pa	24°C/17.2°C	14.2°C	7/15.5°C
00MEN020	SUSHI SUSHI	CHILLED WATER	1000	–	12.2	11.9	0.35	200 Pa	24°C/17.2°C	14.2°C	7/15.5°C
00MEN021	THE KITCHEN	CHILLED WATER	1000	–	12.2	11.9	0.35	200 Pa	24°C/17.2°C	14.2°C	7/15.5°C
00MEN023	THE KITCHEN	CHILLED WATER	1000	–	12.2	11.9	0.35	200 Pa	24°C/17.2°C	14.2°C	7/15.5°C
–	MERLO	COMMON AHU	–								
00MEN083	CIBO	COMMON AHU	–								
00SAR089	HUB CAFE	N/A									
01MEN016	AGENCY	COMMON AHU	–								
03STA003	FOOD LAB	COMMON AHU	–								

EXHAUST HOOD SCHEDULE													
ITEM	SIZE (EXTERNAL)	EXHAUST AIR	SUPPLY AIR	FILTERS	CONNECTION	HOOD TYPE	COOKING PROCESS	INSIDE LENGTH	INSIDE WIDTH	INSIDE PERIMETER	LIGHTING	HEIGHT ABOVE COOKING SURFACE	MIN FILTER HEIGHT ABOVE COOKING SURFACE
H–01	2910x900	2050 L/S	1640 L/S	–	–	CORNER MOUNTED	TYPE 4	2810	850	4560	TBC	1200	–
H–02	4970x1270	2760 L/S	2210 L/S	–	–	CORNER MOUNTED	TYPE 4	4870	980	6140	TBC	1200	
H–03	1400x1100	300 L/S	240 L/S	–	–	NON GREASE	DISHWASHING	1300	1050	–	–	–	
H–04	1400x1100	300 L/S	240 L/S	–	–	NON GREASE	DISHWASHING	1300	1050	–	–	–	
H–05	3350x1350	2070 L/S	–	–	–	CORNER MOUNTED	TYPE 4	3300	1300	4600	TBC	1200	

AIR CONDITIONING SHEDULE

MECHANICAL SERVICES SPECIFICATION

SCOPE OF WORK:

THE GENERAL SCOPE OF WORK SHALL INCLUDE THE FOLLOWING AND ALL THOSE SPECIFIED ON THE DRAWINGS WITH ANY OTHER ANCILLARY WORK THAT MAY BE REQUIRED TO PROVIDE A COMPLETE AND OPERATIONAL INSTALLATION:

- INSTALL 5 OFF NEW CHILLED WATER FAN COIL UNITS
- ALL VALVES, TAKE OFFS AND CONTROLS
- PROVIDE AND INSTALL NEW DUCTWORK AS SHOWN. ALLOW ALL COSTS.
- SUPPLY AND INSTALL KITCHEN EXHAUST HOODS, DUCTING AND CONTROLS AS SHOWN
- ALL ELECTRICAL CONNECTIONS AND CONTROLS.
- COMMISSION ALL MECHANICAL SERVICES AND INTERFACES WITH OTHER SERVICES.
- PROVIDE CONSTRUCTION DRAWINGS FOR APPROVAL BEFORE PROCEEDING WITH THE MANUFACTURE OR INSTALLATION OF EQUIPMENT.
- PROVIDE AIR AND WATER BALANCING COMMISSIONING FIGURES

PLANT AND EQUIPMENT:

GENERAL:

SUPPLY AND INSTALL PLANT AND EQUIPMENT IN ACCORDANCE WITH NCC: VOLUME 1 BCA – SECTION J.

INCLUDE ALL INCIDENTAL AND AND ANCILLARY EQUIPMENT NECESSARY FOR THE COMPLETION OF THE INSTALLATION, THE SAFE AND EFFICIENT OPERATION OF THE PLANT, AND THE MAINTENANCE OF THE PLANT.

OBTAIN APPROVAL FOR THE MANUFACTURER OF ALL PLANT AND EQUIPMENT PRIOR TO ORDERING.

GUARANTEE THE PLANT TO PROVIDE THE SPECIFIED CAPACITIES AND PERFORMANCE IN THE INSTALLED ENVIRONMENT WITHOUT OBJECTIONABLE NOISE AND VIBRATION.

ACCEPT RESPONSIBILITY FOR THE ASSESSMENT OF ACTUAL SYSTEM RESISTANCE AND PRESSURES AND ORDER EQUIPMENT TO SUIT THE SAME.

FAN COIL UNITS

SELECT FAN COIL UNITS TO COMPLY WITH SECTION J REQUIREMENTS

FANS:
- CENTRIFUGAL LOW LINE
- FAN MOTOR TO BE EC DIRECT DRIVE TYPE AND "MEPS" COMPLIANT
- VARIABLE SPEED WITH 0–10V DC SUPPLY SIGNAL

FAN COIL UNIT
- DRAIN TRAY
- GALVANISED STEEL CASING, INTERNALLY INSULATED
- FILTER BOX WITH 50mm V–FORM FILTER AND ACCESS HATCH

APPROVED MAKES:
- TEMPERZONE, AIR–DESIGN OR EQUIVALENT

CONTROLS:

GENERAL:

PROVIDE CONTROLS AND MONITORING SYSTEMS AS NECESSARY FOR SAFE, CORRECT AND EFFICIENT OPERATION OF THE PLANT, INCLUDING ALL NECESSARY EQUIPMENT SUCH AS VALVES, RELAYS, TEMPERATURE SENSORS AND INTERLOCKS TO PROVIDE THE COMPLETE OPERATING SYSTEM.

METERING:

ENSURE ALL TENANCIES HAVE INDIVIDUAL CHILLED WATER FLOW METERS TO BE CONNECTED TO THE BMS.

A/C:
- PROVIDE WALL MOUNTED CONTROL FOR EACH TENANCY WITH ON / OFF AND SET POINT ADJUSTMENT.
- PROVIDE FCU STATUS SIGNAL TO THE BMS
- PROVIDE DAMPER CONTROLS FOR KITCHEN MAKE UP AIR AND OUTSIDE AIR FOR TENANCY

KITCHEN EXHAUST SYSTEMS
- PROVIDE WALL MOUNTED CONTROL FOR EACH EXHAUST SYSTEM.
- PROVIDE CONTROLS FOR EXISTING MAKE UP AIR DAMPERS AND EXHAUST FANS

AIR DISTRIBUTION SYSTEMS:

GENERAL:

ALL COMPONENTS OF THE AIR DISTRIBUTION SYSTEM INCLUDING DUCTWORK, DAMPERS, ACCESS PANELS AND AIR DIFFUSION EQUIPMENT TO BE IN ACCORDANCE WITH AS1668 PARTS 1 AND 2, AS3666, AS4254 AND AS4426.

DUCTWORK:

DUCT DIMENSIONS NOMINATED ON DRAWINGS ARE IN MILLIMETRES AND INDICATE CLEAR AIR PASSAGE SIZE WITH THE FIRST DIMENSIONS INDICATING THE SIDE OF THE DUCTWORK IN VIEW ON THE PARTICULAR PLANT OR ELEVATION.

DUCTWORK SHALL BE DESIGNED TO ACHIEVE A MAXIMUM LEAKAGE RATE OF 5%

DUCTWORK TO BE CONSTRUCTED TO PROVIDE SMOOTH AIRFLOW WITHOUT OBSTRUCTION WITH ADEQUATE STIFFENING TO ELIMINATE ALL START UP, SHUT DOWN OR OPERATION NOISE DUE TO PANEL MOVEMENT OR VIBRATION.

SHEET METAL DUCTWORK TO BE MANUFACTURED AND INSTALLED IN ACCORDANCE WITH AS4254

INON–INSULATED FLEXIBLE DUCTWORK USED IN EXHAUST AIR AND VENTILATION SYSTEMS TO BE INTERLOCK IF227 OR SIMILAR COMMERCIAL GRADE AND INCORPORATE A FOIL SURFACE TO BOTH THE INSIDE AND OUTSIDE OF THE DUCT OR USE A SINGLE LAYER OF FABRIC LAMINATED ON BOTH SIDES WITH ALUMINIUM FOIL SUCH AS ACI VAPORSTOP 890 OR APPROVED EQUIVALENT.

PROVIDE FLEXIBLE CONNECTIONS AND VIBRATION ISOLATORS WHERE REQUIRED TO ENSURE VIBRATION AND/OR NOISE IS NOT TRANSMITTED TO THE BUILDING ELEMENTS.

PROVIDE BALANCING DAMPERS AS NECESSARY FOR THE CORRECT AND PROPER BALANCING OF THE AIR DISTRIBUTION SYSTEMS.

PROVIDE PILOT TUBE OPENINGS IN DUCTS WHERE REQUIRED FOR BALANCING PURPOSES. SEAL OPENINGS WITH RUBBER GROMMETS.

COORDINATE THE MECHANICAL INSTALLATION, POWER AND SPATIAL REQUIREMENTS TO OTHER TRADES.

INSTALLATION TO COMPLY WITH THE REQUIREMENTS OF AS3000, AS2430, AS3008, AS1670, AS1603, AND AS1668.1.

NOISE AND VIBRATION:

SELECT AND INSTALL ALL PLANT, EQUIPMENT, PIPING AND DUCTING SYSTEMS TO ENSURE QUIET AND VIBRATION FREE OPERATION.

PROVIDE FLEXIBLE CONNECTIONS TO ALL ROTARY MACHINERY AND EQUIPMENT CONTAINING ROTARY MACHINERY, INCLUDING FLEXIBLE CONNECTIONS BETWEEN DUCTWORK AND FANS, FLEXIBLE PIPE CONNECTIONS TO PUMPS AND FLEXIBLE CONDUITS AND COILED CABLES (MMS) TO MOTORS AND OTHER OPERATING DEVICES SUBJECT TO VIBRATION.

SELECT AIR DIFFUSION EQUIPMENT AND TERMINAL BOXES WITH NOISE RATINGS AT ALL OPERATING CONDITIONS TO ENSURE THE SPECIFIED REQUIREMENTS ARE MET.

INSTALL VIBRATION ISOLATING MOUNTS ON ALL PLANT AND PIPEWORK.

TESTING AND COMMISSIONING:

PRESSURE AND LEAK TEST PIPEWORK AND AIR DISTRIBUTION SYSTEMS PRIOR TO COMMISSIONING.

BALANCE AIR DISTRIBUTION SYSTEMS SUCH THAT AIR FLOWS AT ALL POINTS IN THE SYSTEM ARE WITHIN –0% AND +10% OF THE SPECIFIED FLOW RATES. ADJUST AIR FLOWS SUCH THAT PRESSURE DROPS THROUGH DAMPERS, AT OR NEAR DIFFUSION EQUIPMENT, IS THE MINIMUM POSSIBLE AND THE MINIMUM POSSIBLE FAN SPEED IS USED BY THE MINIMUM USE OF DAMPERS IN THE HIGHEST RESISTANCE RUN OF THE DUCTING.

ADJUST SUPPLY AIR OUTLETS TO ENSURE DIRECTION AND THROW OF AIR IS ADEQUATE FOR THE APPLICATION, FREE FROM DRAUGHTS AND UNIFORM OVER THE FACE.

CARRY OUT ALL COMMISSIONING AND TESTING NECESSARY TO ENSURE THE SYSTEM OPERATES IN A STABLE, SAFE, AUTOMATIC AND INTEGRATED MANNER PROVIDING OPTIMUM EFFICIENCY UNDER ALL LOAD CONDITIONS.

PROVIDE AS INSTALLED DRAWINGS UPON COMPLETION OF THE INSTALLATION.

PREPARE THREE (3) COPIES OF AN INSTALLATION MANUAL, CONTAINING A DESCRIPTION OF THE SYSTEM, SCHEDULES AND MANUFACTURERS INFORMATION FOR ALL EQUIPMENT, MAINTENANCE AND OPERATING INSTRUCTIONS, PERFORMANCE TEST RESULTS AND AS INSTALLED DRAWINGS.

KITCHEN EXHAUST SYSTEMS

1. LIGHTING AND WIRING WITHIN EXHAUST HOODS TO A SURFACE MOUNTED JUNCTION BOX TO BE SUPPLIED BY HOOD MANUFACTURER
2. INSTALL ACCESS PANELS IN EXHAUST DUCT EVERY 3M OR AT CHANGE OF DIRECTION.
3. BUILDER TO INSTALL ACCESS PANELS IN KITCHEN CEILING AS REQUIRED
4. HOOD TO BE MANUFACTURED FROM 304 GRADE 1.2mm THICK STAINLESS STEEL (POLISHED.
5. EXHAUST DUCTWORK TO BE GALVANISED STEEL TO AUSTRALIAN STANDARDS
6. HOOD AND DUCTWORK DIMENSIONS ARE TO BE CHECKED FOR SITE SUITABILITY BEFORE MANUFACTURE TO ENSURE NO CLASHES.
7. MINIMUM RELIEF AIR TO BE 80% OF EXHAUST.
8. DUCT SEAMS AND FLANGES MUST BE OF A NEAT SOLDER SMOOTH FINISH.
9. ILLUMINATED CONTROL PANEL TO BE LOCATED ADJACENT TO HOOD IN A CLEARLY VISIBLE LOCATION. THE SWITCH IS NOT TO BE LOCATED UNDER THE LINE OF THE HOOD.
10. PROVIDE CLEAN OUT ACCESS PANELS AT 3M SPACING ON THE SIDE OF DUCTWORK AND AT CHANGE OF DIRECTION IN DUCTWORK.
11. HOODS AND DUCTS TO COMPLY WITH AS1668.2 AND LOCAL AUTHORITY REGULATIONS.
12. CONFIRM COOKING EQUIPMENT DIMENSIONS PRIOR TO CONSTRUCTION TO ENSURE CORRECT OVERHANGS CAN BE ACHIEVED.

DRAWING SCHEDULE	
M101	AIR CONDITIONING AND KITCHEN EXHAUST LAYOUT AND SPECIFICATION
M102	KITCHEN EXHAUST HOOD DESIGN
M200	KITCHEN EXHAUST HOOD DESIGN

DISTECH CONTROLS™

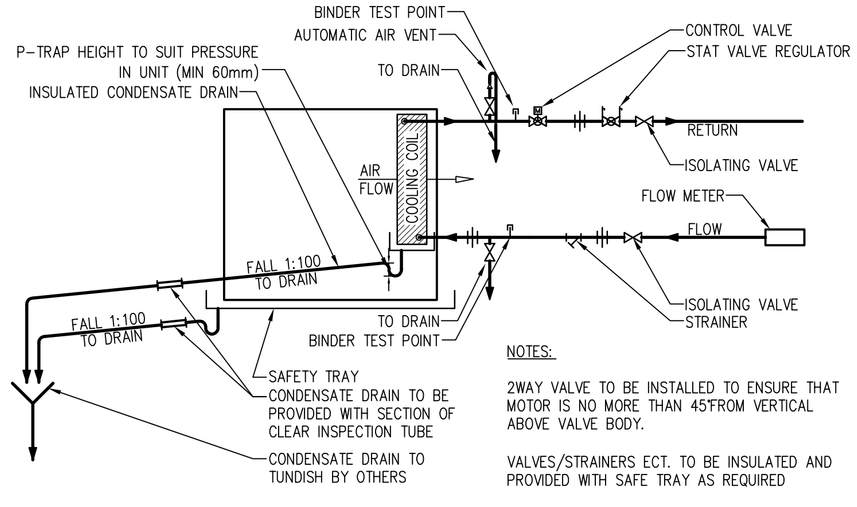
Project Name: 7343 - Sunshine Coast University Hospital
Controller Name: FCU
Controller Description: FCU Chilled water with OA Damper
Model Number: ECB-350

controlworks

Project Number: 7343
Units: Metric
MAC Address: 4

Point Index	Point Name	Display Name	Description	Point Type AI	DI	AO	DO	Signal Type	Part Number	Detail	Rev	Comments
				3	2	1	2					
UI1	Space Temp		Wall Mounted Temp Detector	X				10K Type II	PDITE-SENSOR00	EAS-7030 2Pair		
UI2	SA Temp		Duct Mounted Temp Detector	X				10K Type II	PDISR-TE200BE2402	EAS-7030 1Pair		
UI3	SA Fan Status		Current Switch		X			Digital	CCS-121050	EAS-7030 1Pair		
UI4	Dirty Filter Status		Air Pressure DP Switch		X			Digital	930.80222252	EAS-7030 1Pair		
UI5												
UI6												
UI7												
UI8												
UI9												
UI10												
UO1	SAF Request		Relay				X	Digital	IO-RM-1	EAS-7030 1Pair		
UO2	Chilled Water Valve		Chilled Water Valve			X		0-10V	0-10VDC Output	EAS-7030 2Pair		
UO3	Run Status to DDC		Relay				X	Digital	IO-RM-1	EAS-7030 1Pair		
UO4												
UO5												
UO6												
UO7												
UO8												

TYPICAL POINTS LIST
PER TENANCY WITH CHILLED WATER



NOTES:

2WAY VALVE TO BE INSTALLED TO ENSURE THAT MOTOR IS NO MORE THAN 45°FROM VERTICAL ABOVE VALVE BODY.

VALVES/STRAINERS ECT. TO BE INSULATED AND PROVIDED WITH SAFE TRAY AS REQUIRED

TYPICAL FCU PIPEWORK DETAIL (2 WAY VALVE)

N.T.S

FCU Control
Status and Flow signal to BMS by others

Item code	Description	Quantity
PDITE-SENSOROX0	Space temperature sensor with override and communication jack	1
PDITE-SMRTVUE-01	Communicating room temperature sensor with backlit display and graphical menus.	1
CDIB-350X-00	BACnet advance application programmable controller with LCD Display for small and medium sized air handling unit and small plant applications with 10 UI and 8 UO.	1
VVG44.20-6.3	Valve, 2-Way, External Thread, PN16, DN20, Kvs 6.3	1
SSB61	Valve Actuator (Siemens)	1
TS-DPR008	Duct 200mm (8") c/w mounting bracket c/w 10' FT6 plenum cable, with a round ABS box, gasketed cover.	1
GDB131.1E	Damper Actuator, Rotary, 5Nm, AC 24V, 3-Pos, NSR	1
PMat	UH50G23PAU06-F-0C-M000-TA2 DN20 24VAC	1
PMat	WZM-E1 Screw Fitting PAir	1
CCS-131100	Current Switch, Solid Core, Adjustable set point min 1A, Red/Green LED	1
930.80222524	Air Pressure Switch, 20-200 Pa c/w tubing & probes	1

TYPICAL FCU CONTROLS SCHEDULE
PER TENANCY WITH CHILLED WATER

FOR APPROVAL	
DATE	
NAME	
COMPANY	
SIGNATURE	
EQUIPMENT SELECTION CORRECT	

HOOD SIZES BASED ON EQUIPMENT DETAILS PROVIDED BY THE DESIGNER / CLIENT

PRELIMINARY

REV.	DATE	DESCRIPTION	DRN	CH'KD
A	20/09/16	PRELIMINARY ISSUE	DW	RR

ARCHITECT

unita+ GROUP

CONSULTANTS

BCA CONSULTANTS
CONSULTING ENGINEERS : MECHANICAL ELECTRICAL FIRE LIFTS HYDRAULICS
LEVEL 1, 20 CAMBRIDGE ST, (PO BOX 288)
COORPAROO QUEENSLAND 4151
Tel: (617)3240 3200 Fax: (617)3240 3299
Email : bca@bcaconsultants.com.au
ACN No. 070 353 249

PROJECT

SCUH RETAIL TENANCIES

DRAWING

MECHANICAL SERVICES

RETAIL TENANCIES SPECIFICATION AND SCHEDULES

NORTH POINT	CHECKED RR	DRG SCALE NTS
	DESIGNED DW	SHEET SIZE A1
	DRAWN DW	No IN SET 3 of 3
PROJECT No. 7343	DATE 02/09/2016	FILE NAME 7343–M200.dwg
JOB No. 7343	DRAWING No. M200	REV. A