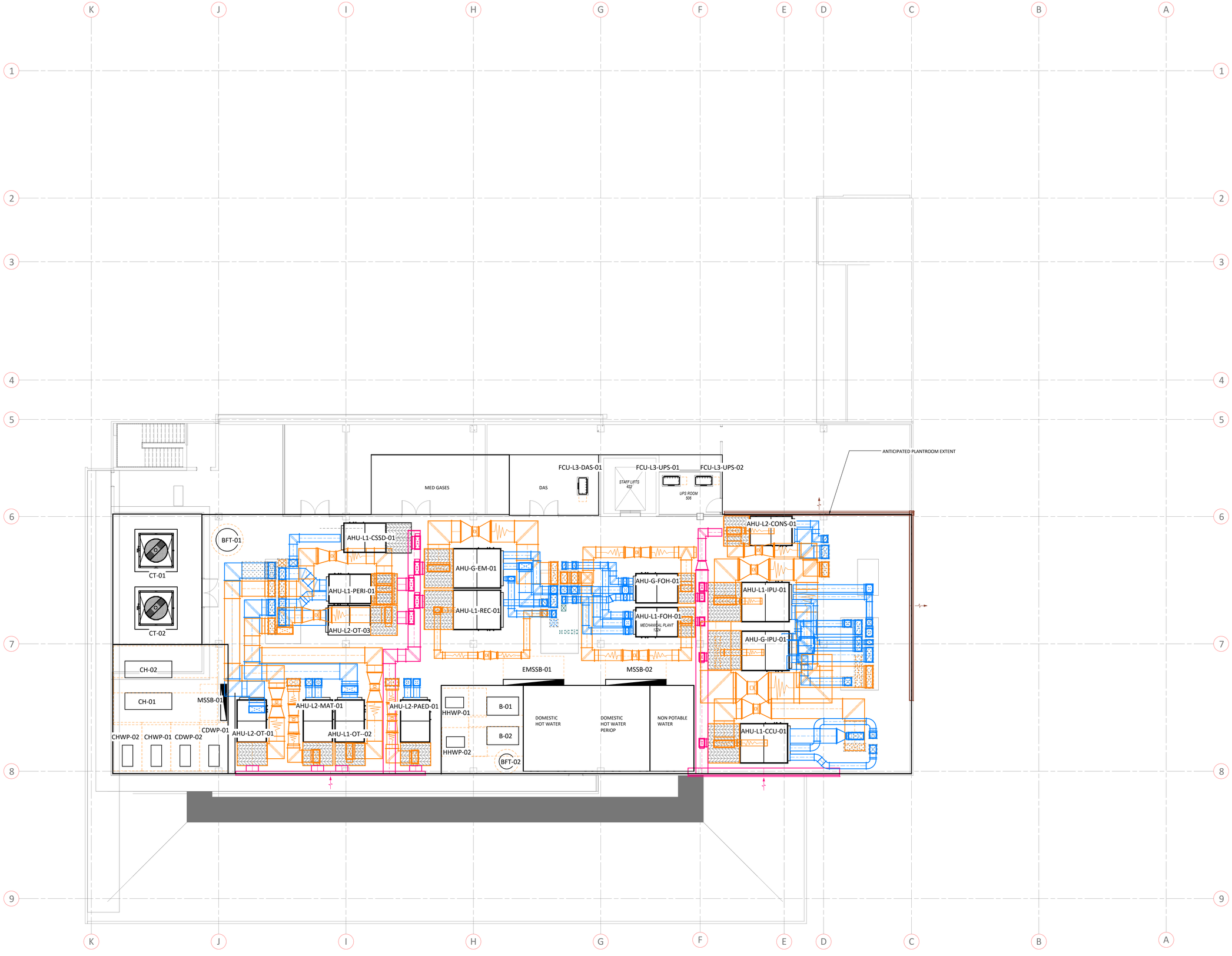


REV	DESCRIPTION	DRAWN	APP'D	DATE
G	SCHEMATIC DESIGN ISSUE	AKAS	KPR	22.12.17
F	FOR REVIEW	COM	KPR	18.12.17
E	FOR REVIEW	AKAS	KPR	08.12.17
D	PRELIMINARY ISSUE	AKAS	KPR	01.12.17
C	FOR INFORMATION	PTH	KPR	16.11.17
B	FOR INFORMATION	PTH	KPR	15.11.17
A	FOR INFORMATION	PTH	KPR	14.11.17

NSW GOVERNMENT Health Infrastructure

CLIENT

MSJ

ARCHITECT

BOWRAL & DISTRICT HOSPITAL REDEVELOPMENT
97-103 BOWRAL ST., BOWRAL NSW 2576

PROJECT

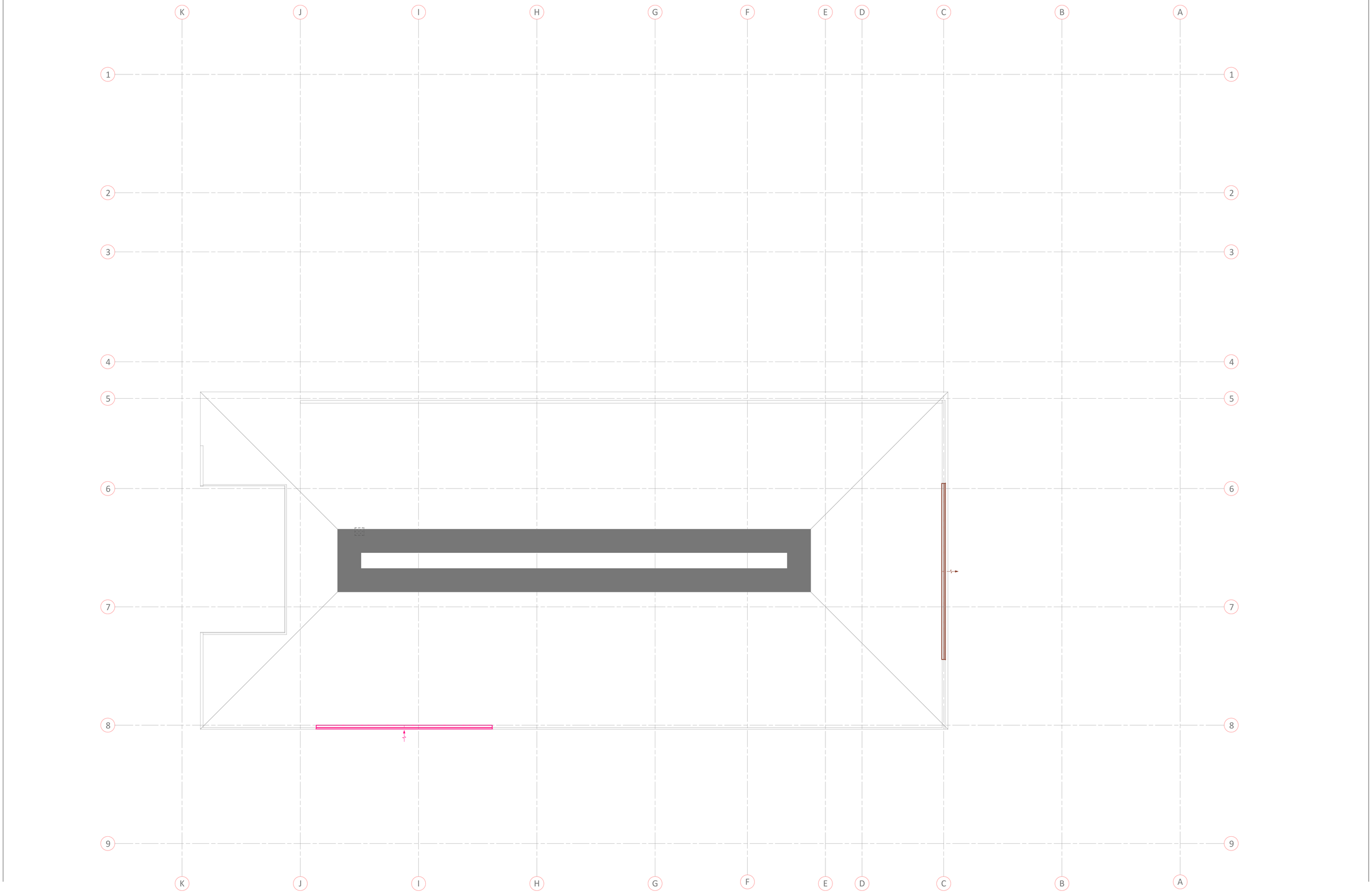
THIRD FLOOR DUCTWORK LAYOUT

TITLE

WOOD & GRIEVE ENGINEERS

PRELIMINARY
NOT FOR CONSTRUCTION
MECHANICAL SERVICES

SCALE @ B1	PROJECT No	DRAWING No	REV
1 : 100	29586	13044-WGE-ME-DWG-MW2004	G



REV	DESCRIPTION	DRAWN	APP'D	DATE
C	SCHEMATIC DESIGN ISSUE	AKAS	KPR	22.12.17
B	FOR REVIEW	AKAS	KPR	08.12.17
A	FOR INFORMATION	PTH	KPR	14.11.17

CLIENT: NSW GOVERNMENT Health Infrastructure

ARCHITECT: MSJ

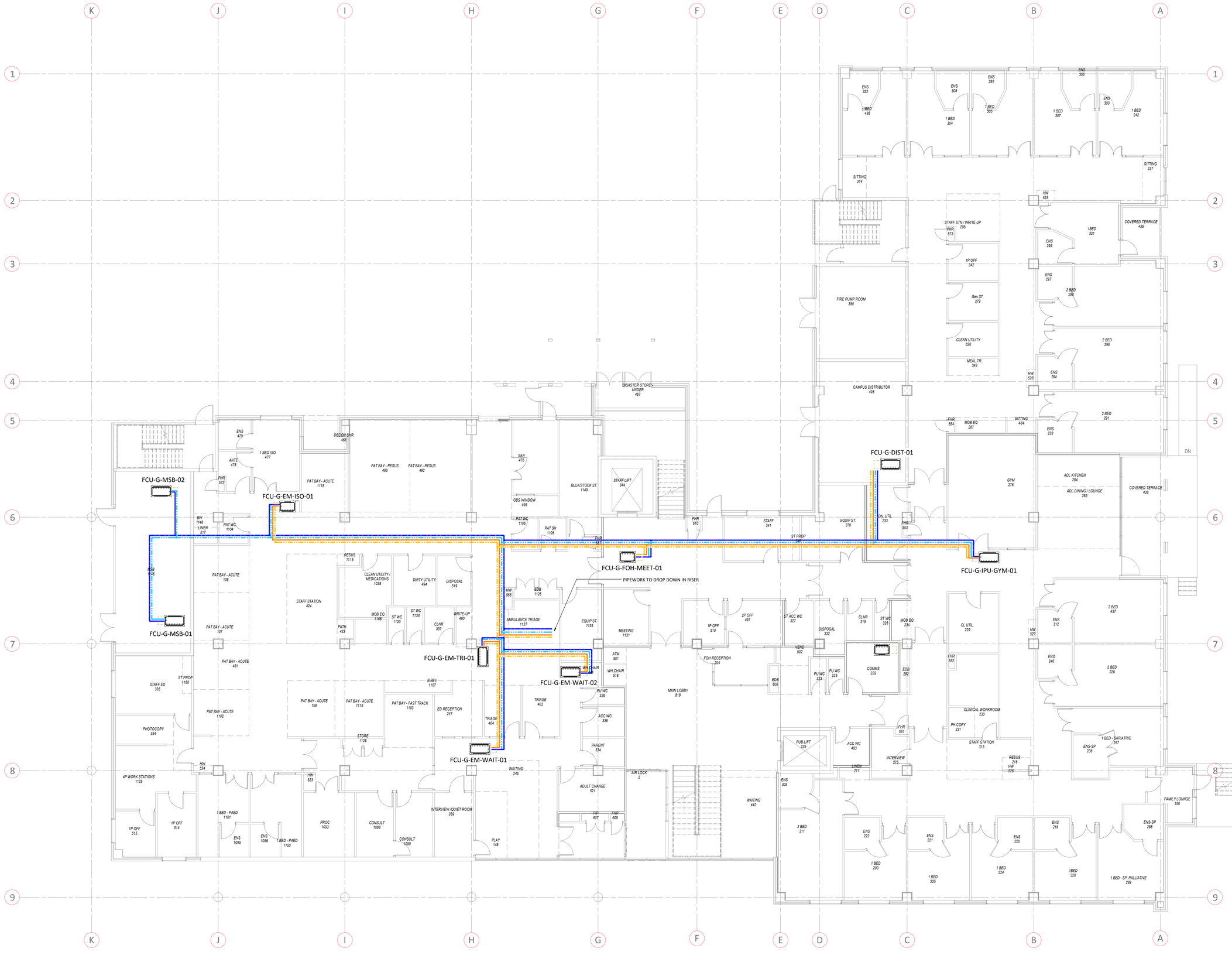
PROJECT: BOWRAL & DISTRICT HOSPITAL REDEVELOPMENT
97-103 BOWRAL ST., BOWRAL NSW 2576

TITLE: ROOF PLAN DUCTWORK LAYOUT

WOOD & GRIEVE ENGINEERS

PRELIMINARY
NOT FOR CONSTRUCTION
MECHANICAL SERVICES

SCALE @ B1	PROJECT No	DRAWING No	REV
1 : 100	29586	13044-WGE-ME-DWG-MW2005	C



REV	DESCRIPTION	DRAWN	APP'D	DATE
B	SCHEMATIC DESIGN ISSUE	AKAS	KPR	22.12.17
A	FOR REVIEW	AKAS	KPR	08.12.17

NSW GOVERNMENT Health Infrastructure — CLIENT

MSJ — ARCHITECT

BOWRAL & DISTRICT HOSPITAL REDEVELOPMENT
97-103 BOWRAL ST., BOWRAL NSW 2576

PROJECT

GROUND FLOOR PIPEWORK LAYOUT

TITLE

WOOD & GRIEVE ENGINEERS

PRELIMINARY
NOT FOR CONSTRUCTION
MECHANICAL SERVICES

SCALE @ B1	PROJECT No	DRAWING No	REV
1 : 100	29586	13044-WGE-ME-DWG-MW3001	B



REV	DESCRIPTION	DRAWN	APP'D	DATE
B	SCHEMATIC DESIGN ISSUE	AKAS	KPR	22.12.17
A	FOR REVIEW	AKAS	KPR	08.12.17

CLIENT: NSW GOVERNMENT Health Infrastructure

ARCHITECT: MSJ

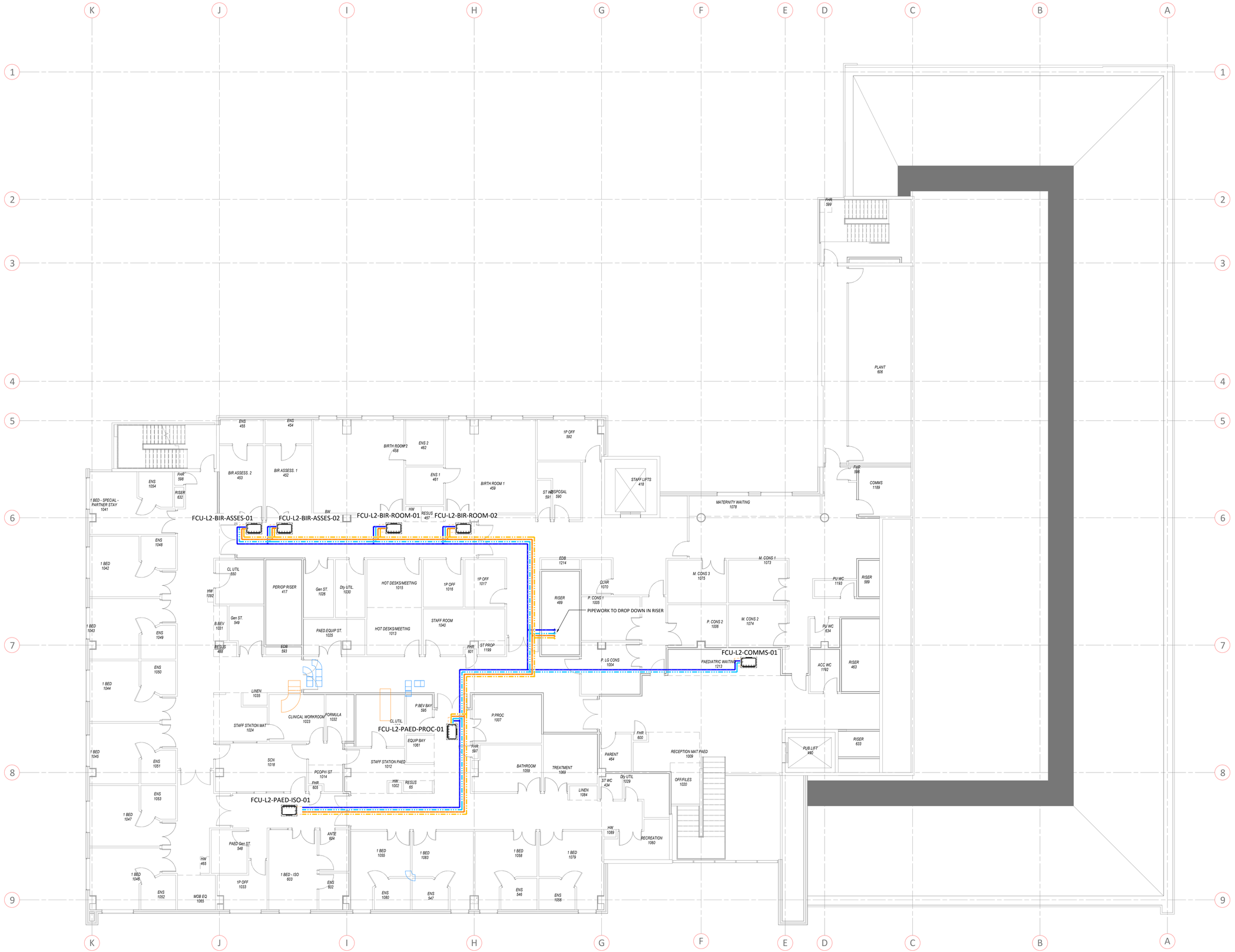
PROJECT: BOWRAL & DISTRICT HOSPITAL REDEVELOPMENT
97-103 BOWRAL ST., BOWRAL NSW
2576

TITLE: FIRST FLOOR PIPEWORK LAYOUT

WOOD & GRIEVE ENGINEERS

PRELIMINARY
NOT FOR CONSTRUCTION
MECHANICAL SERVICES

SCALE @ B1	PROJECT No	DRAWING No	REV
1 : 100	29586	13044-WGE-ME-DWG-MW3002	B



REV	DESCRIPTION	DRAWN	APP'D	DATE
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A	FOR REVIEW	AKAS	KPR	08.12.17

NSW GOVERNMENT Health Infrastructure — CLIENT

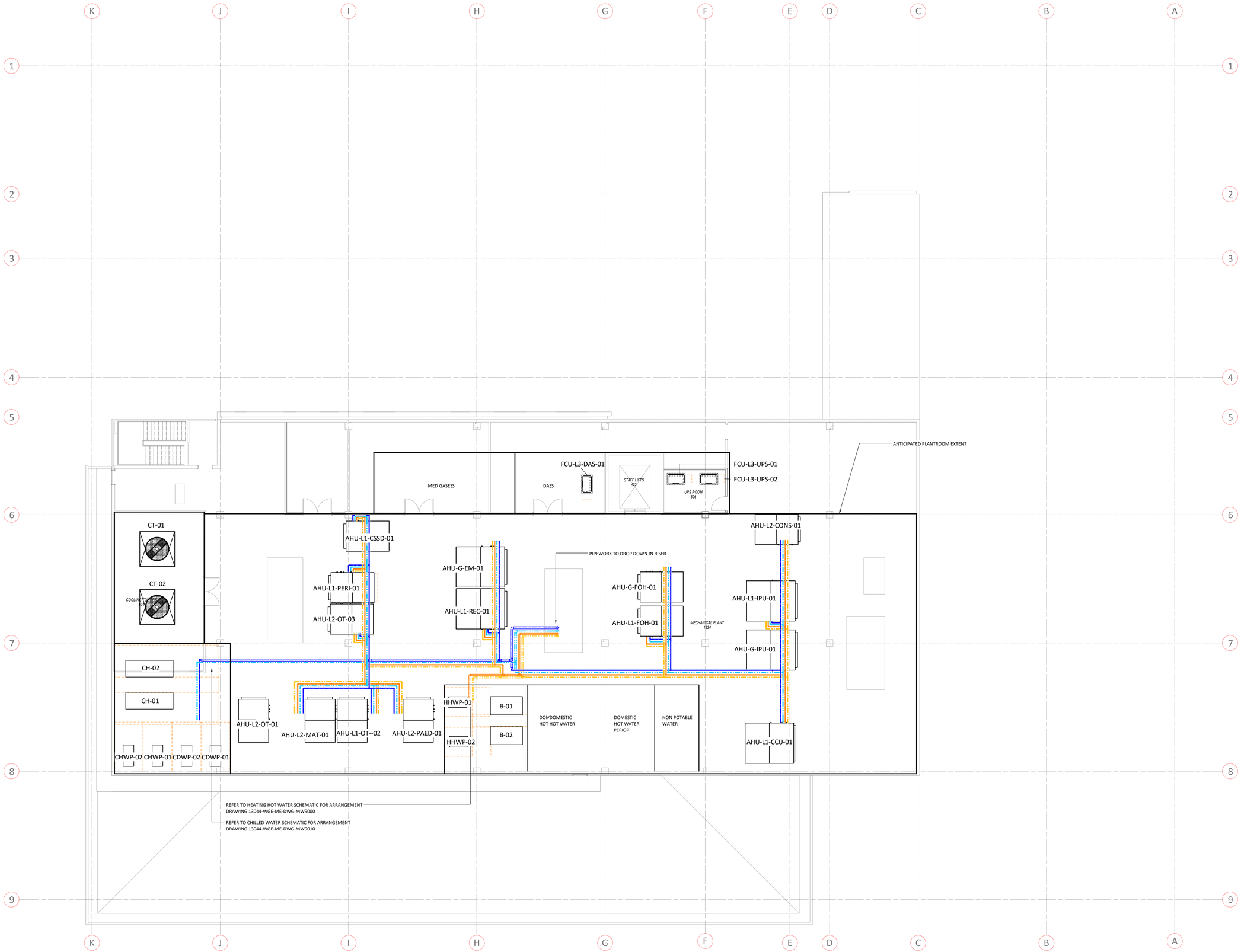
MSJ — ARCHITECT

PROJECT	TITLE
BOWRAL & DISTRICT HOSPITAL REDEVELOPMENT 97-103 BOWRAL ST., BOWRAL NSW 2576	SECOND FLOOR PIPEWORK LAYOUT

WOOD & GRIEVE ENGINEERS

PRELIMINARY
NOT FOR CONSTRUCTION
MECHANICAL SERVICES

SCALE @ B1	PROJECT No	DRAWING No	REV
1 : 100	29586	13044-WGE-ME-DWG-MW3003	B



REV	DESCRIPTION	DRAWN	APP'D	DATE
C	SCHEMATIC DESIGN ISSUE	AKAS	KPR	22.12.17
B	FOR REVIEW	COM	KPR	18.12.17
A	FOR REVIEW	AKAS	KPR	08.12.17

NSW GOVERNMENT Health Infrastructure
CLIENT

MSJ
ARCHITECT

BOWRAL & DISTRICT HOSPITAL REDEVELOPMENT
97-103 BOWRAL ST., BOWRAL NSW
2576
PROJECT

THIRD FLOOR PIPEWORK LAYOUT
TITLE

WOOD & GRIEVE ENGINEERS

PRELIMINARY
NOT FOR CONSTRUCTION
MECHANICAL SERVICES

1 : 100	29586	13044-WGE-ME-DWG-MW3004	C
SCALE @ B1	PROJECT No	DRAWING No	REV

VALVES SCHEMATIC

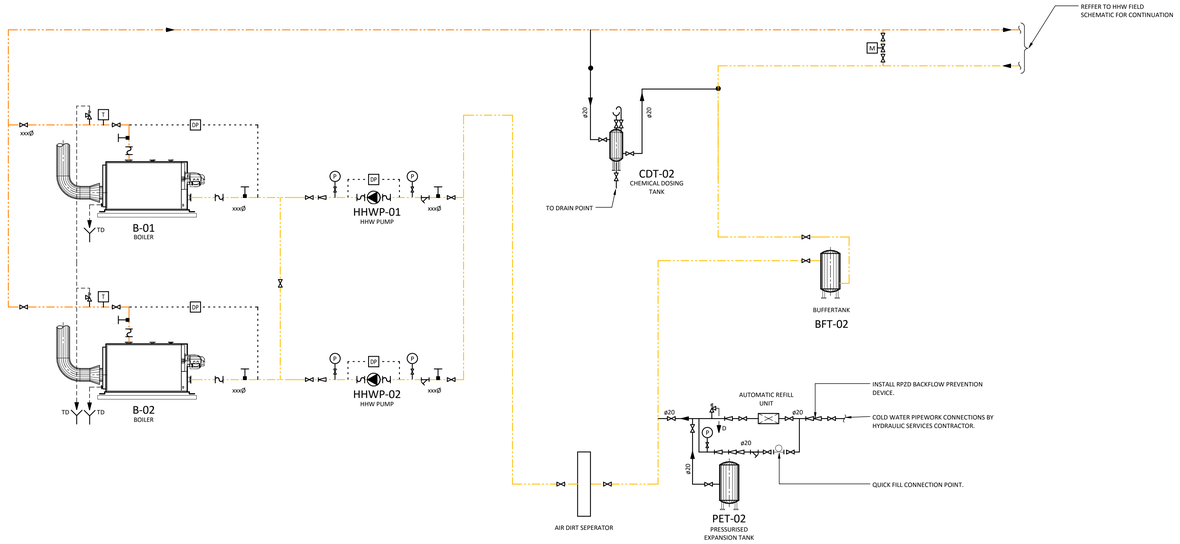
- BALL VALVE
- BALL FLOAT VALVE
- BLANKED VALVE
- BUTTERFLY VALVE
- CHECK VALVE
- CW — COLD WATER STOP VALVE
- D — DIAPHRAGM VALVE
- D — DIAPHRAGM VALVE
- D — DRAIN COCK VALVE
- FIRE CONTROL VALVE
- FIRE PRE ACTION VALVE
- GLOBE VALVE
- ISOLATION VALVE
- LOCKABLE ISOLATION VALVE
- M — MOTORISED VALVE
- M — MOTORISED VALVE - 3 WAY
- NC — NORMALLY CLOSED ISOLATION VALVE
- NO — NORMALLY OPENED ISOLATION VALVE
- PNEUMATIC VALVE
- PNEUMATIC VALVE 3-WAY
- PRESS RELIEF VALVE
- PRESS RELIEF VALVE 2-WAY
- PRESSURE REDUCING VALVE
- R — REFRIGERANT STOP VALVE
- STAT / BALANCING VALVE
- S — SOLENOID VALVE
- S — SOLENOID VALVE 3-WAY
- STRAINER
- TX VALVE

SENSORS/GAUGE SCHEMATIC

- DP — SENSOR DIFFERENTIAL PRESSURE BMS
- F — SENSOR FLOW BMS
- P — SENSOR PRESSURE BMS
- T — SENSOR TEMPERATURE BMS
- DP — GAUGE DIFFERENTIAL PRESSURE
- F — GAUGE FLOW
- P — GAUGE PRESSURE
- T — GAUGE TEMPERATURE
- FM — METER FLOW BMS
- FS — SWITCH FLOW BMS
- PS — SWITCH PRESSURE BMS
- AV — AUTOMATIC AIR VENT
- MV — MANUAL AIR VENT
- POCKET THERMOMETER
- POINT GAUGE
- TEST POINT BINDER

PIPEWORK SCHEMATIC

- HEATING HOT WATER PIPEWORK FLOW
- HEATING HOT WATER PIPEWORK RETURN
- ANTI VIBRATION CONNECTION
- B — BLANK FLANGE CONNECTION
- EXPANSION JOINT
- FLEXIBLE CONNECTION
- LINT STRAINER
- PIPE ANCHOR
- PIPEWORK BREAK
- PIPEWORK FLOW DIRECTION
- PRESSURE REDUCING STATION
- PUMP
- ORIFICE PLATE
- SIGHT GLASS
- STEAM TRAP
- STEAM TRAP SENSOR CHAMBER
- TD — TUNDISH



REV	DESCRIPTION	DRAWN	APP'D	DATE
C	SCHEMATIC DESIGN ISSUE	AKAS	KPR	22.12.17
B	FOR REVIEW	AKAS	KPR	08.12.17
A	PRELIMINARY ISSUE	AKAS	KPR	01.12.17

NSW GOVERNMENT Health Infrastructure — CLIENT

MSJ — ARCHITECT

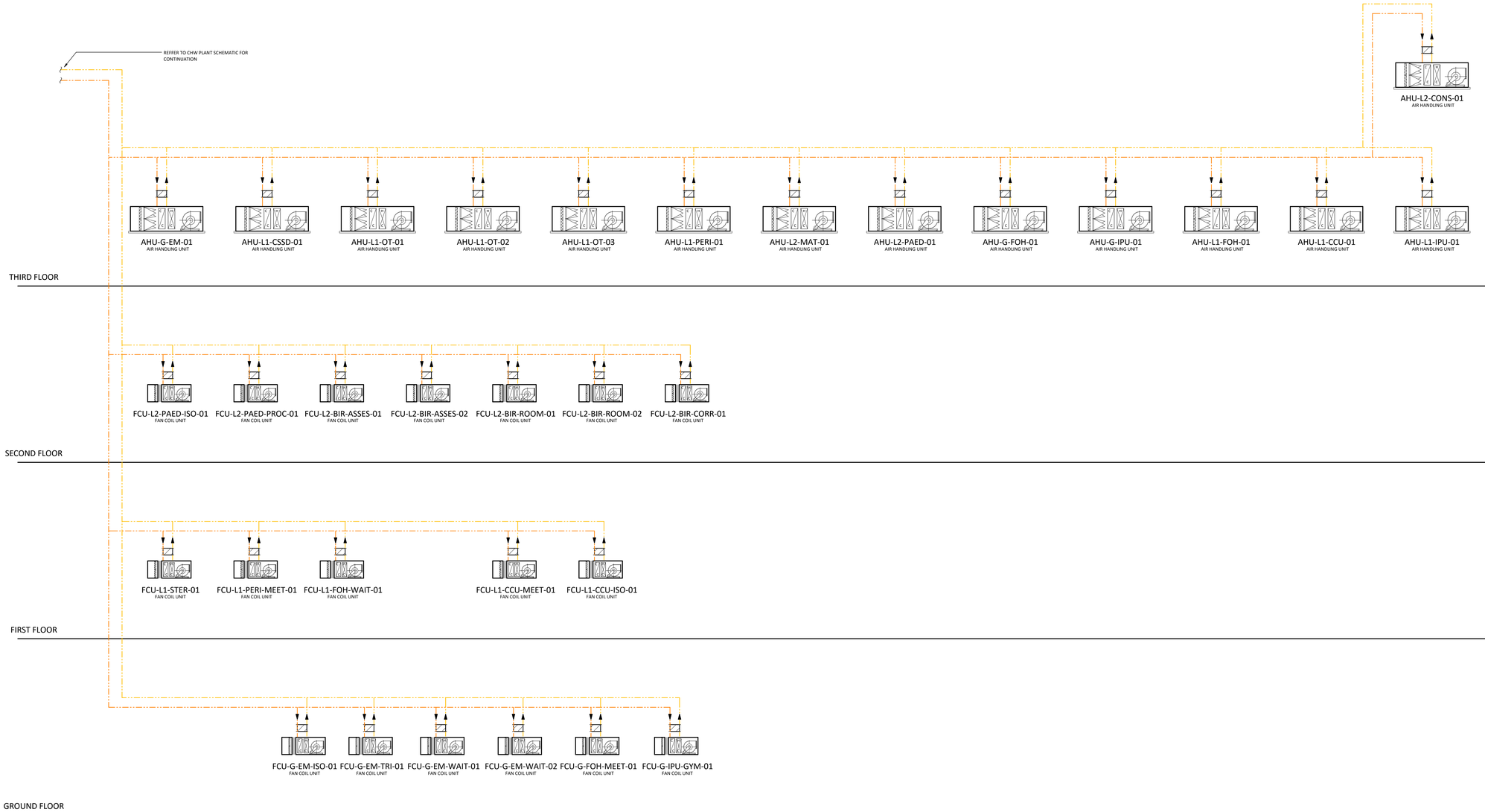
BOWRAL & DISTRICT HOSPITAL REDEVELOPMENT
97-103 BOWRAL ST., BOWRAL NSW 2576 — PROJECT

HEATING HOT WATER PLANT SCHEMATIC — TITLE

WOOD & GRIEVE ENGINEERS

PRELIMINARY
NOT FOR CONSTRUCTION
MECHANICAL SERVICES

SCALE @ B1	PROJECT No	DRAWING No	REV
1 : 100	29586	13044-WGE-ME-DWG-MW9000	C



REV	DESCRIPTION	DRAWN	APP'D	DATE
C	SCHEMATIC DESIGN ISSUE	AKAS	KPR	22.12.17
B	FOR REVIEW	AKAS	KPR	08.12.17
A	PRELIMINARY ISSUE	AKAS	KPR	01.12.17

CLIENT: NSW GOVERNMENT Health Infrastructure

ARCHITECT: MSJ

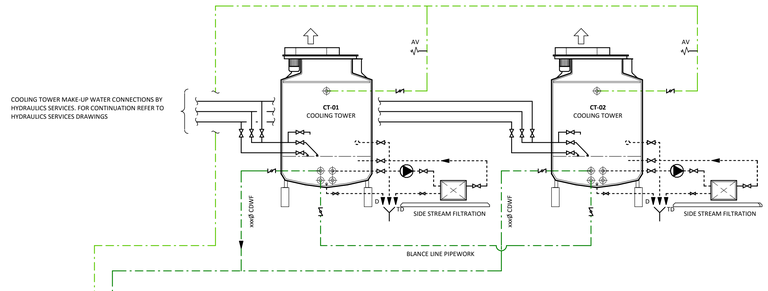
PROJECT: BOWRAL & DISTRICT HOSPITAL REDEVELOPMENT
97-103 BOWRAL ST., BOWRAL NSW 2576

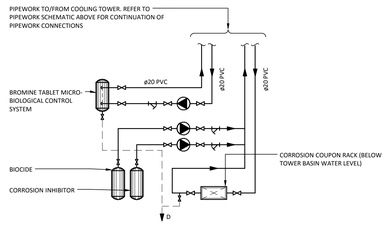
TITLE: HEATING HOT WATER FIELD SCHEMATIC

WOOD & GRIEVE ENGINEERS

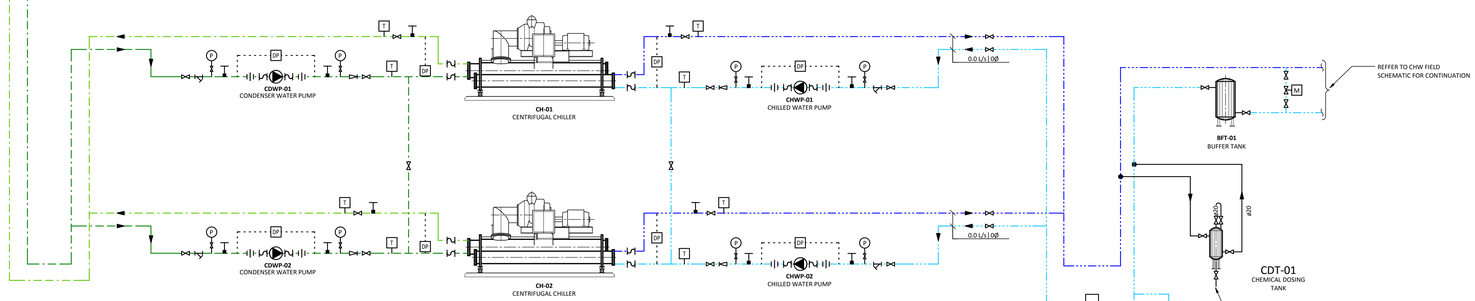
PRELIMINARY
NOT FOR CONSTRUCTION
MECHANICAL SERVICES

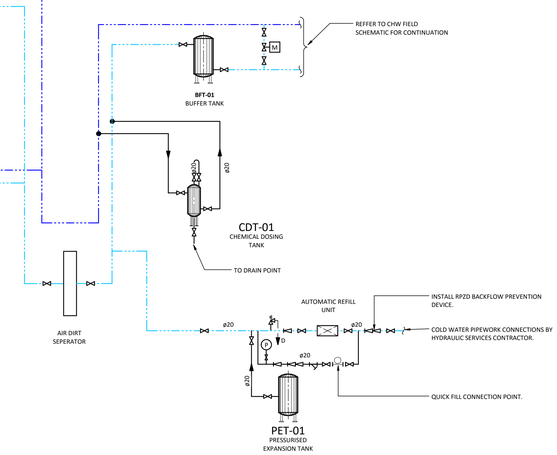
SCALE @ B1	PROJECT No	DRAWING No	REV
1 : 100	29586	13044-WGE-ME-DWG-MW9001	C





TYPICAL COOLING TOWER MICRO-BIOLOGICAL AND CORROSION INHIBITOR SCHEMATIC





REV	DESCRIPTION	DRAWN	APP'D	DATE
C	SCHEMATIC DESIGN ISSUE	AKAS	KPR	22.12.17
B	FOR REVIEW	AKAS	KPR	08.12.17
A	PRELIMINARY ISSUE	AKAS	KPR	01.12.17

NSW GOVERNMENT Health Infrastructure

CLIENT

MSJ

ARCHITECT

BOWRAL & DISTRICT HOSPITAL REDEVELOPMENT
97-103 BOWRAL ST., BOWRAL NSW 2576

PROJECT

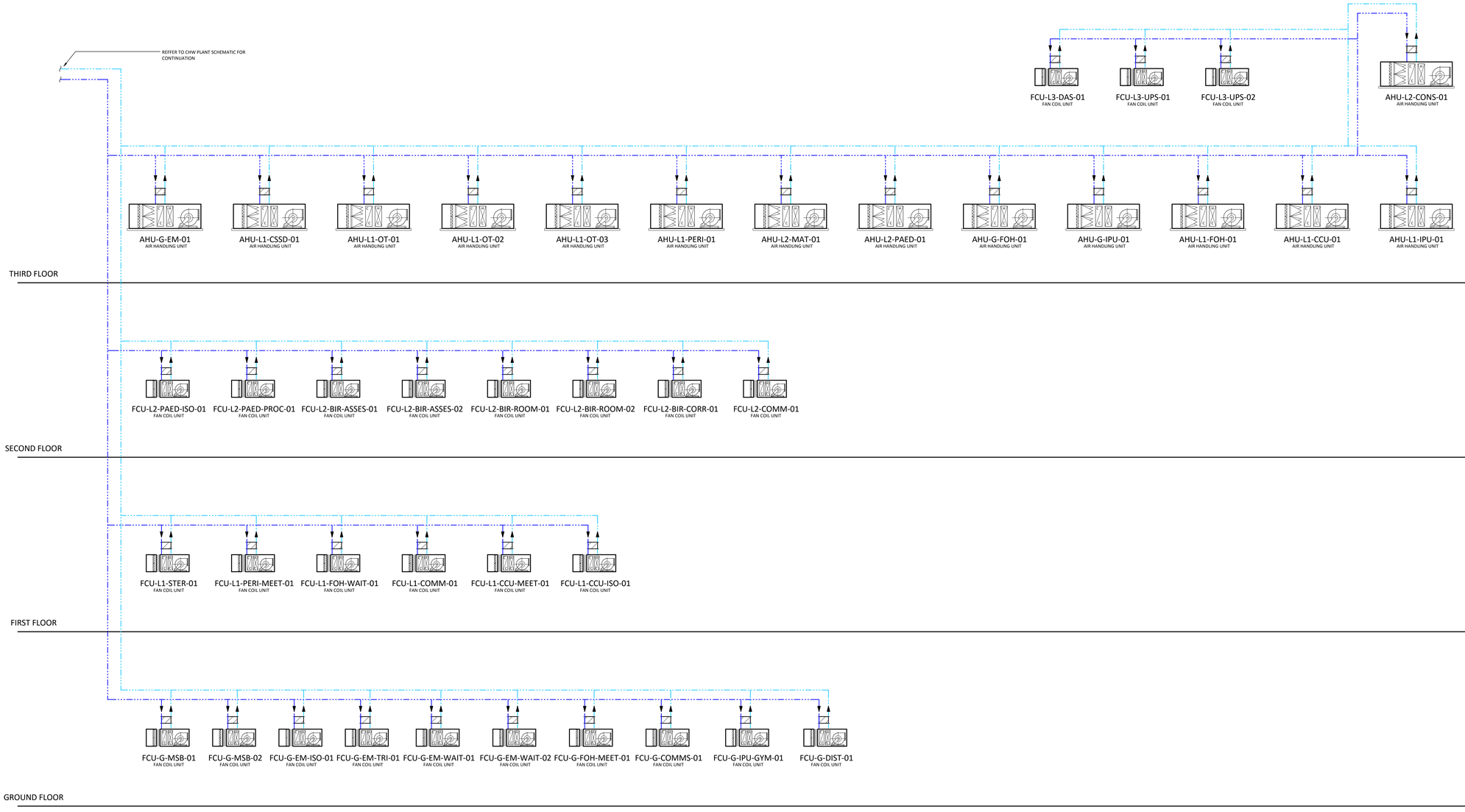
CHILLED WATER SCHEMATIC PLANT

TITLE

WOOD & GRIEVE ENGINEERS

PRELIMINARY
NOT FOR CONSTRUCTION
MECHANICAL SERVICES

SCALE @ B1	PROJECT No	DRAWING No	REV
1 : 100	29586	13044-WGE-ME-DWG-MW9010	C



REV	DESCRIPTION	DRAWN	APP'D	DATE
C	SCHEMATIC DESIGN ISSUE	AKAS	KPR	22.12.17
B	FOR REVIEW	AKAS	KPR	08.12.17
A	PRELIMINARY ISSUE	AKAS	KPR	01.12.17

NSW GOVERNMENT Health Infrastructure — CLIENT

MSJ — ARCHITECT

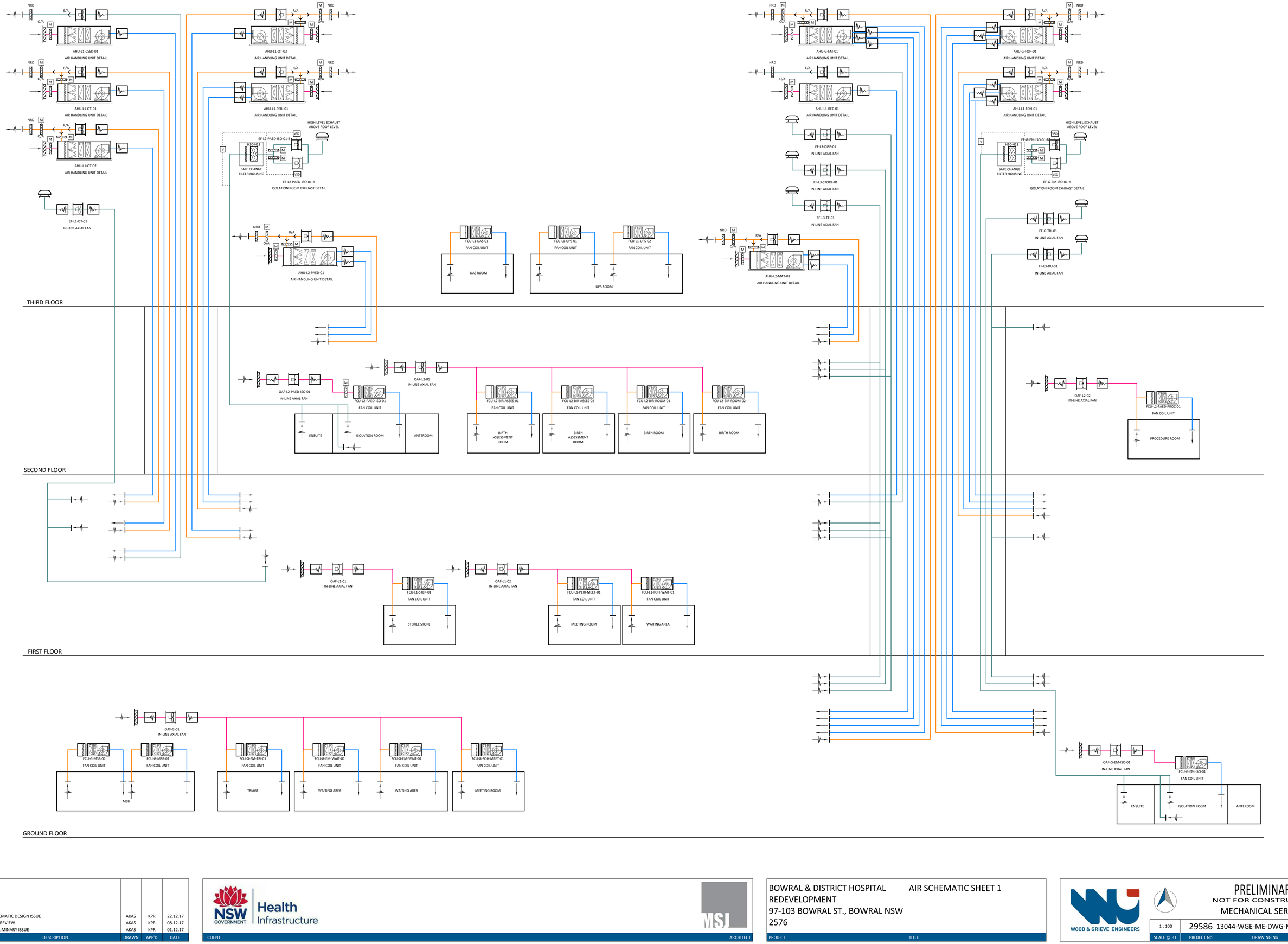
BOWRAL & DISTRICT HOSPITAL REDEVELOPMENT
97-103 BOWRAL ST., BOWRAL NSW 2576
PROJECT

CHILLED WATER SCHEMATIC FIELD
TITLE

WOOD & GRIEVE ENGINEERS

PRELIMINARY
NOT FOR CONSTRUCTION
MECHANICAL SERVICES

SCALE @ B1	PROJECT No	DRAWING No	REV
1 : 100	29586	13044-WGE-ME-DWG-MW9011	C



REV	DESCRIPTION	DRAWN	APP'D	DATE
C	SCHEMATIC DESIGN ISSUE	AKAS	KPR	22.12.17
B	FOR REVIEW	AKAS	KPR	08.12.17
A	PRELIMINARY ISSUE	AKAS	KPR	01.12.17

CLIENT: NSW GOVERNMENT Health Infrastructure

ARCHITECT: MSJ

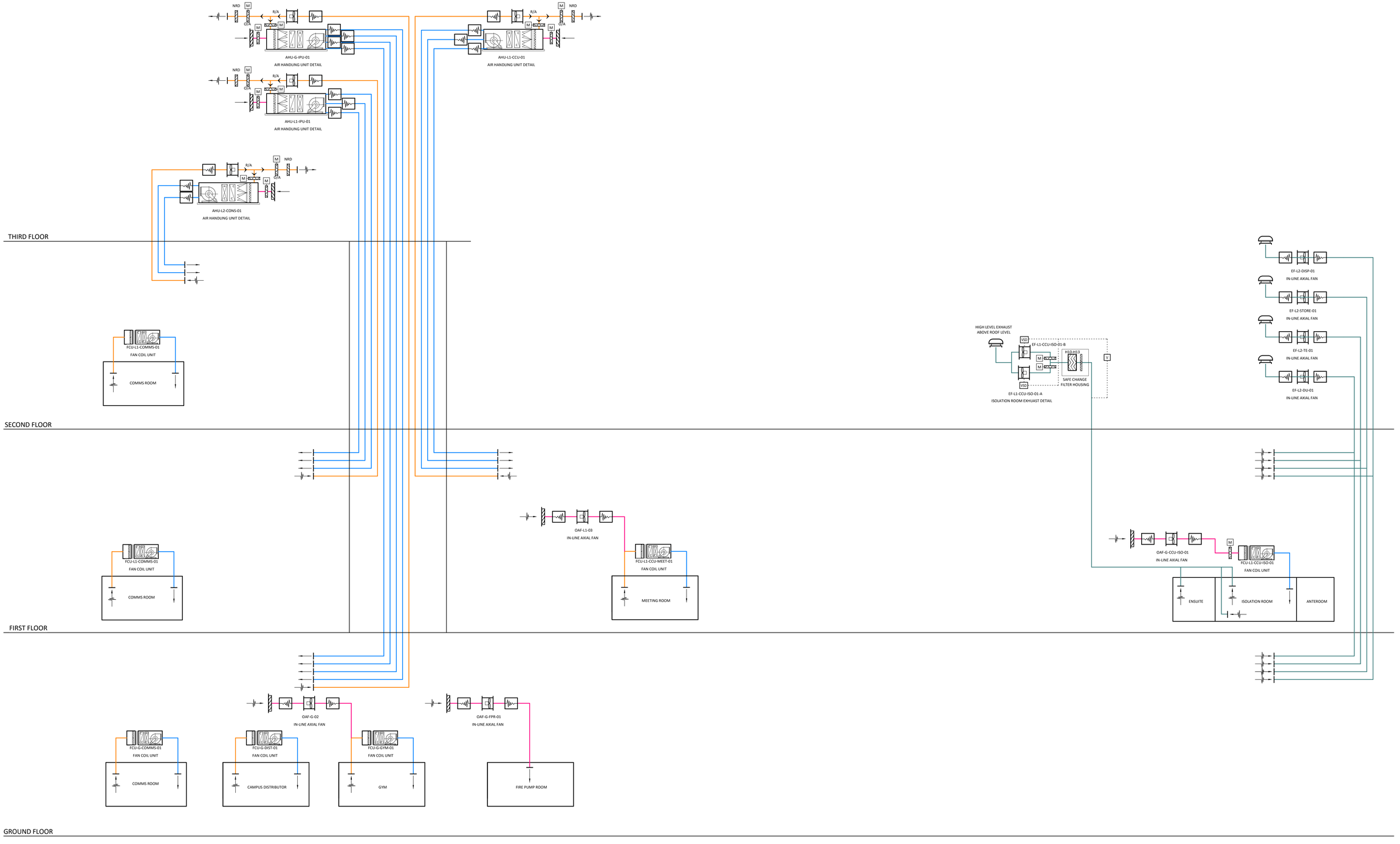
PROJECT: BOWRAL & DISTRICT HOSPITAL REDEVELOPMENT
97-103 BOWRAL ST., BOWRAL NSW
2576

TITLE: AIR SCHEMATIC SHEET 1

WOOD & GRIEVE ENGINEERS

PRELIMINARY
NOT FOR CONSTRUCTION
MECHANICAL SERVICES

SCALE @ B1	PROJECT No	DRAWING No	REV
1 : 100	29586	13044-WGE-ME-DWG-MW9020	C



REV	DESCRIPTION	DRAWN	APP'D	DATE
C	SCHEMATIC DESIGN ISSUE	AKAS	KPR	22.12.17
B	FOR REVIEW	AKAS	KPR	08.12.17
A	PRELIMINARY ISSUE	AKAS	KPR	01.12.17

CLIENT: NSW Government Health Infrastructure

ARCHITECT: MSJ

PROJECT: BOWRAL & DISTRICT HOSPITAL REDEVELOPMENT
97-103 BOWRAL ST., BOWRAL NSW
2576

TITLE: AIR SCHEMATIC SHEET 2

WOOD & GRIEVE ENGINEERS

PRELIMINARY
NOT FOR CONSTRUCTION
MECHANICAL SERVICES

SCALE @ B1	PROJECT No	DRAWING No	REV
1 : 100	29586	13044-WGE-ME-DWG-MW9021	C

FOR CONTINUATION SEE SITE WIDE MED GAS DRAWING MW4100

ENS 322
1BED 436
ENS 308
1 BED 304
ENS 292
1 BED 305
ENS 306
1 BED 307
ENS 303
1 BED 342
SITTING 237
SITTING 314
HW 525
STAFF STN / WRITE UP 286
FHR 573
1BED 321
COVERED TERRACE 439
ENS 299
1P OFF 342
ENS 297
2 BED 298
FIRE PUMP ROOM 350
Gen ST. 279
CLEAN UTILITY 626
2 BED 296
MEAL TR. 343
CAMPUS DISTRIBUTOR 498
HW 526
ENS 294
2BED 291
FHR 554
MOB EQ 287
SITTING 484
ENS 228
DN
GYM 276
ADL KITCHEN 284
ADL DINING / LOUNGE 283
COVERED TERRACE 438
DISASTER STORE - UNDER 467
ENS 479
1 BED ISO 477
DECOM SHR 468
ANTE 478
FHR 372
PAT BAY - ACUTE 1118
HW 1167
PAT BAY - RESUS 493
PAT BAY - RESUS 492
SAR 476
OBS WINDOW 495
BULK STOCK ST. 449
STAFF LIFT 344
BW 1148
LINEN 517
PAT WC 1104
PAT WC 1106
PAT SH 1105
FHR 610
FHR 597
STAFF 341
ST PROP 340
EQUIP ST. 378
Dty. UTIL 233
FHR 553
MSB 1146
RESUS 1115
CLEAN UTILITY / MEDICATIONS 1028
DIRTY UTILITY 494
DISPOSAL 519
STAFF STATION 424
MOB EQ 1168
ST WC 1120
ST WC 1138
CLNR 337
WRITE-UP 480
PATH 423
PAT BAY - ACUTE 108
PAT BAY - ACUTE 107
PAT BAY - ACUTE 481
ST PROP 1160
STAFF ED 335
PAT BAY - ACUTE 1102
PHOTOCOPY 354
HW 524
4P WORK STATIONS 1125
1P OFF 515
1P OFF 514
1 BED - PAED 1101
ENS 1095
ENS 1096
1 BED - PAED 1100
PROC 1093
CONSULT 1098
CONSULT 1099
HW 523
INTERVIEW / QUIET ROOM 339
PLAY 148
HW 585
EDB 1126
AMBULANCE TRIAGE 1127
EQUIP ST. 1124
MEETING 1131
1P OFF 510
2P OFF 497
ST ACC WC 327
DISPOSAL 332
CLNR 215
ST WC 328
MOB EQ 234
VEND 502
FOH RECEPTION 204
ATM 501
WH CHAIR 441
WH CHAIR 518
B BEV 1107
PAT BAY - ACUTE 109
PAT BAY - ACUTE 1119
PAT BAY - FAST TRACK 1103
ED RECEPTION 247
STORE 1108
TRIAGE 403
TRIAGE 404
PU WC 326
ACC WC 336
PARENT 334
MAIN LOBBY 818
EDB 608
PU WC 323
PU WC 325
COMMS 329
EDB 292
WAITING 246
ADULT CHANGE 521
AIR LOCK 2
FP 607
FHR 609
PUB LIFT 239
ACC WC 483
LINEN 217
FHR 551
INTERVIEW 275
WAITING 442
ENS 309
2 BED 311
ENS 222
1 BED 290
CL UTIL 229
FHR 552
CLINICAL WORKROOM 230
PH COPY 231
STAFF STATION 313
RESUS 216
HW 526
1 BED - BARIATRIC 257
ENS-SP 238
HW 527
ENS 312
ENS 240
2 BED 437
2 BED 226
ENS 221
ENS 220
ENS 218
1 BED 224
1BED 320
ENS-SP 288
FAMILY LOUNGE 258
1 BED 225
1 BED - SP. PALLIATIVE 289

REV	DESCRIPTION	DRAWN	APP'D	DATE
B	SCHEMATIC DESIGN ISSUE	AKAS	KPR	22.12.17
A	FOR REVIEW	AKAS	KPR	08.12.17

NSW GOVERNMENT Health Infrastructure — CLIENT

MSJ — ARCHITECT

BOWRAL & DISTRICT HOSPITAL REDEVELOPMENT
97-103 BOWRAL ST., BOWRAL NSW 2576
PROJECT

GROUND FLOOR MEDICAL GAS LAYOUT
TITLE

WOOD & GRIEVE ENGINEERS

PRELIMINARY
NOT FOR CONSTRUCTION
MECHANICAL SERVICES

SCALE @ B1	PROJECT No	DRAWING No	REV
1 : 100	29586	13044-WGE-MG-DWG-MW4001	B



REV	DESCRIPTION			DATE
B	SCHEMATIC DESIGN ISSUE	AKAS	KPR	22.12.17
A	FOR REVIEW	AKAS	KPR	08.12.17

FIRST FLOOR - MEDICAL GAS

SCALE - 1 : 100

NSW GOVERNMENT Health Infrastructure

CLIENT

MSJ

ARCHITECT

BOWRAL & DISTRICT HOSPITAL REDEVELOPMENT
97-103 BOWRAL ST., BOWRAL NSW 2576

PROJECT

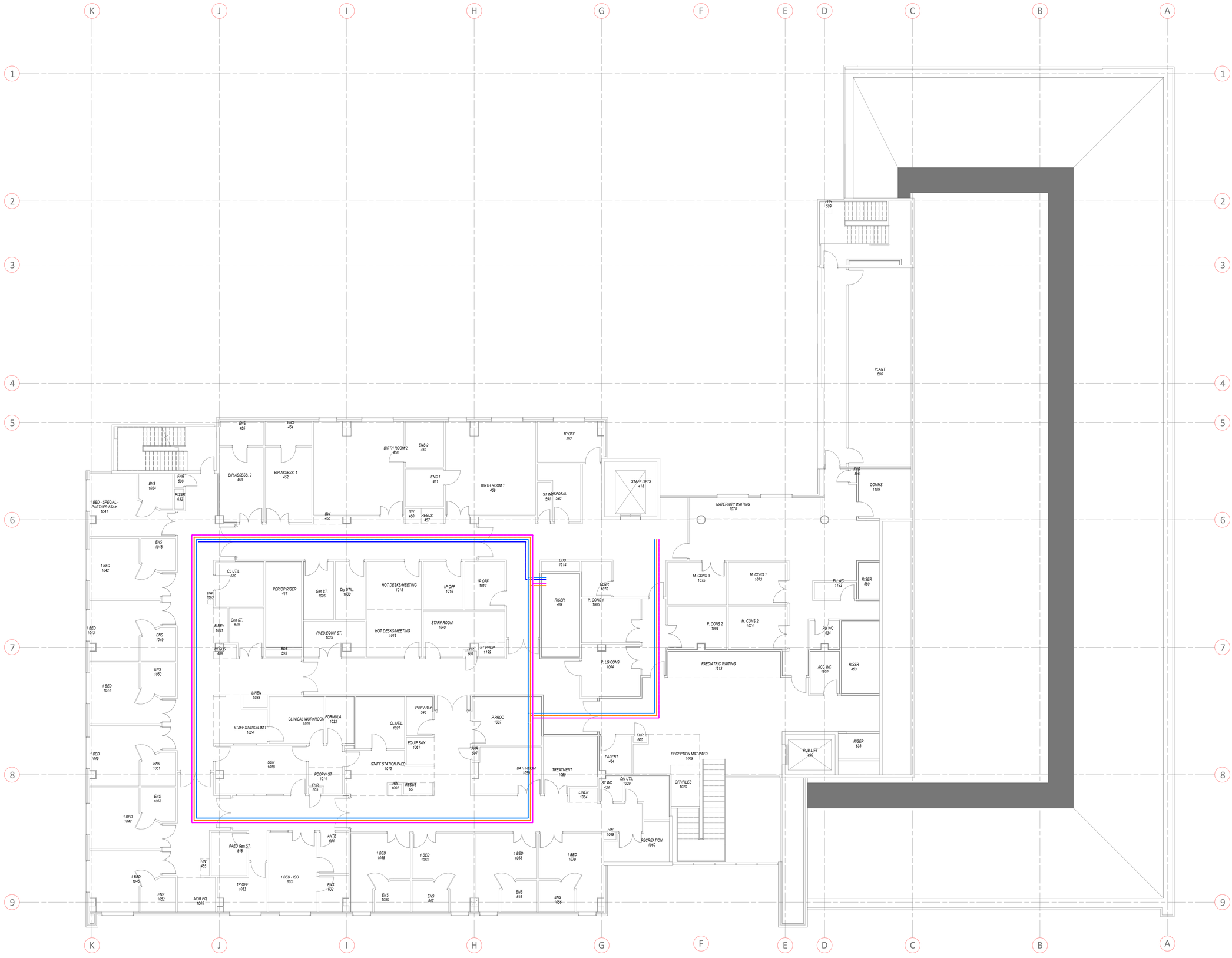
FIRST FLOOR MEDICAL GAS LAYOUT

TITLE

WOOD & GRIEVE ENGINEERS

PRELIMINARY
NOT FOR CONSTRUCTION
MECHANICAL SERVICES

1 : 100	29586 13044-WGE-MG-DWG-MW4002 B	
SCALE @ B1	PROJECT No	DRAWING No REV



REV	DESCRIPTION	DRAWN	APP'D	DATE
B	SCHEMATIC DESIGN ISSUE	AKAS	KPR	22.12.17
A	FOR REVIEW	AKAS	KPR	08.12.17

NSW GOVERNMENT Health Infrastructure

CLIENT

MSJ

ARCHITECT

BOWRAL & DISTRICT HOSPITAL REDEVELOPMENT
97-103 BOWRAL ST., BOWRAL NSW 2576

PROJECT

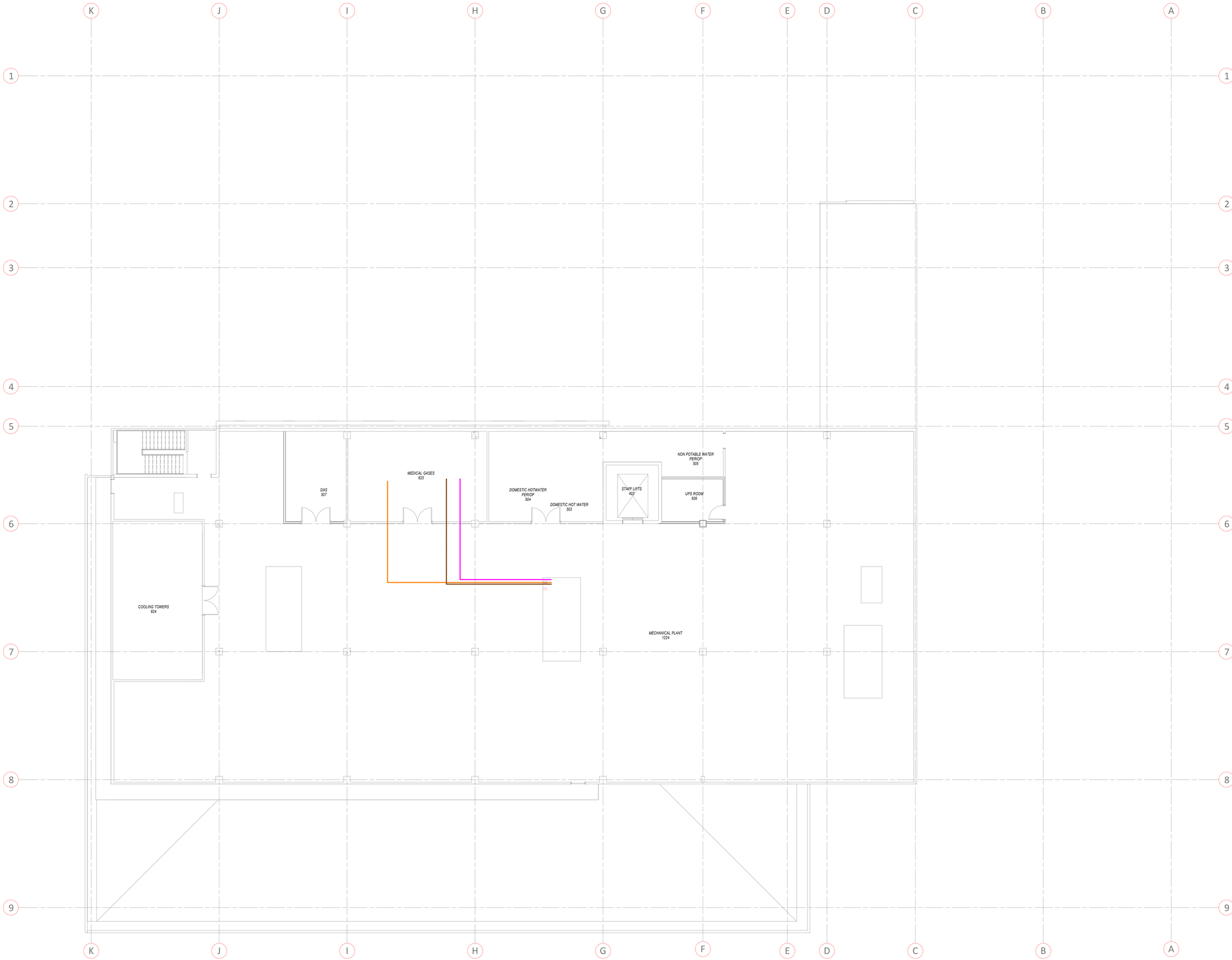
SECOND FLOOR MEDICAL GAS LAYOUT

TITLE

WOOD & GRIEVE ENGINEERS

PRELIMINARY
NOT FOR CONSTRUCTION
MECHANICAL SERVICES

SCALE @ B1	PROJECT No	DRAWING No	REV
1 : 100	29586	13044-WGE-MG-DWG-MW4003	B



REV	DESCRIPTION	DRAWN	APP'D	DATE
B	SCHEMATIC DESIGN ISSUE	AKAS	KPR	22.12.17
A	FOR REVIEW	AKAS	KPR	08.12.17

NSW GOVERNMENT Health Infrastructure — CLIENT

MSJ — ARCHITECT

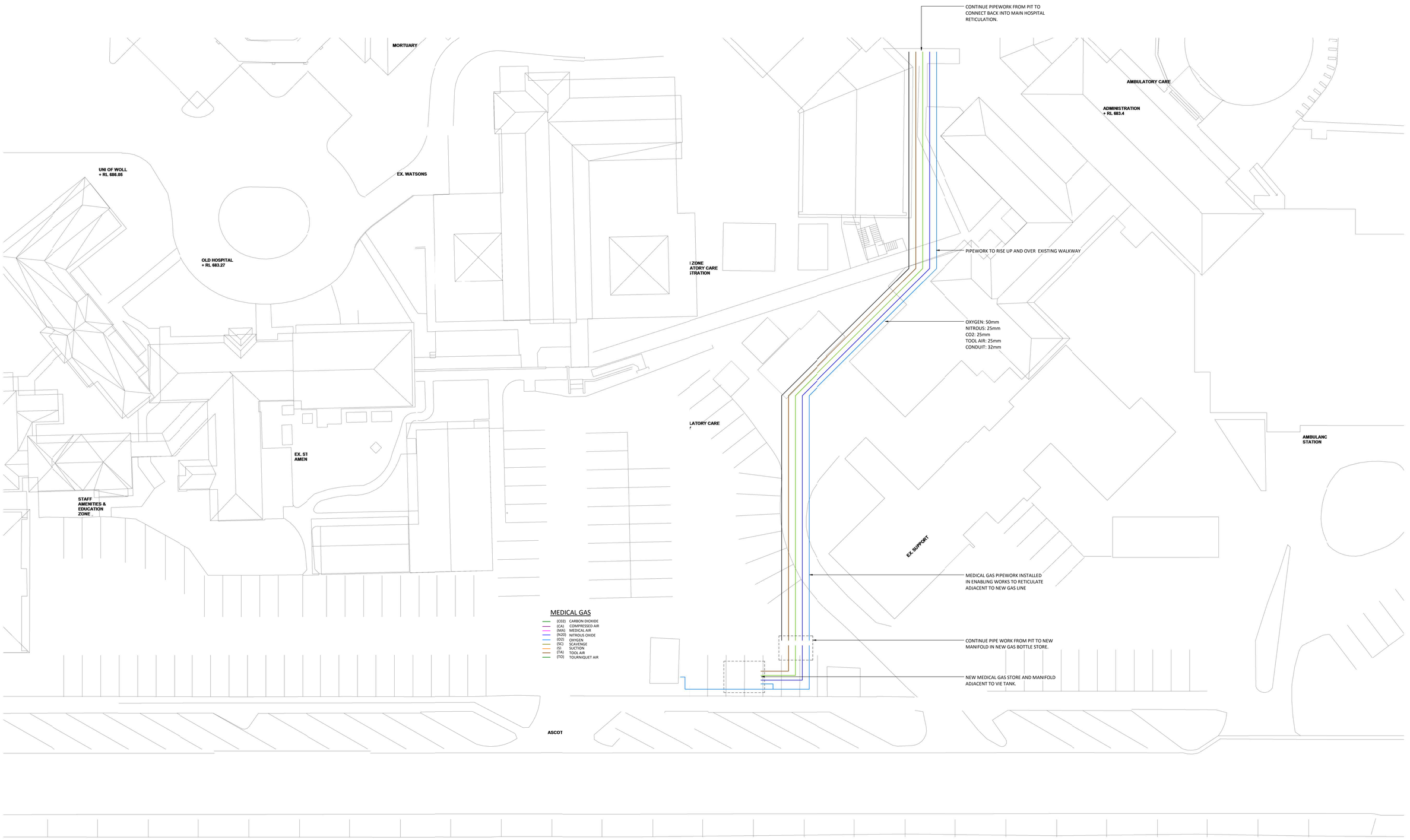
BOWRAL & DISTRICT HOSPITAL REDEVELOPMENT
97-103 BOWRAL ST., BOWRAL NSW 2576
PROJECT

THIRD FLOOR MEDICAL GAS LAYOUT
TITLE

WOOD & GRIEVE ENGINEERS

PRELIMINARY
NOT FOR CONSTRUCTION
MECHANICAL SERVICES

SCALE @ B1	PROJECT No	DRAWING No	REV
1 : 100	29586	13044-WGE-MG-DWG-MW4004	B



REV	DESCRIPTION	DRAWN	APP'D	DATE
B	SCHEMATIC DESIGN ISSUE	AKAS	KPR	22.12.17
A	FOR REVIEW	AKAS	KPR	08.12.17

CLIENT: NSW GOVERNMENT Health Infrastructure

ARCHITECT: MSJ

PROJECT: BOWRAL & DISTRICT HOSPITAL REDEVELOPMENT
97-103 BOWRAL ST., BOWRAL NSW
2576

TITLE: MED GAS SITE PLAN

WOOD & GRIEVE ENGINEERS

PRELIMINARY
NOT FOR CONSTRUCTION
MECHANICAL SERVICES

SCALE @ B1	PROJECT No	DRAWING No	REV
1 : 200	29586	13044-WGE-MG-DWG-MW4100	B