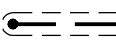

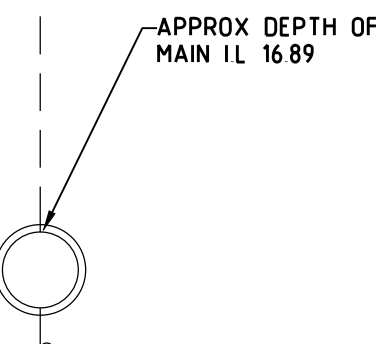



<div><div>SPECIFICATION</div><div>QUALITY ASSURANCE:</div><div>ALL EQUIPMENT USED ON THIS PROJECT MUST BE IN ACCORDANCE WITH ALL RELEVANT AUSTRALIA STANDARDS INCLUDING BUT NOT LIMITED TO AS3500 (SERIES).</div><div>SITE VISIT</div><div>THE CONTRACTOR SHALL BE DEEMED TO HAVE THOROUGHLY INSPECTED THE SITE PRIOR TO COMMENCEMENT OF WORK AND TO HAVE TAKEN INTO ACCOUNT ANY CONDITIONS LIKELY TO AFFECT THE EXTENT OF PERFORMANCE OF THE CONTRACT</div><div>DEFINITION OF "APPROVAL":</div><div>THE WORDS "OR OTHER APPROVED" OR "TO BE APPROVED" ARE IMPLIED ALWAYS WHETHER FOLLOWING THE DESCRIPTION OF APPARATUS, MATERIAL MAKER, OR NOT.</div><div>THE CONTRACTOR MAY, IF HE SO DESIRES, TENDER ON ALTERNATIVE MAKES, PROVIDED THAT SUCH ALTERNATIVES ARE PROVEN TO BE OF EQUAL QUALITY TO THOSE SPECIFIED AND THAT THEY ARE SUBMITTED FOR THE APPROVAL OF THE CONSULTING ENGINEER BEFORE ORDERING NO PRICE INCREASE WILL BE CONSIDERED FOR ALTERNATE EQUIPMENT. THE ENGINEER SHALL BE THE SOLE JUDGE AS TO THE RELATIVE MERITS OF THE ALTERNATIVES OFFERED. HIS DECISION SHALL BE FINAL.</div><div>IT SHOULD BE NOTED THAT EQUIPMENT CAPACITIES SIZES AND WORKING PRESSURES, PIPE SIZES, ETC. ARE CALCULATED AND INTERWOVEN AROUND THE COMPLEMENTARY EQUIPMENT HEREIN SPECIFIED AND TO FIT INTO ARCHITECTURAL ENVELOPE.</div><div>ANY DEVIATION FROM ANY EQUIPMENT SPECIFIED MAY CHANGE CAPACITIES OF COMPLEMENTARY EQUIPMENT AND/OR REDUCE OR NEGATE ITS ABILITY TO ACCOMMODATE THE SIZE WITHIN SPACE ALLOWED. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY RESULTING COMPLEMENTARY EQUIPMENT REQUIRED CHANGE OF BOTH PERFORMANCE AND PRICE.</div><div>THE CONTRACTOR IS ADVISED TO CONSIDER CAREFULLY THE IMPLICATIONS ASSOCIATED WITH TENDERING ON ANY EQUIPMENT NOT NAMED OUTRIGHT WITHIN THIS SPECIFICATION</div><div>VARIATIONS:</div><div>BY SUBMITTING A TENDER FOR THIS WORK, TENDERERS ACKNOWLEDGE THAT THEY HAVE FULLY ASSESSED THE NECESSARY EXTENT OF WORK AND HAVE ALLOWED FOR ALL ITEMS, ACTIVITIES, MATERIALS AND LABOUR WHICH ARE OBVIOUSLY REQUIRED, WHETHER OR NOT THESE ARE CLEARLY IDENTIFIED ON PLANS OR SPECIFICATION. NO COST ADJUSTMENT WILL BE CONSIDERED FOR FAILURE TO RECOGNISE AND IDENTIFY ANY POTENTIAL EXTRA COSTS PRIOR TO SIGNING ANY CONTRACT.</div><div>RESPONSIBILITY OF CONTRACTOR</div><div>THE CONTRACTOR REMAINS RESPONSIBLE FOR ALL WORK, EMPLOYEES, AGENTS AND MATERIALS INCLUDED IN THE CONTRACT WORKS. THE CONTRACTOR MUST MAKE GOOD ANY ACCIDENTAL DAMAGE OR OTHERWISE TO SITE SERVICES, FENCING, PIPING, PATHS, ROADS, CURBS, GUTTERING OR ANY ADJOINING PROPERTY WHICH HAS BEEN DISTURBED OR DAMAGED DUE TO THE ACTIONS OF EMPLOYEES, SERVANTS OR AGENTS. ANY DAMAGE MUST BE REPAIRED BY QUALIFIED TRADESMEN TO APPROVAL OF THE SUPERINTENDENT.</div><div>THE SITE AND PRECINCTS SHALL BE KEPT CLEAN AND TIDY THROUGHOUT THE COURSE OF THE WORK. PRIOR TO PRACTICAL COMPLETION, ALL DEBRIS AND RUBBISH SHALL BE CLEARED AWAY AND REMOVED FROM THE SITE AND THE COMPLETED INSTALLATION AND EFFECTED SURROUNDING AREAS MUST BE THOROUGHLY CLEAN.</div><div>CODES AND STANDARDS</div><div>NOT WITHSTANDING THAT STATED HEREIN, AND ANY HYDRAULICS SERVICES THAT MAY NOT BE APPLICABLE, THE ENTIRE HYDRAULICS SERVICES INSTALLATION SHALL FULLY COMPLY WITH THE REGULATIONS OF THE FOLLOWING AUTHORITIES:</div><div><div><div>- VICTORIAN BUILDING REGULATIONS INCORPORATING BUILDING CODE OF AUSTRALIA,</div><div>- INSURANCE COUNCIL OF AUSTRALIA (ICA)</div><div>- OCCUPATIONAL HEALTH AND SAFETY ORGANISATION</div><div>- ALL RELEVANT AUSTRALIAN STANDARDS AND ALL AMENDMENTS TO THOSE STANDARDS, INCLUDING BUT NOT LIMITED TO AS 3500</div><div>- CLIENT SPECIFIC STANDARDS WHERE APPLICABLE</div><div>- PLUMBING INDUSTRY COMMISSION GUIDELINES.</div></div></div><div>SCOPE OF WORKS</div><div>THE SCOPE OF THE WORKS INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:</div><div><div><div>- DISCONNECT AND REMOVE EXISTING REDUNDANT HYDRAULIC SERVICES</div><div>- INSTALL NEW WATER METERS, GAS METERS AND BOUNDARY TRAP/REFLUX VALVE AS SHOWN ON DRAWINGS</div><div>- SUPPLY AND INSTALL NEW SEWER, HOT AND COLD WATER, AND GAS SERVICE PIPEWORK AS SHOWN ON DRAWINGS</div><div>- SUPPLY AND INSTALL ALL NEW FIXTURES, FITTINGS, VALVES AND ACCESSORIES.</div><div>- SUPPLY AND INSTALL NEW ELECTRIC HOT WATER SYSTEM AS SPECIFIED ON DRAWINGS</div><div>- SAMPLES SHALL BE SUBMITTED FOR APPROVAL PRIOR TO COMMENCEMENT OF WORK.</div></div></div><div>CONTRACTOR SHALL MAKE FULL ALLOWANCE FOR ALL WORKS NECESSARY FOR A COMPLETE OPERATIONAL SYSTEM, INCLUDING ALL ANCILLARY EQUIPMENT NECESSARY FOR CODE COMPLIANCE.</div><div>GENERAL NOTES (SPECIFICATION)</div><div><div><div>1. ALL EXPOSED PIPEWORK WITHIN THE BUILDING SHALL BE HEAVILY CHROME PLATED. NO PIPEWORK SHALL BE RUN ON EXTERNAL WALLS</div><div>2. PROVIDE 15 DIA. STOP COCKS TO EACH CISTERN</div><div>3. PROVIDE INSPECTION OPENINGS AT THE BASE OF EACH WASTE STACK ABOVE FINISHED</div><div>4. CONNECT DISHWASHING MACHINE HOSES TO THE TRAP OF THE ADJACENT SINK, IN ACCORDANCE AUTHORITY REQUIREMENTS, AND AS 3500</div><div>5. ALL DRAINAGE RISER SHALL HAVE SIDE CLEANOUTS EVERY OTHER FLOOR.</div><div>6. ALL PRESSURIZED DRAINAGE PIPES LIKE SUBMERSIBLE PUMPS DISCHARGE SHOULD BE ANCHORED.</div><div>7. THE CONTRACTOR SHALL PROVIDE MAINTENANCE ACCESS PANELS TO ALL CLEAN OUTS, VALVES, AND WHEREVER NEEDED. LOCATION OF PANELS SHALL BE COORDINATED WITH THE BUILDER.</div><div>8. ALL VALVES HAVE THE SAME SIZE AS THE PIPE SERVED UNLESS INDICATED OTHERWISE</div><div>9. ALL SLEEVES SHOULD BE CHECKED BEFORE POURING CONCRETE</div><div>10. AUTOMATIC AIR VENTS SHALL BE INSTALLED AT ALL AIR POCKET LOCATION, AND AT THE HIGHEST POINTS IN THE WATER LINES</div><div>11. DRAIN VALVES WITH THREADED HOSE CONNECTIONS SHALL BE PROVIDED AT LOW POINTS OF THE WATER PIPING SYSTEM</div><div>12. OPENINGS IN EXTERIOR WALLS, PARTICULARLY AT OR BELOW GRADE SHALL BE KEPT PROPERLY PLUGGED AND CAULKED AT ALL TIMES, (EXCEPT WHEN BEING WORKED ON) TO PRELUDE THE POSSIBILITY OF FLOODING DUE TO STORMS OR OTHER CAUSES. AFTER COMPLETION OF WORK, OPENINGS SHALL BE PERMANENTLY SEALED AND CAULKED.</div></div></div><div>ABBREVIATIONS</div><div><div><div>SV - STOP VALVE</div><div>CV - CHECK VALVE</div><div>GV - GATE VALVE</div><div>TMV - THERM. MIXING VALVE</div><div>RWD - RAIN WATER OUTLET</div><div>TO - TERRACE OUTLET</div><div>ORG - OVERFLOW RELIEF GULLY</div><div>DG - DISCONNECTOR GULLY</div><div>FWG - FLOOR WASTE GULLY</div><div>AAV - AIR ADMITTANCE VALVE</div><div>HC - HOSE COCK</div><div>GP - GRATED PIT</div><div>JU - JUMP UP</div><div>RWH - RAIN WATER HEAD</div><div>C/S - CEILING SPACE</div></div><div><div>SS - SOIL STACK</div><div>SV - STACK VENT</div><div>RV - RELIEF VENT</div><div>DV - DRAINAGE VENT</div><div>VV - VERTICAL VENT</div><div>VW - VERTICAL WASTE</div><div>STW - STANDING WASTE</div><div>F/B - FROM BELOW</div><div>F/A - FROM ABOVE</div><div>T/B - TO BELOW</div><div>T/A - TO ABOVE</div><div>A/P - ALTERNING PIPE</div><div>SD - STEP DOWN</div><div>SU - STEP UP</div><div>ST - SILT TRAP</div></div></div><div>LEGEND</div><div><div><div>COLD WATER SERVICE</div><div>HOT WATER SERVICE</div><div>GAS SERVICE</div><div>RECYCLED WATER SERVICE</div><div>VENTS</div><div>SEWER DRAINS</div><div>DOWNPIPES</div><div>EXISTING SERVICE TO BE ABOLISHED</div><div>PIPEWORK CAST IN BEAM SHOWN THUS</div></div><div><div>CW</div><div>HW</div><div>GS</div><div>RCW</div><div>V</div><div>S</div><div>DP</div><div>✕- - - - ✕- - - - ✕</div><div></div></div></div><div>NOTE</div><div><div>WATER SERVICES PIPE SIZES ARE BASED ON THE INSTALLATION OF COPPER TUBE. WHERE PLASTIC PIPE IS USED, SIZES SHALL BE INCREASED, IN ACCORDANCE WITH AUSTRALIAN EQUIVALENT PIPE SIZE GUIDE. (AS 3500 PART 12, TABLE 11)</div><div>RETICULATE WATER SERVICES, BOTH HOT & COLD, WITHIN UNITS TO ALL FIXTURES, HW UNIT, AND HOSE COCKS AS REQUIRED. ALL IN ACCORDANCE WITH AS 3500.</div><div>RETICULATE GAS SERVICE WITHIN UNITS TO COOKTOPS, COMPLETE WITH GAS COCKS AS REQUIRED, ALL IN ACCORDANCE WITH THE REQUIREMENTS OF AS 5601 - 2013</div></div><div><div><div>15. FIRE MAIN TO BE INSTALLED IN ACCORDANCE WITH B.C.A. M.F.B. AND A.S. 2419 ALLOW TO ARRANGE AND PAY FOR AN M.F.B. INDEPENDENT CERTIFIER TO TEST AND REPORT.</div><div>16. THE CONTRACTOR IS RESPONSIBLE OF INSTALLING THE APPROPRIATE PIPES, FITTINGS, VALVES AND ACCESSORIES WITH THE SUITABLE RATING FOR SERVICE UP TO 15 TIMES THE WORKING PRESSURE.</div><div>17. ALL EXPOSED INSULATED PIPES TO HAVE METAL SHEATH COVER</div><div>18. THE DESIGN, MATERIAL & INSTALLATION OF THE WATER SERVICES SYSTEM, WATER PUMPS AND ALL RELATED ACCESSORIES AND ANCILLARIES TO BE SUITABLE FOR DRINKING WATER SUPPLY AS PER AS3500 AND RELEVANT AUSTRALIAN STANDARDS.</div></div><div>STORMWATER</div><div><div>1. ALL BALCONY AND ROOF STORMWATER OUTLETS ARE TO BE EITHER CHANNEL DRAINS OR MEMBRANE CLAMP RING TYPE, CAST INTO SLAB AS SHOWN.</div><div>2. RETICULATE GAS SERVICE WITHIN UNITS TO COOKTOPS, COMPLETE WITH GAS COCKS AS REQUIRED, ALL IN ACCORDANCE WITH THE REQUIREMENTS OF AS 5601 - 2013. ADDITIONALLY, RETICULATE GAS SERVICE TO CENTRAL GAS HWS.</div></div><div>SANITARY PLUMBING</div><div><div>1. ALL FLOOR WASTES, NOT PRIMED BY MEANS OF A FIXTURE WASTE PIPE, SHALL BE PROVIDED WITH AN APPROVED AUTOMATIC PRIMING DEVICE (MAG-MIFAB TRAP PRIMING VALVE, OR SIMILAR) OR BY A 15 DIA. CHARGE PIPE FROM AN ADJACENT FIXTURE OR HOSECOCK</div><div>2. PROVIDE INSPECTION OPENINGS AT THE BASE OF EACH WASTE STACK ABOVE FINISHED PAVEMENT/FLOOR LEVEL</div><div>3. DISCHARGE DISHWASHERS THROUGH TRAPS OF ADJACENT SINKS IN ACCORDANCE WITH AUTHORITY REQUIREMENTS</div><div>4. PROVIDE FLOOR WASTE GULLIES TO ALL BATHROOMS & LAUNDRIES, IN ACCORDANCE WITH THE BUILDING CODE OF AUSTRALIA.</div><div>5. ALL BATHROOM FLOOR WASTES SHALL BE SMART WASTES WITH TILE INSERT. ALL LAUNDRY FLOOR WASTES SHALL BE FITTED WITH CHROME PLATED BRASS GRATES</div><div>6. PROVIDE 50ø TUNDISHES C/W APPROVED 4øø SELF SEALING DEVICE, IN EACH APARTMENT, FOR THE A/C UNIT CONDENSATE DRAIN. ALL IN ACCORDANCE WITH THE P.I.C.'S TECHNICAL SOLUTION No 7 - MECHANICAL SERVICES. EXACT LOCATION TO BE DETERMINED ON SITE AND CO-ORDINATED WITH THE MECHANICAL CONTRACTOR</div><div>7. PROVIDE AND INSTALL AN APPROVED AIR ADMITTANCE VALVE AT THE HEAD OF EACH BRANCH, OFF THE PLUMBING STACKS, TO A FIXTURE OR GROUP OF FIXTURES.</div><div>8. ALL FLOOR WASTES & /OR TUNDISHES UNPRIMED BY ANY FIXTURES SHALL BE PROVIDED WITH AN APPROVED PRIMING DEVICE FROM THE NEAREST FIXTURE TAPSET</div><div>9. PLUMBING INSTALLATION TO SEWER STACK FROM EACH BATHROOM AND KITCHEN ARE TO BE AS SHOWN ON FLOOR PLAN. PIPE SIZES ARE TO BE AS FOLLOW:<ul style="list-style-type: none">• BASIN (BI) 40ømm• BATH (BIN) 40ømm TRAPPED OR UNTRAPPED• SHOWER (SH) 65x60ømm (SMART WASTE WITH TILE INSERT) COORDINATE WITH TILER ON SITE• W.C. (WC) 100ømm• SINK (SK) 50ømm• TROUGH (TF) 50ømm• F.W.G. (FW) 80x65ømm (SMART WASTE WITH TILE INSERT) COORDINATE WITH TILER ON SITE OR 100ømm• TUNDISH (TD) 40ømm TRAPPED</div><div>10. PIPE WORKS ARE TO BE IN CEILING SPACE OF FLOOR BELOW AT HIGH LEVEL. UNLESS NOTED OTHERWISE</div><div>11. DISH WASHING MACHINE DISCHARGE TO BE CONNECTED TO THE TRAP OF THE ADJACENT SINK, ABOVE WATER LEVEL.</div><div>12. CLOTHES WASHING MACHINE TO BE DISCHARGE ON 50ø TRAPPED STANDING WASTE, OR TO BE DISCHARGED TO TUNDISH ON LAUNDRY TROUGH IF LOCATED NEXT TO TROUGH.</div><div>13. PROVIDE A TRAPPED STANDING WASTE, FOR EACH WASHING MACHINE, TERMINATED WITH A MAG CLOTHES WASHING MACHINE IN-WALL TUNDISH, COMPLETE WITH A CHROME PLATED FINISHING PLATE (ALL AS SUPPLIED BY M. A. GRIFFITH PTY. LTD. Ph. 9399 8444) PRODUCT CODE, No. 78006. 1 NOTE: WHERE APPLICABLE FITTING MAY BE UTILIZED TO ACCEPT AIR CONDITIONING CONDENSATE DRAIN I</div></div><div>PENETRATIONS</div><div>PENETRATIONS THROUGH WALLS, FLOORS, CEILING, ETC. SHALL BE SMOKE SEALED WITH NON-COMBUSTIBLE MATERIALS. SMOKE SEALS SHALL BE PLIABLE, LONG LASTING AND CAPABLE OF REMAINING INSITU POSITION ALL TO FER REQUIREMENTS.</div><div>MAINTENANCE</div><div>ON COMPLETION OF THE MECHANICAL SERVICES INSTALLATION, THE CONTRACTOR MUST SUPPLY THREE SETS OF OPERATION MAINTENANCE INSTRUCTION MANUALS COMPLETE WITH "AS BUILT" DRAWINGS REFLECTING THE TRUE WORKS AS INSTALLED ON THIS PROJECT.</div><div>THE INSTRUCTION MANUALS MUST BE BOUND IN HARD COVERS. THEY MUST FULLY DESCRIBE ALL EQUIPMENT INSTALLED. ALL RELEVANT INFORMATION WITH RESPECT TO OPERATING PROCEDURE, MAINTENANCE REQUIREMENTS AND A PROGRAM SCHEDULE FOR ITEMS OF EQUIPMENT MAINTENANCE DATES TO BE CARRIED OUT COMPLETE WITH PROCEDURES FOR DISMANTLING AND OVERHAULING ITEMS OF EQUIPMENT INSTALLED ON THIS PROJECT.</div><div>3-OFF COPIES OF MAINTENANCE MANUALS TO INCLUDE THE FOLLOWING:</div><div><div>i) COVER SHEET INCLUDING NAMES, ADDRESSES & TELEPHONE NUMBERS OF THE MECHANICAL SUB-CONTRACTOR AND THE CONSULTING ENGINEERS.</div><div>ii) TABLE OF CONTENTS (INDEX) PAGE</div><div>iii) DESCRIPTION OF EACH INDIVIDUAL SYSTEM.</div><div>iv) MANUFACTURERS PERFORMANCE DATA & MAINTENANCE REQUIREMENTS FOR ALL EQUIPMENT AND ACCESSORIES</div><div>v) OPERATIONAL INSTRUCTIONS FOR ALL SYSTEMS.</div><div>vi) MAINTENANCE FREQUENCY AND MAINTENANCE PROCEDURES FOR ALL EQUIPMENT AND ACCESSORIES INSTALLED IN THIS PROJECT</div><div>vii) EQUIPMENT COMMISSIONING SHEETS & ALL TEST REPORTS</div><div>viii) P.I.C COMPLIANCE CERTIFICATES & ELECTRICAL SAFETY CERTIFICATES</div><div>ix) WARRANTY STATEMENT LISTING START DATE (DATE OF PRACTICAL COMPLETION) & FINNISH DATE FOR BOTH EQUIPMENT AND WORKMANSHIP AND ANY EXCLUSIONS OR CONDITIONS</div><div>x) FINAL APPROVED AS INSTALLED DRAWINGS</div></div><div>GENERAL NOTES</div><div><div>1. THE WORK SHALL INCLUDE SUPPLY, INSTALLATION, TESTING & COMMISSIONING AS INDICATED ON THE DRAWINGS. THE WORK SHALL INCLUDE BUT NOT BE RESTRICTED TO THE FOLLOWINGS:<ul style="list-style-type: none">- CERTIFICATION OF THE COMPLETED INSTALLATION BY AN INDEPENDENT CERTIFIER PRIOR TO PRACTICAL COMPLETION.- 12 MONTHS FREE MAINTENANCE TO AS 1851 FROM DATE OF PRACTICAL COMPLETION- PAY ALL FEES AS REQUIRED</div><div>2. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT S.A.A CODES, THE BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITY EXCEPT VARIED BY THE PROJECT SPEC.</div><div>3. SUBMIT SHOP DRAWINGS, HYDRAULIC CALCULATIONS & EQUIPMENT DETAILS BEFORE COMMENCEMENT OF WORKS FOR APPROVAL BY THIS CONSULTANT. IF THE RETURNED DRAWINGS ARE MARKED "RESUBMIT", SUBMIT THE AMENDED DRAWING FOR INSPECTION.</div><div>4. ALLOW FOR AN EXPERIENCED TECHNICAL PERSON(S) WHO HAS A COMPLETE TECHNICAL KNOWLEDGE OF THE INSTALLATION TO INSTRUCT AND DEMONSTRATE THE PRINCIPAL OR HIS NOMINATED REPRESENTATIVES IN THE LOCATION AND METHOD OF OPERATION OF ALL COMPONENTS IN THE INSTALLATION.</div><div>5. SET OUT EQUIPMENT IN ACCORDANCE WITH THE GENERAL ARRANGEMENT SHOWN ON THE DRAWINGS WITH ADJUSTMENTS AS AND WHEN REQUIRED</div><div>6. CO-ORDINATE WITH ALL OTHER TRADES PRIOR TO AND DURING SETOUT, TO AVOID CLASHES OR DELAYS IN PROGRAMME</div><div>7. PROVIDE TRAINING TO PERSONNEL WHO WILL BE OPERATING AND MAINTAINING THE PLANT. PROVIDE MANUALS ADEQUATE FOR BASIC OPERATION PRIOR TO THE ISSUE OF CERTIFICATE OF PRACTICAL COMPLETION. PROVIDE WITH THREE SETS OF "AS BUILT" DRAWINGS AND ONE SET OF REPRODUCIBLE COPIES IN AUTOCAD FORMAT (LATEST VERSION) ON DISK(S) OR 'CD'S'</div><div>8. PROVIDE MAINTENANCE MANUALS INCLUDING THE FOLLOWINGS:<ul style="list-style-type: none">i) COVER SHEET INCLUDING NAMES, ADDRESSES AND TELEPHONE NUMBERS OF INSTALLER AND CONSULTING ENGINEER.ii) DESCRIPTION OF SYSTEMS.iii) MANUFACTURERS' BROCHURES OF ALL EQUIPMENT AND ACCESSORIES USED IN THE INSTALLATION, E.G. F.I.P., FIRE DETECTORS, SOUNDERS, ETC.iiii) MAINTENANCE AND TESTING INSTRUCTIONS FOR ALL SYSTEMS AND ALL COMPONENTS, EQUIPMENT AND SYSTEMS INCORPORATED IN THE INSTALLATION WHICH REQUIRE REGULAR PREVENTATIVE MAINTENANCE AND CHECKINGiv) TEST REPORTSv) LOG BOOK FOR EMERGENCY & ROUTINE SERVICES.</div><div>9. ALL DRAWINGS ARE DIAGRAMMATIC IN RELATION TO THE POSITION OF EQUIPMENT. THEREFORE COORDINATE WITH ALL OTHER CONTRACTORS AND SUBCONTRACTORS TO ENSURE THAT EQUIPMENT IS SUITABLY LOCATED</div><div>10. ALL STOP VALVES SHALL BE PROPERLY LABELLED TO SHOW THEIR FUNCTION AND NORMAL OPERATION. POSITION STOP VALVES NOT MONITORED SHALL BE SECURED OPEN OR CLOSED AS APPROPRIATE BY A PADLOCKED OR RIVETED STRAP.</div><div>11. ALL DIMENSIONS SHOWN SHALL BE VERIFIED ON SITE. ENGINEERS' DRAWINGS MUST NOT BE SCALED.</div><div>12. CARRY OUT ALL NECESSARY TESTS DURING THE PROGRESS OF WORK</div></div><div>INSTALLATION DRAWINGS</div><div><div>1. PIPE ROUTES INDICATED ON THESE DRAWINGS ARE GENERALLY DIAGRAMMATIC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE OVERALL CO-ORDINATION OF ALL HYDRAULIC SERVICES WHERE IN CLOSE PROXIMITY TO OTHER SERVICES OR STRUCTURES</div><div>2. PRIOR TO COMMENCING ANY WORKS, VERIFY ALL ASPECTS OF THE WORK & SUBMIT ANY REQUESTS FOR FURTHER CLARIFICATION OR EXPLANATION WITHIN 14 DAYS OF NOTIFICATION OF ACCEPTANCE. FULL ACCESS TO DESIGN INFORMATION SHALL BE MADE AVAILABLE BY THE ARCHITECT UPON REQUEST.</div><div>3. PREPARE & SUBMIT CO-ORDINATION & INSTALLATION DRAWINGS FOR APPROVAL WITHIN THIS PERIOD, AFTER WHICH, THE HYDRAULIC SERVICES CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ALL ASPECTS OF THE WORK.</div><div>4. TACIT ACCEPTANCE OF THE CONTRACT DRAWINGS DOES NOT ABSOLVE THE HYDRAULIC SERVICES CONTRACTOR FROM BEING RESPONSIBLE FOR ALL ASPECTS OF THE WORK.</div><div>5. THE DRAWINGS SHALL BE TO APPROPRIATE SCALES & ON THE SAME SIZED STANDARD SHEETS AS THE CONTRACT DRAWINGS & SHALL INCLUDE THE LOCATION OF PIPES & FITTINGS, INSPECTION OPENINGS, PITS, CONTROL VALVES & THE LIKE & PROVIDE INVERT LEVELS ON ALL DRAINS. PROVIDE DIMENSIONS FROM STRUCTURAL ELEMENTS WHERE APPLICABLE</div><div>6. THESE DRAWINGS SHALL INCLUDE ALL MATTERS OF CO-ORDINATION WITH ALL OTHER TRADES & SHALL BE SIGNED BY THE MAIN CONTRACTOR ON COMPLETION OF THE PROJECT. THESE DRAWINGS, SUITABLY AMENDED, SHALL FORM THE "AS CONSTRUCTED" DRAWINGS FOR ISSUE TO THE ARCHITECT.</div></div><div>MATERIALS</div><div>SANITARY PLUMBING AND STORMWATER.</div><div><div>1. ALL SEWER AND STORMWATER PIPEWORK SHALL BE FORMED FROM 'SILERE' ACOUSTICALLY INSULATED PIPES & FITTINGS.</div><div>2. ALTERNATIVELY, ACOUSTICALLY WRAP UPVC WASTE PIPES & FITTINGS WITH SOUNDLAG 4525 OR EQUAL (4.5 kg/m sq. LOADED VINYL, 25 mm RESILIENT FOAM) TO ACHIEVE STC RATING 46.</div></div><div>HOT AND COLD WATER SERVICE:</div><div><div>1. HOT AND COLD PIPEWORK WITHIN THE UNITS SHALL BE FORMED FROM SHARK-BITE OR 'YORKFLEX' PE-X TUBE & /OR BRASS PUSH-FIT FITTINGS, IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS</div><div>2. HOT AND COLD WATER PIPEWORK THROUGHOUT THE CARPARK AND RISERS TO THE INDIVIDUAL UNIT CHECKING METERS SHALL BE FORMED OF TYPE 'B' COPPER TUBE AND FITTINGS, IN ACCORDANCE WITH THE REQUIREMENTS OF AS 1432.</div><div>3. ALL RECYCLED WATER SERVICE PIPEWORK SHALL BE DN 20mm/25mm - PN 16, LILAC PE-X RECLAIMED/RECYCLED WATER PIPE AS PER AS 1319, AS 1345 AND AS 2700 C/W ASSOCIATED SAFETY SIGNAGE AS PER AS 1319.</div></div><div>GAS SERVICE:</div><div><div>1. GAS SERVICE PIPEWORK THROUGHOUT, SHALL BE FORMED OF TYPE 'B' COPPER TUBE AND FITTINGS IN ACCORDANCE WITH THE REQUIREMENTS OF AS 1432.</div></div></div></div>



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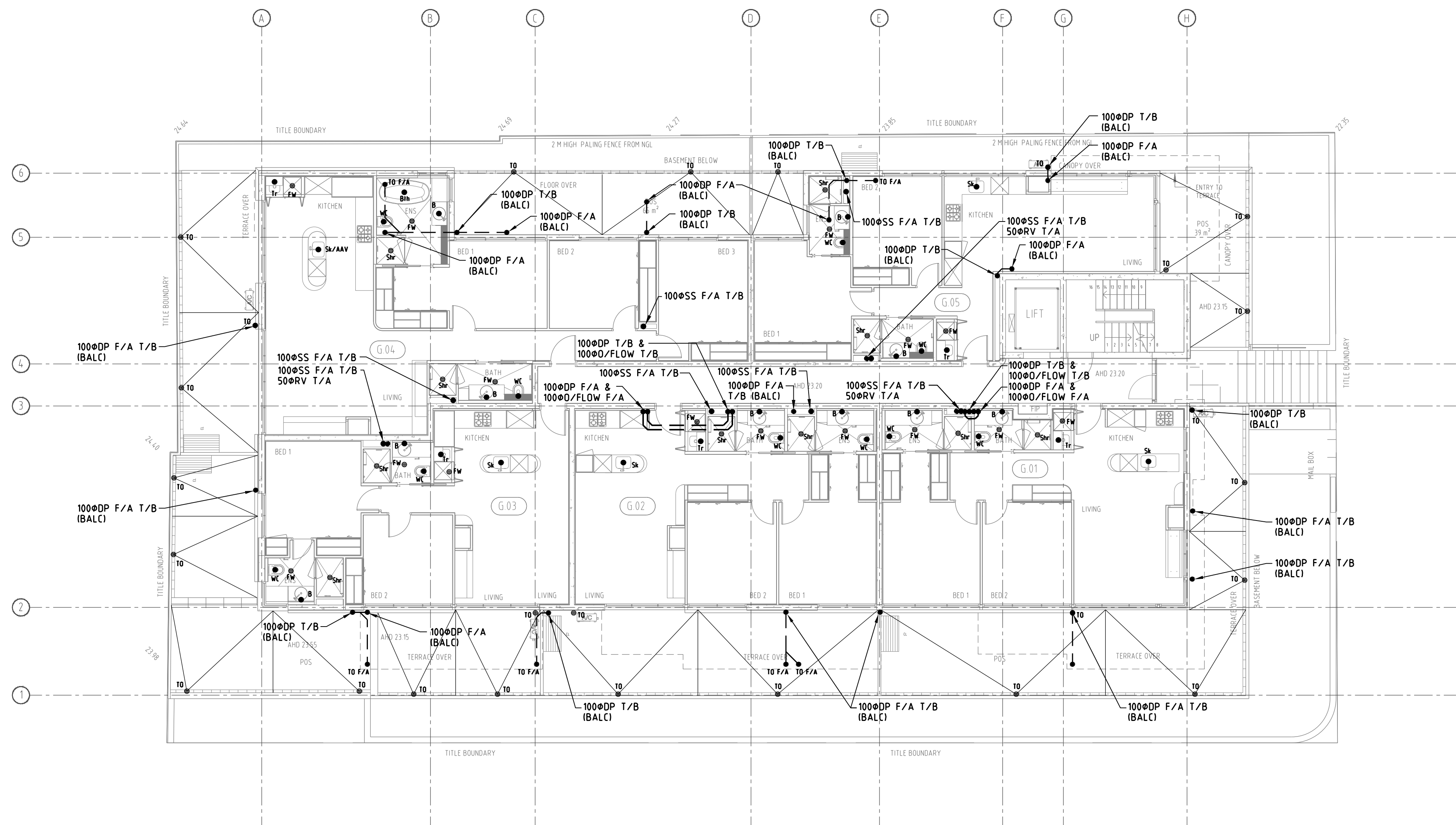


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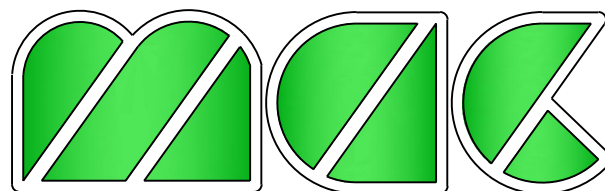
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designed ASG	checked ASG	
drawn PR	date MAY 2017	drawing number H2
job number 1939		
issue T1		
drawing 2 of 13		



T1	TENDER ISSUE	PR	07/08/18
P1	PRELIMINARY ISSUE	EN	18/05/17
issue	rev.	description	by date



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project title
**1 VINE STREET
HEIDELBERG, VIC 3084**

service
HYDRAULIC SERVICES

**GROUND FLOOR
SEWER & STORMWATER
LAYOUT**
drawing title

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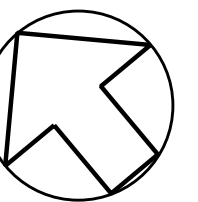
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job number 1939

issue T1

drawing 3 of 13

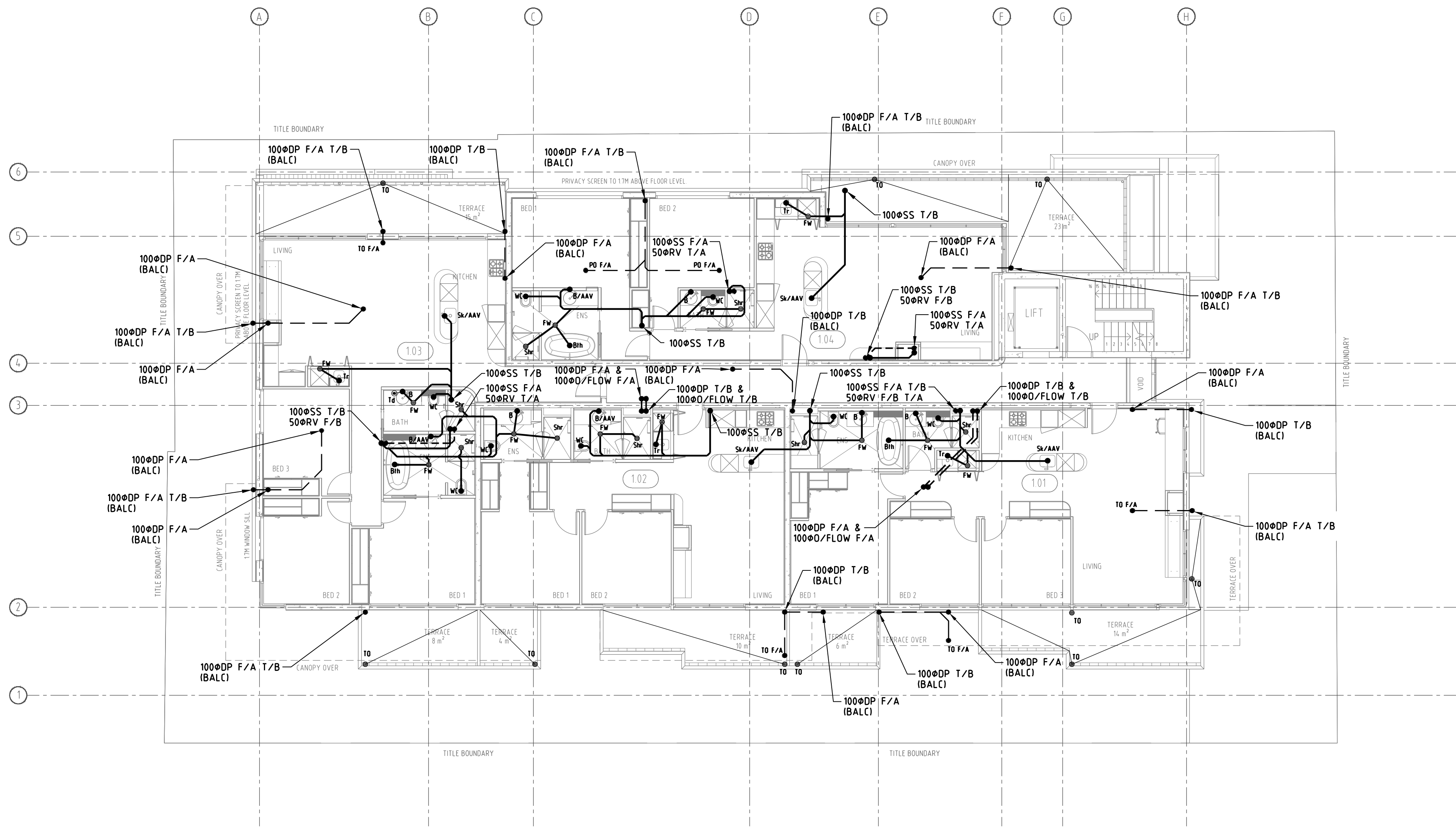


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GENERAL NOTES (ROOFING WORKS)

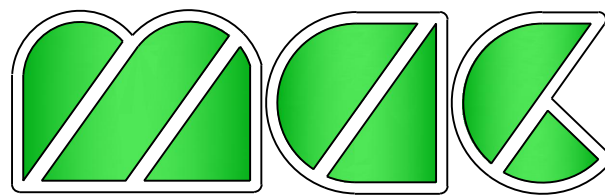
- BOX GUTTER AND SUMP DIMENSIONS, AS INDICATED, ARE INDICATIVE ONLY, AND SHALL BE VERIFIED BY THE ROOFING CONTRACTOR.
- OVERFLOW PIPES ARE TO BE PROVIDED FOR ALL BOX GUTTERS. THE LOCATION AND METHOD IS TO BE NOMINATED BY THE ROOFING CONTRACTOR & APPROVED BY ENGINEER / ARCHITECT.
- THE MINIMUM DEPTH OF ALL SUMPS IS TO BE 75mm MEASURED BELOW THE LOW POINT OF THE BOX GUTTER SERVED.



NOTE
ALL EXPOSED INSULATED PIPES TO
HAVE METAL SHEATH COVER

NOTE
OVERFLOWS TO BE PROVIDED TO ALL
ROOFS, BALCONIES AND TERRACES

T1	TENDER ISSUE	PR	07/08/18
P1	PRELIMINARY ISSUE	EN	18/05/17
issue	rev.	description	by date



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ABN 79 978 772 380

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CONSULTING ENGINEERS AND PROJECT MANAGERS

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Telephone: (03) 9853 5311
Fax: (03) 9853 0535
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Architects reflected ceiling plans and other detailed
drawings.

Do not scale. All dimensions to be checked on site.

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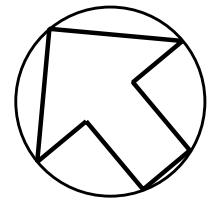
project title
**1 VINE STREET
HEIDELBERG, VIC 3084**

service
HYDRAULIC SERVICES

**FIRST FLOOR
SEWER & STORMWATER
LAYOUT**
drawing title

scale	0 1 2 3 4m
designed	checked
ASG	ASG
drawn	date
PR	MAY 2017

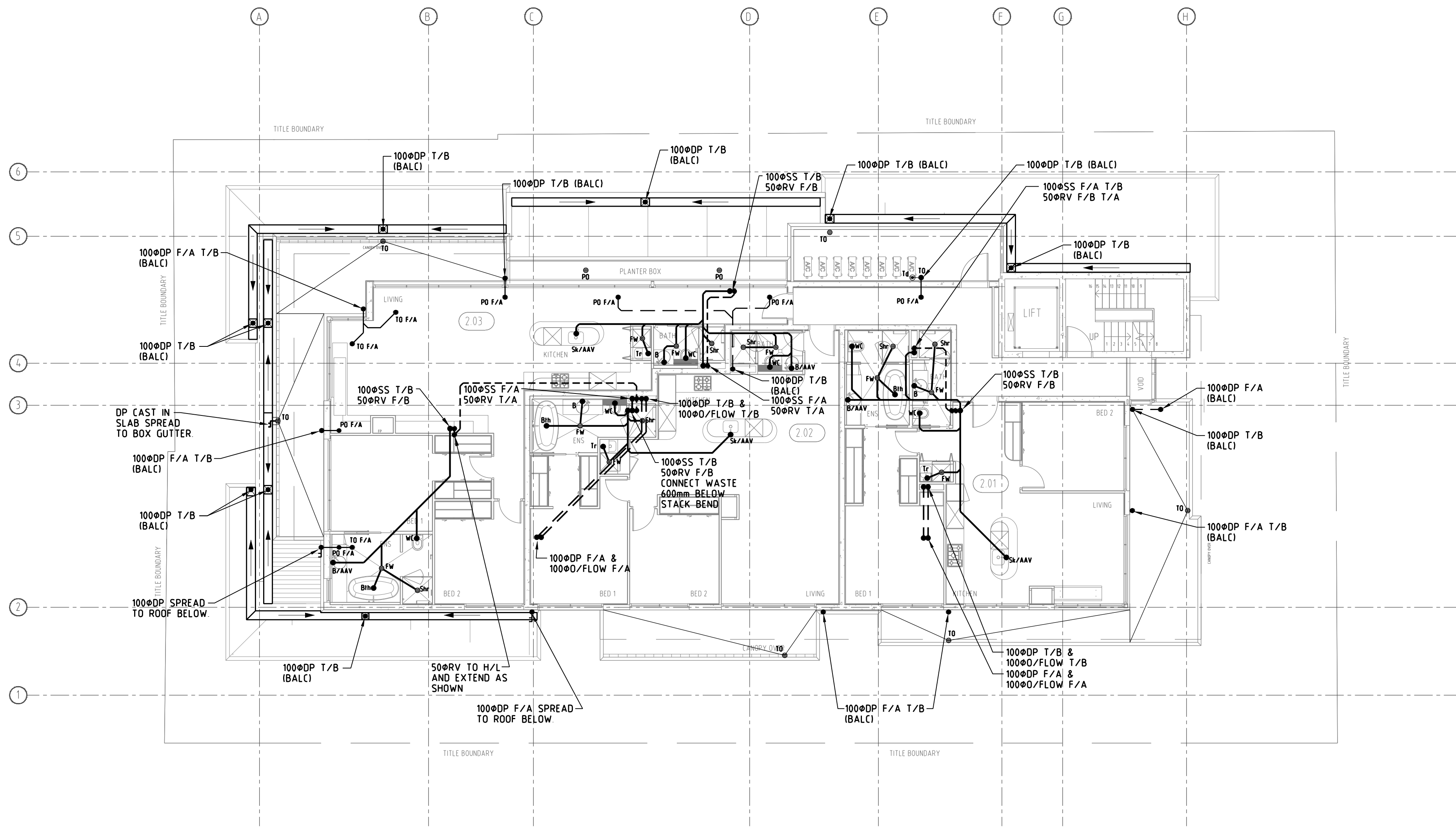
job	1939
number	
issue	T1
drawing	4 of 13



drawing
number
H4

GENERAL NOTES (ROOFING WORKS)

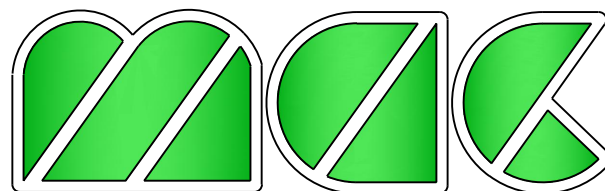
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NOTE
ALL EXPOSED INSULATED PIPES TO HAVE METAL SHEATH COVER

NOTE
OVERFLOWS TO BE PROVIDED TO ALL ROOFS, BALCONIES AND TERRACES

T1	TENDER ISSUE	PR	07/08/18
P1	PRELIMINARY ISSUE	EN	18/05/17
issue	rev.	description	by date



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project title
**1 VINE STREET
HEIDELBERG, VIC 3084**

service
HYDRAULIC SERVICES

**SECOND FLOOR
SEWER & STORMWATER
LAYOUT**
drawing title

scale 0 0.5 1 2 3 4m
1:100øA1

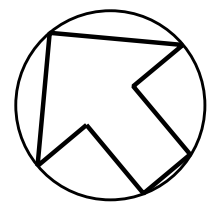
designed ASG checked ASG

drawn PR date MAY 2017

job number 1939

issue T1

drawing 5 of 13

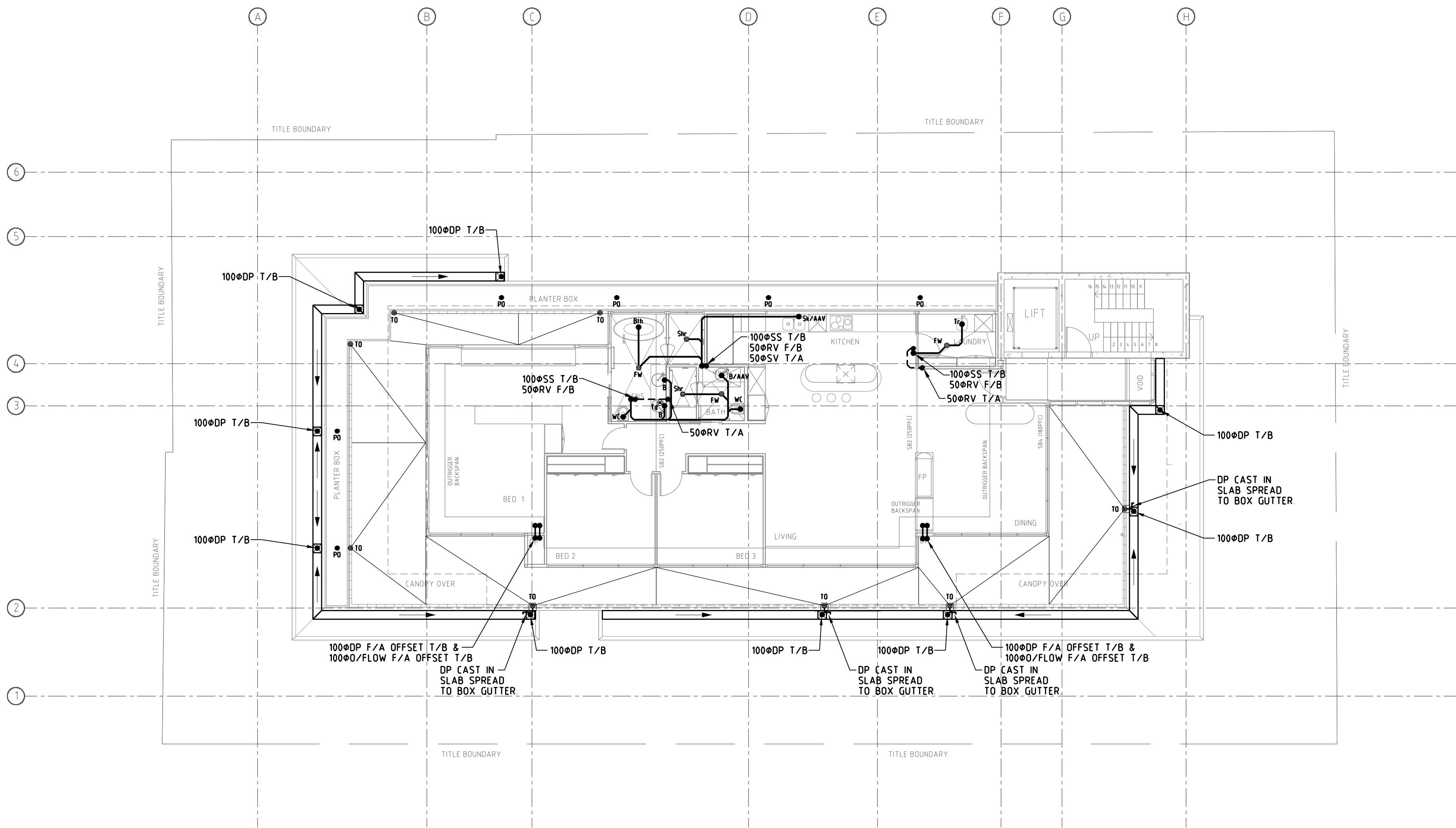


drawing number

H5

GENERAL NOTES (ROOFING WORKS)

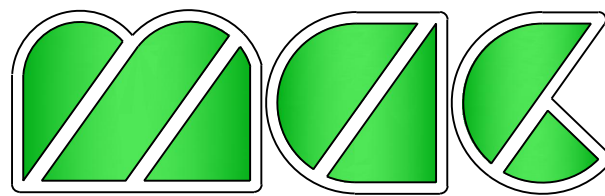
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NOTE
ALL EXPOSED INSULATED PIPES TO
HAVE METAL SHEATH COVER

NOTE
OVERFLOWS TO BE PROVIDED TO ALL
ROOFS, BALCONIES AND TERRACES

T1	TENDER ISSUE	PR	07 08 18
P1	PRELIMINARY ISSUE	EN	18 05 17
issue	rev.	description	by date



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project title
**1 VINE STREET
HEIDELBERG, VIC 3084**

service
HYDRAULIC SERVICES

**THIRD FLOOR
SEWER & STORMWATER
LAYOUT**
drawing title

scale 1:1000 0 1 2 3 4m

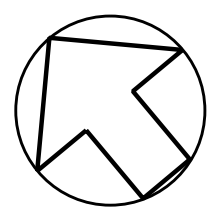
designed ASG checked ASG

drawn PR date MAY 2017

job number 1939

issue T1

drawing 6 of 13

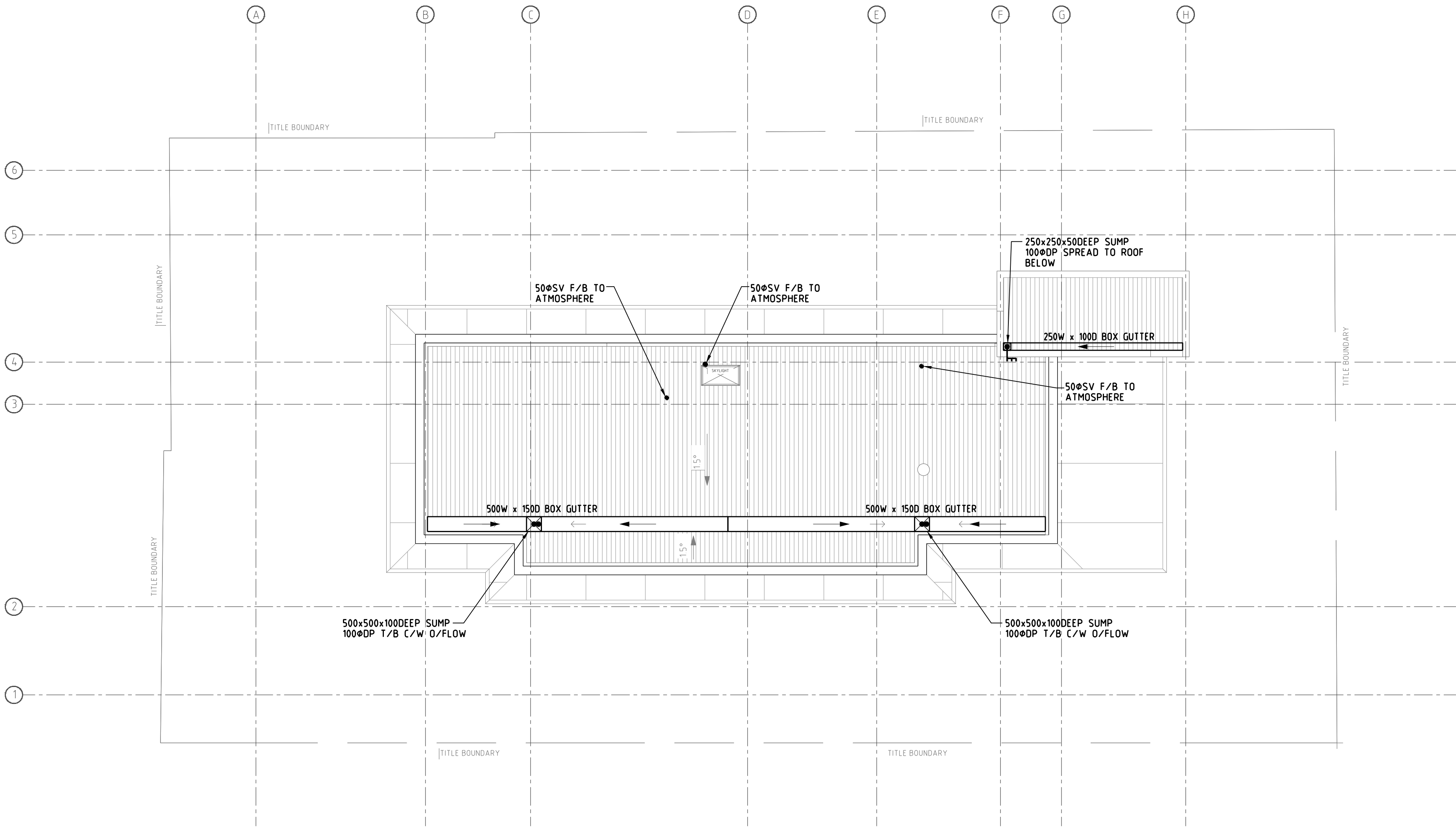


drawing number

H6

GENERAL NOTES (ROOFING WORKS)

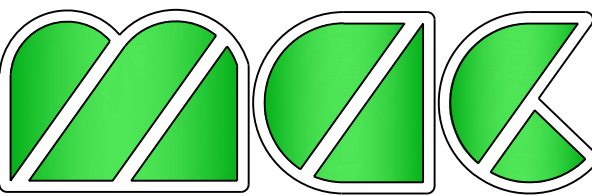
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NOTE
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NOTE
OVERFLOWS TO BE PROVIDED TO ALL
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T1	TENDER ISSUE	PR	07 08 18
P1	PRELIMINARY ISSUE	EN	18 05 17
issue	rev.	description	by date



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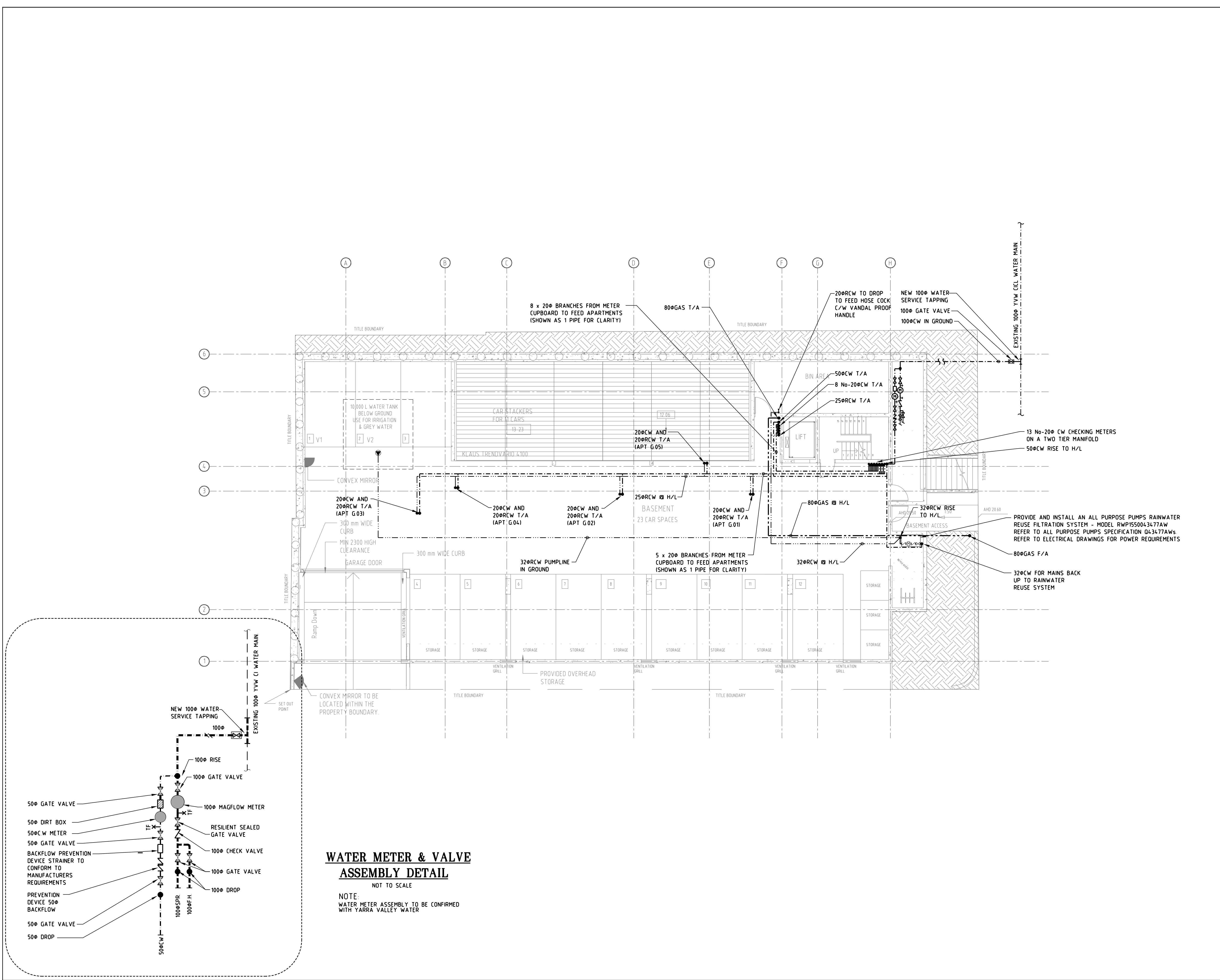
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\$125 payable by this subcontractor

project title
**1 VINE STREET
HEIDELBERG, VIC 3084**

service
HYDRAULIC SERVICES

**ROOF PLAN
HYDRAULIC SERVICES**

drawing title		
scale 1:1000		
designed ASG	checked ASG	
drawn PR	date MAY 2017	
job number 1939	drawing number H7	
issue T1		
drawing 7 of 13		



**WATER METER & VALVE
ASSEMBLY DETAIL**

NOTE:
WATER METER ASSEMBLY TO BE CONFIRMED
WITH YARRA VALLEY WATER

T1	TENDER ISSUE	PR	07/08/18
P1	PRELIMINARY ISSUE	EN	18/05/17
issue	rev.	description	by date



PROVIDE AND INSTALL AN ALL PURPOSE PUMPS RAINWATER
REUSE FILTRATION SYSTEM - MODEL RWPIS0043477AW
REFER TO ALL PURPOSE PUMPS SPECIFICATION 043477AWs
REFER TO ELECTRICAL DRAWINGS FOR POWER REQUIREMENTS

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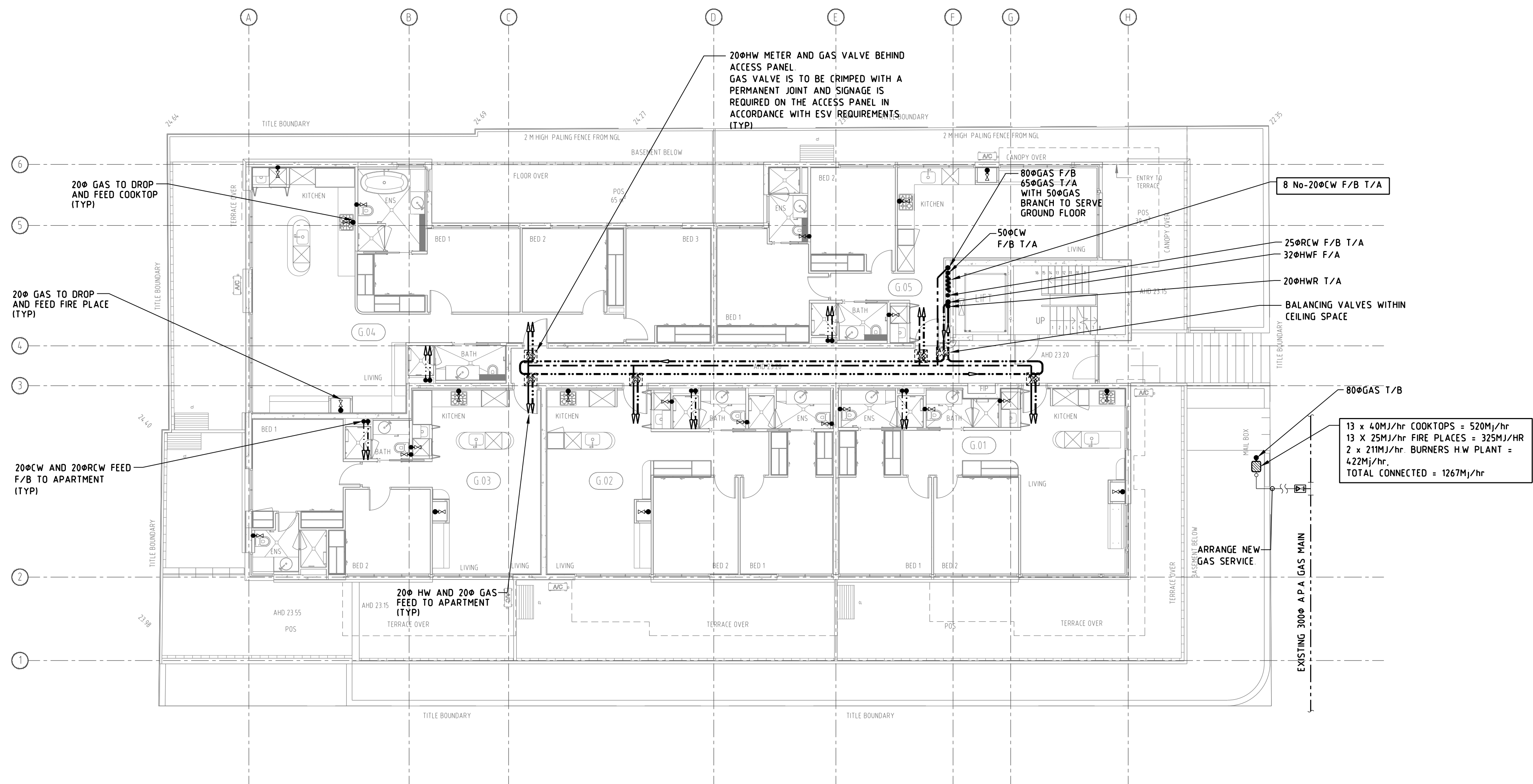
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project title
**1 VINE STREET
HEIDELBERG, VIC 3084**

service
HYDRAULIC SERVICES

**BASEMENT LEVEL
WATER & GAS SERVICES
LAYOUT**
drawing title

scale	0 1 2 3 4m	
designed	checked	
drawn	date	
job number	1939	
issue	T1	drawing number H8
drawing	8 of 13	



T1	TENDER ISSUE	PR	07/08/18
P1	PRELIMINARY ISSUE	EN	18/05/17
issue	rev.	description	by date



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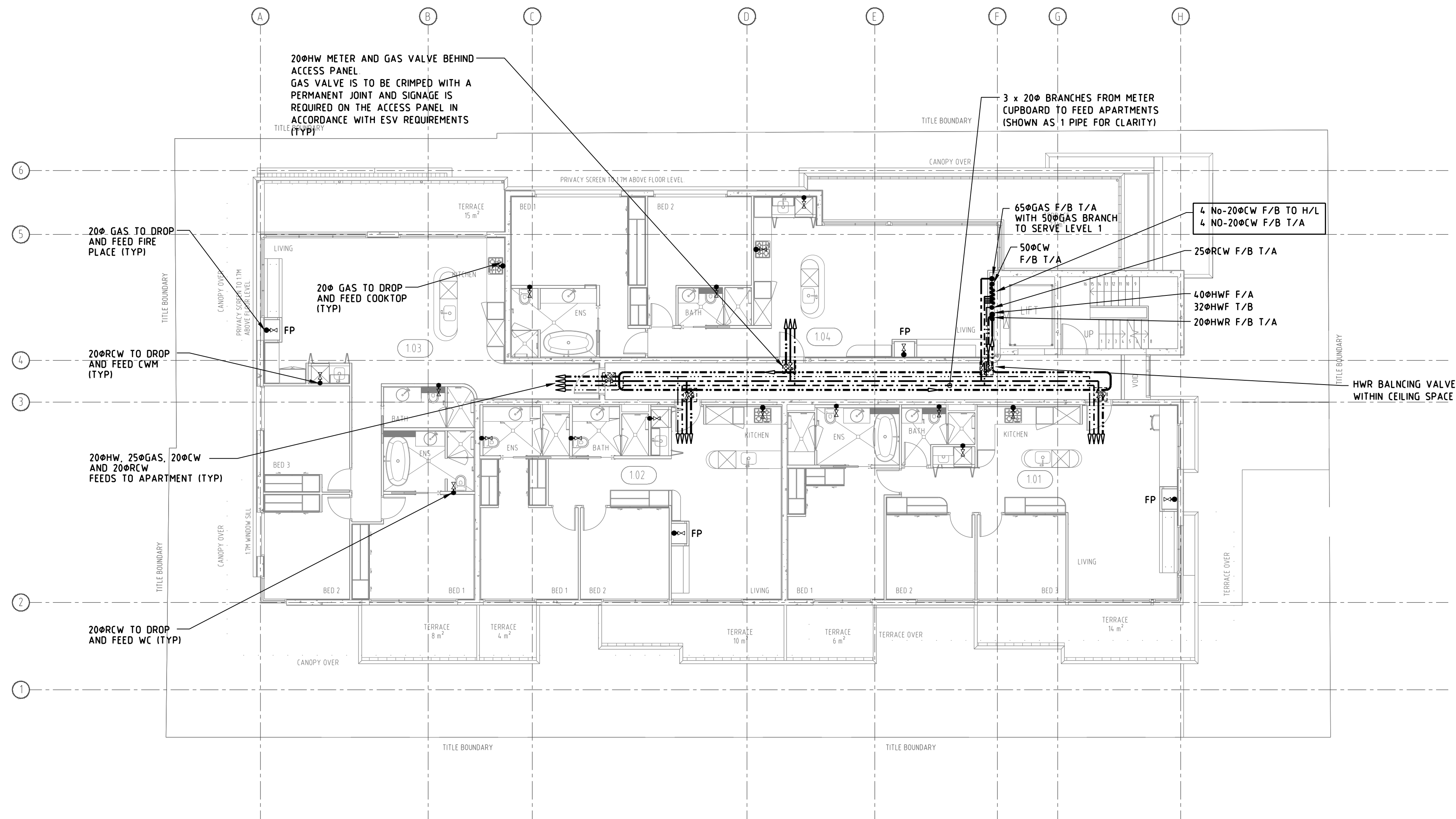
This drawing is available in electronic format at a cost of
\$125 payable by this subcontractor

project title
**1 VINE STREET
HEIDELBERG, VIC 3084**

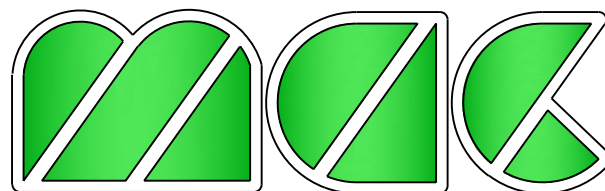
service
HYDRAULIC SERVICES

**GROUND FLOOR
WATER & GAS SERVICES
LAYOUT**
drawing title

scale 1:1000	0 0.5 1 2 3 4m	
designed ASG	checked ASG	
drawn PR	date MAY 2017	
job number 1939	issue T1	
drawing 9 of 13		drawing number H9



T1	TENDER ISSUE	PR	07/08/18
P1	PRELIMINARY ISSUE	EN	18/05/17
issue	rev.	description	by date



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project title
**1 VINE STREET
HEIDELBERG, VIC 3084**

service
HYDRAULIC SERVICES

**FIRST FLOOR
WATER & GAS SERVICES
LAYOUT**
drawing title

scale 1:1000 0 0.5 1 2 3 4m

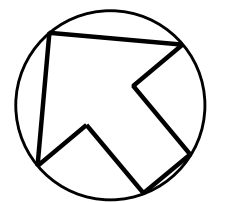
designed ASG checked ASG

drawn PR date MAY 2017

job number 1939

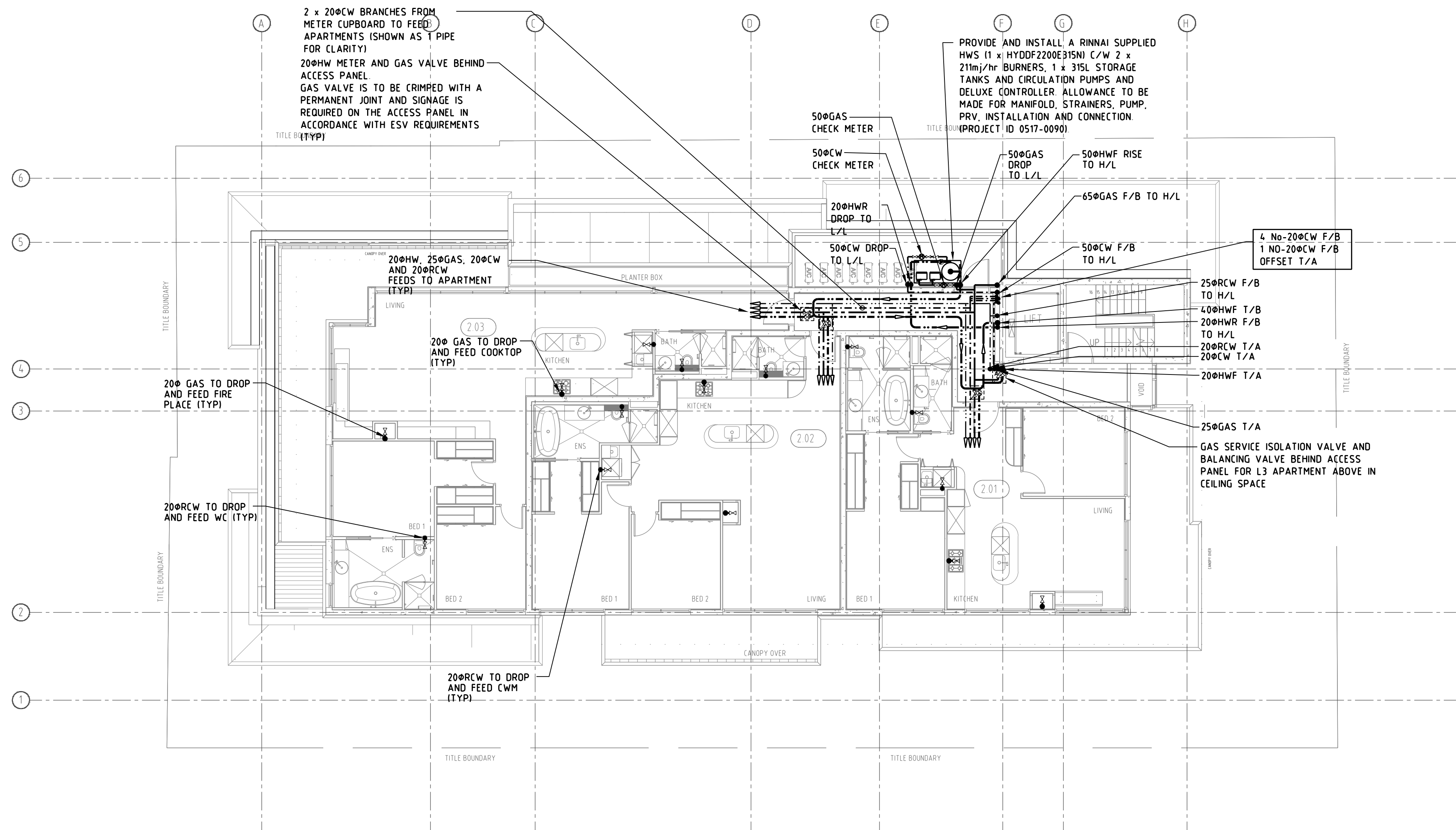
issue T1

drawing 10 of 13



drawing number

H10



T1	TENDER ISSUE	PR	07 08 18
P1	PRELIMINARY ISSUE	EN	18 05 17
issue	rev.	description	by date

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Member Firm

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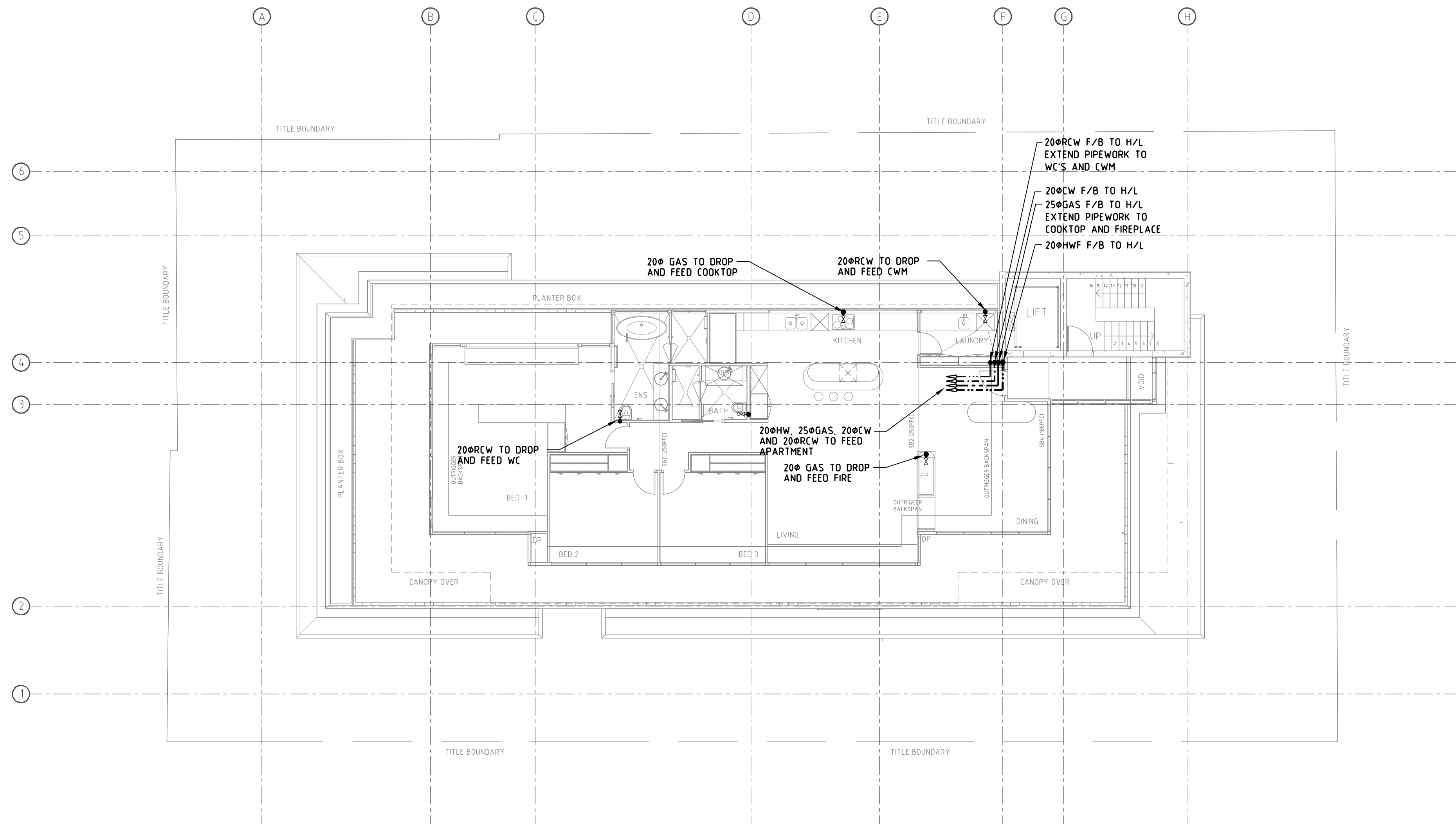
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project title
**1 VINE STREET
HEIDELBERG, VIC 3084**

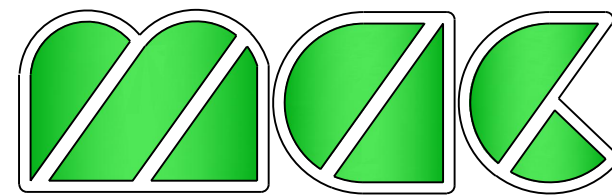
service
HYDRAULIC SERVICES

**SECOND FLOOR
WATER & GAS SERVICES
LAYOUT**
drawing title

scale 1:1000	0 0.5 1 2 3 4m	
designed ASG	checked ASG	
drawn PR	date MAY 2017	
job number 1939	drawing number H11	
issue T1		
drawing 11 of 13		



T1		TENDER ISSUE	PR	07 08 18
P1		PRELIMINARY ISSUE	EN	18 05 17
issue	rev.	description	by	date



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project title
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HEIDELBERG, VIC 3084**

service
HYDRAULIC SERVICES

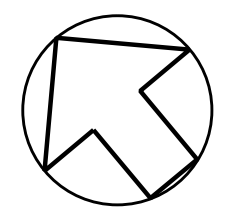
**THIRD FLOOR
WATER & GAS SERVICES
LAYOUT**
drawing title

scale 1:1000
0 0.5 1 2 3 4m

designed ASG	checked ASG
drawn PR	date MAY 2017

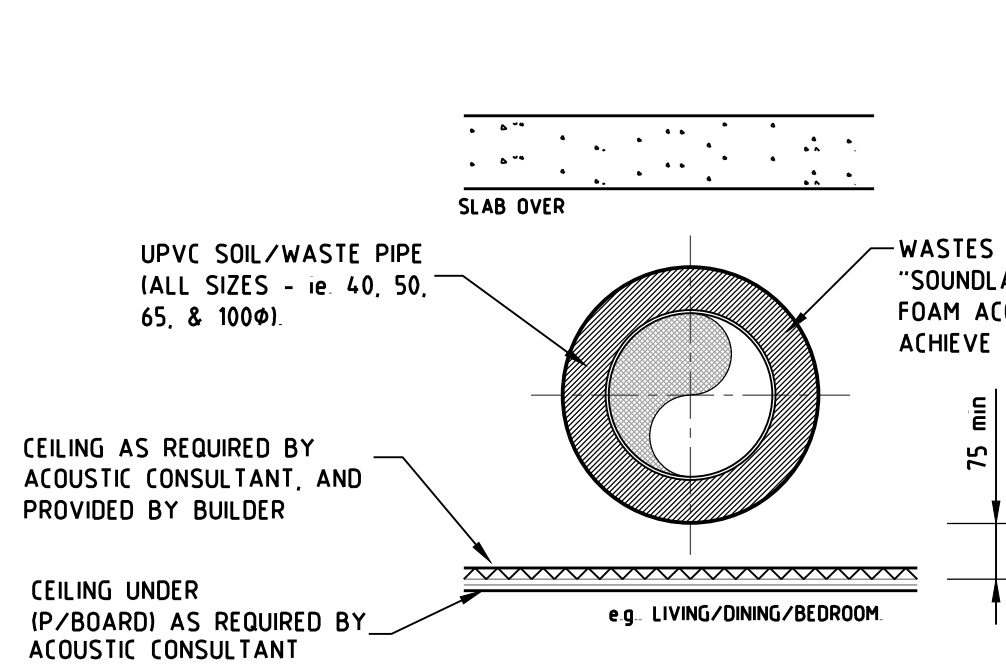
job number	1939
issue	T1

drawing	12 of 13
---------	----------



drawing
number

H12



HORIZONTAL SEWER/STORMWATER LAGGING

(IN CEILING SPACES - NON HABITABLE TO HABITABLE)
(ACHIEVES STC RATING OF 45 INTO ROOM BELOW)
NTS

NOTE

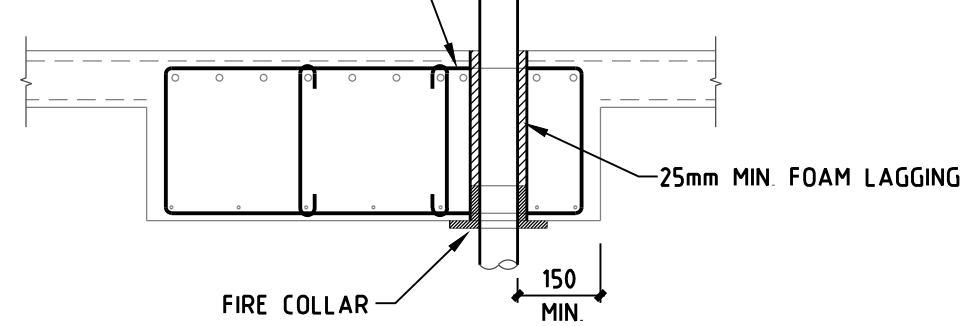
SPECIALIST LAGGING CONTRACTOR IS TO BE ENGAGED FOR THE INSTALLATION OF ALL ACOUSTIC LAGGING TO PIPEWORK

PIPING TO BE INSTALLED TO ACOUSTIC ENGINEER REPORT.

ACOUSTIC LAGGING DETAILS

NOT TO SCALE

STRUCTURAL ENGINEER'S APPROVAL SHALL BE SOUGHT TO MOVE REINFORCING BARS TO ACCOMMODATE SERVICES ENSURE THAT THE SPECIFIED MIN & MAX BAR SPACING REQUIREMENTS ARE MET - PROVIDE ADDITIONAL BARS IF NECESSARY, TO MEET SPACING REQUIREMENTS

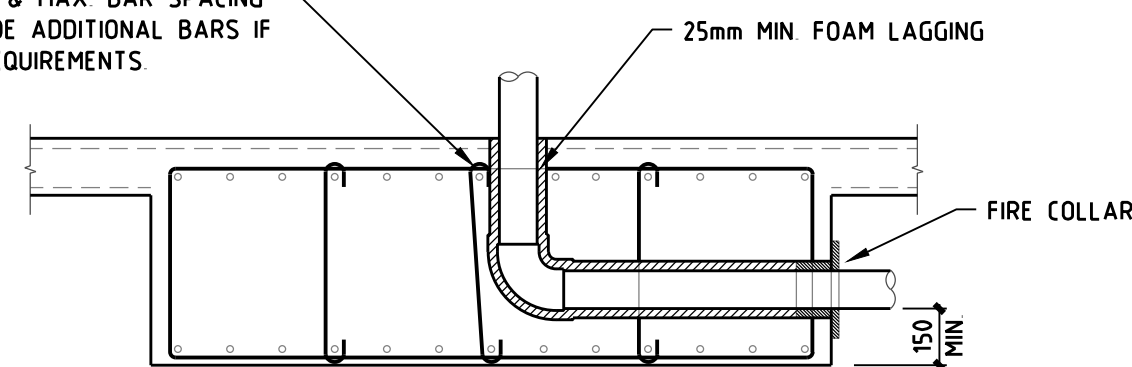


TYPICAL DETAILS FOR SERVICE PIPES

PENETRATING CONCRETE BEAMS

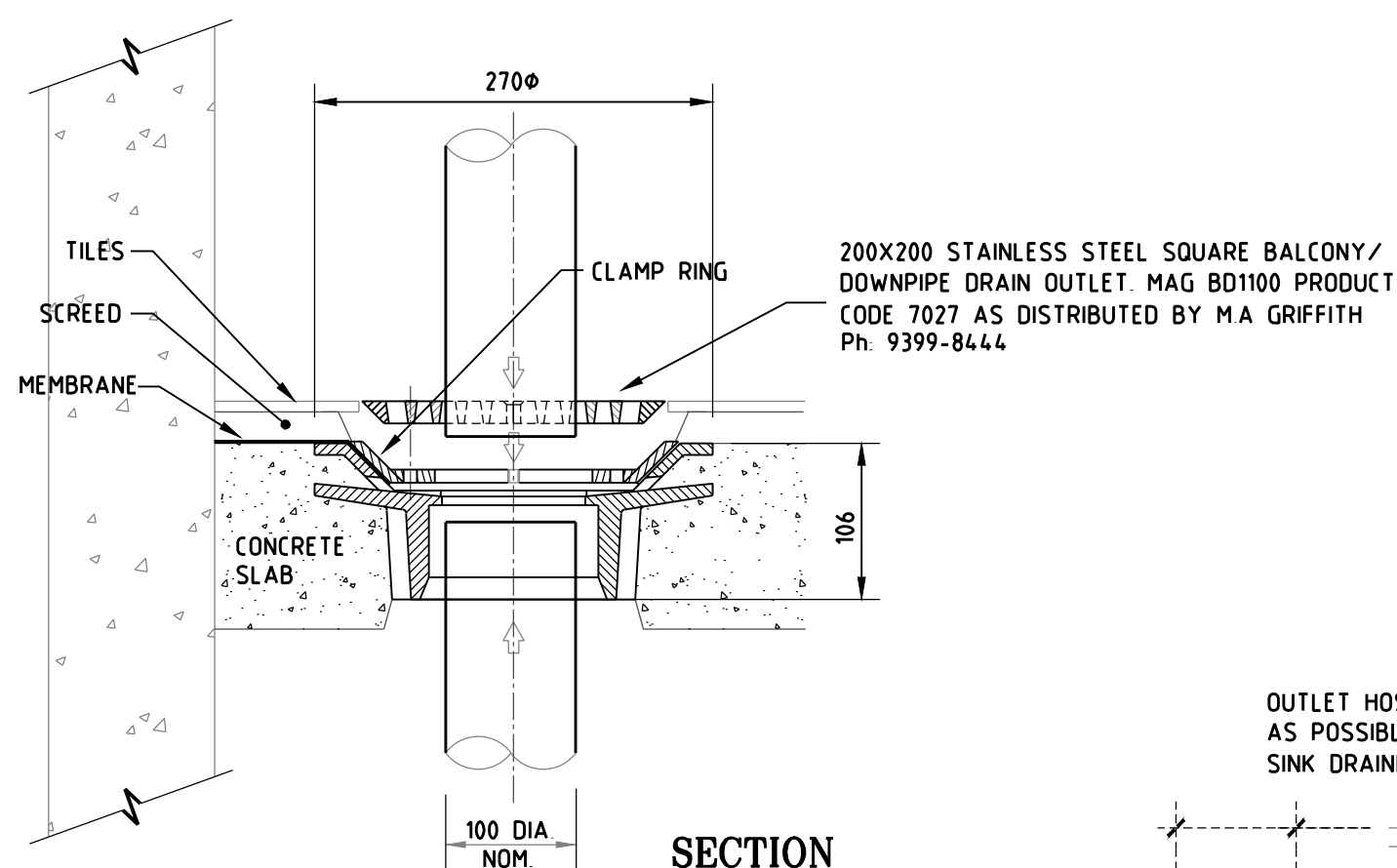
NOT TO SCALE

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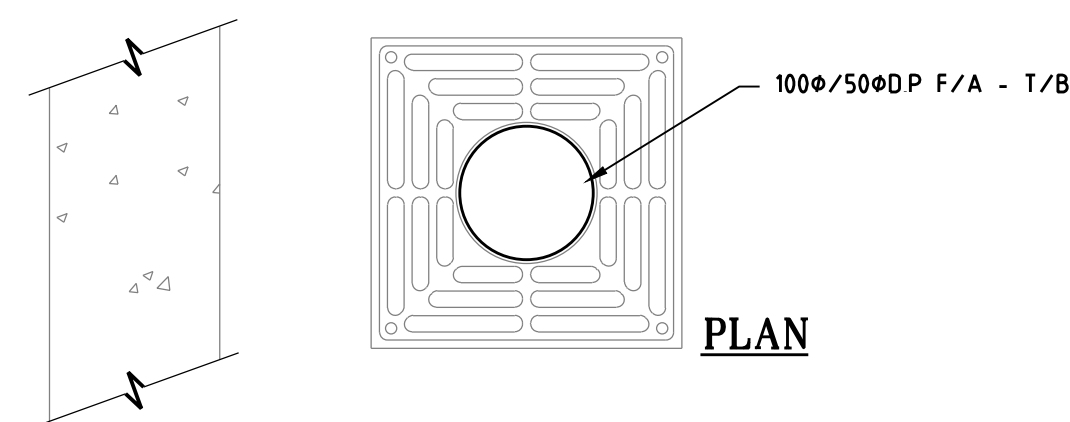


TYPICAL DETAIL FOR SERVICE PIPES WITH FIRE COLLAR CAST INTO CONCRETE BEAMS

NOT TO SCALE



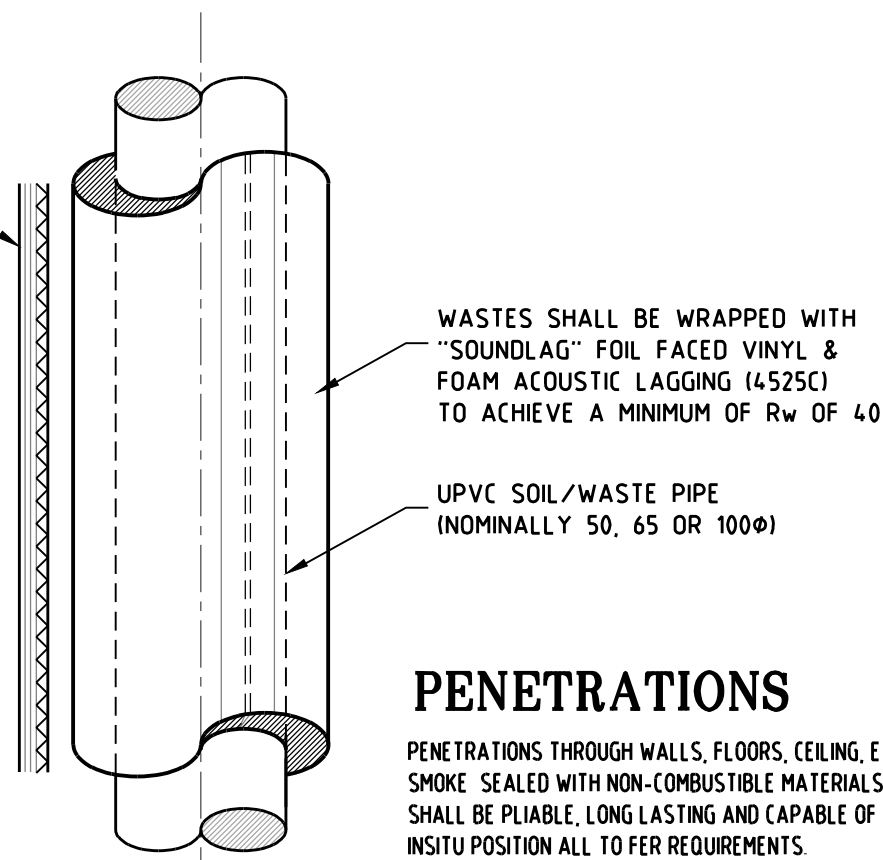
SECTION



TERRACE OUTLET DETAIL

NOT TO SCALE 100mm ROOF SUMP WITH CLAMP RING

ACOUSTIC BATS INTERNALLY BY BUILDER (OR STAGGERED STUDS & ROCKWOOL INTERNAL INSULATION) AS REQUIRED BY THE ACOUSTIC CONSULTANT, AND PROVIDED BY BUILDER



PENETRATIONS

PENETRATIONS THROUGH WALLS, FLOORS, CEILING, ETC. SHALL BE SMOKE SEALED WITH NON-COMBUSTIBLE MATERIALS SMOKE SEALS SHALL BE PLIABLE, LONG LASTING AND CAPABLE OF REMAINING INSITU POSITION ALL TO PER REQUIREMENTS

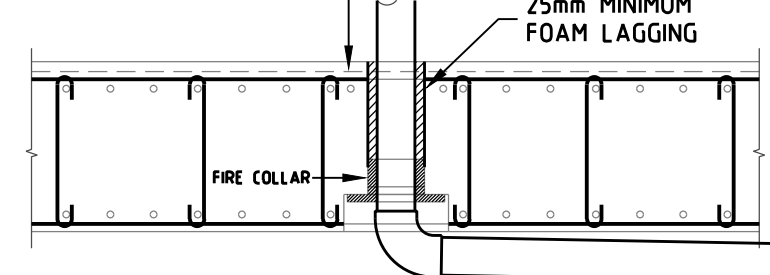
VERTICAL SEWER/STORMWATER STACK LAGGING

(IN SHAFT NON-HABITABLE TO HABITABLE) (ACHIEVES STC RATING OF 45 INTO ROOM BESIDE SHAFT) NTS

NOTE

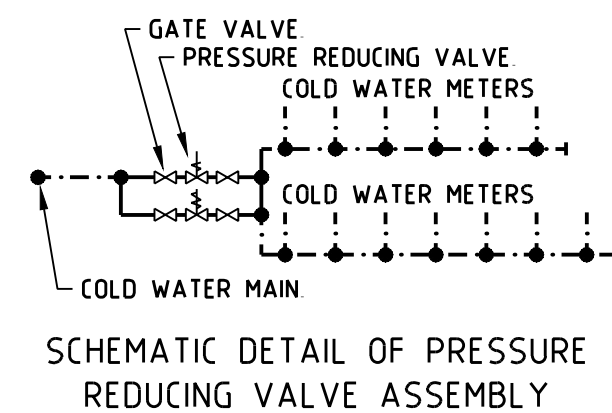
ALL INTERNAL DOWNPIPES & STORMWATER DRAINS SHALL BE LAGGED IN ACCORDANCE WITH THE ABOVE DETAILS

STRUCTURAL ENGINEER'S APPROVAL SHALL BE SOUGHT TO MOVE REINFORCING BARS TO ACCOMMODATE SERVICES ENSURE THAT THE SPECIFIED MIN & MAX BAR SPACING REQUIREMENTS ARE MET - PROVIDE ADDITIONAL BARS IF NECESSARY, TO MEET SPACING REQUIREMENTS

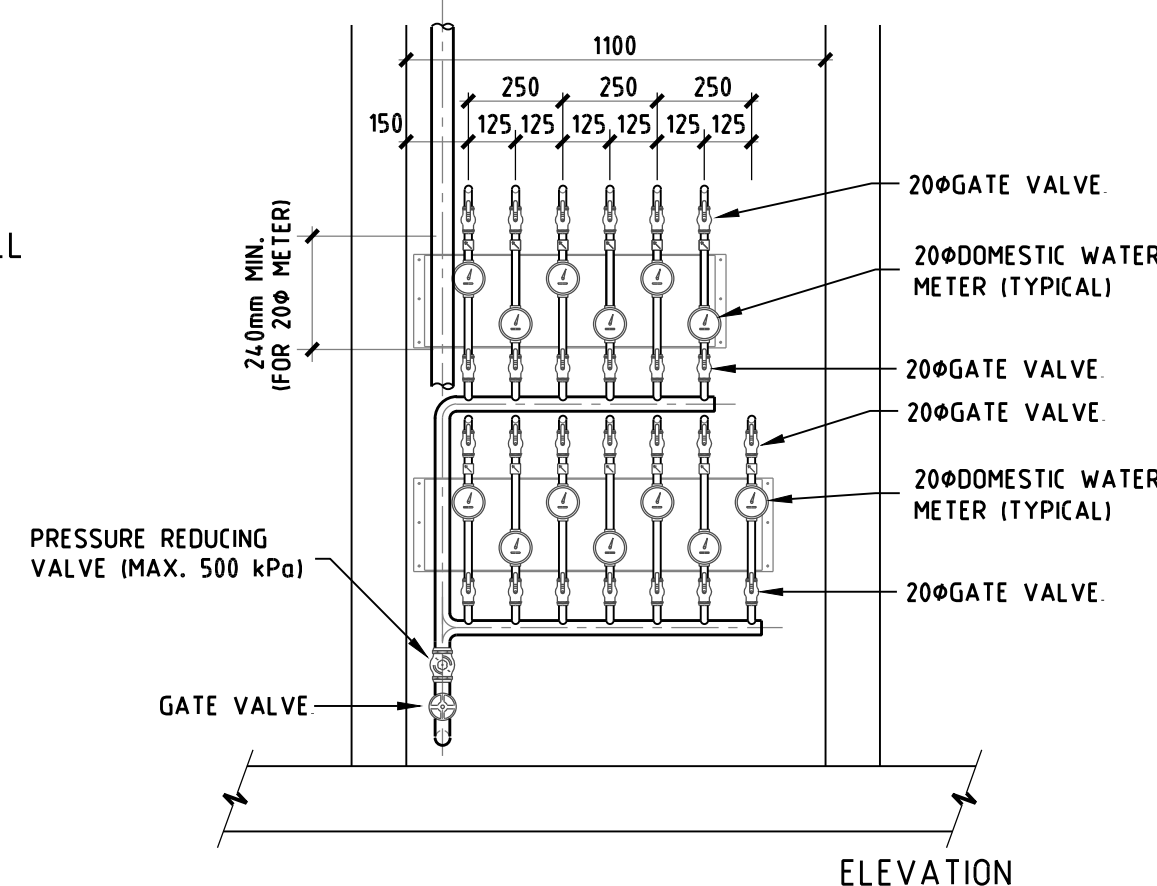


TYPICAL SLAB PENETRATION WITH FIRE COLLAR

NOT TO SCALE



SCHEMATIC DETAIL OF PRESSURE REDUCING VALVE ASSEMBLY

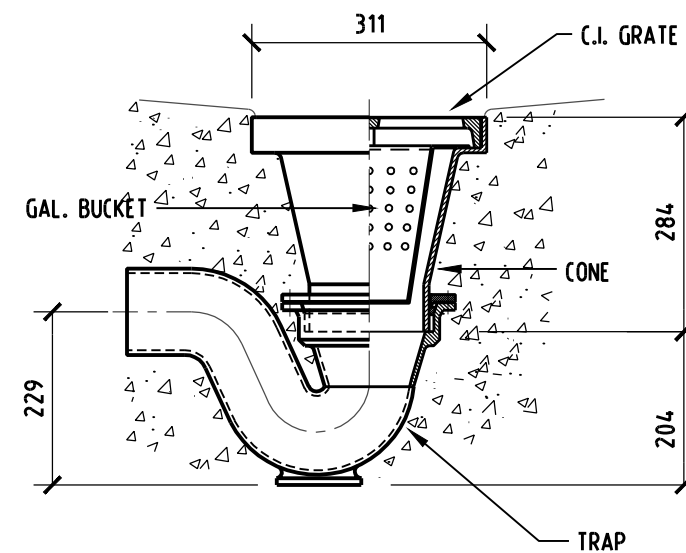


TYPICAL DOMESTIC WATER CUPBOARDS DETAIL.

(1100w x 500d CLEAR INT'L)
SCALE 1 : 20

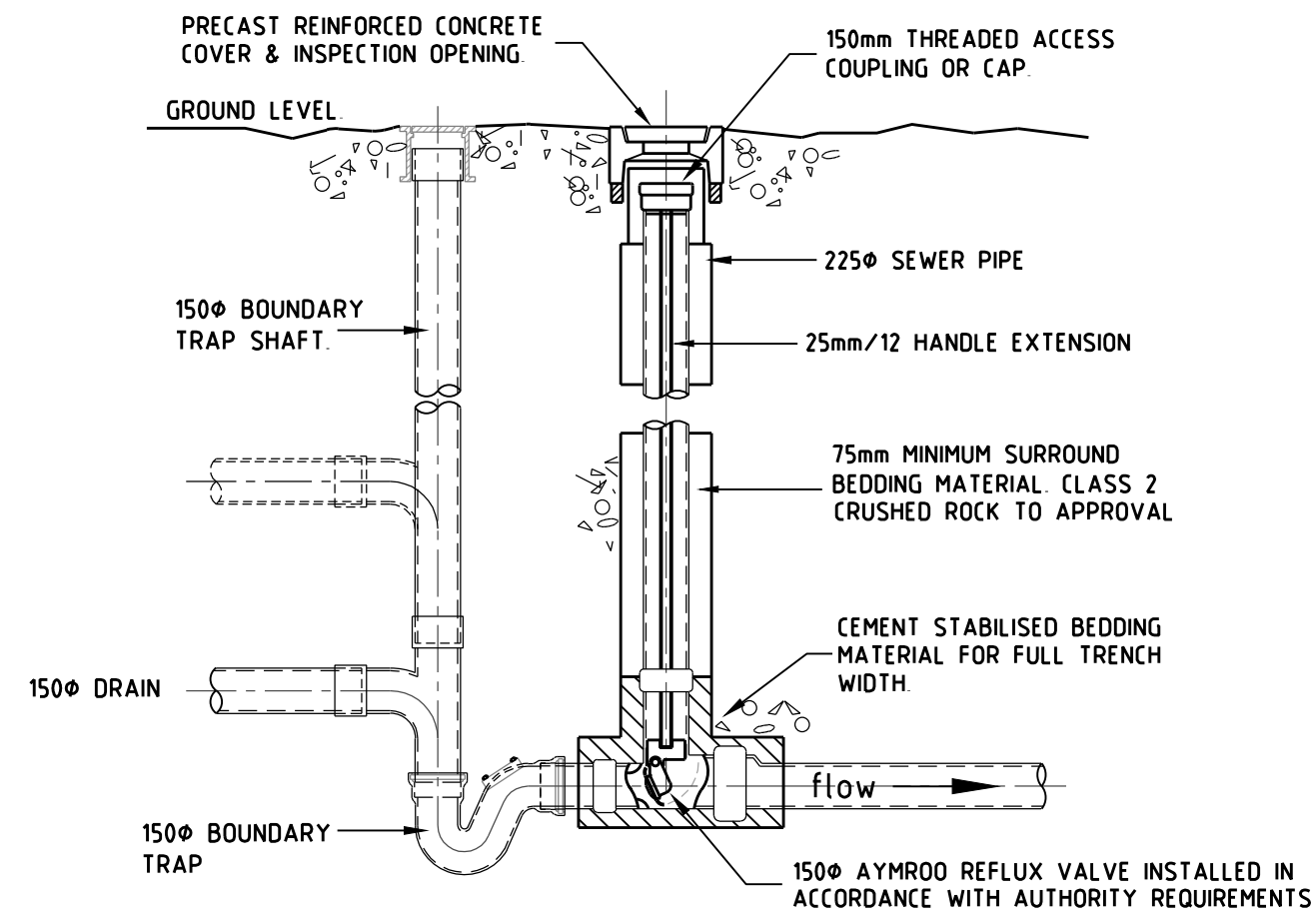
NOTE

PRIOR TO ANY INSTALLTION, A REQUEST FOR INFORMATION REGARDING THE NECESSITY FOR REMOTE METERS & ASSOCIATED ACCESSORIES SHALL BE CARRIED OUT AS WORKS IN THIS AREA ARE OFTEN SUBJECT TO THE WATER AUTHORITY REQUIREMENTS OUTLINED IN THEIR ASSESSMENT



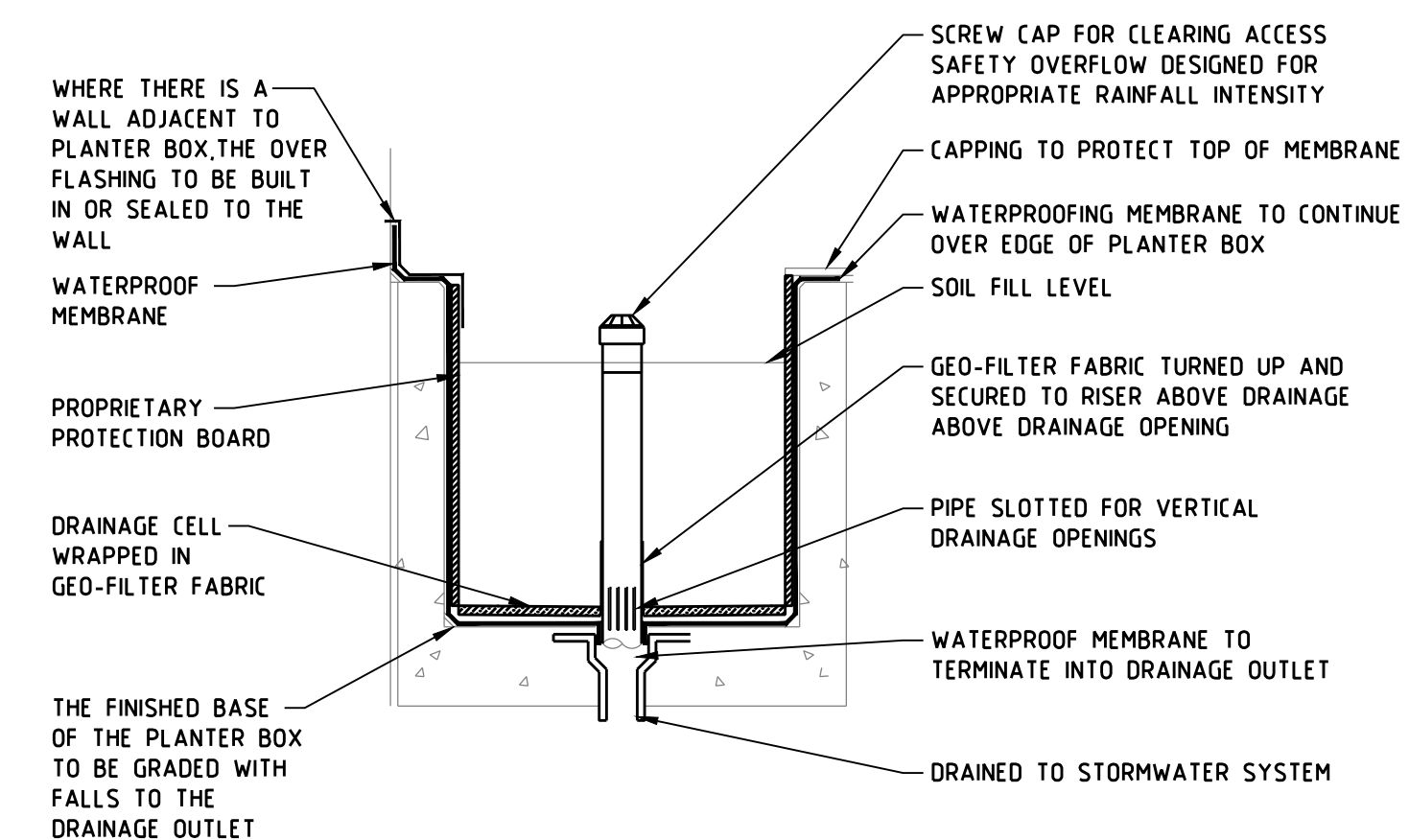
SILT TRAP DETAIL

NOT TO SCALE



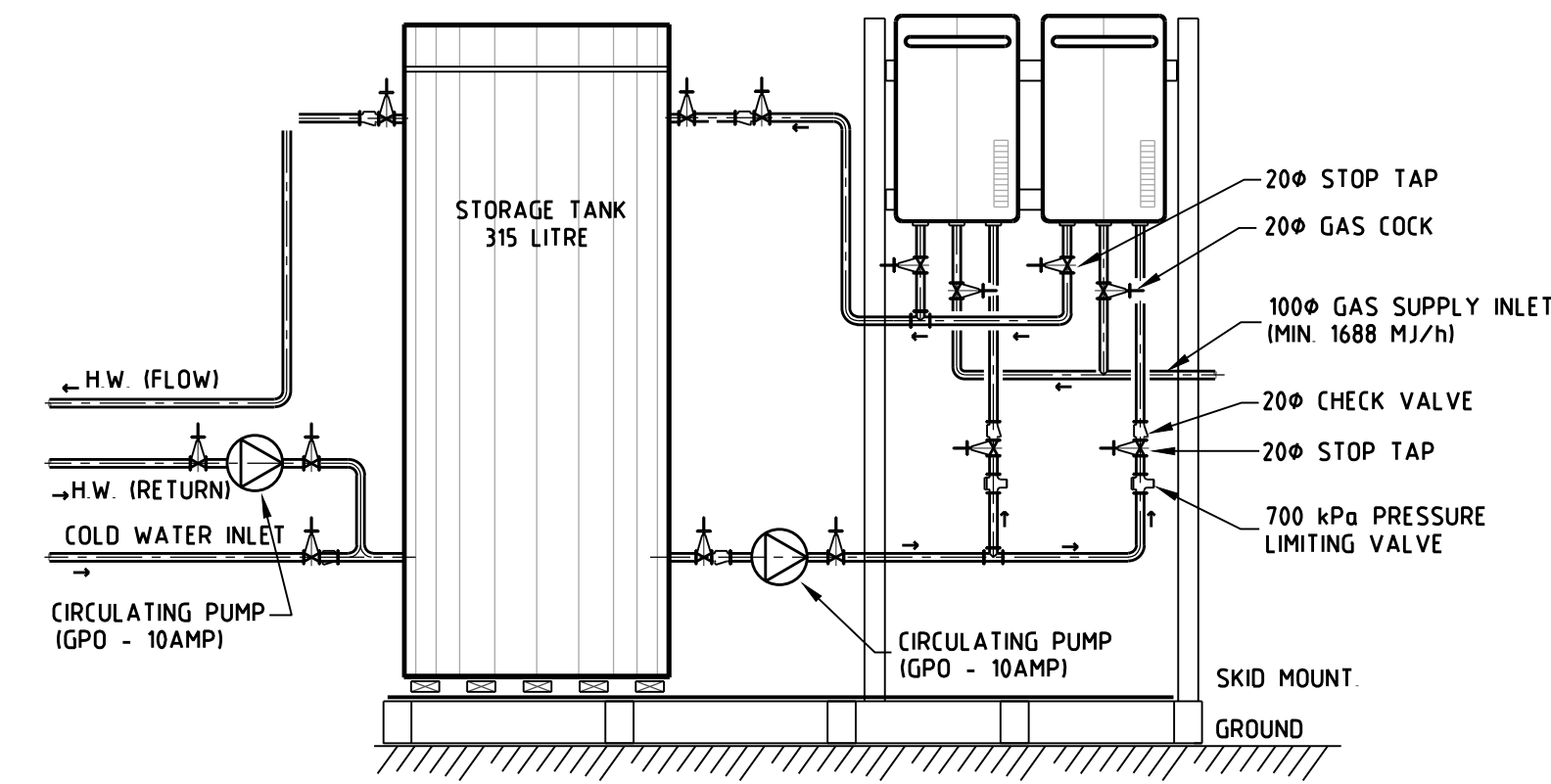
BOUNDARY TRAP AND REFLUX VALVE

NOT TO SCALE



TYPICAL PLANTER BOX DRAINAGE DETAIL.

NOT TO SCALE



HOT WATER SYSTEM TO COMPLY WITH AS3666.1

GAS HOT WATER UNIT SCHEDULE		
NUMBER REQ'D	Power Requirement	RINNAI Model
ONE No. PLANT (ROOF LEVEL) WHERE INDICATED	SINGLE PHASE 240v-10 amp GPO PROVIDED BY ELECTRICAL CONTRACTOR	DEMAND DUO HYDDF2200E315N STORAGE HOT WATER

CONTINUOUS FLOW HOT WATER UNIT DETAIL (COMPLETE WITH STORAGE TANK)

NOT TO SCALE

GAS HOT WATER SYSTEM

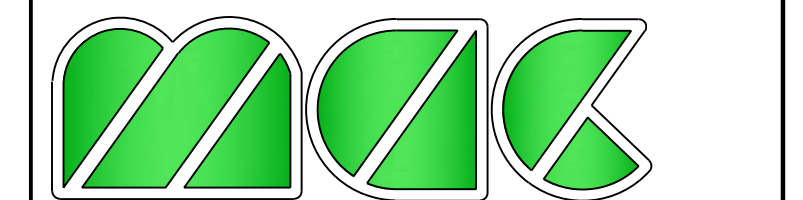
DEMAND DUO - RINNAI HEAVY DUTY CONTINUOUS FLOW WATER HEATER WITH HEATER MANIFOLD, STAINLESS STEEL TANK, THERMOSTAT STATION AND PRIMARY PUMPS ALL COMPONENTS MOUNTED ON MODULAR STAINLESS STEEL SKID BASE, c/w UV RATED LAGGING AND PRE-WIRED GPO PACKAGE.

GAS HOT WATER SYSTEM SCOPE

DEMAND DUO - 1 x HYDDF2200E315N RING MAIN PUMP WITH DELUXE CONTROLLER - 1 x DDOP2060NFDP ALLOW FOR SKID BASE, STRAINERS AND RINGMAIN PUMP. NOTE ALL AS PER REFERENCE PROJECT ID No 0517-0090
NOTE HOT WATER PLANT TO BE SET AT 65°C (H.W. TEMP)

T1	TENDER ISSUE	PR	07.08.18
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issue	rev.	description	by	date
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Contractors must verify all dimensions at the job before commencing any work or preparing shop drawings.

Contractors must locate all air registers pipework outlets, light fittings, power outlets, sprinkler heads, etc. from the Architects reflected ceiling plans and other detailed drawings.

Do not scale. All dimensions to be checked on site.

This drawing is available in electronic format at a cost of \$125 payable by this subcontractor

project title
**1 VINE STREET
HEIDELBERG, VIC 3084**

service
HYDRAULIC SERVICES

DETAILS SHEET

drawing title

scale **Not to Scale:**

designed **ASG** checked **ASG**

drawn **PR** date **MAY 2017**

job number **1939**

issue **T1**

drawing **13 of 13**

H13