



SERVICE STATION LONDONDERRY ROAD, CRANE BROOK HYDRAULIC SERVICES

GENERAL NOTES

- G1. THESE GENERAL NOTES ARE RELEVANT TO ALL DRAWINGS IN THE HYDRAULIC SERVICES SET.
- G2. THE NOTES ON THIS DRAWING ARE SUPPLEMENTARY TO AND DO NOT REPLACE THE SPECIFICATION TO WHICH THE CONTRACTOR MUST COMPLY.
- G3. THE DRAWINGS INDICATE THE GENERAL HYDRAULICS LAYOUT AND ARE DIAGRAMMATIC ONLY. INCORPORATE DIMENSIONS AND FINISH ADJUSTMENTS AS MAY BE NECESSARY TO COMPLETE THE WORKS.
- G4. FOR PENETRATIONS THROUGH BEAMS AND FOOTINGS REFER TO STRUCTURAL ENGINEER'S DETAILS. ALL PENETRATIONS THROUGH THE BATED WALLS OR FLOORS SHALL BE APPROVED FIRE STOPPED. PROVIDE FIRE COLLARS TO ALL PENETRATIONS THROUGH PARTY WALLS, DUCTS, FLOORS, ETC.
- G5. PRIOR TO FORMING OR CORING ANY PENETRATIONS, THE HYDRAULIC SERVICES CONTRACTOR SHALL CO-ORDINATE AND CONFIRM WITH THE BUILDING, STRUCTURAL, CONCRETE CONTRACTOR AND ALL OTHER TRADES FOR THE LOCATION OF ALL PENETRATIONS.
- G6. THE SERVICE DRAWINGS SHALL BE READ IN ACCORDANCE WITH ALL RELEVANT ARCHITECTURAL AND OTHER CONTRACTANTS DRAWINGS, SPECIFICATIONS AND ANY WRITTEN INSTRUCTIONS ISSUED DURING THE COURSE OF THE CONTRACT. DISCREPANCIES SHALL BE REFERRED TO THE ENGINEER FOR DECISION BEFORE PROCEEDING WITH WORK.
- G7. DIMENSIONS SHALL NOT BE OBTAINED BY SCALING THE DRAWING. REFER TO ARCHITECT'S DIMENSIONAL DRAWINGS. VERIFY ALL DIMENSIONS ON SITE BEFORE PREPARATION OF SHOP DRAWINGS.
- G8. SUBSTITUTES WILL NOT BE PERMITTED WITHOUT WRITTEN APPROVAL OF THE ENGINEER.
- G9. MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE SPECIFICATION. THE CURRENT VERSION OF ALL SAA CODES, THE BUILDING CODE OF AUSTRALIA, LOCAL AUTHORITIES AND THE PROVISIONS OF THE CURRENT OCCUPATIONAL HEALTH AND SAFETY ACT.
- G10. THE CONTRACTOR MUST ALLOW FOR ALL WORKS NECESSARY TO PROVIDE AN INSTALLATION WHICH IS COMPLETE AND COMPLYING WITH THE SCOPE, ITS INTENT AND ALL CODES AND STANDARDS.
- G11. CONTRACTORS SHALL ENSURE THAT ALL LOCATIONS OF ALL UNDERGROUND SERVICES ARE IDENTIFIED AND CO-ORDINATED PRIOR TO COMMENCEMENT OF WORKS AND EXCAVATIONS.
- G12. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VISIT THE SITE BEFORE SUBMITTING A TENDER, TO VERIFY EXISTING CONDITIONS AND ANY ISSUES WHICH MAY IMPACT ON THE CONTRACT.
- G13. THESE DRAWINGS ARE STRICTLY COPYRIGHT AND SHALL NOT BE COPIED OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF NEIL LOWRY & ASSOCIATES.
- G14. UNLESS NOTED OTHERWISE ON A PARTICULAR DRAWING THESE NOTES SHALL APPLY TO ALL DRAWINGS IN THE SET.
- G15. ALL DIMENSIONS ARE IN mm UNLESS NOTED OTHERWISE.
- G16. THE STORMWATER PROPOSED WORKS DETAIL SHALL BE CONSTRUCTED TO THE REQUIREMENTS OF COUNCIL, GENERALLY AS DETAILED HEREINAFTER.
- G17. ALL EXISTING SERVICES SHALL BE VERIFIED FOR DEPTH AND HORIZONTAL POSITION BY PHYSICAL MEANS PRIOR TO EXCAVATION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE SUPERINTENDANT'S ATTENTION.
- G18. ALL WORK IS TO BE EXECUTED IN ACCORDANCE WITH AS/NZS3998 AND WITH THE LOCAL PLUMBING INSPECTORS REQUIREMENTS.
- G19. LIAISON WITH AUTHORITIES OR OTHER CONTRACTORS WHO MAY BE AFFECTED BY THE WORKS.
- G20. THE CONTRACTOR, SUBCONTRACTOR, THEIR AGENT, OR WHOMEVER IS RESPONSIBLE FOR THE WORKS WITHIN THESE DRAWINGS SHALL TAKE FULL RESPONSIBILITY FOR THE CONSTRUCTION OF THE WORKS AND THE PAYMENT OF ALL FEES TO THE RELEVANT AUTHORITIES.
- G21. HANDED-UP POINTS OF THE CONTRACT DRAWINGS SHALL BE AVAILABLE ON SITE AT ALL TIMES FOR PERSONAL AND BE ACCURATE TO THE WORKS AS EXECUTED.
- G22. ALL WORKS TO BE CO-ORDINATED WITH THE PROJECT MANAGER TO ENSURE THAT THE NORMAL OPERATION OF THE FACILITY ARE NOT UNNECESSARILY INTERRUPTED.
- G23. ALL SERVICES ARE TO BE CLEARLY LABELLED IN ACCORDANCE WITH AS14.

WATER SERVICES

- W1. ALL WATER SUPPLY SHALL COMPLY WITH AUSTRALIAN STANDARD AS/NZS 4554 ALL PARTS, THE BUILDING CODE OF AUSTRALIA AND OTHER AUTHORITIES OR REGULATIONS HAVING JURISDICTION OVER THE INSTALLATION. MAKE ALL APPLICATIONS AND PAY ALL ASSOCIATED FEES AND CHARGES.
- W2. ALL COPPER PIPEWORK SHALL BE HARD DRAWN COPPER TUBING TYPE 'B' CONFORMING TO AS1542.
- W3. ALL PIPEWORK SHALL BE CONCEALED. WHERE PIPEWORK IS EXPOSED IT SHALL BE CHROME PLATED. ALL PIPEWORK THROUGH FIRE RATED WALLS OR FLOORS OR CEILING SHALL BE FIRE STOPPED.
- W4. PIPE SUPPORTS SHALL BE INSTALLED PROGRESSIVELY AS PIPES ARE INSTALLED. SUPPORT SYSTEM SHALL BE DESIGNED TO SAFELY AND COMPLETELY SUPPORT THE WEIGHT OF PIPEWORK. PIPEWORK SHALL BE ADEQUATELY ANCHORED AT TRIBUTARY POINTS.
- W5. ALL PIPEWORK SHALL BE AS INDICATED WITH DRIPNUT BRACKETS TO MECHANICAL FIXTURES UNLESS NOTED OTHERWISE. HOLE LENGTH OF DRIPNUT BRACKETS SHALL BE 1.8 METRES.
- W6. DO NOT INSTALL PIPEWORK INTO SOUND INSULATED WALLS UNLESS OTHERWISE NOTED.
- W7. CLOSET PAN FIXINGS SHALL BE PROVIDED WITH CHROME PLATED ISOLATION VALVES.
- W8. WHERE PIPEWORK IS IN CONTACT WITH DISSIMILAR METALS, THE METALS SHALL BE ISOLATED AGAINST BI-METAL CORROSION.
- W9. ALL ISOLATION VALVES SHALL BE POSITIONED IN APPROVED LOCATIONS. VALVES LOCATED IN DUCTS OR WALLS SHALL BE POSITIONED BEHIND APPROVED TIE ACCESS COVERS.
- W10. HOSE TAPS SHALL BE 600mm ABOVE FINISHED SURFACE LEVEL. SHALL BE 25mm IN SIZE AND BE FITTED WITH ANTI-VANDAL TAPS AND APPROVED VACUUM BREAKERS.
- W11. HOT WATER INSTALLATIONS TO ALL PERSONAL HYGIENE FIXTURES SHALL BE SET AT MAX. 60° CELSIUS. HOT WATER INSTALLATIONS TO ALL KITCHEN/LAUNDRY FIXTURES SHALL BE AT MIN 49° CELSIUS DELIVERY.
- W12. HOT WATER UNITS SHALL BE INSTALLED TO STORE AT A HEIGHT OF 40° CELSIUS.

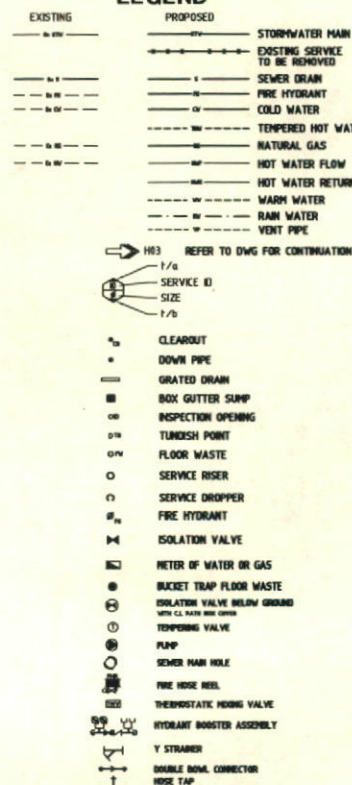
SEWERAGE

- S1. ALL SEWERAGE SHALL COMPLY WITH AUSTRALIAN STANDARD AS/NZS3998, BCA AND OTHER AUTHORITIES OR REGULATIONS HAVING JURISDICTION OVER THE INSTALLATION. MAKE ALL NECESSARY APPLICATIONS AND PAY ALL ASSOCIATED FEES AND CHARGES.
- S2. CO-ORDINATE WITH OTHER SERVICES CONTRACTORS BEFORE COMMENCING TO DETERMINE THE CORRECT CONSTRUCTION SEQUENCE.
- S3. CONFIRM THE LOCATION AND LEVEL OF THE DESIGNATED OUTLET BEFORE LAYING OF ANY DRAINS.
- S4. PIPEWORK SHALL BE 600mm UNLESS NOTED OTHERWISE. ALL PIPEWORK SHALL BE EQUAL TO OR GREATER THAN THE DESIGNATED OUTLET SIZE OF THE FIXTURE, APPLIANCE OR FIXTURES.
- S5. WASTE PIPES OF 60mm SHALL BE GRADED AT 640 MM AND ALL OTHER PIPEWORK, LESS THAN 60mm, SHALL BE GRADED AT 540. VENTS SHALL BE GRADED AT 540.
- S6. WHERE PIPEWORK PENETRATES FIRE RATED WALLS, CEILING OR FLOORS, A FIRE STOP COLLAR SHALL BE INSTALLED. ALL WORK SHALL BE STRICTLY INSTALLED TO THE MANUFACTURER'S RECOMMENDATIONS. REFER TO THE SPECIFICATION FOR FURTHER DETAILS.
- S7. ALL PIPEWORK SHALL BE ADEQUATELY SUPPORTED. SUPPORT SYSTEM SHALL BE DESIGNED TO SAFELY AND COMPLETELY SUPPORT THE WEIGHT OF PIPEWORK AND ASSOCIATED WORK. SUPPORT SYSTEM SHALL BE INSTALLED INDEPENDENTLY ON PIPE INSTALLATION AND ALLOWANCE FOR EXPANSION PROVIDED.
- S8. PIPEWORK SHALL BE CONSTRUCTED OF UNPLASTICIZED POLYETHYLENE CHLORIDE (UPVC), U.S.A. PIPEWORK RECEIVING HOT DISCHARGES SHALL BE CONSTRUCTED OF HIGH DENSITY POLYETHYLENE (PE-HD).
- S9. ALL PIPEWORK SHALL BE CONCEALED IN WALLS, CEILING SPACE OR DUCTS UNLESS NOTED OTHERWISE.
- S10. PIPEWORK SHALL BE STATIC TESTED PROGRESSIVELY TO ENSURE NO LEAKS. REFER TO SPECIFICATION.
- S11. WHERE FLOOR WASTE GRATES ARE INDICATED, THE FLOORS SHALL BE GRADED TOWARDS THE OUTLET.
- S12. TURNDISHES SHALL BE INSTALLED TO RECEIVE MECHANICAL PLANT WASTE AND BE CONNECTED ABOVE WASTE TRAPS WHERE DETAILED ON MECHANICAL ENGINEER'S DRAWING. DISCHARGE TO TURNDISHES SHALL BE 250mm ABOVE THE TURNDISH EDGE AND BE LOCATED IN AN ACCESSIBLE POSITION.

STORMWATER

- SW1. ALL PIPES & FITTINGS FOR STORMWATER DRAINAGE SHALL BE AS FOLLOWS UNDO OR THE DRAWING:
 - UNPLASTICIZED POLYETHYLENE CHLORIDE (UPVC) WITH SOLVENT WELDED JOINTS FOR DRAINAGE UP TO 300mm
 - PIPE REINFORCED CONCRETE WITH RUBBER RINGS FOR PIPE DIAMETERS GREATER THAN 300mm UNDO
 - REINFORCED CONCRETE WHERE REQUIRED BY AS3998 FOR EXCESSIVE DEPTH
 - INSTALL IN ACCORDANCE WITH AUSTRALIAN STANDARD AS3998 EXCEPT WHERE VARYED BY THE CONTRACT DOCUMENTS
- SW2. ALL INHOUSH DRAINAGE PIPEWORK SERVING DOWNPIPES SHALL BE 100mm 100mm DIAMETER UNDO
- SW3. ALL GRATED DRAINS SHALL BE 225mm WIDTH IN TRAFFICABLE AREAS UNDO
- SW4. BEDDING MATERIAL SHALL CONSIST OF IMPORTED FILL ONLY. THICKNESS OF BEDDING LAYER SHALL BE 75mm IN 0.7.2 & 300mm IN ROCK
- SW5. TRENCH FILL ABOVE THE DRAINAGE ZONE TO THE UNDERSIDE OF THE ROAD PAVEMENT OR FOOTWAY PAVEMENT SHALL BE AS FOLLOWS:
 - UNDER ROADWAY:
 - TRENCH FILL MATERIAL SHALL CONSIST OF IMPORTED FILL AS SPECIFIED OR OTHER HIGH GRADE COMPACTION SAND OR APPROVED CRUSHED ROAD GRAVEL CONFORMING TO BCA FORM 1001 OR 1001AR
 - OTHER THAN ROADWAY:
 - TRENCH FILL MATERIAL EXCAVATED SHALL CONSIST OF SELECT FILL AS SPECIFIED & SHALL NOT CONTAIN MORE THAN 20% OF STONES OF SIZE BETWEEN 75mm & 200mm AND MORE LARGER THAN 200mm
- SW6. COMPACT BEDDING, UNDERLAY & TRENCH FILL MATERIALS AS FOLLOWS:
 - TRENCH FILL:
 - 7% FOR 60 DIAMETER
 - 6.5% FOR 100 & 225 DIAMETER
 - 6.5% FOR 300mm DIAMETER
 - 6.5% FOR 375mm DIAMETER
 - PPES SHALL BE TRUE TO GRADES SHOWN & ADJUSTED SO THAT THE CENTRES OF THE BUILT PIPES INTERSECT WITH THE CENTRE OF THE OUTLET PIPE AT THE DOWNSTREAM FACE OF THE FIT
 - MINIMUM DEPTH OF COVER SHALL BE:
 - 60mm FOR NON-TRAFFICABLE AREAS
 - 150mm FOR TRAFFICABLE AREAS
 - 400mm FOR HEAVY VEHICLE TRAFFIC AREAS
- SW7. ALL PIPES FINISH & EVENLY GRAD TO IMPORTED BEDDING FILL MATERIAL.
- SW8. LOCATIONS & POINTS OF PIPEWORK SHALL BE SUBJECT TO CO-ORDINATION WITH OTHER DESIGN DISCIPLINES OR PENETRATIONS THROUGH CONCRETE ELEMENTS

LEGEND



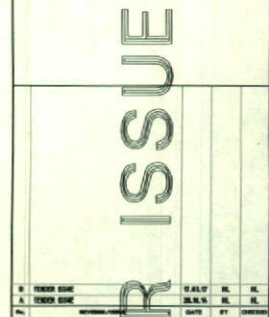
ABBREVIATIONS

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| AFFL | ABOVE FINISHED FLOOR LEVEL |
| B | BASH |
| BT | BOUNDARY TRAP |
| BT/PW | BUCKET TRAP FLOOR WASTE |
| BRO | BOILING WATER UNIT |
| BRO | BALCONY RAINWATER OUTLET |
| C/D | CLEAROUT (ROODING POINT) |
| CS | CLEARERS SINK |
| CW | COLD WATER |
| CWN | CLOTHES WASHING MACHINE |
| DB | DISABLED BATH |
| DKC | DOUBLE BOWL CONNECTOR |
| DOWNPIPE | DOWNPIPE |
| DR | DRAINAGE TURN UP |
| DWC | DISABLED WC |
| EJ | ELEVATED DRAINAGE |
| EXP | EXPANSION JOINT |
| EXISTING | EXISTING |
| EXISTING | EXISTING STORMWATER |
| EXISTING | FIRE HYDRANT |
| EXISTING | FIRE HOSE REEL |
| EXISTING | FLOOR WASTE |
| EXISTING | GRATED DRAIN |
| EXISTING | GAS METER |
| EXISTING | HIGH LEVEL |
| EXISTING | HIGH POINT |
| EXISTING | HOSE TAP |
| EXISTING | HOT WATER |
| EXISTING | HOT WATER FLOW |
| EXISTING | HOT WATER RETURN |
| EXISTING | HOT WATER HEATER |
| EXISTING | INSPECTION OPENING |
| EXISTING | NON POTABLE HOSE TAP |
| EXISTING | OVERFLOW |
| EXISTING | OVERFLOW RELIEF GULLY |
| EXISTING | PLASTER DRAIN OUTLET |
| EXISTING | PRESSURE LIMITING VALVE |
| EXISTING | REDUCED LEVEL |
| EXISTING | REDUCED PRESSURE ZONE |
| EXISTING | RAINWATER OUTLET |
| EXISTING | RAINWATER TANK |
| EXISTING | SK |
| EXISTING | STORM WATER |
| EXISTING | STORMWATER PIT |
| EXISTING | TURNDISH |
| EXISTING | TEMPERED HOT WATER |
| EXISTING | TERMOSTATIC MIXING VALVE |
| EXISTING | TRAPPED TURNDISH |
| EXISTING | URINAL |
| EXISTING | URINAL MICROWAVE CONTROL BEAM |
| EXISTING | VENT PIPE |
| EXISTING | WATER CLOSET |
| EXISTING | WATER METER |
| EXISTING | EXTRA HEAVY DUTY TRENCH GRATE |
| EXISTING | WARM WATER |

DRAWING LIST

- | | |
|------|---------------------------------------------|
| HS01 | STORMWATER CONCEPT - COVER SHEET & LEGEND |
| HS02 | SITE PLAN - HYDRAULIC SERVICES |
| HS03 | GROUND FLOOR - SANITARY PLUMBING & DRAINAGE |
| HS04 | GROUND FLOOR - WATER & GAS SERVICES |
| HS05 | FIRST FLOOR - SANITARY PLUMBING & DRAINAGE |
| HS06 | FIRST FLOOR - WATER & GAS SERVICES |
| HS07 | ROOF PLAN - HYDRAULIC SERVICES |
| HS08 | STORMWATER CONNECTION - HYDRAULIC SERVICES |
| HS09 | DETAIL SHEET - HYDRAULIC SERVICES |
| HS10 | CALCULATION SHEET - HYDRAULIC SERVICES |

THE ABOVE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE PROJECT SPECIFICATION, ARCHITECTURAL, STRUCTURAL, CIVIL, MECHANICAL, ELECTRICAL ENGINEERING AND KITCHEN DRAWINGS.



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SERVICE STATION LONDONDERRY ROAD CRANE BROOK									
COVER SHEET & LEGEND HYDRAULIC SERVICES									
DATE	DESIGNED	REVISED	SCALE	R.T.S.					
KJ	HL	HL	1:50	R.T.S.					
PROJECT	DWG NO.	REV	SCALE	R.T.S.					
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