A1

THIS DRAWING MAY ONLY BE USED IN THE COURSE OF AND FOR THE PURPOSE OF CREATING SYDNEY WATER ASSETS. USE THIS DRAWING WITH CARE. YOU ARE RESPONSIBLE TO APPLY THE WORK SHOWN IN THIS DRAWING CORRECTLY IN THE CIRCUMSTANCES OF YOUR PROJECT. YOU MUST ENSURE THE WORK IS FIT FOR PURPOSE AND WILL PERFORM ITS INTENDED FUNCTION AS REQUIRED.

GENERAL DRAWINGS NOTES

G1 ACTUAL PIPE SIZES MAY VARY. PIPE SIZING TO BE UNDERTAKEN DURING DETAIL DESIGN

G2 VALVES REQUIRING LOCKABLE HANDLES ARE DENOTED - LH (LOCKABLE HANDLE)
"LOCKED OPEN" VALVES ARE DENOTED LO.

G3 DTC 7501/7502 VALID FOR ALL CHEMICALS EXCEPT Mg(OH)2, Ca(OH)2, CI2 AND CO2.

G4 IICATS IN LIEU OF SCADA FOR CDUs.

G5 DRAWINGS TO BE READ IN CONJUNCTION WITH REFERENCE DRAWING LIST.

G6 DRAWINGS TO BE READ IN CONJUNCTION WITH THE SYDNEY WATER TECHNICAL SPECIFICATION PART 2: MECHANICAL WORKS (TREATMENT PLANT CDUs) ACP0002 (HYPO SPEC), AND RECHLORINATION PLANT SPEC AS APPLICABLE.

G7 P&IDs ARE TO BE ADJUSTED TO SUIT THE SITE SPECIFIC REQUIREMENTS AND REQUIREMENTS OF PARTICULAR CHEMICALS USED.

G8 VALVE POSITION STATUS (OPEN/CLOSED) AS SHOWN DEPICTS NORMAL OPERATION ONLY.

G9 GENERIC DRAWINGS AS SHOWN ARE APPLICABLE TO A STANDARD SINGLE TANK/SINGLE DOSING SYSTEM. VARIATIONS FROM THIS STANDARD ARE TO BE DEALT WITH THROUGH AN APPROPRIATE DESIGN PROCESS INCLUDING SAFETY IN DESIGN REVIEWS AND SHOULD FOLLOW DEVIATION FROM STANDARDS PROCEDURE.

G10 DRAIN POINTS AS SHOWN ARE INDICATIVE ONLY. FINAL PIPE LAYOUT TO HAVE DRAIN POINTS AT ALL LOW POINTS.

G11 A COMPLETE CHEMICAL CONTAINMENT STRATEGY IS TO BE DEVELOPED FOR ALL ASPECTS OF THE FACILITY.

DESIGN NOTES

D1 PIPEWORK MATERIAL SELECTION TO BE IN ACCORDANCE WITH SYDNEY WATER TECHNICAL SPECIFICATIONS.

D2 A 50mm MALE CAMLOCK CONNECTION TO BE PROVIDED AT CHEMICAL FILLING LINE. MATERIAL DEPENDENT ON CHEMICAL STORED.
CAMLOCK CONNECTIONS MUST BE FITTED WITH ENDCAPS WITH SEALS APPROPRIATE FOR THE CHEMICAL.
ENDCAPS ARE TO BE SECURED WITH SWAGED STAINLESS STEEL WIRE, TRIMMED TO PREVENT INJURIES.

D3 FILL LINE CAMLOCK AND VALVE TO BE LOCKED CLOSED WHEN NOT IN USE.

D4 NO SMOKING SIGN & TYPE 3A 60B (E) FIRE EXTINGUISHER (OR APPROVED EQUIVALENT) SHALL BE LOCATED ON BUND WALL ADJACENT FILLING POINT.

D5 A 50mm CAMLOCK CONNECTION TO BE PROVIDED ON SUMP PUMP LINE ACCESSED EXTERNAL TO CHEMICAL BUND.

D6 ALL BUND SURFACES TO BE COATED WITH CHEMICAL RESISTANT NON-SLIP COATING COMPLIANT WITH WSA201.

D7 TANK CAPACITY SHALL BE STATED ON STORAGE AND DAY TANKS.

D8 ANCHOR BOLTS TO BE PROVIDED ON CHEMICAL STORAGE TANKS.

D9 BITUMEN SEALED MATS TO BE INSTALLED BETWEEN STORAGE TANK AND CONCRETE PLINTH.

D10 STORAGE TANK VENT TO BE 50mm COVERED WITH 1mm MESH TO PREVENT VERMIN INGRESS.

D11 STORAGE TANK ACCESS MANHOLE TO BE DN600.

D12 STORAGE TANK SUCTION NOZZLE TO BE FLANGED AND LOCATED 150mm FROM TANK FLOOR.

D13 STORAGE TANK DRAIN LINE TO BE FLANGED AND LEVEL WITH TANK FLOOR & EXTEND TO BUND SUMP.

D14 STORAGE TANK DIGITAL LEVEL INDICATOR TO BE LOCATED WITHIN VIEW OF TANKER CONNECTION POINT.

D15 STORAGE TANK HIGH LEVEL SWITCH TO BE INTERLOCKED WITH TANKER UNLOADING GPOs TO PREVENT OPERATION OF TANKER UNLOADING PUMP ON HIGH STORAGE TANK LEVEL.

D16 NOMINATED MOTORISED VALVES TO FAIL CLOSE ON POWER FAILURE.

D17 CALIBRATION CYLINDER VENT TO EXTEND INTO TANK ABOVE TANK OVERFLOW LEVEL.

D18 PUMPS AS SHOWN ARE DIGITAL DOSING TYPE.

D19 DOSING LINES EXTERNAL TO THE CHEMICAL BUND SHALL BE DOUBLE CONTAINED USING A PROPRIETRY DOUBLE CONTAINMENT SYSTEM UNLESS OTHERWISE APPROVED.

D20 SUMP PUMPS ARE NOT REQUIRED FOR NETWORK CDUs.

D21 DRAIN VALVES TO BE PROVIDED AT ALL LOW POINTS IN PIPEWORK. DRAINS TO HAVE MALE CAMLOCK AND BE DIRECTED DOWN, WITH SUFFICIENT SUPPORT FOR HOSES.

D22 PRESSURE TRANSMITTERS ARE ONLY REQUIRED WHERE DOSING INTO A PRESSURISED MAIN.

D23 MOTORISED ISOLATION VALVE AND SEPARATE CALIBRATION CYLINDER REQUIRED ON FEED TO EACH DOSING PUMP SYSTEM WHEN MULTIPLE SYSTEMS ARE FED FROM TANK.

D24 APPROPRIATE EMERGENCY INFORMATION PANEL AS PER CURRENT EDITION OF THE AUSTRALIAN DANGEROUS GOODS CODE FIGURE 7.3 & COLOURS OF CLASS LABEL AS PER TABLE 7.2 SHALL BE LOCATED ON TANK AS WELL AS ON BUND WALL ADJACENT FILLING POINT.

D25 SAFETY SIGNS & TYPE OF SAFETY SIGNS TO BE PROVIDED INCLUDE;
-HAZCHEM SIGN
-NO SMOKING SIGN
-TANK VOLUME SIGN
-TANK CONTENT SIGN
-SAFETY SHOWER SIGN.

D26 ALL EQUIPMENT, PIPEWORK JOINTING MATERIALS, FASTENERS & GASKETS TO EB RESISTANT TO CHEMICALS.

D27 ALL VALVES TO BE FULL BORE VALVES.

D28 IF VALVING IS REQUIRED ON SAFETY SHOWER WATER SUPPLY LINE, VALVES WILL BE LOCKED IN THE OPEN POSITION (LO).

D29 PULSATION DAMPERS SHALL INCLUDE A SCHRADER VALVE FOR BLADDER AIR PRESSURISATION USING A NORMAL BIKE PUMP.

D30 PRESSURE CONTROL VALVE LOCATED AS SHOWN IS FOR HIGH PRESSURE DILUTION WATER. BOOSTER PUMPS MAY BE REQUIRED FOR LOW PRESSURE SUPPLIES.

SPECIFIC CHEMICAL REQUIREMENTS

SODIUM HYPOCHLORITE

SH1 AN AUTOMATIC DEGASSING VALVE IS TO BE PROVIDED IN THE DOSING HEAD OF EACH PUMP.

SH2 BALL VALVES SHALL HAVE A VENTED BALL TO PREVENT GAS ACCUMULATION.

SH3 PIPE LAYOUT SHALL FACILITATE VENTING AND PREVENT THE ACCUMULATION OF CHLORINE GAS.

SODIUM HYDROXIDE

HY1 IF STRENGTH >30% BY WEIGHT, ALL LINES PRIOR TO DILUTION TO BE HEAT TRACED, OR ALTERNATIVELY DILUTED IN THE STORAGE TANK.

HY2 HEAT TRACED PIPEWORK TO BE CPVC IN LIEU OF UPVC. LAGGING TO BE ALUMINIUM OVER MINERAL WOOL OR APPROVED EQUIVALENT.

HY3 TANK FILL LINES TO BE GRADE 316 STAINLESS STEEL INCLUDING CAMLOCK.

SODIUM BISULPHITE

SB1 ALL LINES PRIOR TO DILUTION TO BE HEAT TRACED.

SB2 HEAT TRACED PIPEWORK TO BE CPVC IN LIEU OF UPVC. LAGGING TO BE ALUMINIUM OVER MINERAL WOOL OR APPROVED EQUIVALENT.

ACETIC ACID

AA1 BUND COATING TO BE SPECIFICALLY RESISTANT TO ACETIC ACID. IF NO COATING IS FOUND AN APPROPRIATELY DESIGNED FIBREGLASS TRAY IS TO BE PROVIDED UNDER THE DOSING SKID.

AMMONIUM HYDROXIDE

AH1 STORAGE TANK SHALL BE PRESSURISED TO NEGATE VAPOUR DISCHARGE TO ATMOSPHERE.

AH2 FRP STORAGE TANKS ARE NOT PERMITTED.

GENERAL ACIDS

GA1 DILUTION WATER TO BE DESIGNED IN CONSIDERATION OF HEAT GENERATION EFFECTS IN THE BUND/SUMP AND AT THE DILUTION POINT.

POLYELECTROLYTE (LIQUID)

PE1 TO BE DILUTED PRIOR TO DOSING IN ACCORDANCE WITH SUPPLIER RECOMMENDATIONS.

PE2 PROVIDE A MIXER FOR THE STORAGE TANK. MIXER SHALL BE DESIGNED TO NOT SHEAR POLY CHAINS.

PE3 DOSING PUMPS TO BE PROGRESSIVE CAVITY TYPE.

MAGNESIUM HYDROXIDE (SLURRY)

MH1 REFER TO ACP0002.

REFERENCE DRAWINGS

DTC-7501 TYPICAL CHEMICAL DOSING SYSTEM P&ID SINGLE TANK
DTC-7502 TYPICAL CHEMICAL DOSING SYSTEM P&ID WITH DAY TANK

Sydney WATER

APPROVED APR 21

NORBERT SCHAEPER
MANAGER, E & TS

ENGINEERING & TECHNICAL SUPPORT

© COPYRIGHT
STATE OF NEW SOUTH WALES THROUGH SYDNEY WATER CORPORATION. ALL RIGHTS RESERVED

LETTER	DETAILS OF AMENDMENT	APP'D	DATE
B	RE-ISSUED	NS	08/04/21
A	ORIGINAL ISSUE	KW	29/11/19

DEEMED TO COMPLY DRAWINGS

TREATMENT PLANT
TYPICAL CHEMICAL DOSING SYSTEM
INSTRUMENTATION & NOTES

DTC
7500