

GENERAL NOTES

- G1. ALL WORKS TO BE IN ACCORDANCE WITH SYDNEY WATER TECHNICAL SPECIFICATION - CIVIL, AND SYDNEY WATER TECHNICAL SPECIFICATION - MECHANICAL UNO.
- G2. THIS DRAWING MUST BE READ IN CONJUNCTION WITH THE WATER SUPPLY CODE OF AUSTRALIA WSA 03-2011-3.1 SYDNEY WATER EDITION - 2014.
- G3. ALL PIPES/FITTINGS/VALVES/OTHER PRODUCTS TO BE IN ACCORDANCE WITH EPS 500 OR EPS 501 UNO.
- G4. ALL DIMENSIONS IN MILLIMETRES UNO.
- G5. THRUST BLOCKS, CROSSINGS AND INSTALLATIONS SHOWN ARE NOT SUITABLE FOR INSTALLATION IN GROUND CONDITIONS WHERE THE EXPOSURE CLASSIFICATION SEVERITY AS PER AS3600:2018 EXCEEDS B1, OR IN CONTAMINATED SOIL CONDITIONS.
- G6. SETTING OUT DIMENSIONS AND SIZES ARE NOT TO BE OBTAINED BY SCALING THE DRAWINGS.
- G7. WHERE PROPRIETARY PRODUCTS HAVE BEEN SPECIFIED, A SUITABLE EQUIVALENT MAY BE USED WHERE APPROVED BY SYDNEY WATER. PROPRIETARY PRODUCTS MUST BE INSTALLED STRICTLY IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- G8. USE OF STANDARD DESIGNS MAY INTRODUCE UNINTENDED SAFETY RISKS FOR SITE-SPECIFIC APPLICATION. THE USER MUST ADDRESS SAFETY RISKS THROUGH SITE-SPECIFIC ASSESSMENT.
- G9. THE USER IS RESPONSIBLE FOR DESIGN OF ANY TEMPORARY WORKS.

FOUNDATIONS

- F1. GROUND CONDITIONS MUST BE VERIFIED BY A COMPETENT GEOTECHNICAL ENGINEER.
- F2. FOUNDATION PREPARATION MUST BE IN ACCORDANCE WITH THE SYDNEY WATER TECHNICAL SPECIFICATION - CIVIL.
- F3. THE BEARING STRATUM MUST BE NATURAL GROUND OR COMPACTED FILL. BEARING CAPACITY REQUIREMENTS WILL BE SATISFIED PROVIDED THE REQUIREMENTS OF TABLE F3 ARE MET.

TABLE F3. MINIMUM FOUNDATION CONDITIONS FOR PIPELINES ≤DN300			
MATERIAL	MINIMUM STRENGTH/ DENSITY INDEX/ COMPACTION	MINIMUM EQUIVALENT DCP TESTING (NOTE 1)	REQUIRED TEST DEPTH BELOW FOUNDATION LEVEL
STIFF CLAY	UNDRAINED SHEAR STRENGTH, c_u , NOT LESS THAN 50 kPa	DCP NOT LESS THAN 9 BLOWS/300mm	0.9m OR PRIOR REFUSAL
MEDIUM DENSE SAND	DENSITY INDEX NOT LESS THAN 50%	DCP NOT LESS THAN 5 BLOWS/300mm DCP NOT LESS THAN 8 BLOWS/300mm	0.0 TO 0.3m 0.3 TO 0.9m OR PRIOR REFUSAL
COMPACTED EXISTING FILL	-	DCP NOT LESS THAN 9 BLOWS/300mm	0.0 TO 0.9m

1. DCP - DYNAMIC CONE PENETRATION TEST FOR AS1289.6.3.2
- F4. ALL SOFT OR LOOSE MATERIAL NOT MEETING THE ABOVE REQUIREMENTS MUST BE EXCAVATED AND REPLACED WITH SELECT FILL, COMPACTED PER THE SYDNEY WATER TECHNICAL SPECIFICATION - CIVIL.
- F5. ANY OVER-EXCAVATED ROCK OR CAVITIES MUST BE BACKFILLED WITH GRADE N20 MASS CONCRETE TO SYDNEY WATER TECHNICAL SPECIFICATION - CIVIL.
- F6. FOR SOIL CONSISTENCY AND DENSITY TYPES FOR THRUST BLOCKS, REFER TO TABLE F6 AND THRUST BLOCK DRAWINGS.

TABLE F6. SOIL CONSISTENCY AND DENSITY TYPES FOR THRUST BLOCKS				
SOIL TYPE	CLAY MATERIAL	MIN. EQUIVALENT DCP TEST RESULT	SAND MATERIAL	MIN. EQUIVALENT DCP TEST RESULT
S1	FIRM TO STIFF CLAY (c_u NOT LESS THAN 50kPa)	9 BLOWS/300mm	MEDIUM DENSE SAND (I_p NOT LESS THAN 45%)	9 BLOWS/300mm
S2	STIFF TO VERY STIFF CLAY (c_u NOT LESS THAN 100kPa)	12 BLOWS/300mm	DENSE SAND (I_p NOT LESS THAN 75%)	24 BLOWS/300mm
S3	VERY STIFF TO HARD CLAY (c_u NOT LESS THAN 200kPa)	24 BLOWS/300mm	N/A	N/A

CONCRETE

- C1. CONCRETE TO BE NORMAL CLASS N32 UNO.
- C2. MINIMUM CLEAR COVER TO REINFORCEMENT MUST BE 70mm UNO.
- C3. CURING OF ALL CONCRETE TO BE AS PER SYDNEY WATER TECHNICAL SPECIFICATION - CIVIL.

REINFORCEMENT

- R1. STEEL REINFORCING MATERIALS MUST BE TO AS/NZS4671.
SHAPE - D
STRENGTH GRADE = 500MPa
DUCTILITY CLASS - N
- R2. REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY; IT IS NOT NECESSARILY SHOWN IN TRUE PROJECTION.
- R3. DESIGNATION OF REINFORCEMENT BARS IS AS IN EXAMPLE:
- No. OF BARS IN A GROUP

NOMINAL BAR SIZE IN mm

17 N20 - 350 EF

BAR GRADE AND TYPE

LOCATION OR COMMENT

SPACING IN mm
- R4. THE FOLLOWING ABBREVIATIONS APPLY TO THE LOCATION OF REINFORCEMENT:
- EW

EACH WAY

FF

FAR FACE

CP

CENTRALLY PLACED

EF

EACH FACE

B

BOTTOM

BB

BOTTOM BOTTOM (LAID FIRST)

NF

NEAR FACE

T

TOP

TT

TOP TOP (LAID LAST)
- R5. EXTENT OF BARS SHOWN THUS:
- TYPICAL BAR
- R6. SPLICE REINFORCEMENT ONLY AT LOCATIONS SHOWN ON DRAWINGS. LAP LENGTHS TO COMPLY WITH THE FOLLOWING UNLESS NOTED OTHERWISE.
N12 - 550 LAP
N16 - 750 LAP
N20 - 950 LAP
N24 - 1150 LAP
- R7. REINFORCEMENT IN STRUCTURES MUST NOT BE WELDED UNLESS THEY ARE OF A WELDABLE GRADE. WELDING PROCEDURE MUST CONFORM TO THE MANUFACTURER'S RECOMMENDATIONS FOR CONTROL OF HEAT INPUT. WHERE GRADE 500L IS WELDED, IT MUST BE DEMONSTRATED TO SYDNEY WATER WHO WILL NEED TO BE PROVIDED WITH DOCUMENTARY EVIDENCE THAT THE WELDING PROCEDURE DOES NOT RESULT IN THE LOSS OF DUCTILITY. GRADE 500L REINFORCEMENT MUST NOT BE FIELD WELDED.



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APPROVED

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LETTER	DETAILS OF ISSUE / AMENDMENT	APP'D	DATE		

DEEMED TO COMPLY DRAWINGS

WATER MAIN
CONSTRUCTION NOTES

DTC

1100

ISSUE

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DATE

31/07/24