PROPOSED BUILDING 1

2 Bowman Rd, Moss Vale

CONCEPT STORMWATER / CIVIL WORKS

GENERAL NOTES

G1. THE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL DRAWINGS AND SPECIFICATIONS AND OTHER WRITTEN INSTRUCTIONS THAT MAY BE ISSUED.
G2. DIMENSIONS SHALL NOT BE OBTAINED BY SCALING FROM THE DRAWINGS. REFER ARCHITECTS DRAWINGS FOR ALL DIMENSIONS.
G3. REFER ANY DISCREPANCY TO THE ENGINEER/ARCHITECT.
G4. MATERIALS AND WORKMANSHIP SHALL COMPLY WITH THE APPROPRIATE SAA SPECIFICATIONS OR CODE AND WITH THE REQUIREMENTS OF THE RELEVANT LOCAL AUTHORITY.
G5. THE ALIGNMENT AND LEVEL OF ALL SERVICES SHOWN ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL CONFIRM THE POSITION AND LEVEL OF ALL SERVICES PRIOR TO COMMENCEMENT OF CONSTRUCTION. ANY DAMAGE TO SERVICES SHALL BE RECTIFIED AT THE CONTRACTORS EXPENSE.
G6. NO WORKS ARE TO COMMENCE UNTIL THE REQUIRED TREE REMOVAL PERMITS HAVE BEEN GRANTED BY RELEVANT LOCAL AUTHORITY, AND THE APPROPRIATE NOTICE OF INTENTION TO COMMENCE GIVEN.
G7. ALL SERVICES, OR CONDUITS FOR SERVICING SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF PAVEMENT CONSTRUCTION.
G8. SUBSOIL DRAINAGE, COMPRISING 100 AGRICULTURE PIPE IN GEO-STOCKING TO BE PLACED AS SHOWN AND AS MAY BE DIRECTED BY THE SUPERINTENDENT. SUBSOIL DRAINAGE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE RELEVANT LOCAL AUTHORITY CONSTRUCTION SPECIFICATION.
G9. NO WORK IS PERMITTED WITHIN ADJOINING PROPERTIES WITHOUT WRITTEN PERMISSION FROM THE OWNERS OR RESPONSIBLE AUTHORITY.

DRAINAGE NOTES

D1. ALL DRAINAGE OUTLET LEVELS SHALL BE CONFIRMED ON SITE, PRIOR TO CONSTRUCTION COMMENCING.
D2. ALL PIPES WITHIN THE PROPERTY TO BE MIN. 100 DIA UPVC @ 1% MIN. GRADE, UNO.
D3. ALL PITS WITHIN THE PROPERTY ARE TO BE FITTED WITH "WELDLOK" OR APPROVED EQUIVALENT GRATES:
- LIGHT DUTY FOR LANDSCAPED AREAS
- HEAVY DUTY WHERE SUBJECTED TO VEHICULAR TRAFFIC
D4. PITS WITHIN THE PROPERTY MAY BE CONSTRUCTED AS:
1) PRECAST STORMWATER PITS
2) CAST INSITU MASS CONCRETE
3) CEMENT RENDERED 230mm BRICKWORK
SUBJECT TO THE RELEVANT LOCAL AUTHORITY CONSTRUCTION SPECIFICATION.
D5. ENSURE ALL GRATES TO PITS ARE SET BELOW FINISHED SURFACE LEVEL WITHIN THE PROPERTY. TOP OF PIT RL'S ARE APPROXIMATE ONLY AND MAY BE VARIED SUBJECT TO APPROVAL OF THE ENGINEER. ALL INVERT LEVELS ARE TO BE ACHIEVED.
D6. ANY PIPES BENEATH RELEVANT LOCAL AUTHORITY ROAD TO BE RUBBER RING JOINTED RCP, UNO.
D7. ALL PITS IN ROADWAYS ARE TO BE FITTED WITH HEAVY DUTY GRATES WITH LOCKING BOLTS AND CONTINUOUS HINGE.
D8. PROVIDE STEP IRONS TO STORMWATER PITS GREATER THAN 1200 IN DEPTH.
D9. TRENCH BACK FILL IN ROADWAYS SHALL COMPRISE SHARP, CLEAN GRANULAR BACK FILL IN ACCORDANCE WITH THE RELEVANT LOCAL AUTHORITY SPECIFICATION TO NON-TRAFFICABLE AREAS TO BE COMPACTED BY RODDING AND TAMPING USING A FLAT PLATE VIBRATOR.
D10. WHERE A HIGH EARLY DISCHARGE (HED) PIT IS PROVIDED ALL PIPES ARE TO BE CONNECTED TO THE HED PIT, UNO.
D11. DOWN PIPES SHALL BE A MINIMUM OF DN100 SW GRADE UPVC OR 100X100 COLORBOND/ZINCALUME STEEL, UNO.
D12. COLORBOND OR ZINCALUME STEEL BOX GUTTERS SHALL BE A MINIMUM OF 450 WIDE X 150 DEEP.
D13. EAVES GUTTERS SHALL BE A MINIMUM OF 125 WIDE X 100 DEEP (OR OF EQUIVALENT AREA) COLORBOND OR ZINCALUME STEEL, UNO.
D14. SUBSOIL DRAINAGE SHALL BE PROVIDED TO ALL RETAINING WALLS & EMBANKMENTS, WITH THE LINES FEEDING INTO THE STORMWATER DRAINAGE SYSTEM, UNO.

EARTHWORKS NOTES

E1. THE EARTHWORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL REPORT.
E2. THE SITE OF THE WORKS SHALL BE PREPARED BY STRIPPING ALL EXISTING TOPSOIL, FILL AND VEGETATION.
E3. SUBGRADE SHALL BE COMPACTED UNTIL A DRY DENSITY HAS BEEN ACHIEVED OF NOT LESS THAN 100% OF THE STANDARD MAXIMUM DRY DENSITY WHEN TESTED IN ACCORDANCE WITH AS 1289 TESTS E 1.1. OR E 1.2.
E4. THE EXPOSED SUBGRADE SHOULD BE PROOF ROLLED TO DETECT ANY SOFT OR WET AREAS WHICH SHOULD BE LOCALLY EXCAVATED AND BACK FILLED WITH SELECTED MATERIAL.
E5. THE BACK FILLING MATERIAL SHALL BE IMPORTED GRANULAR FILL OF LOW PLASTICITY, PREFERABLY CRUSHED SANDSTONE, OR AN APPROVED FILL MATERIAL COMPLYING WITH AN EPA RESOURCE RECOVERY ORDER AND TO BE PLACED IN LAYERS NOT EXCEEDING 150 LOOSE THICKNESS AND COMPACTED TO 98% OF STANDARD DRY DENSITY AT A MOISTURE CONTENT WITHIN 2% OF OPTIMUM.
E6. SITE WORKS ARE TO BE BATTERED TO ADJACENT PROPERTY LEVELS.
E7. STORMWATER MUST NOT BE CONCENTRATED ON TO AN ADJACENT PROPERTY.
E8. AT NO TIME DURING OR AFTER CONSTRUCTION IS STORMWATER TO BE PONDED ON ADJOINING PROPERTIES.
E9. THE SITE SHALL BE GRADED AND DRAINED SO THAT STORMWATER WILL BE DIRECTED AWAY FROM THE BUILDING PLATFORM.
E10. STORMWATER DRAINAGE SHALL BE PROVIDED AND MAINTAINED THROUGHOUT THE COURSE OF CONSTRUCTION. ALL STORMWATER RUNOFF SHALL BE GRADED AWAY FROM THE SITE WORKS AND DISPOSED OF VIA SURFACE CATCHDRAINS AND STORMWATER COLLECTION PITS.
E11. ALL SURFACE CATCH DRAINS SHALL BE GRADED AT 1% (1 IN 100) MINIMUM. THE GROUND SHALL GRADE AWAY FROM ANY DWELLING AT 5% (1 IN 20) FOR THE FIRST METRE THEN AT 2.5% (1 IN 40).
E12. WHERE A CUT FILL PLATFORM IS USED THERE SHALL BE A MINIMUM BERM 1000 WIDE TO THE PERIMETER OF THE SITE WORKS WHICH SHALL BE SUPPORTED BY BATTERS OF 3:1 IN FILL.
E13. ANY VERTICAL OR NEAR VERTICAL PERMANENT EXCAVATION (CUT) DEEPER THAN 600 IN MATERIAL OTHER THAN ROCK SHALL BE ADEQUATELY RETAINED OR BATTERED AT A MINIMUM OF 3:1.
E14. WHERE BATTERS CANNOT BE PROVIDED TO SUPPORT THE CUT OR FILL, THEY SHALL BE ADEQUATELY RETAINED.
E15. RETAINING WALLS ARE TO BE CONSTRUCTED WITH ADEQUATE SUBSOIL DRAINAGE.

CONCRETE PAVEMENT

C1. SUBGRADE SHALL BE PREPARED AS OUTLINED IN EARTHWORKS.
C2. PROVIDE JOINTING AT MINIMUM 6000 MAX. INTERVALS OR AS OTHERWISE SPECIFIED IN THE DRAWINGS.
C3. CONCRETE SHALL COMPRISE A MIN. COMPRESSIVE STRENGTH OF 32MPa AT 28 DAYS IN ACCORDANCE WITH THE RELEVANT LOCAL AUTHORITY SPECIFICATION, UNO.
C4. ANY SUB-BASE MATERIAL SHALL BE COMPACTED AS OUTLINED IN EARTHWORKS.
C5. CONCRETE KERB AND GUTTER SHALL COMPRISE A MINIMUM COMPRESSIVE STRENGTH OF 25MPa, UNO.
C6. CONCRETE WORKS ARE TO BE CURED BY ONE OF THE FOLLOWING MEANS:
i) WETTING TWICE DAILY FOR THE FIRST THREE DAYS;
ii) USING AN APPROVED CURING COMPOUNDED FOR A MINIMUM OF 7 DAYS COMMENCING IMMEDIATELY AFTER POURING.

FLEXIBLE PAVEMENT NOTES

F1. SUBGRADE SHALL BE PREPARED AS OUTLINED IN EARTHWORKS.
F2. PAVEMENT MATERIAL SHALL CONSIST OF APPROVED OR RIPPED SANDSTONE, NATURAL GRAVEL OR FINE CRUSH ROCK AS PER THE RELEVANT COUNCIL AUTHORITY SPECIFICATION.
F3. PAVEMENT MATERIALS SHALL BE SPREAD IN LAYERS NOT EXCEEDING 150 AND NOT LESS 75 COMPACTED THICKNESS.
F4. PAVEMENT MATERIALS SHALL BE SIZED AND OF A STANDARD OUTLINED IN AS1141.
F5. CRUSHED OR RIPPED SANDSTONE SHALL BE MINUS 75 NOMINAL SIZE DERIVED FROM SOUND, CLEAN SANDSTONE FREE FROM OVERBURDEN, CLAY SEAMS, SHALE AND OTHER DELETERIOUS MATERIAL.
F6. PAVEMENT MATERIALS SHALL BE COMPACTED BY SUITABLE MEANS TO SATISFY THE FOLLOWING MINIMUM SPECIFICATIONS (AS PER AS1289.2)

DESCRIPTION	MEDIUM DENSITY RATIO
SUB-BASE	98% MOD
BASE COURSE	98% MOD
ASPHALTIC CONCRETE	97% MOD

AND SUBJECT TO THE RELEVANT LOCAL AUTHORITY CONSTRUCTION SPECIFICATION.

F7. TESTING FOR EACH LAYER SHALL BE UNDERTAKEN BY A N.A.T.A. REGISTERED LABORATORY IN ACCORDANCE WITH AS1289, AT NOT MORE THAN 50m INTERVALS AND A MINIMUM OF TWO PER LAYER. FURTHER FREQUENCY OF TESTING SHALL BE NO LESS THAN THAT REQUIRED BY AS3978.

PAVED AREAS NOTES

A1. SUBGRADE SHALL BE PREPARED AS OUTLINED IN EARTHWORKS.
A2. ALL PAVERS ARE TO BE PLACED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION.
A3. TRAFFICABLE AREAS:
SUB-BASE TO BE 150 COMPACTED THICKNESS DGS75.
SUB-BASE TO BE SUITABLY COMPACTED TO MEDIUM DENSITY 98% MOD.
SUB-BASE TO EXTEND AT LEAST 200 BEYOND PAVED SURFACE.
PAVERS TO BE 80 THICK INTERLOCKING PAVERS ON 50 SAND BEDDING.
A4. NON TRAFFICABLE AREAS:
SUB BASE AS PER TRAFFICABLE AREAS
PAVERS TO BE 60 INTERLOCKING PAVERS ON 50 SAND BEDDING (UNO).

EROSION AND SEDIMENT NOTES

B1. THIS PLAN TO BE READ IN CONJUNCTION WITH EROSION AND SEDIMENT CONTROL DETAILS AS ATTACHED.
B2. THE CONTRACTOR SHALL IMPLEMENT ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES AS NECESSARY AND TO THE SATISFACTION OF THE RELEVANT LOCAL AUTHORITY PRIOR TO THE COMMENCEMENT OF AND DURING CONSTRUCTION. NO DISTURBANCE TO THE SITE SHALL BE PERMITTED OTHER THAN IN THE IMMEDIATE AREA OF THE WORKS AND NO MATERIAL SHALL BE REMOVED FROM THE SITE WITHOUT THE RELEVANT LOCAL AUTHORITY APPROVAL. ALL EROSION AND SEDIMENT CONTROL DEVICES TO BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH STANDARDS OUTLINED IN NSW DEPARTMENT OF HOUSING'S "MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTIONS".
B3. TOPSOIL SHALL BE STRIPPED AND STOCKPILED OUTSIDE HAZARD AREAS SUCH AS DRAINAGE LINES. THIS TOPSOIL SHALL BE RESPREAD LATER ON AREAS TO BE REVEGETATED AND STABILISED ONLY, (I.E. ALL FOOTPATHS, BATTERS, SITE REGARDING AREAS, BASINS AND CATCHDRAINS). TOPSOIL SHALL NOT BE RESPREAD ON ANY OTHER AREAS UNLESS SPECIFICALLY INSTRUCTED BY THE SUPERINTENDENT. IF THEY ARE TO REMAIN FOR LONGER THAN ONE MONTH STOCKPILES SHALL BE PROTECTED FROM EROSION BY COVERING THEM WITH A MULCH AND HYDROSEEDING AND, IF NECESSARY, BY LOCATING BANKS OR DRAINS DOWNSTREAM OF A STOCKPILE TO RETARD SILT LADEN RUNOFF.
B4. THE CONTRACTOR SHALL REGULARLY MAINTAIN ALL EROSION AND SEDIMENT CONTROL DEVICES AND REMOVE ACCUMULATED SILT FROM SUCH DEVICES SUCH THAT MORE THAN 60% OF THEIR CAPACITY IS LOST. ALL THE SILT IS TO BE PLACED OUTSIDE THE LIMIT OF WORKS. THE PERIOD FOR MAINTAINING THESE DEVICES SHALL BE AT LEAST UNTIL ALL DISTURBED AREAS ARE REVEGETATED AND FURTHER AS MAY BE DIRECTED BY THE SUPERINTENDENT OR COUNCIL.
B5. LAY TURF STRIP (MIN 300 WIDE) ON 100 TOPSOIL BEHIND ALL KERB WITH 1000 LONG RETURNS EVERY 6000 AND AROUND STRUCTURES IMMEDIATELY AFTER BACKFILLING AS PER THE RELEVANT LOCAL AUTHORITY SPECIFICATION.
B6. THE CONTRACTOR SHALL GRASS SEED ALL DISTURBED AREAS WITH AN APPROVED MIX AS SOON AS PRACTICABLE AFTER COMPLETION OF EARTHWORKS AND REGRADING.
B7. VEHICULAR TRAFFIC SHALL BE CONTROLLED DURING CONSTRUCTION CONFINING ACCESS WHERE POSSIBLE TO NOMINATED STABILISED ACCESS POINTS.
B8. WHEN ANY DEVICES ARE TO BE HANDED OVER TO COUNCIL THEY SHALL BE IN CLEAN AND STABLE CONDITION.
B9. THE CONTRACTOR SHALL IMPLEMENT DUST CONTROL BY REGULAR WETTING DOWN (BUT NOT SATURATING) DISTURBED AREA.
B10. PROVIDE AND MAINTAIN SILT TRAPS AROUND ALL SURFACE INLET PITS UNTIL CATCHMENT IS REVEGETATED OR PAVED.
B11. REVEGETATE ALL TRENCHES IMMEDIATELY UPON COMPLETION OF BACKFILLING.
B12. ALL DRAINAGE PIPE INLETS TO BE CAPPED UNTIL:
- DOWNPIPES CONNECTED
- PITS CONSTRUCTED AND PROTECTED WITH SILT BARRIER

CONCRETE STRUCTURES NOTES

S1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3600 CURRENT EDITION WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
S2. CONCRETE COMPONENTS AND QUALITY SHALL BE AS FOLLOWS, UNO:

ELEMENT	SLUMP mm	MAX. SIZE AGG. mm	CEMENT TYPE	f'c AT 28 DAYS - MPa	ADMIXTURE
FOOTINGS	80	20	A	25	-
PIERS & CAPS	80	20	A	25	-
SLABS ON GROUND	80	20	A	32	-
SUSPENDED SLABS	80	20	A	32	-
PITS	80	20	A	25	-

S3. MINIMUM CLEAR CONCRETE COVER TO REINFORCEMENT INCLUDING TIES AND STIRRUPS SHALL BE AS FOLLOWS UNO.

EXPOSURE CLASSIFICATION	MINIMUM COVER (mm)				
	CONCRETE STRENGTH (f'c)				
	20 MPa	25 MPa	32 MPa	40 MPa	>50 MPa
A1	20	20	20	20	20
A2	(50)	30	25	20	20
B1	-	(60)	40	30	25
B2	-	-	(65)	45	35
C	-	-	-	(70)	50

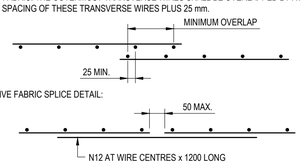
FOR BRACKETED FIGURES REFER TO AS 3600 CURRENT EDITION TABLE 4.10.3.2

S4. MINIMUM COVER FOR FIRE RESISTANCE LEVEL (FRL) SHALL BE AS FOLLOWS;

MINIMUM ELEMENT WIDTH OR THICKNESS / MIN COVER (mm)				
FRL	BEAM	SLAB	COLUMN	WALL
60	125 / 30	80 / 20	200 / 20	80 / 20
90	150 / 45	100 / 25	250 / 35	100 / 35
120	200 / 55	120 / 30	300 / 45	120 / 40
180	240 / 70	150 / 45	400 / 60	150 / 45
240	270 / 80	170 / 55	450 / 70	170 / 50

NOTE : 1. REFER TO AS 3600 CURRENT EDITION FOR REDUCED COVERS IF GREATER ELEMENT THICKNESSES ARE ADOPTED FOR BEAMS & COLUMNS.
2. COVER IS MEASURED TO THE MAIN REINFORCEMENT

S5. COVER TO REINFORCEMENT SHALL BE OBTAINED BY THE USE OF APPROVED BAR CHAIRS. ALL CHAIRS SHALL BE SPACED AT 1000 CTS MAXIMUM.
S6. ALL CONCRETE SHALL BE MECHANICALLY VIBRATED. VIBRATORS SHALL NOT BE USED TO SPREAD CONCRETE.
S7. SIZES OF CONCRETE ELEMENTS DO NOT INCLUDE THICKNESS OF APPLIED FINISHES.
S8. NO HOLES OR CHASES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.
S9. CONSTRUCTION JOINTS WHERE NOT SHOWN SHALL BE LOCATED TO APPROVAL OF THE ENGINEER. ALL CONSTRUCTION JOINTS SHALL BE SCABBLED OVER THE WHOLE FACE AND ANY UNSOUND MATERIAL REMOVED.
S10. REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY; IT IS NOT NECESSARILY SHOWN IN TRUE PROJECTION.
S11. SPLICES IN REINFORCEMENT SHALL BE MADE ONLY IN THE POSITIONS SHOWN OR AS APPROVED BY THE ENGINEER. WHERE THE LAP LENGTH IS NOT SHOWN IT SHALL BE SUFFICIENT TO DEVELOP THE FULL STRENGTH OF THE REINFORCEMENT AS SPECIFIED IN AS3600. COGS AND HOOKS SHALL BE STANDARD UNLESS SHOWN OTHERWISE.
S12. WELDING OF REINFORCEMENT WILL NOT BE PERMITTED UNLESS SHOWN ON THE STRUCTURAL DRAWINGS OR APPROVED BY THE ENGINEER.
S13. PIPES OR CONDUITS SHALL NOT BE PLACED WITHIN THE CONCRETE COVER TO REINFORCEMENT WITHOUT THE APPROVAL OF THE ENGINEER.
S14. REINFORCEMENT SYMBOLS:
N - DENOTES DEFORMED GRADE 500 NORMAL DUCTILITY REINFORCING BARS TO AS/NZS 4671.
R - DENOTES PLAIN ROUND GRADE 250 NORMAL DUCTILITY REINFORCING BARS TO AS/NZS 4671.
SL - DENOTES DEFORMED GRADE 500 LOW DUCTILITY REINFORCING MESH TO AS/NZS 4671.
RL - DENOTES DEFORMED GRADE 500 LOW DUCTILITY REINFORCING MESH TO AS/NZS 4671.
L--TM - DENOTES DEFORMED GRADE 500 LOW DUCTILITY TRENCH MESH TO AS/NZS 4671.
S15. ALL REINFORCING FABRIC SHALL COMPLY WITH AS1303 AND AS1304 AND SHALL BE SUPPLIED IN FLAT SHEETS.
S16. SPLICES IN FABRIC: THE OUTERMOST TRANSVERSE WIRES SHALL BE OVERLAPPED BY AT LEAST THE SPACING OF THESE TRANSVERSE WIRES PLUS 25 mm.



S17. EXPOSED CORNERS SHALL BE 20 mm CHAMFERED UNO.
S18. ALL REINFORCEMENT SHALL BE INSPECTED BY THE SUPERINTENDENT OR ENGINEER PRIOR TO PLACING CONCRETE.
S19. ALL SLAB CONCRETE TO BE CURED IN AN APPROVED MANNER FOR A MINIMUM OF 7 DAYS.
S20. ALL FORMWORK AND PROPS FOR SLABS AND BEAMS SHALL BE REMOVED BEFORE CONSTRUCTION OF ANY MASONRY WALLS OR PARTITIONS ON THE FLOOR.
S21. ALL ABBREVIATIONS ARE IN ACCORDANCE WITH AS1100.
S22. FORMWORK SHALL NOT BE STRIPPED UNTIL CONCRETE HAS ACHIEVED A MINIMUM STRENGTH OF 20 MPa. THE CONCRETE SLAB AND BEAMS SHALL BE TEMPORARILY BACK PROPPED UNTIL THE CONCRETE HAS ACHIEVED 28 DAY STRENGTH AND ANY PROPPING TO HIGHER LEVEL FORMS HAVE BEEN REMOVED.
S23. WHERE A SUSPENDED SLAB IS TO BE SUPPORTED OFF A SUSPENDED SLAB BELOW, WRITTEN APPROVAL SHALL BE OBTAINED FROM THE ENGINEER PRIOR TO ANY SITE WORKS.

MASONRY

M1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3700.

M2. THE DESIGN STRENGTH OF MASONRY SHALL BE AS FOLLOWS U.N.O. :

EXPOSURE CLASSIFICATION T0 AS 3600	MASONRY COMPRESSIVE STRENGTH MPa (f'm)	MASONRY SALT RESISTANCE GRADE	DURABILITY CLASSIFICATION OF BUILT IN COMPONENTS	MORTAR MIX	
				GP PORTLAND CEMENT : LIME : SAND	f'c MPa
A1 / A2	> 6.3	General Purpose	R3 (Galvanised)	1.0 : 1.0 : 6.0	2.8
B1	> 6.3	General Purpose	R3 (Galvanised)	1.0 : 1.0 : 6.0	2.8
B2	> 6.7	Exposure	R4 (Stainless)	1.0 : 0.5 : 4.5	2.8

M3. ALL MASONRY WALLS SUPPORTING SLABS AND BEAMS SHALL HAVE A PRE-GREASED TWO LAYER GALVANISED STEEL SLIP JOINT BETWEEN CONCRETE AND MASONRY.

M4. ALL MASONRY WALLS SUPPORTING OR SUPPORTED BY CONCRETE FLOORS SHALL BE PROVIDED WITH VERTICAL JOINTS TO MATCH ANY CONTROL JOINTS IN THE CONCRETE.

M5. NON LOAD BEARING WALLS SHALL BE SEPARATED FROM CONCRETE ABOVE BY 20 mm THICK CLOSED CELL POLYETHYLENE STRIP.

M6. MASONRY SHALL BE ARTICULATED IN ACCORDANCE WITH TECHNICAL NOTE 61 FROM THE CEMENT AND CONCRETE ASSOCIATION OF AUSTRALIA. VERTICAL CONTROL JOINTS SHALL NOT EXCEED 5 METRES MAXIMUM CENTRES, AND 4 METRES MAXIMUM FROM CORNERS IN MASONRY WALLS, AND BETWEEN NEW & EXISTING BRICKWORK.

M7. MASONARY RETAINING WALLS ARE TO BE BACKFILLED WITH EITHER OF THE FOLLOWING MATERIAL:
- COARSE GRAINED SOIL WITH LOW SILT CONTENT
- RESIDUAL SOIL CONTAINING STONES
- FINE SILTY SAND
- GRANULAR MATERIALS WITH LOW CLAY CONTENT

BLOCKWORK

B1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3700.

B2. REINFORCED CONCRETE BLOCKWORK SHALL COMPLY WITH THE FOLLOWING, UNO:
- BLOCKS : GRADE 15 CONFORMING TO AS1500.
- MORTAR : 1 CEMENT / 0.25 LIME / 3 SAND.
- PROVIDE CLEANOUT HOLES AT BASE OF WALL & ROD CORE HOLES TO REMOVE PROTRUDING MORTAR FINS.
- CORE FILLING : f'c = 20 MPa. 10 AGG, 230 SLUMP +/- 30 mm.
- COVER : 55 mm MIN. FROM OUTSIDE OF BLOCKWORK.

B3. BACKFILL TO RETAINING WALLS TO BE FREE DRAINING GRANULAR MATERIAL, UNO. PROVIDE SUBSOIL DRAIN BEHIND WALL AND AT WEEP HOLES.

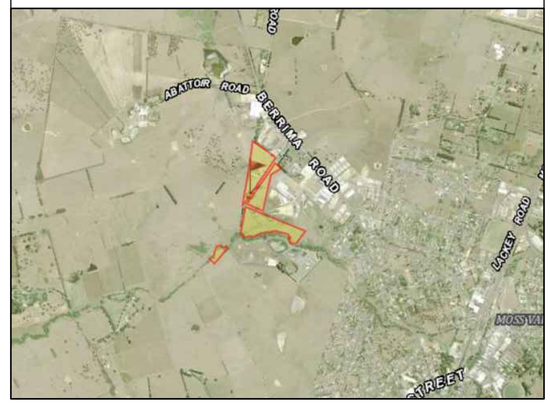
B4. VERTICAL CONTROL JOINTS SHALL BE PROVIDED AT 10 m MAX. CENTRES.

B5. NO ADMIXTURES SHALL BE USED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER.

STANDARD LINE TYPES AND SYMBOLS:

PROPOSED KERB & GUTTER
EXISTING KERB & GUTTER
PROPOSED BELOW GROUND PIPELINE
PROPOSED SUSPENDED PIPELINE
EXISTING PIPELINE
SUBSOIL DRAINAGE LINE
PROPOSED KERB INLET PIT
EXISTING KERB INLET PIT
PROPOSED JUNCTION OR INLET PIT
EXISTING JUNCTION OR INLET PIT
DESIGN CENTRELINE
EXISTING EDGE OF BITUMEN
TELECOMUNICATION CONDUIT
GAS MAIN
WATER MAIN
SEWER MAIN
UNDERGROUND ELECTRICITY CABLES
PERMANENT MARK & S.S.M.
BENCH MARK, SURVEY STATION

LOCATION PLAN



SCHEDULE OF DRAWINGS

FOR DA APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES
A1 ORIGINAL SIZE

REVISION	DATE	AMENDMENT DESCRIPTION
E	19.03.24	ISSUED FOR DA APPROVAL
D	28.07.23	ISSUED FOR DA APPROVAL
C	30.06.23	ISSUED FOR DA APPROVAL
B	14.06.23	ISSUED FOR DA APPROVAL
A	19.05.23	ISSUED FOR DA APPROVAL

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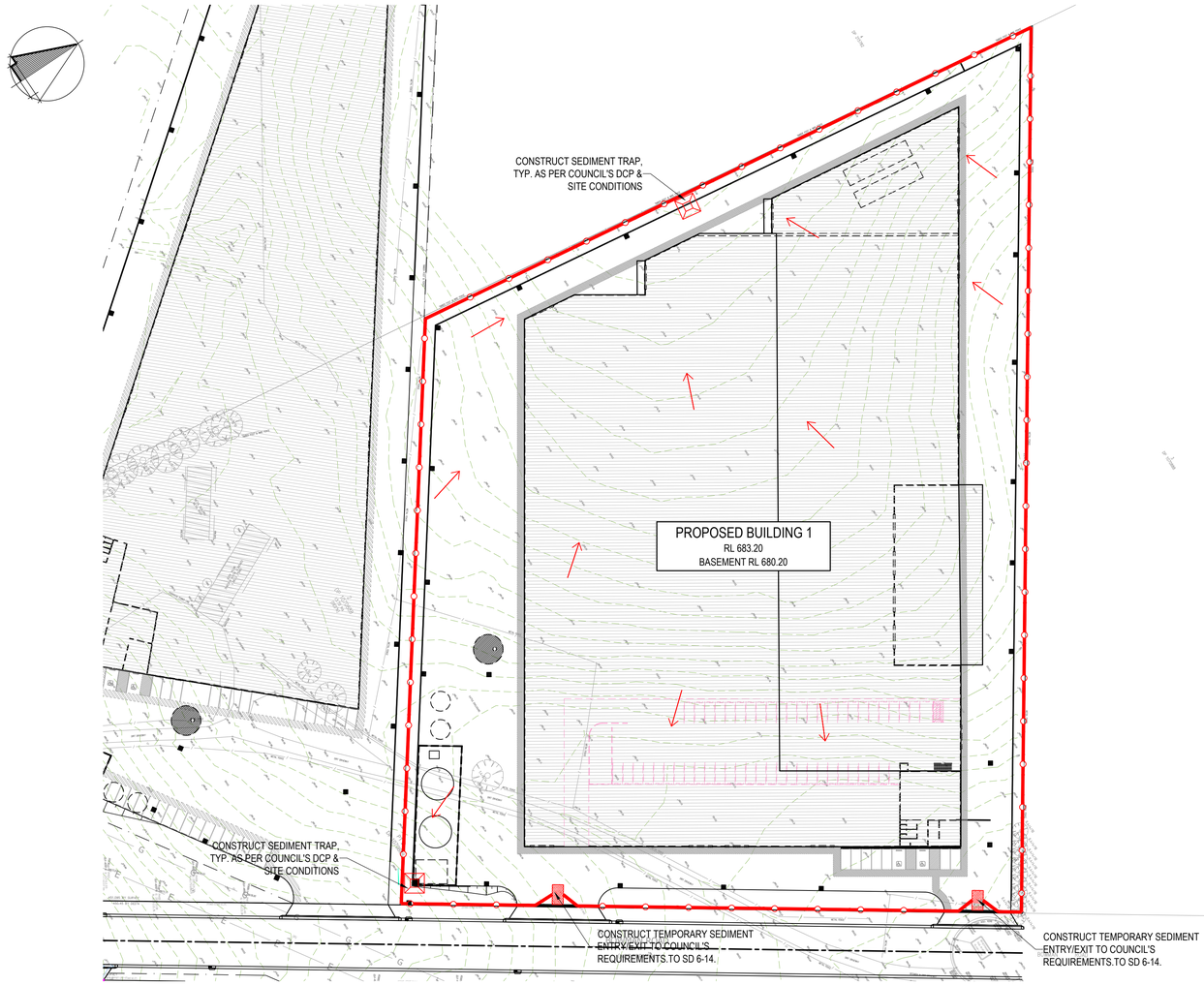
PROPOSED BUILDING 1
2 Bowman Rd, Moss Vale
For SAAS Aus Pty Ltd

GENERAL NOTES

DESIGN	DRAWN	DATE	PROJECT No.
SWH	RCL	JAN 2023	10530
CHECKED	APPROVED	SCALE	DRG No.
		-	C101 - E



SEDIMENT & EROSION CONTROL PLAN

1:750

- DENOTES SEDIMENT FENCE

- DENOTES SURFACE WATER FLOW

SEDIMENT AND EROSION CONTROL NOTES

SEDIMENT AND EROSION CONTROL SHALL BE EFFECTIVELY MAINTAINED AT ALL TIMES DURING THE COURSE OF CONSTRUCTION AND SHALL NOT BE REMOVED UNTIL THE SITE HAS BEEN STABILISED OR LANDSCAPED TO THE SUPERINTENDENT'S SATISFACTION.

A SINGLE ALL WEATHER ACCESS WAY WILL BE PROVIDED AT THE FRONT OF THE PROPERTY CONSISTING OF 50-75 AGGREGATE OR SIMILAR MATERIAL AT A MINIMUM THICKNESS OF 150 LAID OVER NEEDLE-PUNCHED GEOTEXTILE FABRIC AND CONSTRUCTED PRIOR TO COMMENCEMENT OF WORKS.

THE CONTRACTOR SHALL ENSURE THAT NO SPOIL OR FILL ENCROACHES UPON ADJACENT AREAS FOR THE DURATION OF WORKS.

THE CONTRACTOR SHALL ENSURE THAT KERB INLETS AND DRAINS RECEIVING STORMWATER SHALL BE PROTECTED AT ALL TIMES DURING DEVELOPMENT. KERB INLET SEDIMENT TRAPS SHALL BE INSTALLED ALONG THE IMMEDIATE VICINITY ALONG THE STREET FRONTAGE.

ALL TOPSOIL STRIPPED FROM THE SITE AND STOCKPILED DOES NOT INTERFERE WITH DRAINAGE LINES AND STORMWATER INLETS AND WILL BE SUITABLY COVERED WITH AN IMPERVIOUS MEMBRANE MATERIAL AND SCREENED BY SEDIMENT FENCING.

SOIL CONSERVATION NOTE:

PRIOR TO COMMENCEMENT OF CONSTRUCTION PROVIDE 'SEDIMENT FENCE,' 'SEDIMENT TRAP' AND WASHOUT AREA TO ENSURE THE CAPTURE OF WATER BORNE MATERIAL GENERATED FROM THE SITE.

MAINTAIN THE ABOVE DURING THE COURSE OF CONSTRUCTION, AND CLEAR THE 'SEDIMENT TRAP AFTER EACH STORM.

SEDIMENT TRAP
1000 x 1000 WIDE 500 DEEP PIT, LOCATED AT THE LOWEST POINT TO THE TRAP SEDIMENT AND IN ACCORDANCE WITH LOCAL COUNCIL'S DCP AND SITE CONDITIONS.

SEDIMENT FENCE

PROVIDE 'SEDIMENT FENCE ON DOWN SLOPE BOUNDARY AS SHOWN ON PLAN. FABRIC TO BE BURIED BELOW GROUND AT LOWER EDGE.
REFER TO SD 6-8

BUILDING MATERIAL STOCKPILES

ALL STOCKPILES OF BUILDING MATERIAL SUCH AS SAND AND SOIL MUST BE PROTECTED TO PREVENT SCOUR AND EROSION.

THEY SHOULD NEVER BE PLACED IN THE STREET GUTTER WHERE THEY WILL WASH AWAY WITH THE FIRST RAINSTORM.
REFER TO SD 4-1

GENERAL NOTES

THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH OTHER CONSULTANTS' DRAWINGS AND SPECIFICATIONS AND WITH OTHER SUCH WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCY SHALL BE REFERRED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.

ALL DIMENSIONS ARE IN MILLIMETRES & ALL LEVELS ARE IN METRES, UNO (UNLESS NOTED OTHERWISE).

NO DIMENSION SHALL BE OBTAINED BY SCALING THE DRAWINGS.

ALL LEVELS AND SETTING OUT DIMENSIONS SHOWN ON THE DRAWINGS SHALL BE CHECKED ON SITE PRIOR TO THE COMMENCEMENT OF THE WORK.

DURING EXCAVATION WORK THE STRUCTURE SHALL BE MAINTAINED IN A STABLE AND NO PART SHALL BE OVERSTRESSED.

ALL WORK IS TO BE UNDERTAKEN IN ACCORDANCE WITH THE DETAILS SHOWN ON THE DRAWINGS & THE SPECIFICATION.

EXISTING SERVICES WHERE SHOWN HAVE BEEN PLOTTED FROM SUPPLIED DATA AND SUCH THEIR ACCURACY CAN NOT BE GUARANTEED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH THE LEVEL OF ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF WORK.

ALL SERVICE TRENCHES UNDER VEHICULAR PAVEMENTS SHALL BE BACK FILLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL COUNCIL.

ALL TRENCH BACK FILL MATERIAL SHALL BE COMPACTED TO THE SAME DENSITY AS THE ADJACENT MATERIAL.

ON COMPLETION OF STORMWATER INSTALLATION, ALL DISTURBED AREAS MUST BE RESTORED TO ORIGINAL CONDITION, INCLUDING KERBS, FOOTPATHS, CONCRETE AREAS, GRAVEL AND GRASSED AREAS AND ROAD PAVEMENTS, UNLESS DIRECTED OTHERWISE.

CONTRACTOR TO OBTAIN ALL AUTHORITY APPROVALS UNLESS DIRECTED OTHERWISE.

STORMWATER DRAINAGE

THE STORMWATER DRAINAGE DESIGN HAS BEEN CARRIED OUT IN ACCORDANCE WITH AS/NZS 3500.3 - 1990 "STORMWATER DRAINAGE" & AS/NZS 3500.3.2-1998 "STORMWATER DRAINAGE - ACCEPTABLE SOLUTIONS".

ANY VARIATIONS TO THE NOMINATED LEVELS SHALL BE REFERRED TO ENGINEER IMMEDIATELY.

ANY VARIATIONS TO SPECIFIED PRODUCTS OR DETAILS SHALL BE REFERRED TO THE ENGINEER FOR APPROVAL.

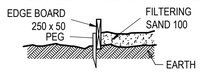
DOWN PIPES SHALL BE A MINIMUM OF DN100 SW GRADE UPVC OR 100X100 COLORBOND/ZINCALUME STEEL, UNO.

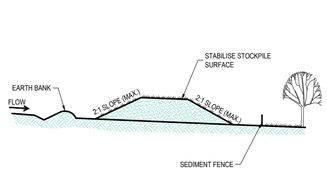
BOX COLORBOND OR ZINCALUME STEEL. GUTTERS SHALL BE A MINIMUM OF 450 WIDE X 150 DEEP.

EAVES GUTTERS SHALL BE A MINIMUM OF 125 WIDE X 100 DEEP (OR OF EQUIVALENT AREA) COLORBOND OR ZINCALUME STEEL.

SUBSOIL DRAINAGE SHALL BE PROVIDED TO ALL RETAINING WALLS & EMBANKMENTS, WITH THE LINES FEEDING INTO THE STORMWATER DRAINAGE SYSTEM.

WASHOUT AREA
TO BE 1800 x 1800 ALLOCATED FOR THE WASHING OF TOOL & EQUIPMENT.

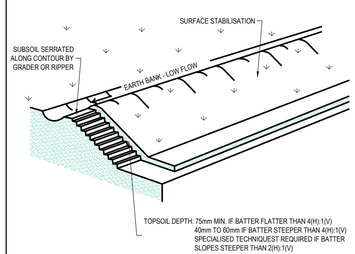




CONSTRUCTION NOTES

1. PLACE STOCKPILES MORE THAN 2 (PREFERABLY 5) METRES FROM EXISTING VEGETATION, CONCENTRATED WATER FLOW, ROADS AND HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT, ELONGATED MOUNDS.
3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2 METRES IN HEIGHT.
4. WHERE THEY ARE TO BE IN PLACE FOR MORE THAN 10 DAYS, STABILISE FOLLOWING THE APPROVED ESCP OR SWMP TO REDUCE THE C-FACTOR TO LESS THAN 0.10.
5. CONSTRUCT EARTH BANKS (STANDARD DRAWING 5-5) ON THE UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES AND SEDIMENT FENCES (STANDARD DRAWING 6-8) 1 TO 2 METRES DOWNSLOPE.

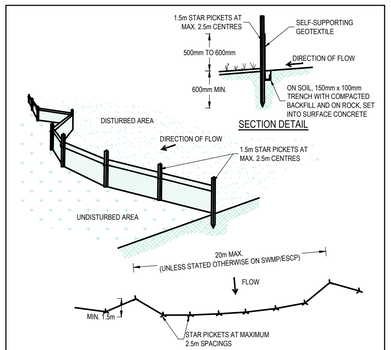
STOCKPILES — SD 4-1



CONSTRUCTION NOTES

1. SCARIFY THE GROUND SURFACE ALONG THE LINE OF THE CONTOUR TO A DEPTH OF 50mm TO 100mm TO BREAK UP ANY HARDSETTING SURFACES AND TO PROVIDE A GOOD BOND BETWEEN THE RESPREAD MATERIAL AND SUBSOIL.
2. ADD SOIL AMELIORANTS AS REQUIRED BY THE ESCP OR SWMP.
3. RIP TO A DEPTH OF 300mm IF COMPACTED LAYERS OCCUR.
4. WHERE POSSIBLE, REPLACE TOPSOIL TO A DEPTH OF 40 TO 60mm ON LANDS WHERE THE SLOPE EXCEEDS 4(H):1(V) AND TO AT LEAST 75mm ON LOWER GRADIENTS.

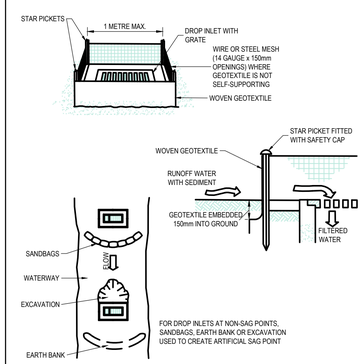
REPLACING TOPSOIL — SD 4-2



CONSTRUCTION NOTES

1. CONSTRUCT SEDIMENT FENCES AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE, BUT WITH SMALL RETURNS AS SHOWN IN THE DRAWING TO LIMIT THE CATCHMENT AREA OF ANY ONE SECTION. THE CATCHMENT AREA SHOULD BE SMALL ENOUGH TO LIMIT WATER FLOW IF CONCENTRATED AT ONE POINT TO 50 LITRES PER SECOND IN THE DESIGN STORM EVENT, USUALLY 10-YEAR EVENT.
2. CUT A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
3. DRIVE 1.5 METRE LONG STAR PICKETS INTO GROUND AT 2.5 METRE INTERVALS (MAX.) AT THE DOWNSLOPE EDGE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS.
4. FIX SELF-SUPPORTING GEOTEXTILE TO THE UPSLOPE SIDE OF THE POSTS ENSURING IT GOES TO THE BASE OF THE TRENCH. FIX THE GEOTEXTILE WITH WIRE TIES OR AS RECOMMENDED BY THE MANUFACTURER. ONLY USE GEOTEXTILE SPECIFICALLY PRODUCED FOR SEDIMENT FENCING. THE USE OF SHADE CLOTH FOR THIS PURPOSE IS NOT SATISFACTORY.
5. JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP.
6. BACKFILL THE TRENCH OVER THE BASE OF THE FABRIC AND COMPACT IT THOROUGHLY OVER THE GEOTEXTILE.

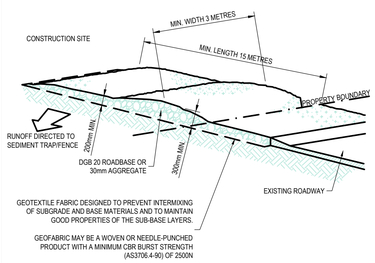
SEDIMENT FENCE — SD 6-8



CONSTRUCTION NOTES

1. FABRICATE A SEDIMENT BARRIER MADE FROM GEOTEXTILE OR STRAW BALES.
2. FOLLOW STANDARD DRAWING 6-7 AND STANDARD DRAWING 6-8 FOR INSTALLATION PROCEDURES FOR THE STRAW BALES OR GEOFABRIC. REDUCE THE PICKET SPACING TO 1 METRE CENTRES.
3. IN WATERWAYS, ARTIFICIAL SAG POINTS CAN BE CREATED WITH SANDBAGS OR EARTH BANKS AS SHOWN IN THE DRAWING.
4. DO NOT COVER THE INLET WITH GEOTEXTILE UNLESS THE DESIGN IS ADEQUATE TO ALLOW FOR ALL WATERS TO BYPASS IT.

GEOTEXTILE INLET FILTER — SD 6-12



CONSTRUCTION NOTES

1. STRIP THE TOPSOIL, LEVEL THE SITE AND COMPACT THE SUBGRADE.
2. COVER THE AREA WITH NEEDLE-PUNCHED GEOTEXTILE.
3. CONSTRUCT A 200mm THICK PAD OVER THE GEOTEXTILE USING ROAD BASE OR 30mm AGGREGATE.
4. ENSURE THE STRUCTURE IS AT LEAST 15 METRES LONG OR TO BUILDING ALIGNMENT AND AT LEAST 3 METRES WIDE.
5. WHERE A SEDIMENT FENCE JOINS ONTO THE STABILISED ACCESS, CONSTRUCT A HUMP IN THE STABILISED ACCESS TO DIVERT WATER TO THE SEDIMENT FENCE.

STABILISED SITE ACCESS — SD 6-14

FOR DA APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

A1 ORIGINAL SIZE

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A	19.05.23	ISSUED FOR DA APPROVAL

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PROPOSED BUILDING 1

2 Bowman Rd, Moss Vale

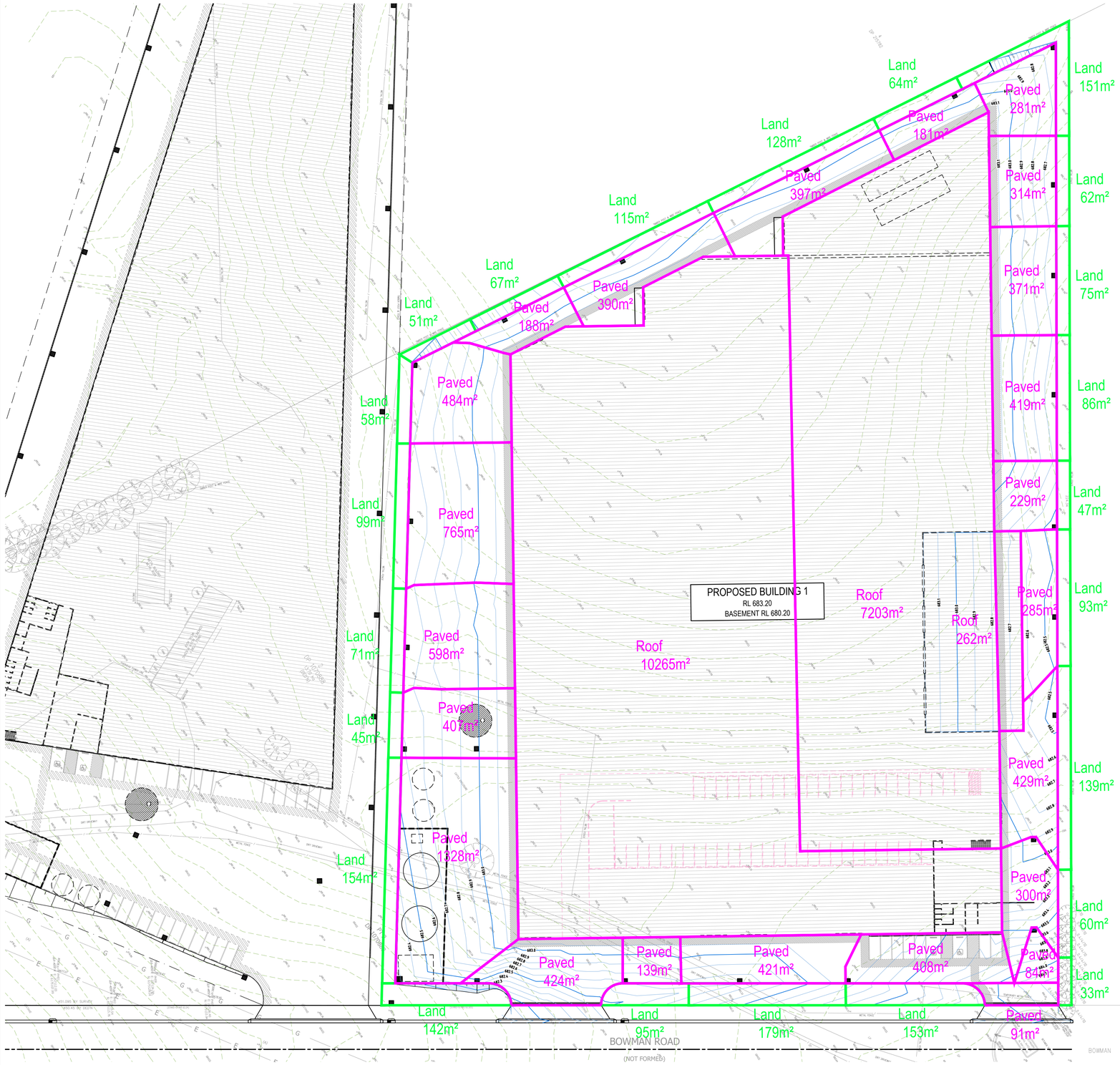
For SAAS Aus Pty Ltd

SEDIMENT AND EROSION CONTROL PLAN

DESIGN	DRAWN	DATE	PROJECT No.
SWH	RCL	JAN 2023	10530
CHECKED	APPROVED	SCALE 1:750	DRG No. C102 - E

STORMWATER DRAINAGE STRATEGY

- ALL GUTTERS & DOWNPIPES ARE DESIGNED TO ACCEPT A 1:20 YEAR ARI STORM EVENT.
- BOX GUTTERS & DOWNPIPES ARE DESIGNED TO ACCEPT A 1:100 YEAR ARI STORM EVENT.
- ALL PITS & PIPES ARE DESIGNED TO ACCEPT A 1:20 YEAR ARI STORM EVENT.
- DESIGN RAINFALL INTENSITIES:
  1:20 YEAR, 5 MIN = 153 mm/hr
  1:100 YEAR, 5 MIN = 209 mm/hr
- ALL PIPES MUST HAVE A MIN. 1.0% FALL, UNO.
- THE FOLLOWING SQIDs HAVE BEEN DESIGNED FOR THIS DEVELOPMENT
  - RAINWATER TANK
  - HUMECEPTOR - CLASS 2
  - HUMEFILTER - UPT
  - HUMEGARD
  - DETENTION TANK



STORMWATER CATCHMENT AREA PLAN

1:500

- DENOTES STORMWATER CATCHMENT AREA BOUNDARY (IMPERVIOUS)
- DENOTES STORMWATER CATCHMENT AREA BOUNDARY (PERVIOUS)

TOTAL SITE CATCHMENT AREA	= 28,830 m²
ROOF AREA	= 17,730 m²
PAVEMENT AREA	= 8,933 m²
LANDSCAPE AREA	= 2,167 m²

- DENOTES EXISTING SURVEY CONTOUR
- DENOTES NEW SURFACE LEVEL CONTOUR (MAJOR)
- DENOTES NEW SURFACE LEVEL CONTOUR (MINOR)

FOR DA APPROVAL

NOT TO BE USED FOR CONSTRUCTION PURPOSES

A1 ORIGINAL SIZE

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www.eclipseconsulting.com.au

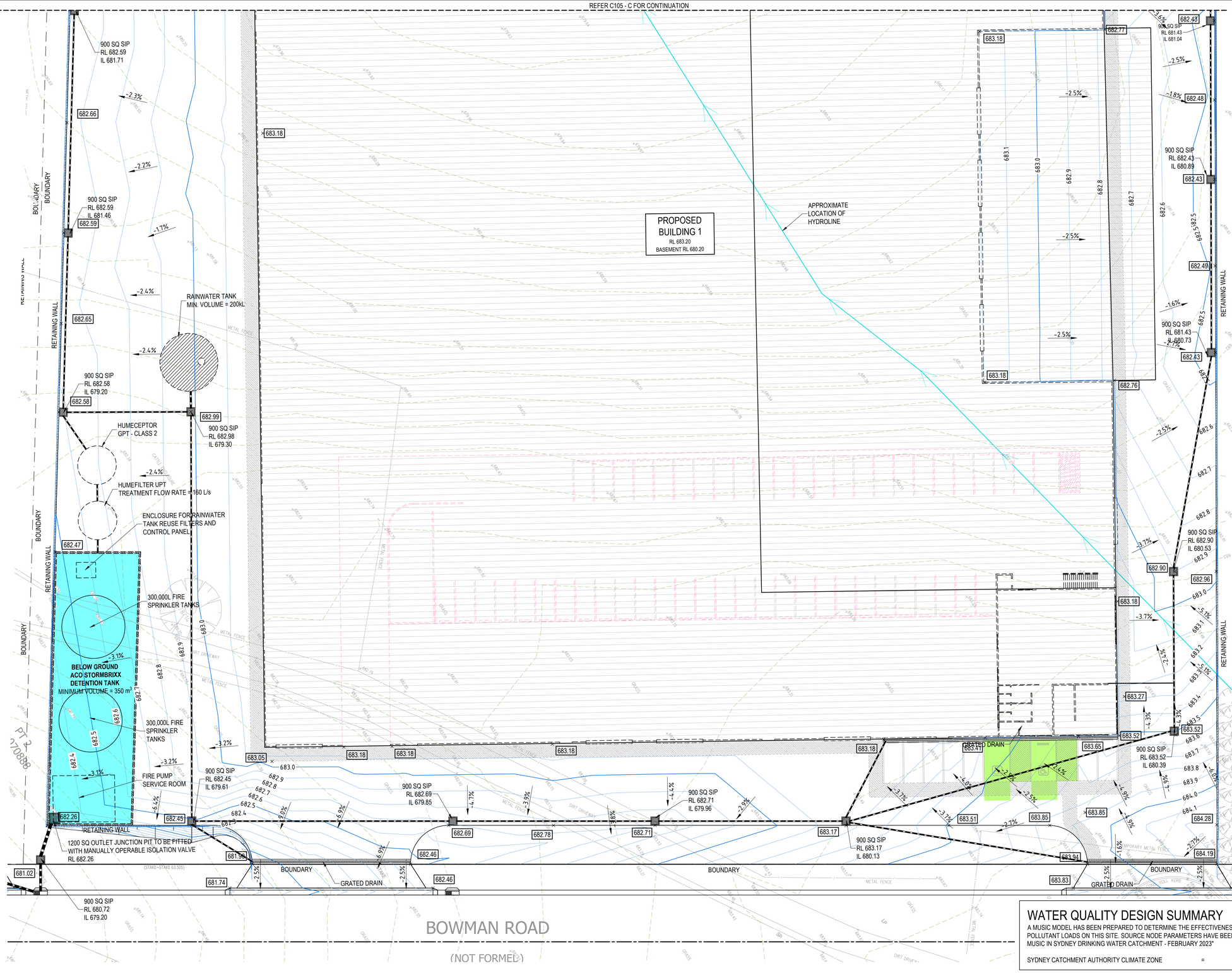
PROPOSED BUILDING 1

2 Bowman Rd, Moss Vale

For SAAS Aus Pty Ltd

STORMWATER CATCHMENT AREA PLAN

DESIGN	DRAWN	DATE	PROJECT No.
SWH	RCL	JAN 2023	10530
CHECKED	APPROVED	SCALE	DRG No.
		1:500	C103 - E



STORMWATER DRAINAGE STRATEGY

- ALL GUTTERS & DOWNPIPES ARE DESIGNED TO ACCEPT A 1:20 YEAR ARI STORM EVENT.
- BOX GUTTERS & DOWNPIPES ARE DESIGNED TO ACCEPT A 1:100 YEAR ARI STORM EVENT.
- ALL PITS & PIPES ARE DESIGNED TO ACCEPT A 1:20 YEAR ARI STORM EVENT.
- DESIGN RAINFALL INTENSITIES:
  1:20 YEAR, 5 MIN = 153 mm/hr
  1:100 YEAR, 5 MIN = 209 mm/hr
- ALL PIPES MUST HAVE A MIN. 1.0% FALL, UNO.
- THE FOLLOWING SQIDs HAVE BEEN DESIGNED FOR THIS DEVELOPMENT
  - RAINWATER TANK
  - HUMECEPTOR - CLASS 2
  - HUMEFILTER - UPT
  - HUMEGARD
  - DETENTION TANK

REUSE ANALYSIS

A RAINWATER REUSE ANALYSIS HAS BEEN CONDUCTED TO EVALUATE THE PERFORMANCE OF RAINWATER TANKS IN REDUCING POTABLE WATER DEMAND.

RETENTION DESIGN

DAILY (9AM) RAINFALL RECORD: 068239 (2001-2023)

ROOF AREA	= 17730 m²
RAINFALL INTERCEPTION DEPTH	= 10 mm
MINIMUM RAINWATER TANK VOLUME	= 177.3 kL
RAINWATER TANK VOLUME	= 200 kL
REUSE DEMANDS:	
TOILETS	= 1.5 kL/day
IRRIGATION FOR LANDSCAPING	= 866.8 kL/yr
DAILY DEMAND	= 3.87 kL/day
RAINWATER TANK CATCHMENT AREA	= 17730 m²
DESIGN RAINWATER TANK VOLUME	= 200 kL
REUSE DEMAND MET	= 98.99 %
OVERFLOW FREQUENCY	= 17.37 %

DETENTION DESIGN

A DRAINS MODEL HAS BEEN PREPARED TO EVALUATE THE PERFORMANCE OF THE DETENTION SYSTEM.

ANTECEDENT MOISTURE CONDITION DETERMINED FROM RAINFALL RECORD 068239 (2001-2023)	= 3.16
SOIL TYPE	= 3
TIME OF CONCENTRATION (t_c)	= 5 min.
ORIFICE DIAMETER	= 375 mm
INTERNAL WEIR HEIGHT	= 1600 mm
AREA	= 175 m²
DETENTION VOLUME REQUIRED	= 305.9 m³
DETENTION VOLUME PROVIDED	= 350 m³

PRE & POST DEVELOPMENT FLOWS

RAINFALL EVENT	50%	20%	10%	5%	2%	1%
PRE-DEVELOPMENT FLOW (L/s)	286	613	809	963	1208	1377
POST-DEVELOPMENT FLOW (L/s)	283	397	674	894	1099	1202
STORAGE VOLUME REQUIRED (m³)	177.3	257	292.9	305.9	323.8	350.6

FOR DA APPROVAL

NOT TO BE USED FOR CONSTRUCTION PURPOSES

A1 ORIGINAL SIZE

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WATER QUALITY DESIGN SUMMARY

A MUSIC MODEL HAS BEEN PREPARED TO DETERMINE THE EFFECTIVENESS OF SQIDs AT REDUCING POLLUTANT LOADS ON THIS SITE. SOURCE NODE PARAMETERS HAVE BEEN ADOPTED FROM "USING MUSIC IN SYDNEY DRINKING WATER CATCHMENT - FEBRUARY 2023"

SYDNEY CATCHMENT AUTHORITY CLIMATE ZONE = ZONE 3

TREATMENT TRAIN EFFECTIVENESS

	PRE-DEV SOURCES	POST-DEV SOURCES	PRE-DEV RESIDUAL LOAD	POST-DEV RESIDUAL LOAD	% REDUCT. FROM POSTDEV SOURCES	%REDUCT. FROM PREDEV RESIDUAL
FLOW (ML/yr)	20.246	61.538	20.246	57.171	7.098	-183
TOTAL SUSPENDED SOLIDS (kg/yr)	3240.704	7164.57	3240.704	1438.144	79.927	57
TOTAL PHOSPHORUS (kg/yr)	9.469	15.417	9.469	5.043	67.287	46
TOTAL NITROGEN (kg/yr)	65.871	135.17	65.871	61.131	54.775	8
GROSS POLLUTANTS (kg/yr)	104.097	1544.347	104.097	17.302	98.88	83

STORMWATER DRAINAGE PLAN PART 1 OF 2

1:250

ALL DRAINAGE LINES SHALL BE UPVC (CLASS SH) STORMWATER DRAINAGE PIPE, UNO.
ALL DRAINAGE LINES SHALL BE LAID @ 1% FALL MIN, UNO.
FIRST FLUSH RAINWATER DEVICES TO BE FITTED TO DRAINAGE LINES TO BUILDER'S DETAIL,
MINIMUM EFFECTIVE EAVES GUTTER SLOPE = 1:500
THE FOLLOWING SYMBOLS & ABBREVIATIONS HAVE BEEN USED:

SIP = SURFACE INLET PIT (NO LINTEL)
DP = Ø150 DOWNPIPE
X 100.00 = PROPOSED FINISHED SURFACE LEVEL

= DENOTES DISABLED PARKING BAY AT 2.5% MAX. GRADE

PROPOSED BUILDING 1

2 Bowman Rd, Moss Vale
For SAAS Aus Pty Ltd

STORMWATER DRAINAGE PLAN PART 1 OF 2

DESIGN	DRAWN	DATE	PROJECT No.
SWH	RCL	JAN 2023	10530
CHECKED	APPROVED	SCALE 1:250	DRG No. C104 - E

STORMWATER DRAINAGE STRATEGY

- ALL GUTTERS & DOWNPIPES ARE DESIGNED TO ACCEPT A 1:20 YEAR ARI STORM EVENT.
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  - RAINWATER TANK
  - HUMECEPTOR - CLASS 2
  - HUMEFILTER - UPT
  - HUMEGARD
  - DETENTION TANK

REUSE ANALYSIS

A RAINWATER REUSE ANALYSIS HAS BEEN CONDUCTED TO EVALUATE THE PERFORMANCE OF RAINWATER TANKS IN REDUCING POTABLE WATER DEMAND.

RETENTION DESIGN

DAILY (9AM) RAINFALL RECORD: 068239 (2001-2023)

ROOF AREA	= 17730 m²
RAINFALL INTERCEPTION DEPTH	= 10 mm
MINIMUM RAINWATER TANK VOLUME	= 177.3 kL
RAINWATER TANK VOLUME	= 200 kL
REUSE DEMANDS:	
TOILETS	= 1.5 kL/day
IRRIGATION FOR LANDSCAPING	= 866.8 kL/yr
DAILY DEMAND	= 3.87 kL/day
RAINWATER TANK CATCHMENT AREA	= 17730 m²
DESIGN RAINWATER TANK VOLUME	= 200 kL
REUSE DEMAND MET	= 98.99%
OVERFLOW FREQUENCY	= 17.37%

DETENTION DESIGN

A DRAINS MODEL HAS BEEN PREPARED TO EVALUATE THE PERFORMANCE OF THE DETENTION SYSTEM.

ANTECEDENT MOISTURE CONDITION DETERMINED FROM RAINFALL RECORD 068239 (2001-2023)	= 3.16
SOIL TYPE	= 3
TIME OF CONCENTRATION (t_c)	= 5 min.
ORIFICE DIAMETER	= 375 mm
INTERNAL WEIR HEIGHT	= 1600 mm
AREA	= 175 m^2
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STORMWATER DRAINAGE PLAN PART 2 OF 2

1:250

ALL DRAINAGE LINES SHALL BE UPVC (CLASS SH) STORMWATER DRAINAGE PIPE, UNO.
ALL DRAINAGE LINES SHALL BE LAID @ 1% FALL MIN, UNO.
FIRST FLUSH RAINWATER DEVICES TO BE FITTED TO DRAINAGE LINES TO BUILDER'S DETAIL,
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= DENOTES DISABLED PARKING BAY AT 2.5% MAX. GRADE

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SYDNEY CATCHMENT AUTHORITY CLIMATE ZONE = ZONE 3

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FOR DA APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES
A1 ORIGINAL SIZE

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PROPOSED BUILDING 1

2 Bowman Rd, Moss Vale
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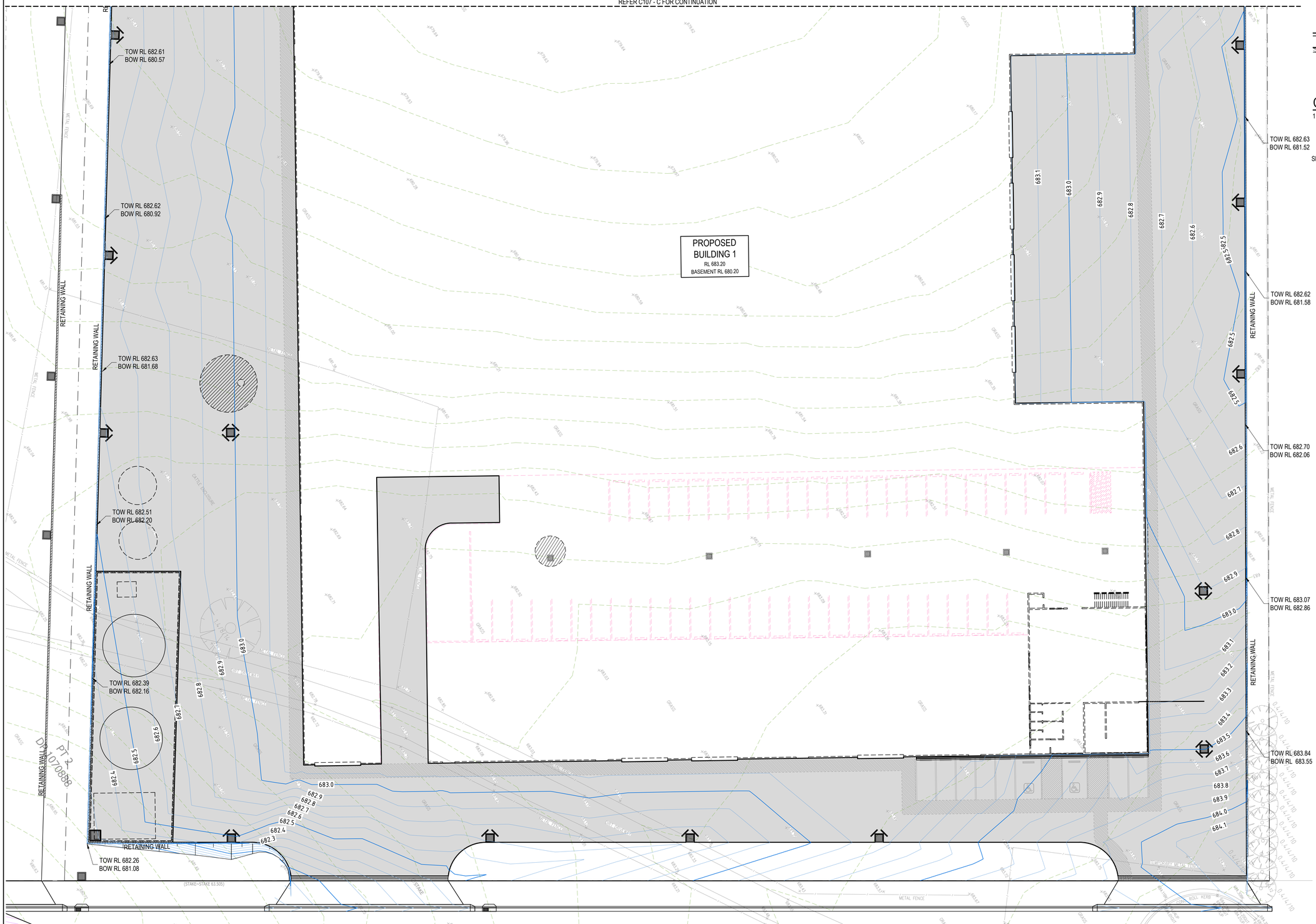
STORMWATER DRAINAGE PLAN PART 2 OF 2

DESIGN	DRAWN	DATE	PROJECT No.
SWH	RCL	JAN 2023	10530
CHECKED	APPROVED	SCALE 1:250	DRG No. C105 - E

REFER C107 - C FOR CONTINUATION



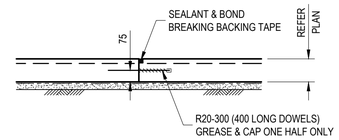
EXTERNAL PAVEMENT LAYOUT PLAN PART 1 OF 2

1:250

DENOTES **150 THICK SLAB** WITH **SL82 MESH TOP** THROUGHOUT
CONCRETE STRENGTH = **32 MPa**

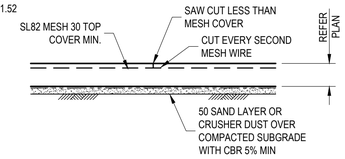
2-N12 (75 SPACING 1200 LONG) TRIMMERS TOP SHALL BE LOCATED 50 FROM ALL RE-ENTRANT CORNERS, TYPICAL U.N.O.

REINFORCEMENT COVER TO GROUND FLOOR SLAB SHALL BE AS FOLLOWS:
- 40mm - TO UNPROTECTED GROUND
- 40mm - EXTERNAL EXPOSURE
- 30mm - TO A MEMBRANE IN CONTACT WITH GROUND
- 30mm - INTERNAL EXPOSURE



CONSTRUCTION JOINT (C.J.) DETAIL

1:20



SAWN JOINT (S.J.) DETAIL

1:20

FOR DA APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

A1 ORIGINAL SIZE

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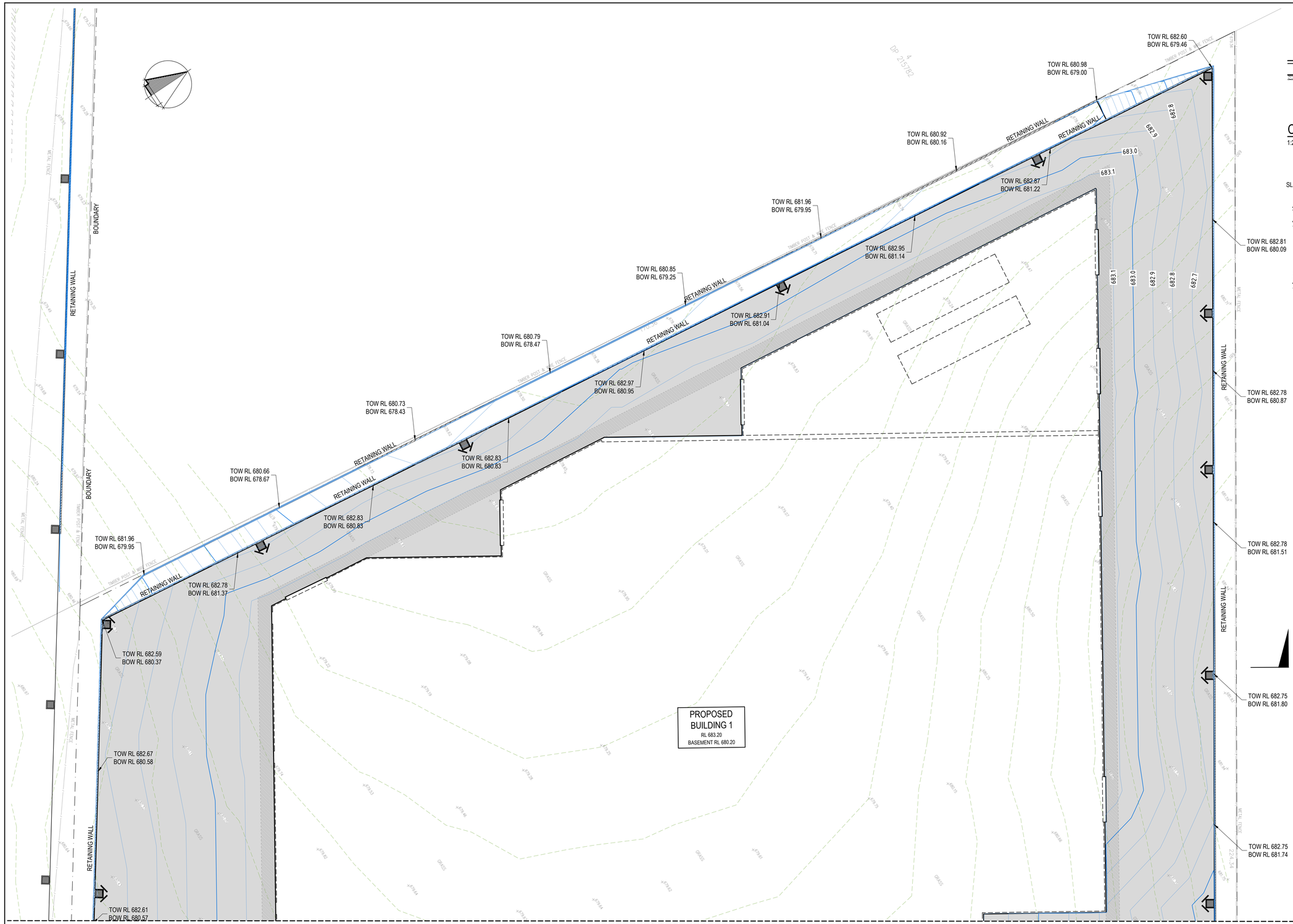
PROPOSED BUILDING 1

2 Bowman Rd, Moss Vale
For SAAS Aus Pty Ltd

EXTERNAL PAVEMENT PLAN AND DETAILS PART 1 OF 2

DESIGN	DRAWN	DATE	PROJECT No.
SWH	RCL	JAN 2023	10530
CHECKED	APPROVED	SCALE	DRG No.
		1:250	C106 - E



REFER C106 - C FOR CONTINUATION

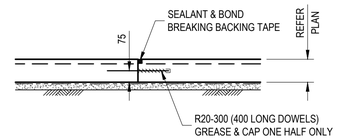
EXTERNAL PAVEMENT LAYOUT PLAN PART 2 OF 2

1:250

DENOTES **150 THICK SLAB** WITH **SL82 MESH TOP** THROUGHOUT
CONCRETE STRENGTH = **32 MPa**

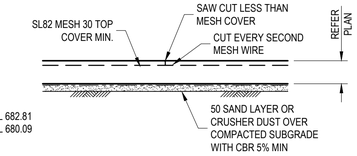
2-N12 (75 SPACING 1200 LONG) TRIMMERS TOP SHALL BE LOCATED 50 FROM ALL RE-ENTRANT CORNERS, TYPICAL U.N.O.

REINFORCEMENT COVER TO GROUND FLOOR SLAB SHALL BE AS FOLLOWS:
- 40mm - TO UNPROTECTED GROUND
- 40mm - EXTERNAL EXPOSURE
- 30mm - TO A MEMBRANE IN CONTACT WITH GROUND
- 30mm - INTERNAL EXPOSURE



CONSTRUCTION JOINT (C.J.) DETAIL

1:20



SAWN JOINT (S.J.) DETAIL

1:20

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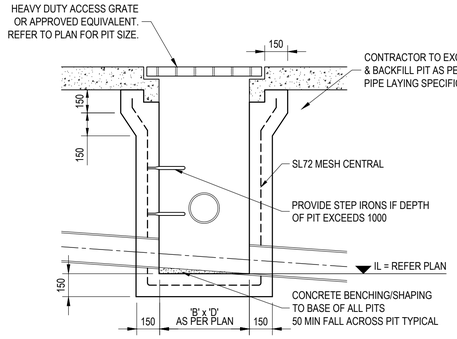
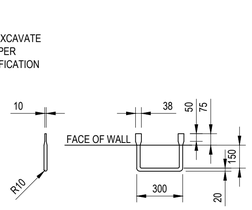
		1:250	C107 - E



TYPICAL SURFACE INLET PIT DETAIL

1:20

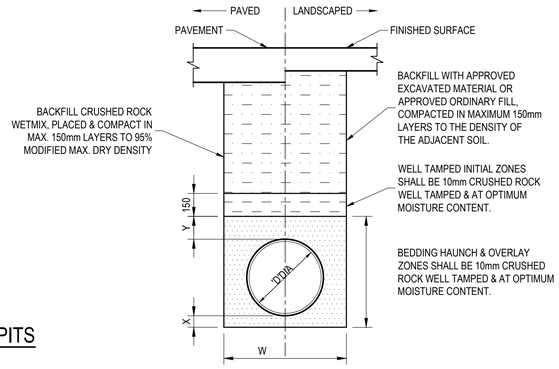
TYPICAL FOR ALL PITS IN DRIVEWAY/CARPARK AREAS.



STEP IRONS FOR DRAINAGE PITS

1:20

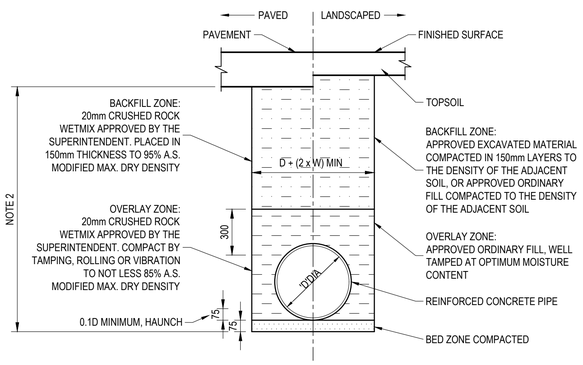
STEP IRONS FOR DRAINAGE PITS
NOTE:
1. FIRST RUNG 150mm DOWN FROM TOP, THEN SPACED AT 300 CENTRES.
2. STEP IRON MATERIAL, 20m DIAMETER MILD STEEL, HEAVY GALVANISED.



NOTE:
1 REFER TO PIPE LAYING SPECIFICATIONS FOR DETAILS.

PIPE DIA 'D'	W	X MIN	Y
100-150	300	75	75
225-300	600	75	75

UPVC PIPE



NOTE:
1 REFER TO PIPE LAYING SPECIFICATION FOR DETAILS.
2 BACKFILL OVERLAY & BEDDING ZONES 20mm CRUSHED ROCK COMPACT BY TAMPING ROLLING OR VIBRATION TO NOT LESS THAN 85% A.S. STD. MAX. DRY DENSITY.

D	W
150-300	150
375-750	300
+750	600

REINFORCED CONCRETE PIPE

TYPICAL PIPE LAYING DETAIL

1:20

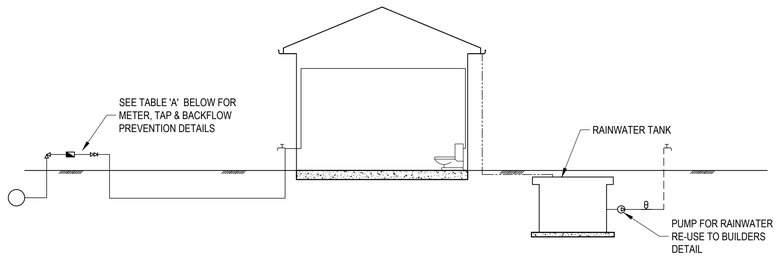


TABLE A

RAINWATER TANK LOCATION	METER SIZE (mm)	TYPE OF TAP	TYPE OF BACKFLOW PREVENTION
ABOVE GROUND	20	BALL VALVE	DUAL CHECK VALVE (COMBINED WITH METER)
	25	BALL VALVE	DUAL CHECK VALVE
	≥ 32	BALL VALVE	DUAL CHECK VALVE
BELOW GROUND	20	BALL VALVE	TESTABLE DOUBLE CHECK VALVE
	25	BALL VALVE	TESTABLE DOUBLE CHECK VALVE
	≥ 32	BALL VALVE	TESTABLE DOUBLE CHECK VALVE

LEGEND

- PRESSURE VESSEL
- METER
- BALL VALVE RIGHT ANGLE TYPE
- DUAL CHECK VALVE
- PUMP
- GARDEN TAP
- DRINKING WATER SUPPLY PIPES
- RAINWATER SUPPLY PIPES
- DOWN PIPES

DIAGRAM NOTES:
DRAWING TO BE READ IN CONJUNCTION WITH SYDNEY WATER PLUMBING REQUIREMENTS

1. FOR TANKS 10,000 LITRES OR LESS, COUNCIL DEVELOPMENT CONSENT IS NOT REQUIRED, IF THEIR CONDITIONS FOR INSTALLATION ARE FOLLOWED.
2. FOR TANKS GREATER THAN 10,000 LITRES COUNCIL DEVELOPMENT CONSENT IS GENERALLY REQUIRED.
3. FOR TANKS MORE THAN 10,000 LITRES APPROVAL IS REQUIRED FOR BUILDING OVER SEWERS.
4. SYDNEY WATER'S APPROVAL IS REQUIRED FOR ANY TOP UP FROM DRINKING WATER SUPPLY, REGARDLESS OF TANK SIZE. NO DIRECT CONNECTION IS ALLOWED BETWEEN THE
5. DRINKING WATER SUPPLY AND THE RAINWATER TANK SUPPLY.
6. RAINWATER PIPEWORK IS SHOWN ON THE DIAGRAM AS SUPPLYING EXTERNAL RAINWATER USES.
7. ANY DESIGNED ACCESS LID INTO RAINWATER RE-USE TANK IS TO HAVE A LOCKABLE LID. IF THE LID IS DESIGNED TO BE ACCESSED BY A MAINTENANCE PERSON, IT MUST BE AT LEAST 600 mm x 900 mm IN SIZE.
8. MAINS WATER TO BYPASS TO TANK (BY PLUMBER) FOR LOW TANK STORAGE.

DUAL DRINKING WATER & RAINWATER SUPPLY DIAGRAM

NTS
THE RAINWATER TANK SHALL BE INSTALLED WITH A FIRST FLUSH DEVICE TO SUPPLIERS DETAILS

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STORMWATER DETAILS SHEET 1 OF 3

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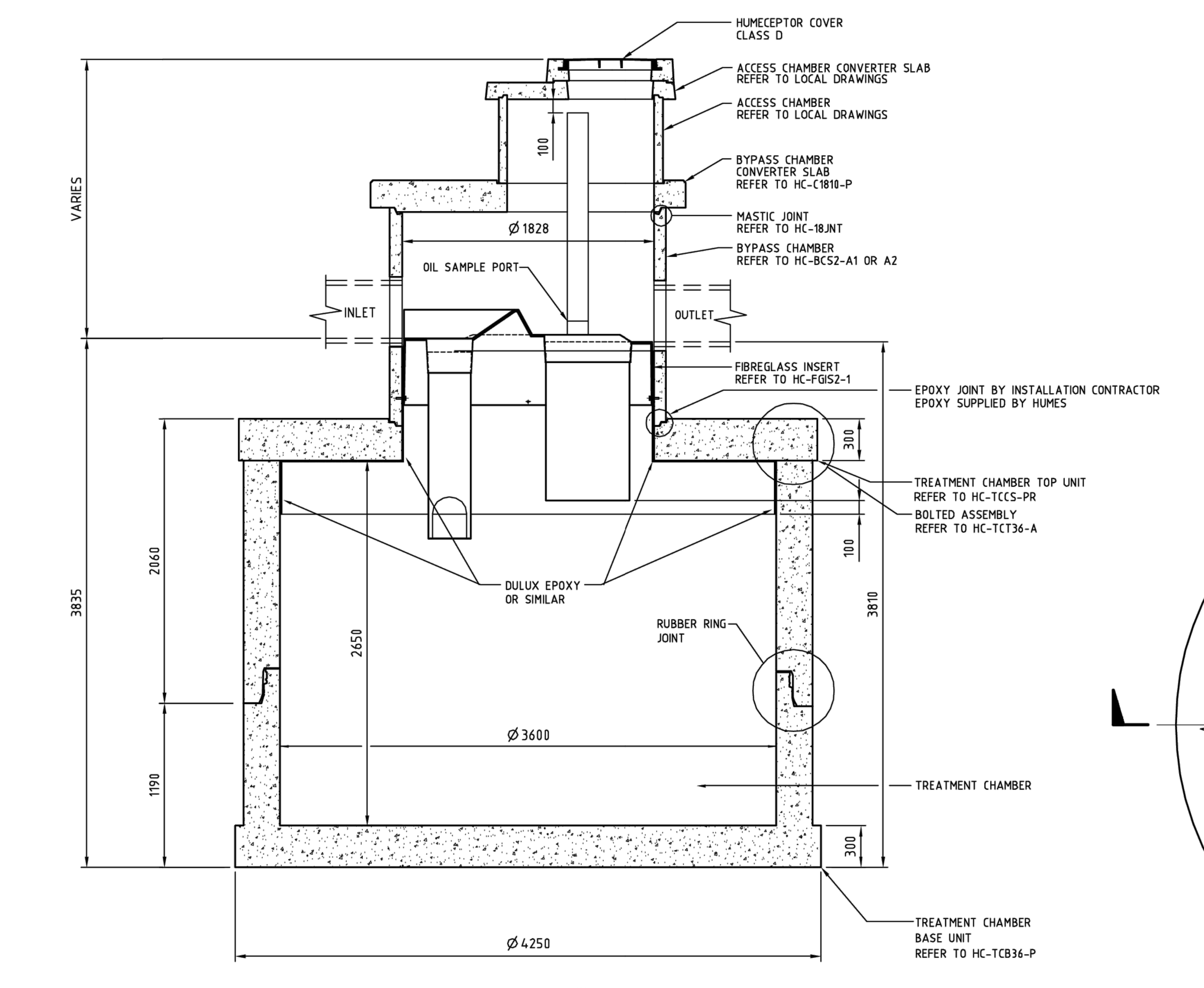
SWH	RCL	JAN 2023	10530
CHECKED	APPROVED	SCALE	DRG No.
		1:20	C108 - E

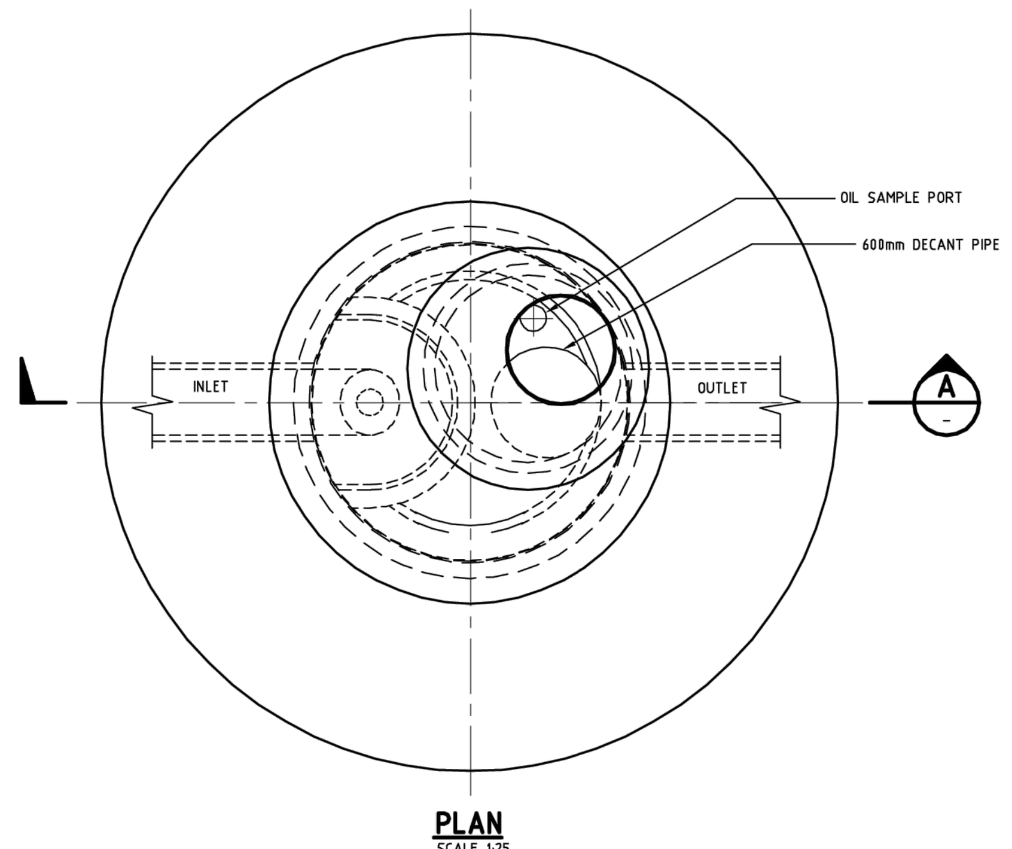
ISSUE	DETAILS OF ALTERATIONS	DWN	DATE	CKD
0	UPDATED AND REISSUED FOR MANUFACTURE	RM	22-04-04	DFW



SECTION A
SCALE 1:25

NOTES:

1. TYPICAL ASSEMBLY DETAIL ONLY - REFER TO PROJECT DRAWING FOR ACTUAL REQUIREMENTS.
2. DIMENSIONS INCLUDED ARE STANDARD.
3. STORAGE VOLUMES TOTAL = 29220 LITRES OIL STORAGE VOLUME = 4290 LITRES SEDIMENT STORAGE VOLUME = 23.50 m3
4. COMPONENT MASSES TREATMENT CHAMBER BASE UNIT (INCL. SHAFT) = 18.3 t TREATMENT CHAMBER TOP UNIT (CONV. SLAB + SHAFT) = 23.2 t
5. BYPASS CHAMBER = VARIES REFER TO BYPASS CHAMBER ASSEMBLY DRAWING FOR FIXING DETAILS FOR FIBREGLASS INSERT.
6. BYPASS CHAMBER CONVERTER SLAB TO SUIT LOCAL ACCESS CHAMBER UNITS.
7. FOR INLET AND OUTLET PIPE CONNECTION DETAILS REFER HC-BCS2-A1 OR A2 AND KOR- N-SEAL INSTALLATION INSTRUCTIONS.
8. SWIFTLIFT LIFTING ANCHORS PROVIDED FOR LIFTING ALL COMPONENTS (REFER PRODUCT DRAWINGS)
9. NOTE MARKINGS - INLET AND OUTLET OVER EACH.
10. JOINT SEALANT AS PER MANUFACTURERS RECOMMENDATIONS.
11. VENT PIPE AND DECANT PIPE TO BE VISIBLE AS PER PLAN VIEW.



PLAN
SCALE 1:25

IMPORTANT INSTALLATION INFORMATION

1. FOUNDATION REQUIREMENTS - MIN. ALLOWABLE BEARING CAPACITY REQUIRED 200 kPa
2. UNIT TO BE PLACED ON 150mm THICK BED ZONE MATERIAL IN ACCORDANCE WITH AS3725 REQUIREMENTS
3. TREATMENT CHAMBER SHOULD BE FILLED WITH WATER TO 2/3 DEPTH IMMEDIATELY AFTER INSTALLATION (UNIT MAY FLOAT PRIOR TO BACKFILLING)

RUBBER RING JOINT SPECIFICATION

MATERIAL : NITRILE
HARDNESS : 43 (± 3) IRHD (AS1646)
PROFILE : L 38 (REFER Dwg. J1002-01)
ID : 3400 ± 16mm

Humes TECHNICAL (DESIGN) SERVICES BRISBANE, QUEENSLAND

HUMECEPTOR™ STANDARD DRAWING
STC-27 HUMECEPTOR
ASSEMBLY DRAWING

SCALE 1:25 | A2 | HC-STC27-A | 0

UNIVERSAL POLLUTANT TRAP (UPT3600) PARTS TABLE

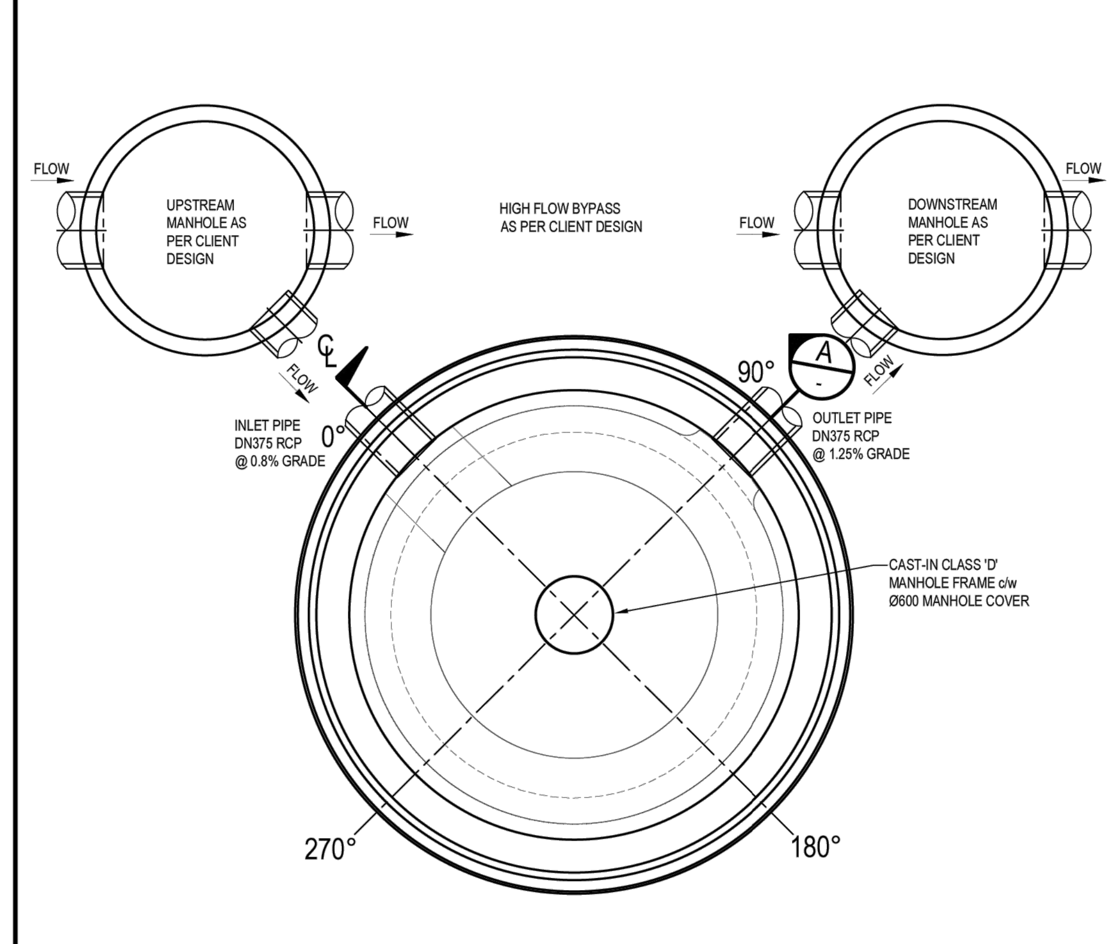
ITEM No.	PART	MANUF'T	SUPPLIED BY	No OFF.	APPROX MASS (t)	COMMENTS
1	BASE UNIT	HUMES	HUMES	1	19.43	INSTALLED BY CONTRACTOR ON-SITE
2	PLINTH	BY OTHERS	HUMES	1	BY OTHERS	INSTALLED BY HUMES IN FACTORY
3	FILTER MEDIUM CARTRIDGE	BY OTHERS	HUMES	1	BY OTHERS	INSTALLED BY CONTRACTOR ON-SITE
4	TREATMENT CHAMBER SHAFT	HUMES	HUMES	1	12.10 (SHAFT ONLY)	INSTALLED BY CONTRACTOR ON-SITE
5	TREATMENT CHAMBER INSERT	BY OTHERS	HUMES	1	BY OTHERS	INSTALLED BY CONTRACTOR ON-SITE
6	T.C. SUPPORT FRAME	BY OTHERS	HUMES	1	BY OTHERS	
7	T.C. SUPPORT FRAME BRACKET	BY OTHERS	HUMES	4	BY OTHERS	INSTALLED BY HUMES IN FACTORY
8	CONCRETE SURROUND RING	HUMES	HUMES	1	5.00	INSTALLED BY CONTRACTOR ON-SITE
9	RUBBER RING	HUMES	HUMES	1	0.02	INSTALLED BY CONTRACTOR ON-SITE
10	CONCRETE LID	HUMES	HUMES	1	7.13	INSTALLED BY CONTRACTOR ON-SITE
	ANCON 5.0t "UNILIFT" CONE ANCHOR CLUTCHES	ANCON	CONTRACTOR	4	-	PROVIDED BY CONTRACTOR FOR LIFTING
	ANCON 10.0t "UNILIFT" CONE ANCHOR CLUTCHES	ANCON	CONTRACTOR	4	-	PROVIDED BY CONTRACTOR FOR LIFTING
	MEGAPOXY / EPOXY / MASTIC SEALANT	-	HUMES		-	INSTALLED BY CONTRACTOR ON-SITE
	STAINLESS STEEL CLEVIS PIN / R-CLIP	WHITWORTHS	HUMES	4xEACH		USED TO REMOVE AND SECURE INSERT

GENERAL NOTES:

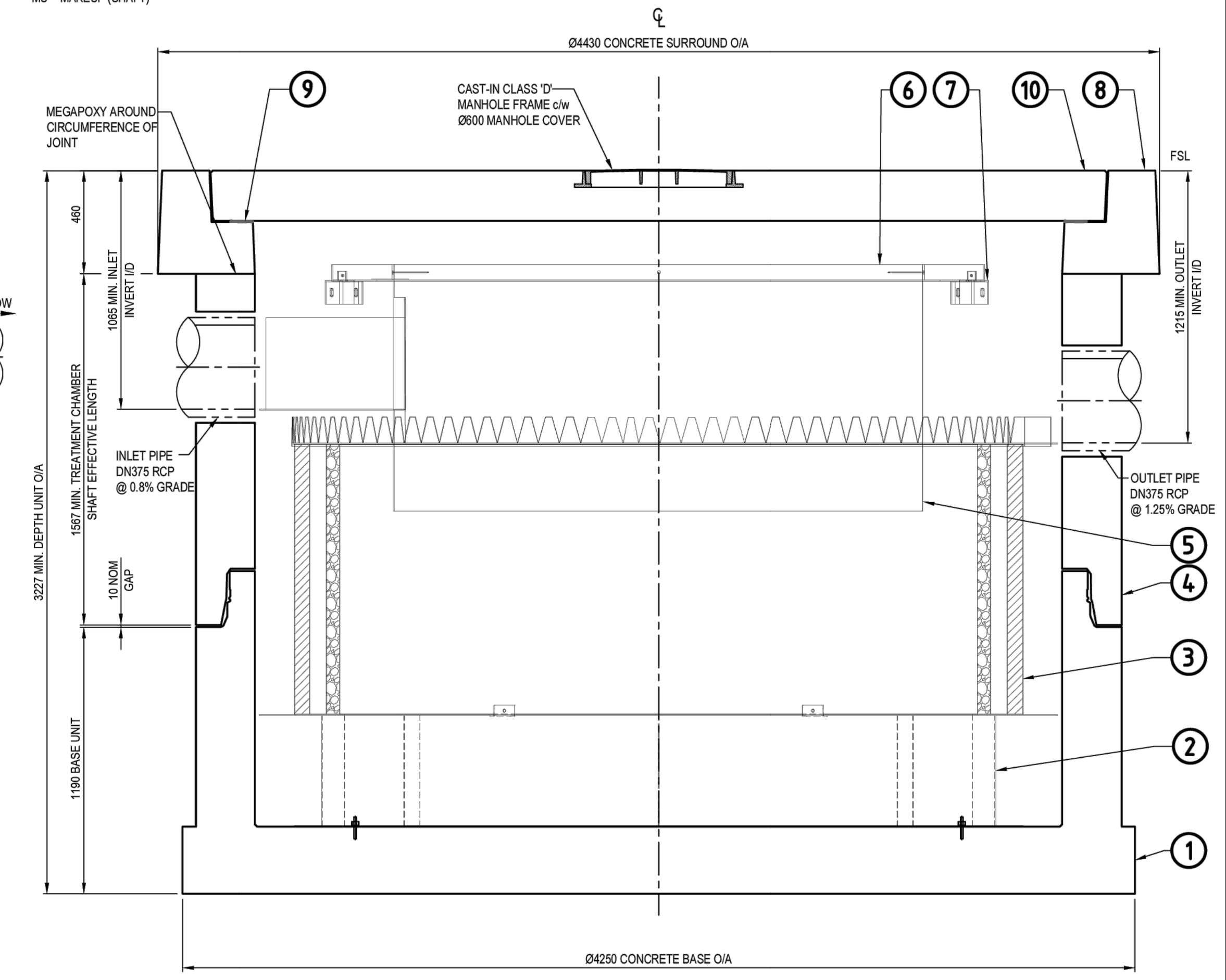
1. CONCRETE DESIGNED TO AS3600
2. EXPOSURE CLASSIFICATION: B2 AS PER AS3600. SELF COMPACTING CONCRETE WITH RIGID FORMWORK
3. TRAFFIC LOADING: SM1600 VEHICLE TO AS5100 AND LIVE LOAD FACTOR 1.5 WITH 1.25 DYNAMIC ALLOWANCE
4. MINIMUM COVER TO REINFORCEMENT = 25mm (NOMINAL COVER = 30mm ± 5 UNO)
5. FOUNDING MATERIAL TO BE A MINIMUM 150kPa (WORKING LOAD) AND 150mm THICK COMPACTED GRAVEL TO 95% MDD
6. SEALANT: PU MASTIC OR SIKAFLEX 11FC
7. ABBREVIATIONS:
   O/A = OVERALL
   I/D = INTERNAL DIAMETER
   O/D = OUTSIDE DIAMETER
   TC = TREATMENT CHAMBER
   MU = MAKEUP (SHAFT)

PIPES CONNECTION TABLE

	SIZE / TYPE	CONNECTION	COMMENTS
INLET	DN375 RCP CLASS TBC CONSULTANT	EPOXY JOINT	RCP SUPPLIED AND INSTALLED BY CONTRACTOR ON-SITE.
OUTLET	DN375 RCP CLASS TBC CONSULTANT	EPOXY JOINT	RCP SUPPLIED AND INSTALLED BY CONTRACTOR ON-SITE.



HUMEFILTER UPT3600
PLAN - SITE ARRANGEMENT
SCALE 1: NTS

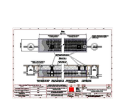


SECTION A AS INSTALLED
SCALE 1: NTS

DESIGN IS A CONCEPT ONLY. DRAWING MAY VARY SUBJECT TO DETAIL DESIGN

REV	DETAILS OF ALTERATIONS		
B	MINOR AMENDMENTS - REISSUED FOR INFORMATION	CMT	
A	ISSUED FOR INFORMATION	CMT	02-02-22

FOR INFORMATION ONLY
NAT. WATER SOLUTIONS
HUMES WATER SOLUTIONS
HUMEFILTER TECHNICAL MANUAL
HUMEFILTER UPT3600
RCP INLET & OUTLET
GENERAL ARRANGEMENT
EP-UPT-3600-RCP-NAT-B2-GA | A2 | B



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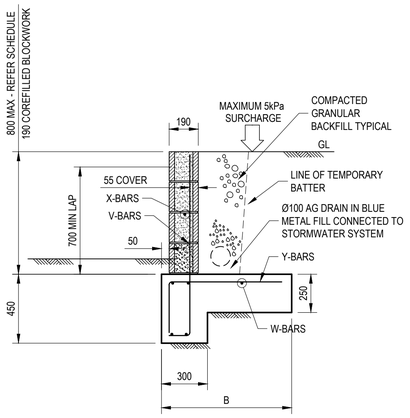
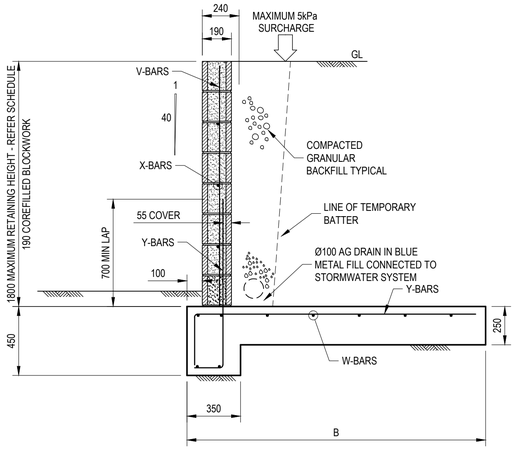
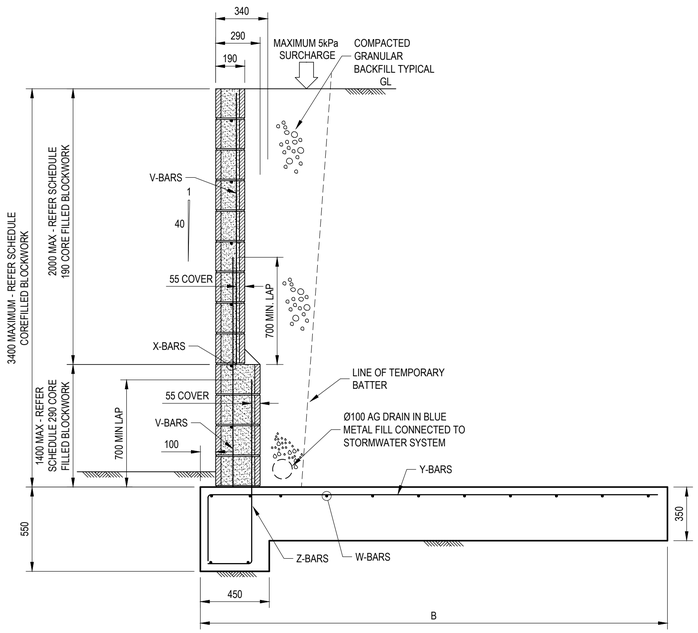


400 to 800 HIGH RETAINING HEIGHT					
HEIGHT	B	V-BARS	W-BARS	X-BARS	Y-BARS
400	650	N12-400	N12-300	N12-400	N12-400
600	850	N12-400	N12-300	N12-400	N12-400
800	1150	N12-400	N12-300	N12-400	N12-400



800 to 1800 HIGH RETAINING HEIGHT					
HEIGHT	B	V-BARS	W-BARS	X-BARS	Y-BARS
800	1150	N12-400	N12-300	N12-400	N12-400
1000	1350	N12-400	N12-300	N12-400	N12-400
1200	1550	N12-400	N12-300	N12-400	N12-400
1400	1750	N16-400	N12-300	N12-400	N16-400
1600	1950	N16-400	N12-300	N12-400	N16-400
1800	2150	N16-400	N16-300	N16-400	N16-200



2000 to 3400 HIGH RETAINING HEIGHT								
HEIGHT	B	HEIGHT OF BLOCKWORK		V-BARS	W-BARS	X-BARS	Y-BARS	Z-BARS
		190 mm	290 mm					
2000	2450	1200	800	N16-400	N16-300	N12-400	N16-200	N16-200
2200	2650	1400	800	N16-400	N16-300	N12-400	N16-200	N16-200
2400	2850	1600	800	N16-400	N16-300	N12-400	N16-200	N16-200
2600	3050	1800	800	N16-400	N16-300	N12-400	N16-200	N16-200
2800	3250	1800	1000	N16-400	N16-300	N12-400	N16-200	N16-200
3000	3450	1800	1200	N16-400	N16-300	N16-400	N16-200	N16-200
3200	3650	1800	1400	N20-400	N16-300	N16-400	N20-200	N20-200
3400	3850	1800	1600	N20-400	N16-300	N16-400	N20-200	N20-200

TYPICAL EXTERNAL BLOCKWORK RETAINING WALL DETAILS

1:20

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STORMWATER DETAILS SHEET 3 OF 3

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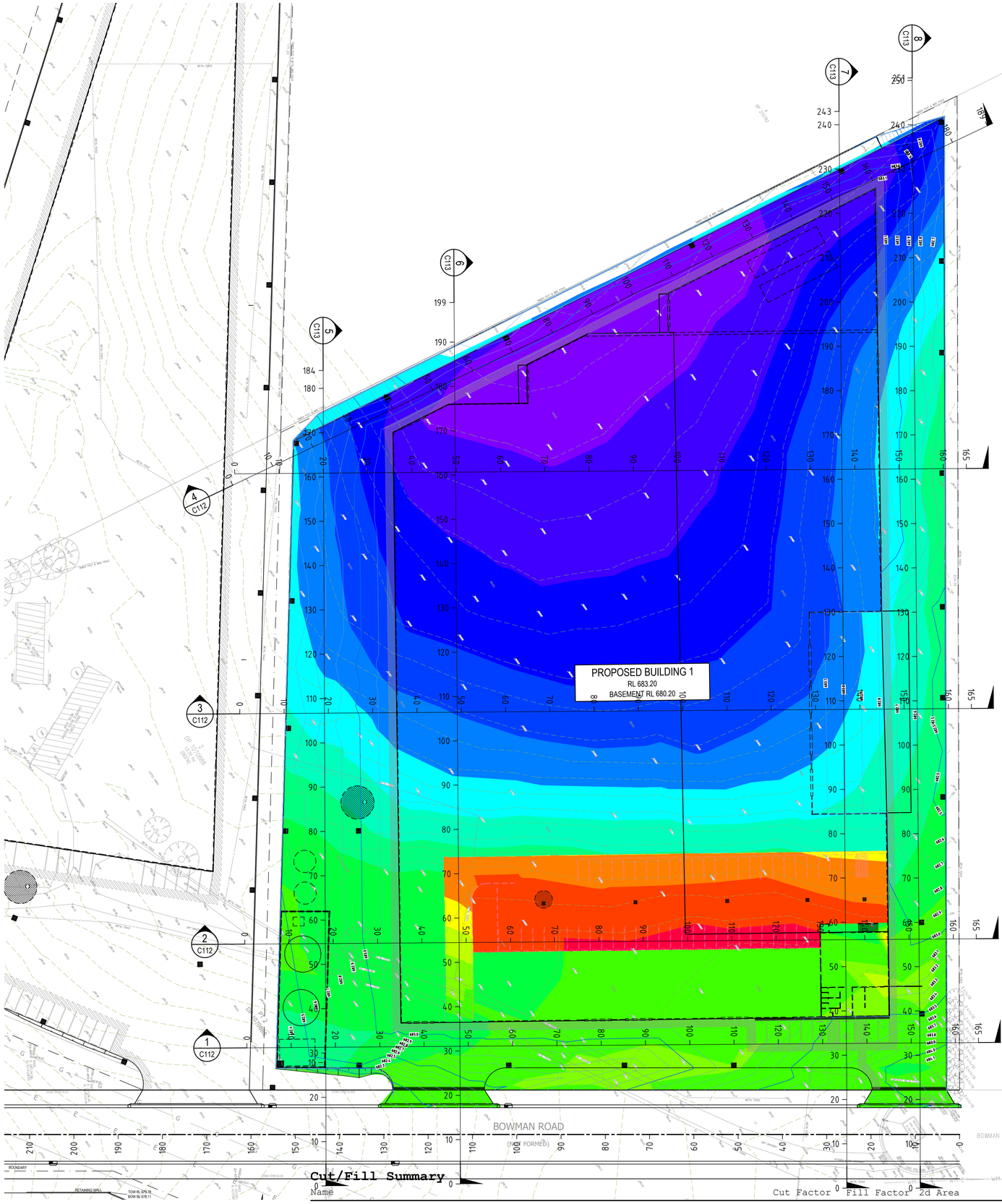
		1:20	C110 - E



BULK EARTHWORKS CUT AND FILL PLAN

1:500

Surface Analysis: Elevation Ranges

Number	Color	Minimum Elevation (m)	Maximum Elevation (m)
1		-4.000	-3.500
2		-3.500	-3.000
3		-3.000	-2.500
4		-2.500	-2.000
5		-2.000	-1.500
6		-1.500	-1.000
7		-1.000	-0.500
8		-0.500	0.000
9		0.000	0.500
10		0.500	1.000
11		1.000	1.500
12		1.500	2.000
13		2.000	2.500
14		2.500	3.000
15		3.500	3.500
16		3.500	4.000
17		4.000	4.500

CUT
FILL

Cut/Fill Summary

Name	Cut Factor	Fill Factor	2d Area	Cut	Fill	Net
bulk earthworks cut and fill - Building 1 - proposed surface less 200mm	1.000	1.000	27573.604sq.m	12202.339 Cu. M.	53322.842 Cu. M.	41120.503 Cu. M.<Fill>
Totals			27573.604sq.m	12202.339 Cu. M.	53322.842 Cu. M.	41120.503 Cu. M.<Fill>

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305/12 Century Cct
Norwest Central
NORWEST NSW 2153

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PROPOSED BUILDING 1

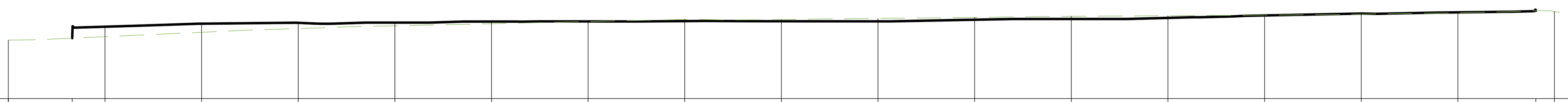
2 Bowman Rd, Moss Vale

For SAAS Aus Pty Ltd

BULK EARTHWORKS CUT AND FILL PLAN

DESIGN	DRAWN	DATE	PROJECT No.
SWH	RCL	JAN 2023	10530
CHECKED	APPROVED	SCALE 1:500	DRG No. C111 - E

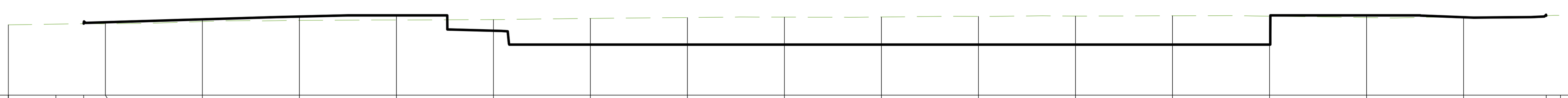
VERT EXAG 1:1
Datum 675.000



CHAINAGE	DESIGN LEVELS	EXISTING LEVELS	DEPTH
0.000		681.003	
6.617	681.208	681.208	0.000
10.000	682.382	681.360	1.022
20.000	682.686	681.809	0.877
30.000	682.779	682.194	0.585
40.000	682.805	682.474	0.332
50.000	682.910	682.686	0.224
60.000	682.923	682.910	0.014
70.000	682.957	683.127	-0.170
80.000	682.938	683.115	-0.177
90.000	682.935	683.232	-0.298
100.000	683.098	683.339	-0.242
110.000	683.175	683.452	-0.277
120.000	683.285	683.502	-0.217
130.000	683.541	683.576	-0.035
140.000	683.730	683.674	0.057
150.000	683.858	683.818	0.039
158.073	684.022	684.022	0.000
160.000		683.947	
165.190			

SECTION 1 (C110)
1:500

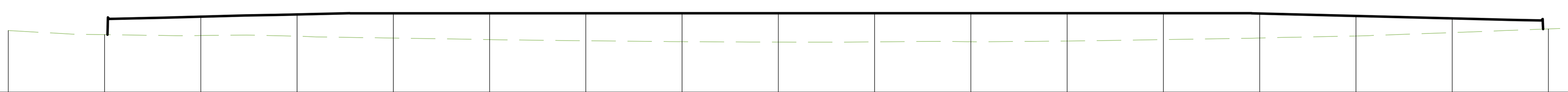
VERT EXAG 1:1
Datum 675.000



CHAINAGE	DESIGN LEVELS	EXISTING LEVELS	DEPTH
0.000		682.226	
4.896		682.304	
7.763	682.351	682.351	0.000
10.000	682.488	682.341	0.147
20.000	682.792	682.567	0.225
30.000	683.080	682.685	0.395
40.000	683.200	682.728	0.472
50.000	681.624	682.769	-1.145
60.000	680.200	682.890	-2.690
70.000	680.200	682.981	-2.781
80.000	680.200	683.021	-2.821
90.000	680.200	683.035	-2.835
100.000	680.200	683.101	-2.901
110.000	680.200	683.131	-2.931
120.000	680.200	683.159	-2.959
130.000	680.200	683.120	-2.920
140.000	683.200	682.977	0.223
150.000	683.013	683.038	-0.025
158.522	683.169	683.169	0.000
160.000			
161.649			
165.190			

SECTION 2 (C110)
1:500

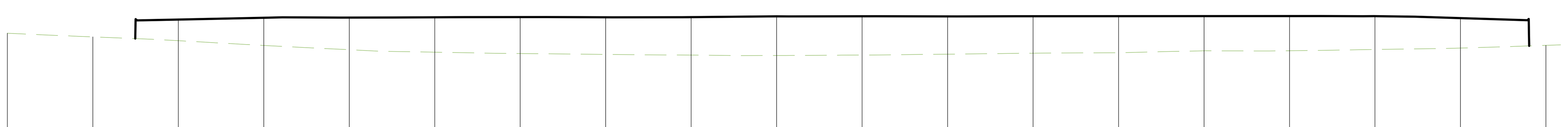
VERT EXAG 1:1
Datum 675.000



CHAINAGE	DESIGN LEVELS	EXISTING LEVELS	DEPTH
0.000		681.394	
10.000		680.969	
10.307	680.964	680.964	0.000
20.000	682.838	680.878	1.960
30.000	683.070	680.807	2.263
40.000	683.186	680.612	2.574
50.000	683.188	680.449	2.739
60.000	683.191	680.334	2.857
70.000	683.193	680.240	2.953
80.000	683.196	680.195	3.001
90.000	683.199	680.214	2.985
100.000	683.200	680.231	2.969
110.000	683.200	680.308	2.892
120.000	683.200	680.450	2.750
130.000	683.159	680.616	2.543
140.000	682.910	680.826	2.084
150.000	682.661	681.180	1.481
159.444	681.539	681.539	0.000
160.000		681.560	
165.190			

SECTION 3 (C110)
1:500

VERT EXAG 1:1
Datum 670.000



CHAINAGE	DESIGN LEVELS	EXISTING LEVELS	DEPTH
0.000		681.104	
8.283		680.751	
10.000		680.682	
14.965	680.483	680.483	0.000
20.000	682.709	680.239	2.470
30.000	682.913	679.683	3.231
40.000	682.940	679.179	3.760
50.000	682.974	678.893	4.081
60.000	683.001	678.736	4.265
70.000	682.976	678.632	4.344
80.000	682.993	678.556	4.437
90.000	683.090	678.503	4.587
100.000	683.095	678.556	4.539
110.000	683.077	678.659	4.418
120.000	683.096	678.776	4.320
130.000	683.104	678.818	4.286
140.000	683.111	679.051	4.061
150.000	683.119	679.059	4.060
160.000	683.107	679.215	3.892
170.000	682.878	679.374	3.504
178.042	679.626	679.626	0.000
180.000		679.694	
181.494		679.746	
188.689			

SECTION 4 (C110)
1:500

FOR DA APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

A1 ORIGINAL SIZE

REVISION	DATE	AMENDMENT DESCRIPTION
E	19.03.24	ISSUED FOR DA APPROVAL
D	28.07.23	ISSUED FOR DA APPROVAL
C	30.06.23	ISSUED FOR DA APPROVAL
B	14.06.23	ISSUED FOR DA APPROVAL
A	19.05.23	ISSUED FOR DA APPROVAL

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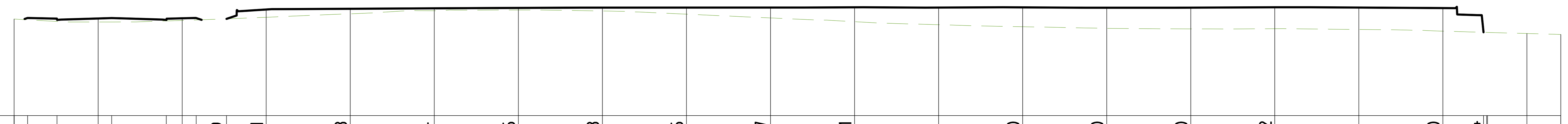
For SAAS Aus Pty Ltd

SITE CROSS SECTIONS SHEET 1 OF 2

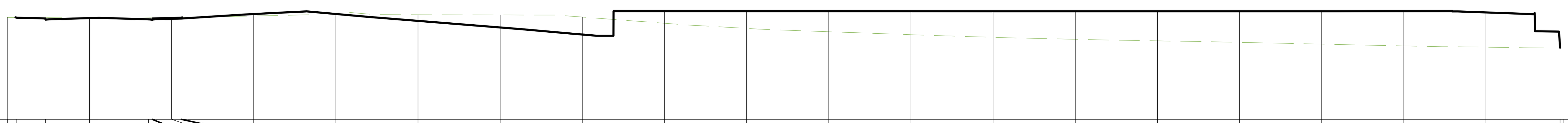
DESIGN	DRAWN	DATE	PROJECT No.
SWH	RCL	JAN 2023	10530
CHECKED	APPROVED	SCALE	DRG No.
		1:500	C112 - E



VERT EXAG 1:1
Datum 670.000

CHAINAGE	DESIGN LEVELS	EXISTING LEVELS	DEPTH
0.000		681.445	
1.609		681.356	
5.109		681.157	
10.000		681.096	
11.609		681.098	
18.109		681.225	
20.000		681.285	
21.667		681.337	
25.270	681.469	681.469	0.000
30.000	682.581	681.655	0.926
40.000	682.663	682.063	0.600
50.000	682.714	682.433	0.281
60.000	682.765	682.517	0.248
70.000	682.803	682.400	0.403
80.000	682.805	682.025	0.780
90.000	682.807	681.576	1.231
100.000	682.841	681.133	1.708
110.000	682.811	680.775	2.036
120.000	682.830	680.537	2.293
130.000	682.790	680.339	2.450
140.000	682.800	680.287	2.513
150.000	682.842	680.304	2.538
160.000	682.811	680.210	2.601
170.000	682.750	680.011	2.740
174.836	679.874	679.874	0.000
175.206		679.863	
175.315		679.860	
180.000		679.731	
184.027		679.614	

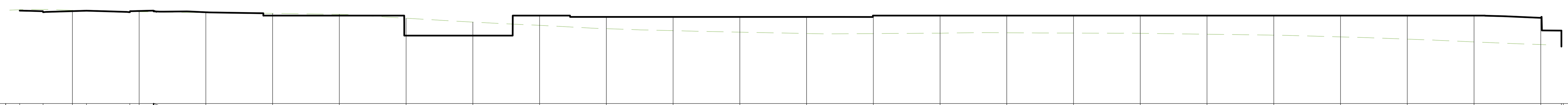
SECTION 5 (C110)
1:500



VERT EXAG 1:1
Datum 670.000

CHAINAGE	DESIGN LEVELS	EXISTING LEVELS	DEPTH
0.000		682.437	
1.153		682.428	
4.653		682.412	
10.000		682.387	
11.167		682.381	
17.203	682.215	682.385	-0.171
17.653	682.175	682.390	-0.215
20.000	682.281	682.415	-0.135
21.188	682.311	682.431	-0.120
30.000	682.851	682.621	0.230
40.000	682.866	682.980	-0.113
50.000	682.024	682.775	-0.750
60.000	681.221	682.746	-1.526
70.000	680.357	682.492	-2.135
80.000	683.198	681.734	1.464
90.000	683.194	681.107	2.088
100.000	683.190	680.695	2.496
110.000	683.187	680.338	2.848
120.000	683.183	680.015	3.168
130.000	683.186	679.774	3.412
140.000	683.188	679.579	3.609
150.000	683.189	679.398	3.791
160.000	683.189	679.185	4.004
170.000	683.195	678.969	4.226
180.000	683.053	678.812	4.241
189.010	679.593		
189.479			
190.000			
198.925			

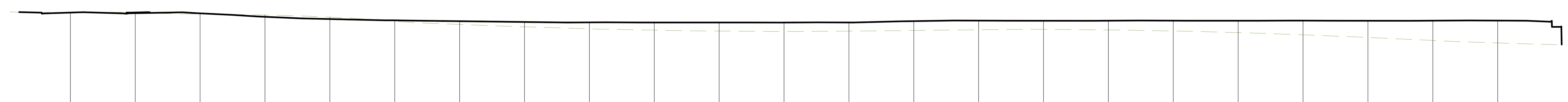
SECTION 6 (C110)
1:500



VERT EXAG 1:1
Datum 670.000

CHAINAGE	DESIGN LEVELS	EXISTING LEVELS	DEPTH
0.000			
2.107		684.082	
5.607		684.127	
10.000		683.989	
12.110		683.911	
18.607		683.799	
20.000		683.780	
22.159	683.839	683.741	0.098
22.165		683.741	
30.000	683.698	683.647	0.051
40.000	683.200	683.535	-0.335
50.000	683.200	683.396	-0.196
60.000	680.200	682.801	-2.601
70.000	680.200	682.224	-2.024
80.000	683.200	681.734	1.466
90.000	683.003	681.239	1.765
100.000	683.002	680.938	2.063
110.000	683.000	680.714	2.286
120.000	682.998	680.510	2.489
130.000	683.200	680.497	2.703
140.000	683.200	680.561	2.639
150.000	683.200	680.622	2.578
160.000	683.200	680.574	2.626
170.000	683.200	680.541	2.659
180.000	683.200	680.403	2.797
190.000	683.200	680.265	2.935
200.000	683.200	680.000	3.200
210.000	683.200	679.668	3.532
220.000	683.200	679.250	3.950
230.000	682.897	678.846	4.051
233.090	680.951		
233.384			
240.000			
243.011			

SECTION 7 (C110)
1:500



VERT EXAG 1:1
Datum 670.000

CHAINAGE	DESIGN LEVELS	EXISTING LEVELS	DEPTH
0.000			
2.108		684.147	
5.608		684.148	
10.000		684.161	
12.109		684.167	
18.158	684.001	684.181	-0.181
18.608	683.961	684.178	-0.217
20.000	684.040	684.123	-0.083
22.166	684.077	684.038	0.039
30.000	684.011	683.893	0.118
40.000	683.470	683.751	-0.281
50.000	683.124	683.418	-0.294
60.000	682.925	682.778	0.146
70.000	682.793	682.291	0.502
80.000	682.669	681.924	0.745
90.000	682.605	681.613	0.992
100.000	682.588	681.412	1.176
110.000	682.587	681.271	1.317
120.000	682.588	681.184	1.404
130.000	682.590	681.266	1.323
140.000	682.801	681.357	1.444
150.000	682.884	681.468	1.415
160.000	682.861	681.543	1.317
170.000	682.873	681.435	1.438
180.000	682.875	681.280	1.595
190.000	682.862	681.024	1.837
200.000	682.885	680.683	2.202
210.000	682.862	680.283	2.579
220.000	682.878	679.816	3.062
230.000	682.884	679.430	3.454
239.848	680.231		
240.000			
241.544			
250.000			
250.574			

SECTION 8 (C110)
1:500

FOR DA APPROVAL

NOT TO BE USED FOR CONSTRUCTION PURPOSES

A1 ORIGINAL SIZE

REVISION	DATE	AMENDMENT DESCRIPTION
E	19.03.24	ISSUED FOR DA APPROVAL
D	28.07.23	ISSUED FOR DA APPROVAL
C	30.06.23	ISSUED FOR DA APPROVAL
B	14.06.23	ISSUED FOR DA APPROVAL
A	19.05.23	ISSUED FOR DA APPROVAL

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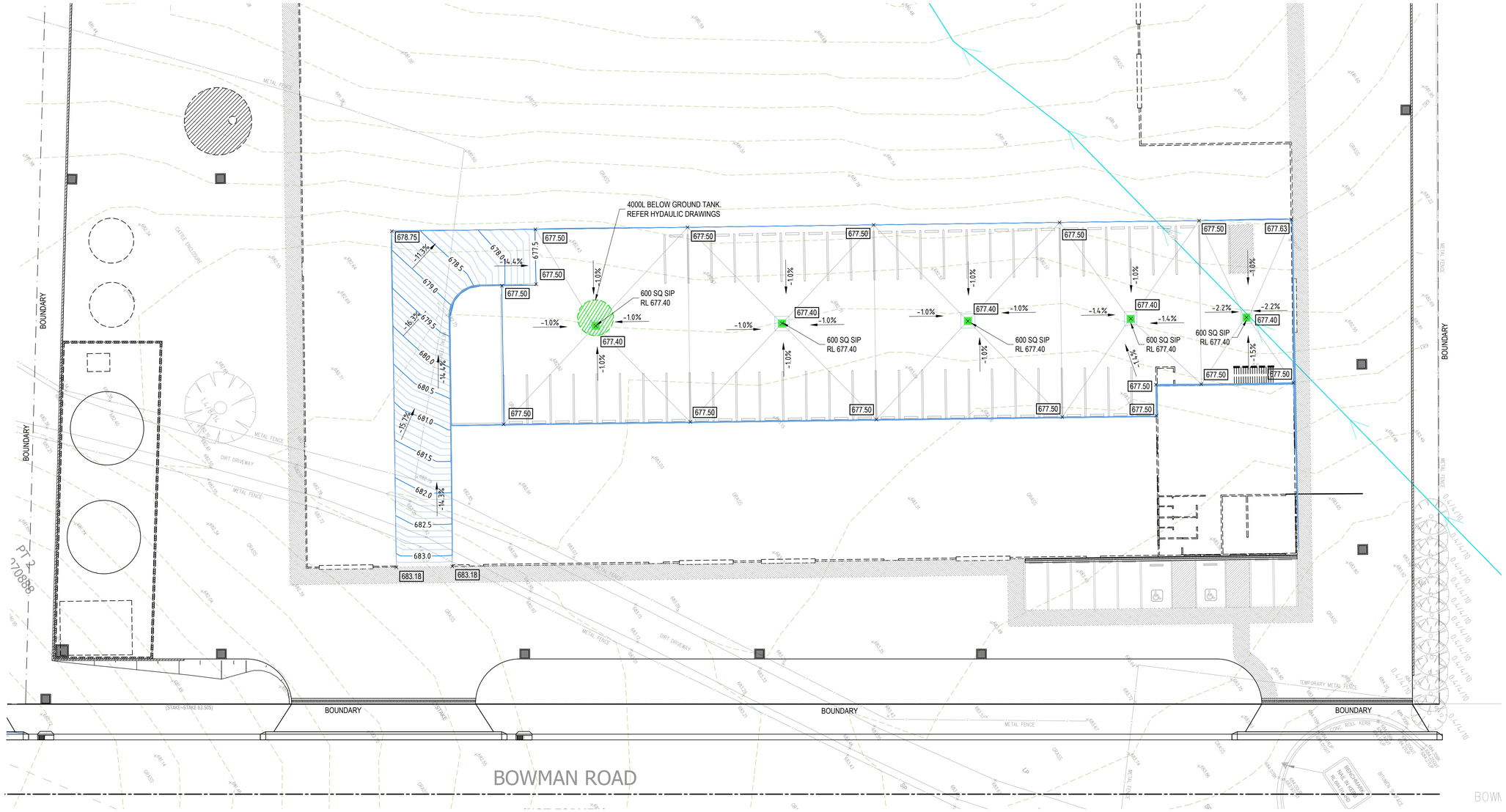
PROPOSED BUILDING 1

2 Bowman Rd, Moss Vale
For SAAS Aus Pty Ltd

SITE CROSS SECTIONS SHEET 2 OF 2

DESIGN	DRAWN	DATE	PROJECT No.
SWH	RCL	JAN 2023	10530
CHECKED	APPROVED	SCALE 1:500	DRG No. C113 - E



STORMWATER DRAINAGE PLAN - BASEMENT

1:250

ALL DRAINAGE LINES SHALL BE UPVC (CLASS SH) STORMWATER DRAINAGE PIPE, UNO.
ALL DRAINAGE LINES SHALL BE LAID @ 1% FALL MIN, UNO.
FIRST FLUSH RAINWATER DEVICES TO BE FITTED TO DRAINAGE LINES TO BUILDER'S DETAIL,
MINIMUM EFFECTIVE EAVES GUTTER SLOPE = 1:500
THE FOLLOWING SYMBOLS & ABBREVIATIONS HAVE BEEN USED:
SIP = SURFACE INLET PIT (NO LINTEL)
X 100.00 = PROPOSED FINISHED SURFACE LEVEL

FOR DA APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

A1 ORIGINAL SIZE

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E	19.03.24	ISSUED FOR DA APPROVAL
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C	30.06.23	ISSUED FOR DA APPROVAL
B	14.06.23	ISSUED FOR DA APPROVAL
A	24.05.23	ISSUED FOR DA APPROVAL

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For SAAS Aus Pty Ltd

STORMWATER DRAINAGE PLAN - BASEMENT

DESIGN	DRAWN	DATE	PROJECT No.
SWH	RCL	JAN 2023	10530
CHECKED	APPROVED	SCALE	DRG No.
		1:250	C114 - E