

ALL SAINTS ANGLICAN CHURCH
18 BOYLE STREET, BALGOWLAH

CONCEPT STORMWATER MANAGEMENT AND
CIVIL ENGINEERING PLAN
DEVELOPMENT APPLICATION



LOCALITY MAP
NOT TO SCALE

SOURCE : GOOGLE MAPS (©2016)

DRAWING SCHEDULE


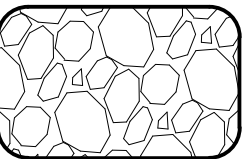

15046-DA-C1.01	COVER SHEET
15046-DA-C2.01	CONCEPT SEDIMENT AND EROSION CONTROL PLAN
15046-DA-C2.02	SEDIMENT AND EROSION CONTROL DETAILS
15046-DA-C3.01	CONCEPT STORMWATER MANAGEMENT PLAN - GROUND
15046-DA-C3.02	CONCEPT STORMWATER MANAGEMENT PLAN - ROOF
15046-DA-C4.01	TURN PATHS PLAN

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SEDIMENT & EROSION

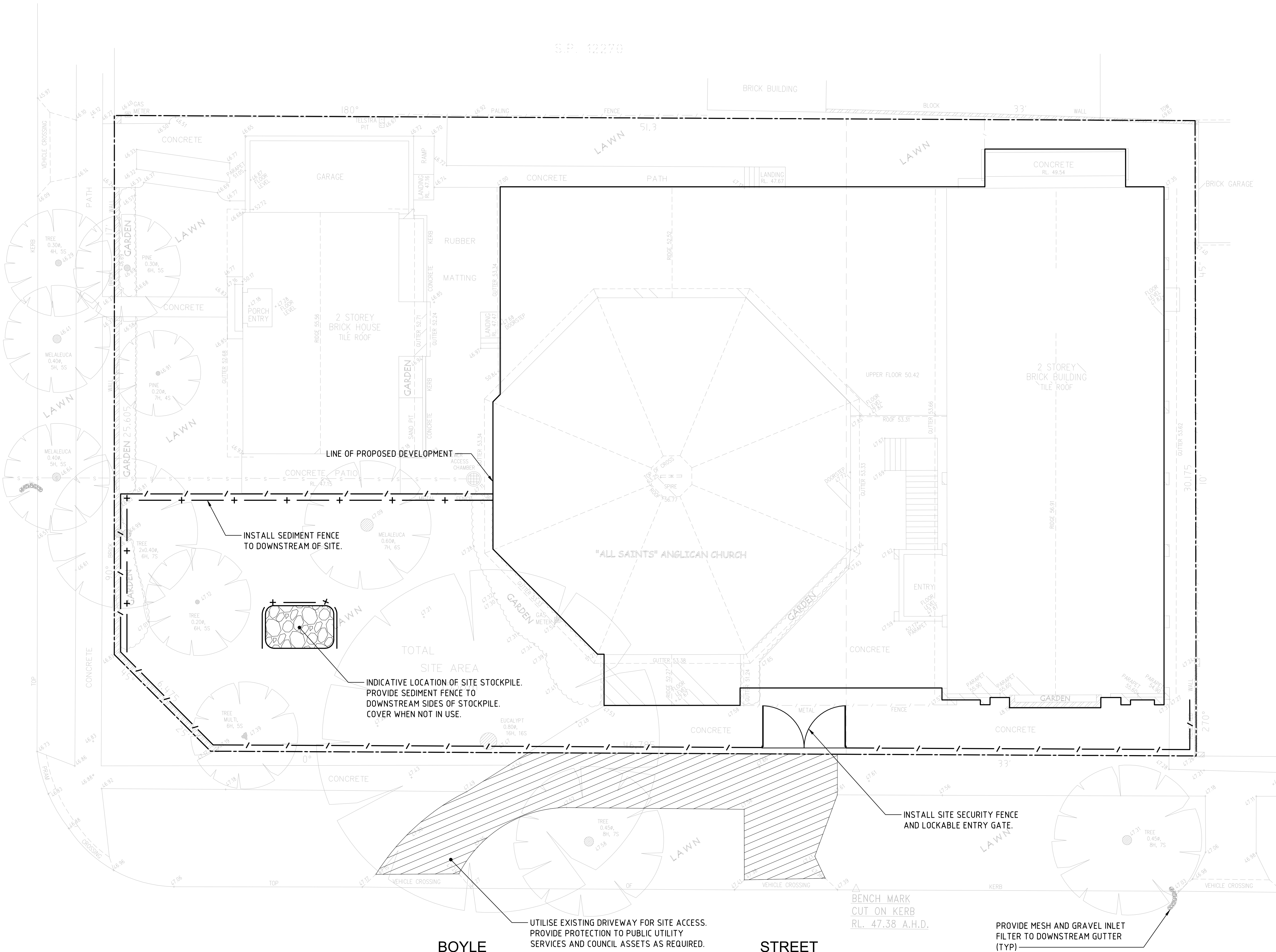
1. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE ESTABLISHMENT AND MAINTENANCE OF EROSION AND SEDIMENTATION THROUGHOUT THE CONTRACT IN ACCORDANCE WITH:
- A. LOCAL AUTHORITY REQUIREMENTS
- B. EPA REQUIREMENTS
- C. NSW DEPARTMENT OF HOUSING MANUAL "MANAGING URBAN STORMWATER, SOILS AND CONSTRUCTION", 4th EDITION, MARCH 2004 ("THE BLUE BOOK").
2. THE EROSION AND SEDIMENTATION CONTROLS SHOWN ON THE DRAWINGS REPRESENT CONCEPTS ONLY TO DEMONSTRATE THE MINIMUM REQUIREMENTS.
3. MAINTAIN THE EROSION CONTROL DEVICES AT ALL TIMES TO THE SATISFACTION OF THE SUPERINTENDENT AND THE LOCAL AUTHORITY.
4. AS STORMWATER PITS ARE CONSTRUCTED, PREVENT SITE RUNOFF ENTERING UNLESS SEDIMENT FENCES ARE ERECTED AROUND PITS.
5. WATER WILL BE PREVENTED FROM ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS IT IS RELATIVELY SEDIMENT FREE, I.E. THE CATCHMENT AREA HAS BEEN PERMANENTLY LANDSCAPED AND/OR ANY LIKELY SEDIMENT HAS BEEN FILTERED THROUGH AN APPROVED STRUCTURE.
6. DURING WINDY WEATHER, LARGE, UNPROTECTED AREAS WILL BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO KEEP DUST UNDER CONTROL. DUST CONTROL HESSIAN SHALL BE INSTALLED TO SITE FENCES AS REQUIRED.
7. FINAL SITE LANDSCAPING OR TEMPORARY STABILISATION WILL BE UNDERTAKEN AS SOON AS POSSIBLE FROM COMPLETION OF CONSTRUCTION ACTIVITIES.
8. THE **CONTRACTOR** IS TO INFORM ALL SUB-CONTRACTORS OF THEIR RESPONSIBILITIES IN MINIMISING THE POTENTIAL FOR SOIL EROSION AND POLLUTION TO DOWNSLOPE LANDS AND WATERWAYS.
9. WHERE PRACTICAL, THE SOIL EROSION HAZARD ON THE SITE SHALL BE KEPT AS LOW AS POSSIBLE. TO THIS END, WORKS SHOULD BE UNDERTAKEN IN THE FOLLOWING SEQUENCE:
- A. INSTALL ALL TEMPORARY SEDIMENT FENCES AND BARRIER FENCES, WHERE FENCES ARE ADJACENT TO EACH OTHER THE SEDIMENT FENCE CAN BE INCORPORATED INTO THE BARRIER FENCE;
- B. CONSTRUCT TEMPORARY STABILISED SITE ACCESS, INCLUDING SHAKE DOWN AND WASH PAD;
- C. INSTALL SEDIMENT CONTROL MEASURES AS OUTLINED ON THE APPROVED PLANS;
- D. UNDERTAKE SITE DEVELOPMENT WORKS IN ACCORDANCE WITH THE ENGINEERING PLANS. WHERE POSSIBLE, PHASE DEVELOPMENT SO THAT LAND DISTURBANCE IS CONFINED TO AREAS OF WORKABLE SIZE.
10. TOPSOIL STRIPPED FROM SITE SHALL BE STOCKPILED WITHIN THE SITE FOR REUSE
11. STOCKPILES WILL NOT BE LOCATED WITHIN 2 METRES OF HAZARD AREAS, INCLUDING LIKELY AREAS OF CONCENTRATED OR HIGH VELOCITY FLOWS SUCH AS WATERWAYS. WHERE THEY ARE BETWEEN 2 AND 5 METRES FROM SUCH AREAS, SPECIAL SEDIMENT CONTROL MEASURES SHOULD BE TAKEN TO MINIMISE POSSIBLE POLLUTION TO DOWNSLOPE WATERS, E.G. THROUGH INSTALLATION OF SEDIMENT FENCING. SEDIMENT RETENTION STRUCTURES TO BE PLACED DOWNSLOPE OF ANY STOCKPILES. STOCKPILES IN PLACE > 28 DAYS TO BE TEMPORARILY GRASSED.
12. ANY SAND USED IN THE CONCRETE CURING PROCESS (SPREAD OVER THE SURFACE) WILL BE REMOVED AS SOON AS POSSIBLE AND WITHIN 10 WORKING DAYS FROM PLACEMENT.
13. TEMPORARY SOIL AND WATER MANAGEMENT STRUCTURES WILL BE REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING ARE REHABILITATED.
14. ACCEPTABLE RECEPTORS WILL BE PROVIDED FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHINGS, LIGHT-WEIGHT WASTE MATERIALS AND LITTER AND SHALL BE DISPOSED OF IN ACCORDANCE WITH REGULATORY AUTHORITY REQUIREMENTS, PAY ALL FEES AND PROVIDE EVIDENCE OF SAFE DISPOSAL.
15. STRIPPING WORKS ARE TO BE STAGED TO MINIMISE EXTENTS OF EXPOSED AREAS AT ONE TIME. WEATHER CONDITIONS TO BE ASSESSED PRIOR TO UNDERTAKING STRIPPING.
16. SITE ACCESS TO BE RESTRICTED TO ALLCOATED TRUCK ROUTES. EXTERNAL ROADS TO BE SWEEP REGULARLY FOR DURATION OF WORKS.

SEDIMENT AND EROSION LEGEND

- / — / — SITE SECURITY FENCE
- + — SEDIMENT FENCE
-  GEOTEXTILE INLET FILTER
-  SITE STOCKPILE
-  MESH AND GRAVEL INLET FILTER

ROAD

SYDNEY



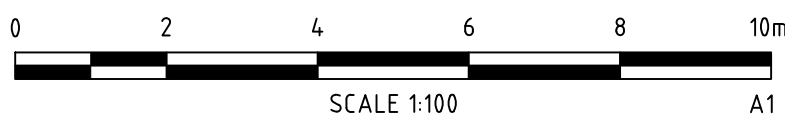
DAWES
CONSULTING ENGINEERS

e:info@dawesengineering.com.au
m:0413 723 171 ABN 54 165 695 250



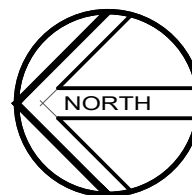
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SCALE:



PROJECT: 18 BOYLE STREET,
BALGOWLAH, NSW

DRAWING: CONCEPT SEDIMENT AND
EROSION CONTROL PLAN



CLIENT: ALL SAINTS ANGLICAN CHURCH

ARCHITECT: TREVOR HALL ARCHITECTS

STATUS: ISSUED FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

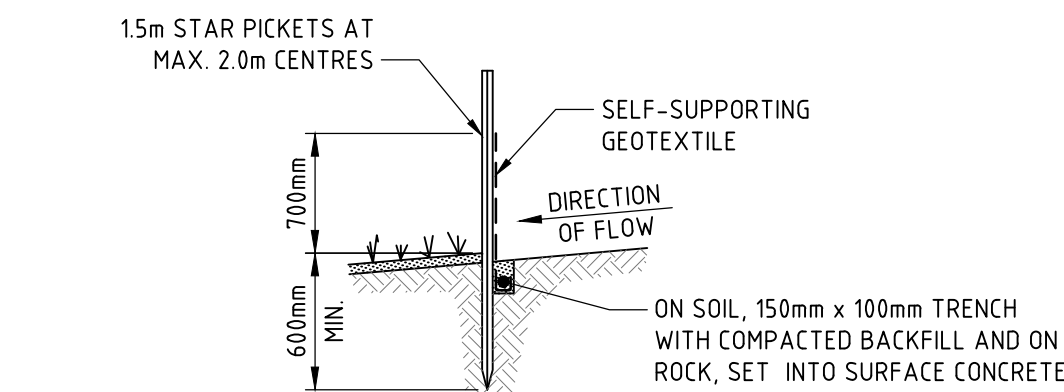
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DRAWING NUMBER: 15046-DA-C2.01

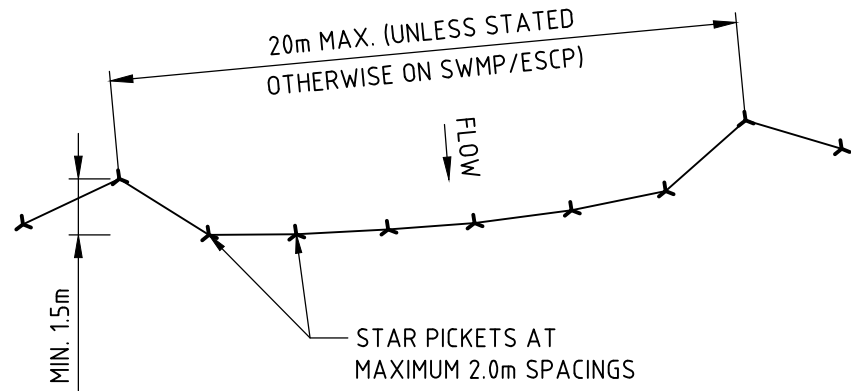
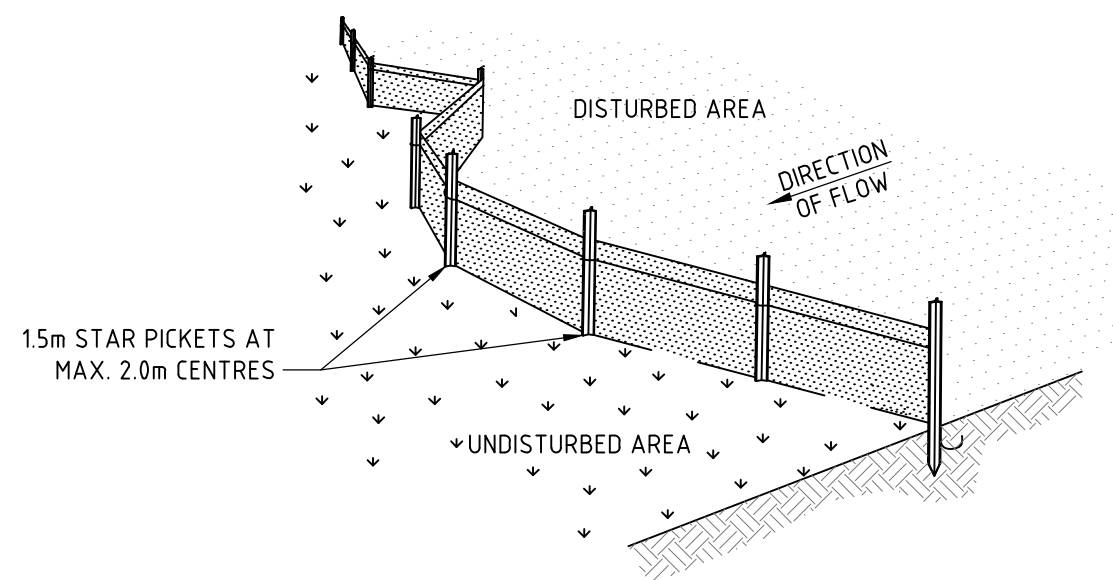
REVISION: 03

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150mm ON A1 ORIGINAL

REV	DATE	ISSUE DESCRIPTION	DRN	DES	VER
3	20.03.18	ISSUED FOR SECTION 96 APPLICATION	AD	AD	AD
2	08.05.16	ISSUED FOR DEVELOPMENT APPLICATION	AD	AD	AD
1	08.02.16	ISSUED FOR DEVELOPMENT APPLICATION	AD	AD	AD



SECTION DETAIL



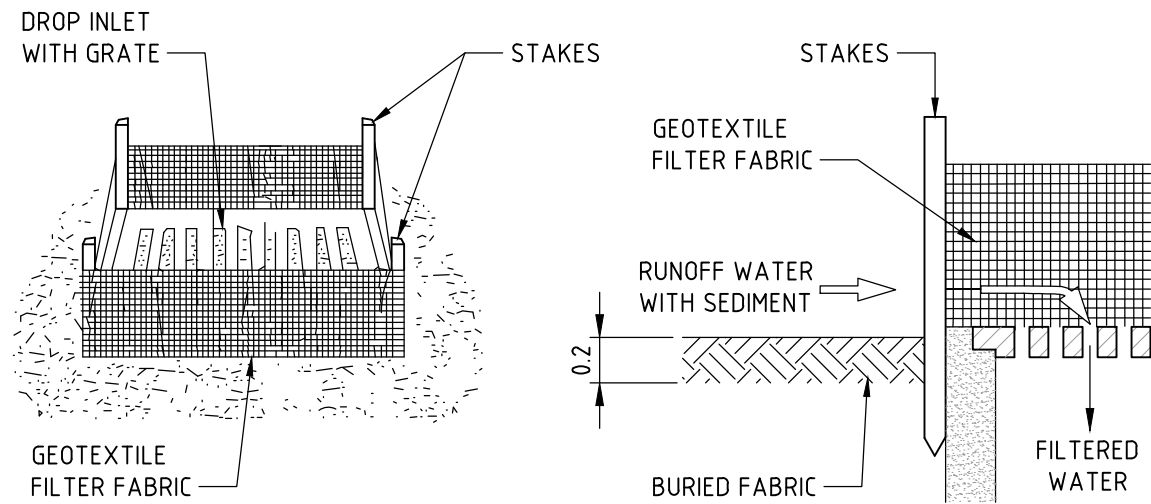
PLAN

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 50L/s IN THE DESIGN STORM EVENT, USUALLY THE 10-YEAR EVENT.
2. CUT A 200mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
3. DRIVE 15m LONG STAR PICKETS INTO GROUND AT 2.0m 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

NOT TO SCALE

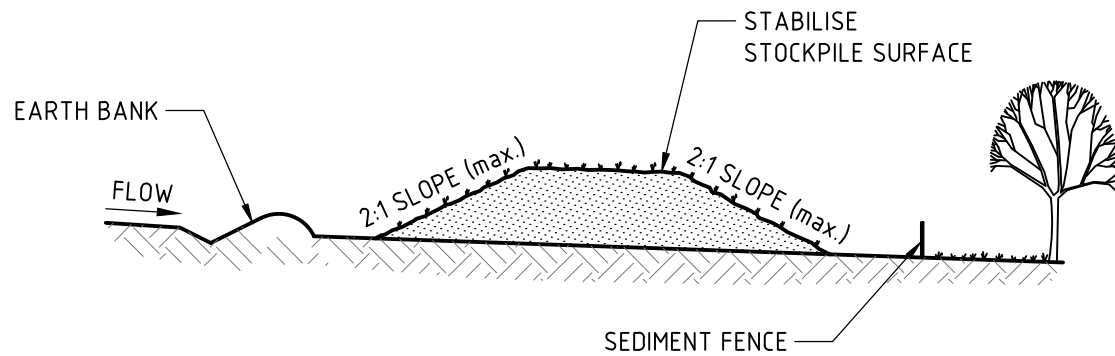


NOTES:

1. FABRICATE A SEDIMENT BARRIER MADE FROM GEOTEXTILE OR STRAW BALES.
2. CUT A 200mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
3. DRIVE 1.0m LONG STAR PICKETS INTO GROUND AT THE FOUR CORNERS OF PIT WALLS. 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.

GEOTEXTILE INLET FILTER

NOT TO SCALE

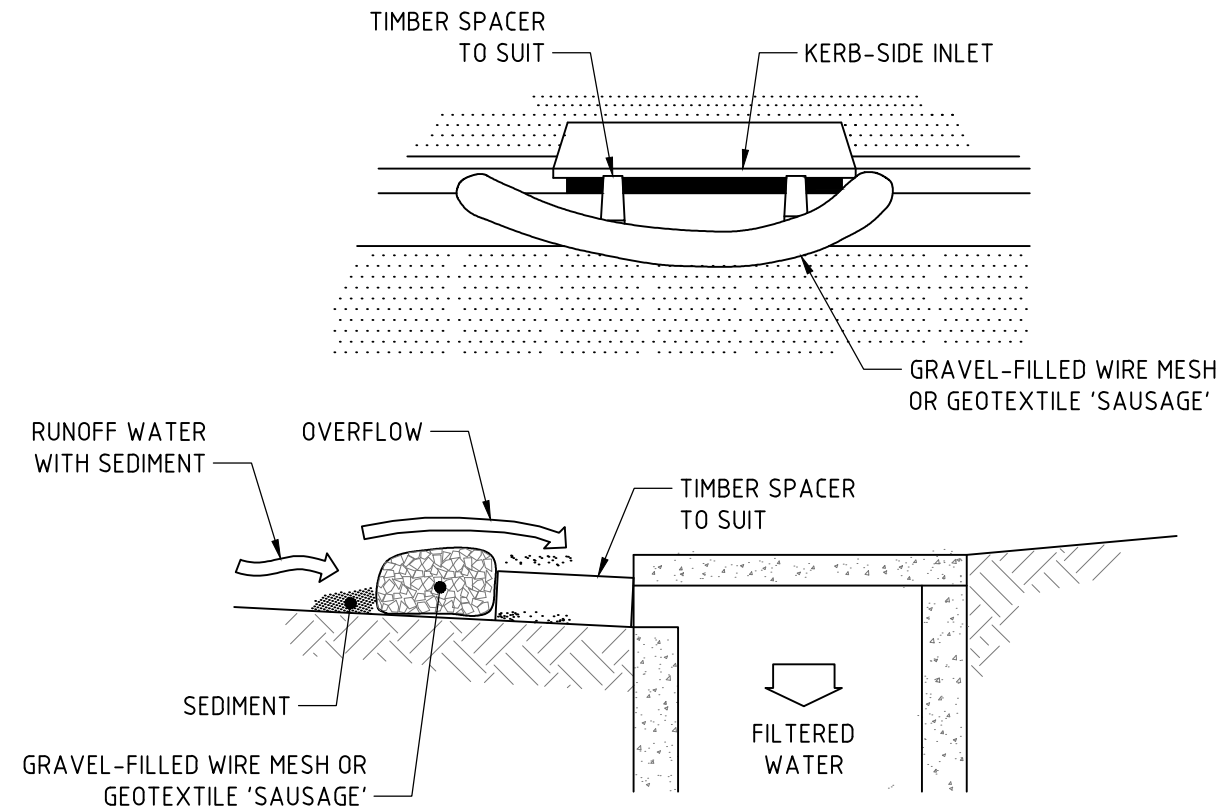


NOTES:

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 ON THE UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES AND SEDIMENT FENCES 1 TO 2 METRES DOWNSLOPE.

STOCKPILE

NOT TO SCALE

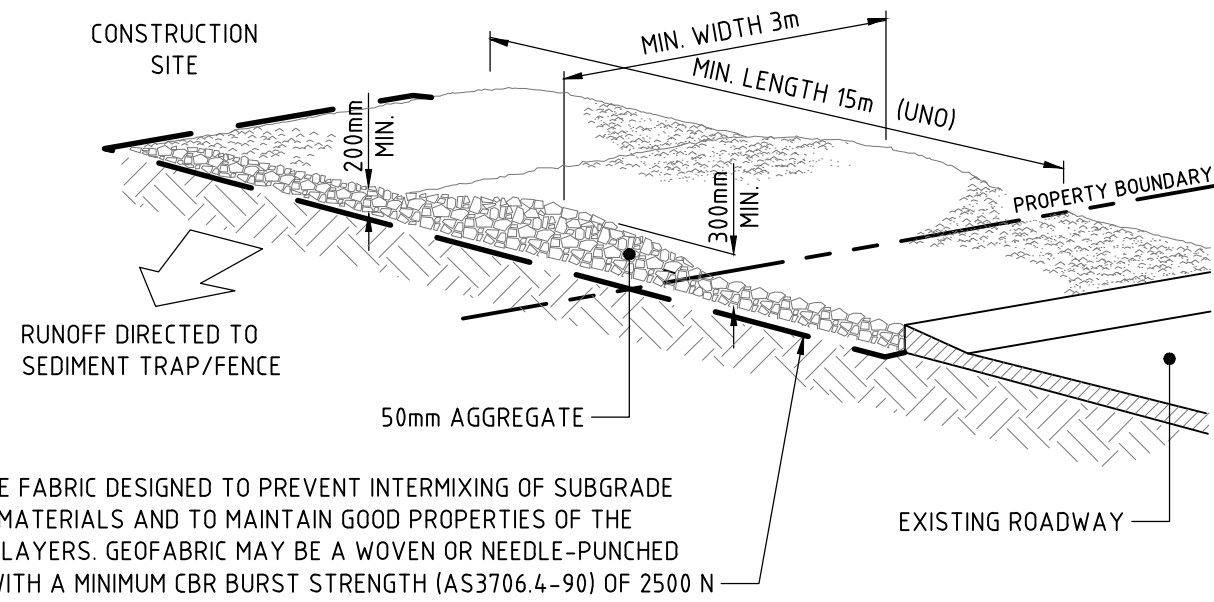


MESH AND GRAVEL INLET FILTER

NOT TO SCALE

NOTES:

1. THIS PRACTICE ONLY TO BE USED WHERE SPECIFIED IN AN APPROVED SWMP/ESCP.
2. INSTALL FILTERS TO KERB INLETS ONLY AT SAG POINTS.
3. FABRICATE A SLEEVE MADE FROM GEOTEXTILE OR WIRE MESH LONGER THAN THE LENGTH OF THE INLET PIT AND FILL IT WITH 25mm TO 50mm GRAVEL.
4. FORM AN ELLIPTICAL CROSS-SECTION ABOUT 150mm HIGH x 400mm WIDE.
5. PLACE THE FILTER AT THE OPENING LEAVING AT LEAST A 100-mm SPACE BETWEEN IT AND THE KERB INLET. MAINTAIN THE OPENING WITH SPACE BLOCKS.
6. FORM A SEAL WITH THE KERB TO PREVENT SEDIMENT BYPASSING THE FILTER.
7. SANDBAGS FILLED WITH GRAVEL CAN SUBSTITUTE FOR THE MESH OR GEOTEXTILE PROVIDING THEY ARE PLACED SO THAT THEY FIRMLY ABUT EACH OTHER AND SEDIMENT-LADEN WATERS CANNOT PASS BETWEEN.



GEOTEXTILE FABRIC DESIGNED TO PREVENT INTERMIXING OF SUBGRADE AND BASE MATERIALS AND TO MAINTAIN GOOD PROPERTIES OF THE SUB-BASE LAYERS. GEOTEXTILE MAY BE A WOVEN OR NEEDLE-PUNCHED PRODUCT WITH A MINIMUM CBR BURST STRENGTH (AS3706.4-90) OF 2500 N

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 15m LONG OR TO BUILDING ALIGNMENT AND AT LEAST 3m 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.

TEMPORARY CONSTRUCTION ENTRY/EXIT

NOT TO SCALE

REV	DATE	ISSUE DESCRIPTION	DRN	DES	VER
3	20.03.18	ISSUED FOR SECTION 96 APPLICATION	AD	AD	AD
2	08.05.16	ISSUED FOR DEVELOPMENT APPLICATION	AD	AD	AD
1	08.02.16	ISSUED FOR DEVELOPMENT APPLICATION	AD	AD	AD

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SCALE:

PROJECT: 18 BOYLE STREET,
BALGOWLAH, NSW

DRAWING: SEDIMENT AND EROSION
CONTROL DETAILS

CLIENT: ALL SAINTS ANGLICAN CHURCH

ARCHITECT: TREVOR HALL ARCHITECTS

STATUS: ISSUED FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

SIZE: A1

DRAWING NUMBER: 15046-DA-C2.02

REVISION: 03

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150mm ON A1 ORIGINAL

LEGEND

EXISTING STORMWATER PIPE

PROPOSED STORMWATER PIPE

EXISTING SUSPENDED STORMWATER PIPE

EXISTING DOWNSPIPE

PROPOSED DOWNSPIPE

EXISTING GRATED TRENCH DRAIN

NOTES

1. THESE PLANS HAVE BEEN DESIGN IN ACCORDANCE WITH RELEVANT LOCAL AUTHORITY GUIDELINES FOR DEVELOPMENT APPLICATION PURPOSES TO DEMONSTRATE FEASIBILITY AND ARE SUBJECT TO COUNCIL APPROVAL AND DETAILED DESIGN AT CONSTRUCTION CERTIFICATE STAGE.

2. DO NOT OBTAIN DIMENSIONS BY SCALING THE DRAWINGS. ALL DIMENSIONS ARE IN MILLIMETERS (mm) AND ALL LEVELS ARE IN METERS (m). UNO. ALL LEVELS ARE TO AUSTRALIAN HEIGHT DATUM (AHD).

3. ALL WORKS EXTERNAL TO THE SITE ARE TO BE UNDERTAKEN IN ACCORDANCE WITH COUNCIL SPECIFICATIONS

4. CONTRACTOR TO INVESTIGATE WITH CCTV ALL EXISTING PIPES AND CONFIRM ALIGNMENT AND SIZE. CONTRACTOR TO CLEAN AND REPAIR AS REQUIRED.

DESIGN SUMMARY

STORMWATER CONTROL ZONE = 1

SITE AREA = 1538m²

EXISTING IMPERVIOUS AREA = 1093m², 71%

PROPOSED IMPERVIOUS AREA = 1115m², 72.5%

INCREASE IN IMPERVIOUS AREA = 22m², 15%

INCREASE IN IMPERVIOUS AREA LESS THAN 5%

NO OSD PROVIDED

MAINTAIN EXISTING RAINWATER REUSE TANKS = 10,000L

THE STORMWATER MANAGEMENT HAS BEEN DESIGNED IN ACCORDANCE WITH MANLY COUNCIL'S "POLICY OFR STORMWATER MANAGEMENT".

REV	DATE	ISSUE DESCRIPTION	DRN	DES	VER
5	20.03.18	ISSUED FOR SECTION 96 APPLICATION	AD	AD	AD
4	08.05.16	ISSUED FOR DEVELOPMENT APPLICATION	AD	AD	AD
3	09.02.16	ISSUED FOR DEVELOPMENT APPLICATION	AD	AD	AD
2	08.02.16	ISSUED FOR DEVELOPMENT APPLICATION	AD	AD	AD
1	08.02.16	ISSUED FOR DEVELOPMENT APPLICATION	AD	AD	AD

DAWES

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m:0413 723 171 ABN 54 165 695 250

ENGINEERS AUSTRALIA

Chartered Professional Engineer

MEMBER

SCALE:

0246810m

SCALE 1:100

A1

PROJECT: 18 BOYLE STREET, BALGOWLAH, NSW

DRAWING: CONCEPT STORMWATER MANAGMENT PLAN - GROUND

NORTH

CLIENT: ALL SAINTS ANGLICAN CHURCH

ARCHITECT: TREVOR HALL ARCHITECTS

STATUS: ISSUED FOR APPROVAL

NOT TO BE USED FOR CONSTRUCTION

SIZE: A1

DRAWING NUMBER: 15046-DA-C3.01

REVISION: 05

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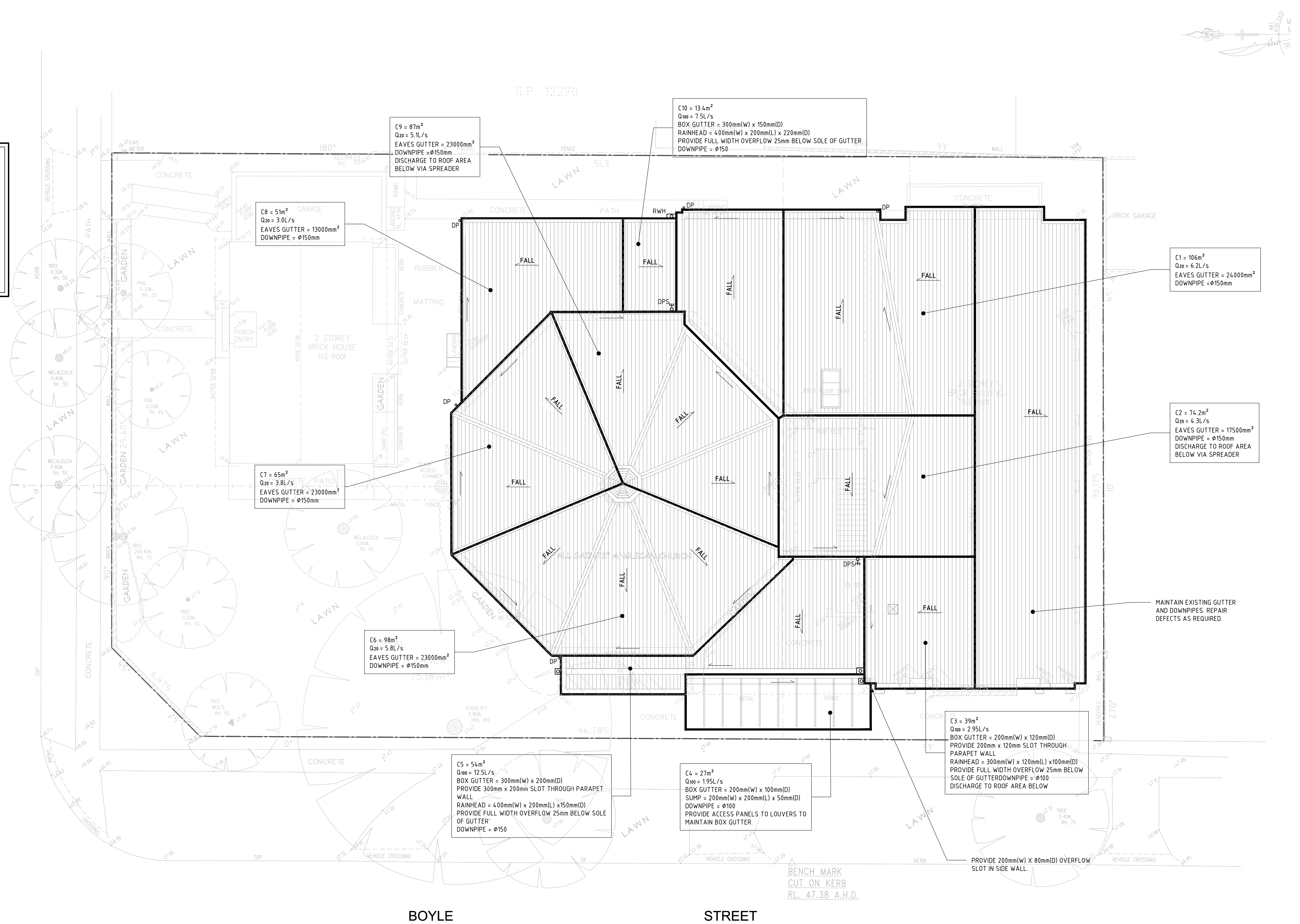
LEGEND

DP	DOWNPIPE
DP/RWH	DOWNPIPE WITH RAINHEAD
DPS OE	DOWNPIPE WITH SPREADER
FALL	ROOF FALL
	GUTTER FALL

NOTES

- THESE PLANS HAVE BEEN DESIGN IN ACCORDANCE WITH RELEVANT LOCAL AUTHORITY GUIDELINES FOR DEVELOPMENT APPLICATION PURPOSES TO DEMONSTRATE FEASIBILITY AND ARE SUBJECT TO COUNCIL APPROVAL AND DETAILED DESIGN AT CONSTRUCTION CERTIFICATE STAGE.
- DO NOT OBTAIN DIMENSIONS BY SCALING THE DRAWINGS. ALL DIMENSIONS ARE IN MILLIMETERS (mm) AND ALL LEVELS ARE IN METERS (m), UNO. ALL LEVELS ARE TO AUSTRALIAN HEIGHT DATUM (AHD).
- ALL GUTTER AND DOWNPIPE SIZED ARE CONCEPT ONLY AND SUBJECT TO DETAILED DESIGN AND COORDINATION.

SYDNEY ROAD



BOYLE

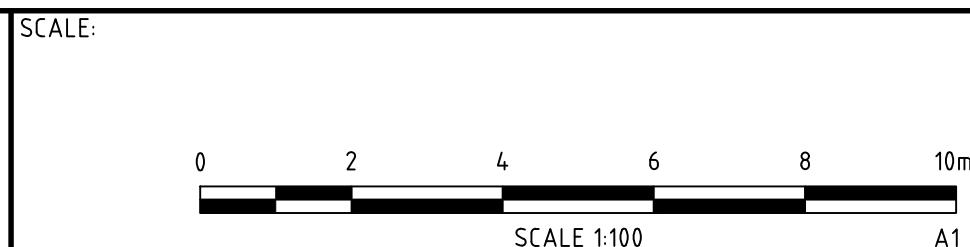
STREET

REV	DATE	ISSUE DESCRIPTION	DRN	DES	VER
1	20.03.18	ISSUED FOR SECTION 96 APPLICATION	AD	AD	AD

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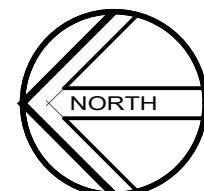
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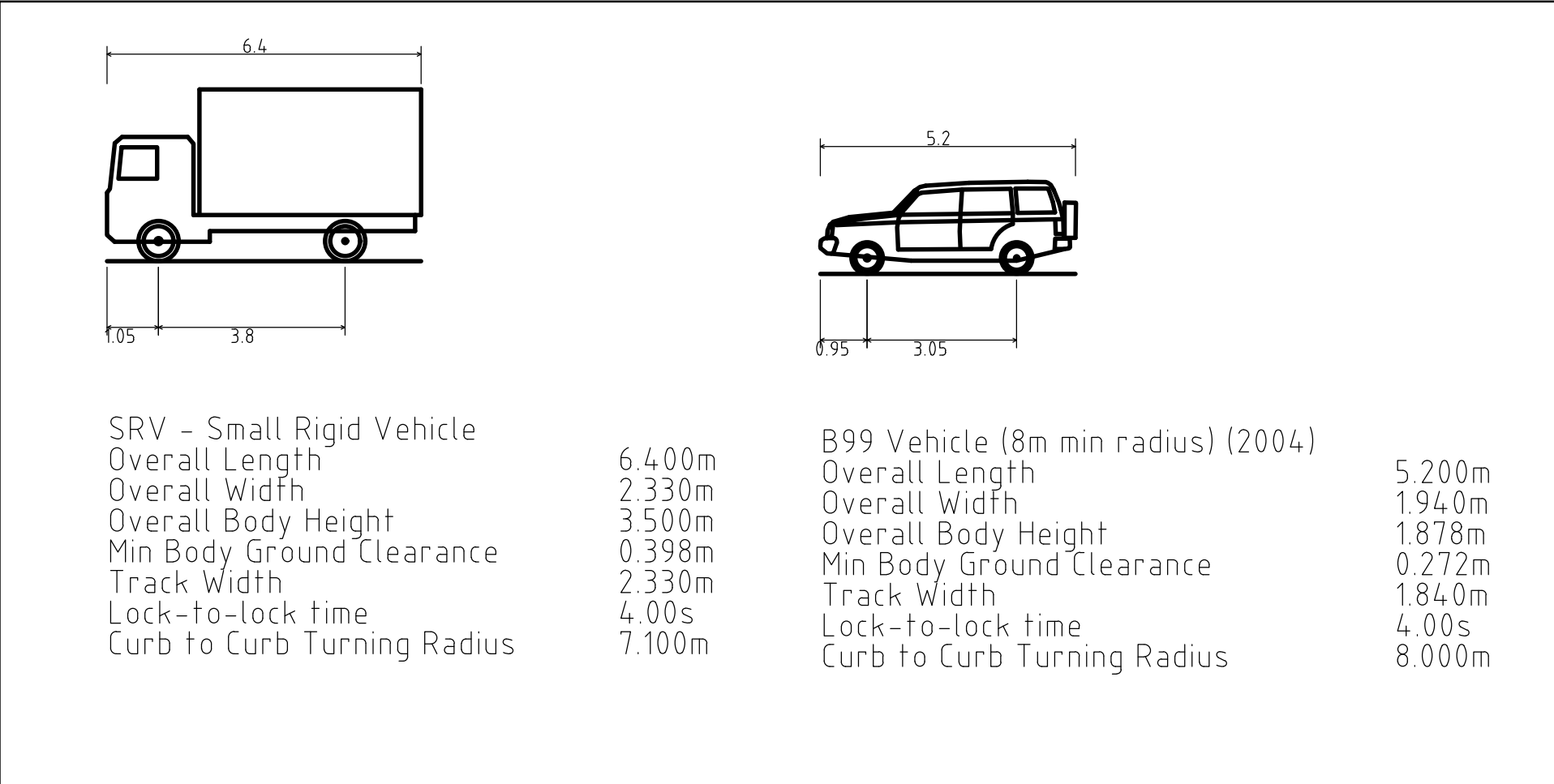
PROJECT: 18 BOYLE STREET,
BALGOWLAH, NSW

DRAWING: CONCEPT STORMWATER
MANAGEMENT PLAN - ROOF

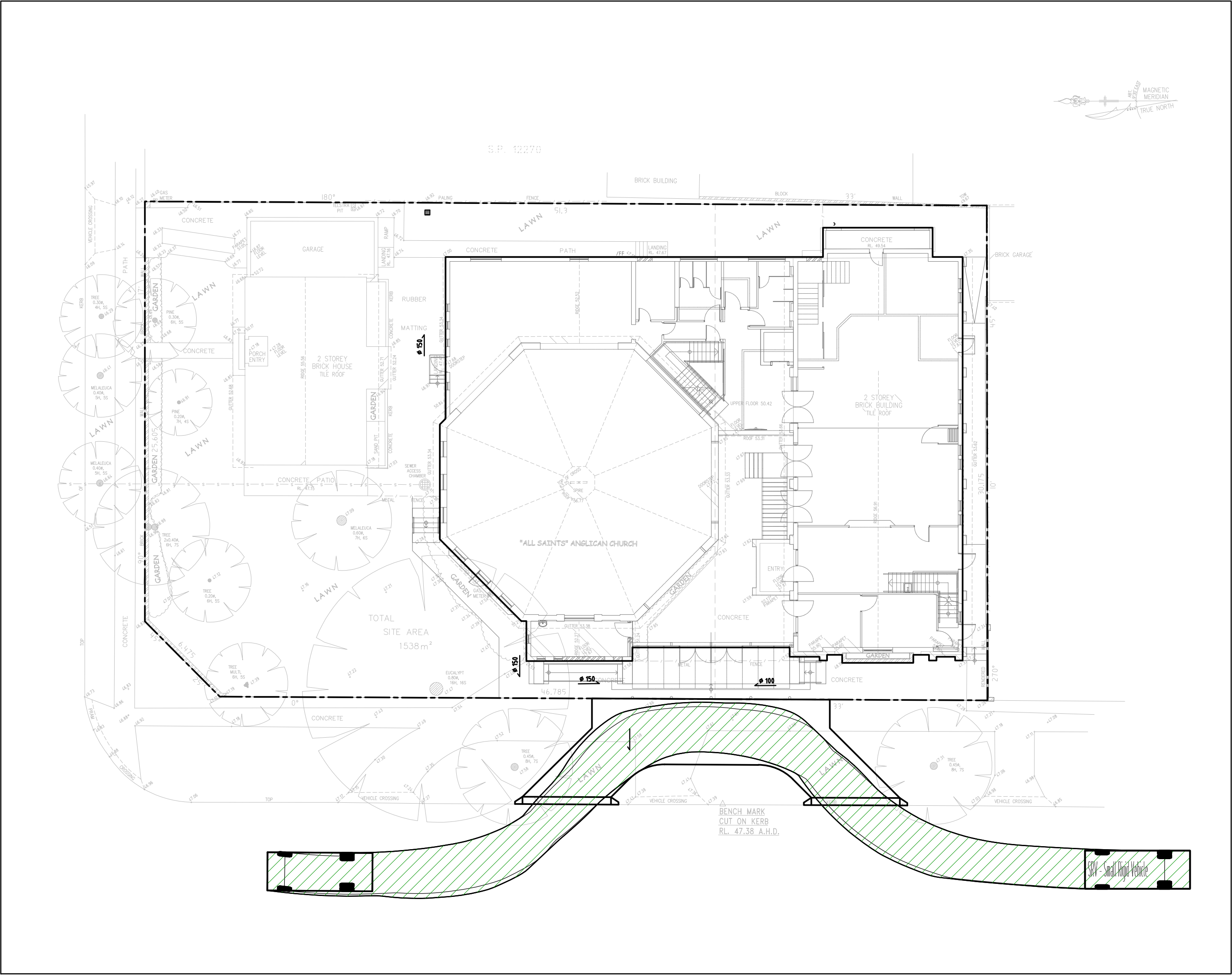


CLIENT:	ALL SAINTS ANGLICAN CHURCH
ARCHITECT:	TREVOR HALL ARCHITECTS
STATUS:	ISSUED FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION
SIZE:	A1
DRAWING NUMBER:	15046-DA-C3.02
REVISION:	01

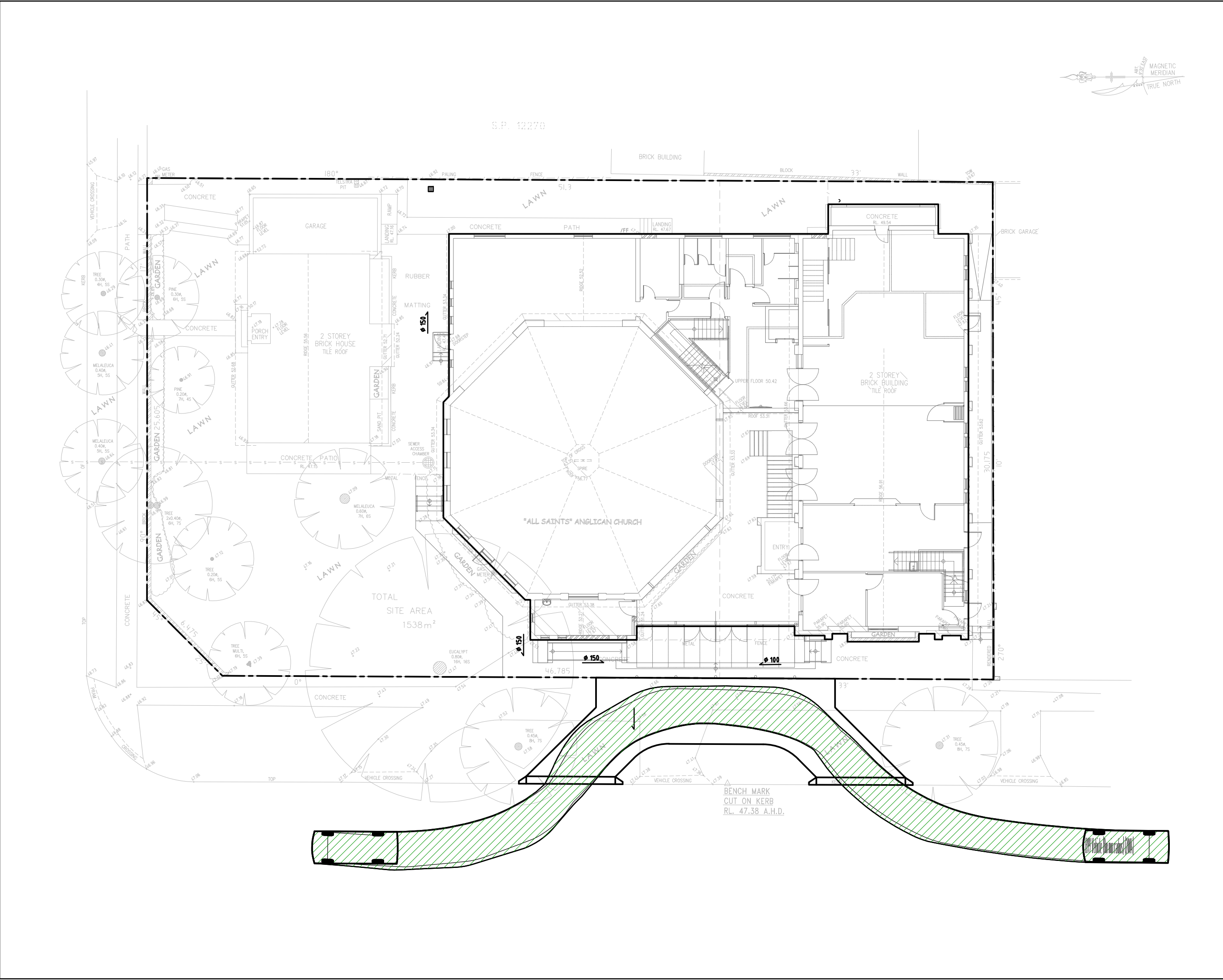
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VEHICLE DETAIL



SRV LEFT IN-LEFT OUT
SCALE 1:200



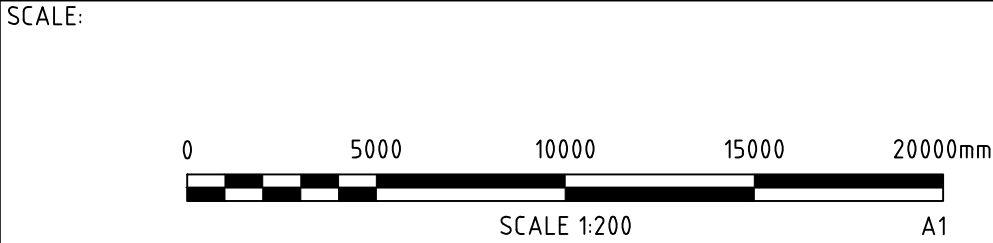
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SCALE 1:200

REV	DATE	ISSUE DESCRIPTION	DRN	DES	VER
1	20.03.18	ISSUED FOR SECTION 96 APPLICATION	AD	AD	AD

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PROJECT: 18 BOYLE STREET,
BALGOWLAH, NSW

DRAWING: TURNING PATHS PLAN



CLIENT: ALL SAINTS ANGLICAN CHURCH

ARCHITECT: TREVOR HALL ARCHITECTS

STATUS: ISSUED FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

SIZE: A1	DRAWING NUMBER: 15046-DA-C4.01	REVISION: 01
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