

CIVIL DOCUMENT REGISTER / TRANSMITTAL FORM

Project: DANEBANK ANGLICAN SCHOOL FOR GIRLS - THE SCIENCE LABS BUILDING. 83 The Avenue, Hurstville	Number: 9179	Sheet No. 1 of 1
---	---------------------	------------------

To: Leaf Architecture

Attention: Jo Simmons

[illegible][illegible]

Distribution List

[illegible]

P - PDF Format (.pdf) **D** - Drawing Format (.dwg)

P - Preliminary T - Tender C - Construction I - Information **AB - As Built**

Co - Co-ordination **BA** - Building Application **DA** - Development Application

[illegible]

E - Email O - Online Po - Post Delivered H - Hand Delivered P - Print

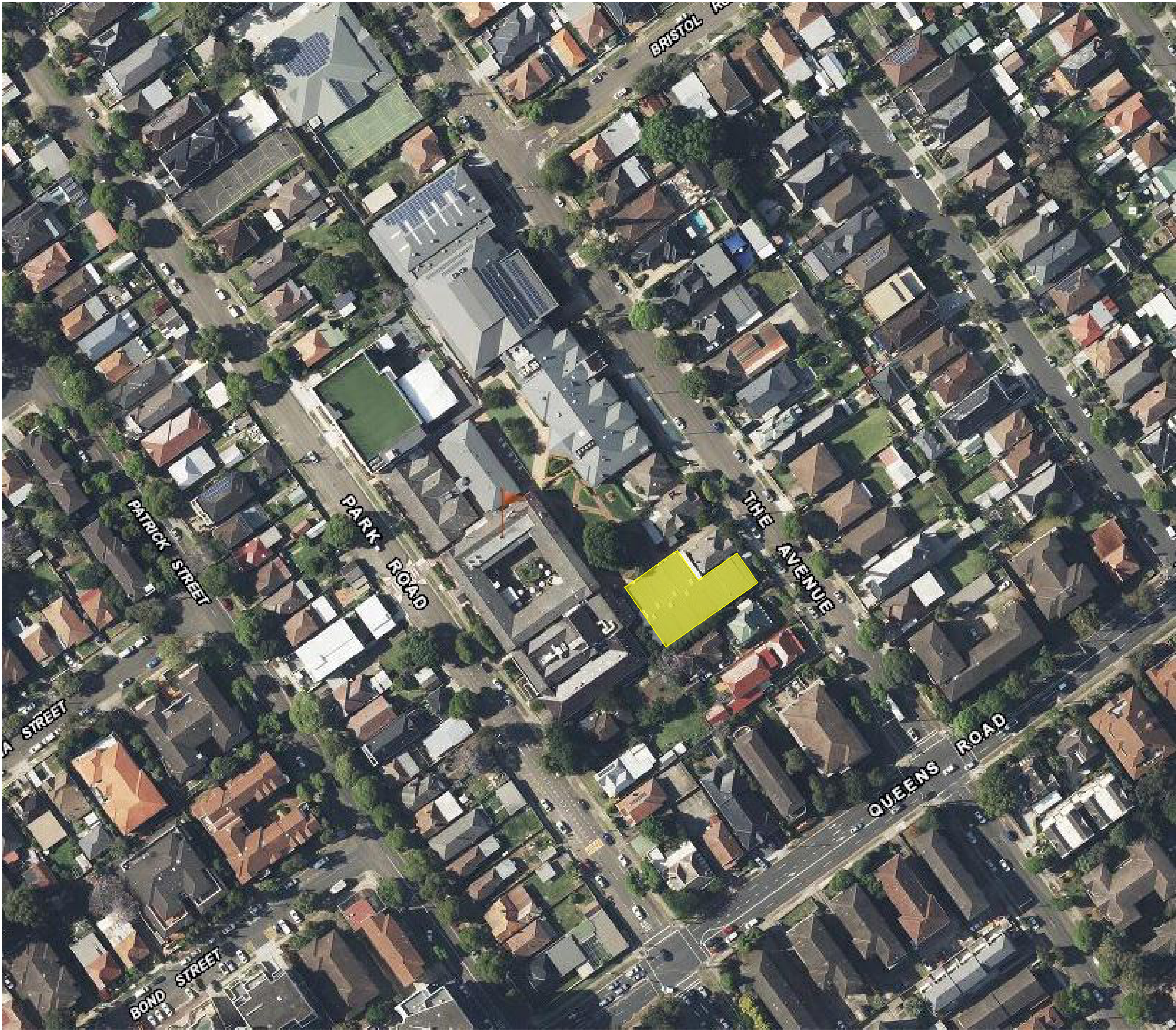
Authorised by: M. Grogan

Issued by: G. Khanal

DANEBANK ANGLICAN SCHOOL FOR GIRLS

- THE SCIENCE LABS BUILDING

83 THE AVENUE, HURSTVILLE, NSW 2220



LOCALITY MAP. (COURTESY OF SIX MAPS)

DRAWING SCHEDULE - CIVIL		
DWG No.	TITLE	SCALE
SL_C.00	COVER SHEET	N/A
SL_C.10	SOIL EROSION & SEDIMENT CONTROL PLAN	1:250
SL_C.11	SOIL EROSION & SEDIMENT CONTROL DETAILS	AS NOTED
SL_C.20	CIVIL WORKS DRAINAGE - OVERALL SITE	1:250
SL_C.21	CIVIL WORKS DRAINAGE PLAN - SHEET 1	1:100
SL_C.22	CIVIL WORKS DRAINAGE PLAN - SHEET 2	1:100
SL_C.30	STORMWATER DETAILS 01	AS NOTED
SL_C.31	STORMWATER DETAILS 02	AS NOTED
SL_C.35	OSD TANK DETAILS	N/A
SL_C.40	BULK EXCAVATION AND CUT & FILL PLAN	1:100
SL_C.70	CATCHMENT PLAN	1:200

ABBREVIATIONS

Ø OR DIA	DIAMETER
@1%	AT 1 PERCENT
AHD	AUSTRALIAN HEIGHT DATUM
CBR	CALIFORNIA BEARING RATIO
CH	CHAINAGE
CL	CENTRE LINE
CO	CLEAR OUT
COS	CONFIRM ON SITE
DD	DISH CROSSING
DDO	DISH DRAIN OUTLET
DEJ	DOWELLED EXPANSION JOINT
DGB	DENSE GRADED BASECOURSE
DGS	DENSE GRADED SUB-BASE
DN	DIAMETER NOMINAL
DP	DOWNPIPE
ex	EXISTING
FFL	FINISHED FLOOR LEVEL
FW	FLOOR WASTE
GTD	GRATED TRENCH DRAIN
GSIP	GRATED SURFACE INLET PIT
HDG	HOT DIP GALVANISED
HYD	HYDRANT
IJ	ISOLATING JOINT
IK	INTEGRAL KERB
IL	INVERT LEVEL
IP	INTERSECTION POINT
KIP	KERB INLET PIT
KO	KERB ONLY
K&G	KERB & GUTTER
KR	KERB RETURN
LS	LONGITUDINAL SECTION
m	METER
mm	MILLIMETER
No.	NUMBER
NOM.	NOMINAL
NGL	NATURAL GROUND LEVEL
OFF	OVERLAND FLOW PATH
OSD	ON-SITE DETENTION
r	RADIUS
RCP	REINFORCED CONCRETE PIPE
RK	ROLL KERB & GUTTER
RL	REDUCED LEVEL
RW	RETAINING WALL
RWO	RAINWATER OUTLET
RWT	RAINWATER TANK
SJ	SAWN CONTROL JOINT
SMH	SEWER MAN HOLE
SW	STORMWATER
SWP	STORMWATER PIT
SWRM	STORMWATER RISING MAIN
SWS	STORMWATER SUMP
SV	STOP VALVE
TOK	TOP OF KERB
TOW	TOP OF WALL
TP	TANGENT POINT
TYP	TYPICAL
uPVC	UNPLASTICISED POLYVINYL CHLORIDE
UNO	UNLESS NOTED OTHERWISE
WPJ	WEAKENED PLANE JOINT

DA ISSUE
NOT FOR CONSTRUCTION

P3	FOR DA ISSUE		02.12.24
P2	80% DA		08.10.24
P1	60% DA		20.08.24
ISSUE	DESCRIPTION	APPROVED	DATE

ARCHITECT

25/25/2024 11:12:11 10/08/2024 11:12:11 10/08/2024 11:12:11 POSTAL: 15/08/2024 11:12:11 10/08/2024 11:12:11 PHONE: 02/9555 7230 EMAIL: info@birzulisassociates.com WEB: www.birzulisassociates.com

**BIRZULIS ASSOCIATES**
CONSULTING STRUCTURAL & CIVIL ENGINEERS
583 DARLING STREET, ROZELLE NSW 2039
tel: (02) 9555 7230 email: office@birzulisassociates.com
www.birzulisassociates.com

PROJECT
DANEBANK ANGLICAN SCHOOL FOR GIRLS
- THE SCIENCE LABS BUILDING
83 THE AVENUE, HURSTVILLE, NSW 2220

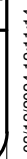
TITLE			
COVER SHEET			
SCALES		DATE	
N/A @ A1		AUG 2024	
DRAWN	DESIGN	VERIFIED	APPROVED
C.KE	G.K		
ISSUE	PROJECT No.	DRAWING No.	
P3	9179	SL_C.00	

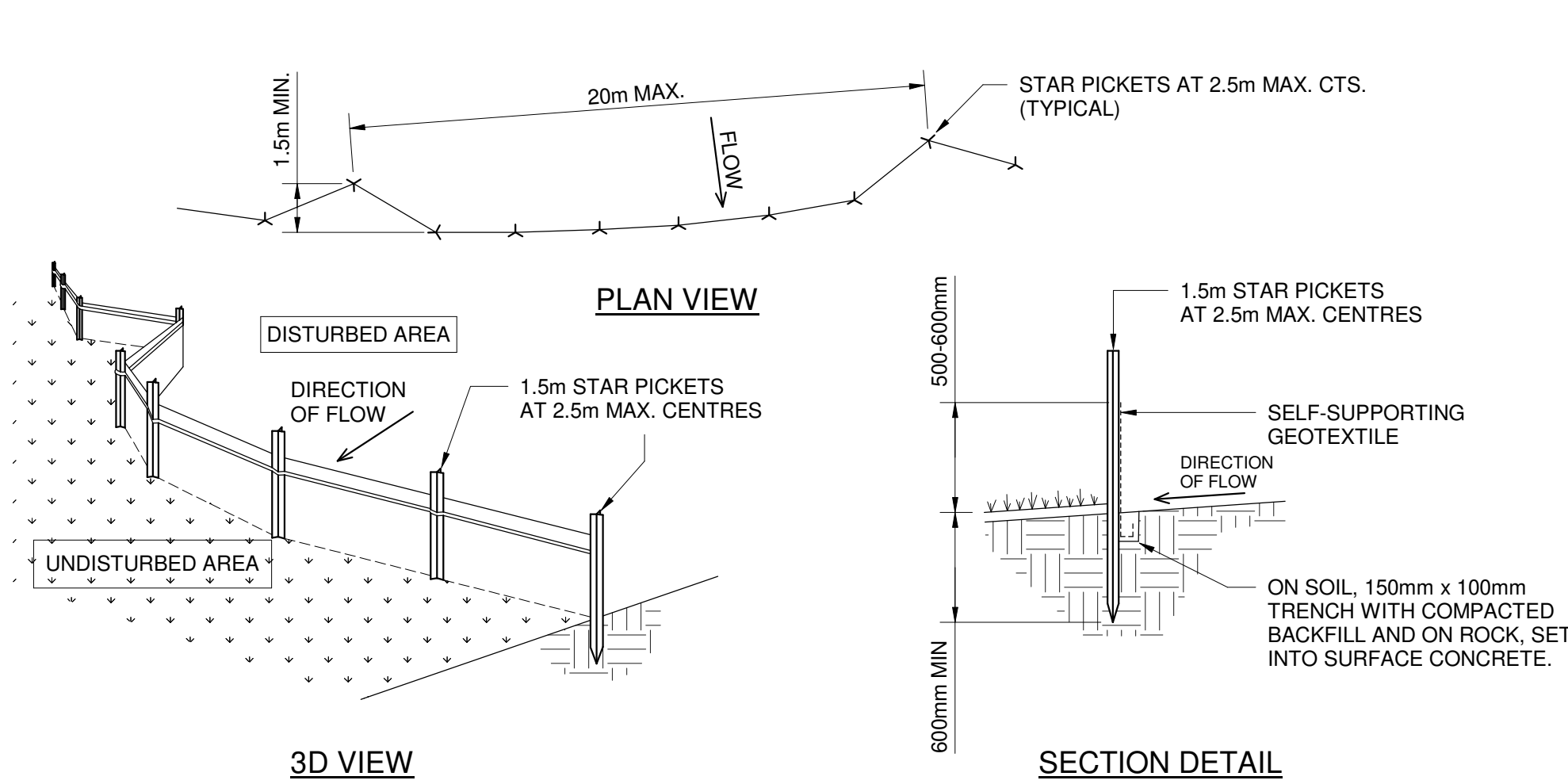
This drawing is the copyright of Birzulis Associates Pty. and may not be altered, reproduced or transmitted in any form or by any means in part or in whole without the written permission of Birzulis Associates Pty. Ltd. All levels and dimensions are to be checked and verified on site prior to the commencement of any work, making of shop drawings or fabrication of components. Do not scale drawings. Use figured dimensions.

QUALIFIED STORMWATER DESIGN ENGINEER: Michael Grogan
NER NUMBER: 2125368

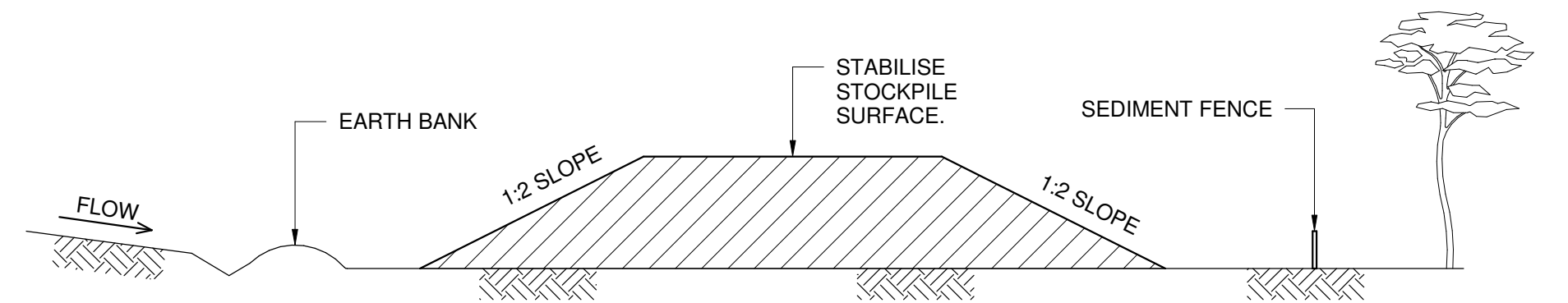
SIGNATURE: *Michael Grogan*

PRINT IN
COLOUR





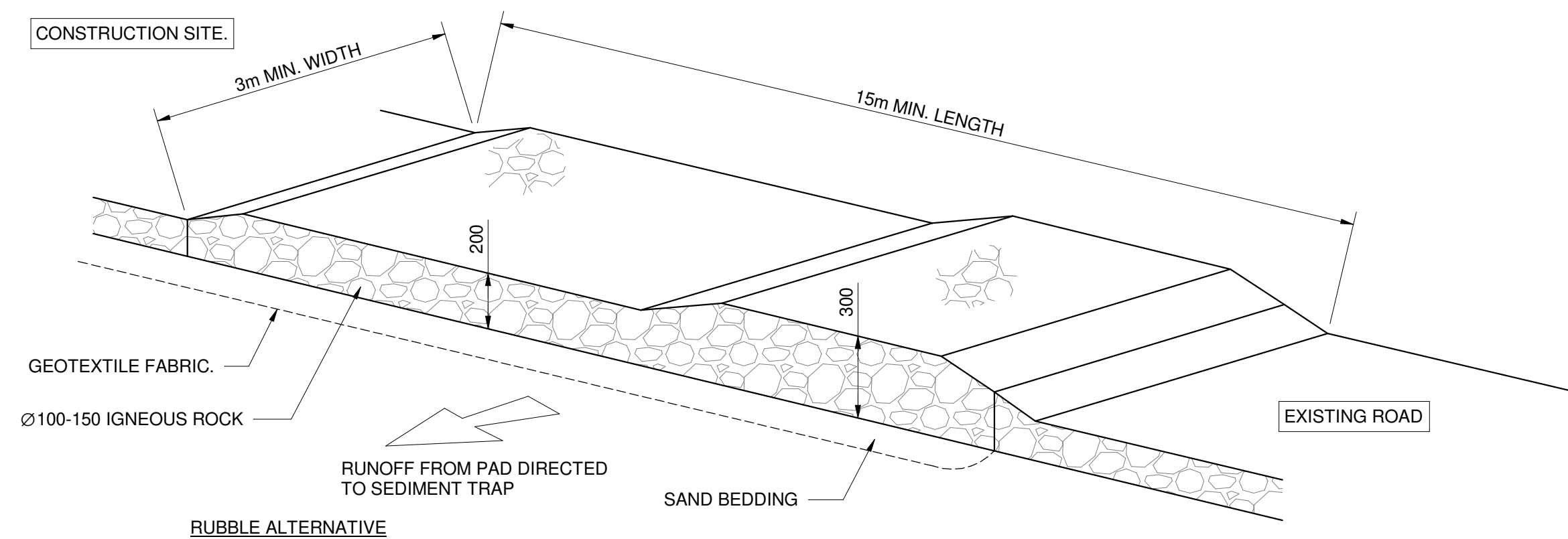
- STOCKPILE CONSTRUCTION NOTES:**
1. PLACE STOCKPILES MORE THAN 2 (PREFERABLY 5) METRES FROM EXISTING VEGETATION, CONCENTRATED WATER FLOW, ROADS AND HAZARD AREAS.
 2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT, ELONGATED MOUNDS.
 3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2 METRES IN HEIGHT.
 4. WHERE THEY ARE TO BE PLACED FOR MORE THAN 10 DAYS, STABILISE FOLLOWING THE APPROVED E.S.C.P. OR S.W.M.P. 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 - 2 METRES DOWNSLOPE.



PERIMETER SECURITY FENCE WITH WIND BARRIER & SILT FENCE DETAIL

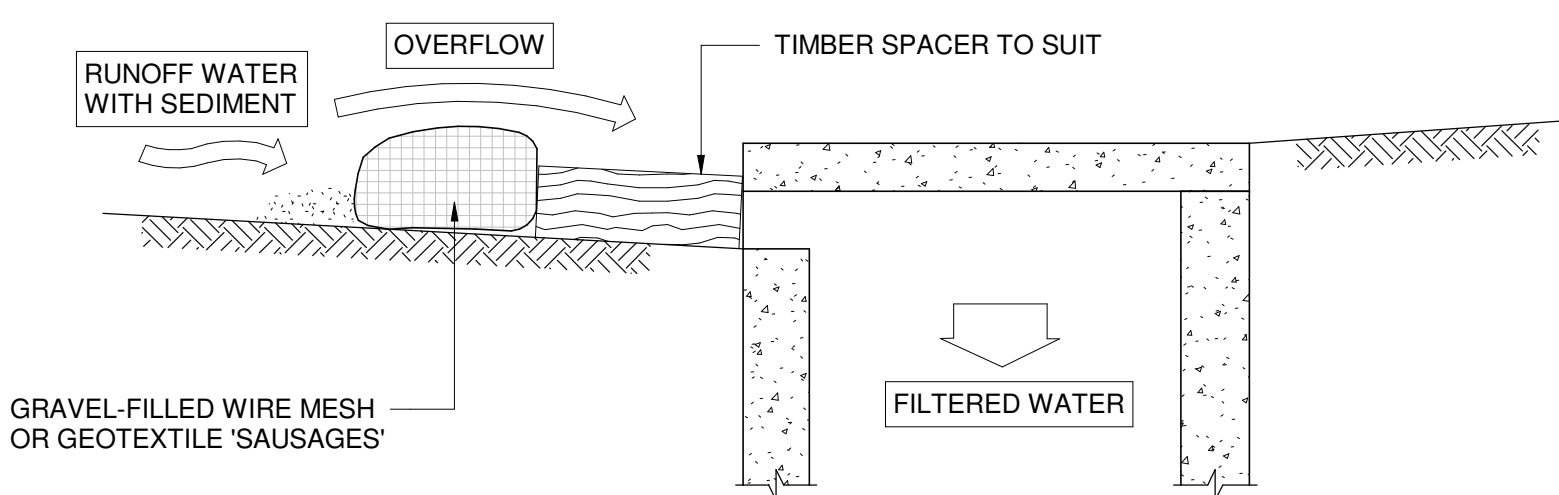
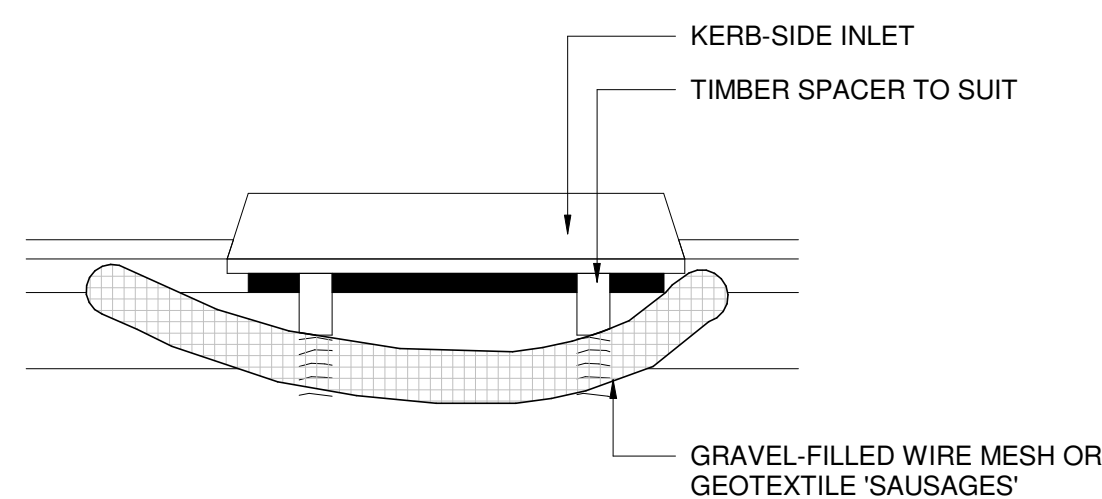
(NOT TO SCALE)

(NOT TO SCALE)



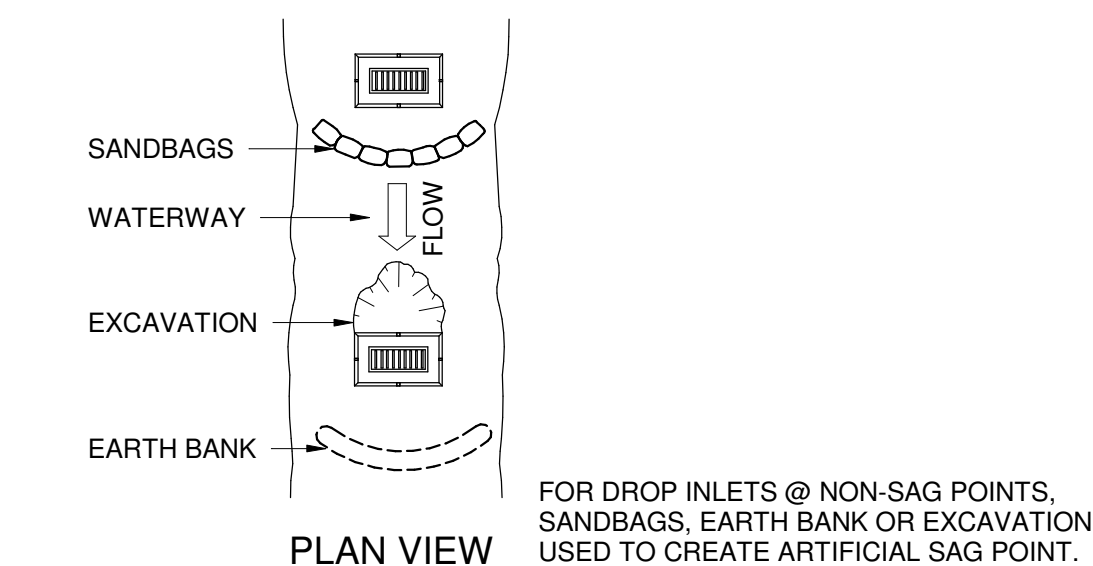
TEMPORARY CONSTRUCTION EXIT

(NOT TO SCALE)

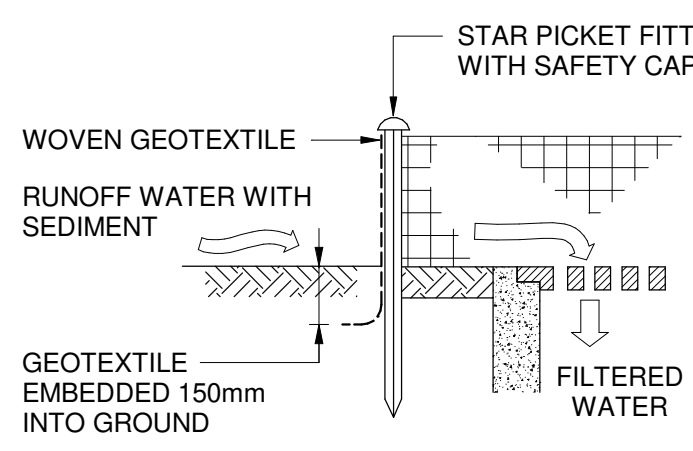


(NOT TO SCALE)

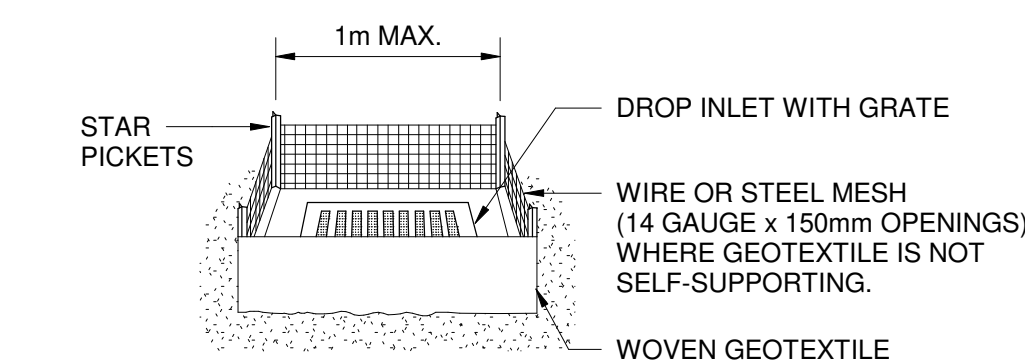
- MESH & GRAVEL INLET FILTER CONSTRUCTION NOTES:**
1. FABRICATE A SLEEVE MADE FROM GEOTEXTILE OR WIRE MESH LONGER THAN THE LENGTH OF THE INLET PIT AND FILL IT WITH 25-50mm GRAVEL.
 2. FORM AN ELLIPTICAL CROSS-SECTION ABOUT 150mm HIGH x 400mm WIDE.
 3. PLACE THE FILTER AT THE OPENING LEAVING AT LEAST A 100mm SPACE BETWEEN IT AND THE KERB INLET. MAINTAIN THE OPENING WITH TIMBER SPACER BLOCKS.
 4. FORM A SEAL WITH THE KERB TO PREVENT SEDIMENT BYPASSING THE FILTER.
 5. SANDBAGS FILLED WITH GRAVEL CAN SUBSTITUTE FOR THE MESH OR GEOTEXTILE, PROVIDING THEY ARE PLACED SO THAT THEY CAN FIRMLY ABUT EACH OTHER AND SEDIMENT LADEN WATERS CANNOT PASS BETWEEN.



PLAN VIEW



SECTION DETAIL



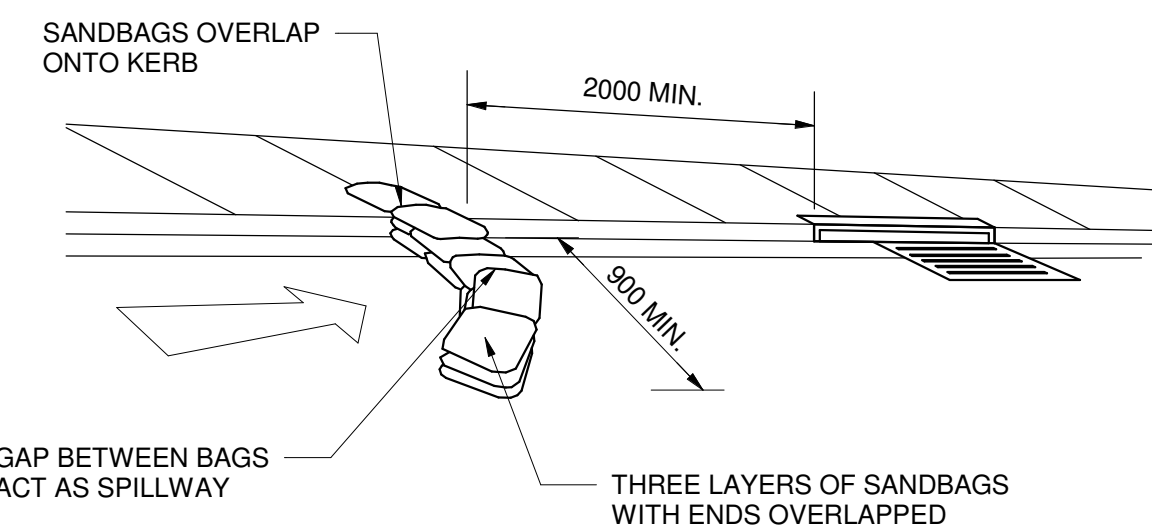
(NOT TO SCALE)

- GEOTEXTILE INLET FILTER CONSTRUCTION NOTES:**
1. FABRICATE A SEDIMENT BARRIER MADE FROM GEOTEXTILE.
 2. PICKET SPACING TO BE MAXIMUM 1m.
 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 GEOTEXTILES UNLESS THE DESIGN IS ADEQUATE TO ALLOW FOR ALL WATERS TO BYPASS IT.

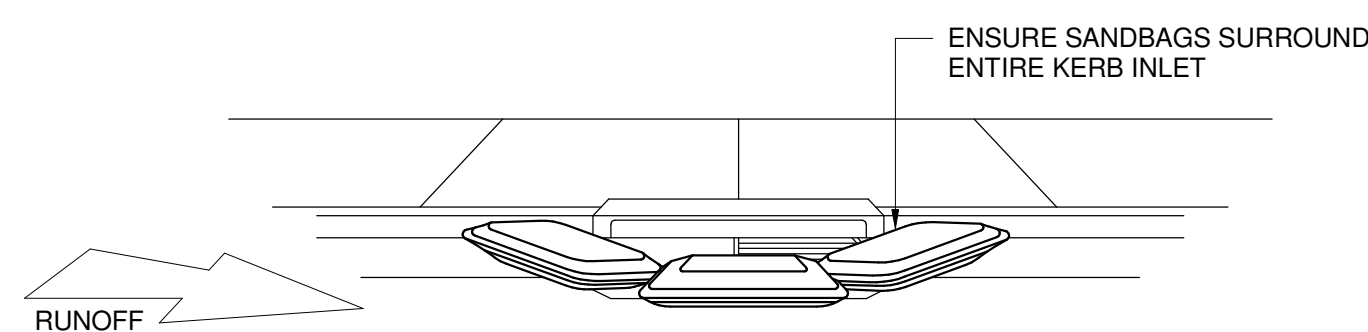
SECTION DETAIL

(NOT TO SCALE)

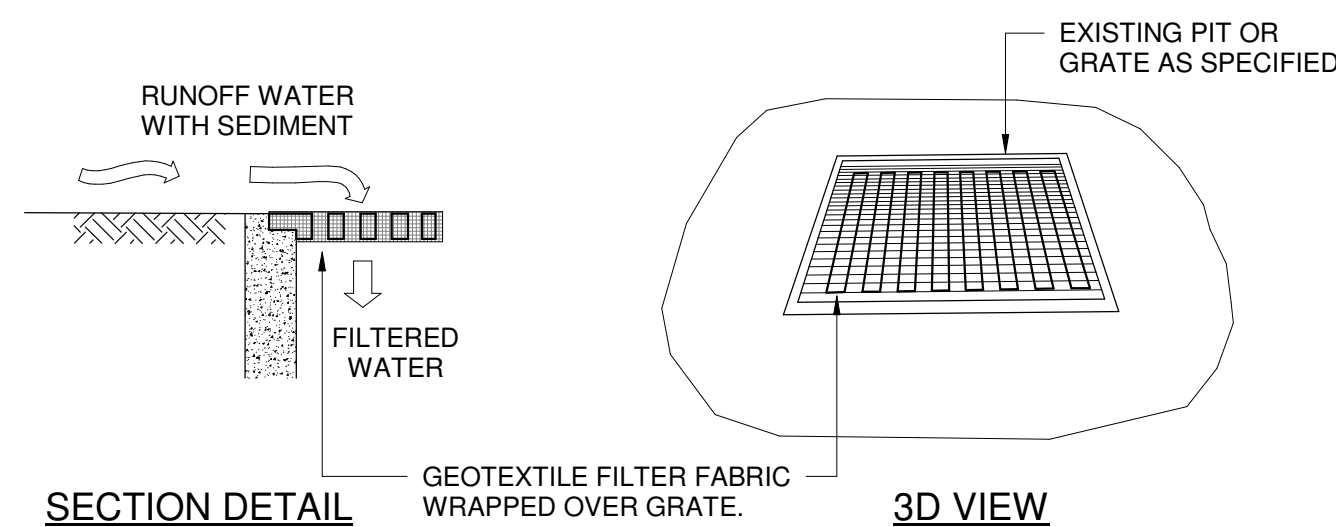
- ### SEDIMENT FENCE CONSTRUCTION NOTES:
1. CONSTRUCT SEDIMENT FENCES AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE, BUT WITH SMALL RETURNS AS SHOWN IN THE DRAWING TO LIMIT THE CATCHMENT AREA OF ANY ONE SECTION. THE CATCHMENT AREA SHOULD BE SMALL ENOUGH TO LIMIT WATER FLOW IF CONCENTRATED AT ONE POINT TO 50 LITRES PER SECOND IN THE DESIGN STORM EVENT, USUALLY THE 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 1.5m LONG STAR PICKETS INTO GROUND AT 2.5m 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.



(NOT TO SCALE)



(NOT TO SCALE)



(NOT TO SCALE)

QUALIFIED STORMWATER DESIGN ENGINEER: Michael Grogan
 LICENSE NUMBER: 2125368

SIGNATURE: Michael Croghan

DA ISSUE
NOT FOR CONSTRUCTION

P3	FOR DA ISSUE		02.12.24
P2	80% DA		09.10.24
P1	60% DA		20.08.24
ISSUE	DESCRIPTION	APPROVED	DATE

ARCHITECT

 LEAF
ARCHITECTURE

STUDIO Level 1 / 12-14 Queen Street, CHIPPENDALE NSW 2008
POSTAL PO Box 258, Newsworld, NSW 2042

PHONE (0) 9930 3030
EMAIL info@leafarch.com.au
WEB www.leafarch.com.au/



BIRZULIS
ASSOCIATES

CONSULTING STRUCTURAL & CIVIL ENGINEERS
583 DARLING STREET, ROZELLE NSW 2039
tel: (02) 9555 7230 email : office@birzulisassociates.com
www.birzulisassociates.com

PROJECT
DANE BANK ANGLICAN SCHOOL FOR GIRLS
- THE SCIENCE LABS BUILDING
83 THE AVENUE, HURSTVILLE, NSW 2220

TITLE

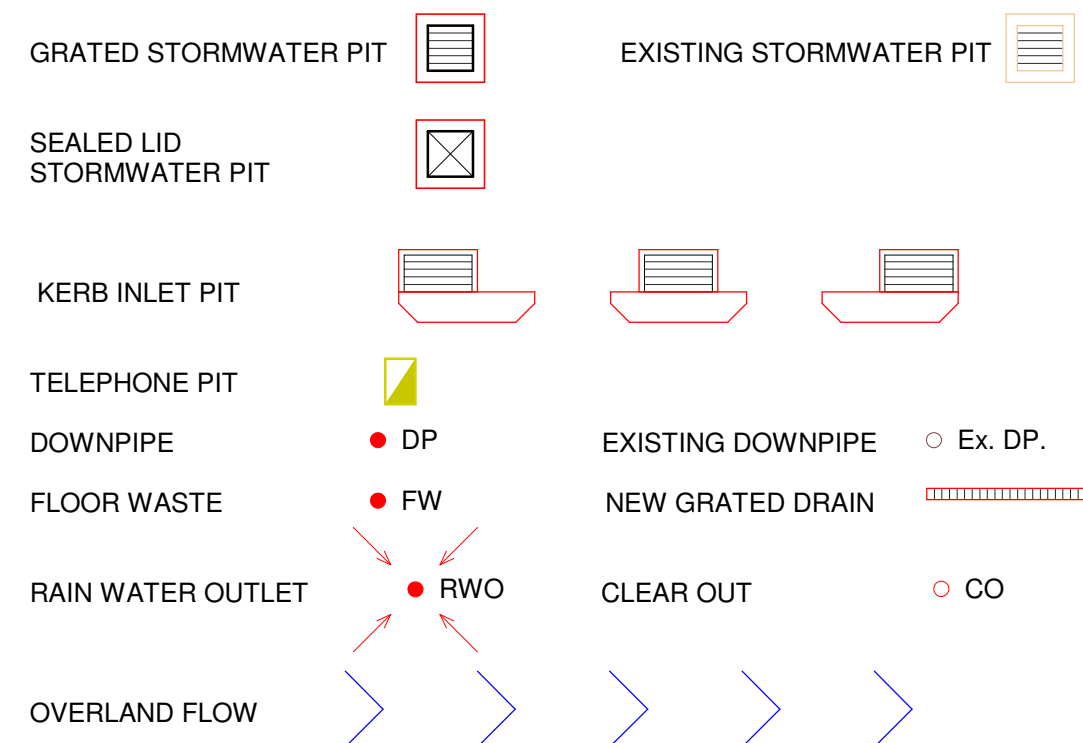
SOIL EROSION & SEDIMENT
CONTROL DETAILS

SCALES		DATE	
AS NOTED @ A1		AUG' 2024	
DRAWN	DESIGN	VERIFIED	APPROVED
C. KE	G. K.		
This drawing is the property of Cirius Associates P/L and may not be altered, reproduced or transmitted in any form or by any means in part or in whole without the written permission of Cirius Associates P/L. All levels and dimensions are to be checked and verified on site prior to the commencement of any work, making of shop drawings or fabrication of components. Do not scale drawings. Use figured Dimensions.			
ISSUE	PROJECT No.	DRAWING No.	
P3	9179	SL_C.11	

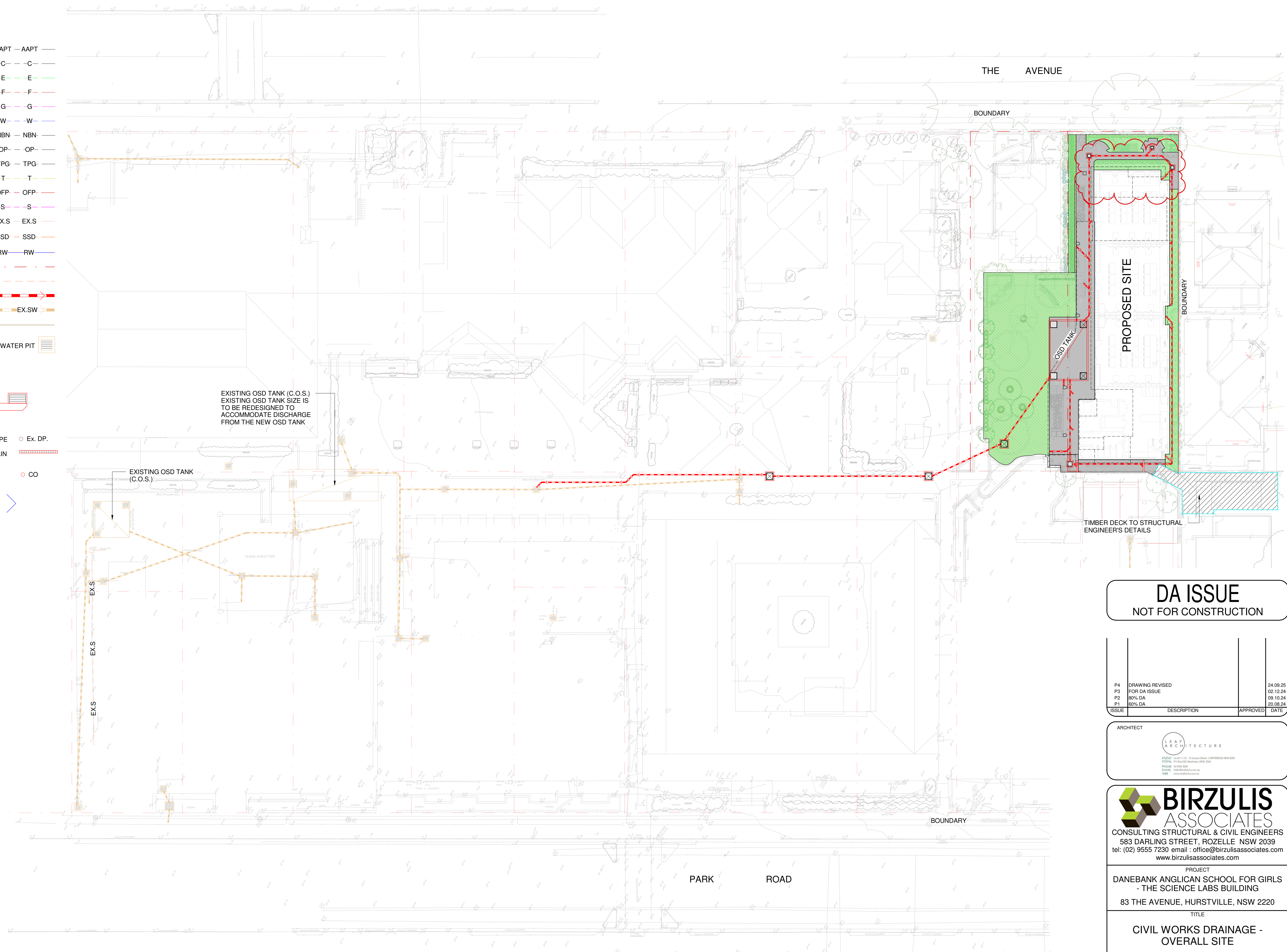
This drawing is the copyright of Birzulis Associates P/L and may not be altered, reproduced or transmitted in any form or by any means in part or in whole without the written permission of Birzulis Associates Pty Ltd. All levels and dimensions are to be checked and verified on site prior to the commencement of any work, making of shoe drawings or fabrication of components. Do not scale drawings. Use figured Dimensions.

[illegible]

AAPT LINE	— AAPT — AAPT — AAPT — AAPT —
COMMS LINE	— C — C — C — C —
ELECTRICAL LINE	— E — E — E — E —
FIRE LINE	— F — F — F — F —
GAS LINE	— G — G — G — G —
WATER LINE	— W — W — W — W —
NBN LINE	— NBN — NBN — NBN — NBN —
OPTUS LINE	— OP — OP — OP — OP —
TPG LINE	— TPG — TPG — TPG — TPG —
TELECOMMUNICATION LINE	— T — T — T — T —
OVERFLOW PIPE	— OFP — OFP — OFP — OFP —
SEWER LINE	— S — S — S — S —
SEWER LINE - EXISTING	— EX.S — EX.S — EX.S — EX.S —
SUBSOIL DRAINAGE LINE	— SSD — SSD — SSD — SSD —
RAINWATER LINE	— RW — RW — RW — RW —
SITE BOUNDARY	- - - - -
DEMOLISHED	- - - - -
STORMWATER LINE	—> —> —> —> —> —> —> —>
STORMWATER LINE - EXISTING	—> EX.SW —> —> —> —> EX.SW —>
PROPOSED CONTOUR	— — — — —



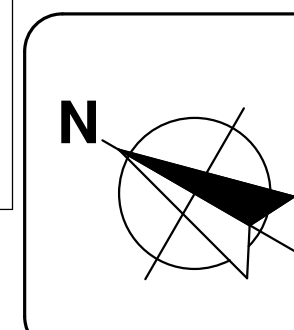
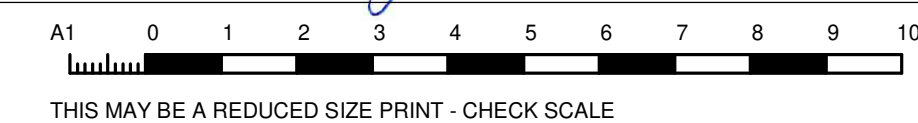
(*) - DENOTES SILT ARRESTOR STORMWATER PIT WITH OCEAN GUARD INSERTED. REFER TO DETAIL.



SCALE 1 : 250

 DENOTES CONCRETE FOOTPATH PAVEMENT
 DENOTES LANDSCAPING

SIGNATURE: Michael Crogen



DA ISSUE
NOT FOR CONSTRUCTION

P4	DRAWING REVISED	24.09.25
P3	FOR DA ISSUE	02.12.24
P2	80% DA	09.10.24
P1	60% DA	20.08.24
ISSUE	DESCRIPTION	APPROVED DATE

ARCHITECT

LEAF
ARCHITECTURE

STUDIO Level 11/12 - 14 Queens Street, CHERRYDALE NSW 2008
POSTAL PO Box 258, Newtown, NSW, 2042

PHONE 02 9592 3000
EMAIL info@leafarch.com.au
WEB www.leafarch.com.au



BIRZULIS
ASSOCIATES

CONSULTING STRUCTURAL & CIVIL ENGINEERS

583 DARLING STREET, ROZELLE NSW 2039

tel: (02) 9555 7230 email : office@birzulisassociates.com

www.birzulisassociates.com

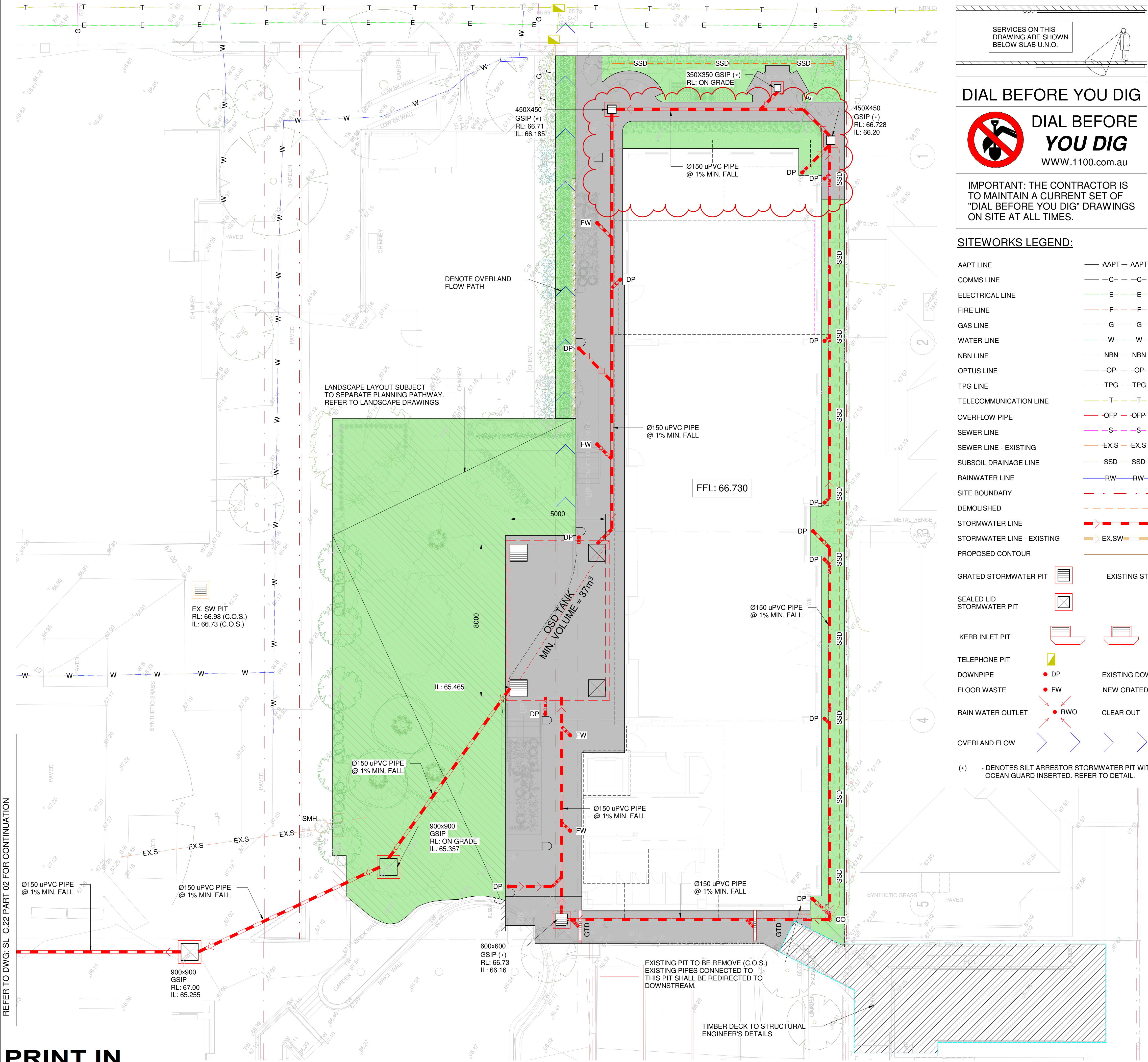
PROJECT
DANEBANK ANGLICAN SCHOOL FOR GIRLS
- THE SCIENCE LABS BUILDING
83 THE AVENUE, HURSTVILLE, NSW 2220

TITLE	
CIVIL WORKS DRAINAGE - OVERALL SITE	

SCALES		1:250 @ A1		DATE		AUG' 2024	
DRAWN		DESIGN		VERIFIED		APPROVED	
C. KE		G. K					
This drawing is the copyright of Buzura Associates Ptd, and may not be altered, reproduced or transmitted in any form or by any means in part or in whole without the written permission of Buzura Associates Ptd. Ltd. All levels and dimensions are to be checked and verified on site prior to the commencement of any work, making of shop drawings or fabrication of components. Do not scale drawings. Use figured dimensions.							
ISSUE		PROJECT No.		DRAWING No.			
W4		9179		SL_C.20			

This drawing is the copyright of Birzulis Associates P/L and may not be altered, reproduced or transmitted in any form or by any means in part or in whole without the written permission of Birzulis Associates Pty Ltd. All levels and dimensions are to be checked and verified on site prior to the commencement of any work, making of shop drawings or fabrication of components. Do not scale drawings. Use figured Dimensions.

**PRINT IN
COLOUR**



SERVICES ON THIS DRAWING ARE SHOWN BELOW SLAB U.N.O.

DIAL BEFORE YOU DIG

WWW.1100.com.au

IMPORTANT: THE CONTRACTOR IS TO MAINTAIN A CURRENT SET OF "DIAL BEFORE YOU DIG" DRAWINGS ON SITE AT ALL TIMES.

SITEWORKS LEGEND:	
AAPT LINE	— AAPT — AAPT — AAPT — AAPT —
COMMS LINE	— C — C — C — C —
ELECTRICAL LINE	— E — E — E — E —
FIRE LINE	— F — F — F — F —
GAS LINE	— G — G — G — G —
WATER LINE	— W — W — W — W —
NBN LINE	— NBN — NBN — NBN — NBN —
OPTUS LINE	— OP — OP — OP — OP —
TPG LINE	— TPG — TPG — TPG — TPG —
TELECOMMUNICATION LINE	— T — T — T — T —
OVERFLOW PIPE	— OFP — OFP — OFP — OFP —
SEWER LINE	— S — S — S — S —
SEWER LINE - EXISTING	— EX.S — EX.S — EX.S — EX.S —
SUBSOIL DRAINAGE LINE	— SSD — SSD — SSD — SSD —
RAINWATER LINE	— RW — RW — RW — RW —
SITE BOUNDARY	— — — — —
DEMOLISHED	— — — — —
STORMWATER LINE	— — — — —
STORMWATER LINE - EXISTING	— EX.SW — EX.SW —
PROPOSED CONTOUR	— — — — —
GRADED STORMWATER PIT	EXISTING STORMWATER PIT
SEALED LID STORMWATER PIT	
KERB INLET PIT	
TELEPHONE PIT	
DOWNPIPE	EXISTING DOWNPIPE
FLOOR WASTE	NEW GRATED DRAIN
RAIN WATER OUTLET	CLEAR OUT
OVERLAND FLOW	
(*) - DENOTES SILT ARRESTOR STORMWATER PIT WITH OCEAN GUARD INSERTED. REFER TO DETAIL.	

CIVIL DRAWING NOTES:

- SERVICES SHOWN ON PLAN ARE INDICATIVE. EXACT DEPTH AND LOCATION TO BE CONFIRMED ONSITE. CONTRACTOR TO CARRY OUT DIAL BEFORE YOU DIG APPLICATION AND ENGAGE A REGISTERED SURVEYOR TO PEG OUT ALL EXISTING SERVICES PRIOR TO ANY WORK COMMENCING ONSITE.
- ROOF DRAINAGE BY OTHERS.
- ALL uPVC STORMWATER DRAINAGE LINES SHALL BE 'CLASS SH' SEWER GRADE UNLESS NOTED OTHERWISE.
- UNLESS NOTED OTHERWISE DOWNPIPES SHALL CONNECT TO THE MAIN STORMWATER LINE DOWNSTREAM USING 150mm DIAMETER uPVC LINES WITH MINIMUM 1% FALL.
- UNLESS NOTED OTHERWISE GRATED DRAINS SHALL BE 150x150 AND CONNECTED TO THE DOWNSTREAM (NON-CHARGED) STORMWATER SYSTEM.
- ALL SUBSOIL DRAINAGE NOT SHOWN ON THE PLAN IS TO BE PROVIDED AND CONNECTED TO THE STORMWATER DRAINAGE SYSTEM.
- THE CONTRACTOR MUST VERIFY THE EXACT LOCATION AND EXTENT OF ALL SERVICES PRIOR TO CONSTRUCTION AND NOTIFY IMMEDIATELY OF ANY CONFLICTS WITH THE DRAWINGS TO THE ENGINEER/SUPERINTENDENT.

DESIGN NOTES:

THE PROPOSED DEVELOPMENT SITE IS GOVERNED BY GEORGES RIVER COUNCIL. STORMWATER DESIGN FOR THE PROPOSED DEVELOPMENT HAS BEEN DONE IN ACCORDANCE WITH THE COUNCIL'S STORMWATER MANAGEMENT POLICY. PROPOSED ON-SITE DETENTION (OSD) TANK HAS BEEN SIZED UP TO STORE DISCHARGE FROM THE PROPOSED DEVELOPMENT.

REFER TO DRAWING C.70 FOR CATCHMENT ANALYSIS PLAN

TOTAL SITE AREA = 1341 m²
TOTAL IMPERVIOUS AREA (%) = 75%
PSD/Q (L/S/ha) = 152
SSR (m³/ha) = 270
PSD FOR ADDITIONAL DEVELOPED AREA (L/s) = 152 x 0.1341 = 20.38 L/s
SSR FOR ADDITIONAL DEVELOPED AREA (m³) = 270 x 0.1341 = 36.21 m³

PROPOSED OSD VOLUME = 37 m³ > REQUIRED STORAGE VOLUME = 36.21 m³
ORIFICE AREA (A) = Q/C (2gh)^{1/2} (1/2)
ORIFICE DIAMETER (mm) = 98.03

NOTES:

SILT ARRESTOR PITS WITH ATLAN STORMSACKS HAS BEEN PROPOSED TO MEET THE WATER QUALITY REQUIREMENT OF THE PROPOSED DEVELOPMENT.

PAVEMENT LEGEND:

DENOTES CONCRETE FOOTPATH PAVEMENT

DENOTES LANDSCAPING

QUALIFIED STORMWATER DESIGN ENGINEER: Michael Grogan
NER NUMBER: 2125368

SIGNATURE: *Michael Grogan*

DA ISSUE
NOT FOR CONSTRUCTION

P4	DRAWING REVISED	24.09.25
P3	FOR DA ISSUE	02.12.24
P2	80% DA	08.10.24
P1	80% DA	20.08.24
ISSUE	DESCRIPTION	APPROVED DATE

ARCHITECT

LEAP ARCHITECTURE

25/20/2025 09:40:00

BIRZULIS ASSOCIATES

CONSULTING STRUCTURAL & CIVIL ENGINEERS

583 DARLING STREET, ROZELLE NSW 2039

tel: (02) 9555 7230 email : office@birzulisassociates.com

www.birzulisassociates.com

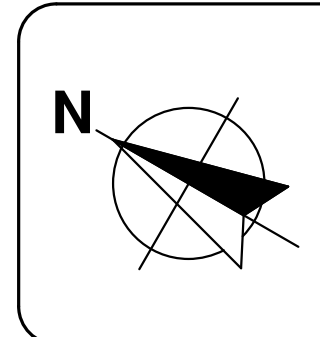
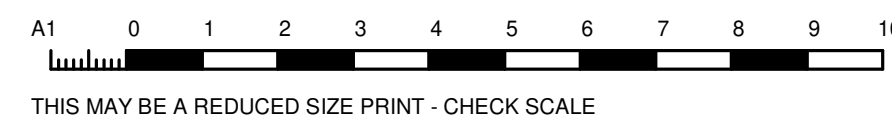
PROJECT
DANEBANK ANGLICAN SCHOOL FOR GIRLS
- THE SCIENCE LABS BUILDING
83 THE AVENUE, HURSTVILLE, NSW 2220

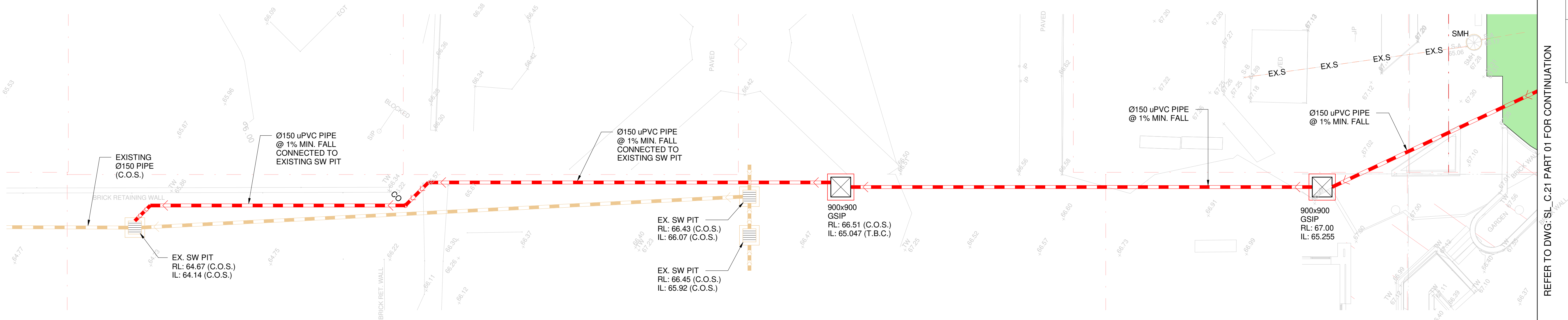
TITLE
CIVIL WORKS DRAINAGE PLAN - SHEET 1

Scales		DATE	
1:100 @ A1		AUG 2024	
DRAWN	DESIGN	VERIFIED	APPROVED
C.KE	G.K		
ISSUE	PROJECT No.	DRAWING No.	
P4	9179	SL_C.21	

PRINT IN
COLOUR

CIVIL STORMWATER DRAINAGE PLAN - PART 01
SCALE 1 : 100





CIVIL STORMWATER DRAINAGE PLAN - PART 02

SCALE 1 : 100

SITeworks LEGEND:

AAPT LINE	— AAPT — AAPT — AAPT — AAPT —
COMMS LINE	— C — C — C — C —
ELECTRICAL LINE	— E — E — E — E —
FIRE LINE	— F — F — F — F —
GAS LINE	— G — G — G — G —
WATER LINE	— W — W — W — W —
NBN LINE	— NBN — NBN — NBN — NBN —
OPTUS LINE	— OP — OP — OP — OP —
TPG LINE	— TPG — TPG — TPG — TPG —
TELECOMMUNICATION LINE	— T — T — T — T —
OVERFLOW PIPE	— OFP — OFP — OFP — OFP —
SEWER LINE	— S — S — S — S —
SEWER LINE - EXISTING	— EX.S — EX.S — EX.S — EX.S —
SUBSOIL DRAINAGE LINE	— SSD — SSD — SSD — SSD —
RAINWATER LINE	— RW — RW — RW — RW —
SITE BOUNDARY	—
DEMOLISHED	—
STORMWATER LINE	— — — — —
STORMWATER LINE - EXISTING	— EX.SW — EX.SW — EX.SW — EX.SW —
PROPOSED CONTOUR	— — — — —
GRADED STORMWATER PIT	EXISTING STORMWATER PIT
SEALED LID STORMWATER PIT	
KERB INLET PIT	
TELEPHONE PIT	
DOWNPIPE	EXISTING DOWNPIPE
FLOOR WASTE	NEW GRADED DRAIN
RAIN WATER OUTLET	CLEAR OUT
OVERLAND FLOW	
(+) - DENOTES SILT ARRESTOR STORMWATER PIT WITH OCEAN GUARD INSERTED. REFER TO DETAIL.	

CIVIL DRAWING NOTES:

- SERVICES SHOWN ON PLAN ARE INDICATIVE. EXACT DEPTH AND LOCATION TO BE CONFIRMED ONSITE. CONTRACTOR TO CARRY OUT DIAL BEFORE YOU DIG APPLICATION AND ENGAGE A REGISTERED SURVEYOR TO PEG OUT ALL EXISTING SERVICES PRIOR TO ANY WORK COMMENCING ONSITE.
- ROOF DRAINAGE BY OTHERS.
- ALL uPVC STORMWATER DRAINAGE LINES SHALL BE 'CLASS SH' SEWER GRADE UNLESS NOTED OTHERWISE.
- UNLESS NOTED OTHERWISE DOWNPIPES SHALL CONNECT TO THE MAIN STORMWATER LINE DOWNSTREAM USING 150mm DIAMETER uPVC LINES WITH MINIMUM 1% FALL.
- UNLESS NOTED OTHERWISE GRATED DRAINS SHALL BE 150x150 AND CONNECTED TO THE DOWNSTREAM (NON-CHARGED) STORMWATER SYSTEM.
- ALL SUBSOIL DRAINAGE NOT SHOWN ON THE PLAN IS TO BE PROVIDED AND CONNECTED TO THE STORMWATER DRAINAGE SYSTEM.
- THE CONTRACTOR MUST VERIFY THE EXACT LOCATION AND EXTENT OF ALL SERVICES PRIOR TO CONSTRUCTION AND NOTIFY IMMEDIATELY OF ANY CONFLICTS WITH THE DRAWINGS TO THE ENGINEER/SUPERINTENDENT.

DESIGN NOTES:

THE PROPOSED DEVELOPMENT SITE IS GOVERNED BY GEORGES RIVER COUNCIL. STORMWATER DESIGN FOR THE PROPOSED DEVELOPMENT HAS BEEN DONE IN ACCORDANCE WITH THE COUNCIL'S STORMWATER MANAGEMENT POLICY. PROPOSED ON-SITE DETENTION (OSD) TANK HAS BEEN SIZED UP TO STORE DISCHARGE FROM THE PROPOSED DEVELOPMENT.

REFER TO DRAWING C.70 FOR CATCHMENT ANALYSIS PLAN

TOTAL SITE AREA = 1341 m²
TOTAL IMPERVIOUS AREA (%) = 75%
PSD/Q (L/s/Ha) = 152
SSR (m³/Ha) = 270
PSD FOR ADDITIONAL DEVELOPED AREA (L/s) = 152 x 0.1341 = 20.38 L/s
SSR FOR ADDITIONAL DEVELOPED AREA (m³) = 270 x 0.1341 = 36.21 m³

PROPOSED OSD VOLUME = 37 m³ > REQUIRED STORAGE VOLUME = 36.21 m³
ORIFICE AREA (A) = Q/C (2gh)^{1/2}
ORIFICE DIAMETER (mm) = 98.03

NOTES:

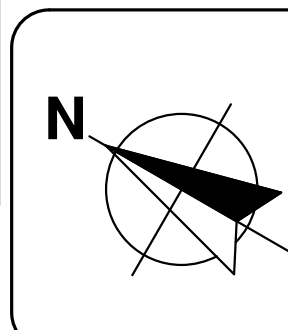
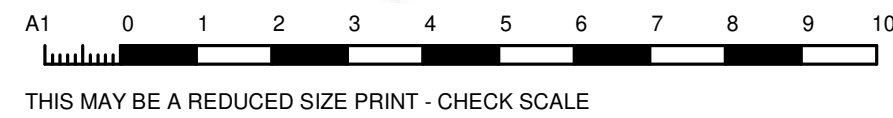
SILT ARRESTOR PITS WITH ATLAN STORMSACKS HAS BEEN PROPOSED TO MEET THE WATER QUALITY REQUIREMENT OF THE PROPOSED DEVELOPMENT.

PAVEMENT LEGEND:

	DENOTES CONCRETE FOOTPATH PAVEMENT
	DENOTES LANDSCAPING

QUALIFIED STORMWATER DESIGN ENGINEER: Michael Grogan
NER NUMBER: 2125368

SIGNATURE: *Michael Grogan*



SERVICES ON THIS
DRAWING ARE SHOWN
BELOW SLAB U.N.O.

DIAL BEFORE YOU DIG
WWW.1100.com.au

IMPORTANT: THE CONTRACTOR IS
TO MAINTAIN A CURRENT SET OF
"DIAL BEFORE YOU DIG" DRAWINGS
ON SITE AT ALL TIMES.

DA ISSUE
NOT FOR CONSTRUCTION

P1	FOR DA ISSUE			02.12.24
ISSUE	DESCRIPTION	APPROVED	DATE	

ARCHITECT

22/02/2024 11:12:10 (10/02/2024) NEW YORK
PROJECT: 11/02/2024 NEW YORK
PHONE: 011 212 212 212
EMAIL: info@leaparchitecture.com
WEB: www.leaparchitecture.com

BIRZULIS ASSOCIATES
CONSULTING STRUCTURAL & CIVIL ENGINEERS
583 DARLING STREET, ROZELLE NSW 2039
tel: (02) 9555 7230 email: office@birzulisassociates.com
www.birzulisassociates.com

PROJECT
DANEBANK ANGLICAN SCHOOL FOR GIRLS
- THE SCIENCE LABS BUILDING
83 THE AVENUE, HURSTVILLE, NSW 2220

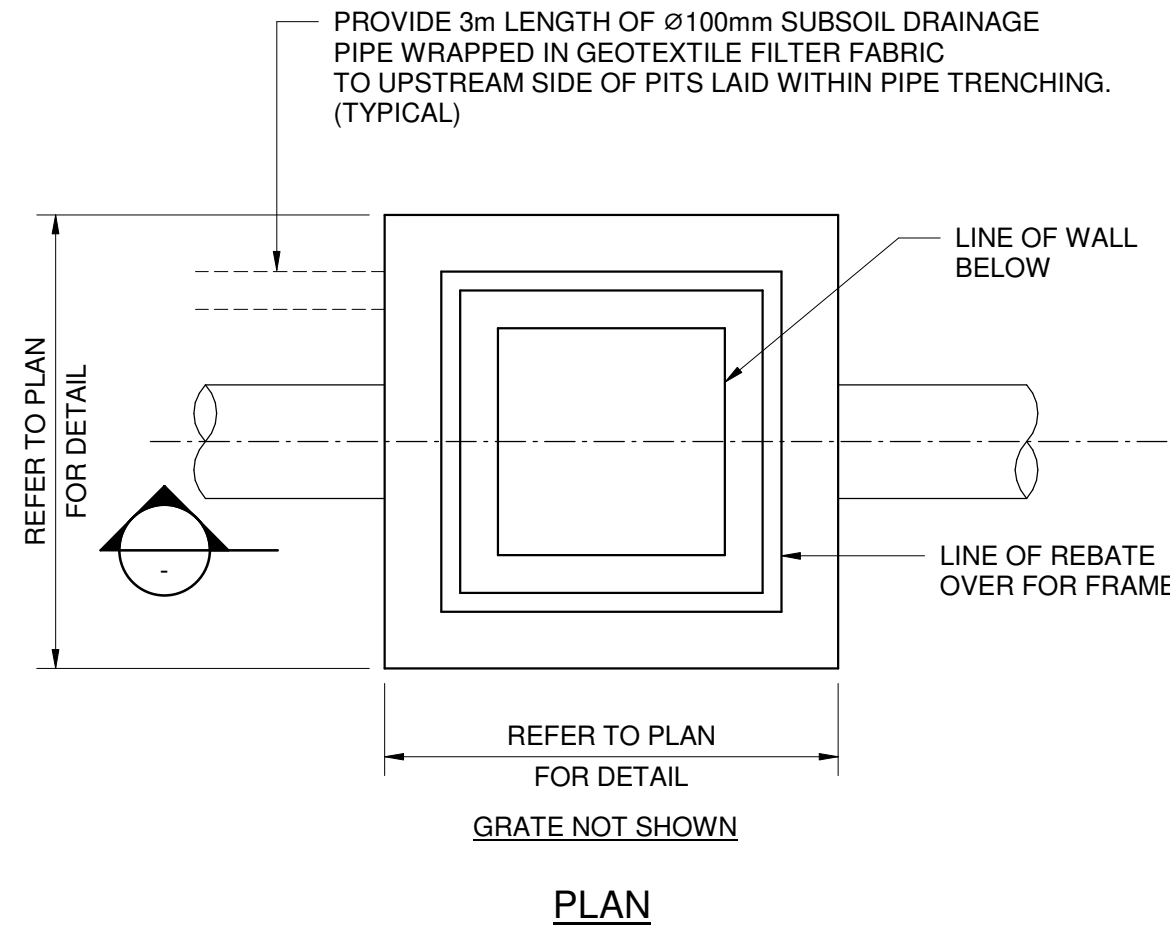
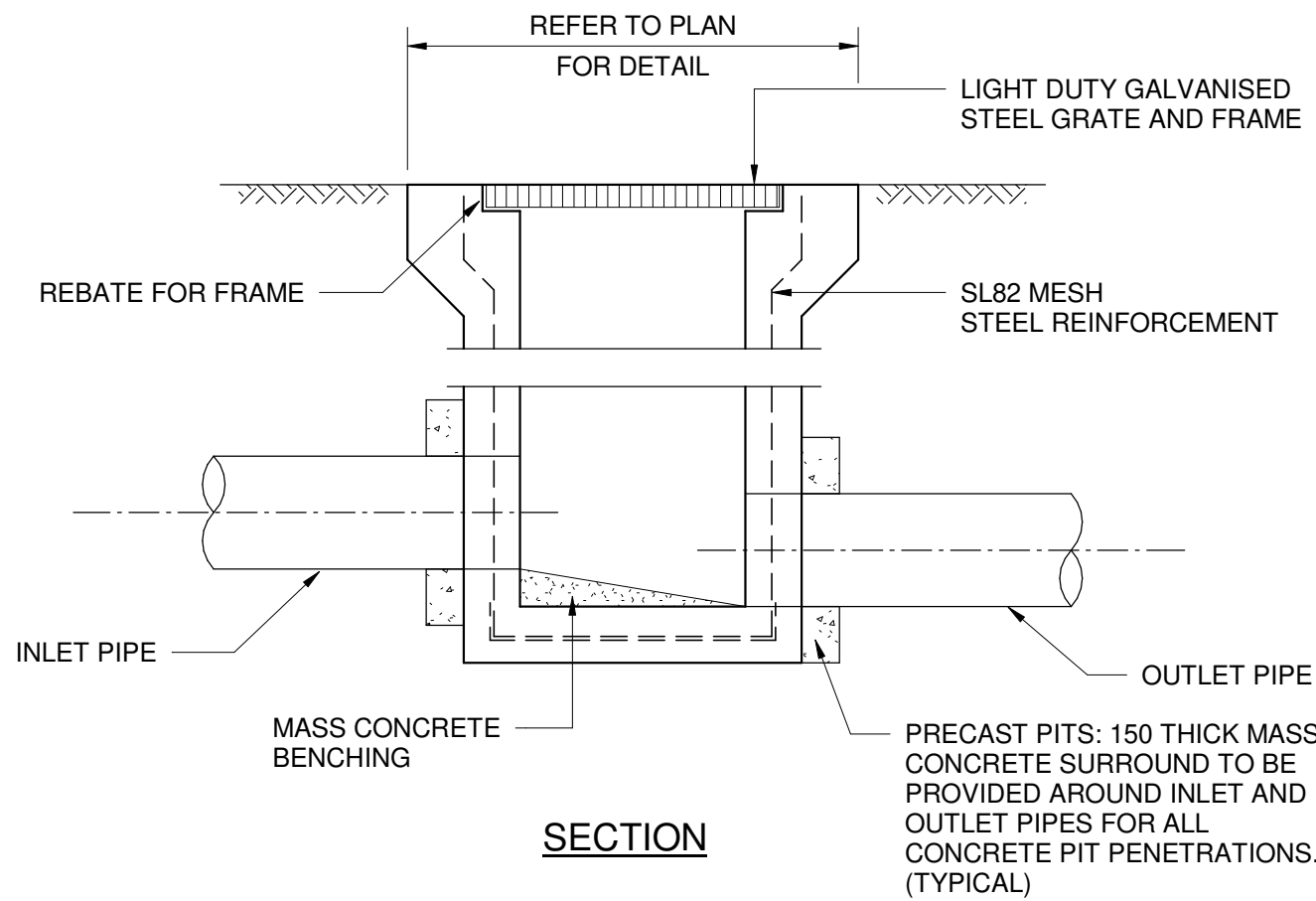
TITLE
CIVIL WORKS DRAINAGE PLAN - SHEET 2

SCALES 1:100 @ A1 DATE AUG' 2024

DRAWN	DESIGN	VERIFIED	APPROVED
C.KE	G.K		

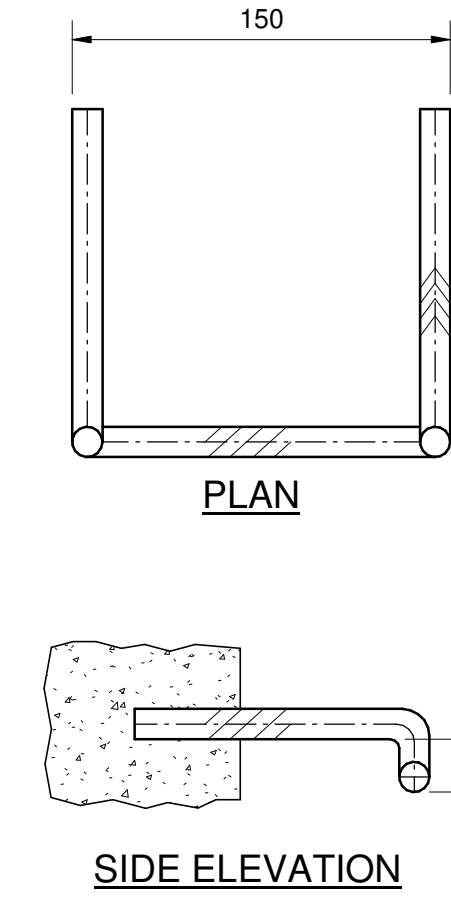
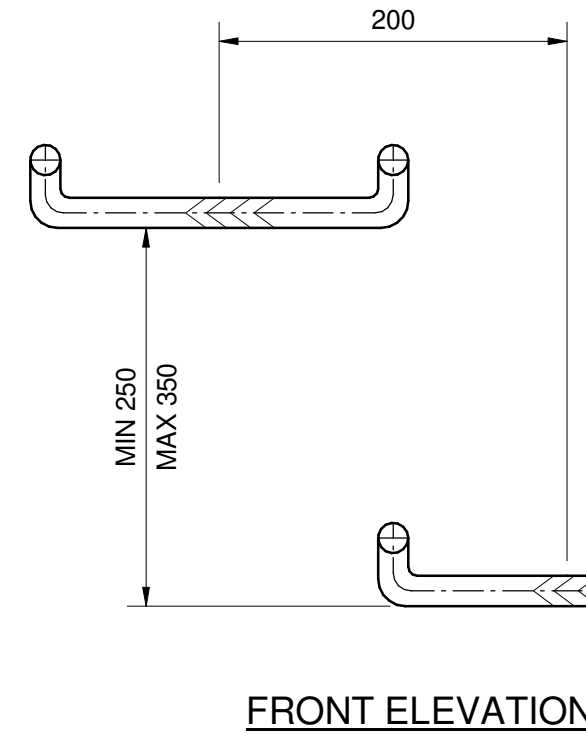
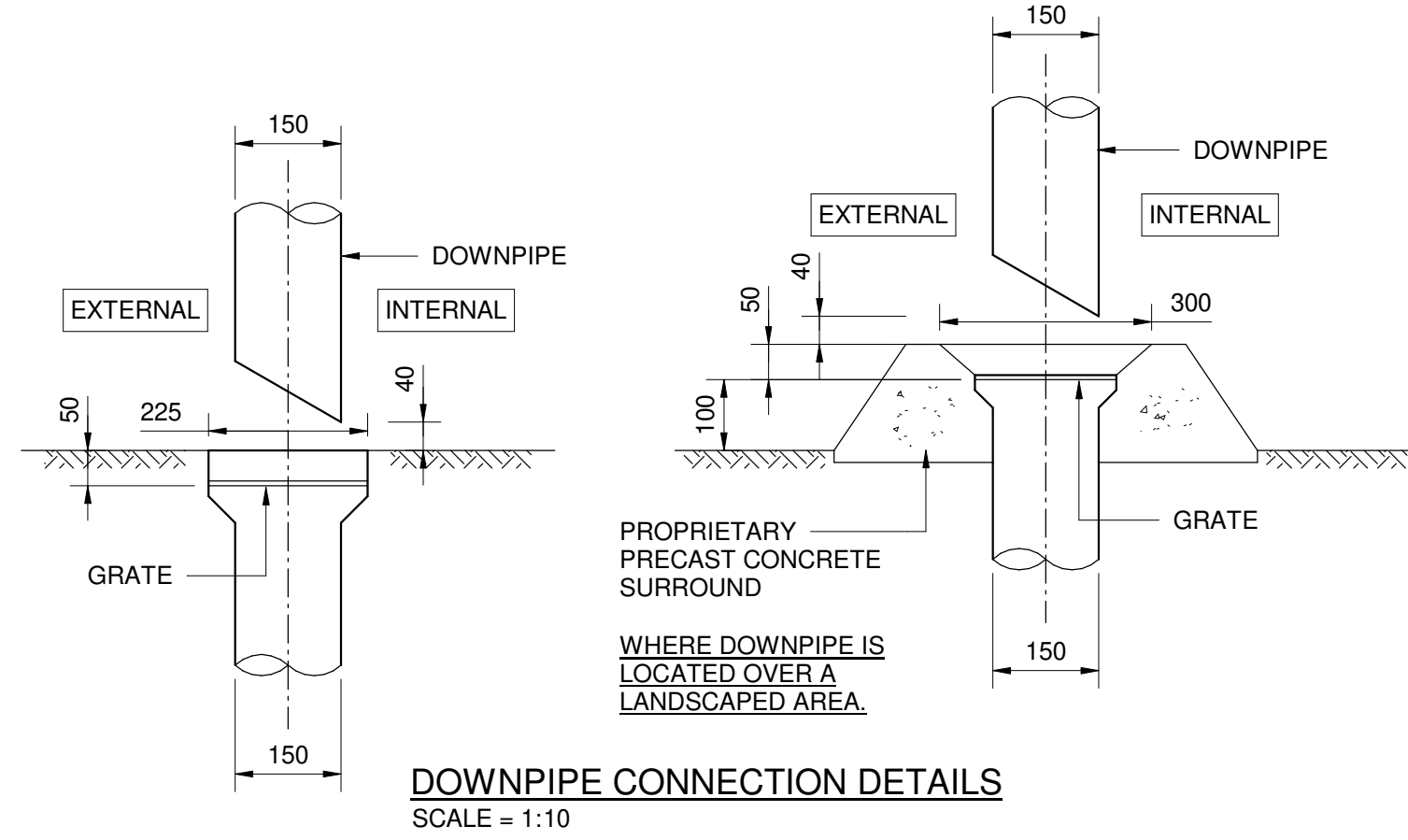
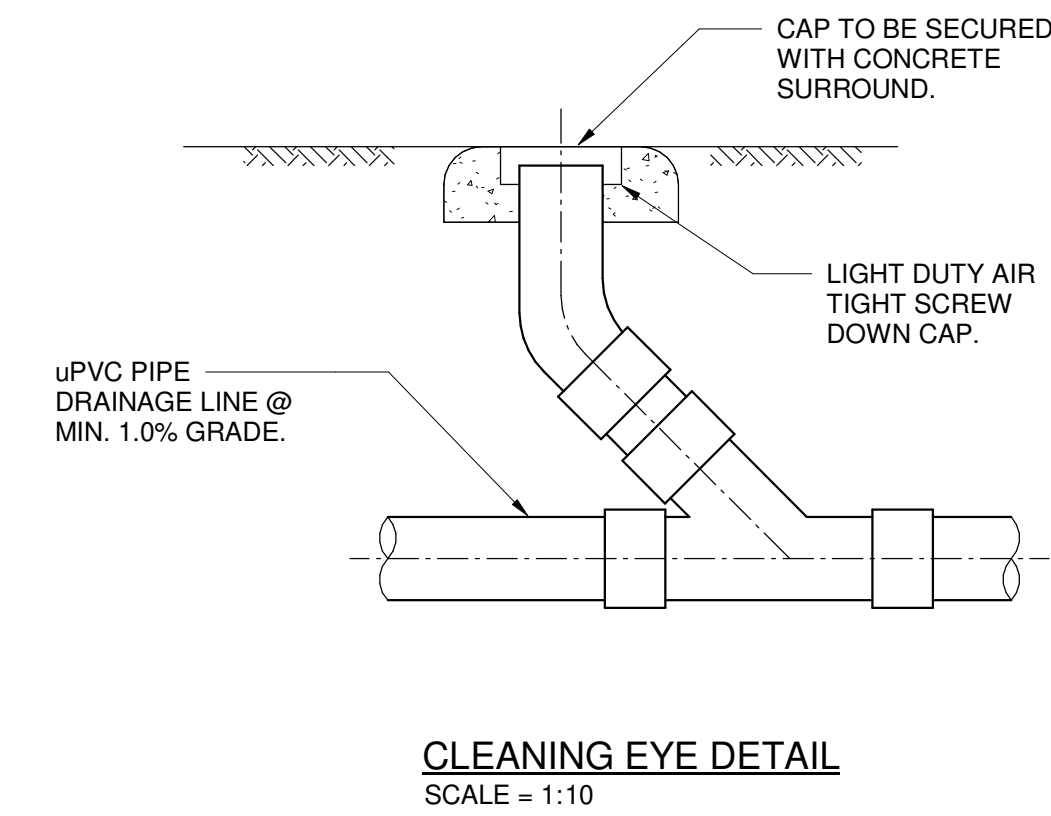
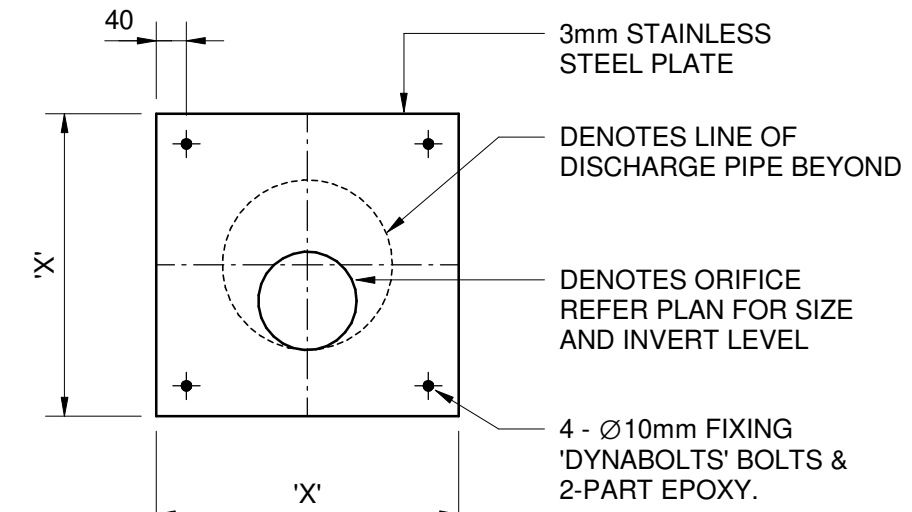
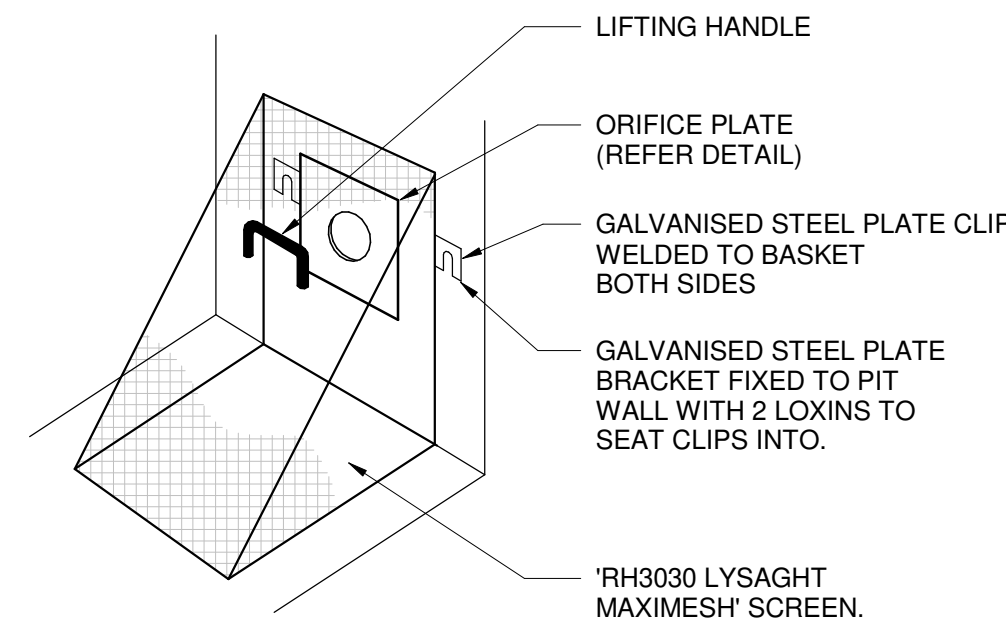
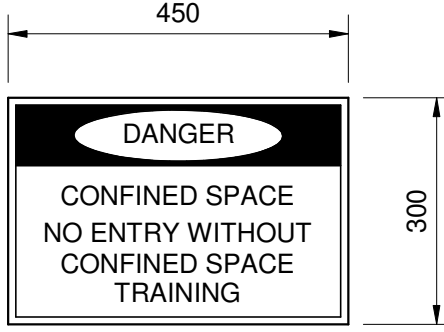
This drawing is the copyright of Birzulis Associates Pty Ltd, and may not be altered, reproduced or transmitted in any form or by any means in part or in whole without the written permission of Birzulis Associates Pty Ltd. All levels and dimensions are to be checked and verified on site prior to the commencement of any work, making of shop drawings or fabrication of components. Do not scale drawings. Use figured dimensions.

ISSUE	PROJECT No.	DRAWING No.
P1	9179	SL_C.22

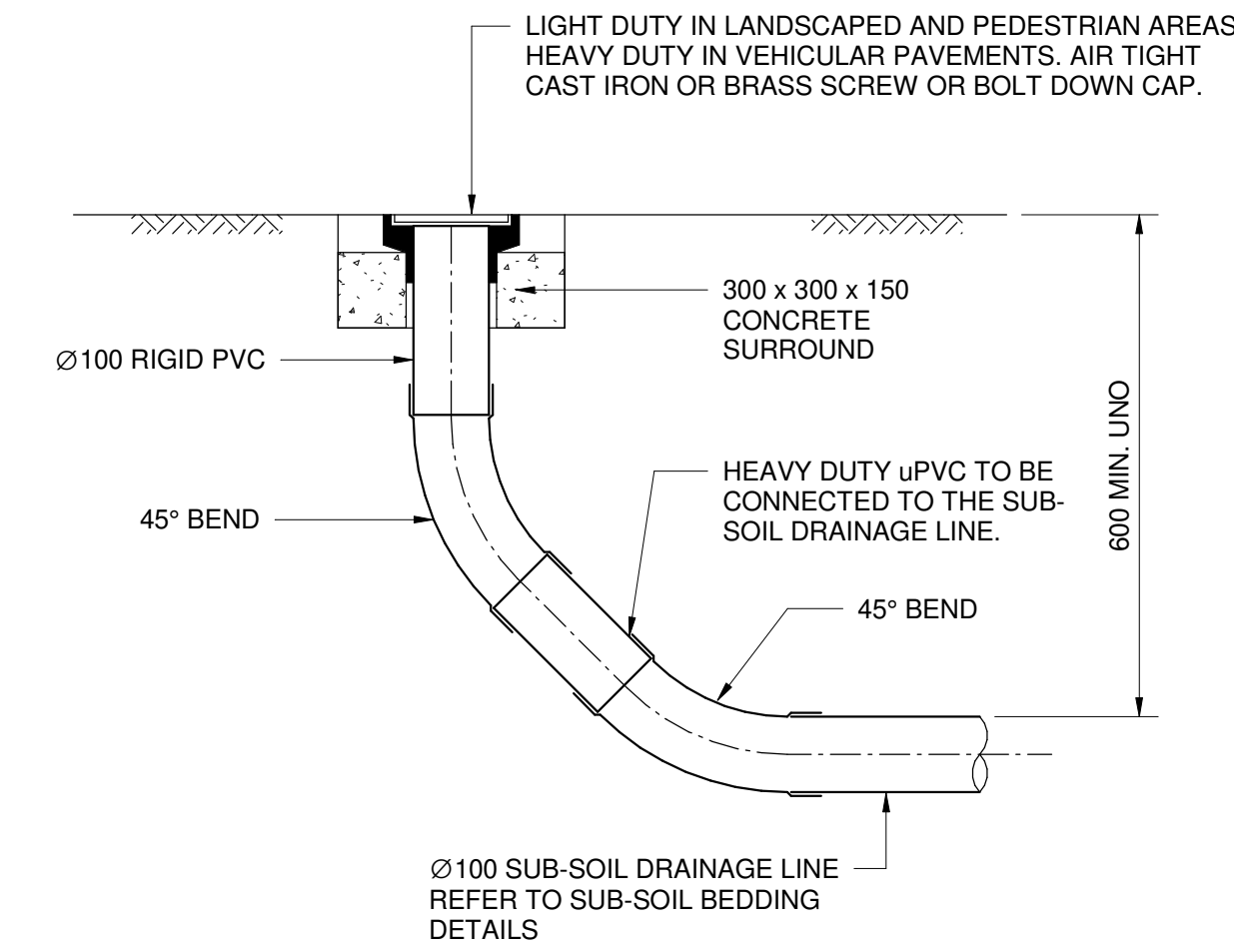
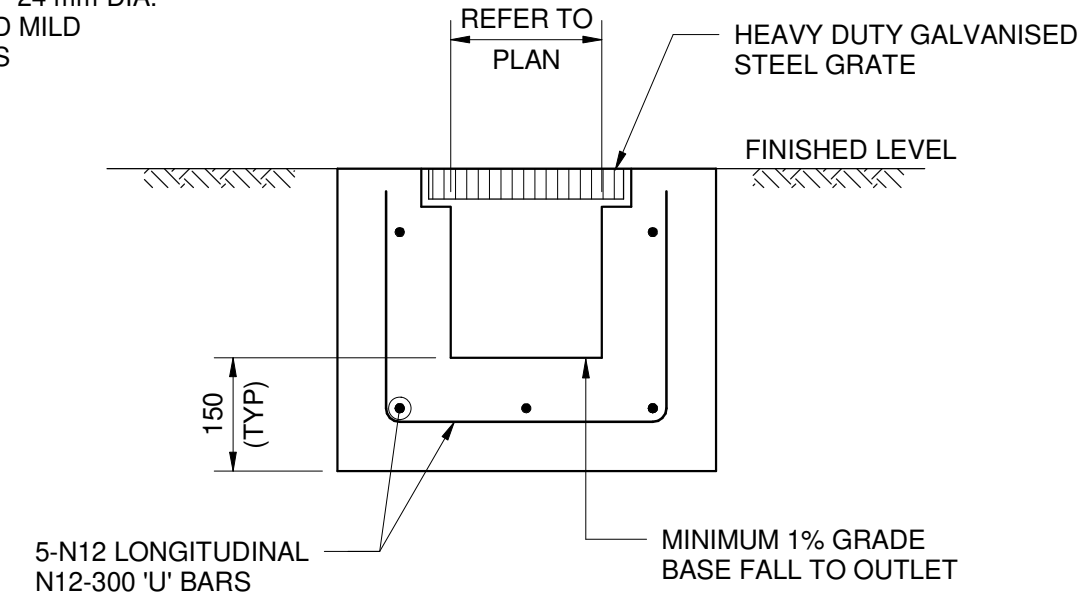


THIS IS AN
ON-SITE STORMWATER
RETENTION SYSTEM
REQUIRED BY LOCAL COUNCIL.
IT IS AN OFFENCE TO REDUCE THE VOLUME
OF THE TANK OR BASKIN UP TO RETENTION
WITH ORIFICE PLATE THAT CONTROLS THE
OUTFLOW.
THE BASE OF THE OUTLET CONTROL PIT AND THE
DEBRIS SCREEN MUST BE CLEARED OF DEBRIS
AND SECURED ON A REGULAR BASIS BY THE
OWNER.
THIS PLATE MUST NOT BE REMOVED.

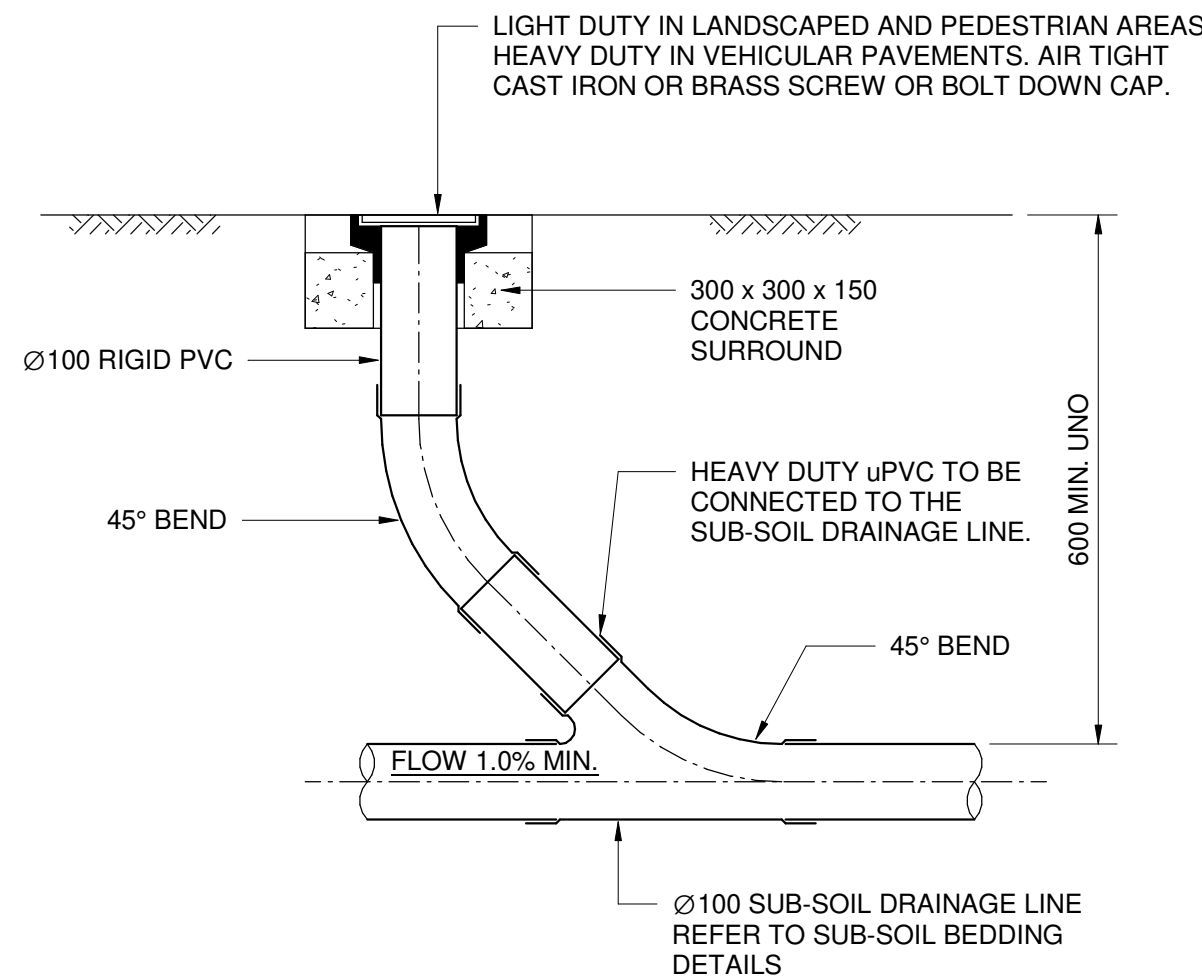
OSD SIGN DETAIL
(NOT TO SCALE)



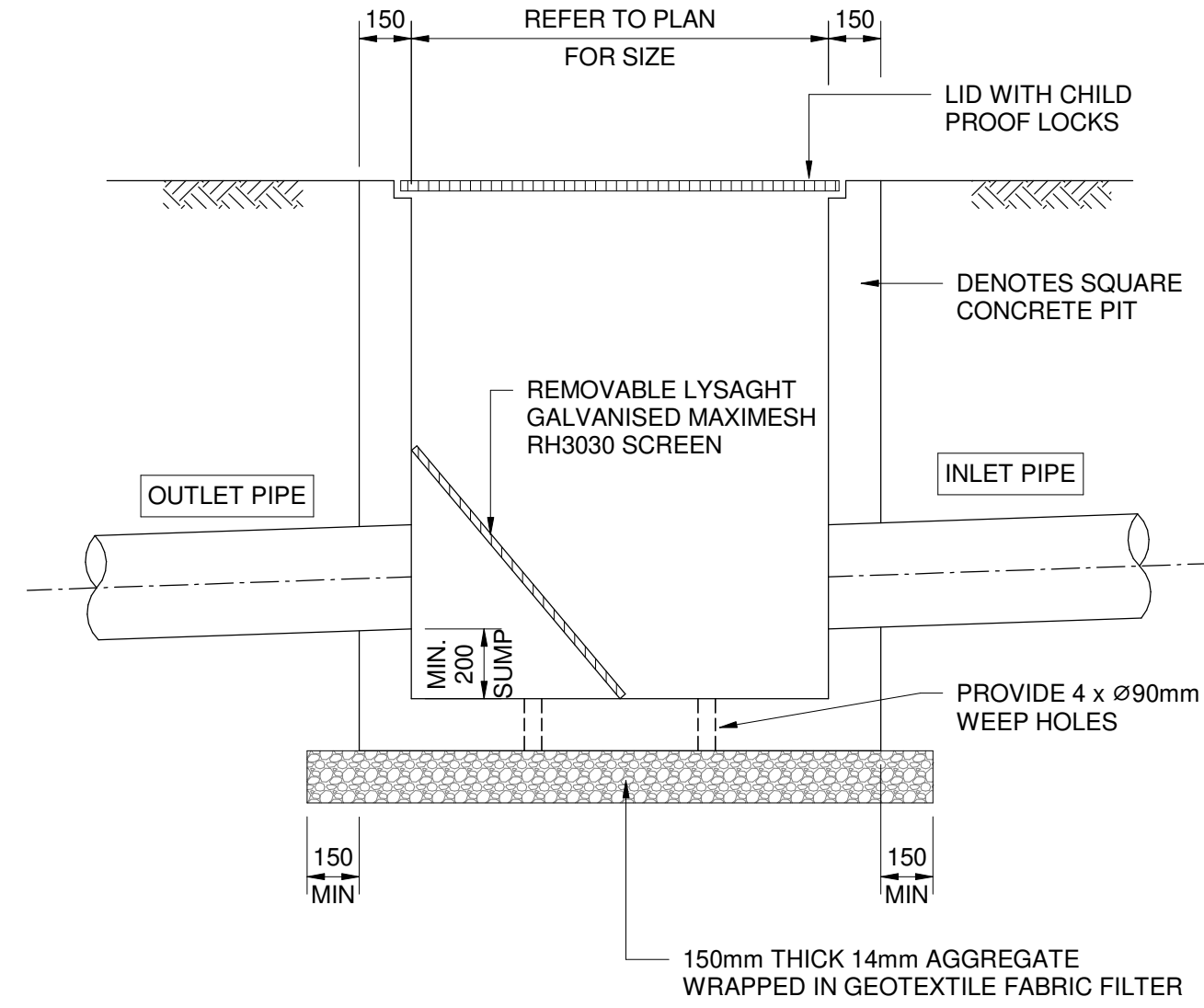
STEP IRON DETAILS
(NOT TO SCALE)
PROVIDE FOR PITS/TANKS GREATER THAN 900mm DEEP



- NOTE: SLOTTED RIGID PVC PIPE AND FITTINGS MAY BE USED
- U.N.O. INSTALL AT UPSTREAM POINTS ALONG SUBSOIL DRAINAGE LINES



- NOTE: SLOTTED RIGID PVC PIPE AND FITTINGS MAY BE USED.
- U.N.O. INSTALL AT UPSTREAM POINTS ALONG SUBSOIL DRAINAGE LINES.
- U.N.O. INSTALL AT MAXIMUM 30m CENTRES ALONG SUBSOIL LINES AND PRIOR TO DISCHARGING TO DRAINAGE STRUCTURES.



QUALIFIED STORMWATER DESIGN ENGINEER: Michael Grogan
NER NUMBER: 2125368

SIGNATURE: *Michael Grogan*

DA ISSUE
NOT FOR CONSTRUCTION

P3	FOR DA ISSUE	02.12.24
P2	80% DA	08.10.24
P1	80% DA	20.08.24
ISSUE	DESCRIPTION	APPROVED DATE

ARCHITECT	LEAP ARCHITECTURE
DESIGN	10/11/24 - 10/11/24
DESIGN	10/11/24 - 10/11/24
DESIGN	10/11/24 - 10/11/24
DESIGN	10/11/24 - 10/11/24

BIRZULIS ASSOCIATES
CONSULTING STRUCTURAL & CIVIL ENGINEERS
583 DARLING STREET, ROZELLE NSW 2039
tel: (02) 9555 7230 email : office@birzulisassociates.com
www.birzulisassociates.com

PROJECT
DANEBANK ANGLICAN SCHOOL FOR GIRLS
- THE SCIENCE LABS BUILDING
83 THE AVENUE, HURSTVILLE, NSW 2220

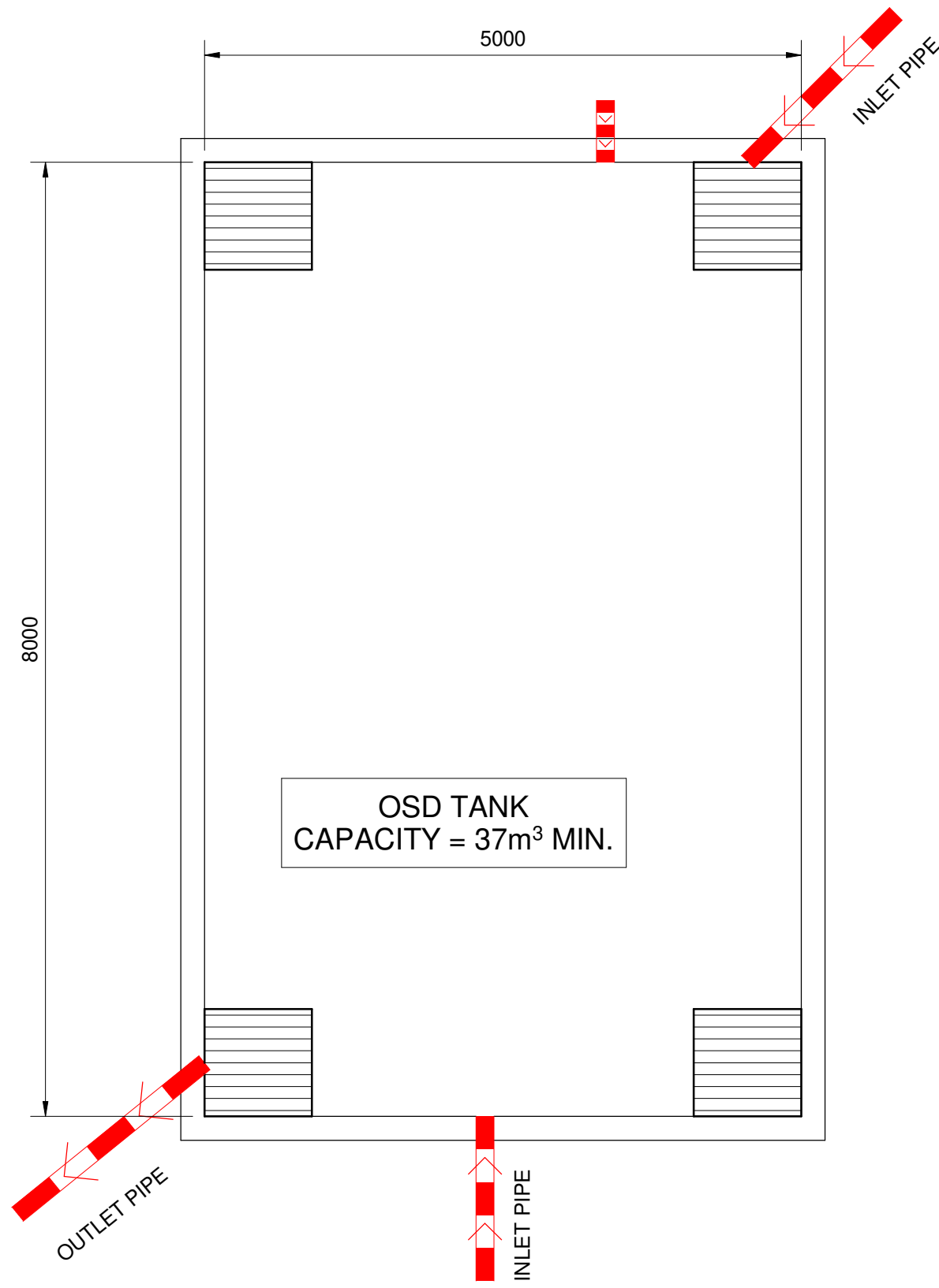
TITLE
STORMWATER DETAILS 01

SCALES	AS NOTED @ A1	DATE	AUG' 2024
DRAWN	DESIGN	VERIFIED	APPROVED
C.KE	G.K		

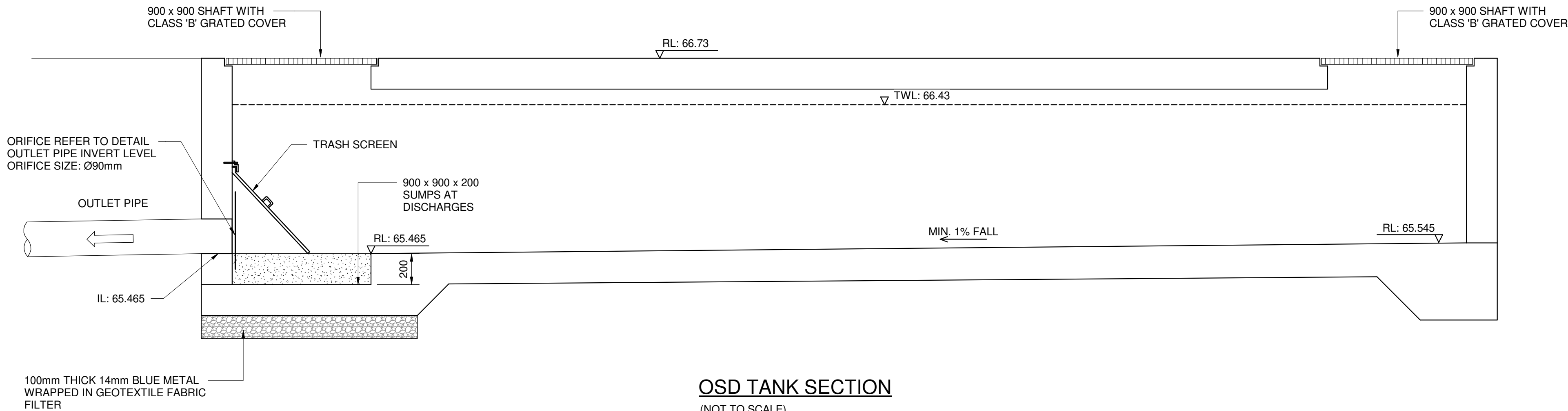
This drawing is the copyright of Birzulis Associates Pty. Ltd. and may not be altered, reproduced or transmitted in any form or by any means in part or in whole without the written permission of Birzulis Associates Pty. Ltd. All levels and dimensions are to be checked and verified on site prior to the commencement of any work, making of shop drawings or fabrication of components. Do not scale drawings. Use figured Dimensions.

ISSUE	PROJECT No.	DRAWING No.
P3	9179	SL_C.30

02/12/2024 11:16:22



OSD TANK PLAN
(NOT TO SCALE)



OSD TANK SECTION
(NOT TO SCALE)

QUALIFIED STORMWATER DESIGN ENGINEER: Michael Grogan
NER NUMBER: 2125368
SIGNATURE: *Michael Grogan*

DA ISSUE
NOT FOR CONSTRUCTION

P3	FOR DA ISSUE		02.12.24
P2	80% DA		08.10.24
P1	60% DA		20.08.24
ISSUE	DESCRIPTION	APPROVED	DATE

ARCHITECT

LEAP
ARCHITECTURE

22/22/2024 11:12:10 10/08/2024 11:12:10
POSTAL: PO Box 208, Newbury NSW 2160
PHONE: 02 9555 7230
EMAIL: info@leaparchitecture.com.au
WEB: www.leaparchitecture.com.au

BIRZULIS
ASSOCIATES

CONSULTING STRUCTURAL & CIVIL ENGINEERS
583 DARLING STREET, ROZELLE NSW 2039
tel: (02) 9555 7230 email: office@birzulisassociates.com
www.birzulisassociates.com

PROJECT
DANEBANK ANGLICAN SCHOOL FOR GIRLS
- THE SCIENCE LABS BUILDING
83 THE AVENUE, HURSTVILLE, NSW 2220

TITLE
OSD TANK DETAILS

SCALES	N/A @ A1	DATE	AUG 2024
DRAWN	DESIGN	VERIFIED	APPROVED
C.KE	G.K		

This drawing is the copyright of Birzulis Associates Pty. and may not be altered, reproduced or transmitted in any form or by any means in part or in whole without the written permission of Birzulis Associates Pty Ltd. All levels and dimensions are to be checked and verified on site prior to the commencement of any work, making of shop drawings or fabrication of components. Do not scale drawings. Use figured Dimensions.

ISSUE	PROJECT No.	DRAWING No.
P3	9179	SL_C.35



QUALIFIED STORMWATER DESIGN ENGINEER: Michael Grogan
 NER NUMBER: 2125368

SIGNATURE: Michael Grogan

BULK EARTHWORKS NOTES:

1. BULK EARTHWORKS LEVELS ARE BASED ON THE FOLLOWING PAVEMENT THICKNESS AND ALLOWANCES:
 - 200mm BUILDING PLATFORM
 - 130mm CONCRETE FOOTPATH
 - 100mm OTHER AREAS
2. THE EXISTING GROUND SURFACE IS NOT LOWERED TO ACCOUNT FOR ANY TPOSSIL/ VEGETATION OR EXISTING PAVEMENTS. STRIPPING VALUE ASSESSMENT TO BE MADE BY CONTRACTOR.
3. BULKING FACTOR OF 1.0 WAS USED FOR BOTH CUT & FILL.
4. NO ALLOWANCE HAS BEEN MADE FOR DETAILED WORKS SUCH AS FOOTINGS, SET DOWN, LIFT PITS, SERVICE TRENCHES & STORMWATER/SUBSOL TRENCHES, TEMP CONSTRUCTION PLATFORMS, STABILISATION, TEMP BATTERS, BENCHING, RETAINING WALL BACKFILL, REMOVAL OF HAZARDOUS MATERIAL OR TEMPORARY SEDIMENT BASINS, OR SOFT EXISTING UNSUITABLE MATERIAL, UPPER CARPARK OSD, PIPE AND PIT OSDs AND THE LOWER CARPARK PAVEMENT FOR ABOVE GROUND LEVELS TO BE ACHIEVED. DETAILED SUBGRADE EXCAVATION IS REQUIRED IN VICINITY OF OSD 2.
5. THIS PLAN IS PREPARED FOR INFORMATION PURPOSES ONLY AND IS INDICATIVE ONLY. EARTH WORKS CONTRACTOR IS TO VERIFY ALL LEVELS AND QUANTITIES AND PERFORM THEIR OWN BULK EARTHWORK ASSESSMENT. SOME FILL AND CUT HAS BEEN SHOWN BASED ON ASSUMED LANDSCAPE PROFILING AND IS THE RESPONSIBILITY OF OTHERS

DA ISSUE
NOT FOR CONSTRUCTION

ARCHITECT

LEAF
ARCHITECTURE

 BIRZULIS ASSOCIATES			
CONSULTING STRUCTURAL & CIVIL ENGINEERS			
583 DARLING STREET ROZELLE NSW 2039			
tel: (02) 9555 7230		email: office@birzulisassociates.com	
www.birzulisassociates.com			
PROJECT			
DANEBAUN ANGLICAN SCHOOL FOR GIRLS - SCIENCE LABS BUILDING			
83-85 THE AVENUE, HURSTVILLE, NSW 2220			
TITLE			
BULK EXCAVATION AND CUT & FILL PLAN			
SCALES		DATE AUG* 2024	
as noted @ A1			
DRAWN C.K.E	DESIGN M.G	VERIFIED	APPROVED
This drawing is the copyright of Birzulis Associates Pty. and may not be altered, reproduced or transmitted in any form or by any means in part or in whole without the written permission of Birzulis Associates Pty Ltd. All levels and dimensions to be checked and verified on site prior to the commencement of any work, making of shop drawings or fabrication of components. Do not scale drawings. Use figured Dimensions.			
ISSUE	PROJECT No.	DRAWING No.	
P4	9179	SL_C.40	

