




DEVELOPMENT APPLICATION CIVIL ENGINEERING PACKAGE



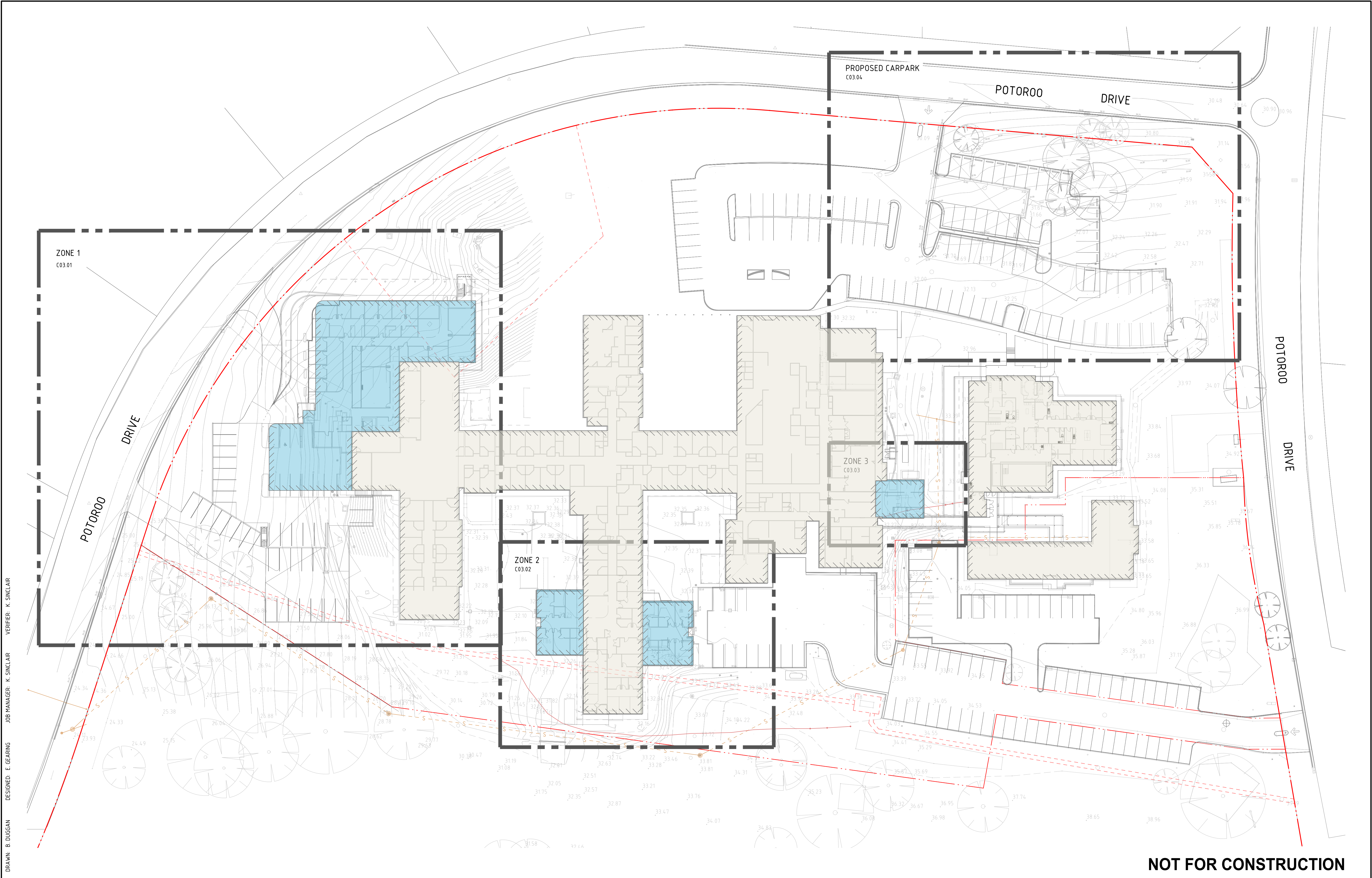
IMAGE SOURCE : NEARMAPS

DWG NO	DRAWING TITLE
DA-C01.01	COVER SHEET, DRAWING LIST AND LOCALITY PLAN
DA-C01.11	GENERAL ARRANGEMENT PLAN
DA-C02.01	EROSION AND SEDIMENT CONTROL PLAN
DA-C03.01	CIVIL WORKS PLAN - SHEET 1
DA-C03.02	CIVIL WORKS PLAN - SHEET 2
DA-C03.03	CIVIL WORKS PLAN - SHEET 3
DA-C03.04	CIVIL WORKS PLAN - SHEET 4
DA-C04.01	STORMWATER DETAILS

NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT	ARCHITECT		ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE COMMENCING WORK. NORTHROP ACCEPTS NO RESPONSIBILITY FOR THE USABILITY, COMPLETENESS OR SCALE OF DRAWINGS TRANSFERRED ELECTRONICALLY. THIS DRAWING MAY HAVE BEEN PREPARED USING COLOUR, AND MAY BE INCOMPLETE IF COPIED TO BLACK & WHITE.		PROJECT	DRAWING TITLE	JOB NUMBER	
1	ISSUED FOR INFORMATION	BD		KS	15.06.22				Level 1, 215 Pacific Hwy, Charlestown NSW 2290 Ph (02) 4943 1777 Email newcastle@northrop.com.au ABN 81 094 433 100	MAYO PRIVATE HOSPITAL POTOROO DRIVE TAREE NSW 2430	CIVIL ENGINEERING PACKAGE COVER SHEET, DRAWING LIST AND LOCALITY PLAN	NL212450		
A	ISSUED FOR DA APPROVAL	BD	KS	22.07.22										
B	RE-ISSUED FOR DA APPROVAL	DM	KS	07.12.22										
						DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED	THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD				DRAWING NUMBER DA-C01.01	REVISION B		
														DRAWING SHEET SIZE = A1

DRAWN: B. DUGGAN DESIGNED: E. GEARING JOB MANAGER: K. SINCLAIR VERIFIER: K. SINCLAIR



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C	RE-ISSUED FOR DA APPROVAL	DM	KS	16.06.23	

CLIENT	ARCHITECT
healthcare	HS PC
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SCALE	0	4	8	12	16	20m
SCALE 1:400@A1						

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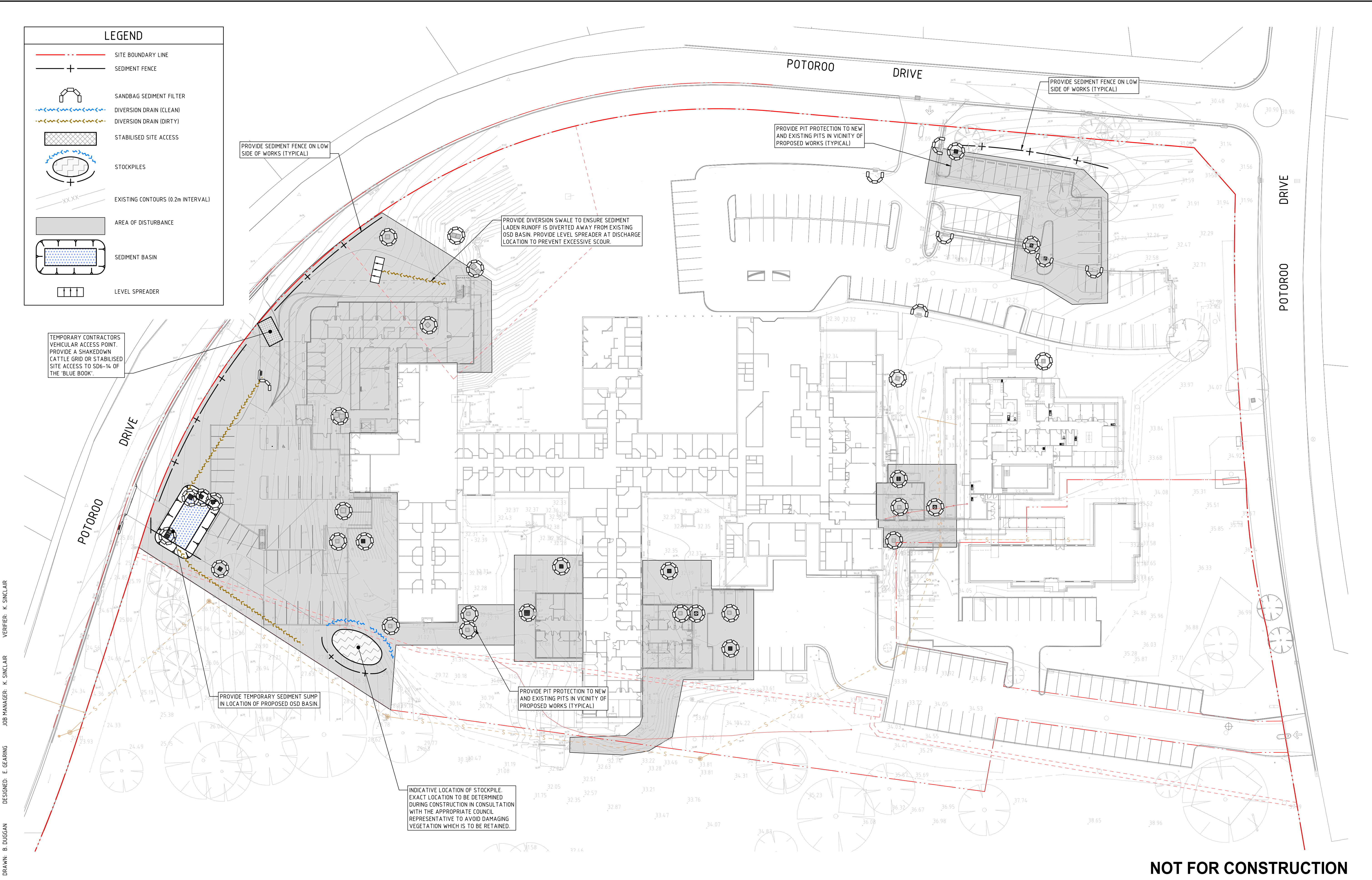


NORTHROP
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Ph (02) 4943 1777 Email newcastle@northrop.com.au
ABN 81 094 433 100

PROJECT
MAYO PRIVATE HOSPITAL POTOROO DRIVE TAREE NSW 2430

DRAWING TITLE
CIVIL ENGINEERING PACKAGE GENERAL ARRANGEMENT PLAN

JOB NUMBER	
NL212450	
DRAWING NUMBER	REVISION
DA-C01.11	C
DRAWING SHEET SIZE = A1	



LEGEND

SITE BOUNDARY LINE

SEDIMENT FENCE

SANDBAG SEDIMENT FILTER

DIVERSION DRAIN (CLEAN)

DIVERSION DRAIN (DIRTY)

STABILISED SITE ACCESS

STOCKPILES

EXISTING CONTOURS (0.2m INTERVAL)

AREA OF DISTURBANCE

SEDIMENT BASIN

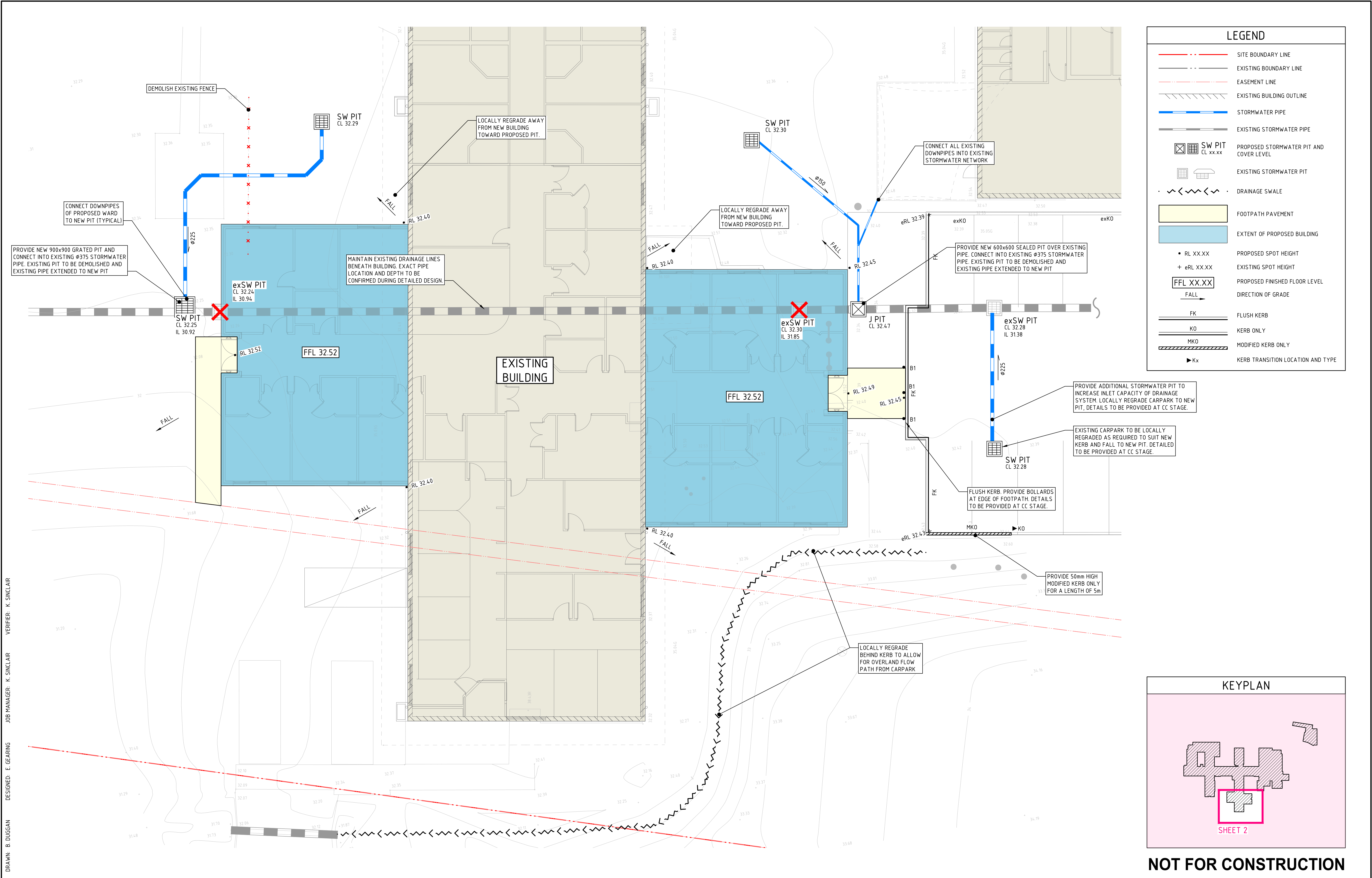
LEVEL SPREADER

TEMPORARY CONTRACTORS VEHICULAR ACCESS POINT. PROVIDE A SHAKEDOWN CATTLE GRID OR STABILISED SITE ACCESS TO SD6-14 OF THE 'BLUE BOOK'.

NOT FOR CONSTRUCTION

<div>REVISION</div> <table><tr><td>1</td><td>ISSUED FOR INFORMATION</td><td>BD</td><td>KS</td><td>15.06.22</td></tr><tr><td>A</td><td>ISSUED FOR DA APPROVAL</td><td>BD</td><td>KS</td><td>22.07.22</td></tr><tr><td>B</td><td>RE-ISSUED FOR DA APPROVAL</td><td>DM</td><td>KS</td><td>07.12.22</td></tr><tr><td>C</td><td>RE-ISSUED FOR DA APPROVAL</td><td>DM</td><td>KS</td><td>16.06.23</td></tr></table>		1	ISSUED FOR INFORMATION	BD	KS	15.06.22	A	ISSUED FOR DA APPROVAL	BD	KS	22.07.22	B	RE-ISSUED FOR DA APPROVAL	DM	KS	07.12.22	C	RE-ISSUED FOR DA APPROVAL	DM	KS	16.06.23	<div>ISSUED</div> <div>VER'D</div> <div>APP'D</div> <div>DATE</div>		<div>CLIENT</div> <div>healthcare</div>	<div>ARCHITECT</div> <div>HSPC</div>	<div>SCALE 1:400@A1</div> <div>0 4 8 12 16 20m</div>	<div>ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE COMMENCING WORK. NORTHROP ACCEPTS NO RESPONSIBILITY FOR THE USABILITY, COMPLETENESS OR SCALE OF DRAWINGS TRANSFERRED ELECTRONICALLY. THIS DRAWING MAY HAVE BEEN PREPARED USING COLOUR, AND MAY BE INCOMPLETE IF COPIED TO BLACK & WHITE.</div> <div><div>NORTHROP</div><div>Newcastle</div><div>Level 1, 215 Pacific Hwy, Charlestown NSW 2290</div><div>Ph (02) 4943 1777 Email newcastle@northrop.com.au ABN 81 094 433 100</div></div>	<div>PROJECT</div> <div>MAYO PRIVATE HOSPITAL</div> <div>POTOROO DRIVE</div> <div>TAREE NSW</div> <div>2430</div>	<div>DRAWING TITLE</div> <div>CIVIL ENGINEERING PACKAGE</div> <div>EROSION AND SEDIMENT CONTROL</div> <div>PLAN</div>	<div>JOB NUMBER</div> <div>NL212450</div> <div>DRAWING NUMBER</div> <div>DA-C02.01</div> <div>REVISION</div> <div>C</div>
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DRAWING SHEET SIZE = A1



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DESIGNED: E. GEARING
JOB MANAGER: K. SINCLAIR
VERIFIER: K. SINCLAIR

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healthcare	HSPC

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SCALE 1:100 @ A1

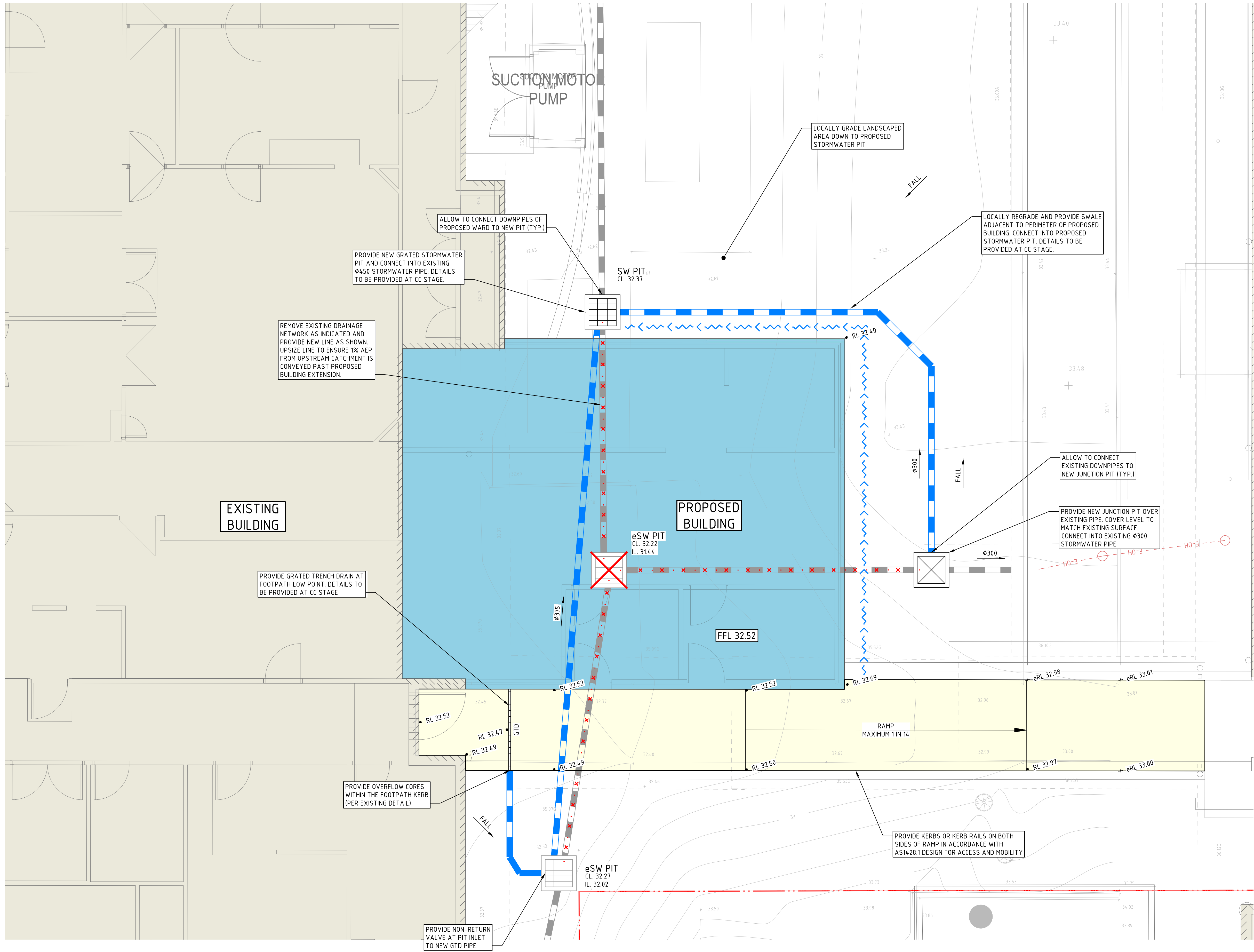
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POTOROO DRIVE TAREE NSW 2430

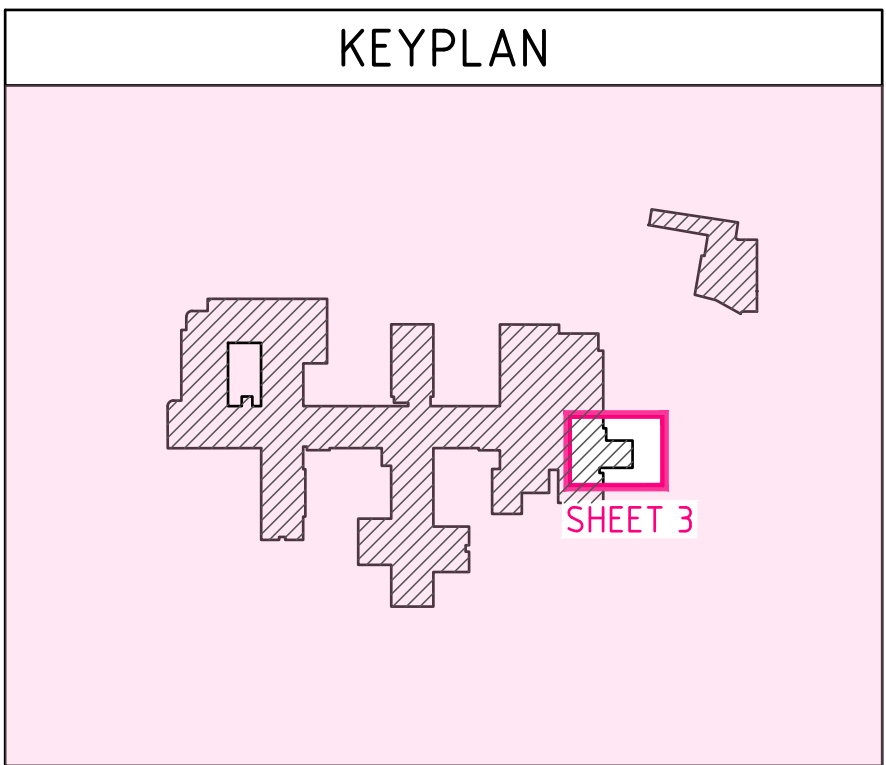
DRAWING TITLE
CIVIL ENGINEERING PACKAGE
CIVIL WORKS PLAN - SHEET 2

JOB NUMBER
NL212450
DRAWING NUMBER
DA-C03.02
REVISION
B
DRAWING SHEET SIZE = A1

DRAWN: B. DUGGAN
DESIGNED: E. GEARING
JOB MANAGER: K. SINCLAIR
VERIFIER: K. SINCLAIR



LEGEND	
	SITE BOUNDARY LINE
	EXISTING BOUNDARY LINE
	EASEMENT LINE
	EXISTING BUILDING OUTLINE
	PROPOSED BUILDING
	STORMWATER PIPE
	EXISTING STORMWATER PIPE
	EXISTING STORMWATER PIPE TO BE REMOVED
	PROPOSED STORMWATER PIT AND COVER LEVEL
	EXISTING STORMWATER PIT
	GRATED TRENCH DRAIN
	FOOTPATH PAVEMENT
	PROPOSED SPOT HEIGHT
	EXISTING SPOT HEIGHT
	PROPOSED FINISHED FLOOR LEVEL
	DIRECTION OF GRADE
	BIORETENTION SWALE



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CLIENT
healthcare

ARCHITECT
HSPC

SCALE
1:50 @ A1

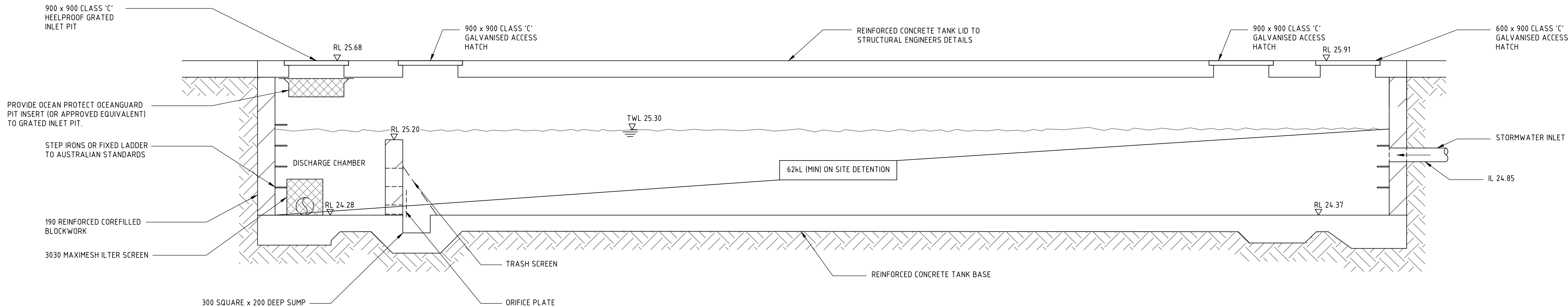
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TAREE NSW
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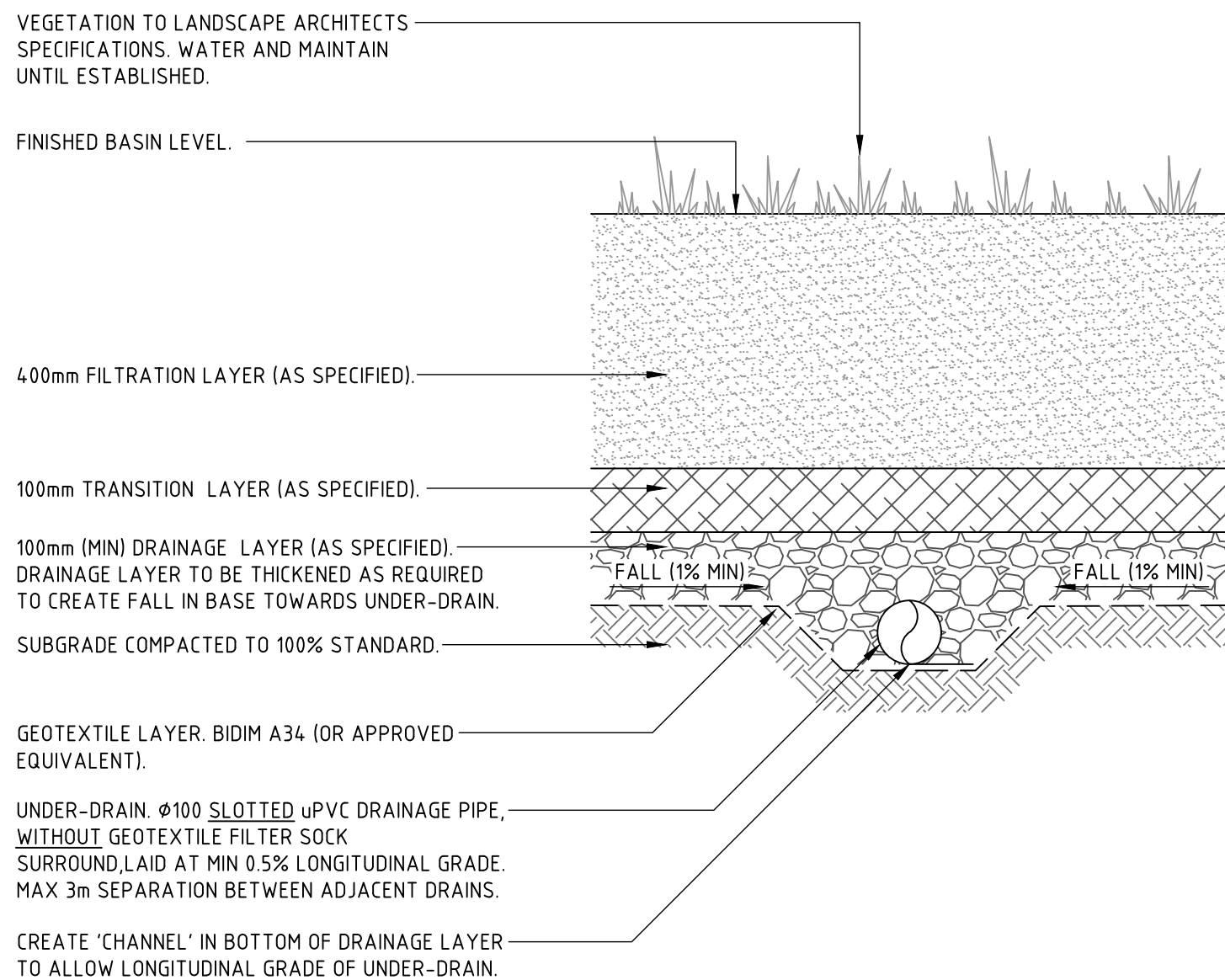
DRAWING TITLE
CIVIL ENGINEERING PACKAGE
CIVIL WORKS PLAN - SHEET 3

JOB NUMBER
NL212450
DRAWING NUMBER
DA-C03.03
REVISION
B

VERIFIER: K. SINCLAIR
JOB MANAGER: K. SINCLAIR
DESIGNED: E. GEARING
DRAWN: B. DUGGAN



OSD TANK SCHEMATIC



BIOFILTRATION MATERIAL SPECIFICATION

FILTRATION LAYER
HYDRAULIC CONDUCTIVITY ~ 200-300mm/hr

PARTICLE SIZE DISTRIBUTION		
CLAY AND SILT	~ 3%	($\leq 0.05\text{mm}$)
VERY FINE SAND	~ 5-30%	(0.05-0.15mm)
FINE SAND	~ 10-30%	(0.15-0.25mm)
MEDIUM TO COARSE SAND	~ 40-60%	(0.25-1.0mm)
COARSE SAND	~ 7-10%	(1.0-2.0mm)
FINE GRAVEL	~ <3%	(2.0-3.4mm)

SOIL-BASED FILTER MEDIA PROPERTIES

TOTAL NITROGEN (TN) CONTENT	~ <800 mg/kg
ORTHOPHOSPHATE (PO_4^{3-}) CONTENT	~ <55 mg/kg
ORGANIC MATTER CONTENT	~ >3%
pH	~ 5.5-7.5
ELECTRICAL CONDUCTIVITY (EC)	~ <12 dS/m




TRANSITION LAYER	
CLEAN, WELL-GRADED SAND / COARSE SAND MATERIAL.	
% PASSING	
~ 1.4mm	100%
~ 1.0mm	80%
~ 0.7mm	44%
~ 0.5mm	8.4%

DRAINAGE LAYER
CLEAN, FINE GRAVEL (2-5mm WASHED SCREENINGS)

(REF: GUIDELINE SPECIFICATIONS FOR FILTER MEDIA IN BIORETENTION SYSTEMS, FACILITY FOR ADVANCING WATER BIOFILTRATION (2009))

BIOFILTRATION SYSTEM TYPICAL SECTION

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