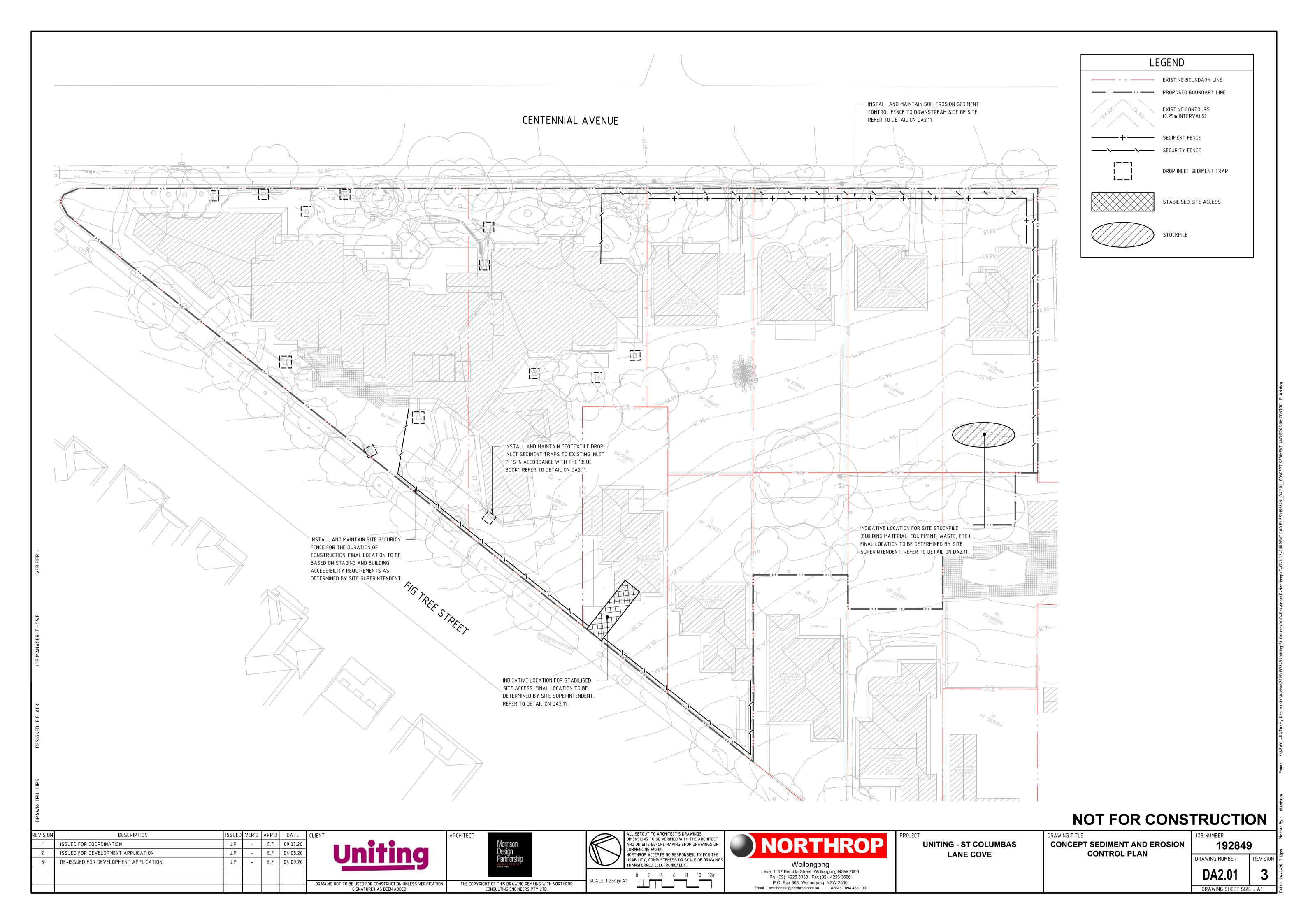
FIG TREE STREET, LANE COVE NSW CIVIL ENGINEERING WORKS PACKAGE



	DRAWING SCHEDULE
DRG No.	DRAWING TITLE
DA1.01	COVERSHEET, DRAWING SCHEDULE AND LOCALITY PLAN
DA2.01	CONCEPT SEDIMENT AND EROSION CONTROL PLAN
DA2.11	SEDIMENT AND EROSION CONTROL DETAILS
DA3.01	CONCEPT BULK EARTHWORKS PLAN
DA4.01	STORMWATER MANAGEMENT PLAN
DA5.01	SITEWORKS AND GRADING PLAN
DA6.01	OSD DETAILS
DA7.01	RAMP LONGITUDINAL SECTION
DA8.01	CATCHMENT PLAN AND DESIGN SUMMARY

NOT FOR CONSTRUCTION

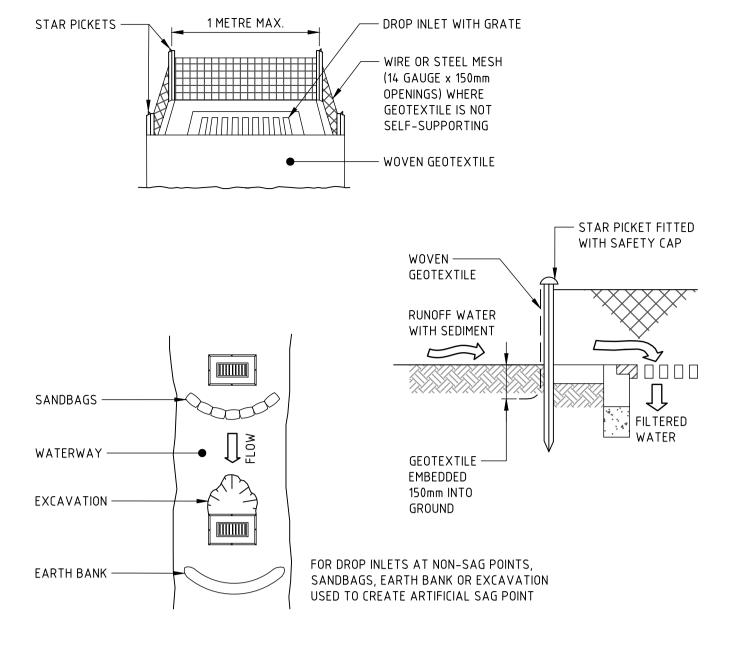
ALL SETOUT TO ARCHITECT'S DRAWINGS, DIMENSIONS TO BE VERIFIED WITH THE ARCHITECT DESCRIPTION **UNITING - ST COLUMBAS** COVERSHEET, DRAWING SCHEDULE 192849 ISSUED FOR COORDINATION E.F 09.03.20 AND ON SITE BEFORE MAKING SHOP DRAWINGS OF COMMENCING WORK. AND LOCALITY PLAN E.F 04.08.20 ISSUED FOR DEVELOPMENT APPLICATION LANE COVE NORTHROP ACCEPTS NO RESPONSIBILITY FOR THE DRAWING NUMBER USABILITY, COMPLETENESS OR SCALE OF DRAWINGS TRANSFERRED ELECTRONICALLY. E.F 04.09.20 RE-ISSUED FOR DEVELOPMENT APPLICATION Wollongong
Level 1, 57 Kembla Street, Wollongong NSW 2500
Ph (02) 4226 3333 Fax (02) 4226 3666 P.O. Box 863, Wollongong, NSW 2500
Email southcoast@northrop.com.au ABN 81 094 433 100 THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION DRAWING SHEET SIZE = A1



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 1.5 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.

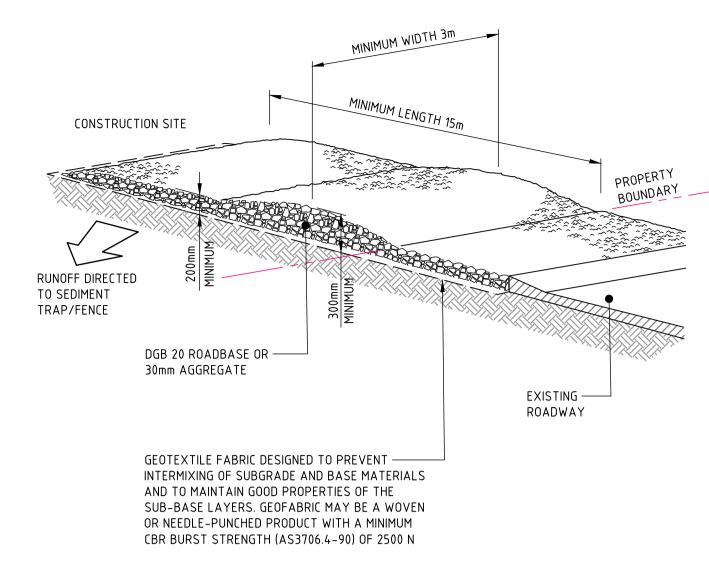
SEDIMENT FENCE



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.

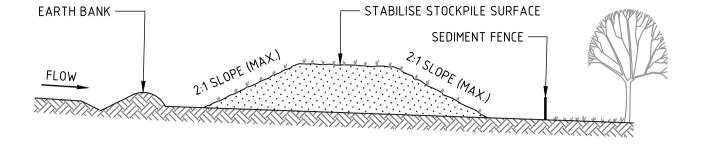
GEOTEXTILE INLET FILTER TRAPS



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
- 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



CONSTRUCTION NOTES

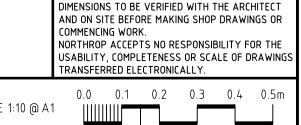
- 1. PLACE STOCKPILES MORE THAN 2m (PREFERABLY 5m) FROM EXISTING VEGETATION, CONCENTRATED WATER FLOW, ROADS AND HAZARD AREAS.
- CONSTRUCT ON THE CONTOUR AS LOW, FLAT, ELONGATED MOUNDS.
- WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2m IN HEIGHT.
- WHERE THEY ARE TO BE IN PLACE 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 2m DOWNSLOPE.

STOCKPILE

NOT FOR CONSTRUCTION

DESCRIPTION E.F 09.03.20 ISSUED FOR COORDINATION ISSUED FOR DEVELOPMENT APPLICATION E.F 04.08.20 E.F 04.09.20 RE-ISSUED FOR DEVELOPMENT APPLICATION







UNITING - ST COLUMBAS LANE COVE

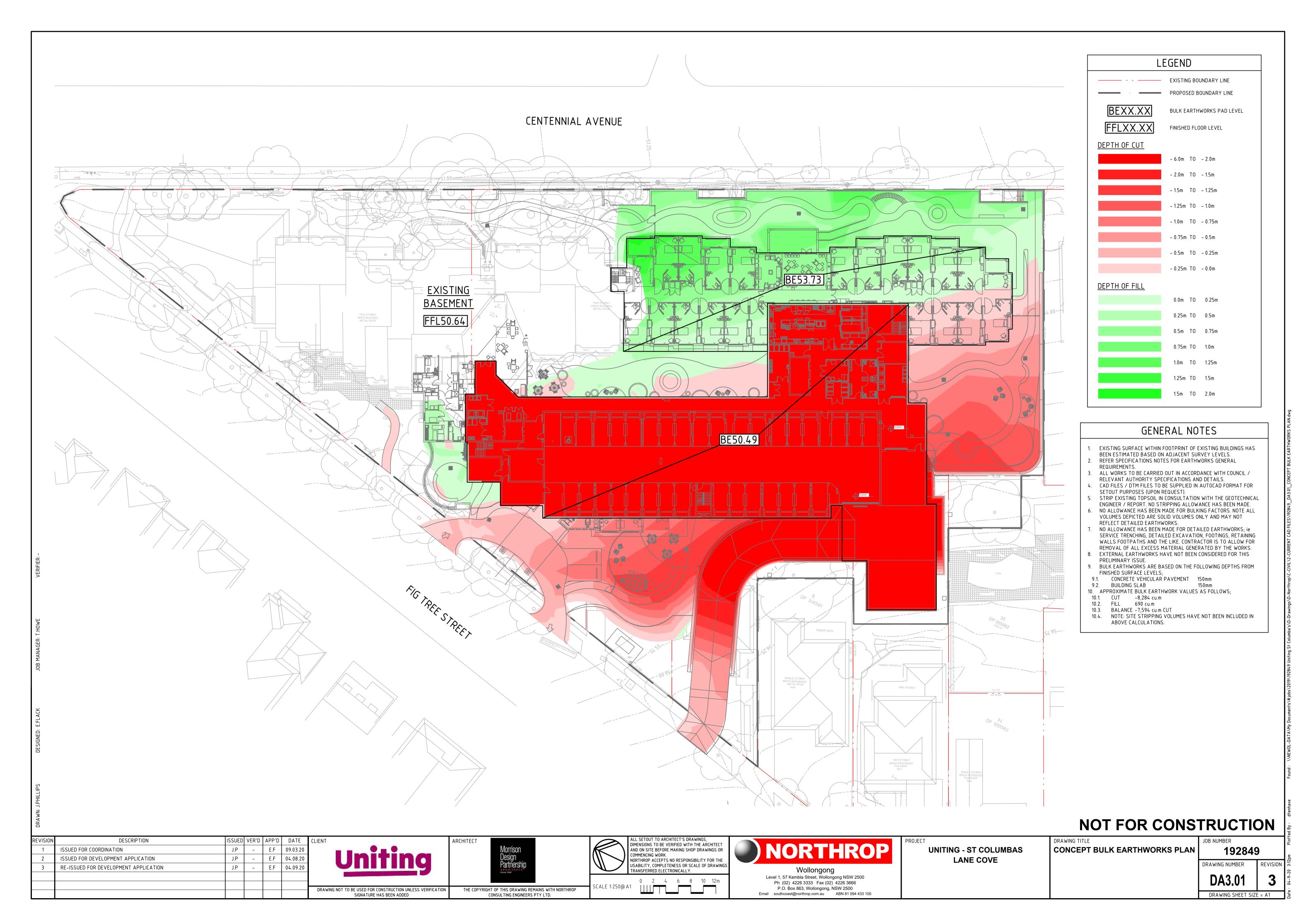
SEDIMENT AND EROSION CONTROL DETAILS

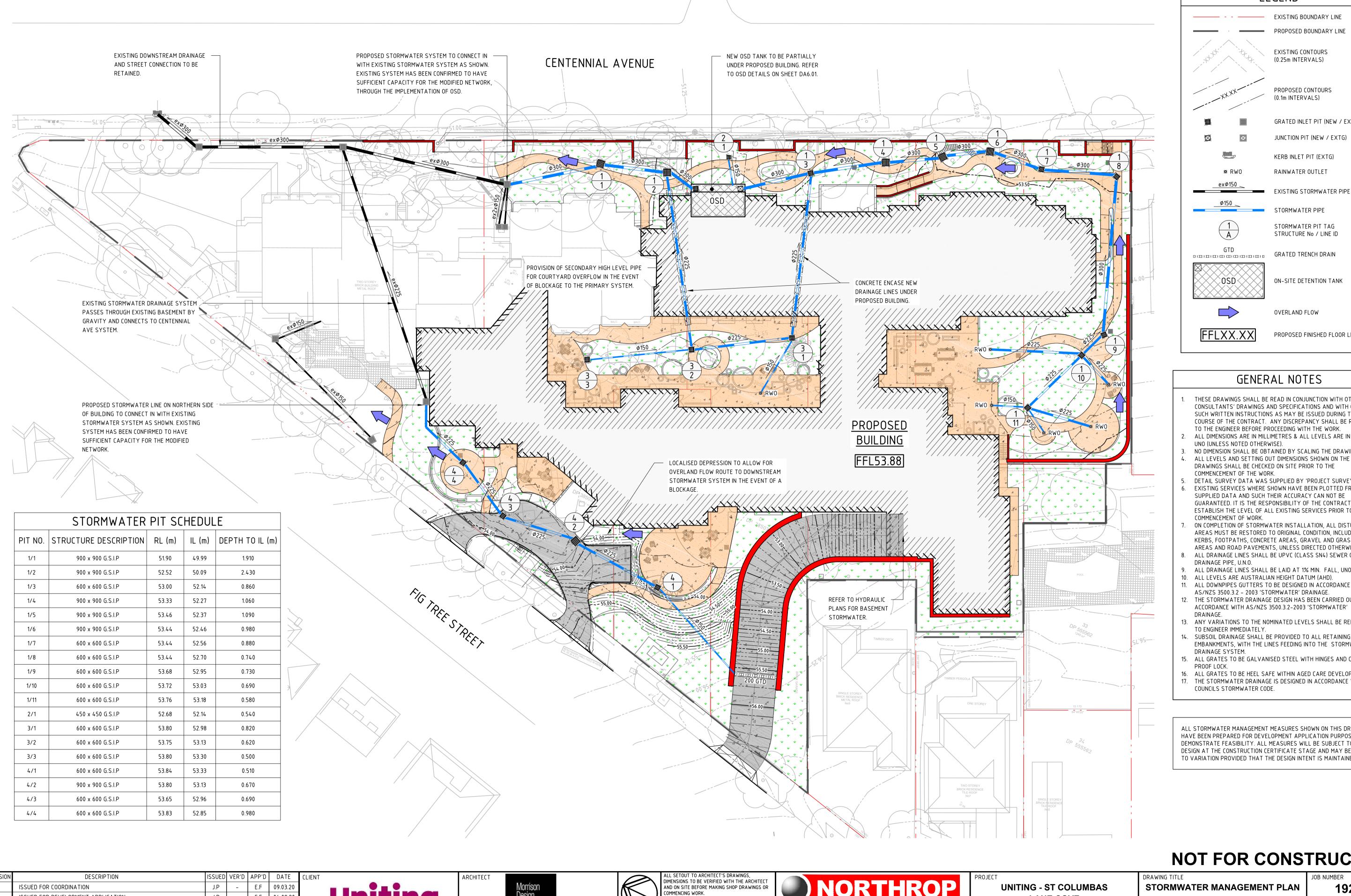
192849 DRAWING NUMBER

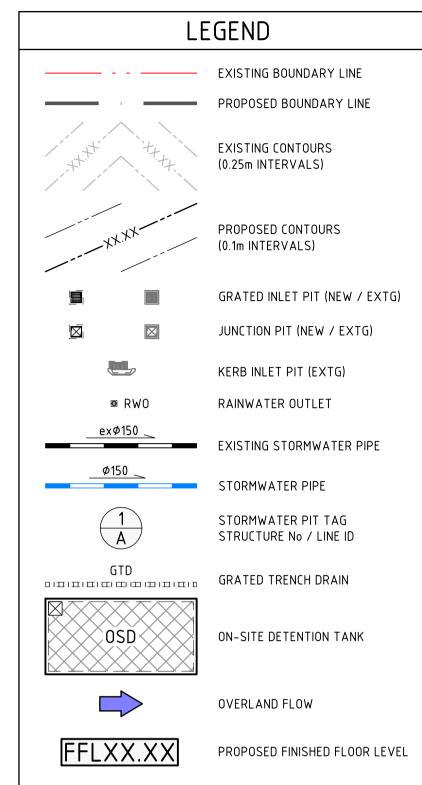
DRAWING SHEET SIZE = A1

DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP SIGNATURE HAS BEEN ADDED

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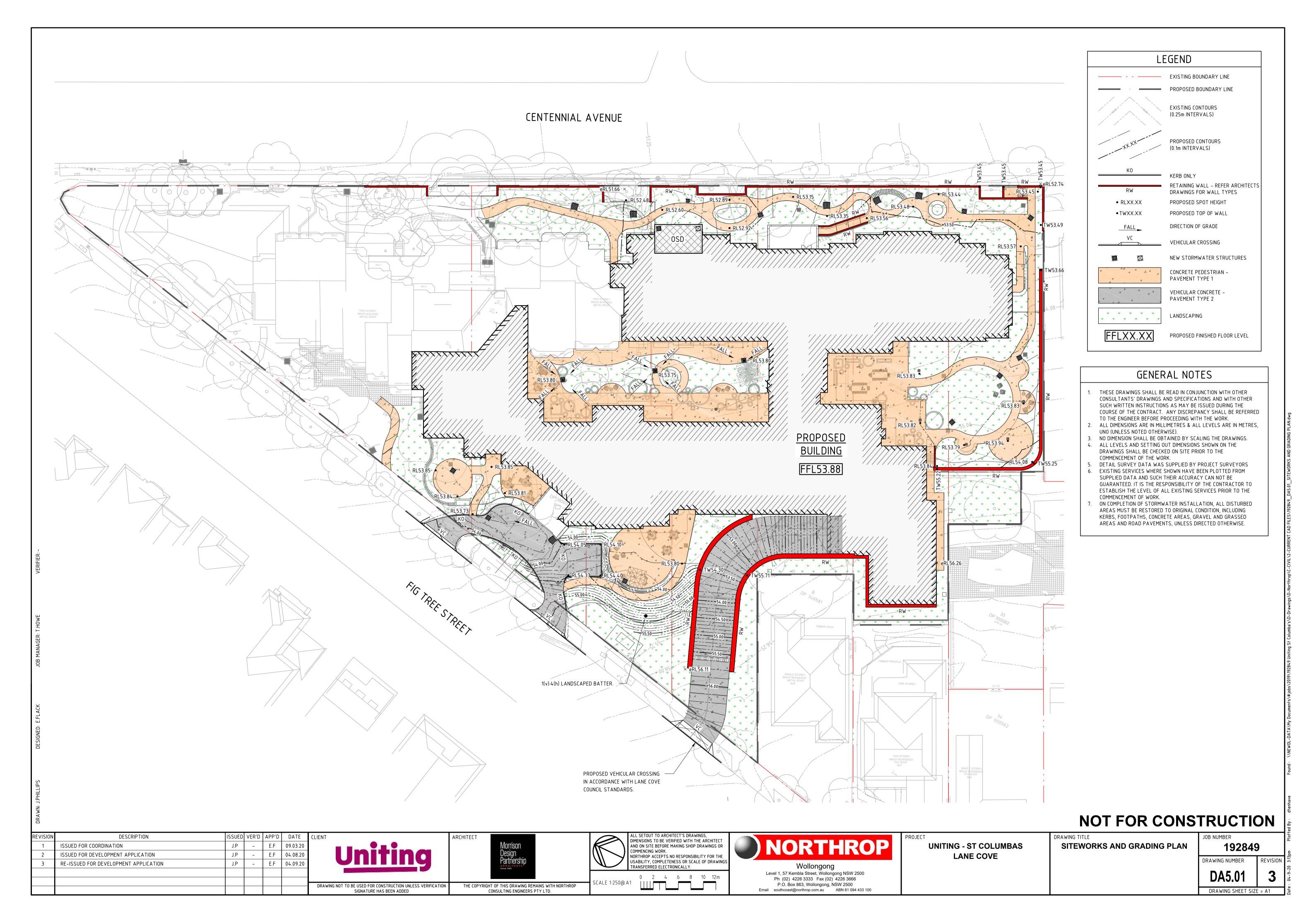
GENERAL NOTES

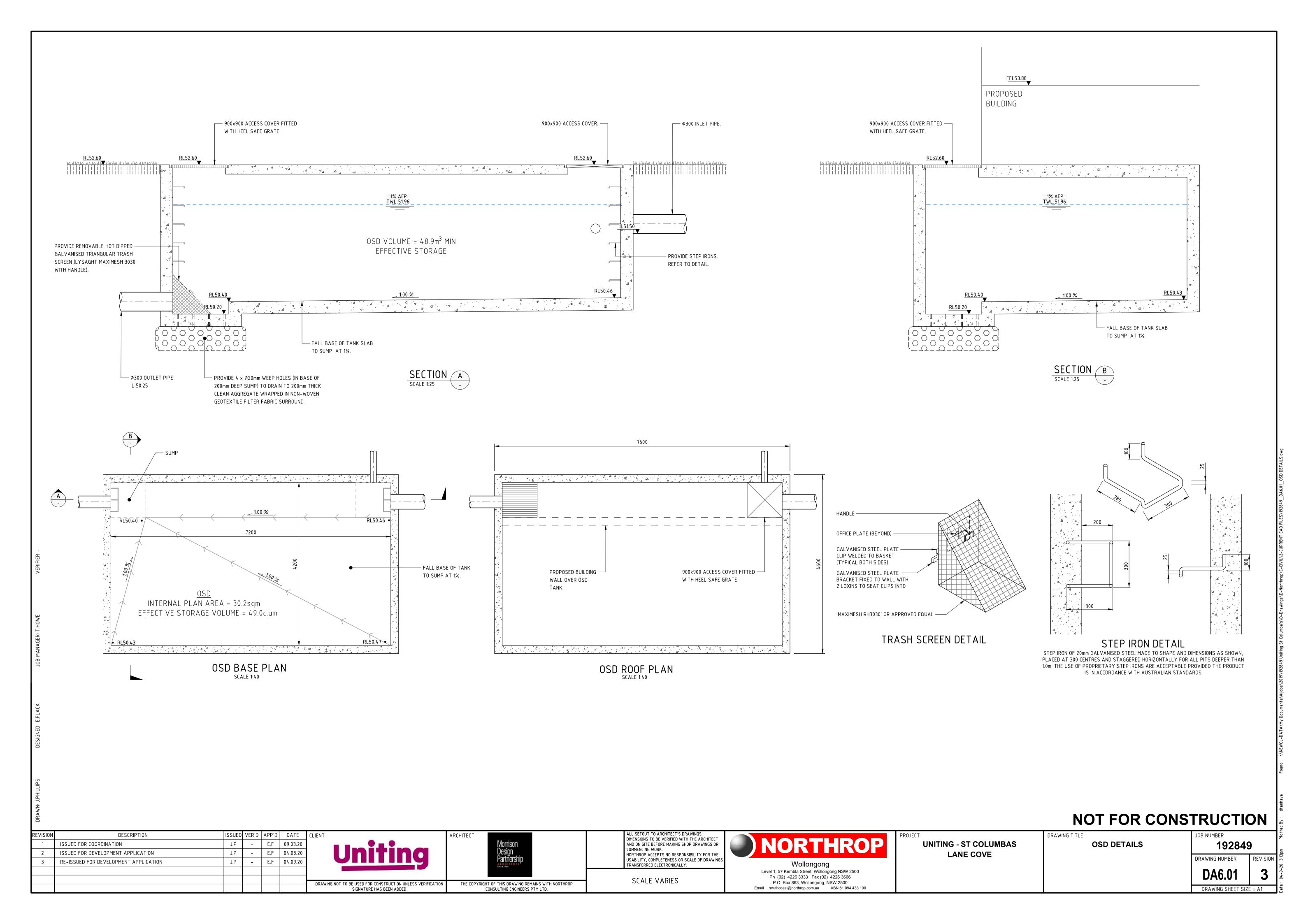
- 1. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH OTHER CONSULTANTS' DRAWINGS AND SPECIFICATIONS AND WITH OTHER SUCH WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCY SHALL BE REFERRED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
- ALL DIMENSIONS ARE IN 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
- DETAIL SURVEY DATA WAS SUPPLIED BY 'PROJECT SURVEYORS' 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. 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. 8. ALL DRAINAGE LINES SHALL BE UPVC (CLASS SN4) SEWER GRADE DRAINAGE PIPE, U.N.O.
- 9. ALL DRAINAGE LINES SHALL BE LAID AT 1% MIN. FALL, UNO.
- 10. ALL LEVELS ARE AUSTRALIAN HEIGHT DATUM (AHD).
- 11. ALL DOWNPIPES GUTTERS TO BE DESIGNED IN ACCORDANCE WITH AS/NZS 3500.3.2 - 2003 'STORMWATER' DRAINAGE. 12. THE STORMWATER DRAINAGE DESIGN HAS BEEN CARRIED OUT IN
- DRAINAGE. 13. ANY VARIATIONS TO THE NOMINATED LEVELS SHALL BE REFERRED
- TO ENGINEER IMMEDIATELY. 14. SUBSOIL DRAINAGE SHALL BE PROVIDED TO ALL RETAINING WALLS & EMBANKMENTS, WITH THE LINES FEEDING INTO THE STORMWATER
- DRAINAGE SYSTEM. 15. ALL GRATES TO BE GALVANISED STEEL WITH HINGES AND CHILD
- PROOF LOCK.
- 16. ALL GRATES TO BE HEEL SAFE WITHIN AGED CARE DEVELOPMENTS.
- 17. THE STORMWATER DRAINAGE IS DESIGNED IN ACCORDANCE WITH COUNCILS STORMWATER CODE.

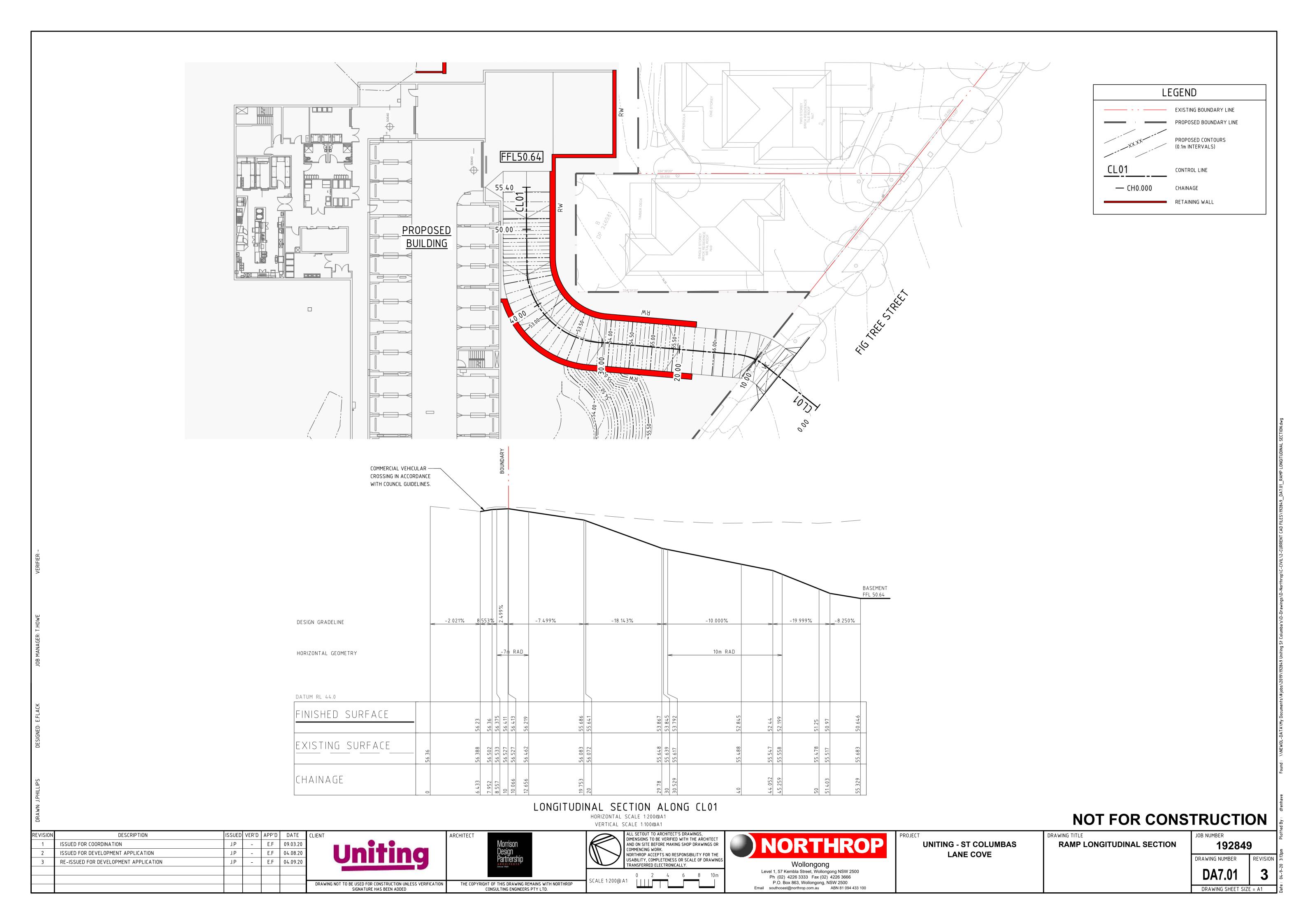
ALL STORMWATER MANAGEMENT MEASURES SHOWN ON THIS DRAWING HAVE BEEN PREPARED FOR DEVELOPMENT APPLICATION PURPOSES TO DEMONSTRATE FEASIBILITY. ALL MEASURES WILL BE SUBJECT TO DETAIL DESIGN AT THE CONSTRUCTION CERTIFICATE STAGE AND MAY BE SUBJECT TO VARIATION PROVIDED THAT THE DESIGN INTENT IS MAINTAINED.

NOT FOR CONSTRUCTION

										110110110110	1110011	
REVISION	N DESCRIPTION	ISSUED VER'D	APP'D DATE	CLIENT	ARCHITECT		ALL SETOUT TO ARCHITECT'S DRAWINGS,		PROJECT	DRAWING TITLE	JOB NUMBER	
1	ISSUED FOR COORDINATION	J.P -	E.F 09.03.20		Morrison		AND ON SITE BEFORE MAKING SHOP DRAWINGS OR	NORTHROP	UNITING - ST COLUMBAS	STORMWATER MANAGEMENT PLAN	19284	49
2	ISSUED FOR DEVELOPMENT APPLICATION	J.P -	E.F 04.08.20	liniting	Design		NORTHROP ACCEPTS NO RESPONSIBILITY FOR THE	NONTINO	LANE COVE			
3	RE-ISSUED FOR DEVELOPMENT APPLICATION	J.P -	E.F 04.09.20		Partnership		USABILITY, COMPLETENESS OR SCALE OF DRAWINGS TRANSFERRED ELECTRONICALLY.	Wollongong			DRAWING NUMBER	REVISIO
					1000		0 2 / 6 8 10 12m	Level 1, 57 Kembla Street, Wollongong NSW 2500			DA4.01	2
				DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS VERIFICATION	THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP	SCALE 1:250@	DA1	Ph (02) 4226 3333 Fax (02) 4226 3666 P.O. Box 863, Wollongong, NSW 2500				J
				SIGNATURE HAS BEEN ADDED	CONSULTING ENGINEERS PTY LTD.			Email southcoast@northrop.com.au ABN 81 094 433 100			DRAWING SHEET SI	ZE = A1









DESIGN SUMMARY

LANE COVE MUNICIPAL COUNCIL

CATCHMENT CALCULATIONS:

	DDE DEVELORMENT	POST - DEVELOPMENT				
	PRE-DEVELOPMENT	EXISTING BUILDING TO BE RETAINED	CENTENNIAL AVE (BYPASSES OSD)	CENTENNIAL AVE (VIA OSD)		
TOTAL AREA	8118m²	2576m²	1216m²	4326m²		
IMPERVIOUS AREA	3627m² (45%)	1868m²	828m²	3075m²		
PERVIOUS AREA	4491m² (55%)	708m²	388m²	1251m ²		

CATCHMENT SUMMARY INDICATES THAT 828m² OF NEW IMPERVIOUS AREA (FIG TREE STREET SUB-CATCHMENT) WILL BYPASS THE PROPOSED OSD TANK, EQUATING TO 20% OF THE NEW IMPERVIOUS AREA. THEREFORE, OSD IS ONLY REQUIRED FOR THE CENTENNIAL AVE SUB-CATCHMENT IN ACCORDANCE WITH PART 0: STORMWATER MANAGEMENT OF COUNCILS DCP.

SITE DISCHARGE CALCULATIONS:

SITE DISCHARGE CALCOL	<u> </u>		
CENTENNIAL AVE	<u>5 YEAR ARI</u>	50 YEAR ARI	100 YEAR ARI
PRE-DEVELOPMENT	198 L/s	352 L/s	400L/s
POST-DEVELOPMENT	188 L/s	262 L/s	288 L/s

ON-SITE DETENTION:

ISSUED FOR COORDINATION

 PRE TO POST DEVELOPMENT CONDITIONS USING DRAINS ILSAX HYDROLOGICAL MODEL.

ON-SITE DETENTION STORAGE PROVIDED = 46.8m³

ON-SITE DETENTION SUMMARY: BELOW GROUND BLOCK WORK TANK

DESCRIPTION

LOW LEVEL OUTLET: 300 DIA PIPE, IL50.20

100 YEAR WATER LEVEL = RL51.96

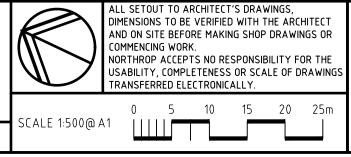
ISSUED FOR DEVELOPMENT APPLICATION

RE-ISSUED FOR DEVELOPMENT APPLICATION

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SIGNATURE HAS BEEN ADDED







P.O. Box 863, Wollongong, NSW 2500
Email southcoast@northrop.com.au ABN 81 094 433 100

Ph (02) 4226 3333 Fax (02) 4226 3666

NOT FOR CONSTRUCTION

DRAWING TITL **UNITING - ST COLUMBAS** CATCH LANE COVE SUMMARY

101101100110	
LE	JOB NUMBER
HMENT PLAN AND DESIGN	192849

LEGEND

SITE/CATCHMENT BOUNDARY

PRE DEVELOPMENT -IMPERVIOUS AREA

POST DEVELOPMENT -EXISTING IMPERVIOUS AREA

POST DEVELOPMENT -EXISTING PERVIOUS AREA

POST DEVELOPMENT -

POST DEVELOPMENT -

IMPERVIOUS AREA

PERVIOUS AREA

OVERLAND FLOW

DRAWING NUMBER

REVISION DRAWING SHEET SIZE = A1

5 YEAR WATER LEVEL = RL50.67

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E.F 09.03.20

E.F 04.08.20

E.F 04.09.20