

WESTERN SYDNEY AND WOLLONGONG SCHOOLS

JORDAN SPRINGS PUBLIC SCHOOL - 14-28 CULLEN AVE, JORDAN SPRINGS
CIVIL ENGINEERING WORKS PACKAGE



SOURCE : NEARMAP.COM.AU (©2015)

CIVIL DRAWING SCHEDULE

DWG No.	DRAWING TITLE
DAC01.01	COVER SHEET, DRAWING SCHEDULE AND LOCALITY PLAN
DAC01.11	SPECIFICATION NOTES
DAC01.21	GENERAL ARRANGEMENT PLAN
DAC02.01	SEDIMENT AND SOIL EROSION CONTROL PLAN
DAC02.11	SEDIMENT AND SOIL EROSION CONTROL DETAILS
DAC03.01	BULK EARTHWORKS CUT AND FILL PLAN
DAC04.01	SITEWORKS AND STORMWATER MANAGEMENT PLAN - SHEET 01
DAC04.02	SITEWORKS AND STORMWATER MANAGEMENT PLAN - SHEET 02
DAC04.03	SITEWORKS AND STORMWATER MANAGEMENT PLAN - SHEET 03
DAC04.21	STOMRWATER LONGITUDINAL SECTIONS - SHEET 01
DAC04.22	STOMRWATER LONGITUDINAL SECTIONS - SHEET 02
DAC04.23	STOMRWATER LONGITUDINAL SECTIONS - SHEET 03
DAC04.31	BIORETENTION BASIN DETAILS - SHEET 01
DAC09.01	DETAILS - SHEET 01

DRAWN: C. PASKE
DESIGNED: J. CRINSELL
JOB MANAGER: J. GILLIGAN
VERIFIER:

NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT	ARCHITECT	SCALE	PROJECT	DRAWING TITLE	JOB NUMBER		
1	ISSUED FOR SSDA	VC		JG	25.01.19			 SCALE 1:1000 @ A1 	 Level 11 345 George Street, Sydney NSW 2000 Ph (02) 9241 4188 Fax (02) 9241 4324 Email sydney@northrop.com.au ABN 81 094 433 100	WESTERN SYDNEY AND WOLLONGONG SCHOOLS JORDAN SPRINGS PRIMARY SCHOOL 14-28 CULLEN AVE, JORDAN SPRINGS	CIVIL ENGINEERING PACKAGE DEVELOPMENT APPLICATION COVER SHEET, DRAWING SCHEDULE AND LOCALITY PLAN	182535 DAC01.01 DRAWING SHEET SIZE = A1	
2	ISSUED FOR REF APPROVAL	JRG		JG	06.02.19								3
3	ISSUED FOR DEVELOPMENT APPLICATION	JRG		JG	13.02.19								
						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						

NOTE: ALL CIVIL ENGINEERING CONSTRUCTION WORKS TO BE CARRIED OUT IN ACCORDANCE WITH PENRITH CITY COUNCIL DEVELOPMENT GUIDELINES.THE AFOREMENTIONED GUIDELINES INCLUSIVE OF ALL SPECIFICATIONS TAKE PRECEDENCE OVER NOTES PROVIDED BELOW.

STORMWATER DRAINAGE	
1.	ALL DRAINAGE LINES SHALL BE UPVC (CLASS SN4) SEWER GRADE DRAINAGE PIPE, U.N.O.
2.	ALL DRAINAGE LINES SHALL BE LAID AT 1% MIN. FALL, UNO.
3.	ALL LEVELS ARE AUSTRALIAN HEIGHT DATUM (AHD).
4.	ALL DOWNPIPES GUTTERS TO BE DESIGNED IN ACCORDANCE WITH AS/NZS 3500.3.2 ~ 2003 'STORMWATER' DRAINAGE.
5.	THE STORMWATER DRAINAGE DESIGN HAS BEEN CARRIED OUT IN ACCORDANCE WITH AS/NZS 3500.3.2-2003 'STORMWATER' DRAINAGE.
6.	ANY VARIATIONS TO THE NOMINATED LEVELS SHALL BE REFERRED TO ENGINEER IMMEDIATELY.
7.	SUBSOIL DRAINAGE SHALL BE PROVIDED TO ALL RETAINING WALLS & EMBANKMENTS, WITH THE LINES FEEDING INTO THE STORMWATER DRAINAGE SYSTEM.
8.	ALL GRATES TO BE GALVANISED STEEL WITH HINGES AND CHILD PROOF LOCK.
9.	ALL GRATES TO BE HEEL SAFE WITHIN AGED CARE DEVELOPMENTS.
10.	THE STORMWATER DRAINAGE IS DESIGNED IN ACCORDANCE WITH COUNCIL'S STORMWATER CODE.

RAINWATER RE-USE	
1.	PROVIDE RAINWATER RE-USE SYSTEM TO SUPPLY WATER FOR TOILET FLUSHING.
2.	GUTTER GUARD TO BE INSTALLED ON ALL EAVES GUTTERS.
3.	A PERMANENT SIGN IS TO BE LOCATED IN THE VICINITY OF THE TANK STATING THE WATER IS "NON POTABLE WATER" WITH APPROPRIATE HAZARD IDENTIFICATION.
4.	PIPEWORK USED FOR RAINWATER SERVICES SHALL BE COLOURED LILAC IN ACCORDANCE WITH AS1345.
5.	ALL VALVES AND APERTURES SHALL BE CLEARLY AND PERMANENTLY LABELLED WITH SAFETY SIGNS TO COMPLY WITH AS1319.
6.	RAINWATER TANK RETICULATION SYSTEM AND MAINS WATER BYPASS ARRANGEMENT TO BE INSTALLED IN ACCORDANCE WITH AS/NZS 3500.1.2-2003 AND THE NSW CODE OF PRACTICE : PLUMBING AND DRAINING.
7.	A FIRST FLUSH FILTRATION DEVICE IS TO BE PROVIDED AT RAINWATER TANK.

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.	
DETAIL SURVEY DATA WAS SUPPLIED BY LTS LOCKLEY, DRAWING DATED 16/05/2018.	
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.	

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.	
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DESIGN SUMMARY		
WATER QUALITY:		
MUSIC MODEL SUMMARY:		
SOURCE NODE	CATCHMENT	AREA
MIXED	LANDSCAPING	11,900m ²
ROOF	ROOF	6,250m ²
MIXED	HARDSTAND (TO BIO-RETENTION BASIN)	7,620m ²
MIXED	HARDSTAND (BYPASS BIO-RETENTION BASIN)	4,160m ²
		TOTAL 29,930m ²
TREATMENT NOTES:		
- RAINWATER RE-USE TANK - ON-SITE DETENTION TANK - HUMES "HYDROFILTER HF1000" - STORMWATER 360 "STORMFILTER" CARTRIDGE - VEGETATIVE SWALE		
TREATMENT STANDARDS:		
POLLUTANT	REDUCTION STANDARDS	REDUCTION ACHIEVED
GROSS POLLUTANTS	-	100%
TOTAL SUSPENDED SOLIDS	85%	89.7%
TOTAL PHOSPHORUS	60%	64%
TOTAL NITROGEN	45%	516%
MUSIC MODEL PARAMETERS IN ACCORDANCE WITH PENRITH CITY COUNCILS MUSIC MODELLING GUIDELINES 2015.		

VERIFIER:

JOB MANAGER: J. GILLIGAN

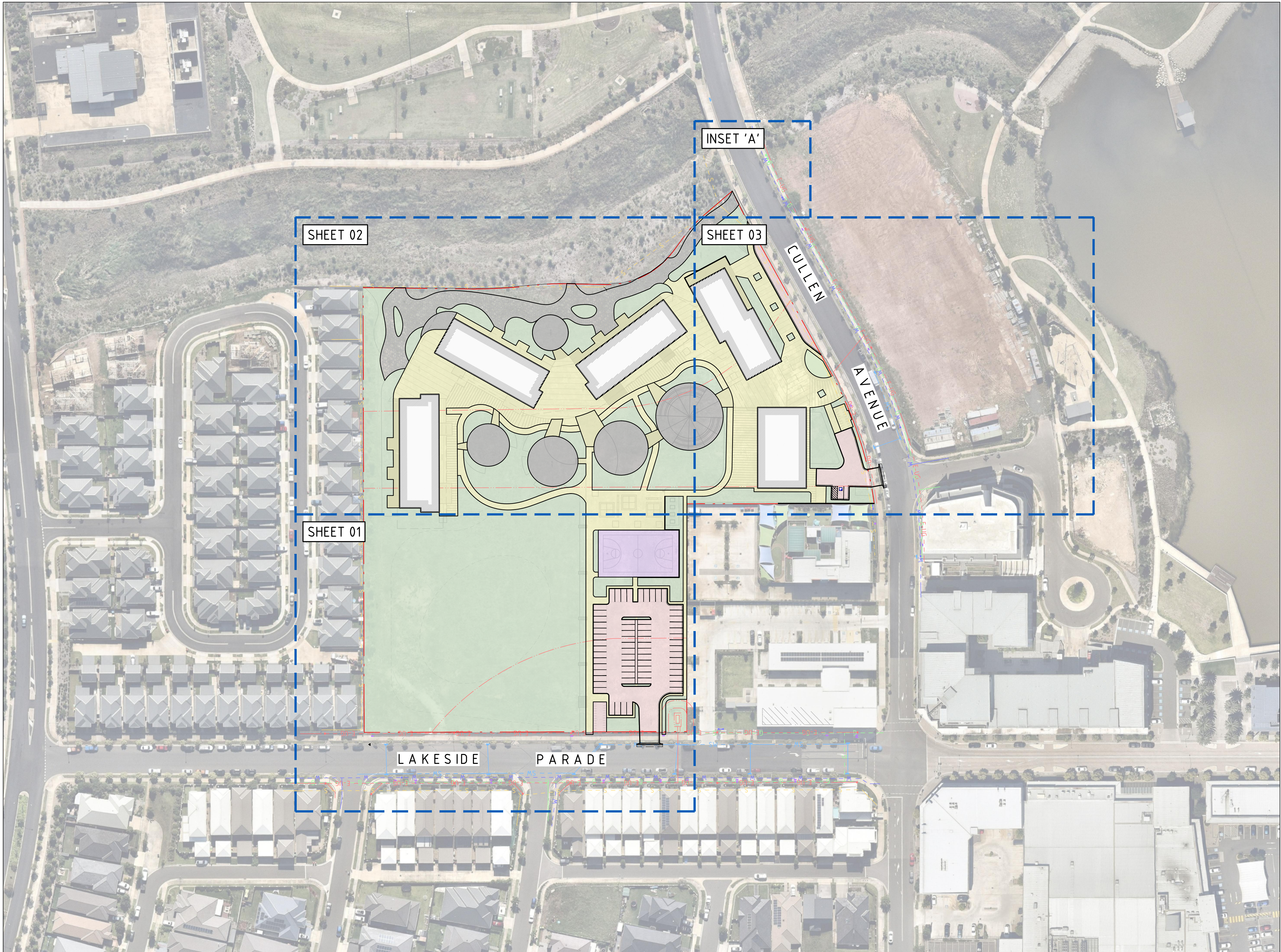
DESIGNED: J. CRINSELL

DRAWN: C. PASKE

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	
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												DRAWING SHEET SIZE = A1	

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DESIGNED: J. GRINSELL
JOB MANAGER: J. GILLIGAN
VERIFIER:



LEGEND

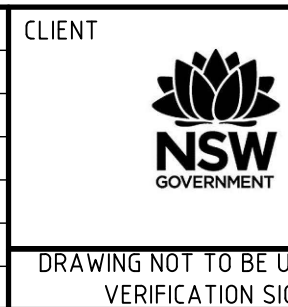
- BOUNDARY LINE
- EASEMENT LINE
- EXISTING KERB
- EXISTING ELECTRICITY
- EXISTING ELECTRICITY (OVERHEAD)
- EXISTING ELECTRICITY (UNDERGROUND)
- EXISTING GAS
- EXISTING WATER
- EXISTING STORMWATER
- EXISTING CONTOURS
- SHEET EXTENTS

GENERAL NOTES:

- SURVEY SUPPLIED BY: LTS LOCKLEY
- REFERENCE NUMBER: 43776 002DT
- DATE: 16/05/2018
- REVISION: 1
- ALL UTILITY SERVICES INDICATED ON THE DRAWINGS ORIGINATE FROM SUPPLIED DATA OR DIAL BEFORE YOU DIG SEARCHES. THEREFORE THEIR ACCURACY AND COMPLETENESS IS NOT GUARANTEED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE AND CONFIRM THE LOCATION AND LEVEL OF ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES SHALL BE REPORTED TO THE SUPERINTENDENT. CLEARANCES SHALL BE OBTAINED FROM THE RELEVANT SERVICE AUTHORITY. **NOTE SERVICE AUTHORITY REQUIREMENTS FOR LOCATING OF SERVICES PRIOR TO COMMENCEMENT OF WORKS.**
- NORTHROP TAKE NO RESPONSIBILITY FOR THE ACCURACY AND/OR USE OF THIS SURVEY AND ITS CONTENTS

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Education

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ARCHITECT

GROUP USA

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SCALE 1:800 @ A1

0 10 20 30 40m

NORTHROP

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PROJECT

WESTERN SYDNEY AND WOLLONGONG SCHOOLS

JORDAN SPRINGS PRIMARY SCHOOL
14-28 CULLEN AVE, JORDAN SPRINGS

DRAWING TITLE

CIVIL ENGINEERING PACKAGE DEVELOPMENT APPLICATION

GENERAL ARRANGEMENT PLAN

JOB NUMBER

182535

DRAWING NUMBER

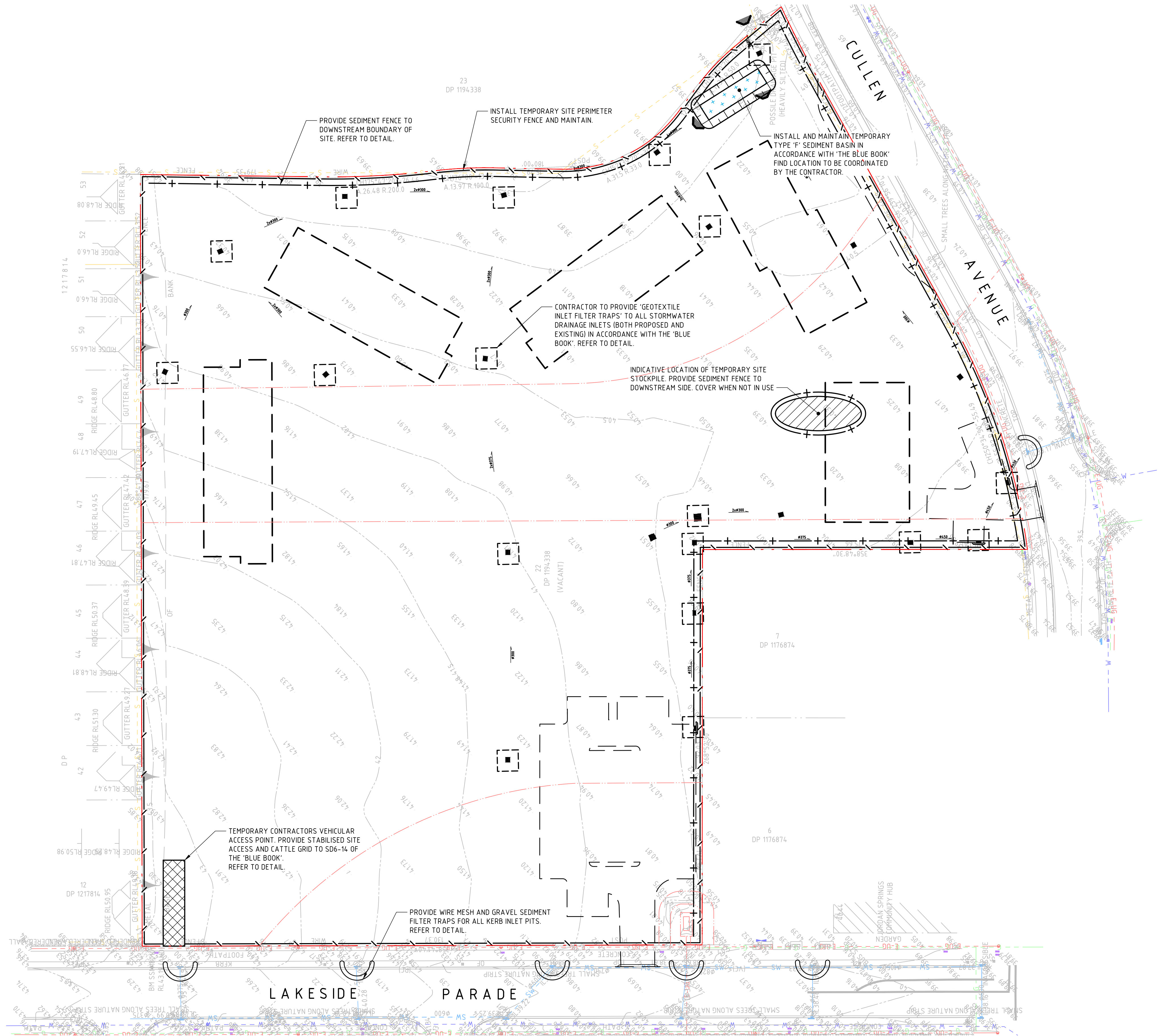
DAC01.21

REVISION

3

DRAWING SHEET SIZE = A1

DRAWN: C. PASKE
DESIGNED: J. CRINSELL
JOB MANAGER: J. GILLIGAN
VERIFIER:



LEGEND

- PROPOSED BOUNDARY LINE
- EXISTING BOUNDARY LINE
- EASEMENT LINE
- REDUNDANT BOUNDARY LINE
- EXISTING CONTOURS
- SEDIMENT FENCE
- SECURITY FENCE
- WIRE MESH AND GRAVEL SEDIMENT FILTER
- SANDBAG SEDIMENT FILTER
- DROP INLET SEDIMENT TRAP
- DRAINAGE SWALE
- DIVERSION MOUND
- DIVERSION DRAIN (CLEAN)
- DIVERSION DRAIN (DIRTY)
- STABILISED SITE ACCESS
- STOCKPILE
- SEDIMENT BASIN

GENERAL NOTES:

- REFER SPECIFICATIONS NOTES FOR SEDIMENT AND SOIL EROSION CONTROL GENERAL REQUIREMENTS.
- ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH COUNCIL / RELEVANT AUTHORITY SPECIFICATIONS AND DETAILS.
- ALL SEDIMENT AND SOIL EROSION CONTROL MEASURES TO BE INSTALLED IN ACCORDANCE WITH THE 'BLUE BOOK'. CONTRACTOR TO ENSURE THESE MEASURES ARE IN PLACE AND MAINTAINED AT ALL TIMES DURING CONSTRUCTION WORKS.
- CONTRACTOR TO PROVIDE 'WIRE MESH AND GRAVEL SEDIMENT FILTER' TO ALL PAVED / ROAD AREAS (BOTH PROPOSED AND EXISTING) IN ACCORDANCE WITH THE 'BLUE BOOK'.
- CONTRACTOR TO PROVIDE 'GEOTEXTILE INLET FILTER TRAPS' TO ALL STORMWATER DRAINAGE INLETS (BOTH PROPOSED AND EXISTING) IN ACCORDANCE WITH THE 'BLUE BOOK'.

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ARCHITECT

 **GROUP USA**

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SCALE 1:500 @ A1



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PROJECT

WESTERN SYDNEY AND WOLLONGONG SCHOOLS

JORDAN SPRINGS PRIMARY SCHOOL
14-28 CULLEN AVE, JORDAN SPRINGS

DRAWING TITLE

CIVIL ENGINEERING PACKAGE DEVELOPMENT APPLICATION

SEDIMENT AND SOIL EROSION CONTROL PLAN

JOB NUMBER

182535

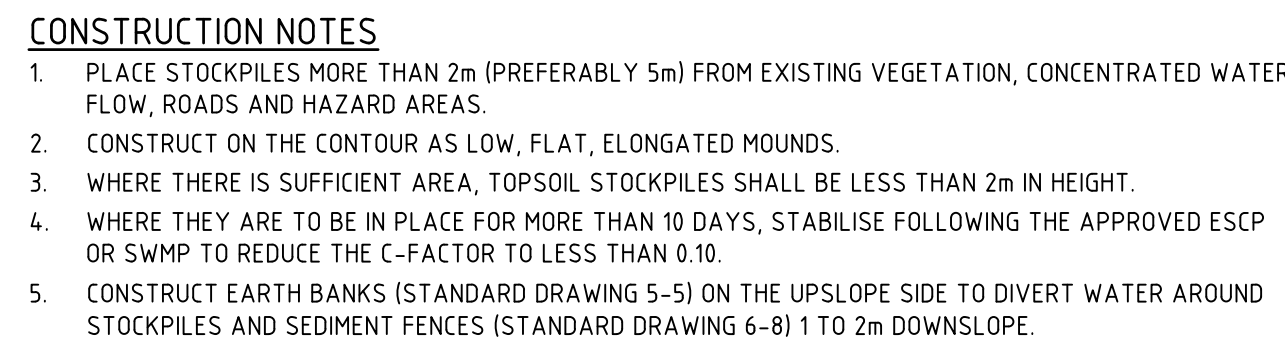
DRAWING NUMBER

DAC02.01

REVISION

3

DRAWING SHEET SIZE = A1



CONSTRUCTION NOTES

INSTALL FILTERS TO KERB INLETS ONLY AT SAG POINTS.

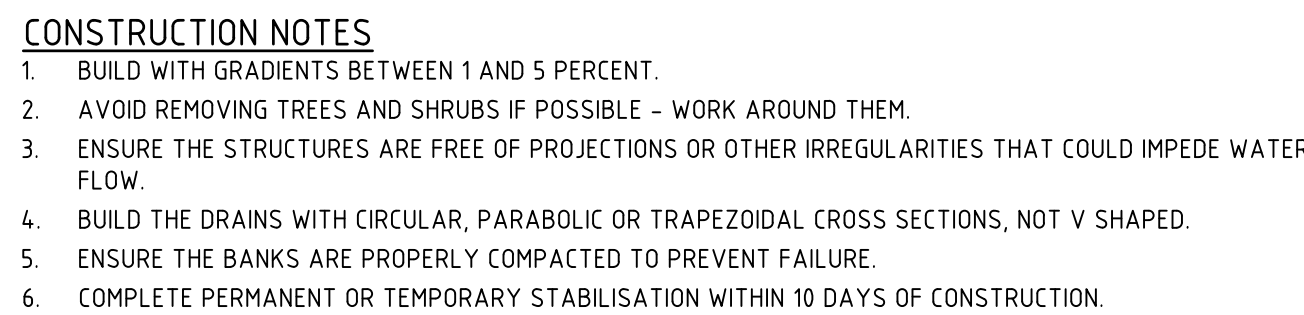
FABRICATE A SLEEVE MADE FROM GEOTEXTILE OR WIRE MESH LONGER THAN THE LENGTH OF THE INLET PIT AND FILL IT WITH 25mm TO 50mm GRAVEL.

FORM AN ELLIPTICAL CROSS-SECTION ABOUT 150mm HIGH x 400mm WIDE.

PLACE THE FILTER AT THE OPENING LEAVING AT LEAST A 100mm SPACE BETWEEN IT AND THE KERB INLET. MAINTAIN THE OPENING WITH SPACER BLOCKS.

FORM A SEAL WITH THE KERB TO PREVENT SEDIMENT BYPASSING THE FILTER.

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.



STAR PICKETS

1 METRE MAX.

DROP INLET WITH GRATE

WIRE OR STEEL MESH (14 GAUGE x 150mm OPENINGS) WHERE GEOTEXTILE IS NOT SELF-SUPPORTING

WOVEN GEOTEXTILE

SANDBAGS

WATERWAY

EXCAVATION

EARTH BANK

STAR PICKET FITTED WITH SAFETY CABLE

WOVEN GEOTEXTILE

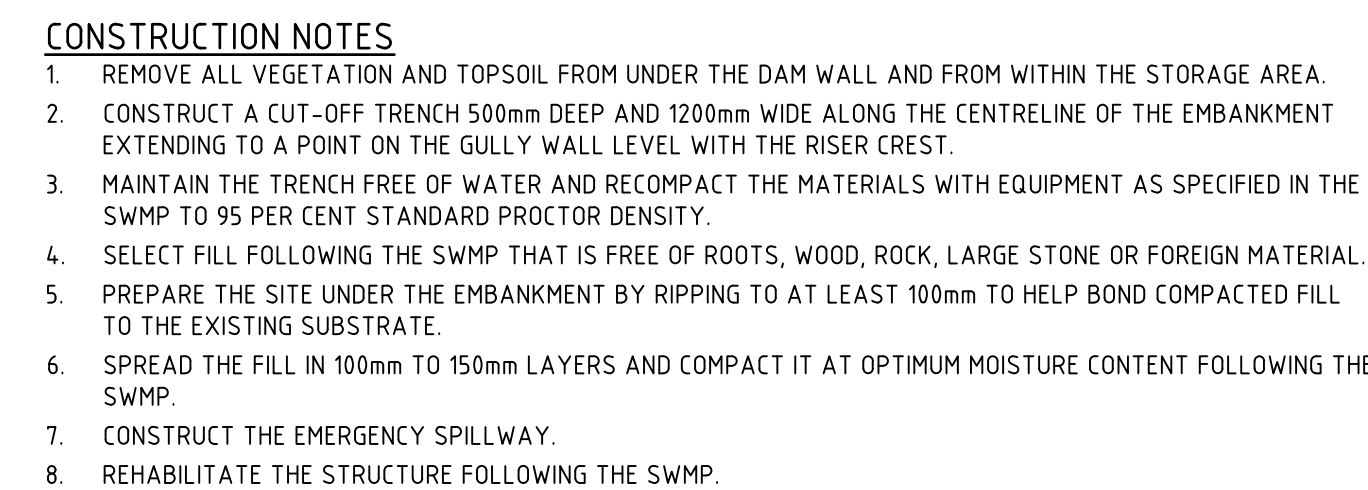
RUNOFF WATER WITH SEDIMENT

GEOTEXTILE EMBEDDED 150mm INTO GROUND

FILTERED WATER

FOR DROP INLETS AT NON-SAG POINTS, SANDBAGS, EARTH BANK OR EXCAVATION USED TO CREATE ARTIFICIAL SAG POINT

Education	ARCHITECT GROUP GSA	AL CO NO US TR TH AN
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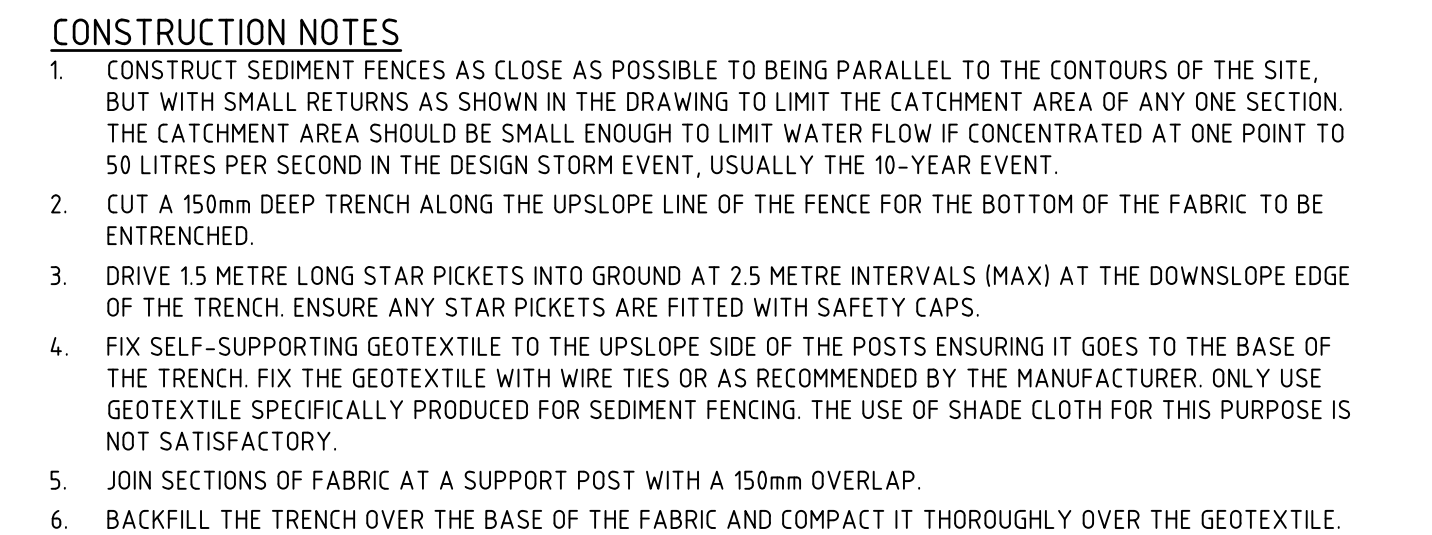
EARTH BASIN - WET (SD 6-4)

(APPLIES TO 'TYPE D' AND 'TYPE F' SOILS ONLY)

The diagram illustrates the construction of an Earth Basin - Wet (SD 6-4). Key features include:

- CONSTRUCTION SITE:** The area where the basin is being built.
- MINIMUM WIDTH 3m:** The required width of the basin.
- MINIMUM LENGTH 15m:** The required length of the basin.
- PROPERTY BOUNDARY:** The line separating the construction site from the property.
- RUNOFF DIRECTED TO SEDIMENT TRAP/FENCE:** An arrow indicating the direction of runoff.
- 200mm MINIMUM:** The minimum depth of the basin.
- 300mm MINIMUM:** The minimum depth of the sediment trap/fence.
- DGB 20 ROADBASE OR 30mm AGGREGATE:** The material used for the basin floor.
- EXISTING ROADWAY:** The road adjacent to the basin.
- GEOTEXTILE FABRIC:** Designed to prevent intermixing of subgrade and base materials and to maintain good properties of the sub-base layers. It may be a woven or needle-punched product with a minimum CBR burst strength (AS3706.4-90) of 2500 N.

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SCALE		



DRAWING TITLE CIVIL ENGINEERING PACKAGE DEVELOPMENT APPLICATION SEDIMENT AND SOIL EROSION CONTROL DETAILS	JOB NUMBER 182535	
	DRAWING NUMBER DAC02.11	REVISION 3
	DRAWING SHEET SIZE = A1	

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ARCHITECT

GROUP GSA

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PROJECT

**WESTERN SYDNEY AND
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**JORDAN SPRINGS PRIMARY SCHOOL
14-28 CULLEN AVE, JORDAN SPRINGS**

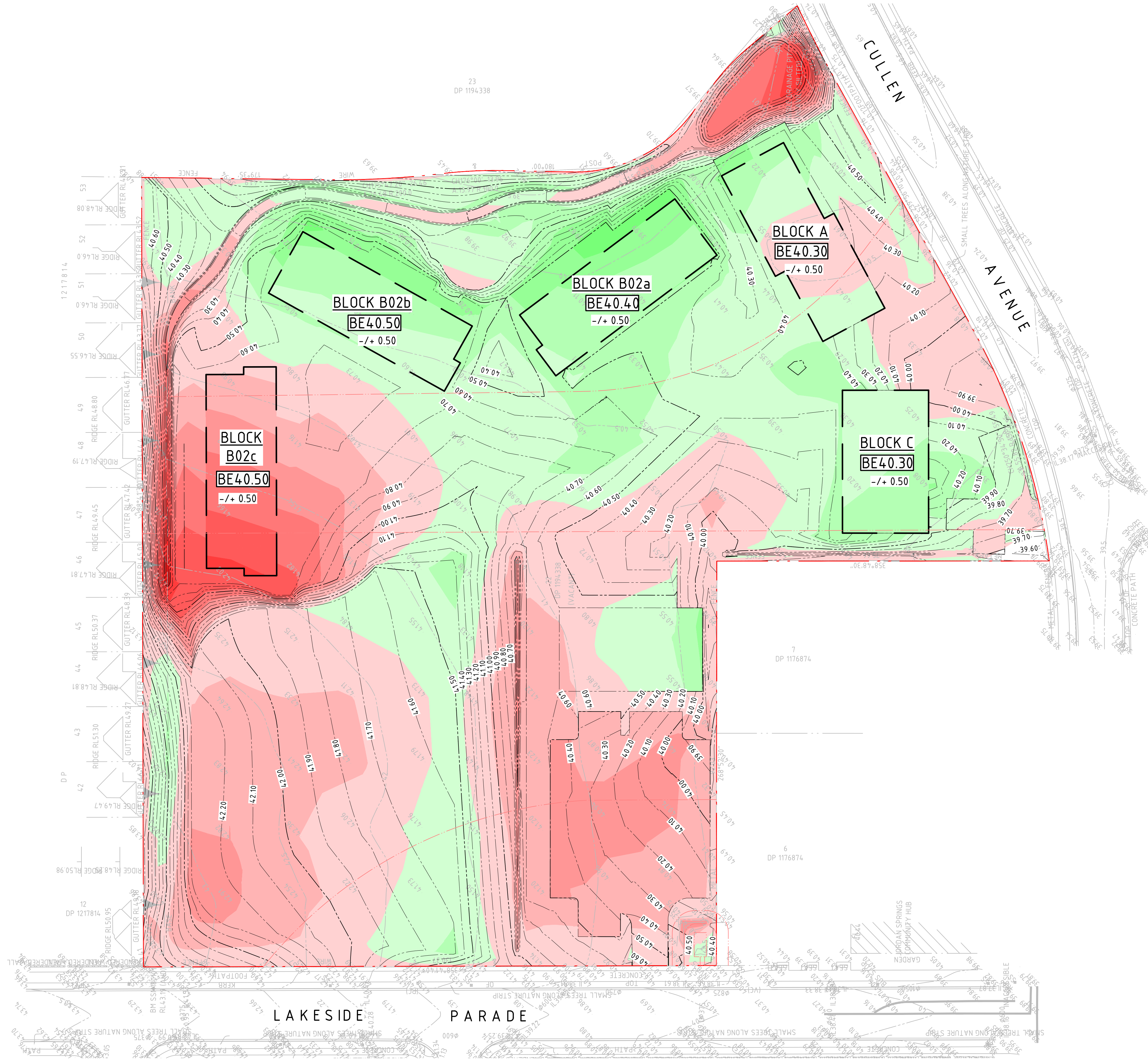
DRAWING TITLE

**CIVIL ENGINEERING PACKAGE
DEVELOPMENT APPLICATION**

**SEDIMENT AND SOIL
EROSION CONTROL DETAILS**

JOB NUMBER	
182535	
DRAWING NUMBER	REVISION
DAC02.11	3
DRAWING SHEET SIZE = A1	

DRAWN: C. PASKE
DESIGNED: J. CRINSELL
JOB MANAGER: J. GILLIGAN
VERIFIER:



LEGEND

--- BOUNDARY LINE

--- PROPOSED BUILDING FOOTPRINT

BEXX.XX BULK EARTHWORKS PAD LEVEL

X.X DIRECTION OF GRADE

BATTERS

XX.XX CONTOURS

DEPTH OF CUT

[Red]	- 999m TO - 2.0m
[Red]	- 2.0m TO - 1.5m
[Red]	- 1.5m TO - 1.25m
[Red]	- 1.25m TO - 1.0m
[Red]	- 1.0m TO - 0.75m
[Red]	- 0.75m TO - 0.5m
[Red]	- 0.5m TO - 0.25m
[Red]	- 0.25m TO - 0.0m

DEPTH OF FILL

[Green]	0.0m TO 0.25m
[Green]	0.25m TO 0.5m
[Green]	0.5m TO 0.75m
[Green]	0.75m TO 1.0m
[Green]	1.0m TO 1.25m
[Green]	1.25m TO 1.5m
[Green]	1.5m TO 2.0m
[Green]	2.0m TO 999m

- ### GENERAL NOTES:
- ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH COUNCIL / RELEVANT AUTHORITY SPECIFICATIONS AND DETAILS.
 - CAD FILES / DTM FILES TO BE SUPPLIED IN AUTOCAD FORMAT FOR SETOUT PURPOSES (UPON REQUEST).
 - STRIP EXISTING TOPSOIL IN CONSULTATION WITH THE GEOTECHNICAL ENGINEER / REPORT. FOR THE PURPOSES OF EARTHWORKS CALCULATIONS A TOPSOIL STRIPPING DEPTH OF 150mm HAS BEEN ASSUMED. GROUND SLAB DEPTH OF 400mm HAS BEEN ASSUMED WHERE REQUIRED.
 - NO ALLOWANCE HAS BEEN MADE FOR BULKING FACTORS. NOTE ALL VOLUMES DEPICTED ARE SOLID VOLUMES ONLY AND MAY NOT REFLECT DETAILED EARTHWORKS.
 - NO ALLOWANCE HAS BEEN MADE FOR DETAILED EARTHWORKS, ie SERVICE TRENCHING, DETAILED EXCAVATION, FOOTINGS, RETAINING WALLS AND THE LIKE. THE CONTRACTOR SHALL USE FINAL SURFACE LEVELS AND TYPICAL PAVEMENT DETAILS FOR ACTUAL EARTHWORKS LEVELS.
 - BULK EARTHWORKS ARE BASED ON THE FOLLOWING DEPTHS FROM FINISHED SURFACE LEVELS:
 - ASPHALT PAVEMENT 200mm
 - CONCRETE PAVEMENT 200mm
 - BUILDING SLAB 400mm (REFER STRUCTURAL DWGS)
 - FOOTPATH PAVEMENT 200mm
 - LANDSCAPE AREA 200mm
 - APPROXIMATE BULK EARTHWORK VALUES AS FOLLOWS;
 - CUT 5,148 cu.m
 - FILL 2,905 cu.m
 - BALANCE 2,243 cu.m CUT
 - NOTE: SITE STRIPPING VOLUMES HAVE NOT BEEN INCLUDED IN ABOVE CALCULATIONS.

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ARCHITECT

GROUP USA

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SCALE 1500@A1

0 5 10 15 20 25m

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PROJECT

WESTERN SYDNEY AND WOLLONGONG SCHOOLS

JORDAN SPRINGS PRIMARY SCHOOL
14-28 CULLEN AVE, JORDAN SPRINGS

DRAWING TITLE

CIVIL ENGINEERING PACKAGE DEVELOPMENT APPLICATION

BULK EARTHWORKS CUT AND FILL PLAN

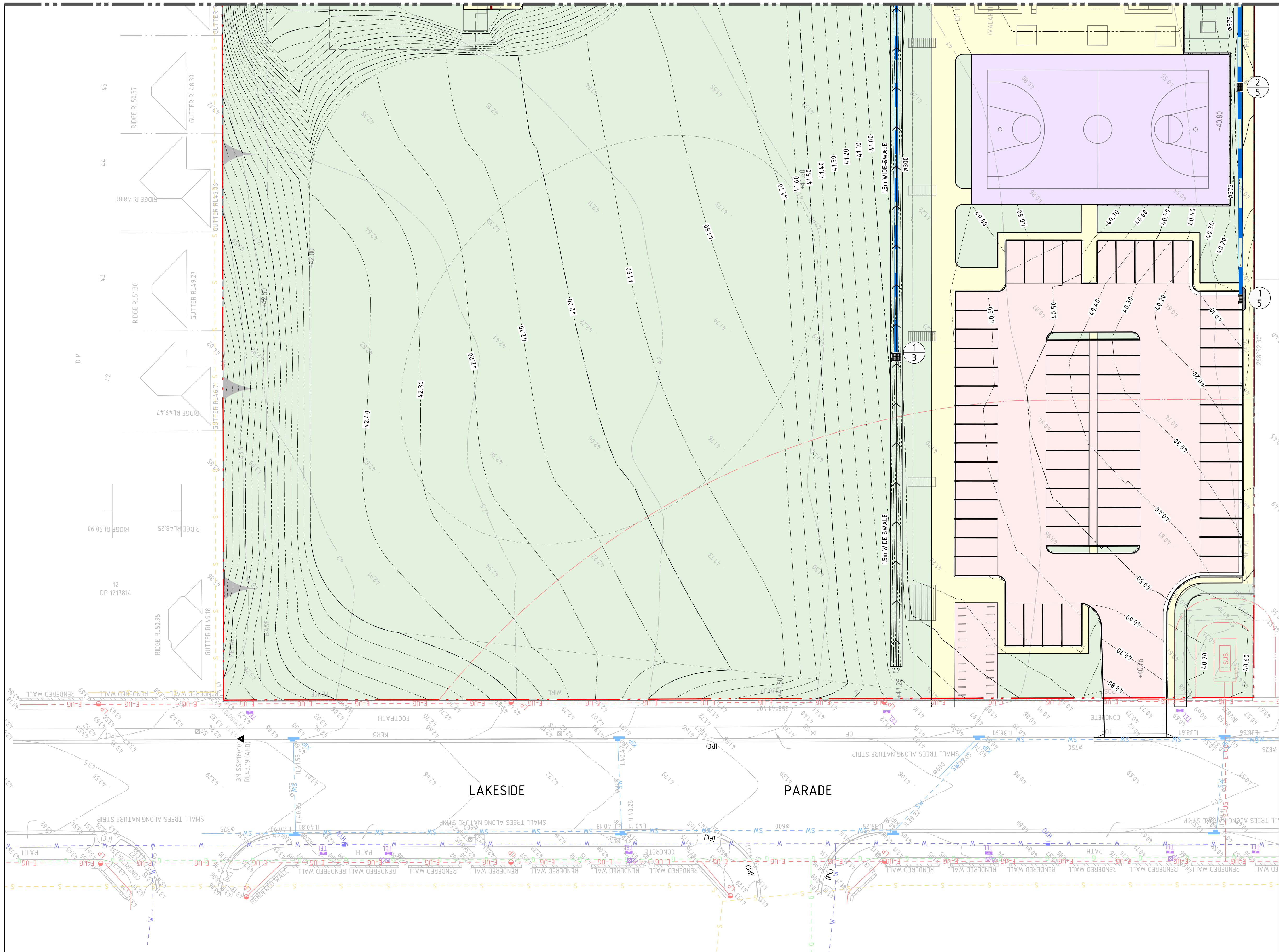
JOB NUMBER

182535

DRAWING NUMBER	REVISION
DAC03.01	3

DRAWING SHEET SIZE = A1

FOR CONTINUATION REFER TO SHEET 02



LEGEND

	BOUNDARY LINE
	EASEMENT LINE
	PROPOSED KERB
	EXISTING KERB
	SAWCUT AND PAVEMENT INFILL
	EXISTING KERB 'TYPE AS BELOW'
	KERB ONLY
	KERB AND GUTTER
	VEHICULAR CROSSING
	KERB RAMP
	PROPOSED SPOT HEIGHT
	EXISTING SPOT HEIGHT
	PROPOSED FINISHED FLOOR LEVEL
	DIRECTION OF GRADE
	BATTERS
	CONTOURS
	EXISTING CONTOURS
	DRAINAGE SWALE
	V-SHAPED CHANNEL
	GRATED TRENCH DRAIN
	EXISTING DRAINAGE STRUCTURE
	NEW DRAINAGE STRUCTURE
	STORMWATER PIPE
	RAINWATER PIPE
	EXISTING STORMWATER PIPE (ALTERNATIVE)
	STORMWATER PIT TAG
	STRUCTURE No / LINE ID
	RAINWATER HARVESTING TANK
	ROCK HEADWALL
	RIP RAP ENERGY DISSIPATER
	RETAINING WALL - TYPE 1
	PAVEMENT - TYPE 1
	FOOTPATH - TYPE 1
	RIVER BED
	LANDSCAPING - TYPE 1
	BASKETBALL COURT - REFER TO LANDSCAPE ARCHITECTS FOR DETAIL
	PLAYGROUND - REFER TO LANDSCAPE ARCHITECTS FOR DETAIL

GENERAL NOTES:

- REFER SPECIFICATIONS NOTES FOR STORMWATER AND SITEWORKS GENERAL REQUIREMENTS.
- ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH COUNCIL / RELEVANT AUTHORITY SPECIFICATIONS AND DETAILS.
- CAD FILES TO BE SUPPLIED IN AUTOCAD FORMAT FOR SETOUT PURPOSES (UPON REQUEST).
- SUBSOIL DRAINAGE TO RETAINING WALLS, KERBS AND SWALE DRAINS NOT SHOWN FOR CLARITY - REFER RELEVANT DETAILS.
- REFER 'STORMWATER LONGITUDINAL SECTIONS' FOR PIPE INFORMATION.
- REFER HYDRAULIC ENGINEERS / ARCHITECTS DRAWINGS FOR DOWNPIPE LOCATIONS AND SIZING.
- ALL STORMWATER INLET PITS TO BE FITTED WITH 'ENVIROPOD' INSERT AND 200 MICRON FILTER.
- PROVIDE DRAINAGE CONNECTIONS TO KERB IN ACCORDANCE WITH COUNCIL STANDARD DETAILS AND SPECIFICATION.
- CONTRACTOR TO ALLOW TO ADJUST AND LIAISE WITH RELEVANT SERVICE AUTHORITIES IN RELATION TO EXISTING SERVICE ADJUSTMENT AND MODIFICATIONS.

NOT FOR CONSTRUCTION

DRAWN: C. PASKE
DESIGNED: J. CRUSSELL
JOB MANAGER: J. GILLIGAN
VERIFIER:

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	ISSUED FOR SSDA	VC		JG	25.01.19
2	ISSUED FOR REF APPROVAL	JRG		JG	06.02.19
3	ISSUED FOR DEVELOPMENT APPLICATION	JRG		JG	13.02.19

	CLIENT
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	ARCHITECT
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SCALE 1:250 @ A1	

	PROJECT
Level 11 345 George Street, Sydney NSW 2000 Ph (02) 9241 4188 Fax (02) 9241 4324 Email sydney@northrop.com.au ABN 81 094 433 100	

WESTERN SYDNEY AND WOLLONGONG SCHOOLS	JOB NUMBER
JORDAN SPRINGS PRIMARY SCHOOL 14-28 CULLEN AVE, JORDAN SPRINGS	182535

CIVIL ENGINEERING PACKAGE DEVELOPMENT APPLICATION	DRAWING NUMBER
SITEWORKS AND STORMWATER MANAGEMENT PLAN - SHEET 01	DAC04.01

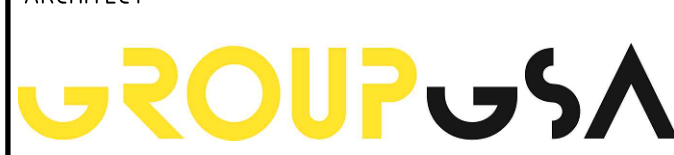
REVISION	3
DRAWING SHEET SIZE = A1	

DRAWN: C. PASKE
DESIGNED: J. CRINSELL
JOB MANAGER: J. GILLIGAN
VERIFIER:

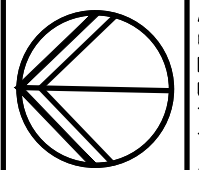
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1	ISSUED FOR SSDA	VC		JG	25.01.19	NSW GOVERNMENT Education
2	ISSUED FOR REF APPROVAL	JRG		JG	06.02.19	
3	ISSUED FOR DEVELOPMENT APPLICATION	JRG		JG	13.02.19	
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Education

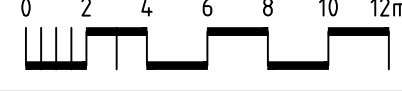


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SCALE 1:250 @ A1



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Email sydney@northrop.com.au ABN 81 094 433 100

PROJECT

WESTERN SYDNEY AND
WOLLONGONG SCHOOLS

JORDAN SPRINGS PRIMARY SCHOOL
14-28 CULLEN AVE, JORDAN SPRINGS

DRAWING TITLE

CIVIL ENGINEERING PACKAGE
DEVELOPMENT APPLICATION

SITWORKS AND STORMWATER
MANAGEMENT PLAN - SHEET 02

JOB NUMBER

182535

DRAWING NUMBER

DAC04.02

REVISION

3

DRAWING SHEET SIZE = A1

LEGEND

	BOUNDARY LINE
	EASEMENT LINE
	PROPOSED KERB
	EXISTING KERB
	SAWCUT AND PAVEMENT INFILL
	EXISTING KERB 'TYPE AS BELOW'
	KERB ONLY
	KERB AND GUTTER
	VEHICULAR CROSSING
	KERB RAMP
	PROPOSED SPOT HEIGHT
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	EXISTING DRAINAGE STRUCTURE
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	STORMWATER PIPE
	RAINWATER PIPE
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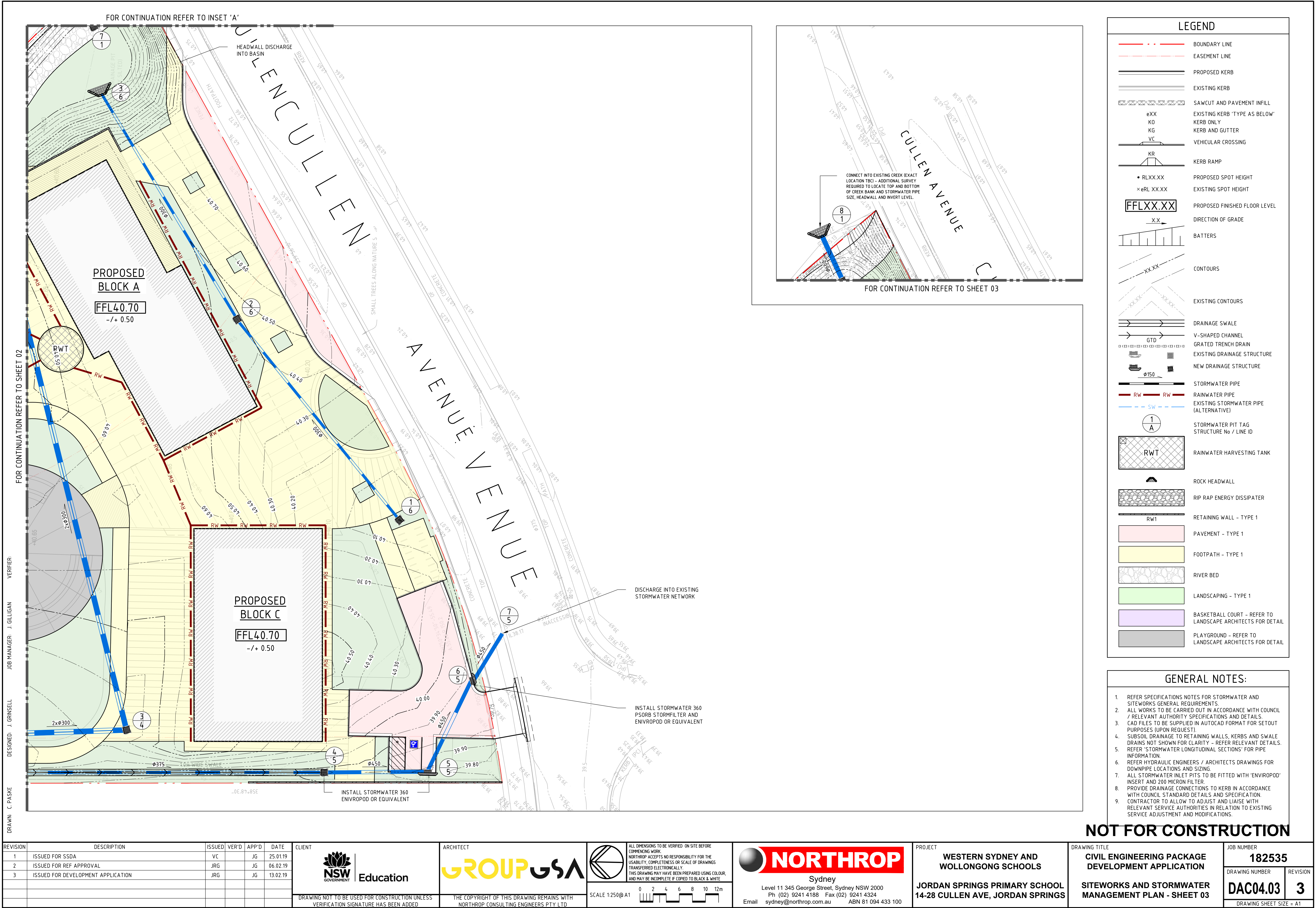
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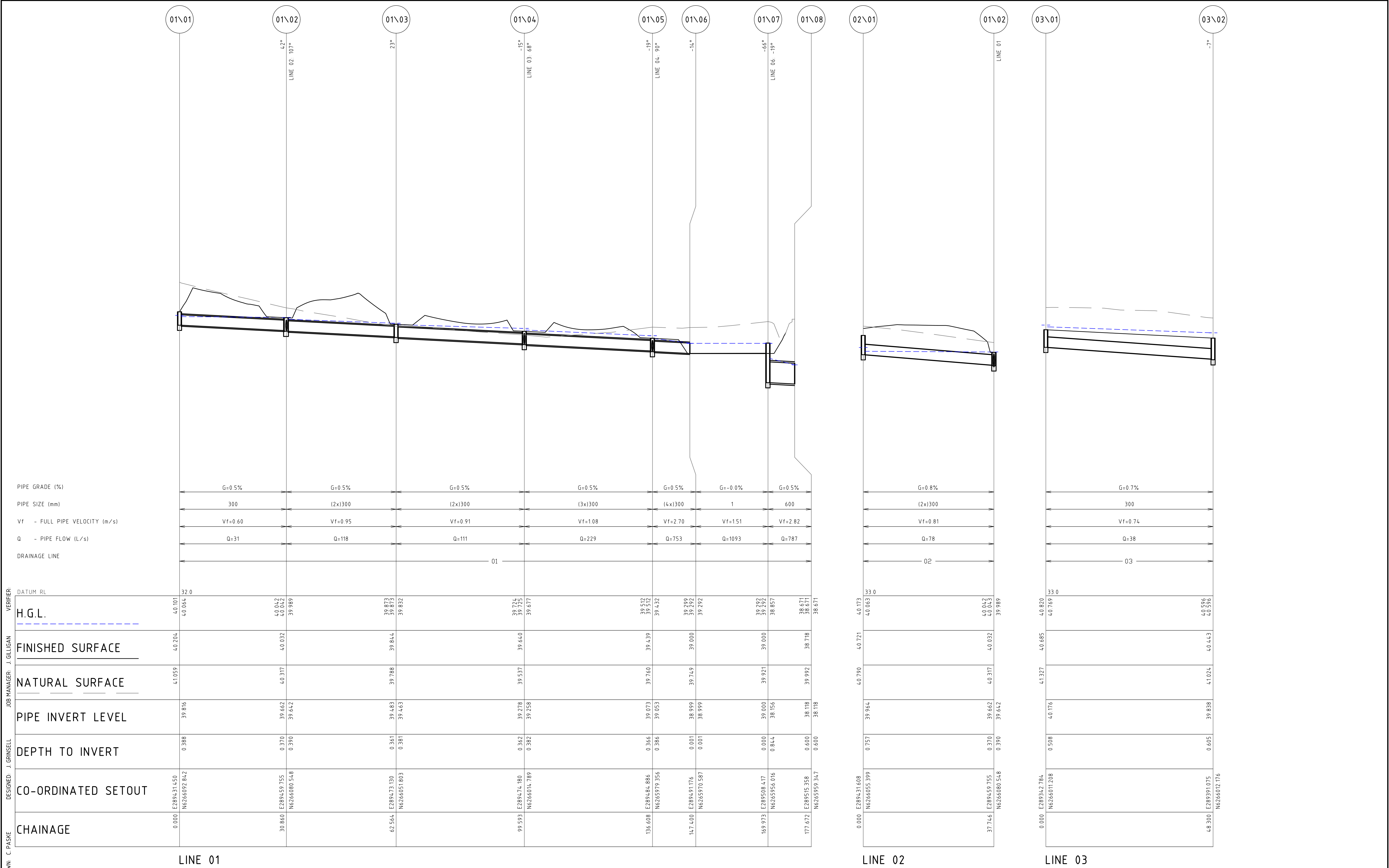
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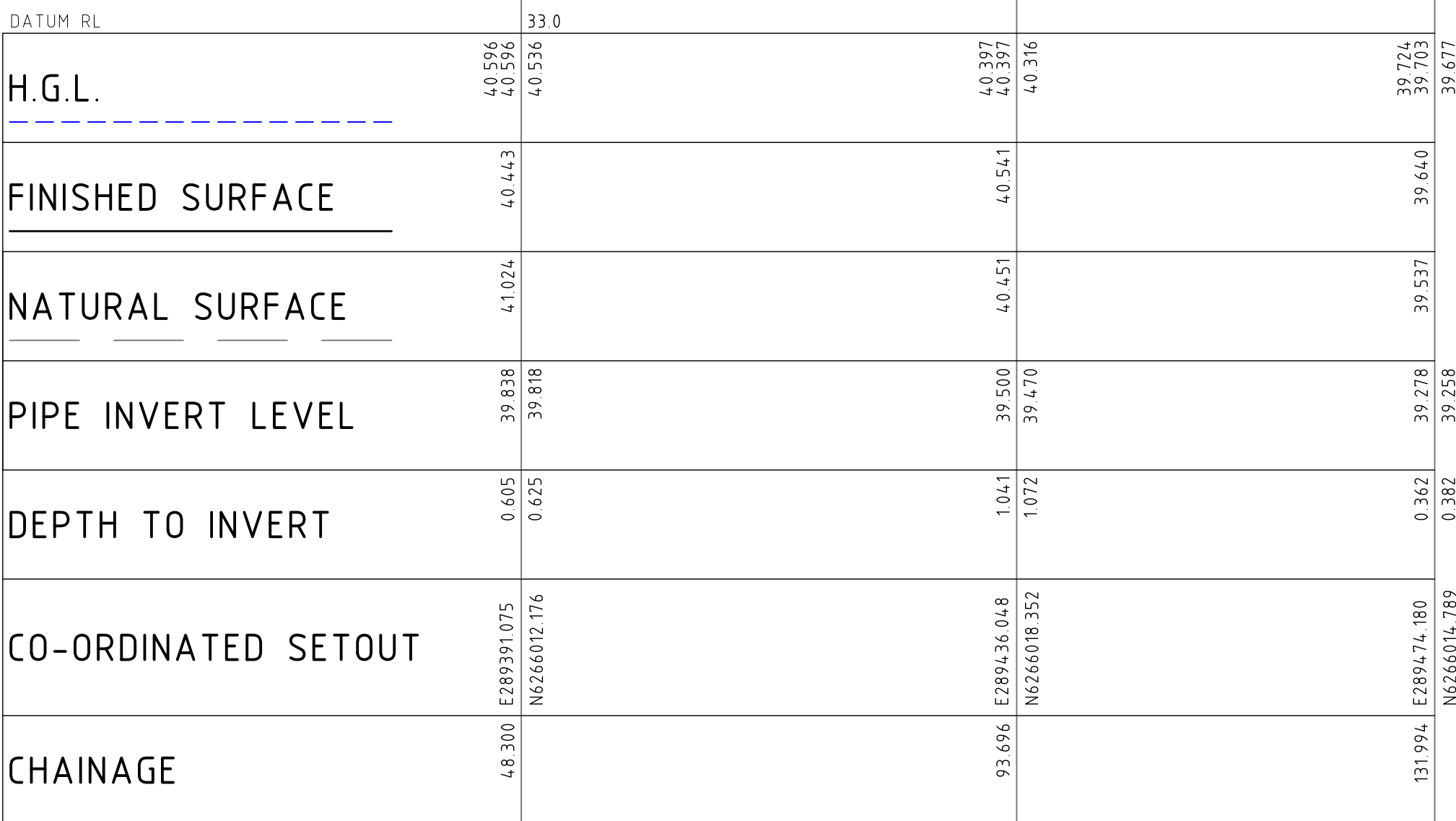
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FOR CONTINUATION REFER TO SHEET 03

FOR CONTINUATION REFER TO SHEET 01



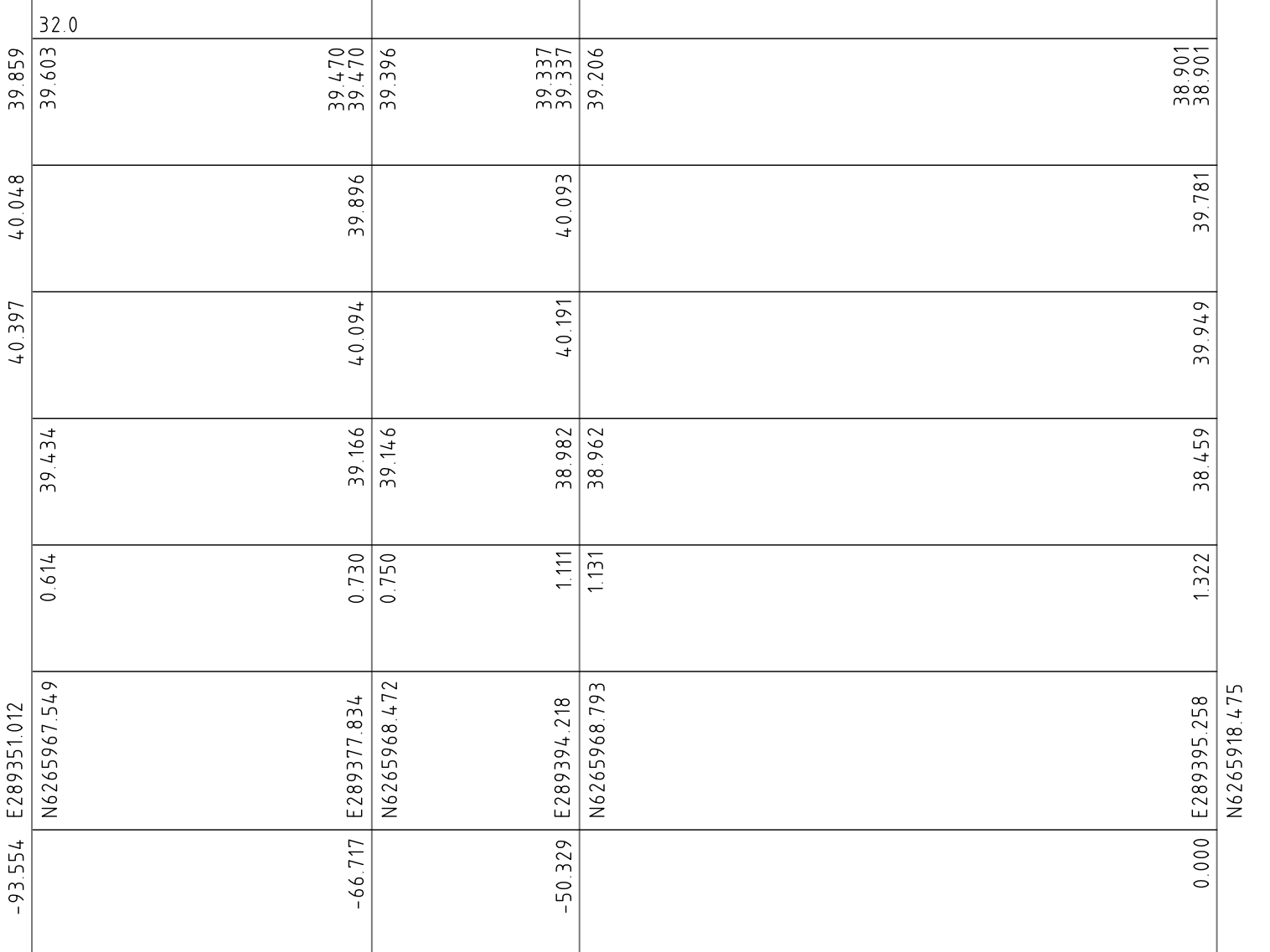




LINE 03



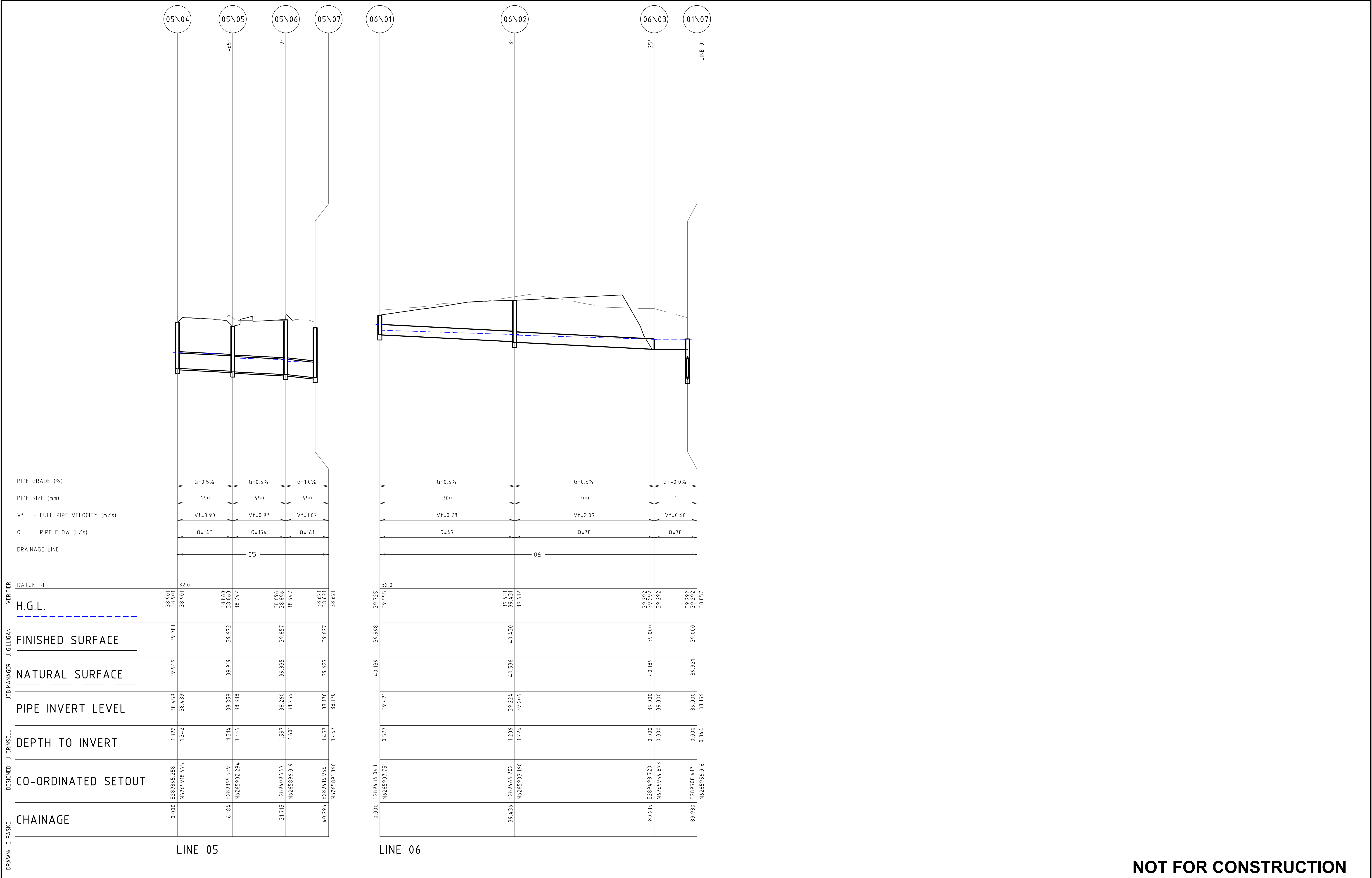
LINE 04



LINE 05

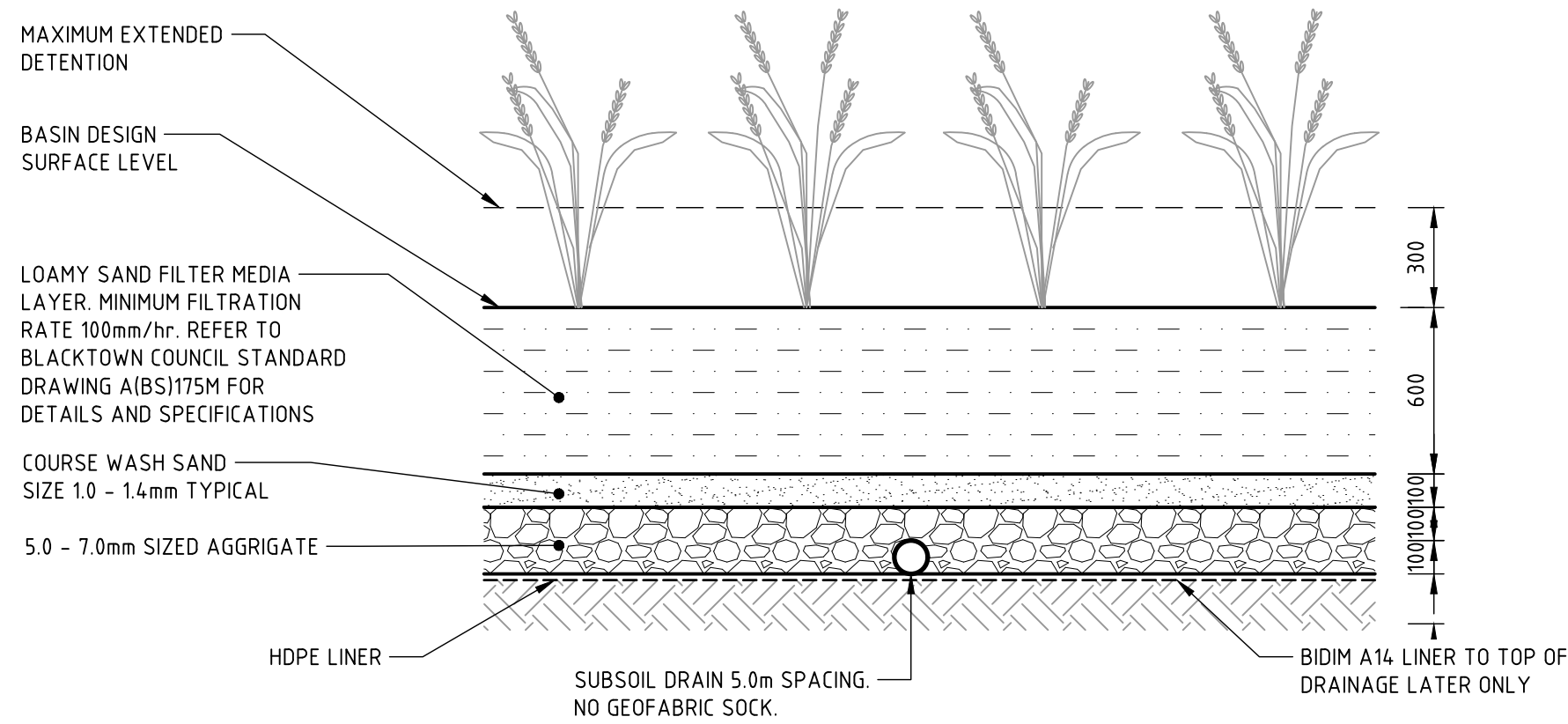
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1	ISSUED FOR SSDA	VC		JG	25.01.19	 Education		 Sydney Level 11 345 George Street, Sydney NSW 2000 Ph (02) 9241 4188 Fax (02) 9241 4324 Email sydney@northrop.com.au ABN 81 094 433 100	WESTERN SYDNEY AND WOLLONGONG SCHOOLS JORDAN SPRINGS PRIMARY SCHOOL 14-28 CULLEN AVE, JORDAN SPRINGS	CIVIL ENGINEERING PACKAGE DEVELOPMENT APPLICATION STOMRWATER LONGITUDINAL SECTIONS - SHEET 02	182535
2	ISSUED FOR REF APPROVAL	JRG		JG	06.02.19						
3	ISSUED FOR DEVELOPMENT APPLICATION	JRG		JG	13.02.19						
						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 DAC04.22	REVISION 3
											DRAWING SHEET SIZE = A1

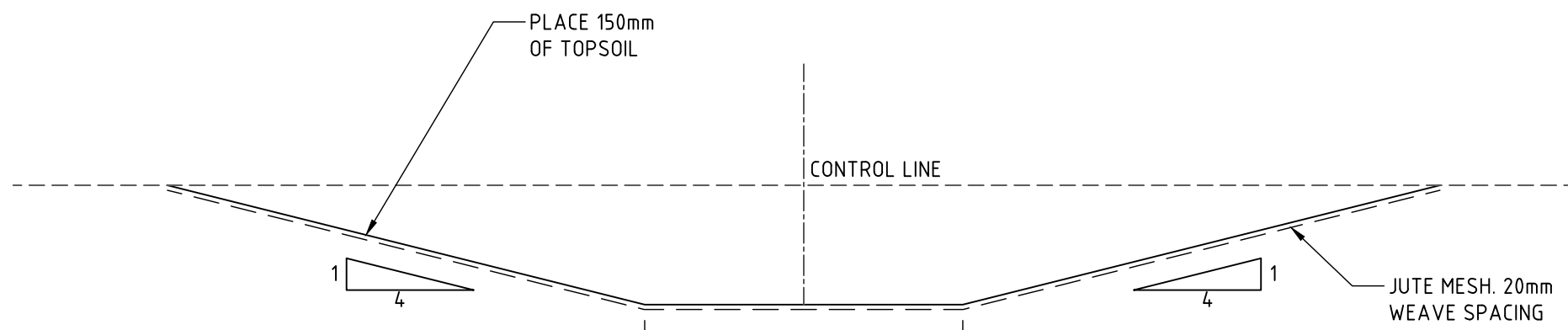


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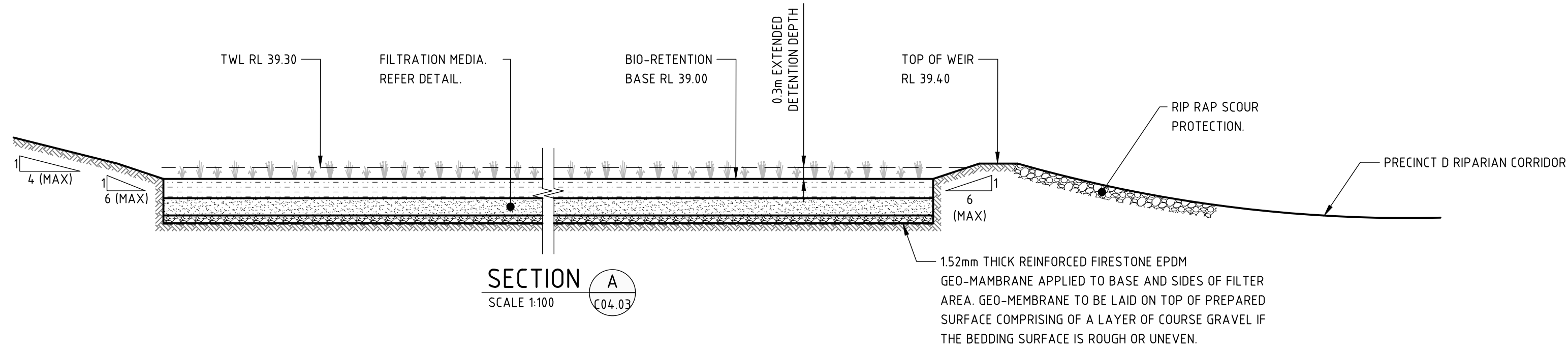
DRAWN: C. PASKE
DESIGNED: J. CRINSELL
JOB MANAGER: J. GILLIGAN
VERIFIER:



BIO-FILTRATION FILTER DETAIL

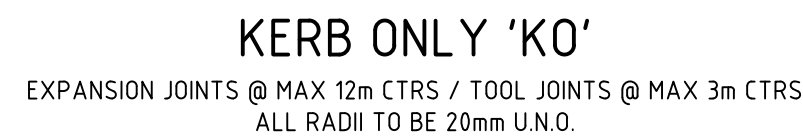


TAIL OUT DRAIN DETAIL
SCALE NTS



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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	 Sydney Level 11 345 George Street, Sydney NSW 2000 Ph (02) 9241 4188 Fax (02) 9241 4324 Email sydney@northrop.com.au ABN 81 094 433 100	PROJECT	DRAWING TITLE	JOB NUMBER
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2		ISSUED FOR REF APPROVAL			JRG		JG	06.02.19			DRAWING NUMBER		REVISION		
3		ISSUED FOR DEVELOPMENT APPLICATION			JRG		JG	13.02.19			DAC04.31		3		
									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		JORDAN SPRINGS PRIMARY SCHOOL 14-28 CULLEN AVE, JORDAN SPRINGS	BIORETENTION BASIN DETAILS - SHEET 01	DRAWING SHEET SIZE = A1	



PIT STRUCTURE TO BE 200mm THICK UNLESS SHOWN OTHERWISE. DRILL AND EPOXY PLASTIC PROPRIETARY STEP IRONS IN ACCORDANCE WITH AUSTRALIAN STANDARDS AND MANUFACTURERS SPECIFICATIONS (PITS > 1000mm DEPTH). REFER PIT INTERFACE DETAIL 'F' FOR CORNER REINFORCEMENT

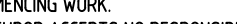


FOR SAG PITS, ENSURE PIT LINTEL IS LOCATED
CENTRAL TO PIT GRATE AND FRAME AND 1:10 CHUTE
IS CONSTRUCTED TO BOTH SIDES OF PIT

REFER EXTENDED CHAMBER PIT DETAIL FOR
PIPEWORK IN EXCESS OF $\phi 450$ AND WHERE REQUIRED

KERB INLET PIT 'KIP'

PIT STRUCTURE TO BE 200mm THICK UNLESS SHOWN OTHERWISE. DRILL AND EPOXY PLASTIC PROPRIETARY STEP IRONS IN ACCORDANCE WITH AUSTRALIAN STANDARDS AND MANUFACTURERS SPECIFICATIONS (PITS > 1000mm DEPTH).
REFER PIT INTERFACE DETAIL 'F' FOR CORNER REINFORCEMENT

REVISION		DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT	ARCHITECT		PROJECT	DRAWING TITLE	JOB NUMBER
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3		ISSUED FOR DEVELOPMENT APPLICATION	JRG		JG	13.02.19						
							DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS REPIRATED BY THE ARCHITECTURE HAS BEEN ADDED.	THE COPYRIGHT OF THIS DRAWING REMAINS WITH NORTHROP CONSULTING ENGINEERS PTY LTD.	SCALE VARIES			
DRAWING SHEET SIZE = A1												

NOT FOR CONSTRUCTION

DRAWN: C. PASKE	DESIGNED: J. GRINSELL	JOB MANAGER: J. GILLIGAN	VERIFIER:
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