

LEGEND:

Lower value	Upper value	Colour
6	to 3	m
3	to 2	m
2	to 1.5	m
1.5	to 1	m
1	to 0.75	m
0.75	to 0.5	m
0.5	to 0.25	m
0.25	to 0.05	m
0.05	to 0	m
0	to -0.05	m
-0.05	to -0.25	m
-0.25	to -0.5	m
-0.5	to -0.75	m
-0.75	to -1	m
-1	to -1.5	m
-1.5	to -2	m
-2	to -3	m
-3	to -6	m

VOLUMES:  
 CUT = 17750m<sup>3</sup>  
 FILL = 13800m<sup>3</sup>  
 EXPORT = 3950m<sup>3</sup>

NOTES:  
 1: CUT FILL VOLUMES ARE FROM WORK AS EXECUTED SURFACE TO FINAL DESIGN SURFACE.  
 2: NO INCLUSION HAS BEEN MADE FOR SITE STRIPPING  
 3: NO INCLUSION HAS BEEN MADE FOR BOXING VOLUMES

— 42.00 — DESIGN CONTOURS (0.1m INTERVAL)  
 — 42.00 — WORK AS EXECUTED CONTOURS (0.2m INTERVAL)  
 - - - - - EXTENT OF WORKS  
 — BATTER EXTENTS

drawing title:

## EARTHWORKS PLAN

location: WOOLWORTHS CAMERON PARK

council: LAKE MACQUARIE

dwg ref: 239402-DA-201

client:  
 Woolworths  
 Australia's fresh food people

adw  
 johnson

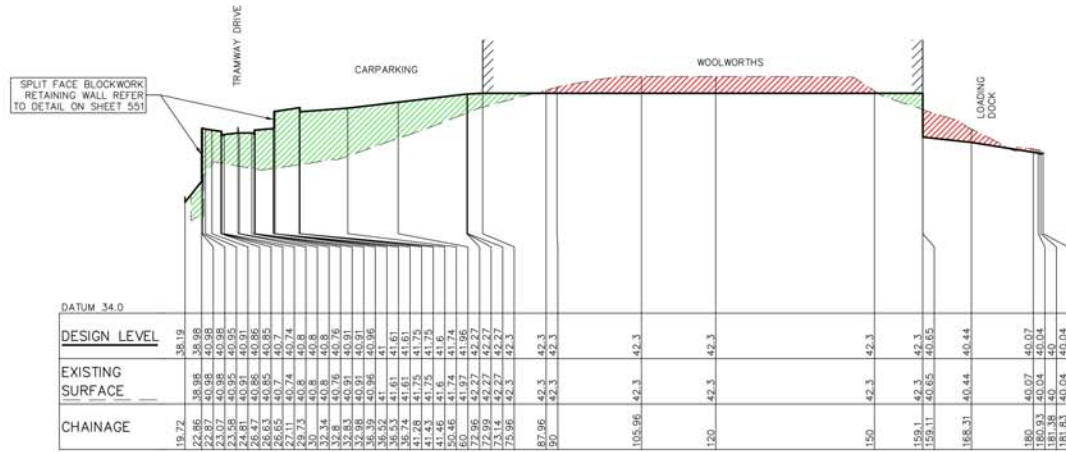
central coast office ph: (02) 4305 4300

hunter office ph: (02) 4772 5100

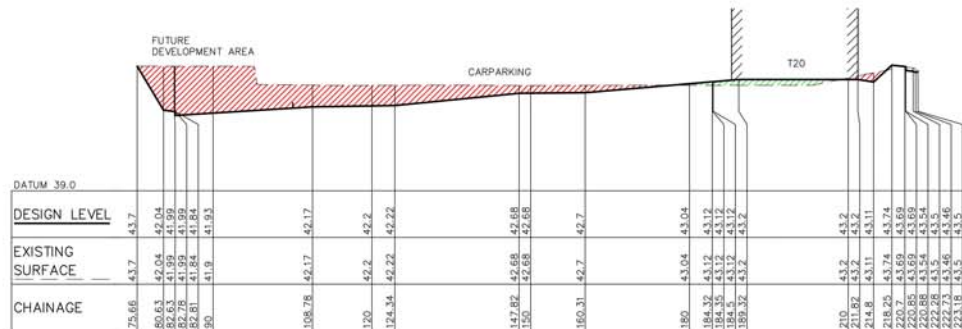
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ver.	date	comment	drawn	pm	level information	scale (A1 original size)	notes
F	20/2/18	ISSUE FOR DEVELOPMENT APPLICATION	DW	MK	DATUM: N/A CONTOUR INTERVAL: 0.1m	SCALE 1:200 (P.A.M.)	

• project management • civil engineering • infrastructure • superintendency • economic analysis • social impact • town planning • surveying • development feasibility • visualisation • urban design



1 SITE SECTION 1  
HORIZONTAL SCALE 1:500  
VERTICAL SCALE 1:100



2 SITE SECTION 2  
HORIZONTAL SCALE 1:500  
VERTICAL SCALE 1:100

ver.	date	comment	drawn	pm	level information	scale (A1 original size)	notes
F	20/2/18	ISSUE FOR DEVELOPMENT APPLICATION	DW	MK	DATUM: N/A CONTOUR INTERVAL: N/A	 SCALE 1:500 (P.A.M.)	 SCALE 1:100 (P.A.M.)
<div> <div>project management</div> <div>civil engineering</div> <div>infrastructure</div> <div>superintendency</div> <div>economic analysis</div> <div>social impact</div> <div>town planning</div> <div>surveying</div> <div>development feasibility</div> <div>visualisation</div> <div>urban design</div> </div>							

drawing title:

## SITE SECTIONS SHEET 1

location: WOOLWORTHS  
CAMERON PARK

council: LAKE MACQUARIE

dwg ref: 239402-DA-301

client:

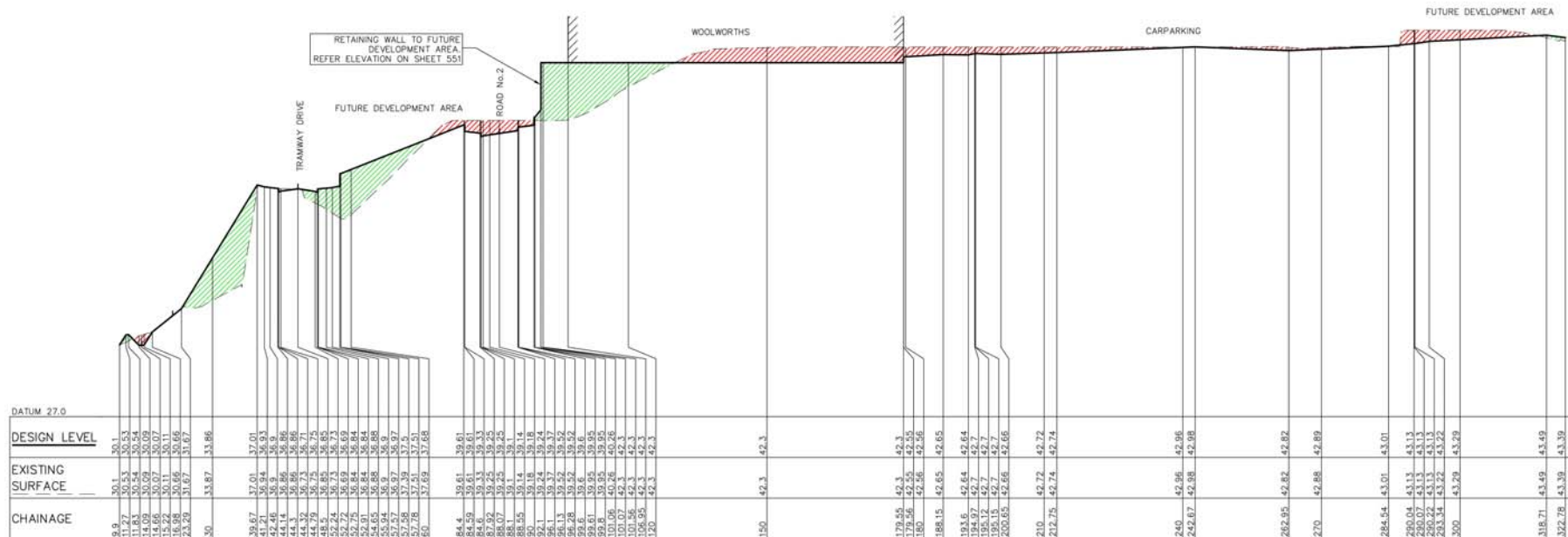
Woolworths  
Australia's fresh food people

central coast office ph: (02) 4305 4300

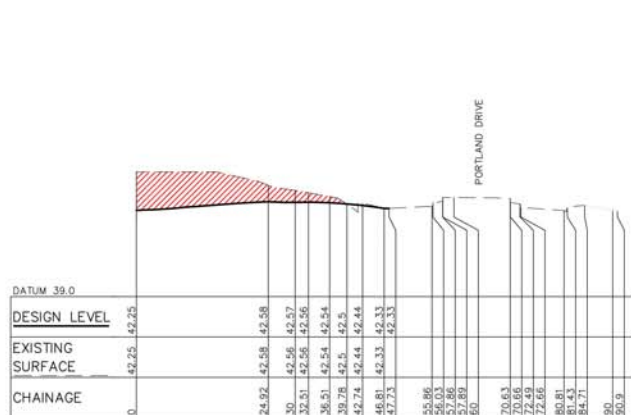
hunter office ph: (02) 4973 5100

www.adwjohnson.com.au

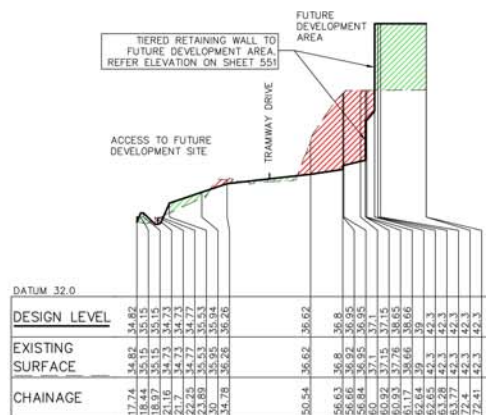




3 SITE SECTION 3  
HORIZONTAL SCALE 1:500  
VERTICAL SCALE 1:100



4 SITE SECTION 4  
HORIZONTAL SCALE 1:500  
VERTICAL SCALE 1:100



5 SITE SECTION 5  
HORIZONTAL SCALE 1:500  
VERTICAL SCALE 1:100

ver.	date	comment	drawn	pm	level information	scale (A1 original size)	notes
F	20/2/18	ISSUE FOR DEVELOPMENT APPLICATION	DW	MK	DATUM: N/A CONTOUR INTERVAL: N/A	SCALE 1:500 (PLAN)	SCALE 1:500 (PLAN)
• project management • civil engineering • infrastructure • superintendency • economic analysis • social impact • town planning • surveying • development feasibility • visualisation • urban design							

drawing title:  
SITE SECTIONS  
SHEET 2

location: WOOLWORTHS  
CAMERON PARK

council: LAKE MACQUARIE

dwg ref: 239402-DA-302

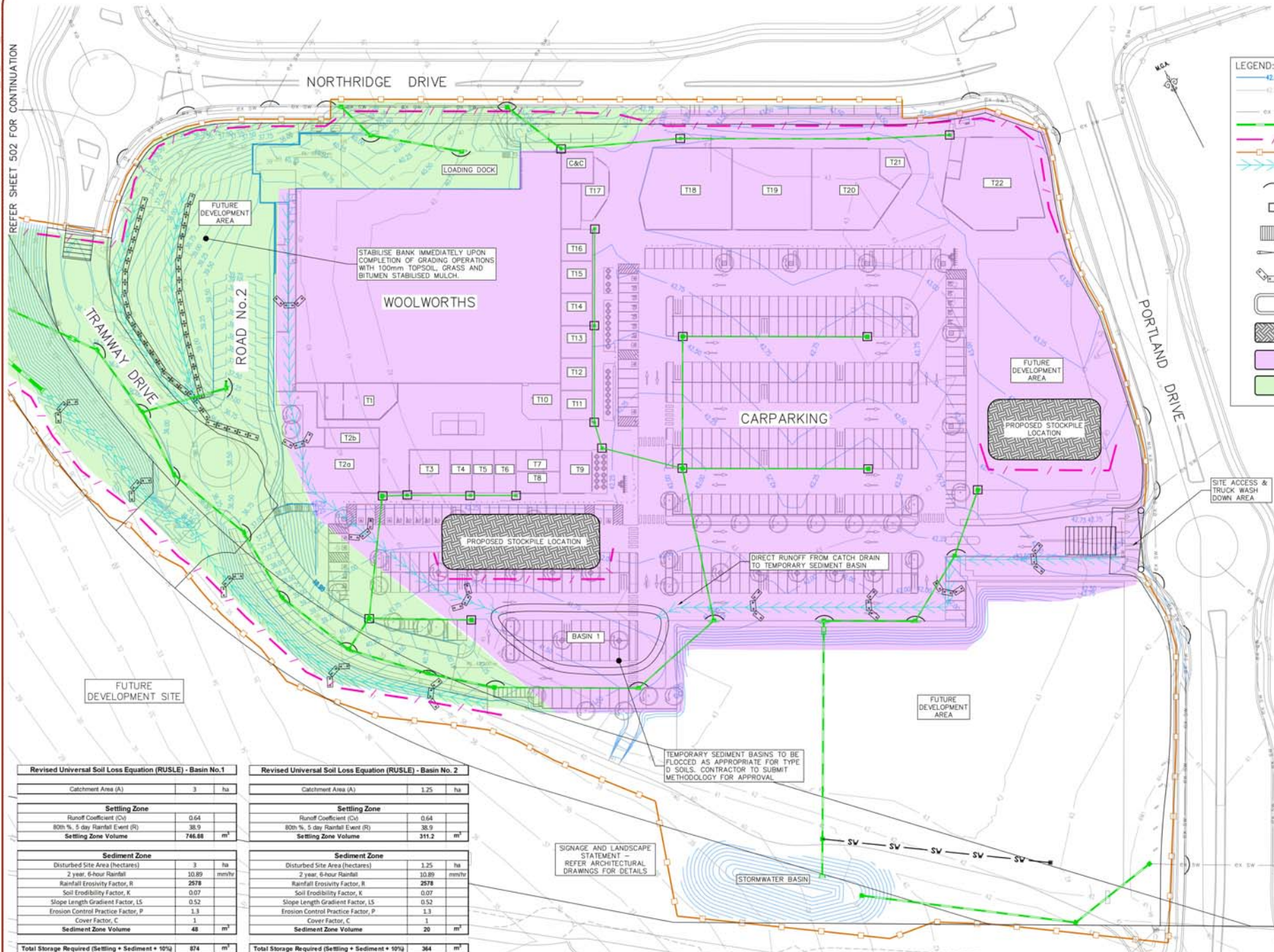
client:



central coast office ph: (02) 4305 4300

hunter office ph: (02) 4978 5100

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LEGEND:	
42.00	DESIGN CONTOURS (0.1m INTERVAL)
42.00	WORK AS EXECUTED CONTOURS (1.0m INTERVAL)
EX SW	EXISTING STORMWATER DRAINAGE
PROPOSED	PROPOSED STORMWATER DRAINAGE
SD6-8	SEDIMENT FENCE, REFER SD6-8
SD5-5	SITE BARRIER FENCING
SD5-5	EARTH BANK - GEOTEXTILE LINED, REFER SD5-5
SD6-11	MESH AND GRAVEL INLET FILTER, REFER SD6-11
SD6-12	GEOTEXTILE INLET FILTER, REFER SD6-12
	TRUCK WASH DOWN AREA
	SITE ACCESS GATE
	STRAW BALES FILTER, REFER SD6-7
	TEMPORARY SEDIMENT BASIN, REFER SD6-4
	STOCKPILE LOCATION, REFER SD4-1
	BASIN 1 CATCHMENT
	BASIN 2 CATCHMENT

Revised Universal Soil Loss Equation (RUSLE) - Basin No.1

Catchment Area (A)	3	ha
<b>Settling Zone</b>		
Runoff Coefficient (C <sub>r</sub> )	0.64	
80th % 5 day Rainfall Event (R)	38.9	mm/hr
Settling Zone Volume	746.68	m <sup>3</sup>
<b>Sediment Zone</b>		
Disturbed Site Area (hectares)	9	ha
2 year 6-hour Rainfall	10.89	mm/hr
Rainfall Erosivity Factor, R	2978	
Soil Erodibility Factor, K	0.07	
Slope Length Gradient Factor, LS	0.52	
Erosion Control Practice Factor, P	1.3	
Cover Factor, C	1	
Sediment Zone Volume	48	m <sup>3</sup>
Total Storage Required (Settling + Sediment + 10%)	874	m <sup>3</sup>

Revised Universal Soil Loss Equation (RUSLE) - Basin No. 2

Catchment Area (A)	1.25	ha
<b>Settling Zone</b>		
Runoff Coefficient (C <sub>r</sub> )	0.64	
80th % 5 day Rainfall Event (R)	38.9	mm/hr
Settling Zone Volume	311.2	m <sup>3</sup>
<b>Sediment Zone</b>		
Disturbed Site Area (hectares)	1.25	ha
2 year 6-hour Rainfall	10.89	mm/hr
Rainfall Erosivity Factor, R	2978	
Soil Erodibility Factor, K	0.07	
Slope Length Gradient Factor, LS	0.52	
Erosion Control Practice Factor, P	1.3	
Cover Factor, C	1	
Sediment Zone Volume	20	m <sup>3</sup>
Total Storage Required (Settling + Sediment + 10%)	364	m <sup>3</sup>

SIGNAGE AND LANDSCAPE STATEMENT - REFER ARCHITECTURAL DRAWINGS FOR DETAILS

ver.	date	comment	drawn	pm	level information	scale (A1 original size)	notes
F	20/2/18	ISSUE FOR DEVELOPMENT APPLICATION	DW	MK	DATUM: AHD CONTOUR INTERVAL: 0.1m	0 12.5 25.0m SCALE 1:500 (P.A.M.)	

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drawing title:  
**EROSION & SEDIMENT CONTROL PLAN - SHEET 1**

location: WOOLWORTHS CAMERON PARK

council: LAKE MACQUARIE

dwg ref: 239402-DA-501

client:  
**Woolworths**  
Australia's fresh food partner  
**adw johnson**

central coast office: ph: (02) 4303 4300  
hunter office: ph: (02) 4978 5100  
www.adwjohnson.com.au



LEGEND:	
	DESIGN CONTOURS (0.1m INTERVAL)
	WORK AS EXECUTED CONTOURS (1.0m INTERVAL)
	EXISTING STORMWATER DRAINAGE
	PROPOSED STORMWATER DRAINAGE
	SEDIMENT FENCE, REFER SD6-8
	SITE BARRIER FENCING
	EARTH BANK - GEOTEXTILE LINED, REFER SD6-5
	MESH AND GRAVEL INLET FILTER, REFER SD6-11
	GEOTEXTILE INLET FILTER, REFER SD6-12
	TRUCK WASH DOWN AREA
	SITE ACCESS GATE
	STRAW BALES FILTER, REFER SD6-7
	TEMPORARY SEDIMENT BASIN, REFER SD6-4
	STOCKPILE LOCATION, REFER SD4-1
	BASIN 1 CATCHMENT
	BASIN 2 CATCHMENT

EXISTING BASIN

TEMPORARY SEDIMENT BASINS TO BE FLOCCED AS APPROPRIATE FOR TYPE D SOILS. CONTRACTOR TO SUBMIT METHODOLOGY FOR APPROVAL

PIPED CROSSING TO BE CONSTRUCTED TO CONNECT CATCH DRAINS

FUTURE DEVELOPMENT SITE

NORTH RIDGE DRIVE

LOADING DOCK

STABILISE BANK IMMEDIATELY UPON COMPLETION OF GRADING OPERATIONS WITH 100mm TOPSOIL, GRASS AND BITUMEN STABILISED MULCH

WOOLWORTHS

ROAD No.2

TRAMWAY DRIVE

REFER SHEET 501 FOR CONTINUATION

drawing title:  
**EROSION & SEDIMENT CONTROL PLAN - SHEET 2**

location: WOOLWORTHS CAMERON PARK

council: LAKE MACQUARIE

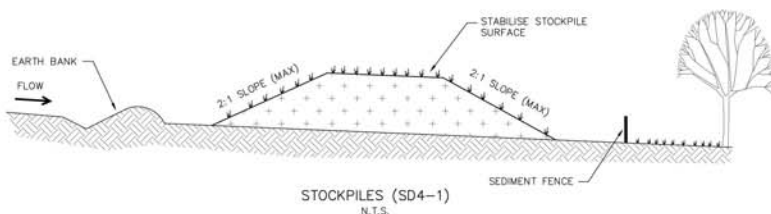
dwg ref: 239402-DA-502

client:

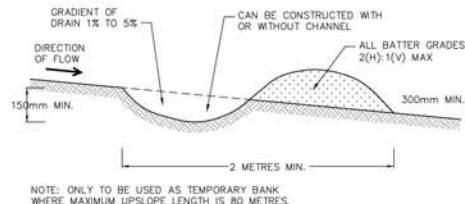
Woolworths  
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hunter office ph: (02) 4978 5100  
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ver.	date	comment	drawn	pm	level information	scale (A1 original size)	notes
F	20/2/18	ISSUE FOR DEVELOPMENT APPLICATION	DW	MK	DATUM: AHD CONTOUR INTERVAL: 0.1m	0 12.5 25.0m SCALE 1:500 (A1)	

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**CONSTRUCTION NOTES:**

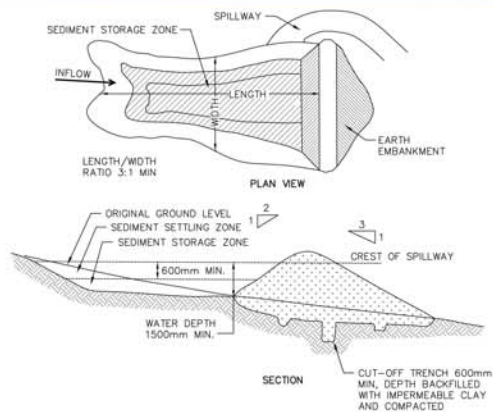
1. PLACE STOCKPILES MORE THAN 2 (PREFERABLY 5) METRES FROM EXISTING VEGETATION, CONCENTRATED WATER FLOW, ROADS AND HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT, ELONGATED MOUNDS.
3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2 METRES IN HEIGHT.
4. WHERE THEY ARE TO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



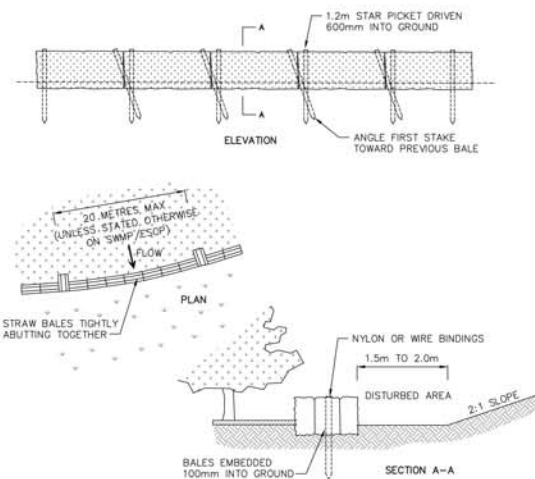
NOTE: ONLY TO BE USED AS TEMPORARY BANK WHERE MAXIMUM UPSLOPE LENGTH IS 80 METRES.

**EARTH BANK (SD5-5)**  
N.T.S.**CONSTRUCTION NOTES:**

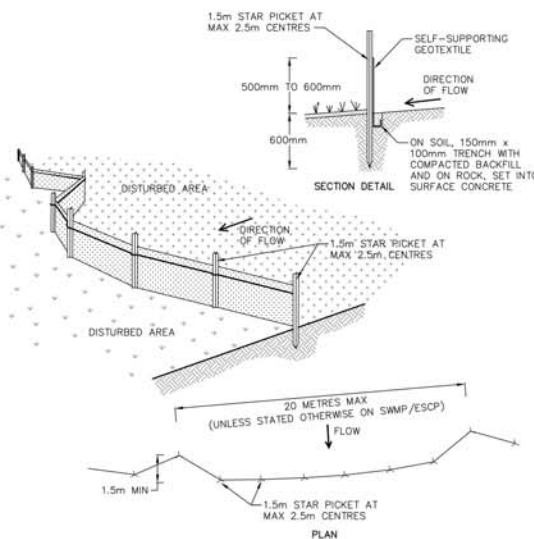
1. BUILD WITH GRADIENTS BETWEEN 1 PERCENT AND 5 PERCENT.
2. AVOID REMOVING TREES AND SHRUBS IF POSSIBLE - WORK AROUND THEM.
3. ENSURE THE STRUCTURES ARE FREE OF PROJECTIONS OR OTHER IRREGULARITIES THAT COULD IMPEDE WATER FLOW.
4. BUILD THE DRAINS WITH CIRCULAR, PARABOLIC OR TRAPEZOIDAL CROSS SECTIONS, NOT V SHAPED.
5. ENSURE THE BANKS ARE PROPERLY COMPACTED TO PREVENT FAILURE.
6. COMPLETE PERMANENT OR TEMPORARY STABILISATION WITHIN 10 DAYS OF CONSTRUCTION.

**WET EARTH BASIN (SD6-4)**  
(APPLIES TO 'TYPE D' SOILS ONLY)  
N.T.S.**CONSTRUCTION NOTES:**

1. REMOVE ALL VEGETATION AND TOPSOIL FROM UNDER THE DAM WALL AND FROM WITHIN THE STORAGE AREA.
2. CONSTRUCT A CUT-OFF TRENCH 500mm DEEP AND 1200mm WIDE ALONG THE CENTRELINE OF THE EMBANKMENT EXTENDING TO A POINT ON THE GULLY WALL LEVEL WITH THE RISER CREST.
3. MAINTAIN THE TRENCH FREE OF WATER AND RECOMPACT THE MATERIALS WITH EQUIPMENT AS SPECIFIED IN THE SWMP TO 95 PERCENT STANDARD PROCTOR DENSITY.
4. SELECT FILL ACCORDING TO THE SWMP THAT IS FREE FROM ROOTS, WOOD, ROCK, LARGE STONE OR FOREIGN MATERIAL.
5. PREPARE THE SITE UNDER THE EMBANKMENT BY RIPPING TO AT LEAST 100mm TO HELP BOND THE COMPACTED FILL TO THE EXISTING SUBSTRATE.
6. SPREAD THE FILL IN 100mm TO 150mm LAYERS AND COMPACT IT AT OPTIMUM MOISTURE CONTENT FOLLOWING THE SWMP.
7. CONSTRUCT THE EMERGENCY SPILLWAY.
8. REHABILITATE THE STRUCTURE FOLLOWING THE SWMP.

**STRAW BALE FILTER (SD6-7)**  
N.T.S.**CONSTRUCTION NOTES:**

1. CONSTRUCT THE STRAW BALE FILTER AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE.
2. PLACE BALES LENGTHWISE IN A ROW WITH ENDS TIGHTLY ABUTTING. USE STRAW TO FILL ANY GAPS BETWEEN BALES. STRAWS ARE TO BE PLACED PARALLEL TO GROUND.
3. ENSURE THAT THE MAXIMUM HEIGHT OF THE FILTER IS ONE BALE.
4. EMBED EACH BALE IN THE GROUND 75mm TO 100mm AND ANCHOR WITH TWO 1.2m STAR PICKETS OR STAKES. ANGLE THE FIRST STAR PICKET OR STAKE IN EACH BALE TOWARDS THE PREVIOUSLY LAID BALE. DRIVE THEM 600mm IN THE GROUND AND, IF POSSIBLE, FLUSH WITH THE TOP OF THE BALES. WHERE STAR PICKETS ARE USED AND THEY PROTRUDE ABOVE THE BALES, ENSURE THEY ARE FITTED WITH SAFETY CAPS.
5. WHERE A STRAW BALE FILTER IS CONSTRUCTED DOWNSLOPE FROM A DISTURBED BATTER, ENSURE THE BALES ARE PLACES 1 TO 2 METRES DOWNSLOPE FROM THE TOE.
6. ESTABLISH A MAINTENANCE PROGRAM THAT ENSURES THE INTEGRITY OF THE BALES IS RETAINED - THEY COULD REQUIRE REPLACEMENT EACH TWO TO FOUR MONTHS.

**SEDIMENT FENCE (SD6-8)**  
N.T.S.**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 2.5 METRE INTERVALS (MAX) AT 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.

ver.	date	comment	drawn	pm	level information	scale (A1 original size)	notes
F	20/2/18	ISSUE FOR DEVELOPMENT APPLICATION	DW	AK	DATUM: N/A CONTOUR INTERVAL: N/A	NOT TO SCALE	

drawing title:  
**EROSION &  
SEDIMENT CONTROL  
DETAILS - SHEET 1**

location: WOOLWORTHS  
CAMERON PARK

council: LAKE MACQUARIE

dwg ref: 239402-DA-511

client:

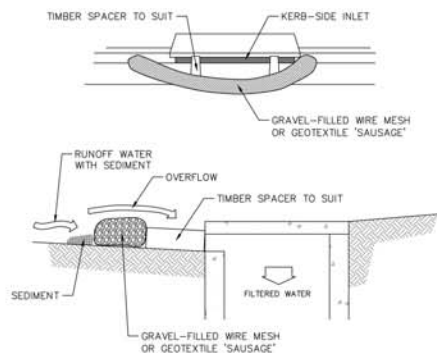


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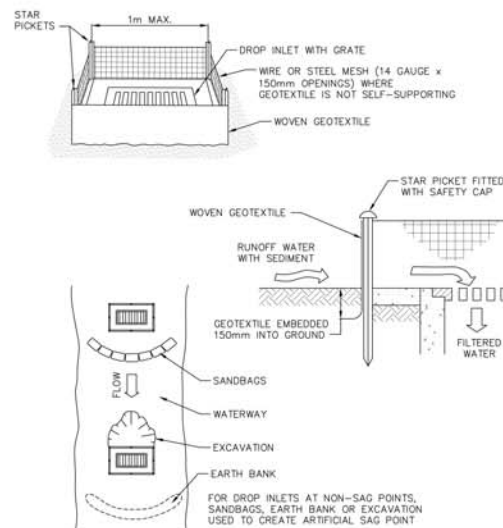


NOTE: THIS PRACTICE ONLY TO BE USED WHERE SPECIFIED IN AN APPROVED SWMP/ESCP.

#### MESH AND GRAVEL INLET FILTER (SD6-11) N.T.S.

##### CONSTRUCTION NOTES:

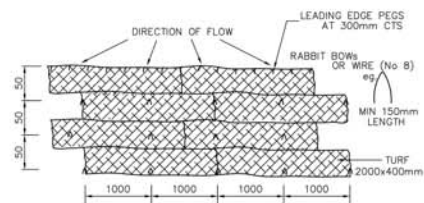
1. INSTALL FILTERS TO KERB INLETS ONLY AT SAG POINTS.
2. FABRICATE A SLEEVE MADE FROM GEOTEXTILE OR WIRE MESH LONGER THAN THE LENGTH OF THE INLET PIT AND FILL IT WITH 25mm TO 50mm GRAVEL.
3. FORM AN ELLIPTICAL CROSS SECTION ABOUT 150mm HIGH x 400mm WIDE.
4. PLACE THE FILTER AT THE OPENING LEAVING AT LEAST A 100mm SPACE BETWEEN IT AND THE KERB INLET. MAINTAIN THE OPENING WITH SPACER BLOCKS.
5. FORM A SEAL WITH THE KERB TO PREVENT SEDIMENT BYPASSING THE FILTER.
6. 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 INLET FILTER (SD6-12) N.T.S.

##### CONSTRUCTION NOTES:

1. FABRICATE A SEDIMENT BARRIER MADE FROM GEOTEXTILE OR STRAW BALES.
2. REFER STANDARD DRAWINGS 6-7 & 6-8 FOR INSTALLATION PROCEDURES FOR THE STRAW BALES OR GEOTEXTILE. 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.



#### TURF LAYING CONFIGURATION

ver.	date	comment	drawn	pm	level information	scale (A1 original size)	notes
F	20/2/18	ISSUE FOR DEVELOPMENT APPLICATION	DW	MK	DATUM: N/A CONTOUR INTERVAL: N/A	NOT TO SCALE	
• project management • civil engineering • infrastructure • superintendency • economic analysis • social impact • town planning • surveying • development feasibility • visualisation • urban design							

#### drawing title: EROSION & SEDIMENT CONTROL DETAILS - SHEET 2

location: WOOLWORTHS  
CAMERON PARK

council: LAKE MACQUARIE

dwg ref: 239402-DA-512

client:

Woolworths  
Australia's fresh food people

adw  
johnson

central coast office ph: (02) 4305 4300

hunter office ph: (02) 4973 5100

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## GENERAL

1. ESC REFERS TO EROSION AND SEDIMENT CONTROL PLAN OR A SOIL AND WATER MANAGEMENT PLAN (SWMP).
2. ESC REFERS TO EROSION AND SEDIMENT CONTROL.
3. SEDIMENT, INCLUDES, BUT IS NOT LIMITED TO, CLAY, SILT, SAND, GRAVEL, SOIL, MUD, CEMENT, AND CERAMIC WASTE.
4. ANY REFERENCE TO THE BLUE BOOK REFERS TO MANAGING URBAN STORMWATER – SOILS AND CONSTRUCTION. LANDCOM, 2004.
5. ANY REFERENCE TO THE IECA WHITE BOOKS (2008) REFERS TO IECA 2008. BEST PRACTICE EROSION AND SEDIMENT CONTROL. BOOKS 1-6. INTERNATIONAL EROSION CONTROL ASSOCIATION (AUSTRALASIA). PICTON NSW.
6. ANY MATERIAL DEPOSITED IN ANY CONSERVATION AREA FROM WORKS ASSOCIATED WITH THE DEVELOPMENT SHALL BE REMOVED IMMEDIATELY BY MEASURES INVOLVING MANUAL GROUND AND/OR VEGETATION DISTURBANCE AND NO MACHINERY, OR FOLLOWING DIRECTIONS BY COUNCIL AND/OR WITHIN A TIMEFRAME ADVISED BY COUNCIL.

## THE ESCP

7. THE ESCP AND ITS ASSOCIATED ESC MEASURES SHALL BE CONSTANTLY MONITORED, REVIEWED, AND MODIFIED AS REQUIRED TO CORRECT DEFICIENCIES. COUNCIL HAS THE RIGHT TO DIRECT CHANGES IF, IN ITS OPINION, THE MEASURES THAT ARE PROPOSED OR HAVE BEEN INSTALLED ARE INADEQUATE TO PREVENT POLLUTION.
8. PRIOR TO ANY ACTIVITIES ONSITE, THE RESPONSIBLE PERSON(S) IS TO BE NOMINATED. THE RESPONSIBLE PERSON(S) SHALL BE RESPONSIBLE FOR THE ESC MEASURES ONSITE. THE NAME, ADDRESS AND 24 HOUR CONTACT DETAILS OF THE PERSON(S) SHALL BE PROVIDED TO COUNCIL IN WRITING. COUNCIL SHALL BE ADVISED WITHIN 48 HOURS OF ANY CHANGE TO THE RESPONSIBLE PERSON(S), OR THEIR CONTACT DETAILS, IN WRITING.
9. AT LEAST 14 DAYS BEFORE THE NATURAL SURFACE IS DISTURBED IN ANY NEW STAGE, THE CONTRACTOR SHALL SUBMIT TO THE CERTIFIER, A PLAN SHOWING ESC MEASURES FOR THAT STAGE. THE DEGREE OF DESIGN DETAIL SHALL BE BASED ON THE DISTURBED AREA.
10. AT ANY TIME DURING CONSTRUCTION, THE ESC MEASURES ONSITE SHALL BE APPROPRIATE FOR THE AREA OF DISTURBANCE AND ITS CHARACTERISTICS INCLUDING SOILS (IN ACCORDANCE WITH THOSE REQUIRED FOR THE SITE AS PER DCP).
11. THE IMPLEMENTATION OF THE ESCP SHALL BE SUPERVISED BY PERSONNEL WITH APPROPRIATE QUALIFICATIONS AND/OR EXPERIENCE IN ESC ON CONSTRUCTION SITES.
12. THE APPROVED ESCP SHALL BE AVAILABLE ON-SITE FOR INSPECTION BY COUNCIL OFFICERS WHILE WORK ACTIVITIES ARE OCCURRING.
13. THE APPROVED ESCP SHALL BE UP TO DATE AND SHOW A TIMELINE OF INSTALLATION, MAINTENANCE AND REMOVAL OF ESC MEASURES.
14. ALL ESC MEASURES SHALL BE APPROPRIATE FOR THE SEDIMENT TYPE(S) OF THE SOILS ONSITE, IN ACCORDANCE WITH THE BLUE BOOK, IECA WHITE BOOKS OR OTHER CURRENTLY RECOGNISED INDUSTRY STANDARDS FOR ESC FOR AUSTRALIAN CONDITIONS.
15. ADEQUATE SITE DATA, INCLUDING SOIL DATA FROM A NATA APPROVED LABORATORY, SHALL BE OBTAINED TO ALLOW THE PREPARATION OF AN APPROPRIATE ESCP, AND ALLOW THE SELECTION, DESIGN AND SPECIFICATION OF REQUIRED ESC MEASURES.
16. ALL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE APPROVED ESCP (AS AMENDED FROM TIME TO TIME) UNLESS CIRCUMSTANCES ARISE WHERE:
  - a) COMPLIANCE WITH THE ESCP WOULD INCREASE THE POTENTIAL FOR ENVIRONMENTAL HARM, OR
  - b) CIRCUMSTANCES CHANGE DURING CONSTRUCTION AND THOSE CIRCUMSTANCES COULD NOT HAVE BEEN FORESEEN; OR
  - c) COUNCIL DETERMINES THAT UNACCEPTABLE OFF-SITE SEDIMENTATION IS OCCURRING AS A RESULT OF A LAND-DISTURBING ACTIVITY. IN EITHER CASE, THE PERSON(S) RESPONSIBLE MAY BE REQUIRED TO TAKE ADDITIONAL, OR ALTERNATIVE PROTECTIVE ACTION, AND/OR UNDERTAKE REASONABLE RESTORATION WORKS WITHIN THE TIMEFRAME SPECIFIED BY THE COUNCIL.
17. ADDITIONAL ESC MEASURES SHALL BE IMPLEMENTED, AND A REVISED ESCP SUBMITTED FOR APPROVAL TO THE CERTIFIER (WITHIN FIVE BUSINESS DAYS OF ANY SUCH AMENDMENTS) IN THE EVENT THAT:
  - a) THERE IS A HIGH PROBABILITY THAT SERIOUS OR MATERIAL ENVIRONMENTAL HARM MAY OCCUR AS A RESULT OF SEDIMENT LEAVING THE SITE; OR
  - b) THE IMPLEMENTED WORKS FAIL TO ACHIEVE COUNCIL'S WATER QUALITY OBJECTIVES SPECIFIED IN THESE CONDITIONS; OR
  - c) SITE CONDITIONS SIGNIFICANTLY CHANGE; OR
  - d) SITE INSPECTIONS INDICATE THAT THE IMPLEMENTED WORKS ARE FAILING TO ACHIEVE THE 'OBJECTIVE' OF THE ESCP.
18. A COPY OF ANY AMENDED ESCP SHALL BE FORWARDED TO AN APPROPRIATE COUNCIL OFFICER, WITHIN FIVE BUSINESS DAYS OF ANY SUCH AMENDMENTS.

## SITE ESTABLISHMENT INCLUDING CLEARING AND MULCHING

19. NO LAND CLEARING SHALL BE UNDERTAKEN UNLESS PRECEDED BY THE INSTALLATION OF ADEQUATE DRAINAGE AND SEDIMENT CONTROL MEASURES, UNLESS SUCH CLEARING IS REQUIRED FOR THE PURPOSE OF INSTALLING SUCH MEASURES, IN WHICH CASE, ONLY THE MINIMUM CLEARING REQUIRED TO INSTALL SUCH MEASURES SHALL OCCUR.
20. BULK TREE CLEARING AND GRUBBING OF THE SITE SHALL BE IMMEDIATELY FOLLOWED BY SPECIFIED TEMPORARY EROSION CONTROL MEASURES (E.G. TEMPORARY GRASSING OR MULCHING) PRIOR TO COMMENCEMENT OF EACH STAGE OF CONSTRUCTION WORKS.
21. TREES AND VEGETATION CLEARED FROM THE SITE SHALL BE MULCHED ONSITE WITHIN 7 DAYS OF CLEARING.
22. APPROPRIATE MEASURES SHALL BE UNDERTAKEN TO CONTROL ANY DUST ORIGINATING DUE TO THE MULCHING OF VEGETATION ONSITE.
23. ALL OFFICE FACILITIES AND OPERATIONAL ACTIVITIES SHALL BE LOCATED SUCH THAT ANY EFFLUENT, INCLUDING WASH-DOWN WATER, CAN BE TOTALLY CONTAINED AND TREATED WITHIN THE SITE.
24. ALL REASONABLE AND PRACTICABLE MEASURES SHALL BE TAKEN TO ENSURE STORMWATER RUNOFF FROM ACCESS ROADS AND STABILISED ENTRY/EXIT SYSTEMS, DRAINS TO AN APPROPRIATE SEDIMENT CONTROL DEVICE.
25. SITE EXIT POINTS SHALL BE APPROPRIATELY MANAGED TO MINIMISE THE RISK OF SEDIMENT BEING TRACKED ONTO SEALED, PUBLIC ROADWAYS.
26. STORMWATER RUNOFF FROM ACCESS ROADS AND STABILISED ENTRY/EXIT POINTS SHALL DRAIN TO AN APPROPRIATE SEDIMENT CONTROL DEVICE.
27. THE APPLICANT SHALL ENSURE AN ADEQUATE SUPPLY OF ESC, AND APPROPRIATE POLLUTION CLEAN-UP MATERIALS ARE AVAILABLE ON-SITE AT ALL TIMES.
28. ALL TEMPORARY EARTH BANKS, FLOW DIVERSION SYSTEMS, AND SEDIMENT BASIN EMBANKMENTS SHALL BE MACHINE-COMPACTED, SEEDED AND MULCHED WITHIN TEN (10) DAYS OF FORMATION FOR THE PURPOSE OF ESTABLISHING A VEGETATIVE COVER, OR LINED APPROPRIATELY.
29. SEDIMENT DEPOSITED OFF SITE AS A RESULT OF ON-SITE ACTIVITIES SHALL BE COLLECTED AND THE AREA CLEARED/REHABILITATED AS SOON AS REASONABLE AND PRACTICABLE.
30. CONCRETE WASTE AND CHEMICAL PRODUCTS, INCLUDING PETROLEUM AND OIL-BASED PRODUCTS, SHALL BE PREVENTED FROM ENTERING ANY INTERNAL OR EXTERNAL WATER BODY, OR ANY EXTERNAL DRAINAGE SYSTEM, EXCLUDING THOSE ON-SITE WATER BODIES SPECIFICALLY DESIGNED TO CONTAIN AND/OR TREAT SUCH MATERIAL. APPROPRIATE MEASURES SHALL BE INSTALLED TO TRAP THESE MATERIALS ONSITE.
31. BRICK, TILE OR MASONRY CUTTING SHALL BE CARRIED OUT ON A PEROUS SURFACE (E.G. GRASS OR OPEN SOIL) AND IN SUCH A MANNER THAT ANY RESULTING SEDIMENT-LADEN RUNOFF IS PREVENTED FROM DISCHARGING INTO A GUTTER, DRAIN OR WATER. APPROPRIATE MEASURES SHALL BE INSTALLED TO TRAP THESE MATERIALS ONSITE.
32. NEWLY SEALED HARD-STAND AREAS (E.G. ROADS, DRIVEWAYS AND CAR PARKS) SHALL BE SWEEP THOROUGHLY AS SOON AS PRACTICABLE AFTER SEALING/SURFACING TO MINIMISE THE RISK OF COMPONENTS OF THE SURFACING COMPOUND ENTERING STORMWATER DRAINS.
33. STOCKPILES OF ERODIBLE MATERIAL SHALL BE PROVIDED WITH AN APPROPRIATE PROTECTIVE COVER (SYNTHETIC OR ORGANIC) IF THE MATERIALS ARE LIKELY TO BE STOCKPILED FOR MORE THAN 10 DAYS.
34. STOCKPILES, TEMPORARY OR PERMANENT, SHALL NOT BE LOCATED IN AREAS IDENTIFIED AS NO-GO ZONES (INCLUDING, BUT NOT LIMITED TO, RESTRICTED ACCESS AREAS, BUFFER ZONES, OR AREAS OF NON-DISTURBANCE) ON THE ESCP.
35. NO MORE THAN 150M OF A STORMWATER, SEWER LINE OR OTHER SERVICE TRENCH SHALL BE OPEN AT ANY ONE TIME.
36. SITE SPOIL SHALL BE LAWFULLY DISPOSED OF IN A MANNER THAT DOES NOT RESULT IN ONGOING SOIL EROSION OR ENVIRONMENTAL HARM.
37. WHEREVER REASONABLE AND PRACTICABLE, STORMWATER RUNOFF ENTERING THE SITE FROM EXTERNAL AREAS, AND NON-SEDIMENT LADEN (CLEAN) STORMWATER RUNOFF ENTERING A WORK AREA OR AREA OF SOIL DISTURBANCE, SHALL BE DIVERTED AROUND OR THROUGH THAT AREA IN A MANNER THAT MINIMISES SOIL EROSION AND THE CONTAMINATION OF THAT WATER FOR ALL DISCHARGES UP TO THE SPECIFIED DESIGN STORM DISCHARGE.

## SITE MAINTENANCE INCLUDING DUST

38. PRIORITY SHALL BE GIVEN TO THE PREVENTION, OR AT LEAST THE MINIMISATION, OF SOIL EROSION, RATHER THAN THE TRAPPING OF DISPLACED SEDIMENT. SUCH A CLAUSE SHALL NOT REDUCE THE RESPONSIBILITY TO APPLY AND MAINTAIN, AT ALL TIMES, ALL NECESSARY ESC MEASURES.
39. MEASURES USED TO CONTROL WIND EROSION SHALL BE APPROPRIATE FOR THE LOCATION AND PREVENT SOIL EROSION AT ALL TIMES, INCLUDING WORKING HOURS, OUT OF HOURS, WEEKENDS, PUBLIC HOLIDAYS, AND DURING ANY OTHER SHUTDOWN PERIODS.
40. THE APPLICATION OF LIQUID OR CHEMICAL-BASED DUST SUPPRESSION MEASURES SHALL ENSURE THAT SEDIMENT-LADEN RUNOFF RESULTING FROM SUCH MEASURES DOES NOT CREATE A TRAFFIC OR ENVIRONMENTAL HAZARD.
41. ALL CUT AND FILL EARTH BATTERS LESS THAN 3M IN ELEVATION SHALL BE TOPSOILED, AND GRASS SEEDED/HYDROMULCHED WITHIN 10 DAYS OF COMPLETION OF GRADING IN CONSULTATION WITH COUNCIL.
42. ONCE CUT/FILL OPERATIONS HAVE BEEN FINALISED IN A SECTION, ALL DISTURBED AREAS THAT ARE NOT BEING WORKED ON SHALL BE STABILISED IN ACCORDANCE WITH TIME LINES IN THE BLUE BOOK.
43. ALL REASONABLE AND PRACTICABLE MEASURES SHALL BE TAKEN TO PREVENT, OR AT LEAST MINIMISE, THE RELEASE OF SEDIMENT FROM THE SITE.
44. SUITABLE ALL-WEATHER MAINTENANCE ACCESS SHALL BE PROVIDED TO ALL SEDIMENT CONTROL DEVICES.
45. SEDIMENT CONTROL DEVICES, OTHER THAN SEDIMENT BASINS, SHALL BE DE-SILTED AND MADE FULLY OPERATIONAL AS SOON AS REASONABLE AND PRACTICABLE AFTER A SEDIMENT-PRODUCING EVENT, WHETHER NATURAL OR ARTIFICIAL, IF THE DEVICE'S SEDIMENT RETENTION CAPACITY FALLS BELOW 75% OF ITS DESIGN RETENTION CAPACITY.
46. ALL EROSION AND SEDIMENT CONTROL MEASURES, INCLUDING DRAINAGE CONTROL MEASURES, SHALL BE MAINTAINED IN PROPER WORKING ORDER AT ALL TIMES DURING THEIR OPERATIONAL LIVES.
47. WASHING/FLUSHING OF SEALED ROADWAYS SHALL ONLY OCCUR WHERE SWEEPING HAS FAILED TO REMOVE SUFFICIENT SEDIMENT AND THERE IS A COMPELLING NEED TO REMOVE THE REMAINING SEDIMENT (E.G. FOR SAFETY REASONS). IN SUCH CIRCUMSTANCES, ALL REASONABLE AND PRACTICABLE SEDIMENT CONTROL MEASURES SHALL BE USED TO PREVENT, OR AT LEAST MINIMISE, THE RELEASE OF SEDIMENT INTO RECEIVING WATERS, ONLY THOSE MEASURES THAT WILL NOT CAUSE SAFETY AND PROPERTY FLOODING ISSUES SHALL BE EMPLOYED. SEDIMENT REMOVED FROM ROADWAYS SHALL BE DISPOSED OF IN A LAWFUL MANNER THAT DOES NOT CAUSE ONGOING SOIL EROSION OR ENVIRONMENTAL HARM.
48. SEDIMENT REMOVED FROM SEDIMENT TRAPS AND PLACES OF SEDIMENT DEPOSITION SHALL BE DISPOSED OF IN A LAWFUL MANNER THAT DOES NOT CAUSE ONGOING SOIL EROSION OR ENVIRONMENTAL HARM.

## SEDIMENT BASINS – INSTALLATION, MAINTENANCE AND REMOVAL INCLUDING SEDIMENT TRAPS

49. AS-CONSTRUCTED PLANS SHALL BE PREPARED FOR ALL CONSTRUCTED SEDIMENT BASINS AND ASSOCIATED EMERGENCY SPILLWAYS. SUCH PLANS SHALL VERIFY THE BASIN'S DIMENSIONS, LEVELS AND VOLUMES COMPLY WITH THE APPROVED DESIGN DRAWINGS. THESE PLANS MAY BE REQUESTED BY THE CERTIFIER OR COUNCIL.
50. SEDIMENT BASINS SHALL BE CONSTRUCTED AND FULLY OPERATIONAL PRIOR TO ANY OTHER SOIL DISTURBANCE IN THEIR CATCHMENT.
51. INSTALL AN INTERNAL GATED VALVE, OR SIMILAR, IN ANY OUTLET PIPE ONCE PIPES INSTALLED, OR INSTALL A SACRIFICIAL PIPE FROM BASIN THROUGH WALL TO EXTERNAL OUTLET POINT. THE VALVE SHALL BE CONNECTED TO A RISER MADE FROM SLOTTED PIPE IN THE BASIN. THE VALVE MAY BE OPENED ONCE CAPTURED WATER MEETS WATER QUALITY REQUIREMENTS. THE FINAL SETUP FOR TEMPORARY INTERNAL OUTLET STRUCTURES TO BE CONFIRMED PRIOR TO CONSTRUCTION WITH COUNCIL. THIS SETUP WILL ENABLE DISCHARGE OF TREATED WATER FROM SITE WITHOUT NEED FOR PUMPING.
52. A SEDIMENT STORAGE LEVEL MARKER POST SHALL BE WITH A CROSS MEMBER SET JUST BELOW THE TOP OF THE SEDIMENT STORAGE ZONE (AS SPECIFIED ON THE APPROVED ESCP). AT LEAST A 70MM WIDE POST SHALL BE FIRMLY SET INTO THE BASIN FLOOR.
53. THE SITE MANAGER SHALL OBTAIN THE RELEVANT APPROVALS FROM THE RELEVANT ORGANISATIONS TO DISCHARGE TREATED WATER FROM ANY EXISTING BASINS. ORGANISATIONS MAY INCLUDE, BUT NOT BE LIMITED TO, HUNTER WATER, AND COUNCIL.
54. WHERE MORE THAN ONE STAGE IS TO BE DEVELOPED AT ONE TIME, OR BEFORE THE PRECEDING STAGE IS COMPLETE, THE SEDIMENT BASIN(S) FOR THESE STAGES SHALL HAVE SUFFICIENT CAPACITY TO CATER FOR ALL AREA DIRECTED TO THE BASIN(S).
55. PRIOR TO ANY FORECAST WEATHER EVENT LIKELY TO RESULT IN RUNOFF, ANY BASINS/TRAPS SHALL BE DEWATERED TO PROVIDE SUFFICIENT CAPACITY TO CAPTURE SEDIMENT LADEN WATER FROM THE SITE.
56. SUFFICIENT QUANTITIES OF CHEMICALS/AGENTS TO TREAT CAPTURED WATER SHALL BE PLACED SUCH THAT WATER ENTERING THE BASIN MIXES WITH THE CHEMICALS/AGENTS AND IS CARRIED INTO THE BASIN TO SPEED UP CLARIFICATION.
57. ANY BASIN SHALL BE DEWATERED WITHIN THE X-DAY RAINFALL DEPTH USED TO CALCULATE THE CAPACITY OF THE BASIN, AFTER A RAINFALL EVENT.
58. SUFFICIENT QUANTITIES OF CHEMICALS/AGENTS TO TREAT TURBID WATER SHALL BE SECURELY STORED ON-SITE TO PROVIDE FOR AT LEAST THREE COMPLETE TREATMENTS OF ALL BASINS REQUIRING CHEMICALLY TREATMENT ONSITE.
59. PRIOR TO THE CONTROLLED DISCHARGE (E.G. DE-WATERING ACTIVITIES) FROM EXCAVATIONS AND/OR SEDIMENT BASINS, THE FOLLOWING WATER QUALITY OBJECTIVES SHALL BE ACHIEVED:
  - a) TOTAL SUSPENDED SOLIDS (TSS) TO A MAXIMUM 50mg/L;
  - b) WATER PH BETWEEN 6.5 AND 8.5, UNLESS OTHERWISE REQUIRED BY THE COUNCIL;
  - c) TURBIDITY (MEASURED IN NTUS) TO A MAXIMUM OF 60 NTU; AND
  - d) EC LEVELS NO GREATER THAN BACKGROUND LEVELS.
60. THE DEVELOPMENT APPROVAL MAY REQUIRE TESTING OF ADDITIONAL WATER QUALITY ELEMENTS PRIOR TO DISCHARGE, E.G. HEAVY METALS.
61. A SAMPLE OF THE RELEASED TREATED WATER SHALL BE KEPT ONSITE IN A CLEAN CONTAINER WITH THE SAMPLE DATE RECORDED ON IT.
62. WATER QUALITY SAMPLES SHALL BE TAKEN AT A DEPTH NO LESS THAN 200MM BELOW THE WATER SURFACE OF THE BASIN.
63. NO ALUMINIUM BASED PRODUCTS MAY BE USED TO TREAT CAPTURED WATER ONSITE WITHOUT THE PRIOR WRITTEN PERMISSION FROM AN APPROPRIATE COUNCIL OFFICER. THE APPLICANT SHALL HAVE A DEMONSTRATED ABILITY TO USE SUCH PRODUCTS CORRECTLY AND WITHOUT ENVIRONMENTAL HARM PRIOR TO ANY APPROVAL.
64. THE CHEMICAL/AGENT USED IN TYPE D AND TYPE F BASINS TO TREAT CAPTURED WATER CAPTURED IN THE BASIN SHALL BE APPLIED IN CONCENTRATIONS SUFFICIENT TO ACHIEVE COUNCIL'S WATER QUALITY OBJECTIVES WITHIN THE X-DAY RAINFALL DEPTH USED TO CALCULATE THE CAPACITY OF THE BASIN, AFTER A RAINFALL EVENT.
65. ALL MANUFACTURERS' INSTRUCTIONS SHALL BE FOLLOWED FOR ANY CHEMICALS/AGENTS USED ONSITE, EXCEPT WHERE APPROVED BY THE RESPONSIBLE PERSON OR AN APPROPRIATE COUNCIL OFFICER.
66. THE APPLICANT SHALL ENSURE THAT ON EACH OCCASION A TYPE F OR TYPE D BASIN WAS NOT DE-WATERED PRIOR TO BEING SURCHARGED BY A FOLLOWING RAINFALL EVENT, A REPORT IS PRESENTED TO AN APPROPRIATE COUNCIL OFFICER WITHIN 5 DAYS IDENTIFYING THE CIRCUMSTANCES AND PROPOSED AMENDMENTS, IF ANY, TO THE BASIN'S OPERATING PROCEDURES.
67. SETTLED SEDIMENT SHALL BE REMOVED AS SOON AS REASONABLE AND PRACTICABLE FROM ANY SEDIMENT BASIN IF:
  - a) IT IS ANTICIPATED THAT THE NEXT STORM EVENT IS LIKELY TO CAUSE SEDIMENT TO SETTLE ABOVE THE BASIN'S SEDIMENT STORAGE ZONE; OR
  - b) THE ELEVATION OF SETTLED SEDIMENT IS ABOVE THE TOP OF THE BASIN'S SEDIMENT STORAGE ZONE; OR
  - c) THE ELEVATION OF SETTLED SEDIMENT IS ABOVE THE BASIN'S SEDIMENT MARKER LINE.
68. SCOUR PROTECTION MEASURES PLACED ON SEDIMENT BASIN EMERGENCY SPILLWAYS SHALL APPROPRIATELY PROTECT THE SPILLWAY CHUTE AND ITS SIDE BATTERS FROM SCOUR, AND SHALL EXTEND A MINIMUM OF 3M BEYOND THE DOWNSTREAM TOE OF THE BASIN'S EMBANKMENT.
69. SUITABLE ALL-WEATHER MAINTENANCE ACCESS SHALL BE PROVIDED TO ALL SEDIMENT CONTROL DEVICES.
70. MATERIALS, WHETHER LIQUID OR SOLID, REMOVED FROM ANY ESC MEASURES DURING MAINTENANCE OR DECOMMISSIONING, SHALL BE DISPOSED OF IN A MANNER THAT DOES NOT CAUSE ONGOING SOIL EROSION OR ENVIRONMENTAL HARM.
71. ALL SEDIMENT BASINS SHALL REMAIN FULLY OPERATIONAL AT ALL TIMES UNTIL THE BASIN'S DESIGN CATCHMENT ACHIEVES 70% GROUND COVER OR SURFACE STABILISATION ACCEPTABLE TO COUNCIL.
72. THE ESC MEASURES INSTALLED DURING THE DECOMMISSIONING AND REHABILITATION OF A SEDIMENT BASIN SHALL COMPLY WITH SAME STANDARDS SPECIFIED FOR THE NORMAL CONSTRUCTION WORKS.
73. A SEDIMENT BASIN SHALL NOT BE DECOMMISSIONED UNTIL ALL UP-SLOPE SITE STABILISATION MEASURES HAVE BEEN IMPLEMENTED AND ARE APPROPRIATELY WORKING TO CONTROL SOIL EROSION AND SEDIMENT RUNOFF.
74. IMMEDIATELY PRIOR TO THE CONSTRUCTION OF THE PERMANENT STORMWATER TREATMENT DEVICE, APPROPRIATE FLOW BYPASS CONDITIONS SHALL BE ESTABLISHED TO PREVENT SEDIMENT-LADEN WATER ENTERING THE DEVICE.

## DECOMMISSIONING/STABILISATION

75. TEMPORARY STABILISATION MAY BE ATTAINED USING VEGETATION, NON-REMITTABLE SOIL POLYMERS, OR PNEUMATICALLY APPLIED EROSION CONTROLS.
76. ALL CUT AND FILL EARTH BATTERS LESS THAN 3M IN ELEVATION SHALL BE TOPSOILED, AND GRASS SEEDED/HYDROMULCHED WITHIN 10 DAYS OF COMPLETION OF GRADING IN CONSULTATION WITH COUNCIL.
77. ONCE CUT/FILL OPERATIONS HAVE BEEN FINALISED IN A SECTION, ALL DISTURBED AREAS THAT ARE NOT BEING WORKED ON SHALL BE STABILISED IN ACCORDANCE WITH TIME LINES IN THE BLUE BOOK.
78. THE LMCC SEED MIX SHALL BE USED UNLESS STATED ON THE ESCP/SWMP.
79. THE PH LEVEL OF TOPSOIL SHALL BE APPROPRIATE TO ENABLE ESTABLISHMENT AND GROWTH OF SPECIFIED VEGETATION PRIOR TO INITIATING THE ESTABLISHMENT OF VEGETATION.
80. NON-REMITTABLE BINDER SHALL BE USED IN ALL HYDROMULCH/HYDROSEED/POLYMER MIXES ON SLOPES OR WORKS ADJACENT TO A WATER COURSE.
81. SOIL AMELIORANTS SHALL BE ADDED TO THE SOIL IN ACCORDANCE WITH AN APPROVED LANDSCAPE PLAN, VEGETATION MANAGEMENT PLAN, AND/OR SOIL ANALYSIS.
82. SURFACE SOIL DENSITY, COMPACTION AND SURFACE ROUGHNESS SHALL BE ADJUSTED PRIOR TO SEEDING/PLANTING IN ACCORDANCE WITH AN APPROVED LANDSCAPE PLAN, VEGETATION MANAGEMENT PLAN, AND/OR SOIL ANALYSIS.
83. PROCEDURES FOR INITIATING A SITE SHUTDOWN, WHETHER PROGRAMMED OR UN-PROGRAMMED, SHALL INCORPORATE REVEGETATION OF ALL SOIL DISTURBANCES UNLESS OTHERWISE APPROVED BY COUNCIL. THE STABILISATION WORKS SHALL NOT RELY UPON THE LONGEVITY OF NON-VEGETATED EROSION CONTROL BLANKETS, OR TEMPORARY SOIL BINDERS.

## SITE MONITORING AND MAINTENANCE

84. THE APPLICANT SHALL ENSURE THAT APPROPRIATE PROCEDURES AND SUITABLY QUALIFIED PERSONNEL ARE ENGAGED TO PLAN AND CONDUCT SITE INSPECTIONS AND WATER QUALITY MONITORING THROUGHOUT THE CONSTRUCTION AND MAINTENANCE PHASE.
85. ALL ESC MEASURES SHALL BE INSPECTED AND ANY MAINTENANCE UNDERTAKEN IMMEDIATELY:
  - a) AT LEAST DAILY (WHEN WORK IS OCCURRING ON-SITE); AND
  - b) AT LEAST WEEKLY (WHEN WORK IS NOT OCCURRING ON-SITE); AND
  - c) WITHIN 24HRS OF EXPECTED RAINFALL; AND
  - d) WITHIN 18HRS OF A RAINFALL EVENT THAT CAUSES RUNOFF ON THE SITE.
86. WRITTEN RECORDS SHALL BE KEPT ONSITE OF ESC MONITORING AND MAINTENANCE ACTIVITIES CONDUCTED DURING THE CONSTRUCTION AND MAINTENANCE PERIODS, AND BE AVAILABLE TO COUNCIL OFFICERS ON REQUEST.
87. ALL ENVIRONMENTALLY RELEVANT INCIDENTS SHALL BE RECORDED IN A FIELD LOG THAT SHALL REMAIN ACCESSIBLE TO ALL RELEVANT REGULATORY AUTHORITIES.
88. ALL WATER QUALITY DATA, INCLUDING DATES OF RAINFALL, DATES OF TESTING, TESTING RESULTS AND DATES OF WATER RELEASE, SHALL BE KEPT IN AN ON-SITE REGISTER. THE REGISTER IS TO BE MAINTAINED UP TO DATE FOR THE DURATION OF THE APPROVED WORKS AND BE AVAILABLE ON-SITE FOR INSPECTION BY (INSERT NAME OF REGULATORY AUTHORITY) ON REQUEST.
89. AT NOMINATED INSTREAM WATER MONITORING SITES, A MINIMUM OF 3 WATER SAMPLES SHALL BE TAKEN AND ANALYSED, AND THE AVERAGE RESULT USED TO DETERMINE QUALITY.

## INSTREAM WORKS

90. ALL INSTREAM WORKS (INCLUDING IN OR ADJACENT TO WATERCOURSES NATURAL OR MANMADE, FLOWING OR NOT) SHALL BE CARRIED OUT IN ACCORDANCE WITH THE IECA WHITE BOOKS.

drawing title:  
**EROSION &  
SEDIMENT CONTROL  
NOTES**

location: **WOOLWORTHS  
CAMERON PARK**

council: **LAKE MACQUARIE**

dwg ref: **239402-DA-513**

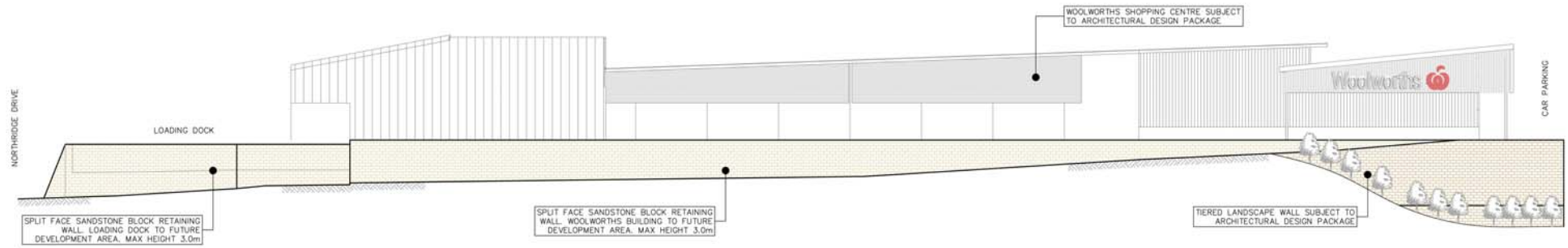
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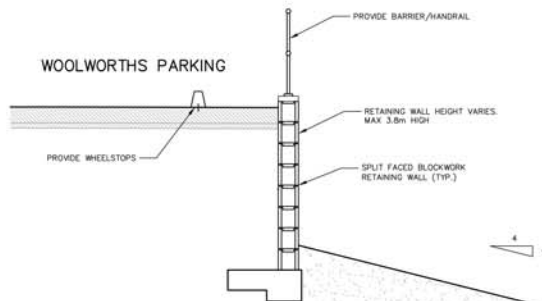
central coast office ph: (02) 4305 4300  
hunter office ph: (02) 4973 5100

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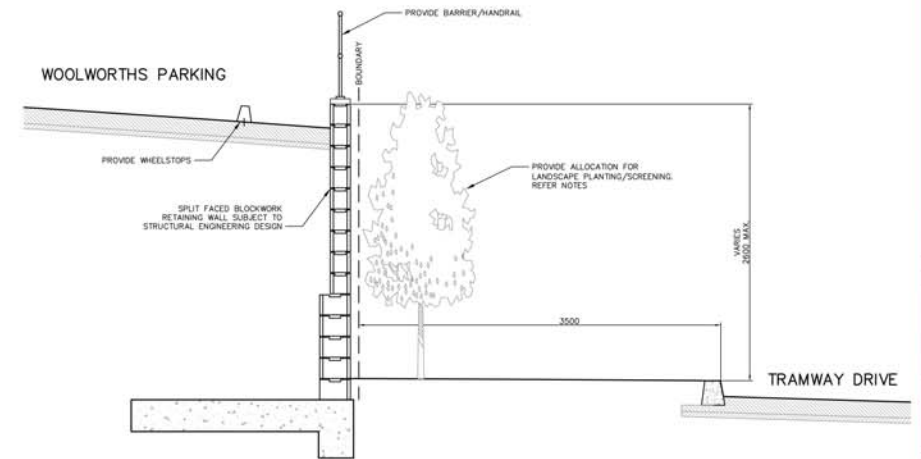


INDICATIVE WESTERN ELEVATION  
RETAINING WALL TO TRAMWAY DRIVE AND FUTURE DEVELOPMENT AREA  
SCALE 1:150



NOTE:  
1. ALL LANDSCAPING AND PLANTING  
SHALL BE UNDERTAKEN IN  
ACCORDANCE WITH ARCHITECTURAL  
DOCUMENTATION PACKAGE.

TYPICAL SECTION THROUGH TIERED LANDSCAPE WALL  
SCALE 1:25



TYPICAL SECTION THROUGH RETAINING WALL  
SCALE 1:25

ver.	date	comment	drawn	pm	level information	scale (A1 original size)	notes
E	16/2/18	ISSUE FOR DEVELOPMENT APPLICATION	DW	MK	DATUM: N/A CONTOUR INTERVAL: N/A	0 3.0 6.0 7.5m SCALE 1:150 (FULL) 0 0.25 0.50 0.75 1.00 1.25m SCALE 1:25 (FULL)	
• project management • civil engineering • infrastructure • superintendency • economic analysis • social impact • town planning • surveying • development feasibility • visualisation • urban design							

drawing title:  
**TYPICAL RETAINING  
WALL DETAILS AND  
SECTIONS**

location: WOOLWORTHS CAMERON PARK

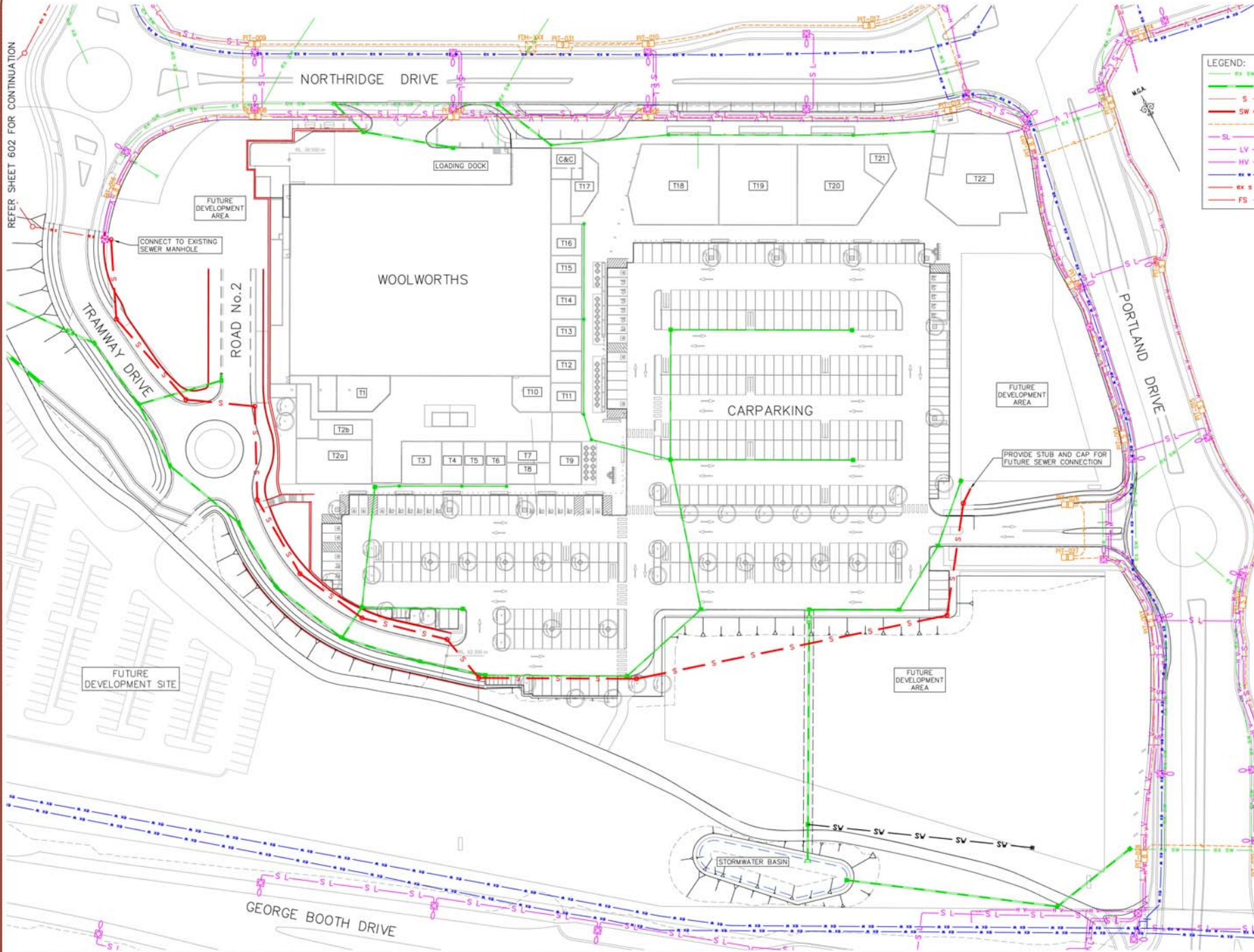
council: LAKE MACQUARIE

dwg ref: 239402-DA-551

client:  



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 hunter office ph: (02) 4973 5100  
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drawing title:

SERVICES PLAN  
SHEET 1location: WOOLWORTHS  
CAMERON PARK

council: LAKE MACQUARIE

dwg ref: 239402-DA-601

client:

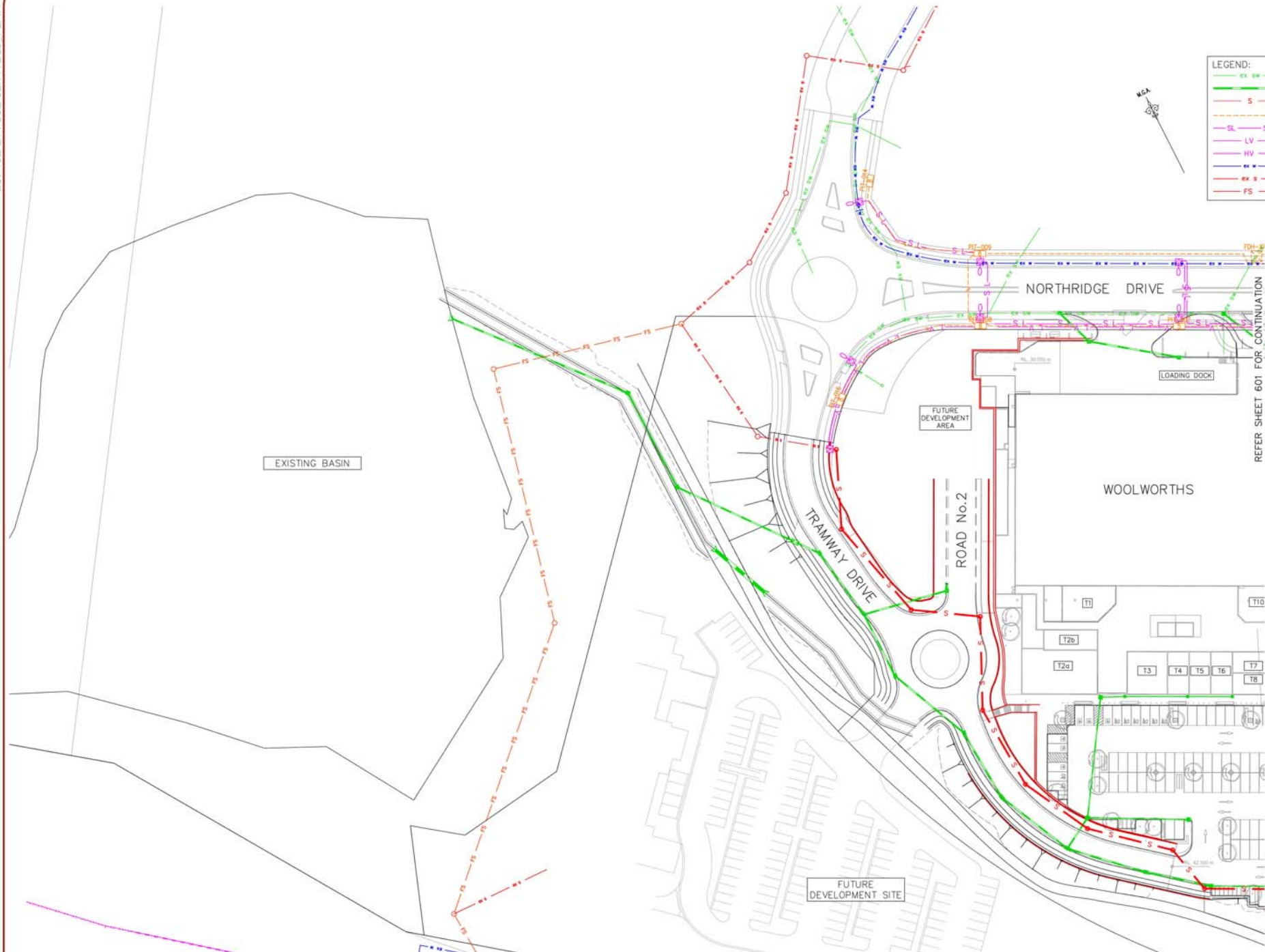
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ver.	date	comment	drawn	pm	level information	scale (A1 original size)	notes
F	20/2/18	ISSUE FOR DEVELOPMENT APPLICATION	DW	MK	DATUM: AHD CONTOUR INTERVAL: N/A	SCALE 1:200 (P.A.M.)	

• project management • civil engineering • infrastructure • superintendency • economic analysis • social impact • town planning • surveying • development feasibility • visualisation • urban design

drawing title:

### SERVICES PLAN SHEET 2

location: WOOLWORTHS CAMERON PARK

council: LAKE MACQUARIE

dwg ref: 239402-DA-602

client:

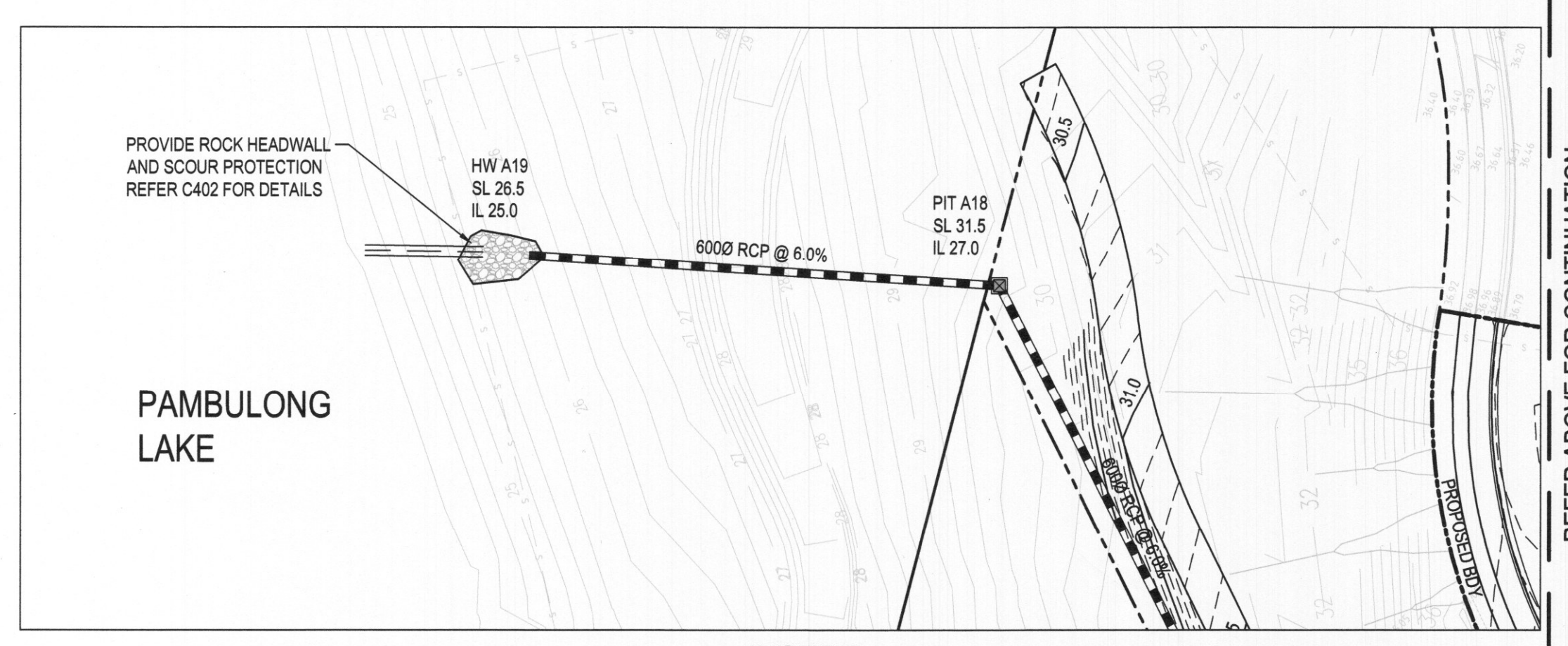
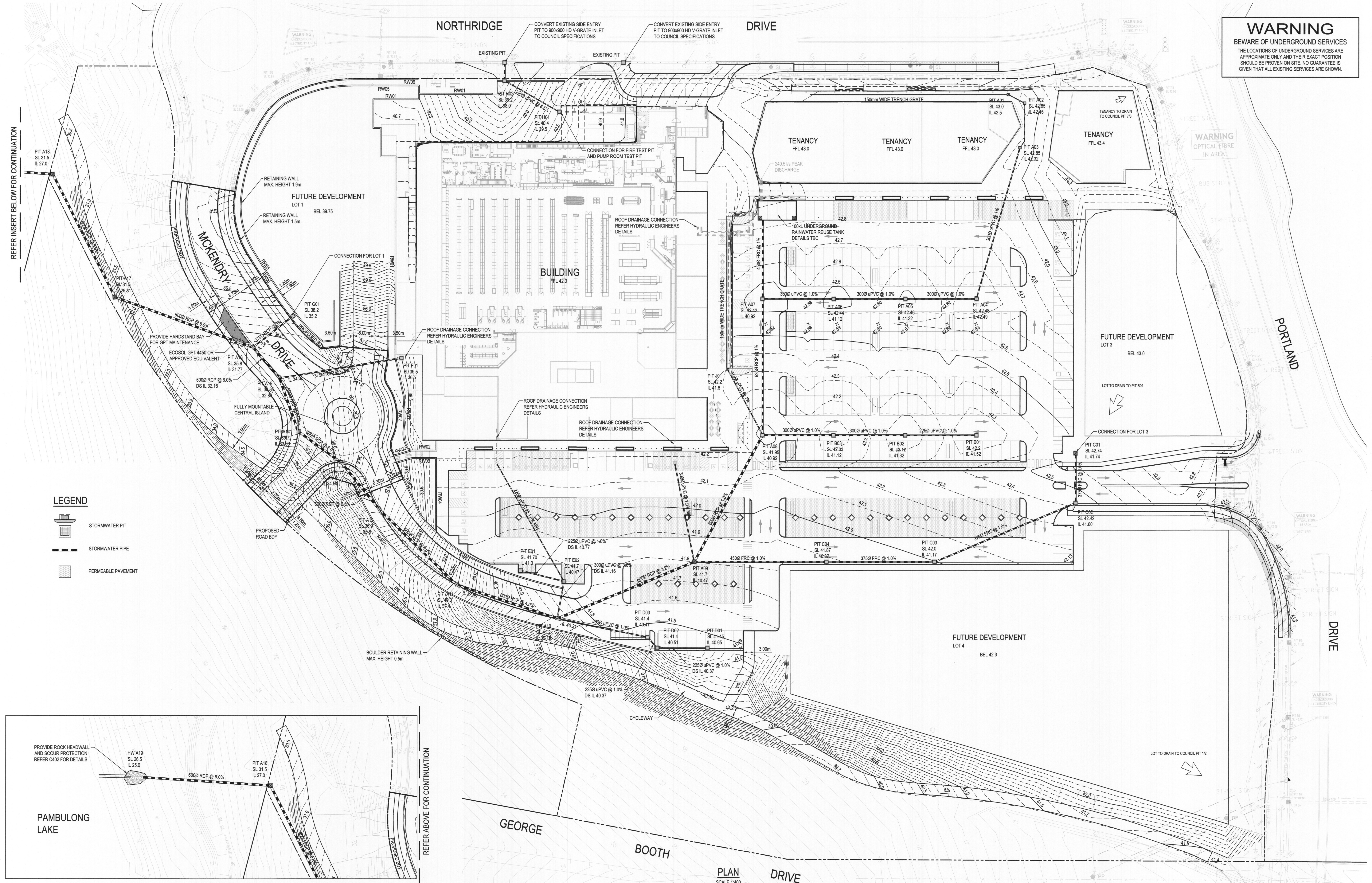
Woolworths  

central coast office ph: (02) 4305 4300  
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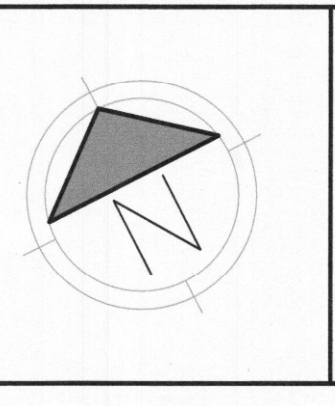
REVISIONS:			
No.	REVISION DESCRIPTION	DRAWN	DATE
E	APPROVAL ISSUE	NT	18.07.18
D	APPROVAL ISSUE	NT	17.07.18
C	APPROVAL ISSUE	NT	06.07.18
B	APPROVAL ISSUE	NT	06.07.18
A	PRELIMINARY	NT	29.06.18

SCALE BAR

0 10 20 30 40m

SCALE 1:400

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ARCHITECT

**NETTLETON TRIBE ARCHITECTS**  
117 WILLOUGHBY ROAD, CROWS NEST, NSW 2065

PROJECT TITLE

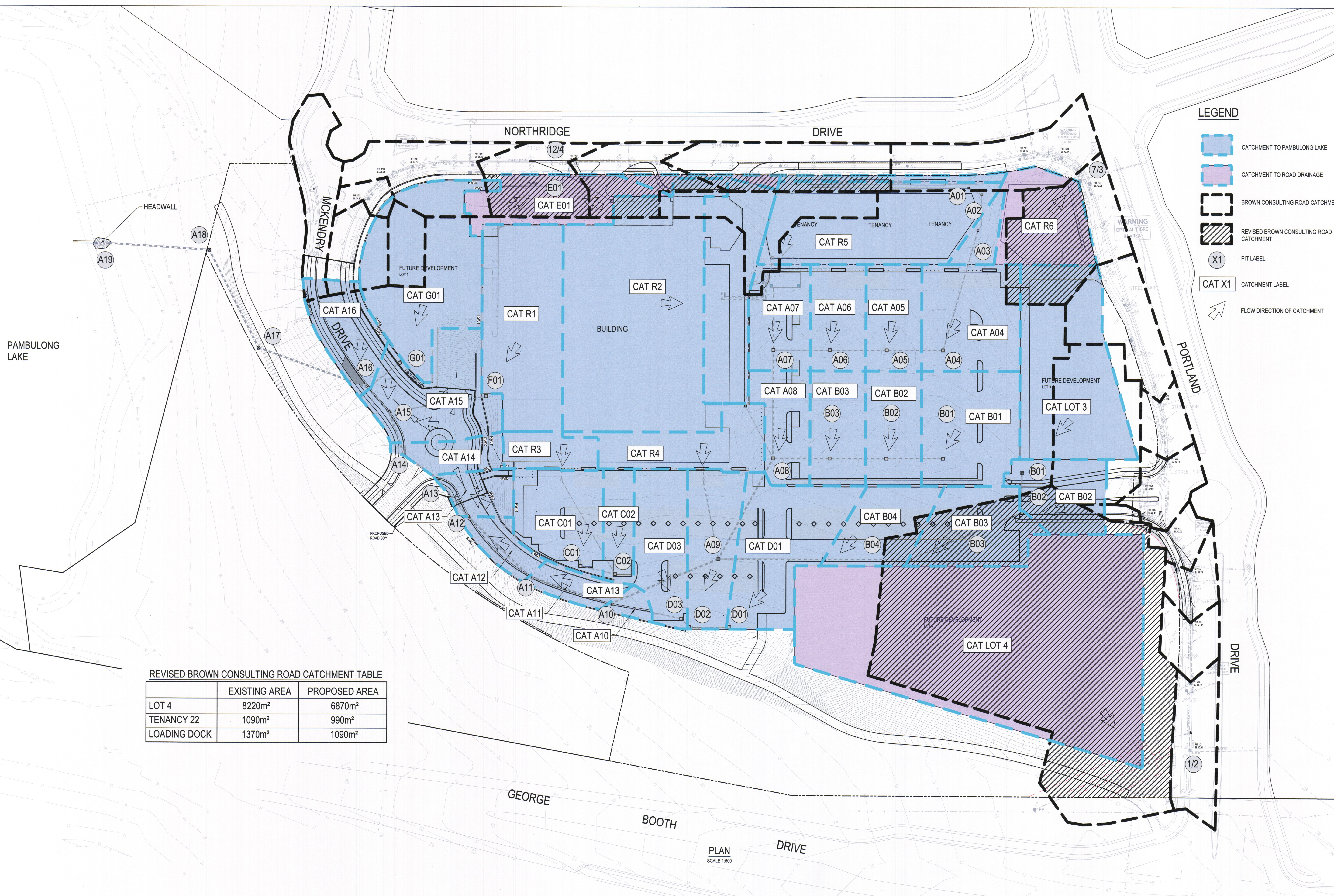
**CAMERON PARK PLAZA**  
309 GEORGE BOOTH DRIVE  
CAMERON PARK, NSW 2285

DRAWING TITLE

**DRAINAGE LAYOUT**

DRAWING STATUS			
APPROVAL ISSUE			
NOT TO BE USED FOR CONSTRUCTION			
PROJECT LEADER	DESIGNER	SIGNATURE	
RJB	NT		
DRAWN	SCALE	DATE	SHEET SIZE
NT	AS SHOWN	MARCH 2018	B1
JOB NO.	DRAWING NO.	REVISION	
SY182-016	DAC401	E	





REVISED BROWN CONSULTING ROAD CATCHMENT TABLE

	EXISTING AREA	PROPOSED AREA
LOT 4	8220m <sup>2</sup>	6870m <sup>2</sup>
TENANCY 22	1090m <sup>2</sup>	990m <sup>2</sup>
LOADING DOCK	1370m <sup>2</sup>	1090m <sup>2</sup>

REVISIONS:

NO.	REVISION DESCRIPTION	DRAWN	DATE
D	APPROVAL ISSUE	NT	18.07.18
C	APPROVAL ISSUE	NT	09.07.18
B	APPROVAL ISSUE	NT	06.07.18
A	PRELIMINARY	NT	29.06.18

SCALE BAR

0 10 20 30 40 50m

SCALE 1:500

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ARCHITECT

NETTLETON TRIBE ARCHITECTS  
117 WILLOUGHBY ROAD, CROWS NEST, NSW 2065

PROJECT TITLE

CAMERON PARK PLAZA  
309 GEORGE BOOTH DRIVE  
CAMERON PARK, NSW 2285

DRAWING TITLE

CATCHMENT PLAN

DRAWING STATUS

APPROVAL ISSUE  
NOT TO BE USED FOR CONSTRUCTION

PROJECT LEADER	DESIGNER	SIGNATURE
RJB	NT	

SCALE	DATE	SHEET SIZE
AS SHOWN	MARCH 2018	B1

JOB NO.	DRAWING NO.	REVISION
SY182-016	DAC410	D