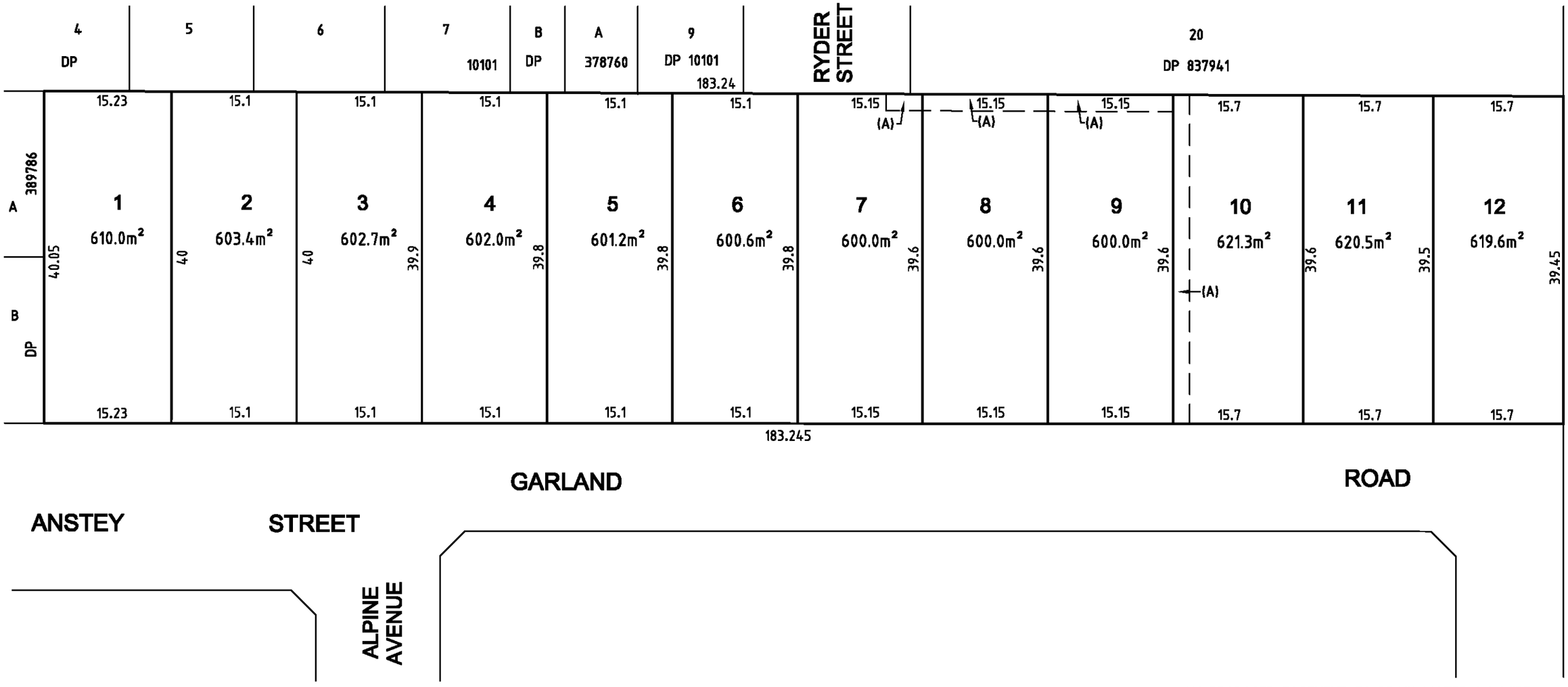
FINAL DIMENSIONS AND AREAS
SUBJECT TO SURVEY

CESSNOCK CITY COUNCIL
Approved plans for
Development Consent No. 8/2017/673/1
Date of Approval: 02/05/2018
General Manager Per: mh



~~(A) PROPOSED EASEMENT TO DRAIN WATER 2.0 WIDE~~
(A) PROPOSED EASEMENT TO DRAIN WATER 3.0M WIDE

REV No.	REMARKS	DATE
	AMENDMENTS	
G	LAYOUT AMENDED	9.04.18
F	EASEMENT AMENDED	16.03.18
E	EASEMENT AMENDED	6.02.18
D	LAYOUT AMENDED	31.01.18
C	LAYOUT AMENDED	4.10.17
B	LAYOUT AMENDED	4.10.17
A	ISSUED TO CLIENT	3.10.17

CLIENT:

RESICORP PROPERTY
GROUP PTY LTD
C/- EQUITI
LEVEL 2, 85 GEORGE STREET
PARRAMATTA
NSW 2150

TREHY INGOLD NEATE
LAND DEVELOPMENT
SURVEYING
PLANNING
CIVIL DESIGN
STRATA CERTIFICATION
Phone: (02) 4351 2233
Email: admin@tinsurvey.com.au
www.tinsurvey.com.au

DRAWING TITLE

PLAN OF PROPOSED SUBDIVISION OVER LOT C DP 421061 & LOT 1 DP 318328 ANSTEY STREET & GARLAND ROAD CESSNOCK

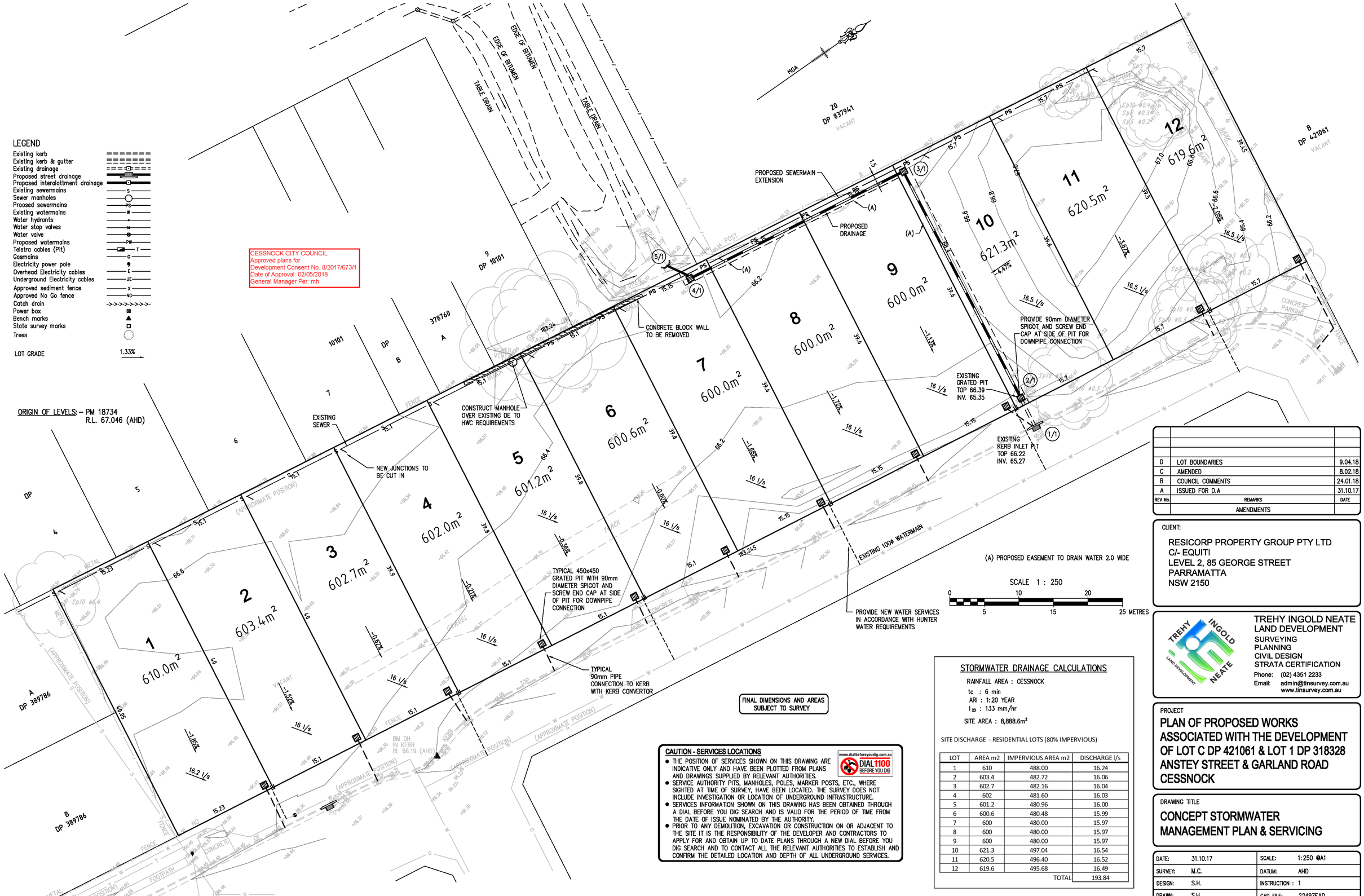
DATE:	2.10.17	SCALE:	1:500 @A3
SURVEY:	–	DATUM:	–
F.BOOK:	COMP	INSTRUCTION :	5
DRAWN:	C.A.	CAD FILE:	22497PSG
CHECKED:	K.H.	No. in SET:	1 of 1

REGISTERED SURVEYOR DATE

PROJECT NUMBER 22497

DRAWING No PSA01

REVISION G



CAUTION - SERVICES LOCATIONS

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- SERVICE AUTHORITY PITS, MANHOLES, POLES, MARKER POSTS, ETC., WHERE SIGHTED AT TIME OF SURVEY, HAVE BEEN LOCATED. THE SURVEY DOES NOT INCLUDE INVESTIGATION OR LOCATION OF UNDERGROUND INFRASTRUCTURE.
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www.dialbeforeyoudig.com.au DIAL1100 BEFORE YOU DIG

STORMWATER DRAINAGE CALCULATIONS

RAINFALL AREA : CESSNOCK
tc : 6 min
ARI : 1:20 YEAR
I_{20} : 133 mm/hr
SITE AREA : 8,888.6m²

SITE DISCHARGE - RESIDENTIAL LOTS (80% IMPERVIOUS)

LOT	AREA m2	IMPERVIOUS AREA m2	DISCHARGE l/s
1	610	488.00	16.24
2	603.4	482.72	16.06
3	602.7	482.16	16.04
4	602	481.60	16.03
5	601.2	480.96	16.00
6	600.6	480.48	15.99
7	600	480.00	15.97
8	600	480.00	15.97
9	600	480.00	15.97
10	621.3	497.04	16.54
11	620.5	496.40	16.52
12	619.6	495.68	16.49
		TOTAL	193.84

REV No.	REMARKS	DATE
	AMENDMENTS	
D	LOT BOUNDARIES	9.04.18
C	AMENDED	8.02.18
B	COUNCIL COMMENTS	24.01.18
A	ISSUED FOR D.A	31.10.17

CLIENT:

RESICORP PROPERTY GROUP PTY LTD
C/- EQUITI
LEVEL 2, 85 GEORGE STREET
PARRAMATTA
NSW 2150

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PROJECT

PLAN OF PROPOSED WORKS ASSOCIATED WITH THE DEVELOPMENT OF LOT C DP 421061 & LOT 1 DP 318328 ANSTEY STREET & GARLAND ROAD CESSNOCK

DRAWING TITLE

CONCEPT STORMWATER MANAGEMENT PLAN & SERVICING

DATE:	31.10.17	SCALE:	1:250 @A1
SURVEY:	M.C.	DATUM:	AHD
DESIGN:	S.H.	INSTRUCTION :	1
DRAWN:	S.H.	CAD FILE:	22497EAD
CHECKED:	P.B.	No. in SET:	1 of 3

ENGINEERING DESIGNER DATE	PROJECT NUMBER	DRAWING No	REVISION
	22497	EA01	D

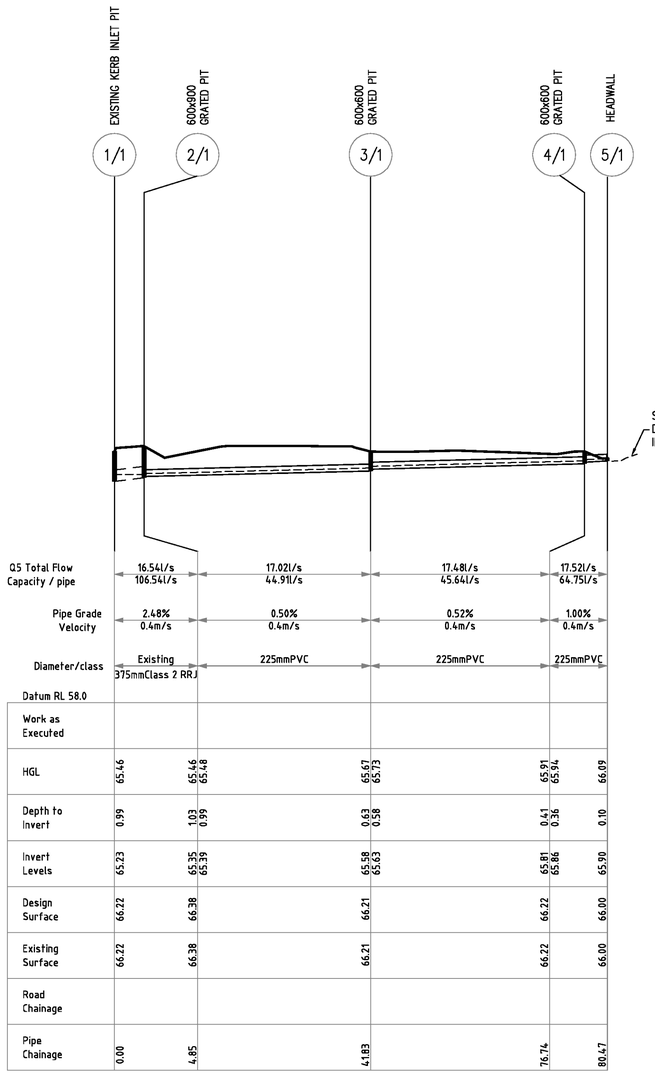
HGL Report - Drainage-1 Return Period: 5yrs Location: CESSNOCK

Pipe Connecting Pits (Downstream Upstream)	Pipe ID	Pipe Class	Pipe Diameter	Pipe Length	Pipe Design Flow	Mannings n	Pipe Velocity	Pipe Velocity Head	HGL at Downstream Pit	Pipe Friction Slope	Pipe Friction Loss	HGL at Upstream Pit	Pit Loss Coefficient	Pipe Head Loss	Adopted Upstream Water Level	Pit Surcharge Level (Pit Inlet/Outlet Level)	Downstream Pipe Obvert	Upstream Pipe Obvert	Downstream Pipe Invert	Upstream Pipe Invert	Pipe Slope	Pipe Design Flow	Pipe HGL Capacity	Pipe Manning Capacity	Remarks
			(mm)	(m)	(l/s)		(m/s)	(m)	(m)	(%)	(m)	(m)	Ku	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(%)	(l/s)	(l/s)	(l/s)	
1/1–2/1	4	Class 2 RRJ	375	4.846	16.5	0.013	0.15	0.001	65.605	0.00	0.000	65.605	1.000	0.001	65.606	66.383	65.605	65.725	65.230	65.350	2.476	16.5	388.4	275.9	
2/1–3/1	3	PVC	225	36.983	17.0	0.009	0.43	0.009	65.606	0.00	0.030	65.791	2.199	0.021	65.812	66.206	65.615	65.800	65.390	65.575	0.500	17.0	44.9	45.9	
3/1–4/1	2	PVC	225	36.091	17.5	0.009	0.44	0.010	65.812	0.00	0.031	65.992	1.644	0.016	66.009	66.236	65.855	66.035	65.630	65.810	0.500	17.5	44.9	45.9	
4/1–5/1	1	PVC	225	3.295	17.5	0.009	0.44	0.010	66.009	0.00	0.003	66.042	10.931	0.108	66.150	66.000	66.085	66.118	65.860	65.893	1.000	17.5	64.8	64.9	

Pipe Hydrology - Drainage-1 Return Period: 5yrs Location: CESSNOCK

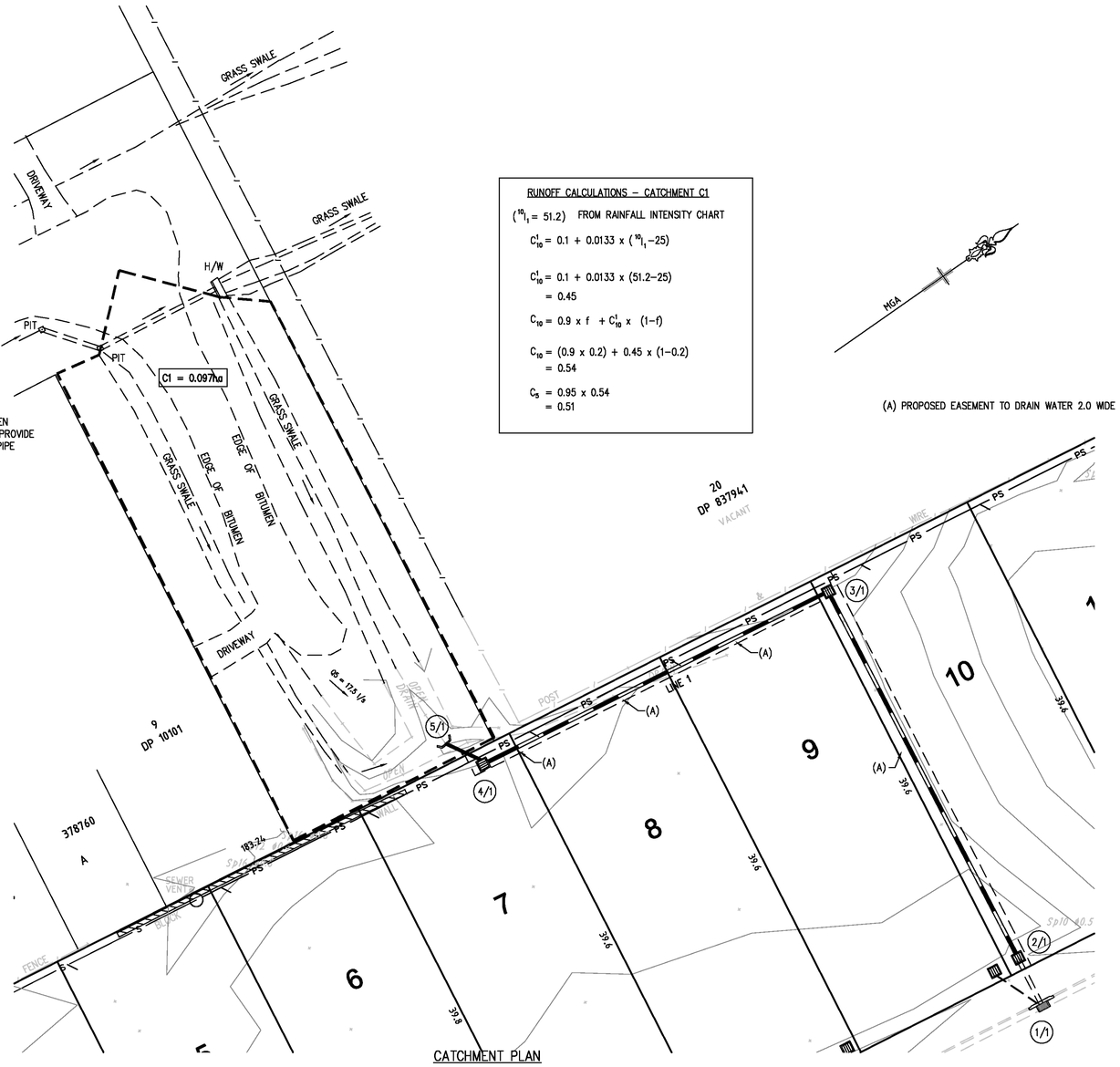
Pipe Connecting Pits (Downstream Upstream)	Pipe ID	Pipe Class	Pipe Diameter	Pipe Length	Pipe Mannings n	Pipe Flow Time	Pipe Design Tc	Pipe Rainfall Intensity	Upstream Pervious Areas	Upstream Impervious Areas	Upstream Single Catchment Areas	Total Upstream Areas	Total Effective Areas	Pipe Flow	Specified Inflow to Pipe	Total Pipe Flow
			(mm)	(m)		(min)	(min)	(mm/hr)	(Ha)	(Ha)	(Ha)	(Ha)	(Ha)	(l/s)	(l/s)	(l/s)
1/1–2/1	4	Class 2 RRJ	375	4.8	0.013	0.06	7.17	93.42	0.074	0.025	0.000	0.098	0.064	16.5		16.5
2/1–3/1	3	PVC	225	37.0	0.009	0.58	6.60	96.16	0.074	0.025	0.000	0.098	0.064	17.0		17.0
3/1–4/1	2	PVC	225	36.1	0.009	0.56	6.04	98.81	0.074	0.025	0.000	0.098	0.064	17.5		17.5
4/1–5/1	1	PVC	225	3.3	0.009	0.04	6.00	99.00	0.000	0.000	0.000	0.098	0.064	17.5		17.5

CESSNOCK CITY COUNCIL
Approved plans for
Development Consent No. 8/2017/673/1
Date of Approval: 02/05/2018
General Manager Per: mh



Q5 Total Flow Capacity / pipe	16.54l/s 106.54l/s	17.02l/s 44.91l/s	17.48l/s 45.64l/s	17.52l/s 64.75l/s
Pipe Grade Velocity	2.48% 0.4m/s	0.50% 0.4m/s	0.52% 0.4m/s	1.00% 0.4m/s
Diameter/class	Existing 375mmClass 2 RRJ	225mmPVC	225mmPVC	225mmPVC
Datum RL 58.0				
Work as Executed				
HGL	65.46 65.48	65.67 65.73	65.91 65.94	66.09
Depth to Invert	0.99 1.03 0.99	0.63 0.58	0.41 0.36	0.10
Invert Levels	65.23 65.35 65.39	65.58 65.63	65.81 65.86	65.90
Design Surface	66.22 66.38	66.21	66.22	66.00
Existing Surface	66.22 66.38	66.21	66.22	66.00
Road Chainage				
Pipe Chainage	0.00 4.85	4.183	76.74	80.47

LONG SECTION LINE 1
SCALES: HORIZONTAL 1:500 VERTICAL 1:100



RUNOFF CALCULATIONS – CATCHMENT C1

($^{10}I_1$ = 51.2) FROM RAINFALL INTENSITY CHART

$C^1_{10} = 0.1 + 0.0133 \times (^{10}I_1 - 25)$

$C^1_{10} = 0.1 + 0.0133 \times (51.2 - 25)$
$= 0.45$

$C_{10} = 0.9 \times f + C^1_{10} \times (1 - f)$

$C_{10} = (0.9 \times 0.2) + 0.45 \times (1 - 0.2)$
$= 0.54$

$C_5 = 0.95 \times 0.54$
$= 0.51$

(A) PROPOSED EASEMENT TO DRAIN WATER 2.0 WIDE

REV No.	REMARKS	DATE
	AMENDMENTS	
C	LOT BOUNDARIES	9.04.18
B	AMENDED	8.02.18
A	ISSUED FOR D.A	31.10.17

CLIENT:

RESICORP PROPERTY GROUP PTY LTD
C/- EQUITI
LEVEL 2, 85 GEORGE STREET
PARRAMATTA
NSW 2150

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PROJECT

PLAN OF PROPOSED WORKS ASSOCIATED WITH THE DEVELOPMENT OF LOT C DP 421061 & LOT 1 DP 318328 ANSTEY STREET & GARLAND ROAD CESSNOCK

DRAWING TITLE

DRAINAGE PLAN, CALCULATIONS & LONG SECTION

DATE:	31.10.17	SCALE:	AS SHOWN@A1
SURVEY:	M.C.	DATUM:	AHD
DESIGN:	S.H.	INSTRUCTION :	1
DRAWN:	S.H.	CAD FILE:	22497EAD
CHECKED:	P.B.	No. in SET:	2 of 3

ENGINEERING DESIGNER DATE

PROJECT NUMBER 22497

DRAWING No EA02

REVISION C

CAUTION - SERVICES LOCATIONS

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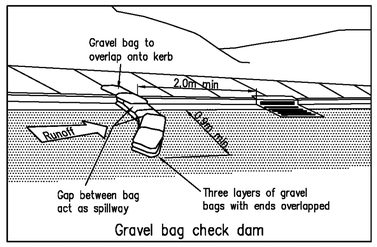
www.dialbeforeyoudig.com.au DIAL 1100 BEFORE YOU DIG



KERB INLET CONTROL – ON GRADE

CESSNOCK CITY COUNCIL
Approved plans for
Development Consent No. 8/2017/673/1
Date of Approval: 02/05/2016
General Manager Per: mh

EROSION AND SEDIMENT CONTROL NOTES

1. Disturbed areas to be kept to a minimum.
2. Control clean water from above the site, through the site or around the site.
3. Keep clean water separate from dirty water.
4. Conserve all topsoil, stockpile and protect for reuse on site.
5. Protect all disturbed areas from erosion.
6. Minimise sedimentation.
7. Maintain all erosion and sediment control measures until complete rehabilitation is achieved.
8. Erosion Sediment Control measures to conform with Cessnock Council Civil Works Construction Specification.
9. Erosion and sedimentation devices to be installed prior to commencement of work.
10. Temporary sediment trapping structures shall not be removed until all areas are stabilised.
11. Provide inlet sediment traps to all pits during construction and maintain regularly.
12. Progressively revegetate disturbed areas by seeding or turf

PROVIDE SILT FENCE AND MAINTAIN DURING CONSTRUCTION

PROPOSED SEWERMAIN EXTENSION

TREE TO BE REMOVED

TREES TO BE REMOVED

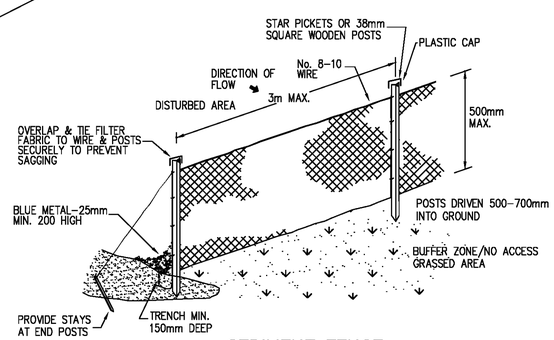
PROVIDE GRAVEL BAGS AROUND PIT DURING CONSTRUCTION

RESTORE ROAD PAVEMENT AND FOOTPATH AT EACH ROAD CROSSING LOCATION ON COMPLETION OF WORKS

(A) PROPOSED EASEMENT TO DRAIN WATER 2.0 WIDE

LEGEND

- Existing kerb
- Existing kerb & gutter
- Existing drainage
- Proposed street drainage
- Proposed interallotment drainage
- Existing sewermains
- Sewer manholes
- Proosed sewermains
- Existing watermains
- Water hydrants
- Water stop valves
- Water valve
- Proposed watermains
- Telstra cables (Pit)
- Gasmains
- Electricity power pole
- Overhead Electricity cables
- Underground Electricity cables
- Approved sediment fence
- Approved No Go fence
- Catch drain
- Power box
- Bench marks
- State survey marks
- Trees
- LOT GRADE 1.33%



SEDIMENT FENCE

ORIGIN OF LEVELS:– PM 18734
R.L. 67.046 (AHD)

SCALE 1 : 250

0 5 10 15 20 25 METRES

WARNING
NBN CABLES IN VICINITY

REV No.	REMARKS	DATE
C	LOT BOUNDARIES	9.04.18
B	AMENDED	8.02.18
A	ISSUED FOR D.A	31.10.17

AMENDMENTS

CLIENT:

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PROJECT

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DRAWING TITLE

EROSION & SEDIMENTATION CONTROL PLAN

DATE:	31.10.17	SCALE:	1:250 @A1
SURVEY:	M.C.	DATUM:	AHD
DESIGN:	S.H.	INSTRUCTION :	1
DRAWN:	S.H.	CAD FILE:	22497EAD
CHECKED:	P.B.	No. in SET:	3 of 3

ENGINEERING DESIGNER DATE	PROJECT NUMBER	DRAWING No	REVISION
	22497	EA03	C