Figures

ANNE CLEMENTS & ASSOCIATES PTY. LIMITED
Environmental and Botanical Consultants

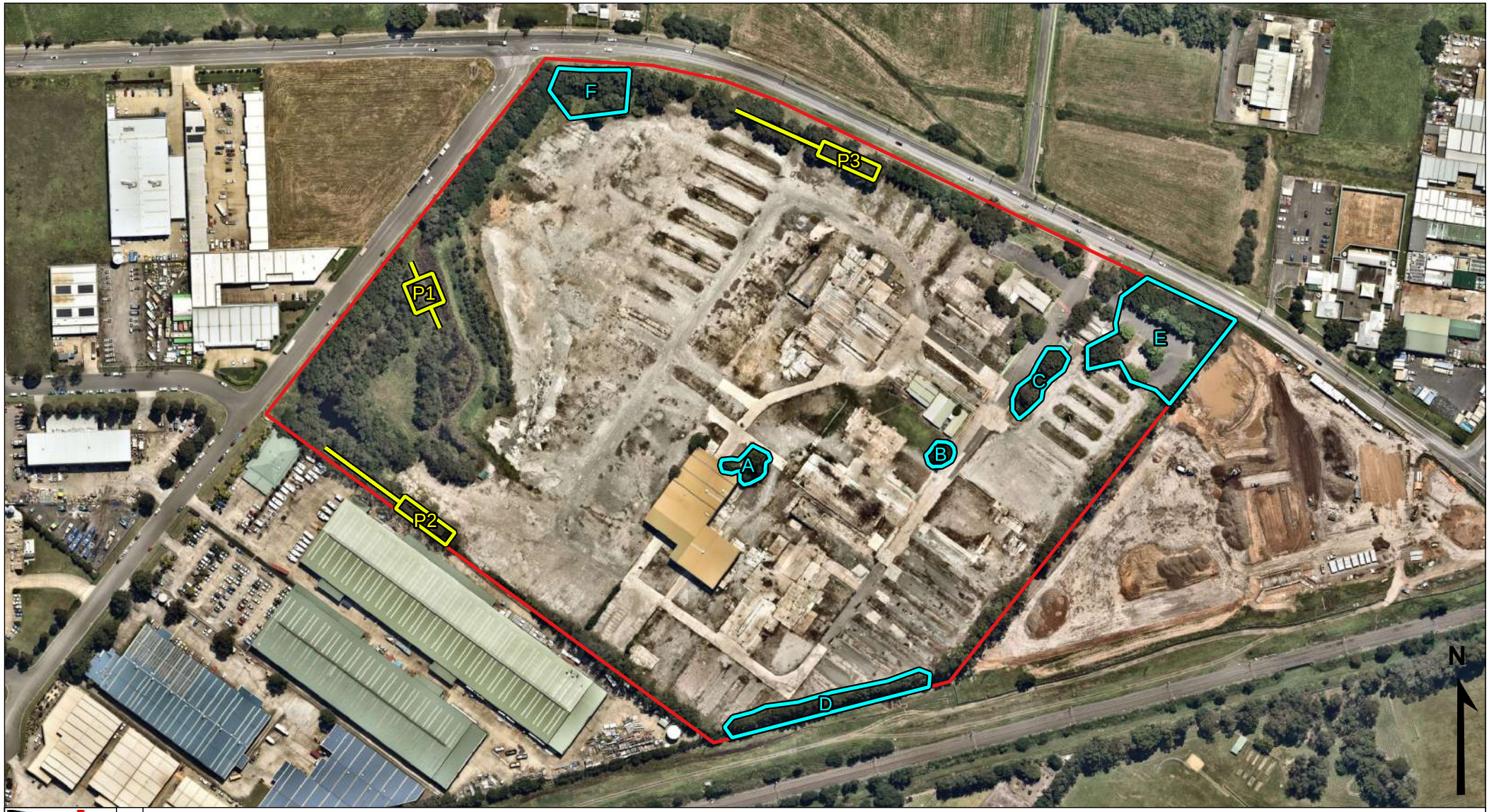
Date created: 29-03-2022

Site boundary

0 250 500 m

Geocentric Datum of Australia

Figure 1a-1.
Site boundary overlaid on the Nearmap aerial photograph dated 18 February 2022



ANNE CLEMENTS & ASSOCIATES PTY. LIMITED
Environmental and Botanical Consultants

Date created: 04-04-2022

Site boundary
BAM Plots
Patches

0 50 100 m
Geocentric Datum of Australia

Figure 1a-2.
Location of BAM Plots and Patch locations overlaid on the Nearmap aerial photograph dated 18 February 2022

ANNE CLEMENTS & ASSOCIATES PTY. LIMITED
Environmental and Botanical Consultants

Date created: 04-04-2022

Site boundary

Site boundary 1.5 km buffer (961 ha)

Vegetation within 1.5 km buffer (96.1 ha) 10%

0 500 1,000 m

Geocentric Datum of Australia

Figure 1a-3.
Native vegetation within 1.5 km buffer overlaid on Nearmap aerial photograph dated 18 February 2022.

ANNE CLEMENTS & ASSOCIATES PTY. LIMITED
Environmental and Botanical Consultants

Date created: 03-04-2022

Site boundary

0 100 200 m

Geocentric Datum of Australia

Figure 1-1966.
Site boundary overlaid on the historic aerial photograph dated 08 March 1966

ANNE CLEMENTS & ASSOCIATES PTY. LIMITED
Environmental and Botanical Consultants

Date created: 03-04-2022

Site boundary

0 100 200 m

Geocentric Datum of Australia

Figure 1-1975.
Site boundary overlaid on the historic aerial photograph dated 12 August 1975

ANNE CLEMENTS & ASSOCIATES PTY. LIMITED
Environmental and Botanical Consultants

Date created: 03-04-2022

Site boundary

0 100 200 m

Geocentric Datum of Australia

Figure 1-1984.
Site boundary overlaid on the historic aerial photograph dated 26 April 1984

ANNE CLEMENTS & ASSOCIATES PTY. LIMITED
Environmental and Botanical Consultants

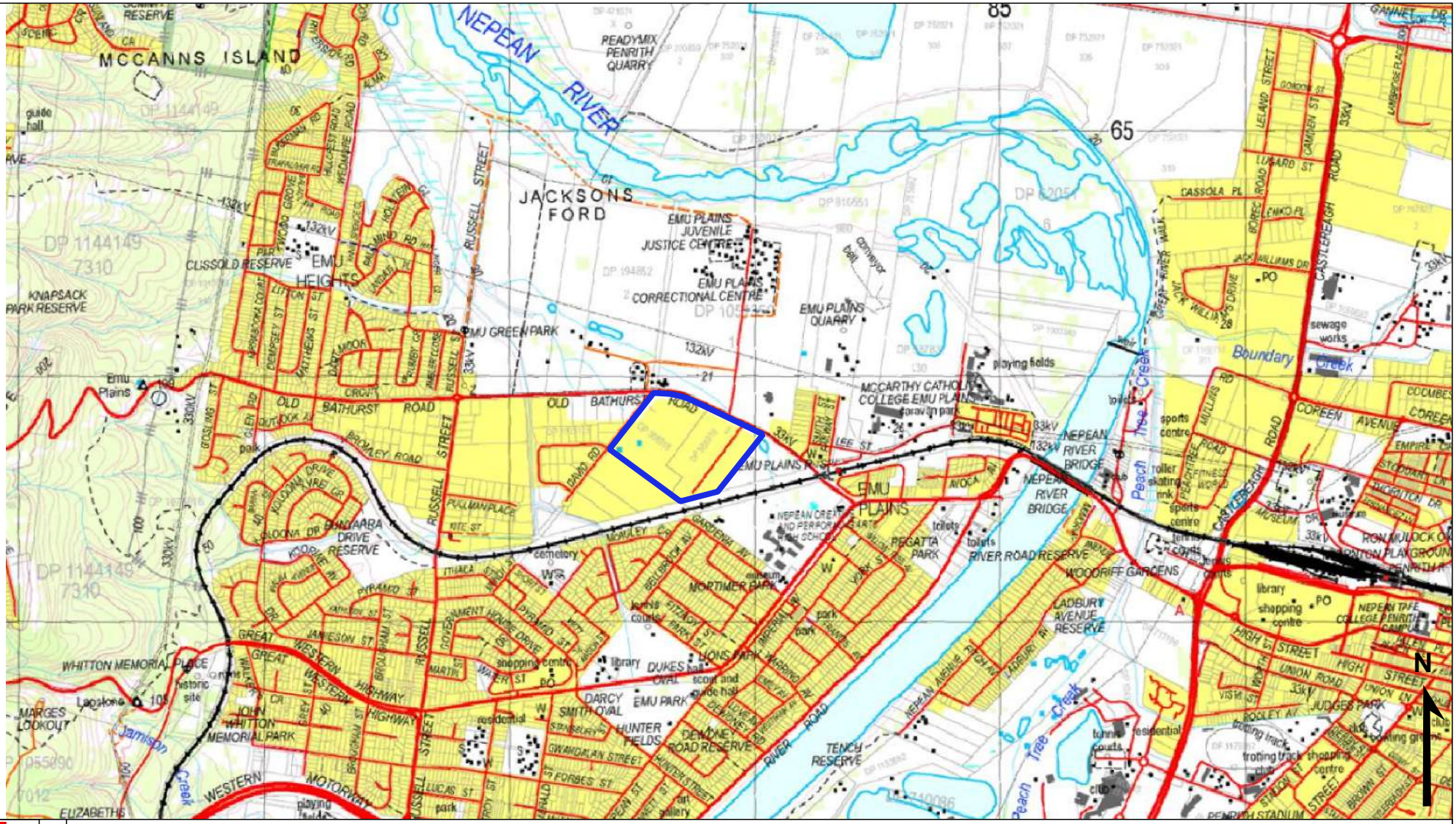
Date created: 03-04-2022

Site boundary

0 100 200 m

Geocentric Datum of Australia

Figure 1-2010.
Site boundary overlaid on the Nearmap aerial photograph dated 02 May 2010



Site boundary

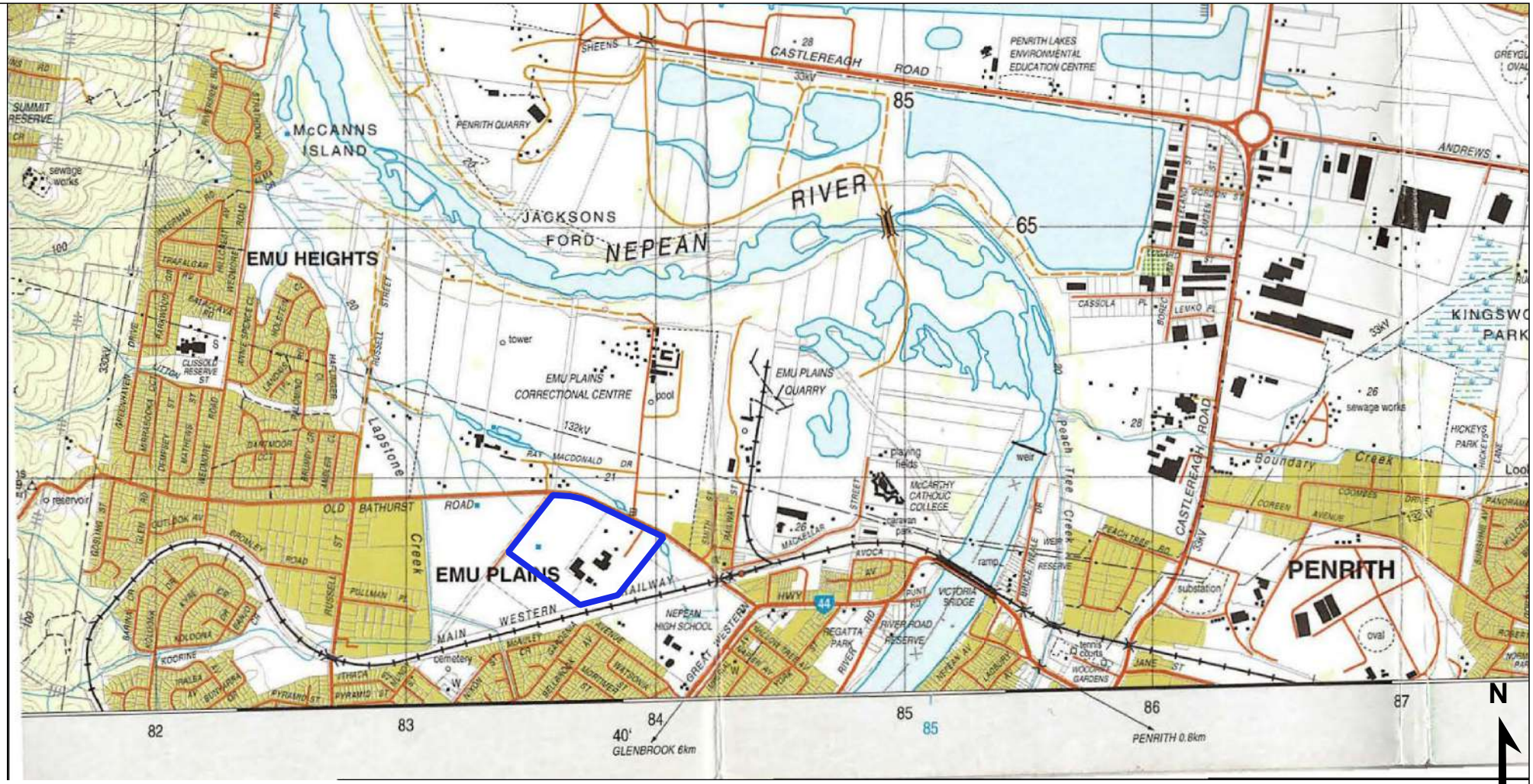
0 250 500 m

Geocentric Datum of Australia

ANNE CLEMENTS & ASSOCIATES PTY. LIMITED
Environmental and Botanical Consultants

Date created: 29-03-2022

Figure 1b-1.
Site boundary overlaid on the SIX maps topographic WMS layer



Site boundary

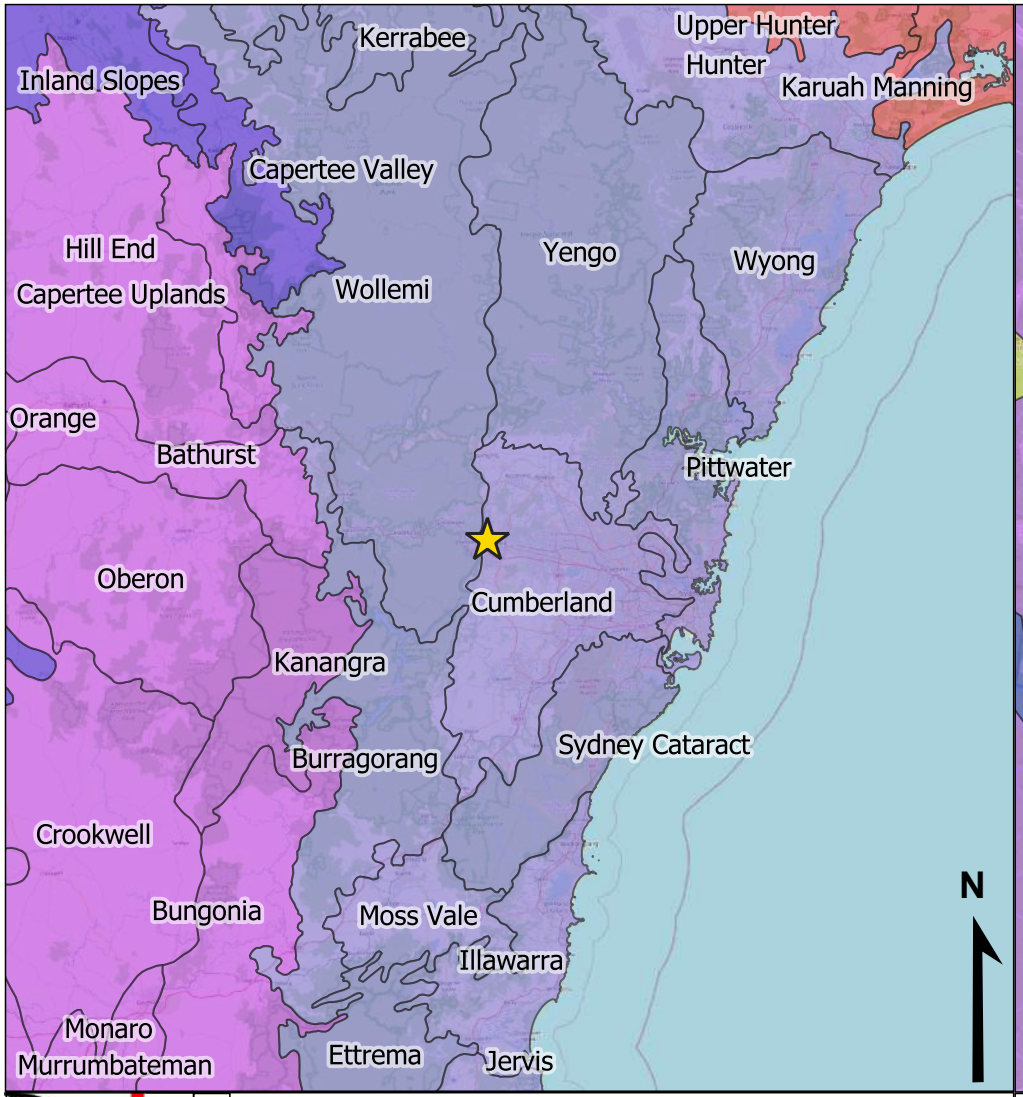
0 0.5 1 km

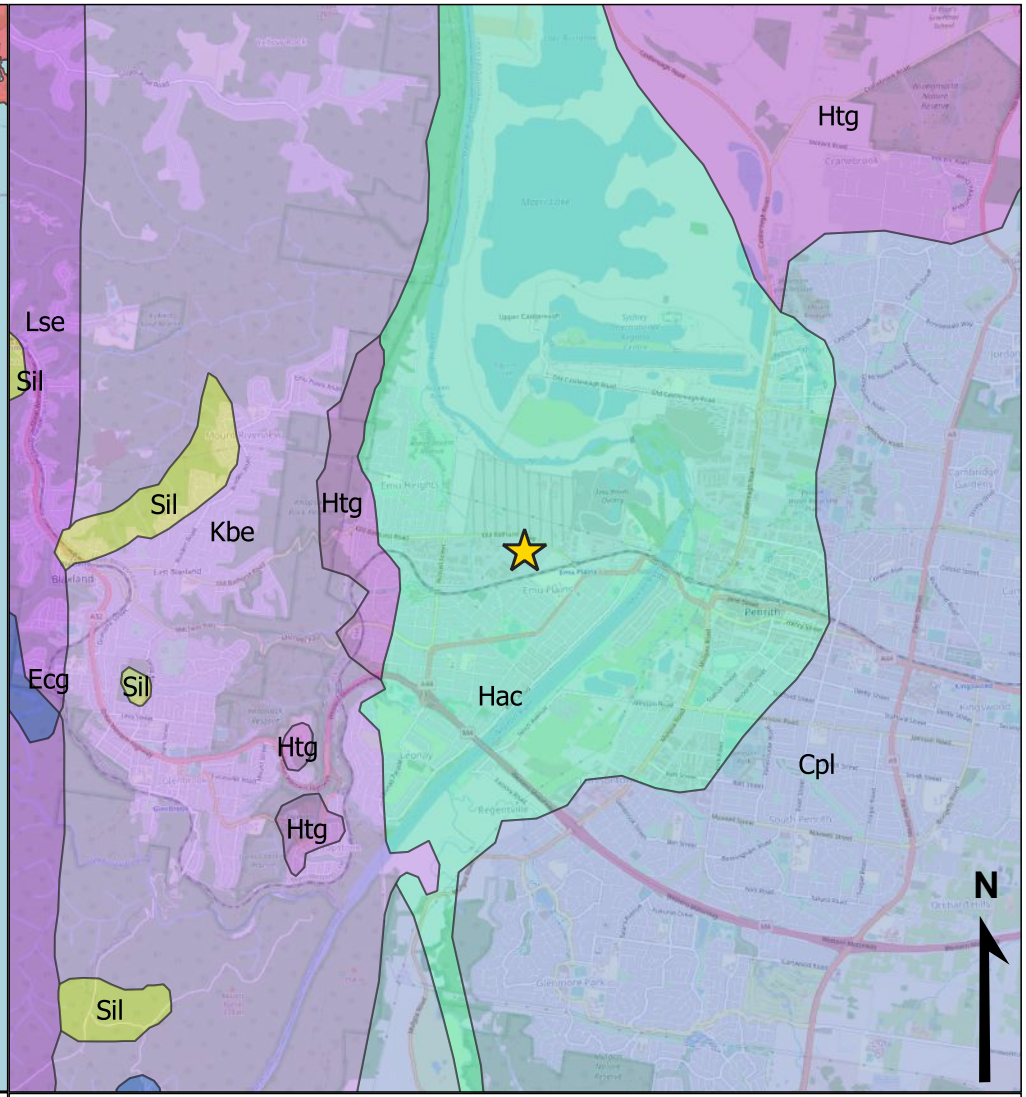
Geocentric Datum of Australia

ANNE CLEMENTS & ASSOCIATES PTY. LIMITED
Environmental and Botanical Consultants

Date created: 01-04-2022

Figure 1b-2.
Site boundary overlaid on the 1:25 000 topographic map (Springwood 9030-IV-S 2nd Edition. Central Mapping Authority of New South Wales 1982)





ANNE CLEMENTS & ASSOCIATES PTY. LIMITED
Environmental and Botanical Consultants

Date created: 29-03-2022

Site location
NSW North Coast
NSW South Western Slopes
South Eastern Highlands
Sydney Basin

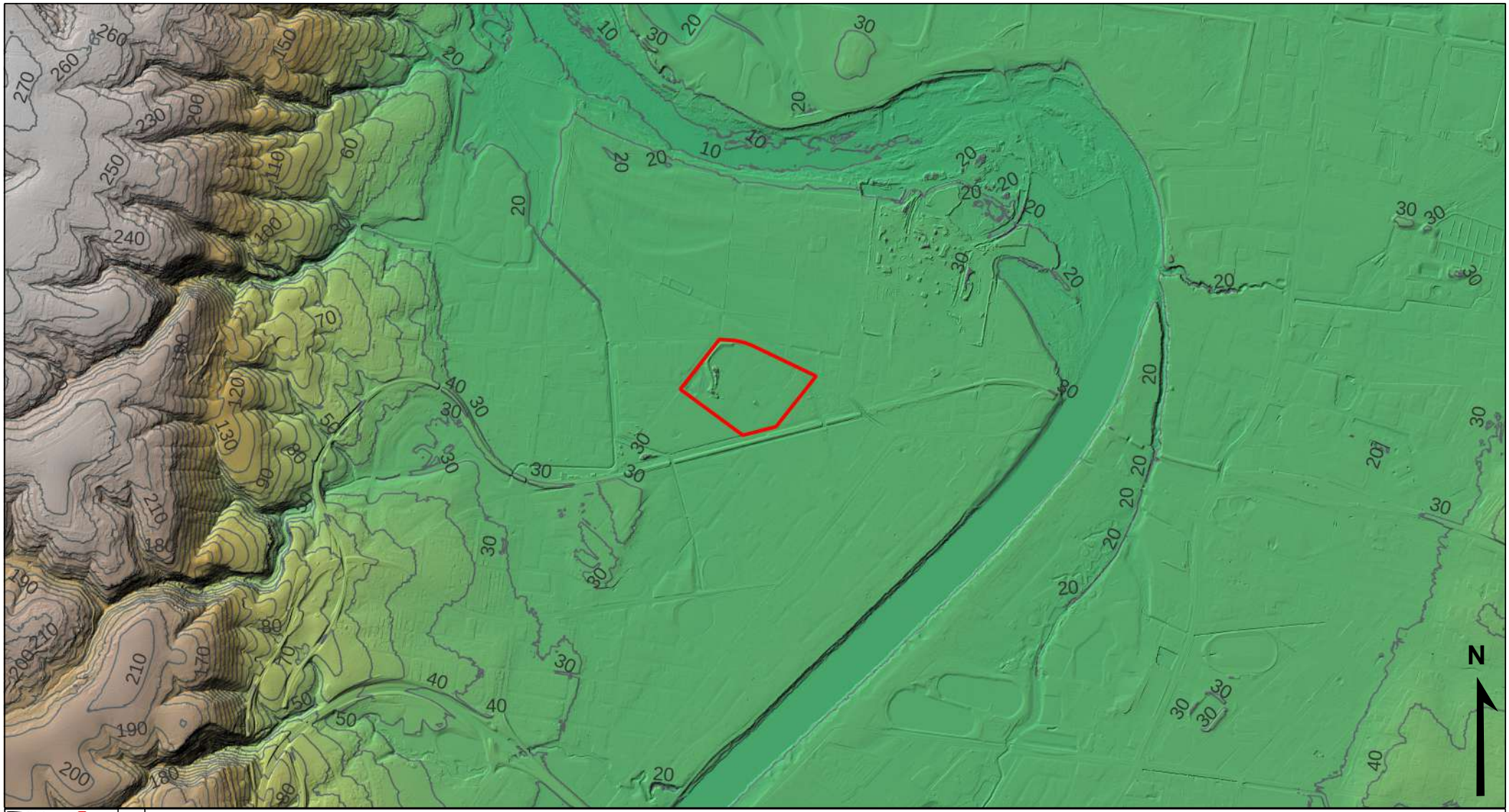
0 20 40 km
Geocentric Datum of Australia

Figure 1c-1.
Site location overlaid on the IBRA subregions map - version 7

Site location
Cpl Cumberland Plain
Ecg Erskine Creek Gorge
Hac Hawkesbury - Nepean Channels and Floodplain
Htg Hawkesbury - Nepean Terrace Gravels
Kbe Kurrajong Fault Scarp
Lse Lapstone Slopes
Sil Silverdale Slopes
Dia Sydney Basin Diatremes

0 1 2 km
Geocentric Datum of Australia

Figure 1c-2.
Site location overlaid on the NSW Mitchell Landscapes - version 3.1



ANNE CLEMENTS & ASSOCIATES PTY. LIMITED
Environmental and Botanical Consultants

Date created: 29-03-2022

Site boundary
7 m
74 m
140 m
207 m
273 m

0 0.5 1 km

Geocentric Datum of Australia

Figure 1d-1.
Site boundary overlaid on the Penrith 1 Metre DEM
LiDAR dated July 2019 (Spatial Services, ELVIS)

ANNE CLEMENTS & ASSOCIATES PTY. LIMITED
Environmental and Botanical Consultants

Date created: 01-04-2022

Site boundary
20 m
22 m
25 m
27 m
30 m
32 m

0 50 100 m

Geocentric Datum of Australia

Figure 1d-2.

Site boundary overlaid on the Penrith 1 Metre DEM LiDAR dated July 2019 (Spatial Services, ELVIS) - close up

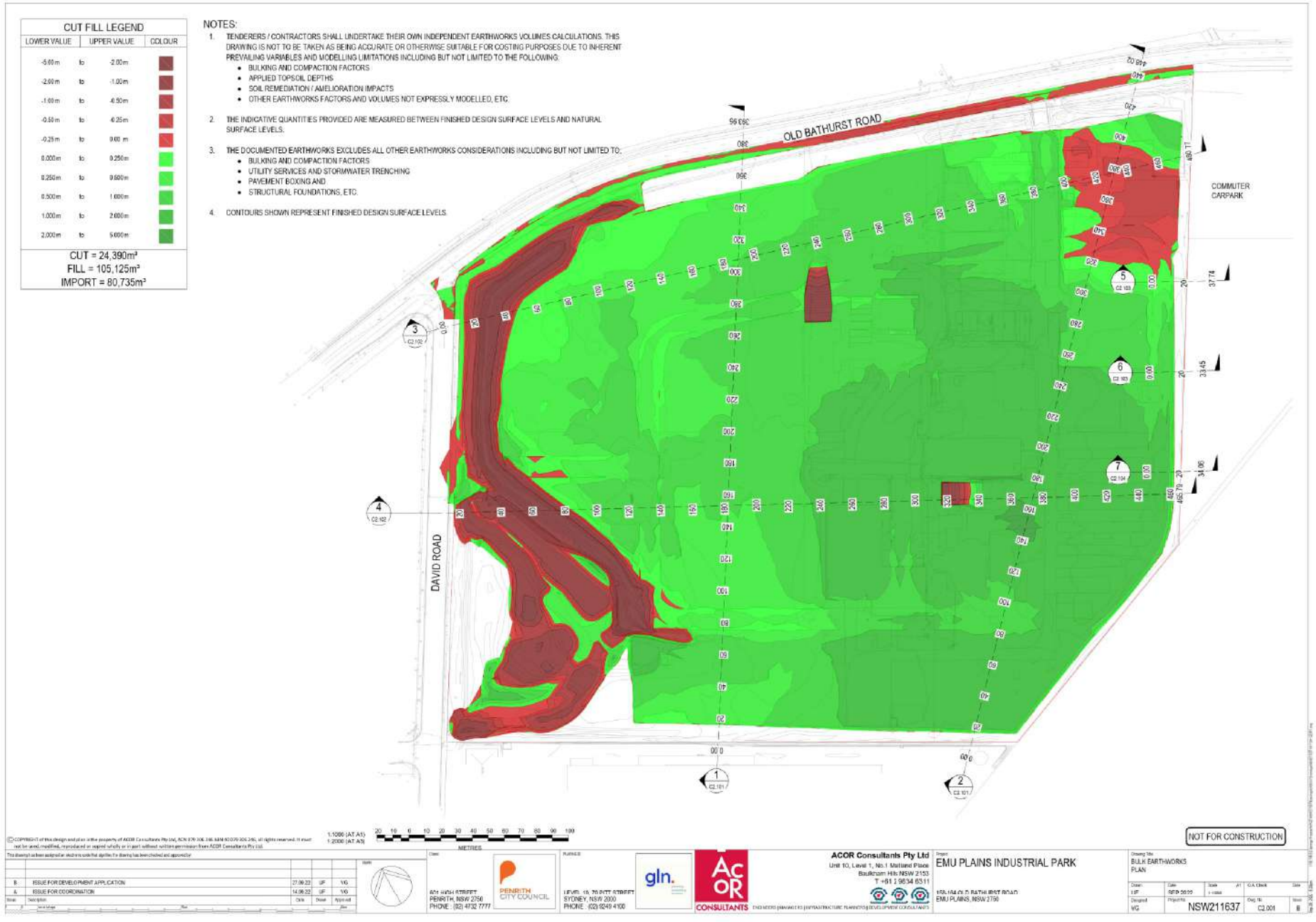


Figure 1e.
Bulk earthworks plan (ACOR , Project No. NSW211637, DWG No. C2.001, Issue B, Sep 2022)

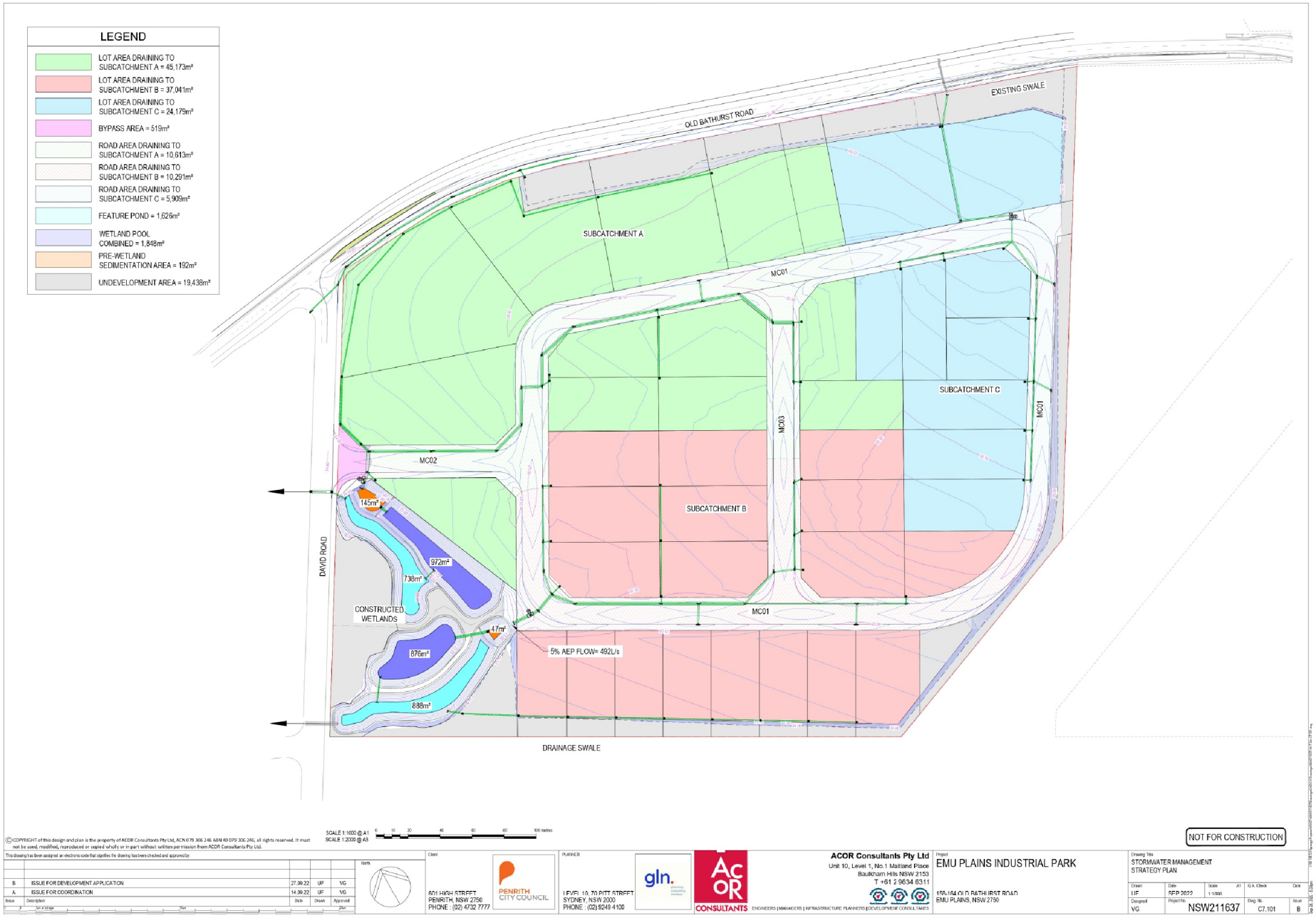


Figure 1f.
Stormwater Management Strategic Plan (ACOR, Project No. NSW211637, DWG No. C7.101, Issue B, Sep 2022)

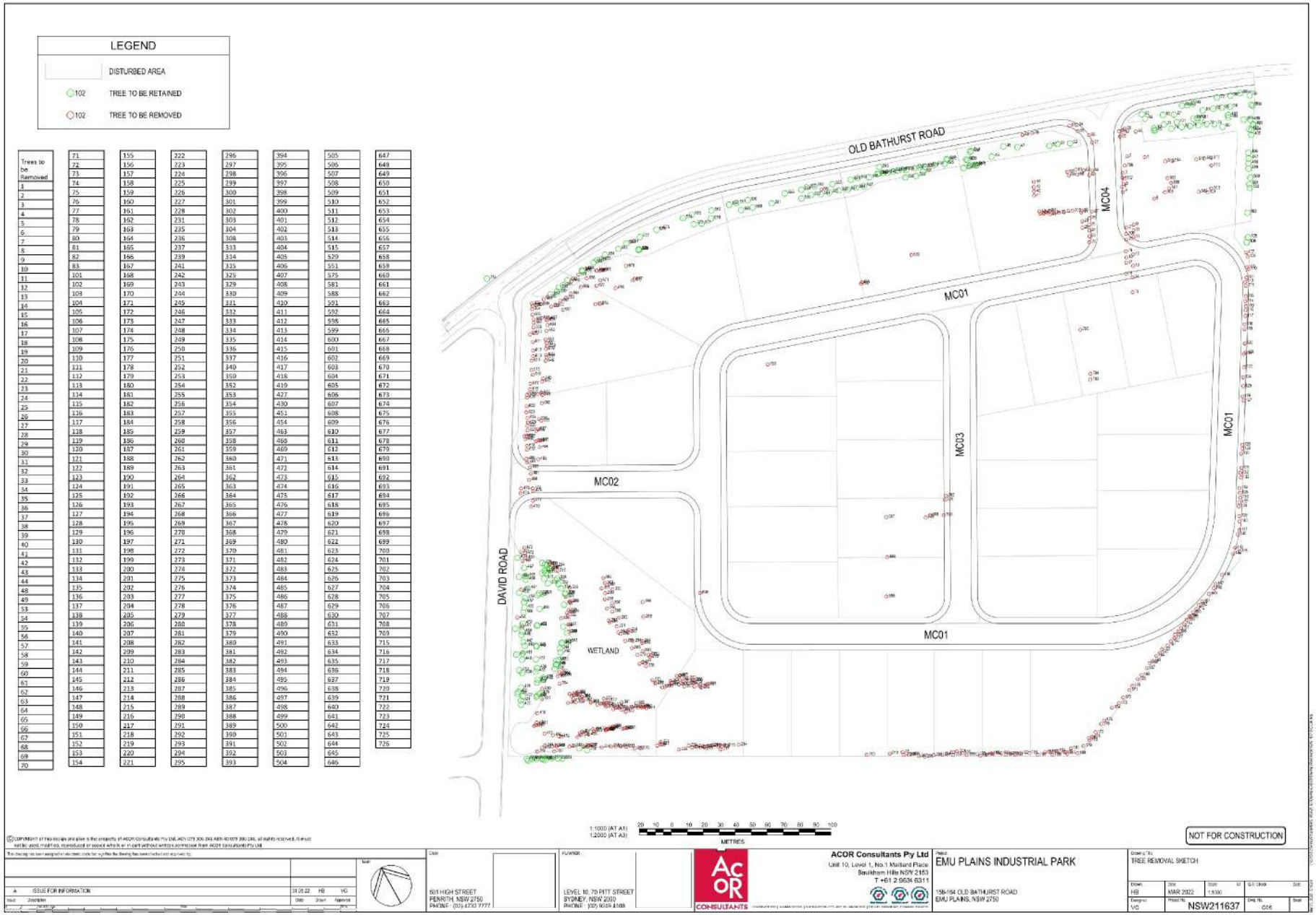
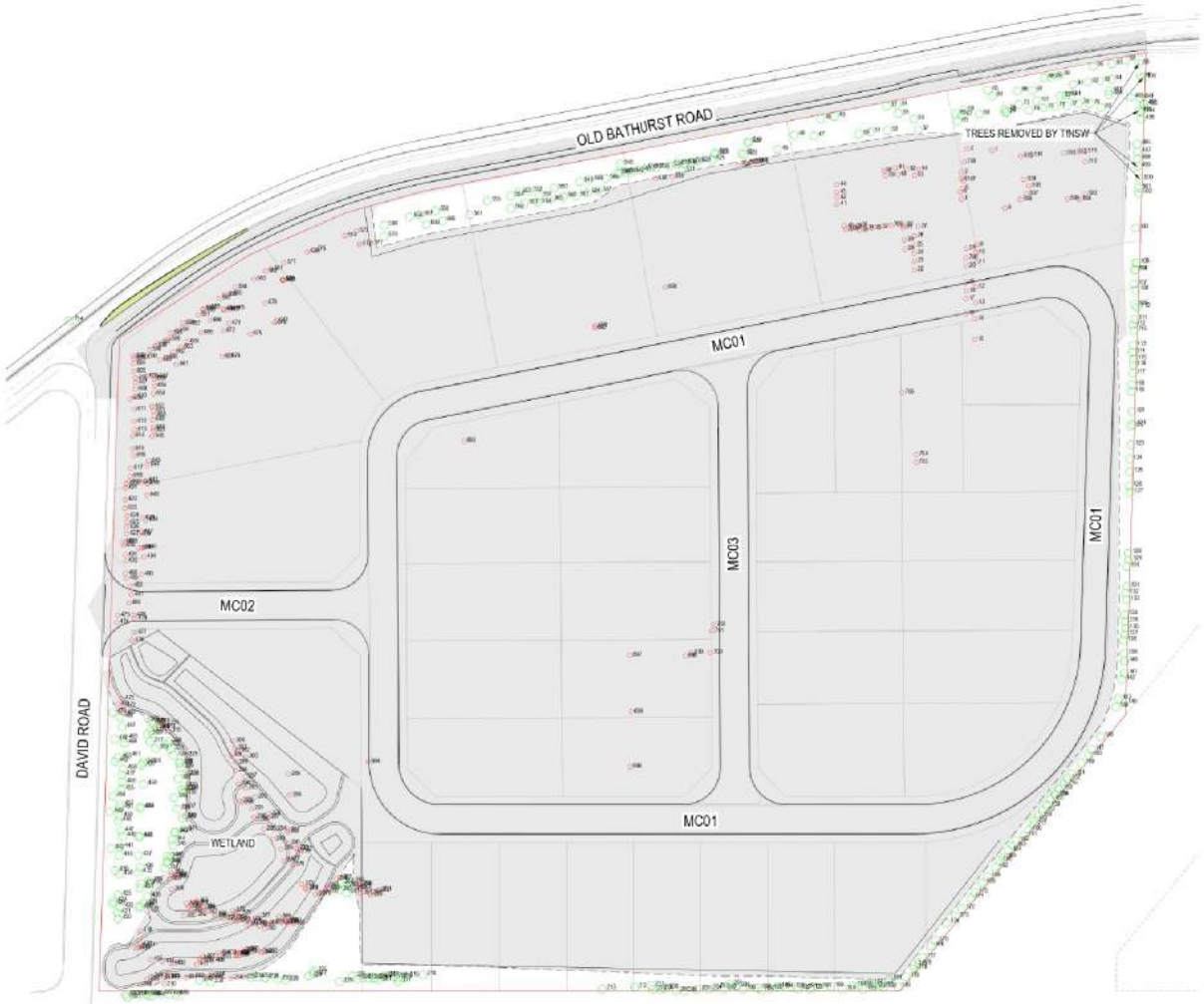


Figure 1g-1.
Tree Retention Plan (ACOR, Project No. NSW211637, DWG No. C06, March 2022)

LEGEND

	DISTURBED AREA
100	TREE TO BE RETAINED (351)
102	TREE TO BE REMOVED (377)

TREE TAG No.						
1	106	298	391	514	620	678
2	231	299	392	515	621	679
3	235	300	393	516	622	690
4	235	301	394	517	623	691
5	236	302	395	518	624	692
6	237	303	396	523	625	693
7	239	304	397	524	626	694
8	241	305	398	535	627	695
9	242	308	399	538	628	696
10	243	310	400	571	629	697
11	244	313	401	572	630	698
12	245	314	402	573	631	699
13	246	315	403	574	632	700
14	247	325	404	575	633	701
15	248	330	405	576	634	702
16	249	352	406	577	635	703
17	250	334	407	578	636	704
18	251	337	408	579	637	705
19	252	340	409	580	638	706
20	253	350	410	581	639	707
21	254	353	411	582	640	708
22	255	354	412	583	641	709
23	256	355	413	584	642	722
24	257	356	414	585	643	723
25	258	357	415	586	644	724
26	265	358	416	587	645	
27	266	359	417	588	646	
28	267	360	418	589	647	
29	268	361	419	590	648	
30	269	362	427	591	649	
31	270	363	469	592	650	
32	271	364	471	593	651	
33	272	365	472	594	652	
34	273	366	473	595	653	
35	274	367	474	596	654	
36	275	368	475	597	655	
37	276	369	476	598	656	
38	277	370	477	599	657	
39	278	371	478	600	658	
40	279	372	479	601	659	
41	280	373	480	602	660	
42	281	374	481	603	661	
43	282	375	482	604	662	
44	283	376	483	605	663	
58	284	377	484	606	664	
59	285	378	485	607	665	
60	286	379	486	608	666	
61	287	380	503	609	667	
62	288	381	504	610	668	
63	289	382	505	611	669	
64	290	383	506	612	670	
101	291	384	507	613	671	
102	292	385	508	614	672	
103	293	386	509	615	673	
104	294	387	510	616	674	
105	295	388	511	617	675	
	296	389	512	618	676	
	297	390	513	619	677	



1:1000 (AT A1)
1:2000 (AT A3)
METRES

NOT FOR CONSTRUCTION

This drawing has been assessed as electronic code that applies to drawing has been checked and approved.

B	ISSUE FOR DEVELOPMENT APPLICATION	27.09.22	JF	VG
A	ISSUE FOR COORDINATION	14.06.22	JF	VG

Client: PENRITH CITY COUNCIL, 601 HIGH STREET, PENRITH, NSW 2750, PHONE : (02) 4732 7777

Planner: gln., LEVEL 13, 70 PITT STREET, SYDNEY, NSW 2000, PHONE : (02) 9249 4100

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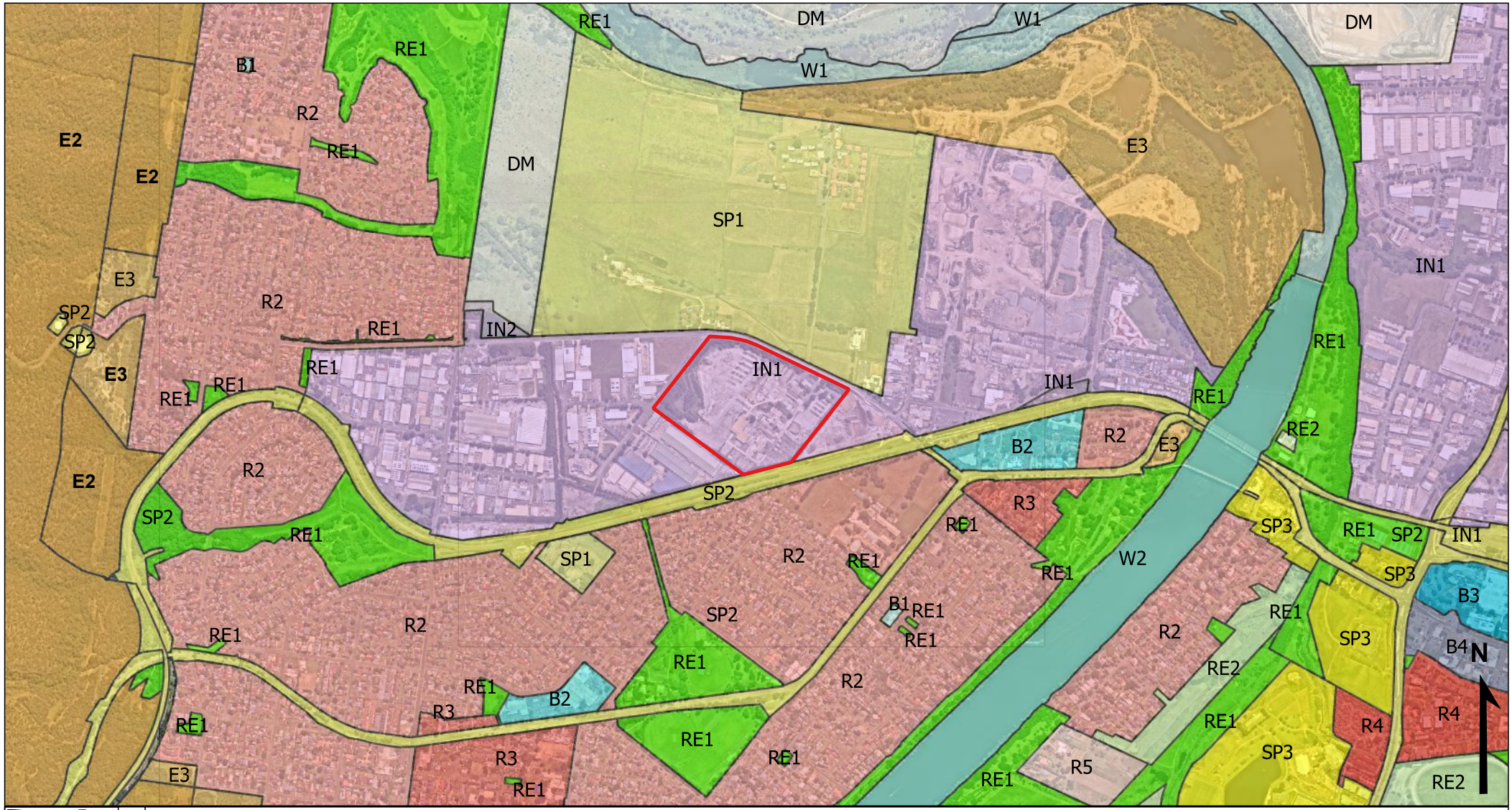
ENGINEERS | MANAGERS | INFRASTRUCTURE PLANNERS | DEVELOPMENT CONSULTANTS

Project: EMU PLAINS INDUSTRIAL PARK
158-164 OLD BATHURST ROAD
EMU PLAINS, NSW 2750

Drawing Title: TREE MANAGEMENT PLAN

Drawn	Date	Scale	A1	QA Check	Date
JF	SEP 2022	1:1000			
Designed	Project No.		Dwg. No.	Issue	
VG	NSW211637		C1.501	B	

Figure 1g-2.
Tree Management Plan (ACOR, Project No. NSW211637, DWG No. C1.501, Issue B, Sep 2022)



	Site boundary	RE1	Public Recreation	E3	Environmental Management
W2	Recreational Waterways	R5	Large Lot Residential	E2	Environmental Conservation
W1	Natural Waterways	R4	High Density Residential	DM	Deffered Matter
SP3	Tourist	R3	Medium Density Residential	B4	Mixed Use
SP2	Infrastructure	R2	Low Desnity Residential	B3	Commercial Core
SP1	Special Activities	IN2	Light Industrial	B2	Local Centre
RE2	Private Recreation	IN1	General Industrial	B1	Neighbourhood Centre

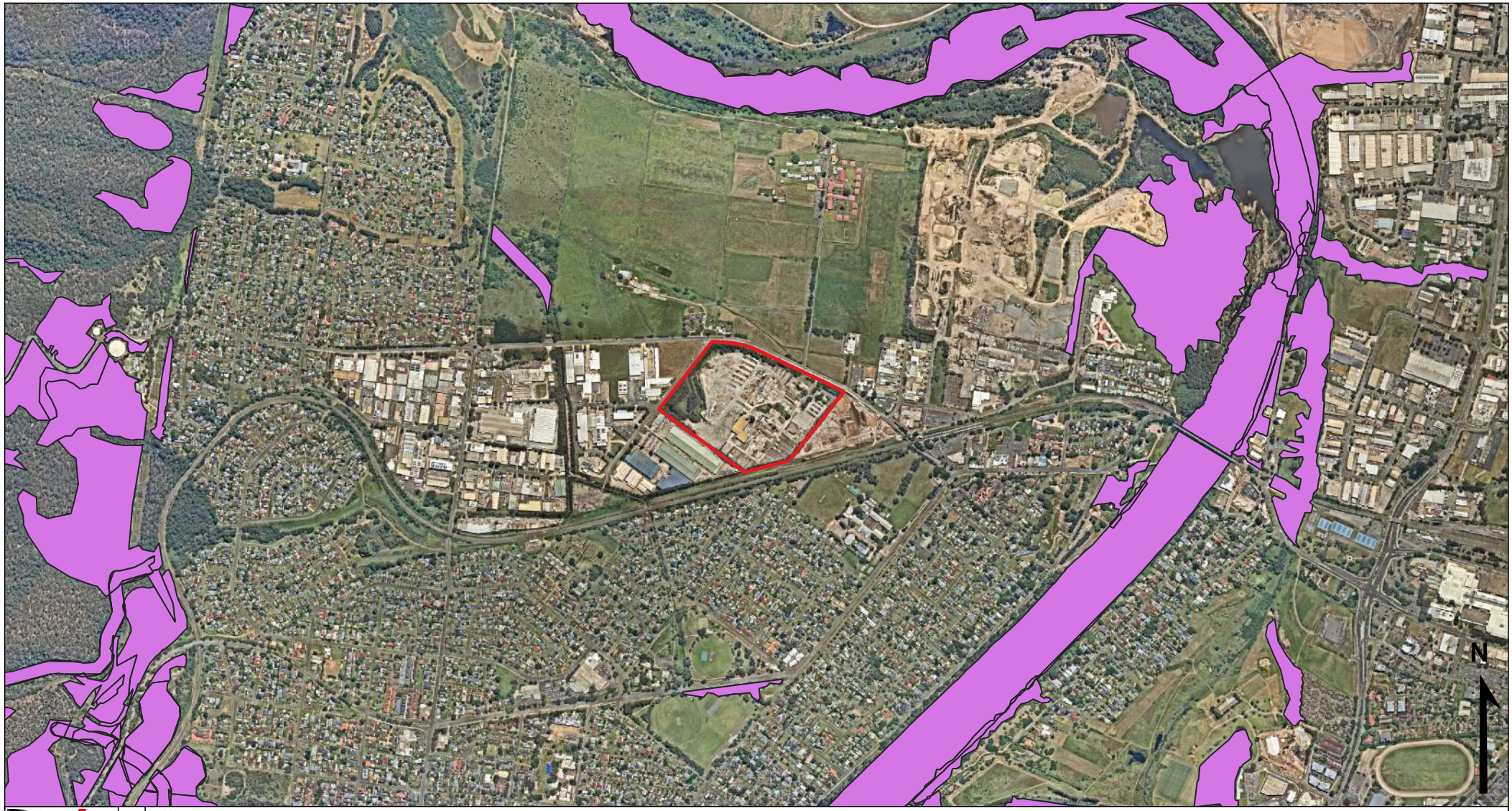
0 250 500 m

Geocentric Datum of Australia

ANNE CLEMENTS & ASSOCIATES PTY. LIMITED
Environmental and Botanical Consultants

Date created: 29-03-2022

Figure 2a.
Site boundary overlaid on the Penrith Local Environmental Plan 2010 - Land Zoning Map.



Site boundary

Biodiversity values

ANNE CLEMENTS & ASSOCIATES PTY. LIMITED
Environmental and Botanical Consultants

Date created: 29-03-2022

Figure 2b-1.
Site boundary overlaid on the Biodiversity Values Map - version 11.2

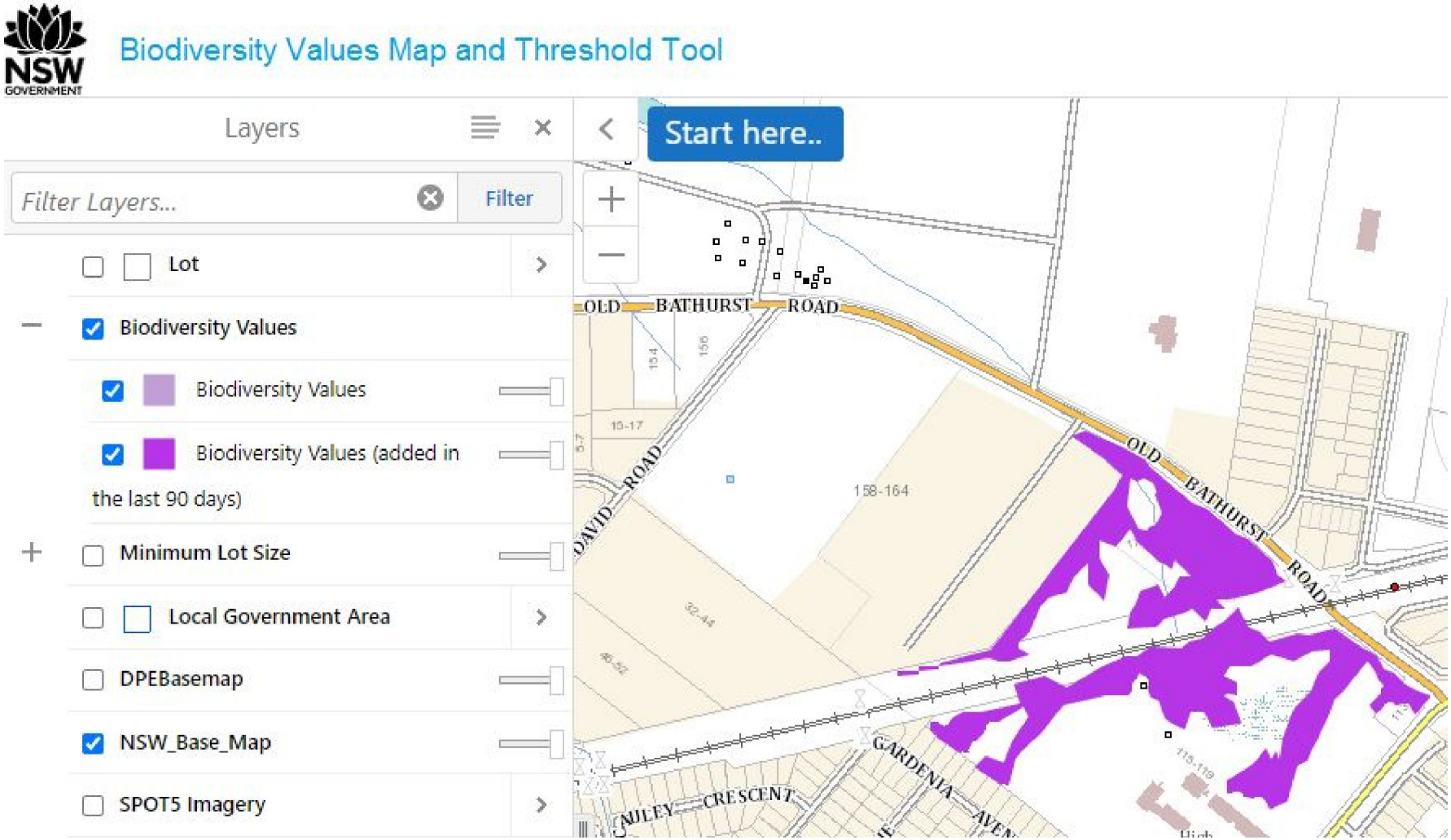
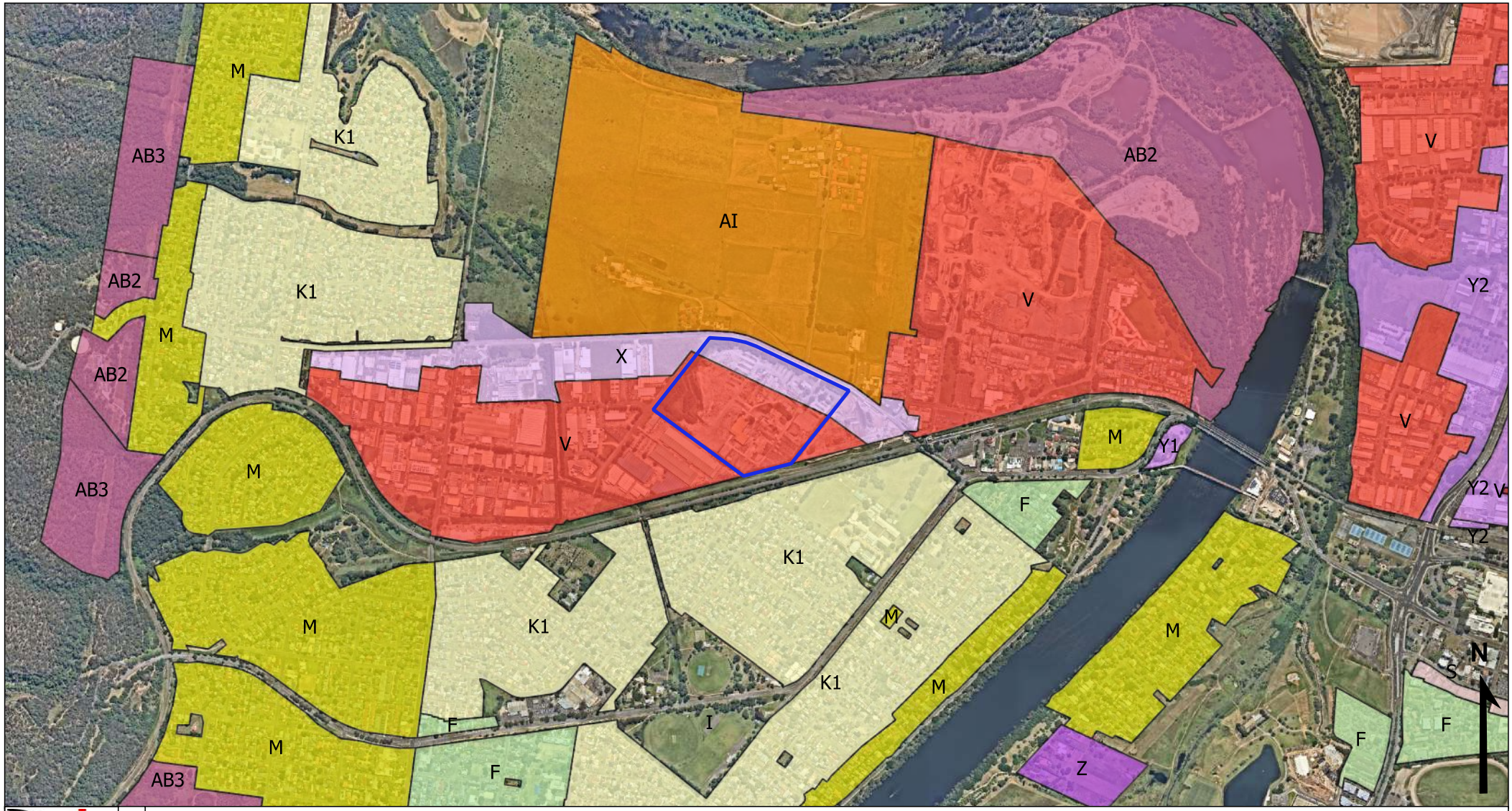


Figure 2b-2.
Updated Biodiversity Values Map - accessed 07 April 2022



ANNE CLEMENTS & ASSOCIATES PTY. LIMITED
Environmental and Botanical Consultants

Date created: 29-03-2022

	Site boundary	S	S - 800 m2
AB2	AB2 - 20 ha	V	V - 2000 m2
AB3	AB3 - 40 ha	X	X - 6000 m2
AI	AI - 1000 ha	Y1	Y1 - 1 ha
F	F - 400 m2	Y2	Y2 - 1.25 ha
K1	K1 - 550 m2	Z	Z - 2 ha
M	M - 600 m2		

0 250 500 m

Geocentric Datum of Australia

Figure 2c.
Site boundary overlaid on the Penrith Local Environmental Plan 2010 - Lot Size Map

Prepared by:
Advisian

1% AEP PEAK FLOOD LEVELS NEAR EMU PLAINS [EXISTING CONDITIONS]

Figure 3a.
1% AEP peak flood levels near Emu Plains existing conditions (from ACOR 2022)

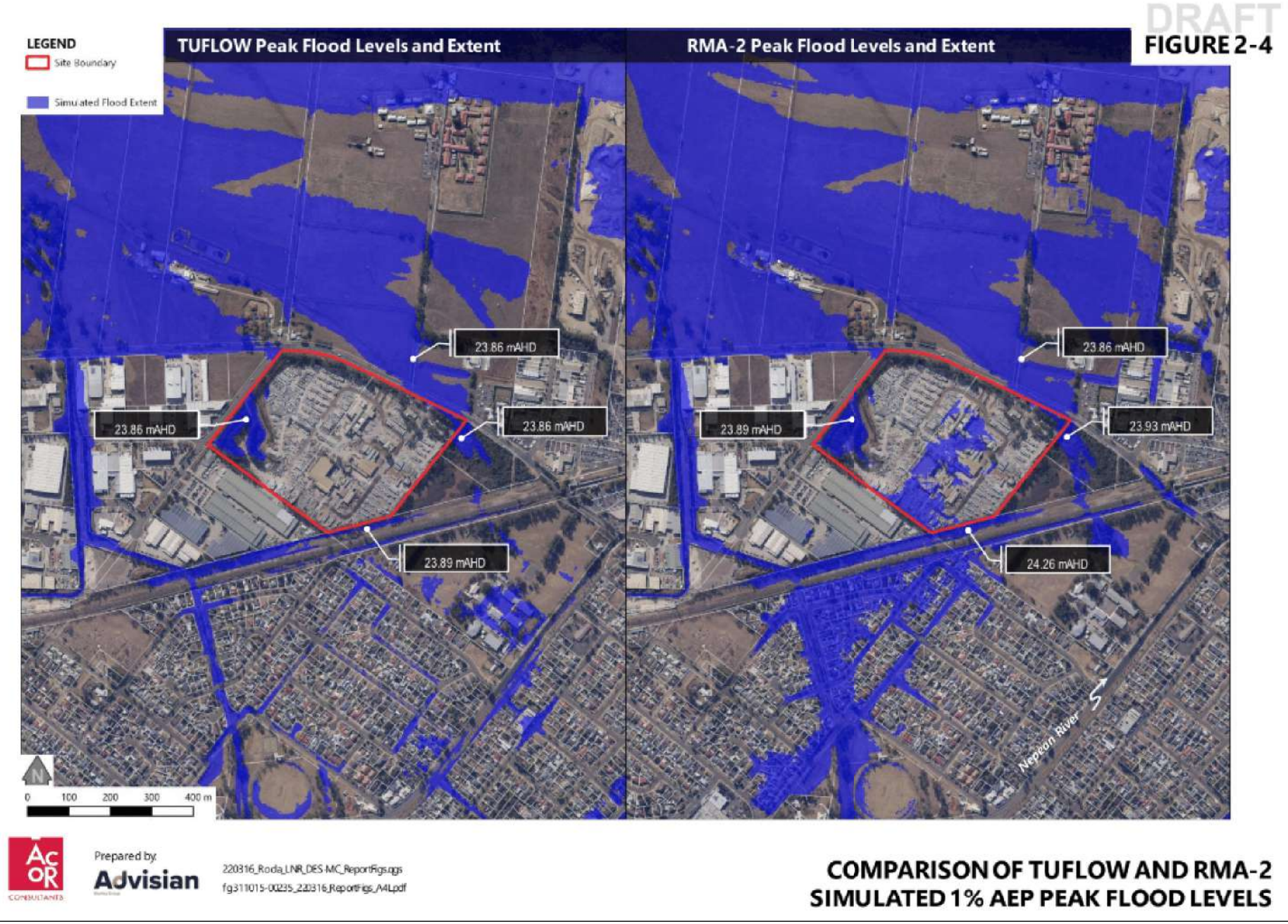
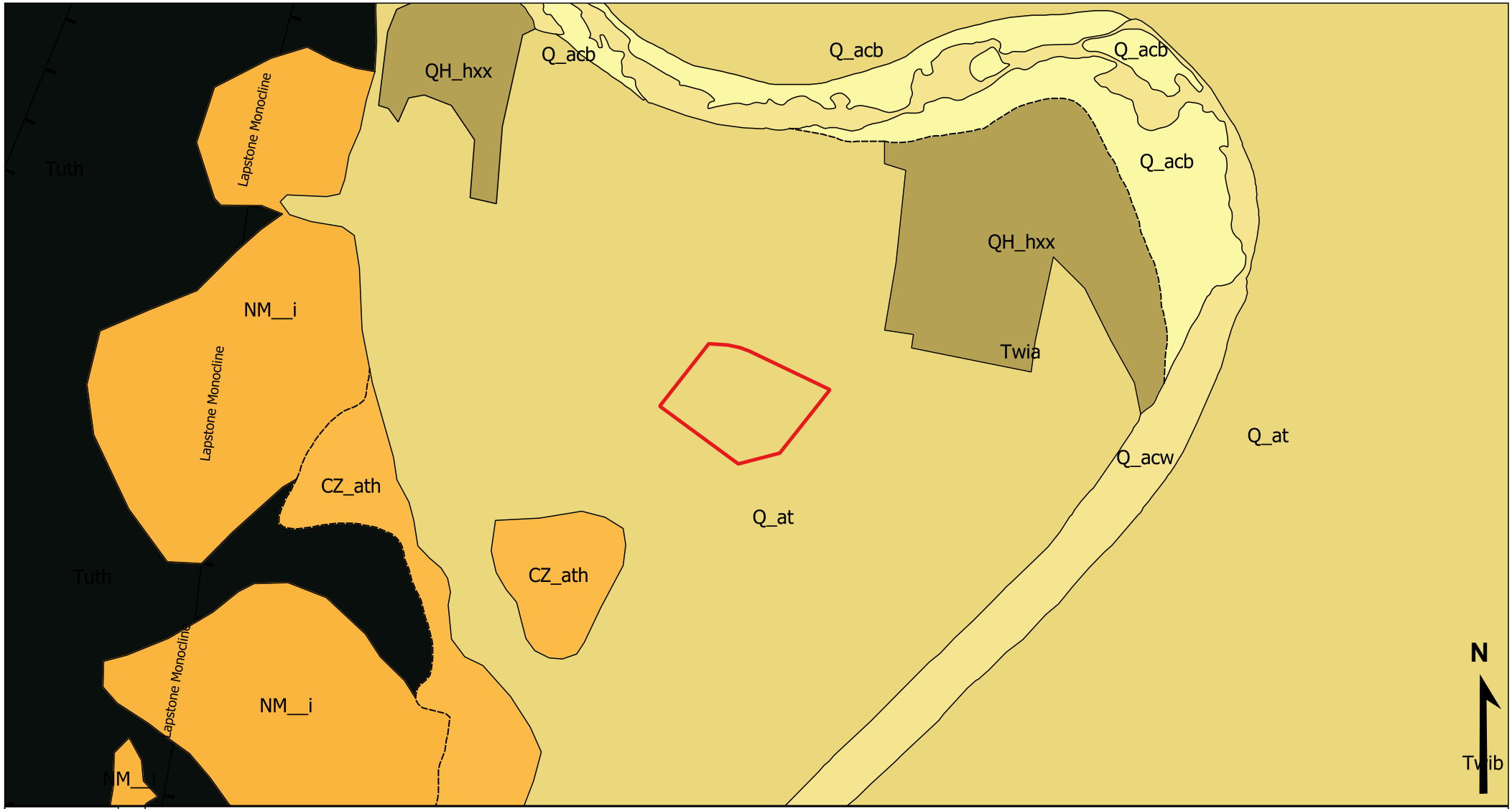


Figure 3b.
Comparison of TuFlow and RMA-2 stimulated 1% AEP peak flood levels (from ACOR 2022)



ANNE CLEMENTS & ASSOCIATES PTY. LIMITED
Environmental and Botanical Consultants

Date created: 01-04-2022

Site boundary

Geological boundary position accurate

Geological boundary position approximate

Cenozoic sedimentary province

CZ_ath	Alluvial terrace deposits - high-stand facies
NM__i	Rickabys Creek Gravel
Q_acb	Alluvial channel deposits - in-channel bar
Q_acw	Alluvial channel deposits - subaqueous
Q_at	Alluvial terrace deposits
QH_hxx	Anthropogenic deposits - extensive excavation of Quaternary deposits

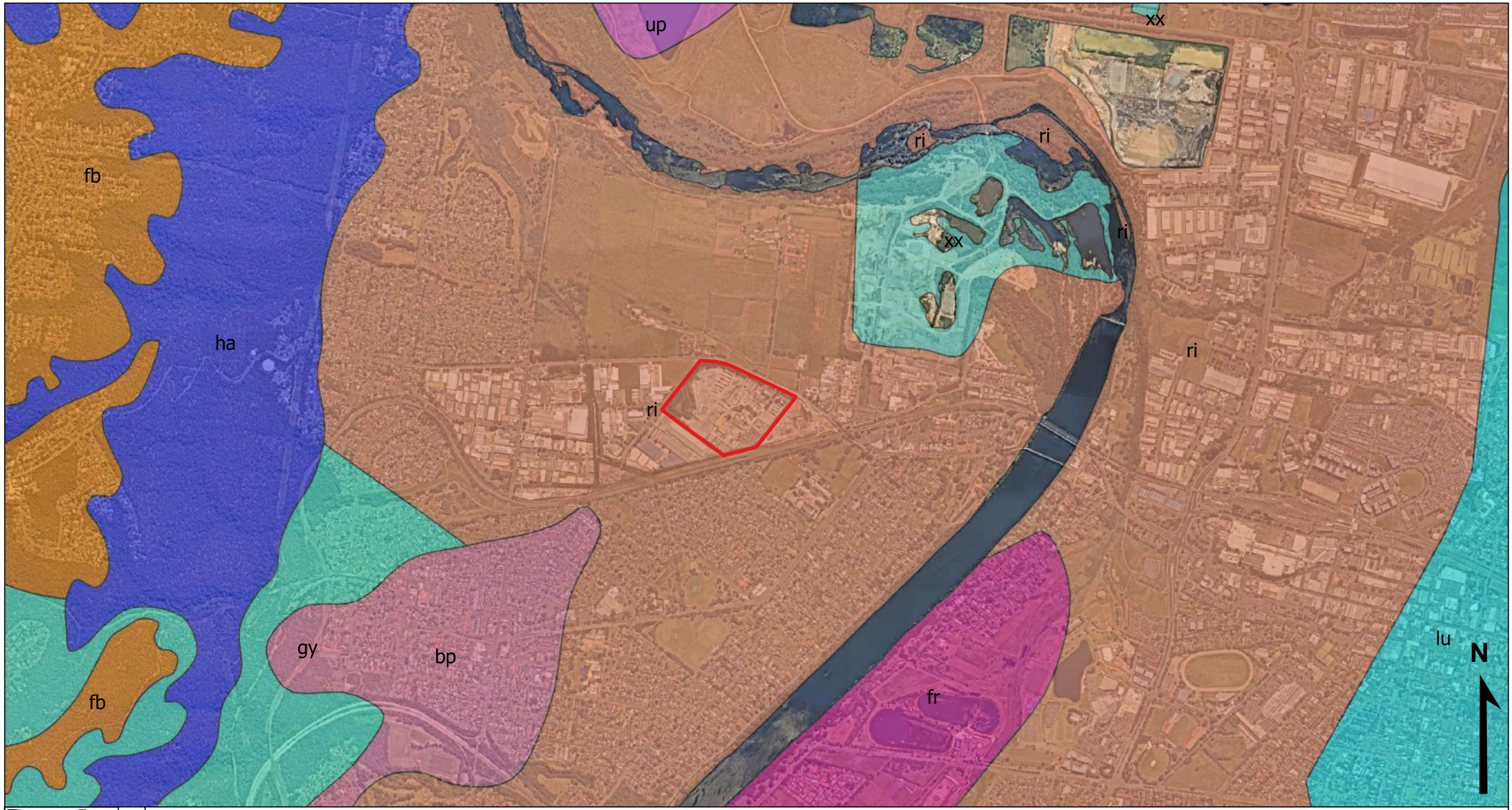
Permian-Triassic basins

Tuth	Hawkesbury Sandstone
	Monocline, accurate position

0 250 500 m

Geocentric Datum of Australia 1994

Figure 4a.
Site boundary overlaid on NSW Seamless Geology version 2



ANNE CLEMENTS & ASSOCIATES PTY. LIMITED
Environmental and Botanical Consultants

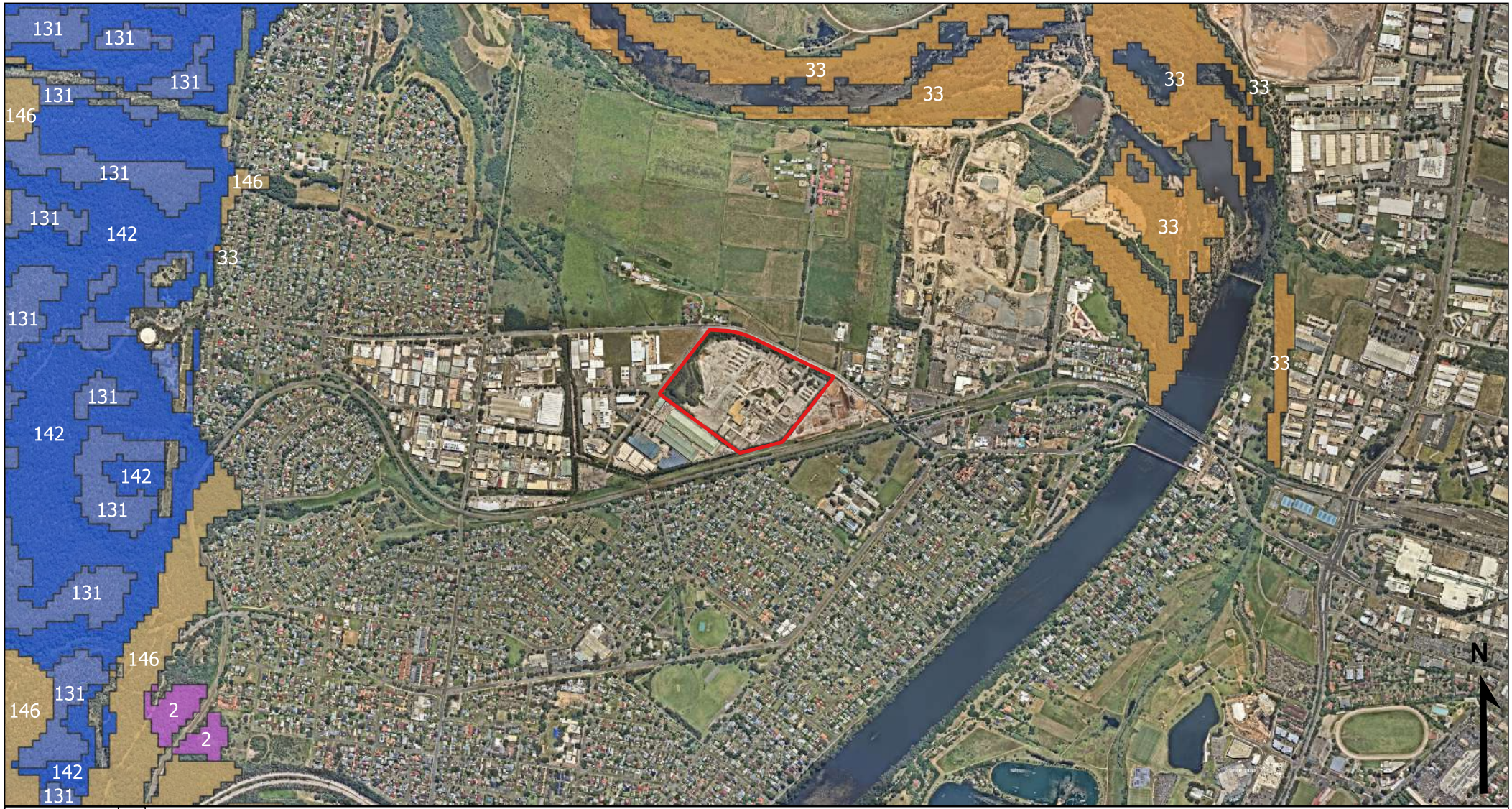
Date created: 01-04-2022

	Site boundary	gy	Gymea
bp	Berkshire Park	ha	Hawkesbury
xx	Disturbed Terrain	lu	Luddenham
fb	Faulconbridge	ri	Richmond
fr	Freemans Reach	up	Upper Castlereagh

0 0.5 1 km

Geocentric Datum of Australia

Figure 4b.
Site boundary overlaid on Soil Landscapes of Central and Eastern NSW v2.1



ANNE CLEMENTS & ASSOCIATES PTY. LIMITED
Environmental and Botanical Consultants

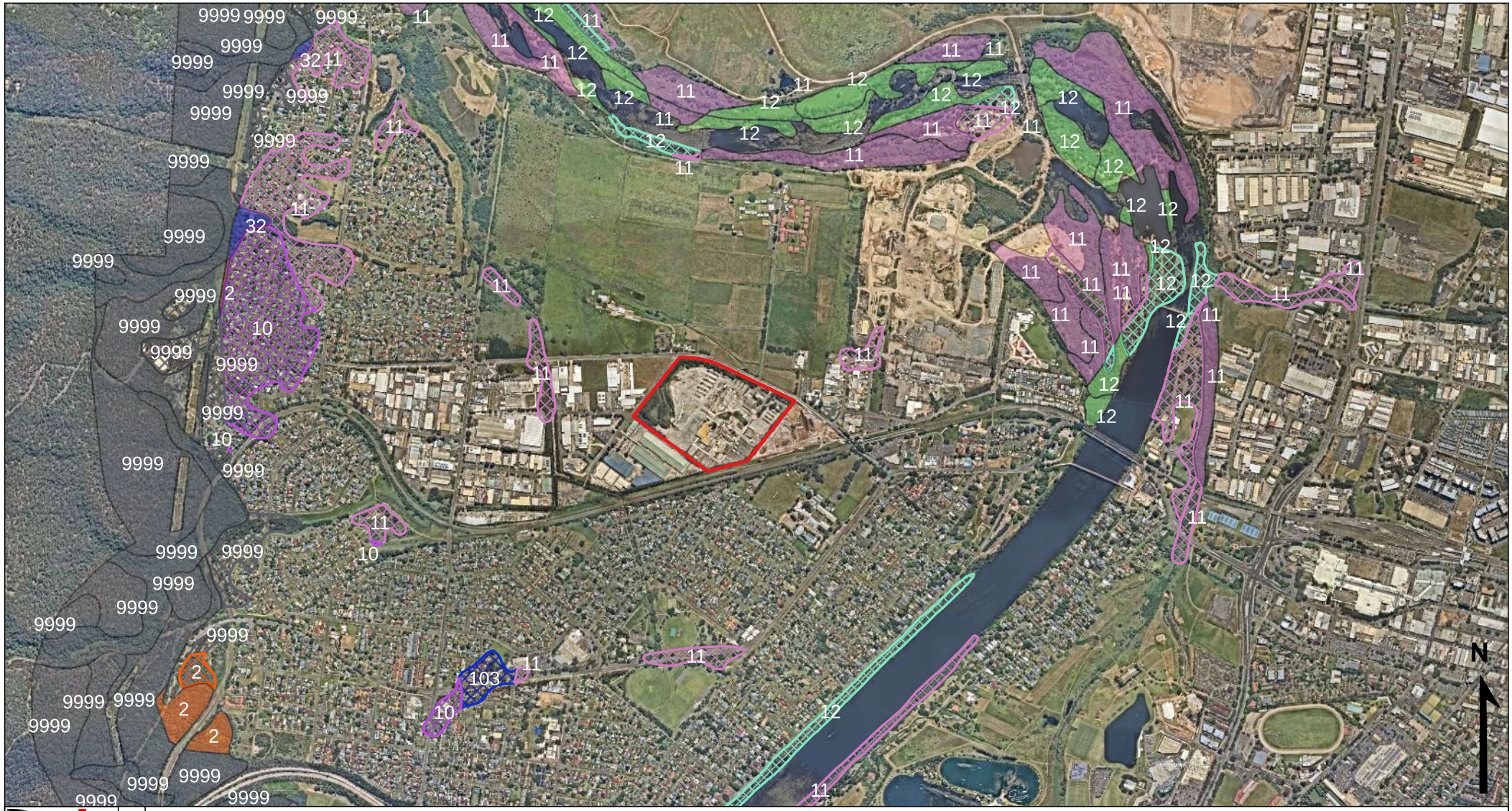
Date created: 30-03-2022

- Site boundary
- 502 Castlereagh Shale-Gravel Transition Forest
- 131 Coastal Sandstone Ridgetop Woodland
- 33 Cumberland River Flat Forest
- 29 Cumberland Shale Plains Woodland
- 2 Cumberland Shale Sandstone Transition Forest
- 142 Hinterland Sandstone Gully Forest
- 146 Sydney Hinterland Transition Woodland

0 250 500 m

Geocentric Datum of Australia

Figure 5a.
Priority 5 Mapping Area (P5MA) Vegetation Extent VIS_ID 4172 (DPIE 2015)



ANNE CLEMENTS & ASSOCIATES PTY. LIMITED
Environmental and Botanical Consultants

Date created: 01-04-2022

Site boundary

Canopy cover > 10%

- 103 Shale/Gravel Transition Forest
- 11 Alluvial Woodland
- 12 Riparian Forest
- 2 Shale Sandstone Transition Forest (High Sandstone Influence)
- 32 Upper Georges River Sandstone Woodland
- 9999 Unclassified Vegetation

Canopy cover <10%

- 10 Shale Plains Woodland
- 11 Alluvial Woodland
- 12 Riparian Forest
- 2 Shale Sandstone Transition Forest (High Sandstone Influence)
- 9999 Unclassified Vegetation

0 0.5 1 km

Geocentric Datum of Australia

Figure 5b.
Native vegetation of the Cumberland Plain (Tozer 2003)

ANNE CLEMENTS & ASSOCIATES PTY. LIMITED
Environmental and Botanical Consultants

Date created: 04-04-2022

Site boundary

BAM Plots

Patches

0 50 100 m

Geocentric Datum of Australia

Figure 6a.
Sampling locations overlaid on Tree Assessment Plan (CIVICA dated 1 September 2022)

Figure 6b.
Locations of hollow-bearing trees and stick nests (draft report by SIA)

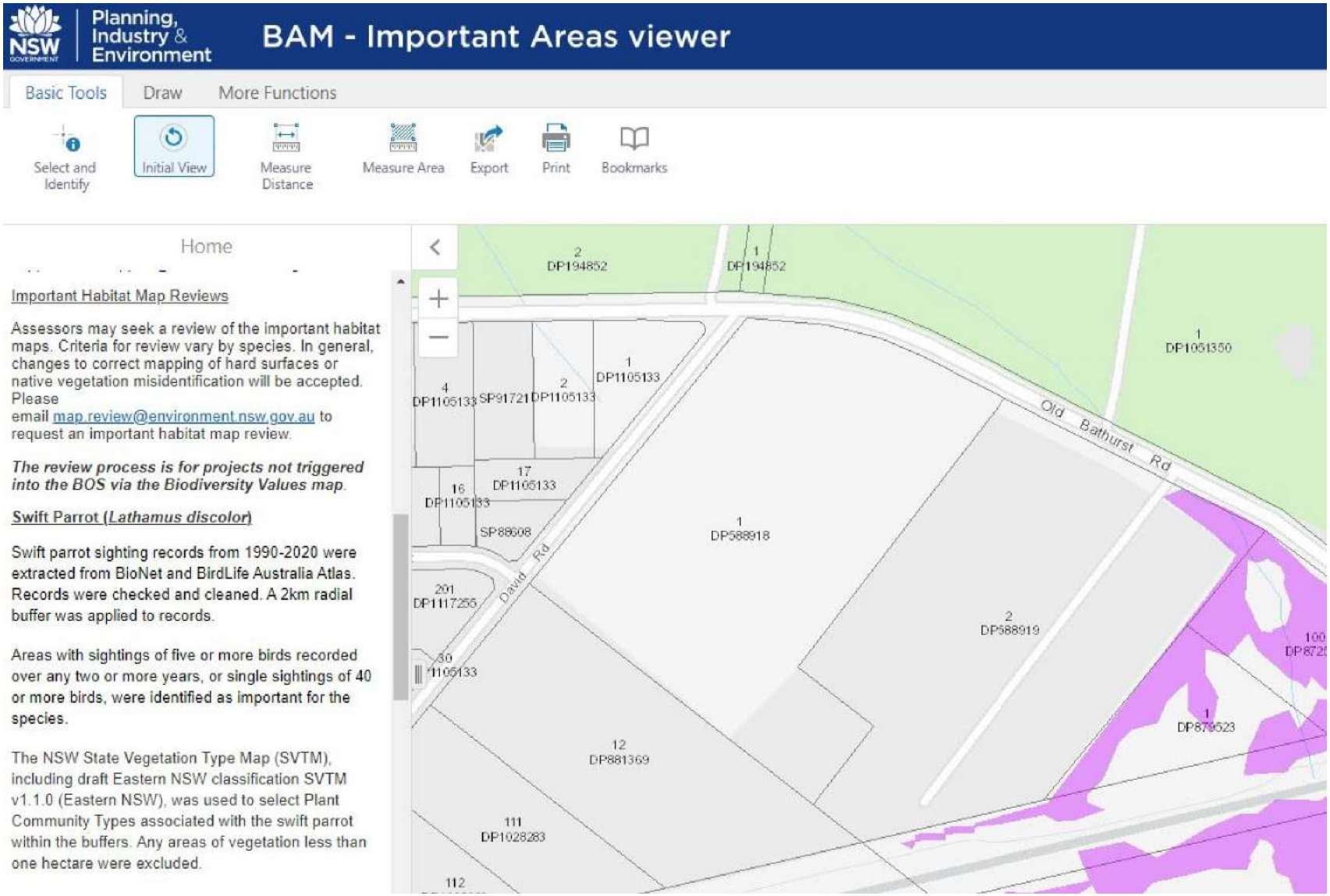


Figure 6c.
Important areas for the Swift Parrot - accessed 7 April 2022

ANNE CLEMENTS & ASSOCIATES PTY. LIMITED
Environmental and Botanical Consultants

Date created: 06-10-2022

Site boundary

Vegetation Zones

Planted 2.47 ha (1.07 retained)

Constructed dam vegetation 0.93 ha (0.21 ha retained)

Management Zones

Retained 1.28 ha

Figure 7.
Vegetation Zones and Management Zones overlaid on the Nearmap aerial photograph dated 18 February 2022