
Proposed Residential
Subdivision – Addendum
Contamination
Assessment

Stages 8 to 14 - 70
Christopher Road,
Lochinvar NSW

NEW17P-0034A-AE.Rev2
22 October 2021



Document control record

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1	6 October 2021	Revision 1- revised site boundary	Qualtest	L. Betz	-
2	22 October 2021	Revision 2 - revised site boundary	Qualtest	L. Betz	-

Executive Summary

Qualtest Laboratory NSW Pty Ltd (Qualtest) is pleased to present this Addendum Contamination Assessment (CA) report to Barker Ryan Stewart (BRS) for the proposed residential subdivision of Lochinvar Ridge, Stages 8 to 14, located at part Lot 2 and 3 DP1256730, 70 Christopher Road, Lochinvar, NSW (the site). The location of the site is shown on Figure 1, Appendix A.

Based on information provided by BRS, the proposed Stages 8 to 14 development is understood to comprise subdivision into approximately 304 residential lots, drainage reserves, parks and construction of associated internal subdivision roads. It is understood this CA will be submitted as part of a Development Application (DA) to Maitland City Council for Stages 8 to 14 of the proposed development.

Coffey Services Pty Ltd (Coffey) completed a Phase 1 and Phase 2 Contamination Assessment (Phase 1 and Phase 2 CA) (Ref. NTLEN202989-R1rev1) for the site in June 2017, which also included Stages 1 to 7 and Stages 14 to 18. It is understood that development consent has already been issued for Stage 1 to 7 under a separate DA, and Stages 15 to 18 will be assessed at a later date. Stages 1 to 7 and Stages 15 to 18 are not included in this report.

The objectives of the Addendum Contamination Assessment were to:

- Assess whether the findings of the Coffey (2017) Phase 1 and Phase 2 CA report are still relevant;
- Assess current site conditions; and,
- Provide recommendations on the need for further assessment, if required.

The assessment carried out by Coffey (2017) was considered to be generally in accordance with the relevant NSW EPA guidelines, and provide an accurate representation of the site history.

The site has remained relatively unchanged since 2017. Based on Qualtest review of the site history and findings from the site walkover, Qualtest considers that the recommendations presented in the Coffey (2017) report remain valid:

Coffey recommended the following for the site:

- *"The farm waste inside the shed Lot 32 (north eastern portion of the current site) is removed and the surface soils inside the shed observed. If evidence of potential contamination is identified (such as stained or odorous soils), an environmental consultant should be contacted to collect additional surface soil samples".*
- *A Construction Environmental Management Plan (CEMP) is implemented, prior to earthworks commencing, in order to appropriately manage the on-site and off-site disposal of soil, sediment and water." The CEMP will also be required to manage anthropogenic materials observed across the site.*

Provided the recommendations listed above are implemented/carried out Qualtest considers the site suitable for the proposed Stages 8 to 14 residential development.

Should material require disposal from the site, it will require classification in accordance with the NSW EPA (2014) Waste Classification Guidelines, or a relevant resource recovery order/exemption under Part 9, Clause 91 to 93 or the POEO (Waste) Regulation 2014. Should fill material be imported to the site, it will need to classify as Virgin Excavated Natural Material as described in the NSW EPA (2004) Waste Classification Guidelines, or meet a relevant resource recovery order/exemption.

This report was prepared in general accordance with the relevant sections of the NSW EPA (2020) Guidelines for Consultants Reporting on Contaminated Land and the National

Environment Protection (Assessment of Site Contamination) Measure 1999 (April 2013), NEPC 2013, Canberra (referred to as ASC NEPM 2013).

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1.0 Introduction

Qualtest Laboratory NSW Pty Ltd (Qualtest) is pleased to present this Addendum Contamination Assessment (CA) report to Barker Ryan Stewart (BRS) for the proposed residential subdivision of Lochinvar Ridge, Stages 8 to 14, located at part Lot 2 and 3 DP1256730, 70 Christopher Road, Lochinvar, NSW (the site). The location of the site is shown on Figure 1, Appendix A.

Based on information provided by BRS, the proposed Stages 8 to 14 development is understood to comprise subdivision into approximately 304 residential lots, drainage reserves, parks and construction of associated internal subdivision roads. It is understood this CA will be submitted as part of a Development Application (DA) to Maitland City Council for Stages 8 to 14 of the proposed development.

Coffey Services Pty Ltd (Coffey) completed a Phase 1 and Phase 2 Contamination Assessment (Phase 1 and Phase 2 CA) (Ref. NTLEN202989-R1rev1) for the site in June 2017, which also included Stages 1 to 7 and Stages 14 to 18. It is understood that development consent has already been issued for Stage 1 to 7 under a separate DA, and Stages 15 to 18 will be assessed at a later date. Stages 1 to 7 and Stages 15 to 18 are not included in this report.

This report has been prepared to assess the current site conditions and confirm that the findings from the Coffey Phase 1 and Phase 2 CA are still relevant.

This report was prepared in general accordance with the relevant sections of the NSW EPA (2020) Guidelines for Consultants Reporting on Contaminated Land and the *National Environment Protection (Assessment of Site Contamination) Measure 1999 (April 2013)*, NEPC 2013, Canberra (referred to as ASC NEPM 2013).

1.1 Objectives

The objectives of the Addendum Contamination Assessment were to:

- Assess current site conditions;
- Assess whether the findings of the Coffey (2017) Phase 1 and Phase 2 CA report are still relevant; and
- Provide recommendations on the need for further assessment, if required.

2.0 Site Identification

The site is located to the west of Winders Lane, Lochinvar, NSW. Rural residential properties bound the site to the north, west and beyond Winders Lane to the east. Grazing/farming and bushland bound the site to the south. Evidence of earthworks for proposed residential subdivisions are evident on adjoining sites to the north east and east. The site location is shown in Figure 1, Appendix A. General site information is provided below in Table 2.1.

Table 2.1: Summary of Site Details

Site location:	Winders Lane, Lochinvar, NSW
Approximate site area:	39.5 ha (hectares) Approx. 0.76km long by 0.9km wide at its widest and longest points.
Title Identification Details:	Part of Lot 2 and 3 of DP 1256730 within the Maitland City Council local government area.
Current Ownership:	Edwin James Aird
Previous Landuse:	Rural residential and grazing land. Possible localised orchards/market gardens in the north eastern corner of the site.
Current Landuse:	Rural residential and grazing land.
Proposed Landuse:	Residential Subdivision
Adjoining Site Uses:	Rural residential properties and vacant farming/bushland
Site Coordinates:	32°42'21 S 151°27'40 E – north western corner of the site

3.0 Previous Contamination Assessment Reports

3.1 Coffey (2017) Phase 1 and Phase 2 Contamination Assessment

Coffey carried out a Phase 1 and Phase 2 CA for four lots: Lot 2 DP718712, Lot 32 DP1132263, Lot 310 DP1034974; and Lot 311 DP1135580, which covered an area of about 130ha. A site plan showing Coffey (2017) Site Location and Site Features is shown on Figure 3 and Figure 4, Appendix A. It is noted that Coffey also previously carried out a Phase 1 & 2 Contamination Assessment (CA) of Lot 32 in 2015, for a previous DA submission, results of the 2015 CA were included in the 2017 report. Qualtest were not provided a copy of the Coffey (2015) report.

Since 2017, Lot 311 DP1135580 and the central and southern portion of Lot 32 DP1132263 have been formed into Lot 3 DP1256730. The north eastern portion of Lot 32 DP1132263 has been formed into Lot 2 DP1256730. The current site location covers the northern portion of Lot 3 DP1256730 and southern portion of Lot 2 DP1256730 (Stages 8 to 14 of the proposed subdivision). Lot 2 DP718712, Lot 310 DP1034974, the north eastern portion of Lot 32 DP1132263 and the central and southern portions of Lot 311 DP1135580, assessed as part of the Coffey (2017) report, is not included in the current assessment. Refer to Figure 2, Appendix A.

In general, the current summary only includes information from the Coffey (2017) report which is relevant to the current site (north eastern portion of Lot 3 DP1256730 and southern portion of Lot 2 DP1256730).

The objectives of the Coffey Phase 1 and Phase 2 CA were:

- “Assess the current site conditions on Lot 32, including changes (such as new areas of concern) since Coffey’s (2015) CA;

- *Identify potentially contaminating activities that are currently being performed on Lots 2, 310 and 311, and that may have been performed on these lots in the past;*
- *Assess Areas of Environmental Concern (AEC's) and Chemicals of Concern (COC's) for the site, and develop a Conceptual Site Model (CSM);*
- *Provide an assessment of potential soil, sediment and surface water contamination at the site;*
- *Assess the suitability of the site for the proposed residential subdivision (from a contamination perspective); and*
- *Provide recommendations for remediation and/or management, as required."*

Coffey undertook the following scope of work:

- *"A desktop study and historical review of past activities at the site with the potential to cause contamination, including:*
 - *A review of the Coffey (2015) CA;*
 - *A review of historical ownership of the site – Lots 2, 310 and 311;*
 - *A review of aerial photography from the past 50 years;*
 - *A review of the Section 149 Planning Certificate for the site – Lots 2, 310 and 311; and*
 - *A review of NSW Environmental Protection Authority (EPA) notices under the Contaminated Land Management Act (1997);*
- *An assessment of the site topography, geology and hydrogeology including site drainage and regional groundwater usage through a search of registered groundwater bores;*
- *A site walkover of the site to help identify AECs and potential COCs, and changes to Lot 32 since Coffey's (2015) CA;*
- *A sampling programme, targeting the AECs identified, including:*
 - *Surface soil sampling; and*
 - *Collection of surface water samples from ponds;*
- *Laboratory analysis of selected soil samples for the COCs identified; and*
- *Preparation of a Phase 1 & 2 CA report."*

Review of Coffey (2015) Contamination Assessment – Lot 32

The Coffey (2015) contamination assessment was for the previous Lot 32. Lot 32 included the majority of the current site, and offsite to the north of Lot 3 DP1256730, refer to Figure 2, Appendix A.

The objectives of the assessment were to *"identify potentially contaminating activities that were being performed on Lot 32, and that may have been performed in the past, develop a preliminary CSM for Lot 32, and provide a preliminary assessment of soil, sediment and surface water at Lot 32."*

In order to meet the above objectives, Coffey undertook the following scope of works; *"a site history desktop study, a site walkover, collection of surface soil, sediment and surface water samples, and laboratory analysis of the collected samples for a number of potential chemicals of concern, including heavy metals, hydrocarbons, herbicides and pesticides"*.

"The site history review showed that the majority of Lot 32 has been used for cattle grazing with two areas used for cropping about 40 years ago. At the time herbicides were used to control weeds but this practice ceased in the early 1970s.

Anecdotal evidence suggested that no chemicals were mixed on site and thus impact from herbicide use on the cropping areas would not contain hot spots. A broad grid was considered appropriate over the main cropping area to assess average concentrations and 95% upper confidence level, if needed".

The concentrations of chemicals of concern in soil and sediment were below the adopted residential investigation levels. Some heavy metal impact was noted in the surface soil and pond sediments probably from the historic use of herbicides. This was evident by the consistency in the concentrations of copper, chromium and zinc, both in the surface soils and the pond sediments. The heavy metal concentrations, though elevated, were below the adopted human health and ecological criteria.

Based on the results of the assessment Coffey stated *"the potential for soil and/or surface water contamination to be present at the site, at levels requiring additional investigations, remediation and/or management, was considered to be low"*. Coffey therefore concluded that Lot 32, in its current configuration, was suitable for the proposed residential development provided the following recommendations were implemented:

- *"Farm waste observed inside the site shed was removed and the surface soils inside the shed observed. If evidence of potential contamination was identified (such as stained or odorous soils), an environmental consultant should be contacted to collect additional surface soil samples; and*
- *A CEMP [Construction Environmental Management Plan] was implemented, prior to earthworks commencing, in order to appropriately manage the on-site and off-site disposal of soil, sediment and water."*

Historical Titles

Qualtest carried out a review of the historical title documents provided in Appendix B of the Coffey (2017) Report, as the Coffey report contained a broad summary for the larger site including areas not relevant to this assessment. The Qualtest summary is provided below.

The historical titles search indicated that Lot 32 was owned by private landholders until 1969 when the current site owner (Edwin James Aird) purchased the Lot. Lot 311 was owned by private landholders until 1981 when a company Alumax of Australia Pty Ltd purchased the Lot. A second company Abturka Pty owned the Lot 311 from 1982 to 1983 when the current site owner (Edwin James Aird) purchased the Lot

Aerial Photographs

Qualtest carried out a review of the aerial photographs provided in Appendix C of the Coffey (2017) Report, as the Coffey report contained a broad summary for the larger site including areas not relevant to this assessment. The Qualtest summary is provided below.

Photographs from 1963, 1975, 1984, 1994 and 2004 showed that the site was undeveloped farming land until 1975 when a shed was constructed in the north eastern portion of the current site. Crops appear to be present in the north eastern corner of the site in the 1960's, however these were removed by the 1980's. The two dams currently on the site appear to have been present since the 1960's. A shed was constructed in the northern portion of the current site between 1984 and 1994. The shed is associated with a residential dwelling which was constructed to the north of the current site between 1984 and 1994. Small undistinguishable items appear to be present in the north eastern portion of the site (adjacent to the shed) and along the central eastern boundary of the site. The site appears generally unchanged since 1994.

Section 149 Certificate

The Section 149 Certificate obtained from Maitland City Council, by Coffey (2017), stated that the site was **not** within land declared to be:

- Critical habitats;
- Conservation areas;
- Mine subsidence area;
- Flooding area;
- Contaminated; and
- In an area of Acid Sulfate Soils.

Site Observations (2017)

Coffey conducted a site visit on 20 March 2017. Coffey reported the following observations related to the current site (northern portion of Lot 3 DP1256730):

- *"The majority of the site was observed to be open grassland, used for cattle grazing";*
- *"Lot 311 appeared to be mainly open grassland with a tree line noticeable on the southern perimeter boundary";*
"A fill stockpile of sandy clay material, approximate volume of 15m³ was noticed on Lot 32 adjacent west of Lot 311 boundary line. No anthropogenic material was observed on the surface of the stockpile. Judging by the lack of vegetation on the fill mound it is assumed that this has been recently placed on the lot";
- *"Lot 32 was observed to be in a similar condition to 2015, with the exception of the small soil stockpile (approximately 15m³ in volume) noted near the boundary of Lot 311", and*
- Coffey (2015) report should be referred to for further details for 2015 site conditions.

Anecdotal Evidence

Coffey held an interview with Mr Jim Aird, the current owner of the site. Mr Aird had been associated with the site since the late 1960's and was familiar with the site history.

The interview revealed the following information:

- *"The site has been used for residential purposes and cattle grazing. "*
- *"There has been no history of fill being imported onto site or any historical fuel storage or chemical spills;*
- *Mr Aird stated that there has been no widespread application of pesticides on the Lots 2, 310 and 311 since the late 1960's. Cropping of corn was historically evident throughout the 1970's on the Northern sections of Lot 310 & 311; and*
- *Mr Aird stated that prior to his family's acquisition of the land in the late 1960's the land was known to be used for grape/vine growing purposes.'*

Field Sampling and Results

Coffey devised a sampling plan in order to assess Areas of Environmental Concern (AECs) identified on Lot 2, 310 and 311, as well as additional AECs identified for Lot 32.

The AECs identified by Coffey and relevant to the current site (northern portion of Lot 3) is summarised below:

- Ponds on Lot 32;
- Drainage Lines on Lot 311;
- Stockpile on Lot 32; and

- Former Cropping and cultivated areas on Lot 32.

Samples collected in the above AECs from the current site (Lot 3) are summarised below:

- Lot 311 –
 - Drainage Line – Sediment sample (SS22) – Analytical Results reported below the adopted criteria.
- Lot 32 –
 - Stockpile – Soil Sample (SP1) - Analytical results reported below the adopted criteria;
 - Former cropping/cultivated areas – soil (SS1 to SS11 – Coffey 2015) - Analytical results reported below the adopted criteria;
 - Pond – Sediment and Surface Water (Pond1 Sed 1, Pond 2 Sed 2 and Pond SW1, Pond SW2) – Analytical results reported concentrations of chromium, copper, nickel and/or zinc in surface water above the adopted criteria. It is noted that the location of Pond 2 is not known, as the location was not included in the Coffey (2017) site plans. Qualtest considers it likely that SW2 was collected from the dam located in the centre of Lot 32.

Conclusions and Recommendations

Coffey (2017) concluded: *“The Coffey (2015) CA and this current CA has identified a number of AECs...The risk of contamination inferred at these AECs was low.”*

“The laboratory results indicated that concentrations of contaminants were recorded below the adopted investigation levels...”, with the exception of one sample which is not located within the current site (northern portion of Lot 3 DP1256730).

“Concentrations of some heavy metals were recorded above the adopted investigation levels in the surface water samples analysed. The low concentrations of heavy metals are probably indicative of the impact from past herbicide use, and/or background levels.”

“The site (Lots 2, 32, 310 and 311) in its current configuration, is suitable for the proposed residential development provided the recommendations contained in this report and the recommendations provided in the Coffey (2015) CA are implemented.”

Coffey recommended the following for the site:

- *“The farm waste inside the shed Lot 32 is removed and the surface soils inside the shed observed. If evidence of potential contamination is identified (such as stained or odorous soils), an environmental consultant should be contacted to collect additional surface soil samples”.*
- *A Construction Environmental Management Plan (CEMP) is implemented, prior to earthworks commencing, in order to appropriately manage the on-site and off-site disposal of soil, sediment and water.”*

4.0 Current Site Observations

A Qualtest Environmental Scientist visited the site on 3 March 2021. The observations noted during the field works are summarised below and shown on Figure 5, Appendix A.

- The site appears to be generally unchanged and consisted of grazing land. The residential dwellings on Lot 2 and Lot 310 and Lot 32, formerly assessed by Coffey (2015 & 2017) are not included in the current assessment area, and/or the land use is not proposed to be changed, and therefore have not been assessed.



Looking SW from NE portion of the site



Looking NE from SE portion of the site

- A farm shed and cattle ramp/yard were observed on the north eastern portion of the site (former Lot 32). The shed was observed to be constructed from timber and corrugated iron/metal sheeting and earth floor. The shed was observed to contain timber, corrugated iron, wire, metal poles, tyres, general household waste, PVC and a mower. No oils, paints or chemicals were observed.



Cattle Ramp – NE portion of the site (former Lot 32)



Farm shed – NE portion of site (former Lot 32)

- Corrugated iron/metal sheeting was observed on the site surface along the eastern boundary of the site.



NE portion of the site



Eastern boundary of the site

- A small gravel stockpile was observed to the north east of the cattle yard. The stockpile was observed to be 5m^3 and appears to be imported quarry material used for a driveway to the north of the cattle yard. Concrete piping was also observed in the area.



Gravel Stockpile NE portion of the site



Driveway north of cattle yard

- A gravel stockpile and timber/vegetation were observed stockpiled along the north eastern boundary of the site. The stockpile appeared to consist of quarried gravel/ballast.



Gravel/Ballast



Timber/vegetation

- Three stockpiles (SP1, SP2 and SP3) of sandy clay material were observed in the centre of the site. The stockpiles were observed to be the following approximate volumes; 240m³ (SP1), 550m³ (SP2) and 400m³ (SP3). The stockpiles were observed to be brown sandy clay with some shale, consistent with site material.



SP1 – Central western portion of the west



SP2 – Centre of the site



Sandy Clay material - SP2



SP3 - Central eastern portion of the site

- A metal fire pit with timber/cardboard, and chicken shed, were observed in the northern portion of the site. The shed was constructed with corrugated iron/metal sheeting with earth floor.



Fire pit – northern portion of the site



Chicken shed – northern portion of the site

- Two dams/ponds (Dam 1 and Pond 1) and drainage lines were observed on the site. Pond 1 was consistent with Pond 1 identified by Coffey (2017). It is noted that Dam 1 was not discussed in Coffey (2017) or shown on the Figure, however was likely discussed in the Coffey (2015) report, which was not provided to Qualtest. Qualtest considers it likely that SW2 (Coffey 2017) was collected from Dam 1.



Dam 1 – Central portion of site



Pond 1 – SW of site

- PVC irrigation pipe work was observed in north western portion of the site.



Metal & PVC piping – NW portion of the site

- Disused 205L drums were observed along the north western boundary of the site and offsite to the west.



Disused 205L drum – NW boundary in treeline



Disused 205L drum – Offsite to the west

5.0 Anecdotal Information

A telephone interview was held with Mr Jim Aird, the current site owner on 16 March 2016. A summary of the information supplied by Mr Aird is below:

- The sandy clay fill mounds (SP1 to SP3) were generated during the installation of a water main by Hunter Water in late 2016/early 2017. The fill mounds consist of site material including topsoil, residual clay and weathered shale.
- The ballast stockpiles were imported to site as part of the Hunter Water watermain installation works. Hunter Water's contractors used the eastern portion of the site as a site compound, with temporary fencing, stockpiling of imported gravel/ballast and storage of machines. Mr Aird did not note any staining, or observe refuelling activities at the compound.
- The gravel/ballast stockpile observed in the north eastern portion of the site, north of cattle yard, was left over imported gravel/ballast from the watermain works and used in the driveway.

6.0 Discussion and Conclusions

The assessment carried out by Coffey (2017) was considered to be generally in accordance with the relevant NSW EPA guidelines, and provide an accurate representation of the site history.

The site has remained relatively unchanged since 2017. Based on Qualtest review of the site history and findings from the site walkover, Qualtest considers that the recommendations presented in the Coffey (2017) report remain relevant:

Coffey recommended the following for the site:

- *“The farm waste inside the shed Lot 32 (north eastern portion of the current site) is removed and the surface soils inside the shed observed. If evidence of potential contamination is identified (such as stained or odorous soils), an environmental consultant should be contacted to collect additional surface soil samples”.*
- *A Construction Environmental Management Plan (CEMP) is implemented, prior to earthworks commencing, in order to appropriately manage the on-site and off-site disposal of soil, sediment and water.” The CEMP will also be required to manage anthropogenic materials observed across the site.*

Provided the recommendations listed above are implemented/carried out Qualtest considers the site suitable for the proposed Stages 8 to 14 residential development.

Should material require disposal from the site, it will require classification in accordance with the NSW EPA (2014) Waste Classification Guidelines, or a relevant resource recovery order/exemption under Part 9, Clause 91 to 93 or the POEO (Waste) Regulation 2014. Should fill material be imported to the site, it will need to classify as Virgin Excavated Natural Material as described in the NSW EPA (2004) Waste Classification Guidelines, or meet a relevant resource recovery order/exemption.

7.0 Limitations

The findings presented in the report and used as the basis for recommendations presented herein were obtained using normal, industry accepted practices and standards. To our knowledge, they represent a reasonable interpretation of the general conditions of the site.

Qualtest have relied upon information provided in reports prepared by others, and assume that the information provided is reliable and accurate.

Data and opinions contained within the report may not be used in other contexts or for any other purposes without prior review and agreement by Qualtest. If this report is reproduced, it must be in full.

8.0 References

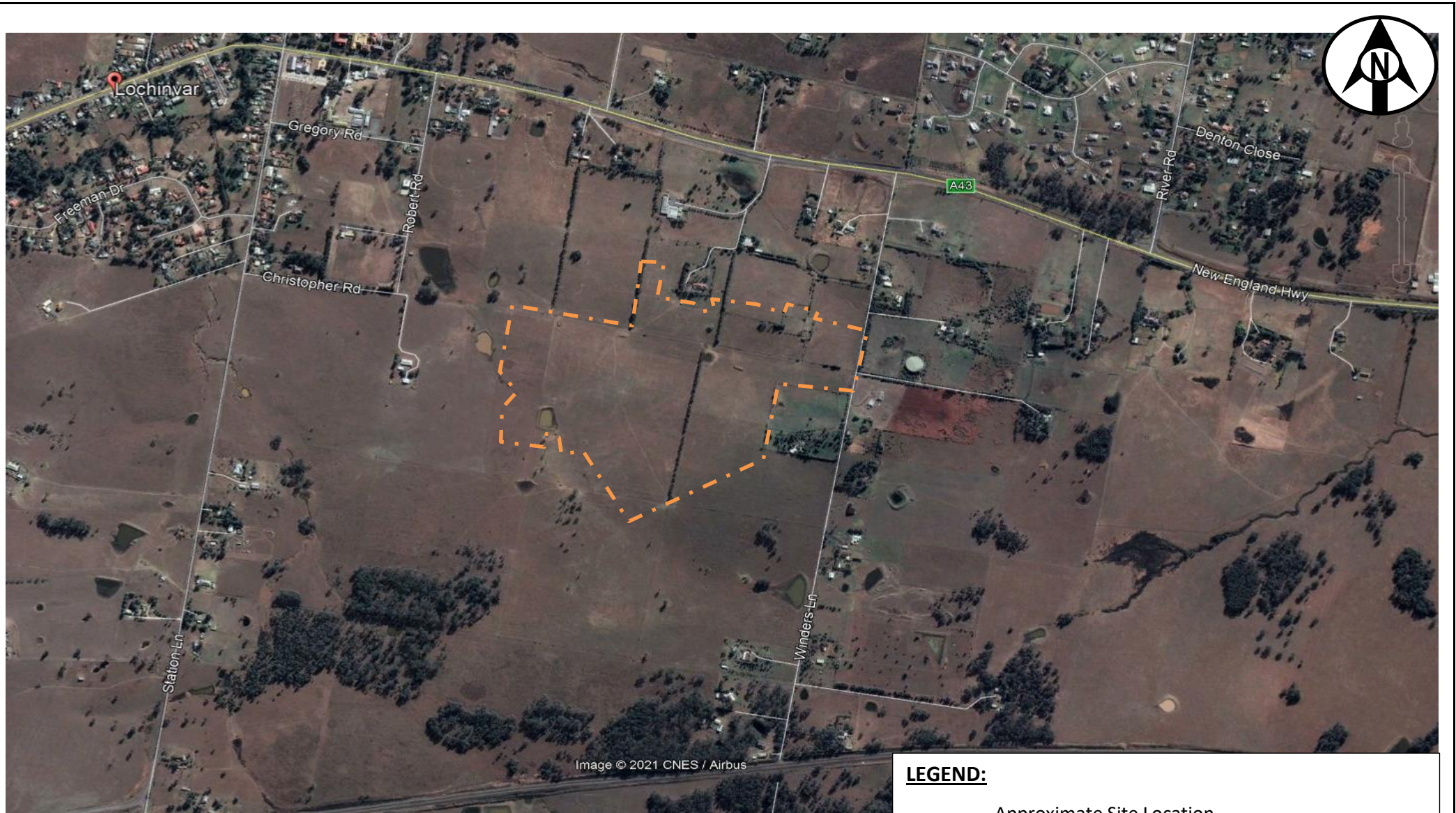
Coffey (2017) Phase and Phase 2 Contamination Assessment, ref. NTLEN202989-R1rev1, dated 24 June 2017

NSW EPA (2020) Guidelines for Consultants Reporting on Contaminated Land.

NEPC (2013) National Environment Protection (Assessment of Site Contamination) Measure 1999 (April 2013), Canberra (ASC NEPM 2013).

APPENDIX A:

Figures



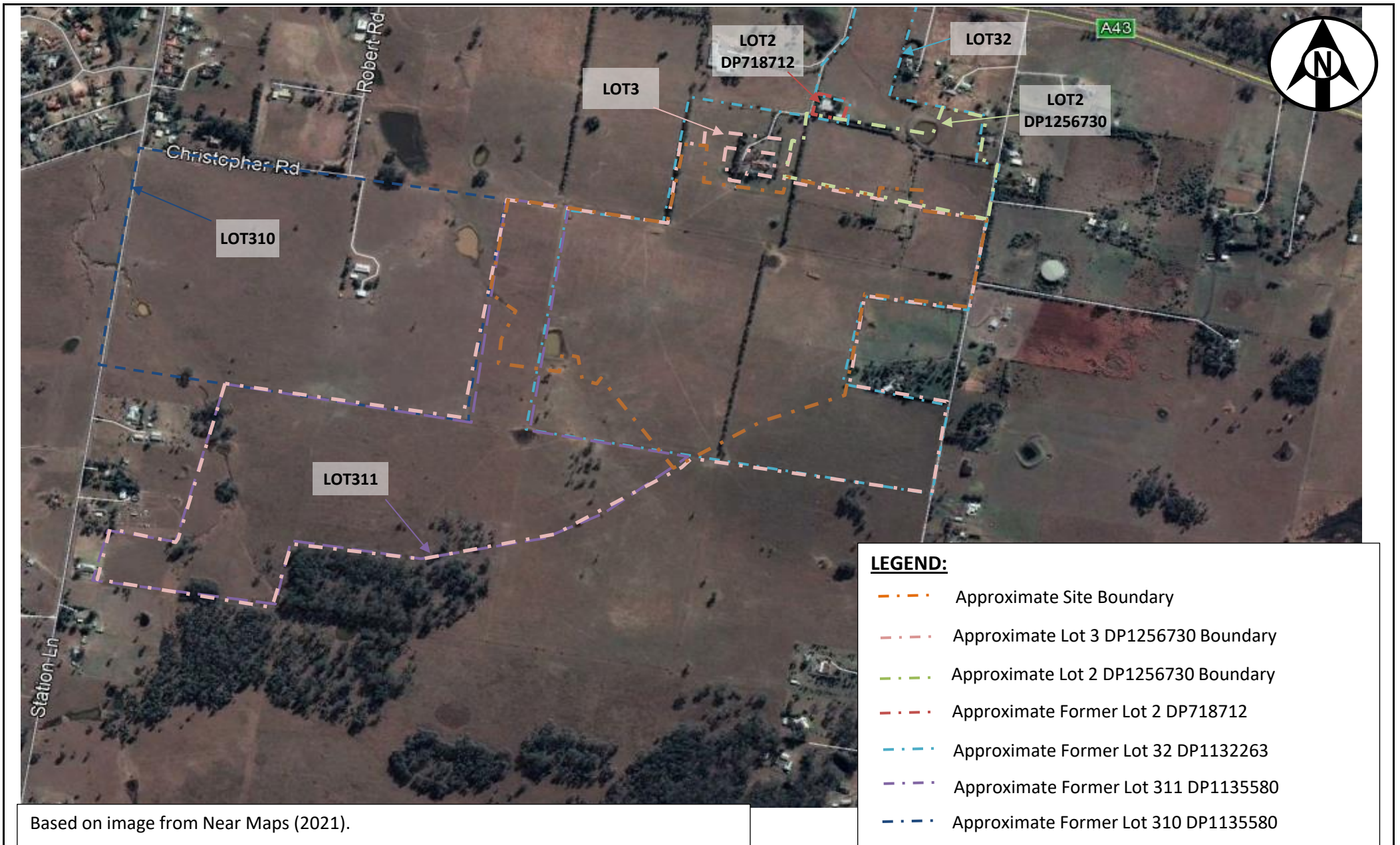
Based on image from Google Earth (2018)

LEGEND:
 - - - - - Approximate Site Location

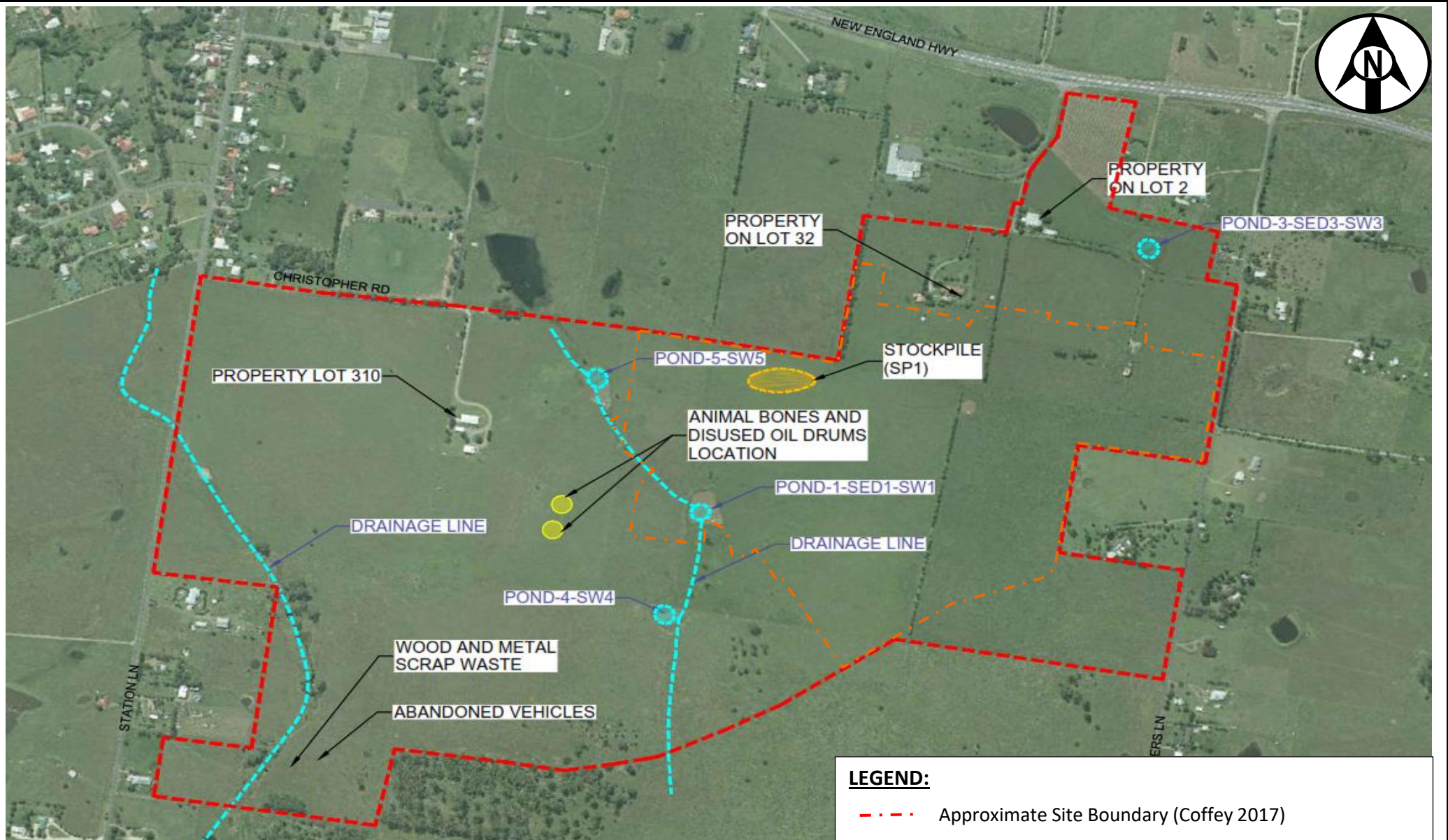


Client:	BARKER RYAN STEWART PTY LTD
Project:	STAGES 8 to 14, LOCHINVAR RIDGE
Location:	PART LOT 2 & 3 DP1256730, 70 CHRISTOPHER ROAD, LOCHINVAR
Title:	SITE LOCATION

Drawing No:	FIGURE 1
Project No:	NEW17P-0034A-AE
Scale:	AS SHOWN
Date:	21 OCTOBER 2021



Client:	BARKER RYAN STEWART PTY LTD	Drawing No:	FIGURE 2
Project:	STAGES 8 to 14, LOCHINVAR RIDGE	Project No:	NEW17P-0034A-AE
Location:	PART LOT 2 & 3 DP1256730, 70 CHISTOPHER ROAD, LOCHINVAR	Scale:	AS SHOWN
Title:	CURRENT AND FORMER LOT IDs	Date:	21 OCTOBER 2021



LEGEND:

- - - - - Approximate Site Boundary (Coffey 2017)
- . - . - . Approximate Site Boundary (Current Assessment)




Extract from Coffey (2017) Phase 1 and Phase 2 CA Report

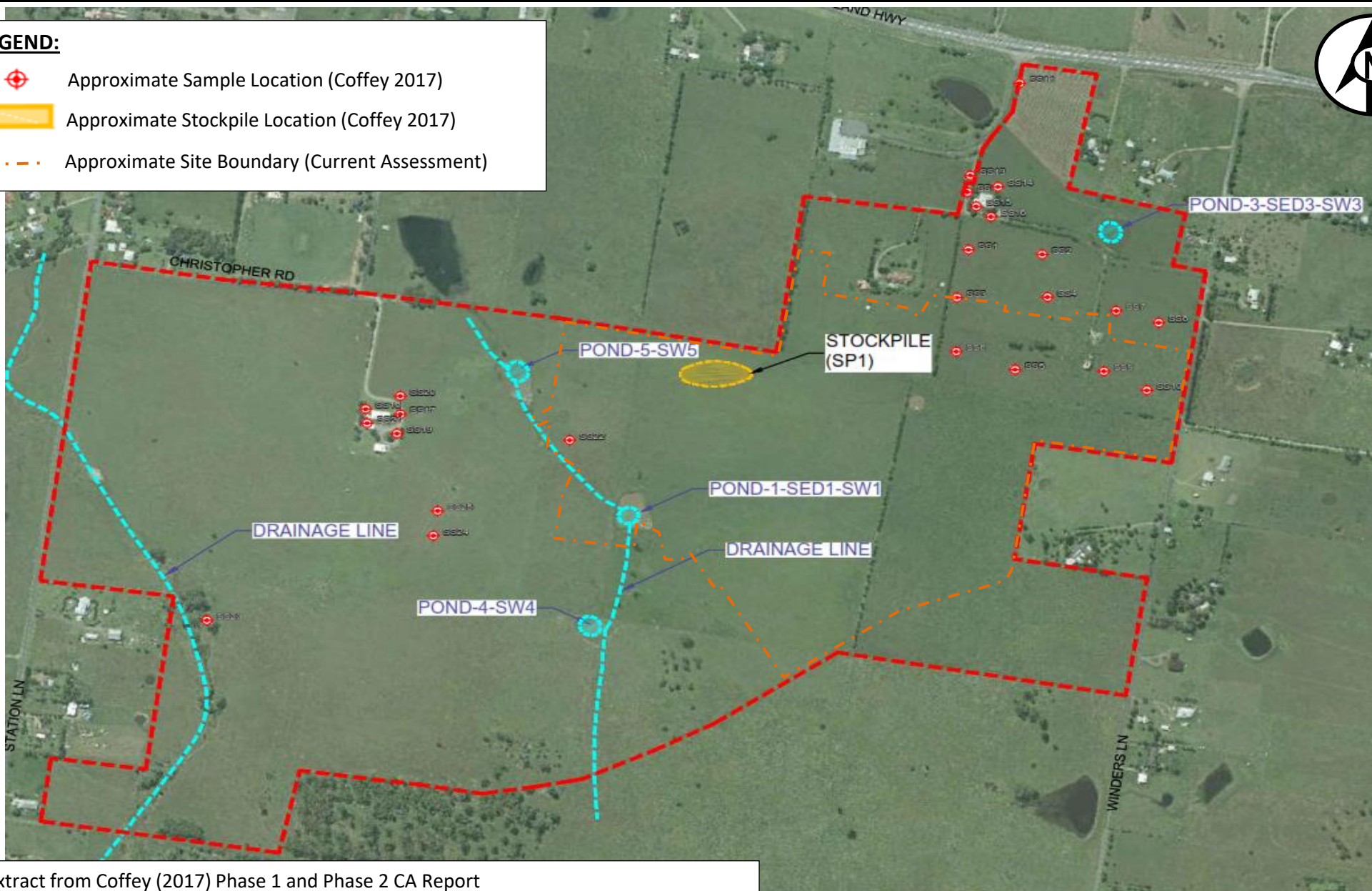


Client:	BARKER RYAN STEWART PTY LTD
Project:	STAGES 8 to 14, LOCHINVAR RIDGE
Location:	PART LOT 2 & 3 DP1256730, 70 CHISTOPHER ROAD, LOCHINVAR
Title:	COFFEY (2017) SITE FEATURES PLAN

Drawing No:	FIGURE 3
Project No:	NEW17P-0034A-AE
Scale:	AS SHOWN
Date:	21 OCTOBER 2021

LEGEND:

-  Approximate Sample Location (Coffey 2017)
-  Approximate Stockpile Location (Coffey 2017)
-  Approximate Site Boundary (Current Assessment)






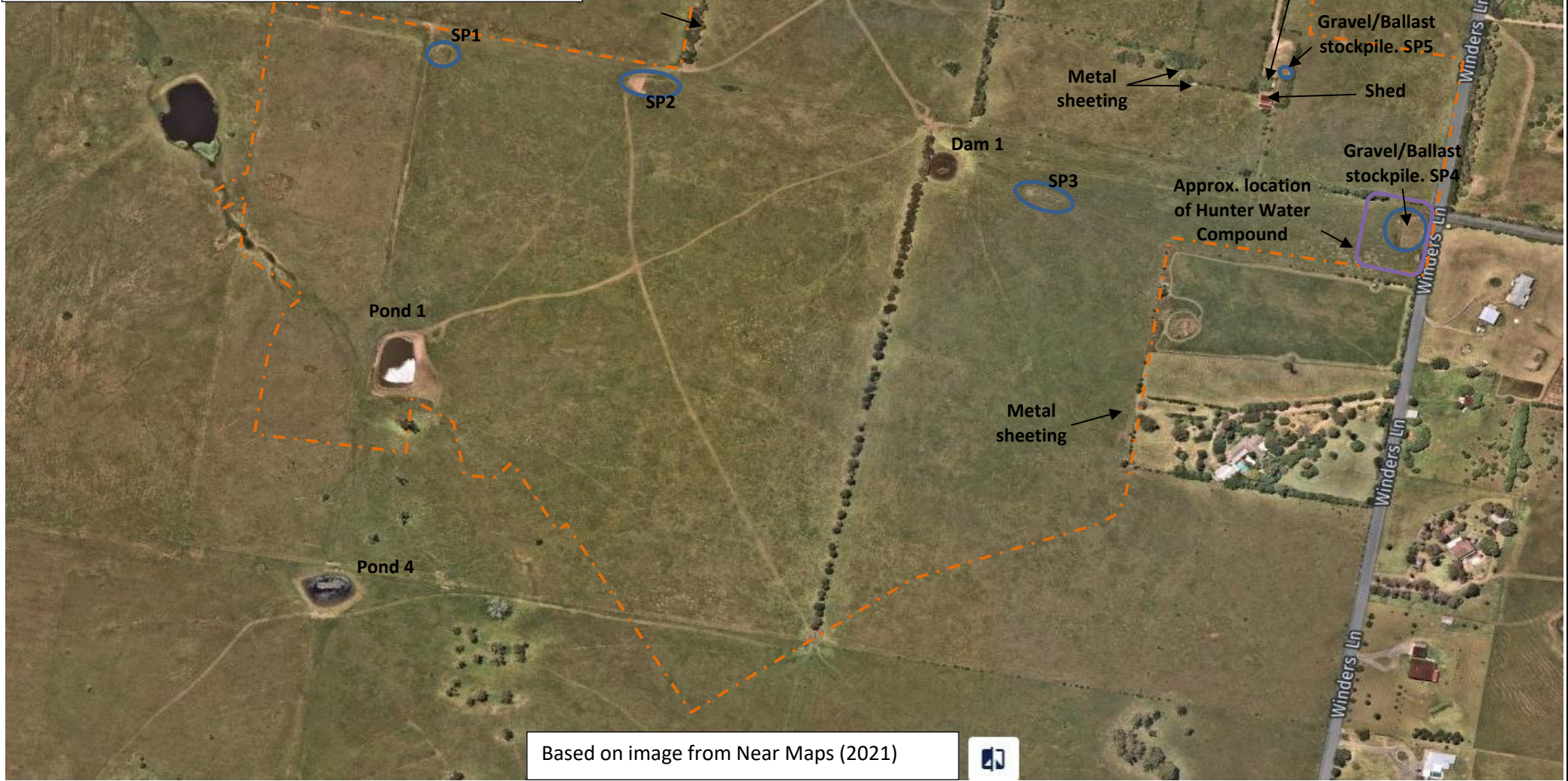
Extract from Coffey (2017) Phase 1 and Phase 2 CA Report



Client:	BARKER RYAN STEWART PTY LTD	Drawing No:	FIGURE 4
Project:	STAGES 8 to 14, LOCHINVAR RIDGE	Project No:	NEW17P-0034A-AE
Location:	PART LOT 2 & 3 DP1256730, 70 CHISTOPHER ROAD, LOCHINVAR	Scale:	AS SHOWN
Title:	COFFEY (2017) SAMPLE LOATION PLAN	Date:	21 OCTOBER 2021

LEGEND:

-  Approximate Site Boundary
-  Approximate Stockpile Locations
-  Approximate Hunter Water Compound Location



Based on image from Near Maps (2021)



Client:	BARKER RYAN STEWART PTY LTD
Project:	STAGES 8 to 14, LOCHINVAR RIDGE
Location:	PART LOT 2 & 3 DP1256730, 70 CHRISTOPHER ROAD, LOCHINVAR
Title:	SITE FEATURES - NORTH EASTERN PORTION

Drawing No:	FIGURE 5
Project No:	NEW17P-0034A-AE
Scale:	AS SHOWN
Date:	21 OCTOBER 2021



STAGE	8	9	10	11	12	13	14	Total
700-799	10	5	8	7	19	14	6	69
800-899	19	40	41	40	23	30	7	200
900-999	1	1	5	5	2	1	1	16
1000-1499	0	2	4	2	3	3	4	18
1500+	0	1	0	0	0	0	0	1
Total	30	49	58	54	47	48	18	304

REV	AMENDMENT	ISSUED	DATE	<p>BARKER RYAN STEWART TOTAL PROJECT SOLUTIONS Sydney, Central Coast, S.E. QLD, N.S.W.</p>	<p>client: URBAN LAND & HOUSING PTY LTD</p>	<p>OVERALL MASTER PLAN LOTS 2 & 3 DP 1256730 NEW ENGLAND HIGHWAY & CHRISTOPHER ROAD LOCHINVAR</p>	<p>Designed: DE Drawn: RJG Checked: DE</p>	<p>Scale: Plan 1:1500</p>	<p>Plan No. ID196344</p>	<p>Sheet No. 3</p>
M	ADDED STAGES 0 & 14	MAC	19/10/21							
						<p>Date: N/A</p>		<p>File Ref: 14/46</p>		<p>rev. M</p>

File Ref: 18/10/2021 14/46 - 0114444 File Name: L24 ID 121214



Client:	BARKER RYAN STEWART PTY LTD	Drawing No:	FIGURE 6
Project:	STAGES 8 to 14, LOCHINVAR RIDGE	Project No:	NEW17P-0034A-AE
Location:	PART LOT 2 & 3 DP1256730, 70 CHISTOPHER ROAD, LOCHINVAR	Scale:	AS SHOWN
Title:	PCB - PROPOSED SUBDIVISION LAYOUT	Date:	21 OCTOBER 2021