



STAGE 1 PRELIMINARY SITE INVESTIGATION (PSI)

MEADOW VIEWS

Lot 2 / DP651377 & Lot A / DP382471

Calderwood NSW 2527

Prepared For: **INDESCO**
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EXECUTIVE SUMMARY

Environment & Natural Resource Solutions (ENRS Pty Ltd) were commissioned as independent environmental consultants by *INDESCO* (the client) to conduct a Stage 1 Preliminary Site Investigation (PSI) at Lot 2 / DP651377 & Lot A / DP382471, Calderwood, NSW, 2527 (*herein referred to as the Site*).

ENRS understands the proposal includes the proposed rezoning of land from rural to residential. Given that the proposal includes a change in land use sensitivity, this Preliminary Site Investigation (PSI) is required for planning proposal purposes, to assess the potential for ground contamination and document the Site suitability for the proposed land uses consistent with NSW State Environmental Planning Policy No. 55 (SEPP55).

This report documents the results of a desktop study of available Site historical records and Site inspections in general accordance with the NSW Environment Protection Authority (EPA) Guidelines for Consultants Reporting on Contaminated Sites (OEHL2020), and the National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1).

The aim of this project was to collate and review historical records as a desktop study to identify potential Areas of Environmental Concern (AEC's) and assess if the Site will pose no unacceptable risk to human health or to the environment with respect to the current and proposed land use. This information has been used to outline recommendations for further investigations, if required, and provide a statement regarding the suitability of the Site for the proposed future residential land use.

The scope of work for the project comprised the following tasks:

- Review available Site history records incorporating previous investigation reports, proposed development plans, and publicly available data (including aerial photographs, geological maps, topographical maps, and registered groundwater bore database) to identify any past or present potentially contaminating activities and or any potential Areas of Environmental Concern (AECs);
- Site works (24/07/2020) – Site inspection and walkover investigating Areas of Environmental Concern (AECs).
- Document investigation results and prepare a Stage 1 PSI report with a statement of Site condition, suitability and recommendations for additional investigation works or ongoing environmental management, if required.

Based on the findings outlined during this Stage 1 Preliminary Site Investigation the following conclusions and recommendations are provided;

- The Site history records indicated that the Site had been used for primary production dairy farming for an extended period of time with; three (3) water storage dams, one (1) residential house and large dairy facilities. All Site buildings were constructed prior to 1980;
- Review of acid sulphate soil maps identified both Class 3 and Class 4 mapped areas adjacent to Marshall Mount Creek. ENRS understands that the proposed development aims to avoid the mapped PASS areas. The north-eastern corner of the development footprint covers a small portion of Class 3 PASS. Class 3 presents a low risk for PASS at depths >3 metres below ground level;

- The Site walkover and inspection was conducted on the 24th of July 2020 and confirmed the Site condition was consistent with the documented Site history and land use;
- The Areas of Environmental Concern (AECs) identified during this investigation are summarised below:
 - AEC01: Storage Dam Wall. The majority of material within the dam wall is expected to be natural, excavated from the centre of the dam during its construction. However, localised piles of crushed concrete were observed within small portions of the wall. It is considered that there may be a risk of further unknown building materials;
 - AEC02: Stockpiles of soil & rubble. Estimated to total less than 25m³ of imported soil and building rubble;
 - AEC03: Dairy. Historic extended use for cattle processing, dairy farm effluent, use and storage of farming machinery, and storage of fuels, oils chemicals for farming equipment.
 - AEC04: Pumphouse. Storage of old oil drums;
 - AEC05: Levelled Building Pads. Uncontrolled fill used beneath some of the buildings;
 - AEC06: Above Ground Storage Tank (AST). Leaks and spills directly adjacent and below the AST may have caused shallow soil contamination;
 - AEC07: Potential weathering of building materials. Potential heavy metal based paints and asbestos materials within shallow soils directly adjacent Site buildings; and
 - AEC08: Acid Sulphate Soils. Associated with Marshall Mount Creek.
- As the identified AECs are generally associated with Site Infrastructure, the Site is considered suitable or capable of being made suitable for the proposed development in accordance with the NSW State Environmental Planning Policy No. 55 (SEPP55) pending further environmental investigations.

Based on the results of this PSI, the following recommendations are provided:

- Conduct a Detailed Site Investigation (DSI) to assess the Areas of Environmental (AECs) identified within this PSI. The DSI should be conducted by a suitably licenced environmental professional in accordance with the NSW EPA Guidelines for Consultants Reporting on Contaminated Sites (OEH;2020) in support of a future Development Application;
- Prior to the demolition of Site infrastructure, conduct a Hazardous Materials Survey (HAZMAT). The HAZMAT should be conducted by a suitably licenced environmental consultant holding a current asbestos assessor's licence;
- If earth works are proposed within the mapped potential acid sulfate areas, conduct an Acid Sulfate Soil Assessment in accordance with *Shellharbour City Council* requirements, the NSW Acid Sulfate Soils Management Advisory Committee (ASSMAC;1998), NSW RTA (2005) Guidelines for the Management of Acid Sulfate Materials and where applicable WA Department of Environment and Conservation (DEC;2013) guidelines for Identification and Investigation of Acid Sulphate Soils and Acidic Landscapes;
- Should any change in Site conditions, proposed land use or incident occur which causes a potential environmental impact, a suitable environmental professional should be engaged to further assess the Site and consider requirements for any additional assessment; and
- This report must be read in conjunction with the attached Statement of Limitations.

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1.0 INTRODUCTION

1.1 BACKGROUND

Environment & Natural Resource Solutions (ENRS Pty Ltd) were commissioned as independent environmental consultants by *INDESCO* (the client) to conduct a Stage 1 Preliminary Site Investigation (PSI) at Lot 2 / DP651377 & Lot A / DP382471, Calderwood, NSW, 2527 (*herein referred to as the Site*).

ENRS understands the proposal includes the proposed rezoning of land from rural to residential. Given that the proposal includes a change in land use sensitivity, this Preliminary Site Investigation (PSI) is required for planning proposal purposes, to assess the potential for ground contamination and document the Site suitability for the proposed land uses consistent with NSW State Environmental Planning Policy No. 55 (SEPP55).

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1.2 OBJECTIVES

The aim of this project was to collate and review historical records as a desktop study to identify potential Areas of Environmental Concern (AEC's) and assess if the Site will pose no unacceptable risk to human health or to the environment with respect to the current and proposed land use. This information has been used to outline recommendations for further investigations, if required, and provide a statement regarding the suitability of the Site for the proposed future residential land use.

1.3 SCOPE OF WORK

The scope of work for the project comprised the following tasks:

- Review available Site history records incorporating previous investigation reports, proposed development plans, and publicly available data (including aerial photographs, geological maps, topographical maps, and registered groundwater bore database) to identify any past or present potentially contaminating activities and or any potential Areas of Environmental Concern (AECs);
- Site works (24/07/2020) – Site inspection and walkover investigating Areas of Environmental Concern (AECs).
- Document investigation results and prepare a Stage 1 PSI report with a statement of Site condition, suitability and recommendations for additional investigation works or ongoing environmental management, if required.

2.0 SITE DESCRIPTION

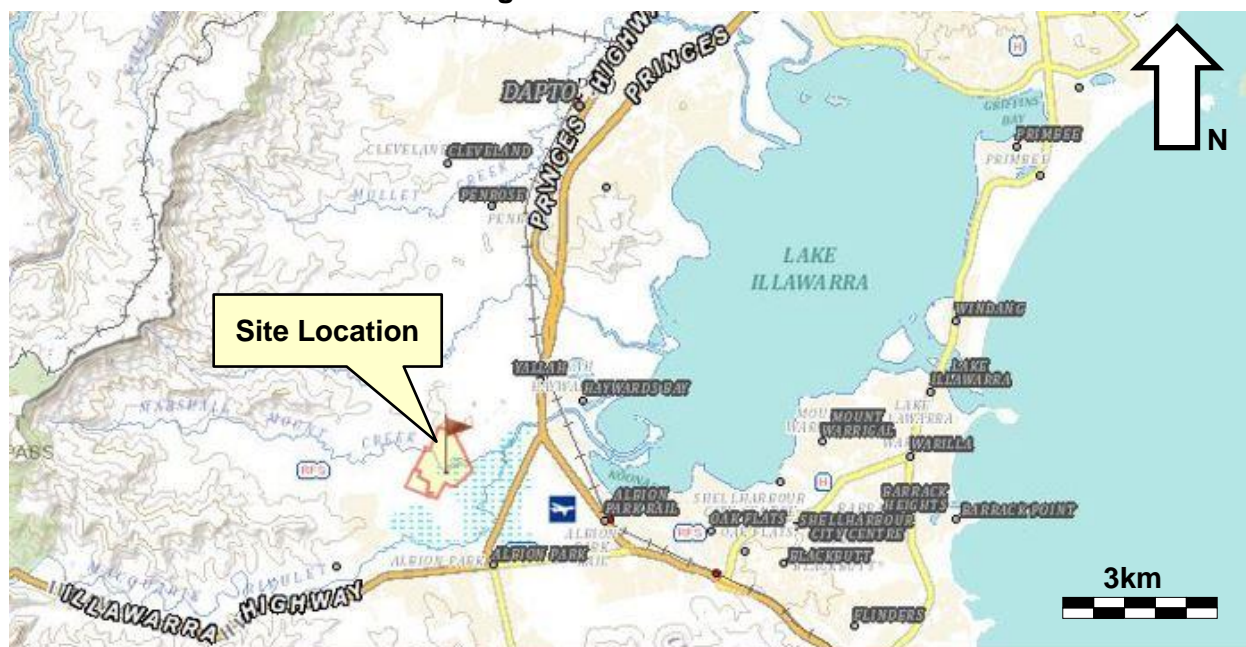
2.1 SITE IDENTIFICATION

The Site is located on the northern side of Calderwood Road, approximately 2.5km west of Albion Park, as shown in **Figure 1**. A detailed Site plan is provided in **Figure 7** attached. The key features required to identify the Site are summarised in **Table 1** below.

Table 1: Site Identification

SITE	DESCRIPTION
Street Address	Lot 2 / DP651377 & Lot A / DP382471, Calderwood Road Calderwood NSW 2527
Lot / Deposited Plan	2/651377 & A/382471
Area (per Lot)	Lot 2: 78.9ha & Lot A: 12.6ha
Local Government Area	Shellharbour City Council
Current Zoning	E2 (Environmental Conservation), E3 (Environmental Management), E4 (Environmental Living) and RU1 (Primary Production).

Figure 1: Site Location



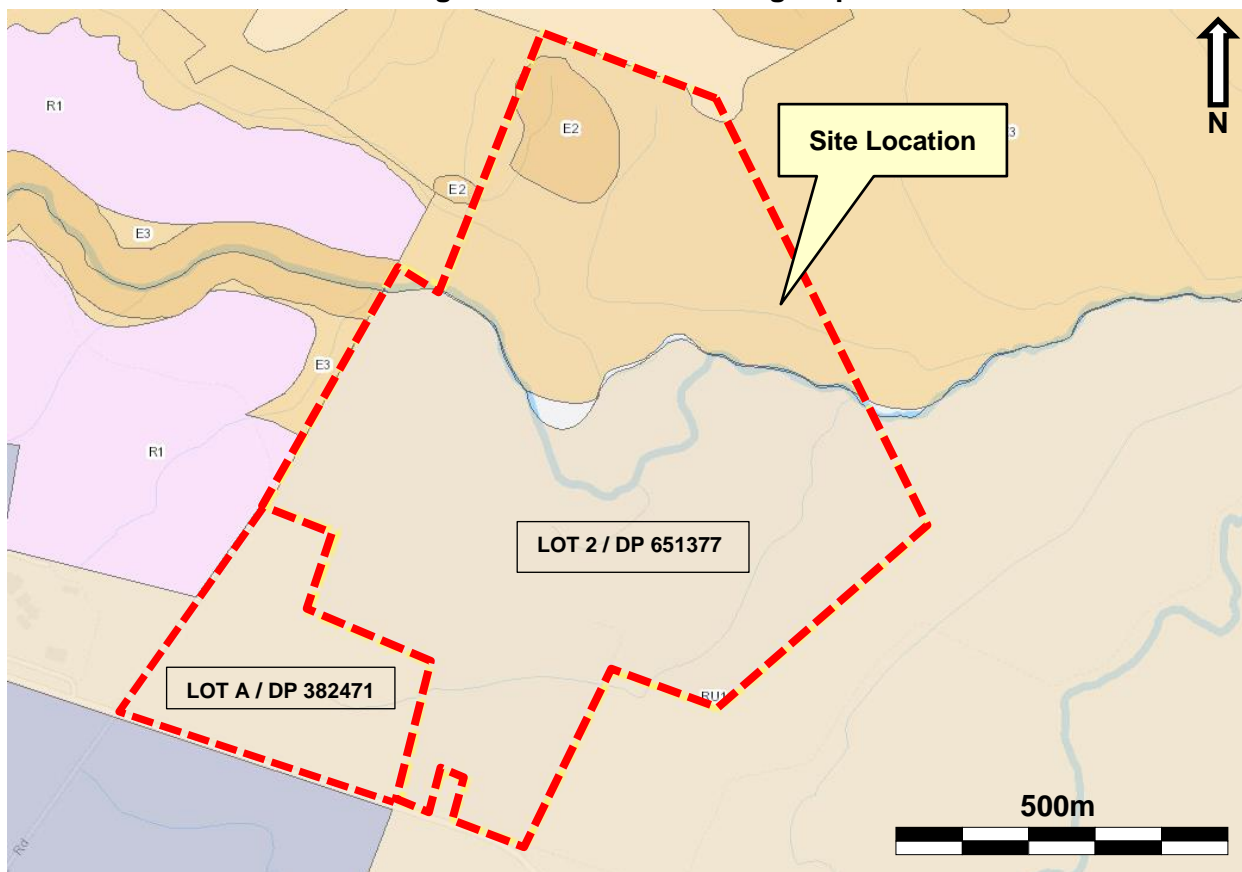
Source: www.maps.six.nsw.gov.au (cited 20/08/2020)

2.2 ZONING

The Site was zoned as **RU1 – Primary Production**, **E3 – Environmental Management**, **E2 – Environmental Conservation** & **E4 – Environmental Living** under the Shellharbour Local

Environmental Plan (SLEP) 2013, as shown in **Figure 2**. ENRS understands that the proposed development is limited to the RU1 zoned area.

Figure 2: Land Use Zoning Map



Source: <https://www.planningportal.nsw.gov.au/spatialviewer/#/find-a-property/address> (cited 20/08/2020)

2.3 SURROUNDING ENVIRONMENT

The Site was situated within an area of rural land use with environmental management and environmental conservation zones present in the north of the Site (North of Marshall Mount Creek). The following adjacent land uses presented in **Table 2** have been identified during Site inspections and review of available desktop information:

Table 2: Surrounding Land Use

North:	E2 and E4 zoned vacant land and adjoining rural land, further to residential properties (>1000m)
East:	RU1 and E3 zoned rural properties further to Macquarie Rivulet and residential properties (>800m)
South:	B4 mixed use as part of Calderwood Valley & Calderwood Christian College. Also RU1 rural land further to Macquarie Rivulet (>1000m)
West:	R1 and RU1 rural land further to residential properties & the Calderwood Christian College (>1000m)

2.3.1 Sensitive Receptors

The nearest sensitive receptors include:

- Site users;
- Neighbouring rural/residential properties;
- Marshall Mount Creek running through the centre of the Site, further to downstream Macquarie Rivulet, ~700m east;

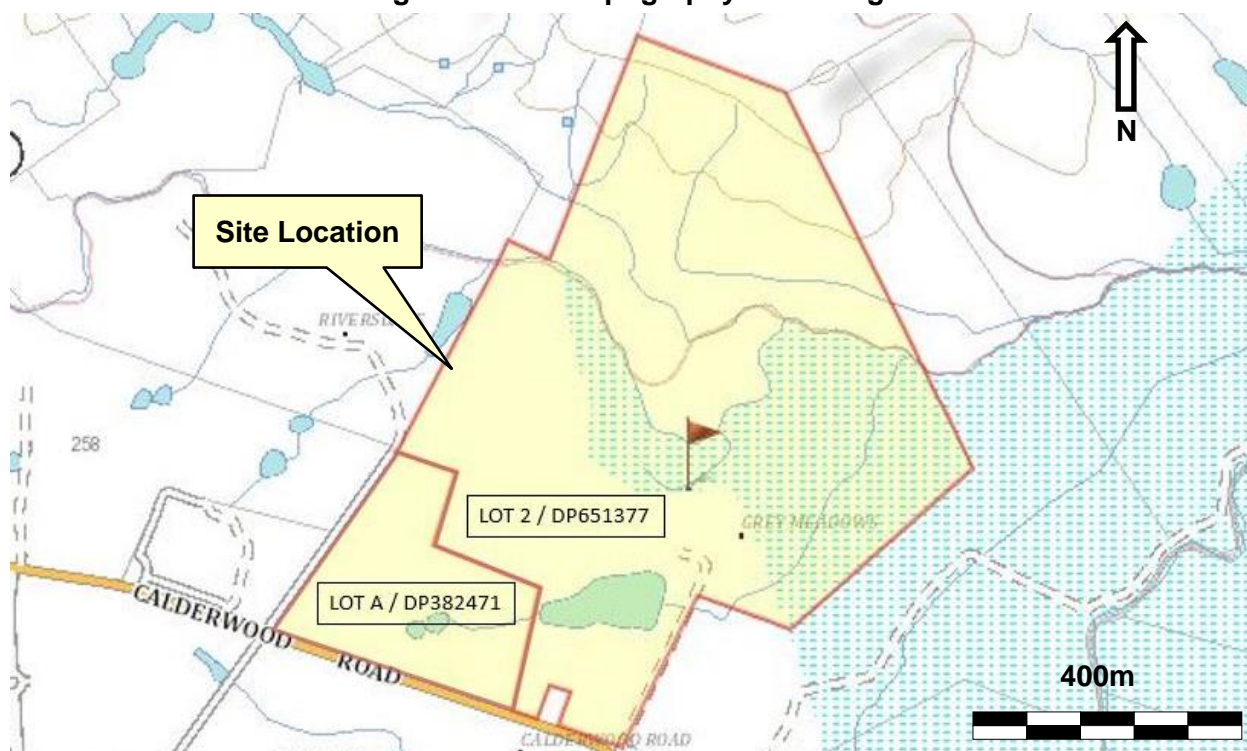
2.4 TOPOGRAPHY

A review of Site topography was conducted with reference to the current series topographic map sheet (9028-1N Albion Park) supported by Site inspections.

The Site is located within a generally flat area of low topographic relief. The area north of Marshall Mount Creek had a sharp rise in elevation. The regional gradient of the Site and surrounding area is expected to follow Marshall Mount Creek to the east. Based on the topography maps, from the creek, the Site slopes gradually upgradient to both the north and south, with maximum elevations of 50m AHD and 20m AHD, respectively.

Adjacent to Marshall Mount Creek, three (3) other drainage lines flowed west to east through the Site until joining Marshall Mount Creek.

Figure 3: Site Topography & Drainage



Source: <https://maps.six.nsw.gov.au/> (Sited 14/07/2020)

2.5 GEOLOGY

Review of the Site's geological setting was conducted with reference to the Geoscience Australia Australian and Region Surface Geology map (1:1000000 scale) as in **Figure 4**. The Site was mapped within the floodplains of Marshall Mount Creek and Macquarie Rivulet, primarily situated on a large deposit of Quaternary Alluvium (Qa, sand and clay deposits). The northern boundary of the Site is underlain by Permian sedimentary (Ps) and low-grade metamorphic rocks which are part of the Shoalhaven Group and known as the Berry Formation.

Figure 4: Geological Setting



<http://portal.geoscience.gov.au/> (Sited 14/07/2020)

2.6 POTENTIAL ACID SULPHATE SOIL ASSESSMENT (PASSA)

A desktop assessment was conducted for Potential Acid Sulphate in Soil (PASS) with reference to the eSPADE online Acid Sulphate Soil Risk maps and the Shellharbour LEP (2013) Acid sulfate soil maps detailed in **Figure 5**. The Site was intersected by two areas of PASS as outlined below:

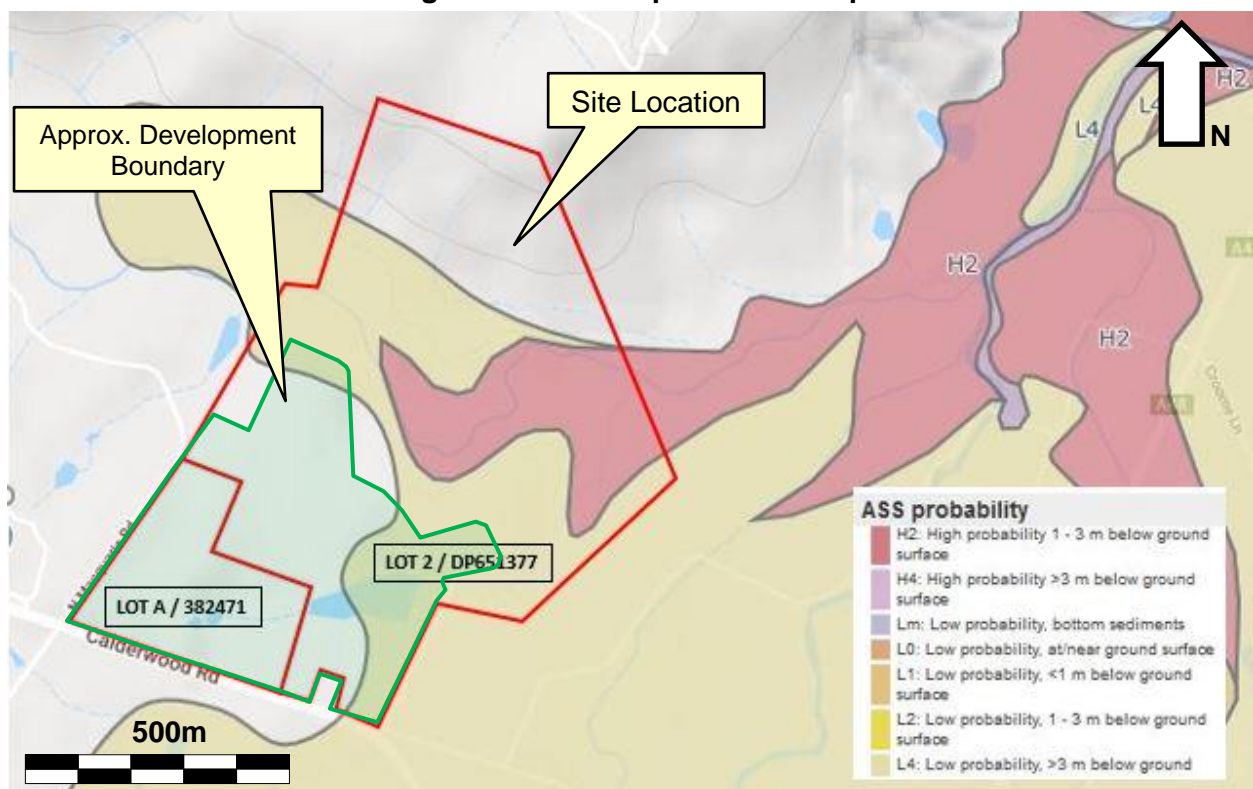
- L4 (low probability, >3m below ground surface) (eSPADE) or Class 3 (LEP, 2013); and
- H2 (high probability 1-3m below ground surface) (eSPADE) or Class 4 (LEP, 2013).

The PASS areas within the Site were associated with Marshall Mount Creek and the adjoining floodplain areas. The H2 zone was located directly adjacent to the creek and the L4 zone located higher on the floodplain. ENRS understands that the proposed development area aims to avoid the mapped PASS areas.

Review of the Shellharbour LEP (2013) states that DA consent is required within mapped potential acid sulfate areas if:

- Class 3 / L4: 'Works more than 1 metre below the natural ground surface. Works by which the water table is likely to be lowered more than 1 metre below the natural ground surface' (LEP, 2013); and
- Class 4 / H2: 'Works more than 2 metres below the natural ground surface. Works by which the water table is likely to be lowered more than 2 metres below the natural ground surface' (LEP, 2013).

Figure 5: Acid Sulphate Risk Map



Source: <https://www.environment.nsw.gov.au/eSpade2Webapp> (cited 14/07/2020)

2.7 HYDROGEOLOGY

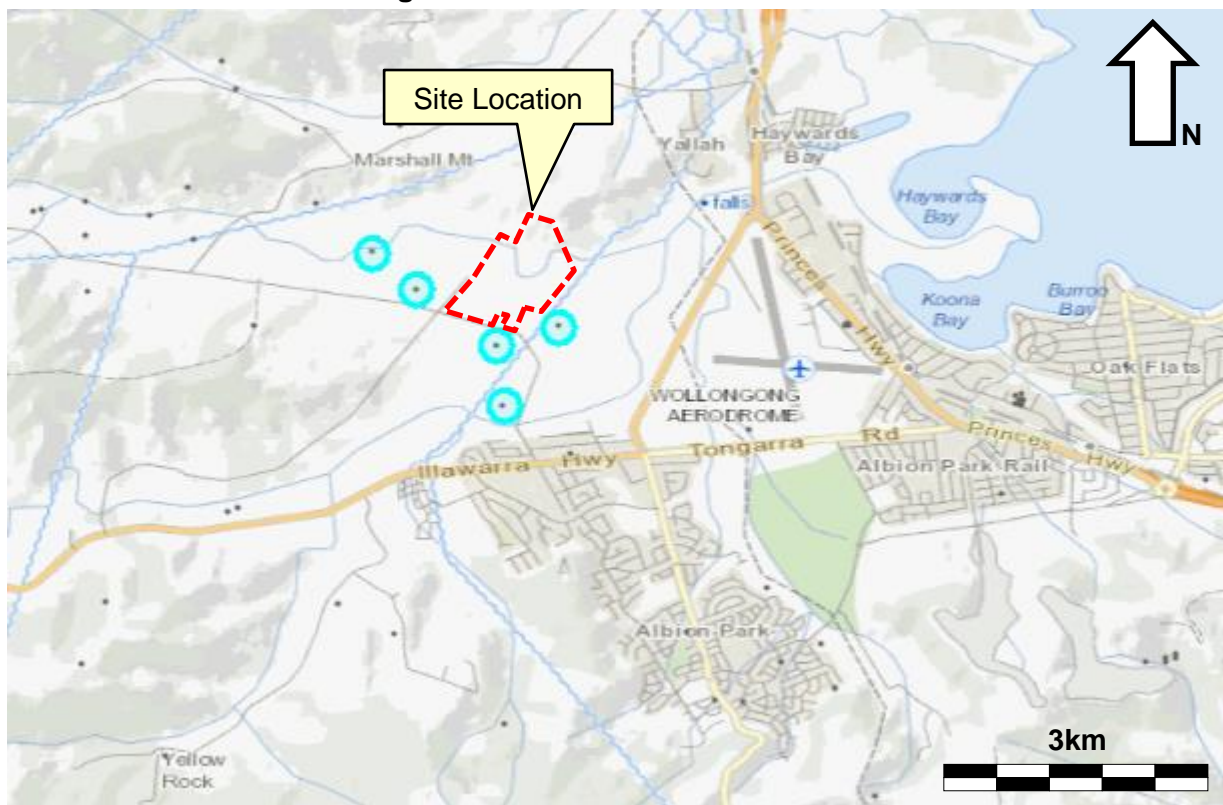
Based on the Site geology, groundwater in the area was expected to be associated with the following aquifer systems;

- *Shallow unconfined* systems hosted in the unconsolidated soil and clay, often ephemeral associated with rainfall recharge, with elevated salinity, and a shallow groundwater table generally less than 10 metres; and
- *Deep dual porosity aquifer (fractured and porous rock)* systems hosted in the underlying shales, claystone and sandstone with low to moderate yields, elevated salinity and standing water levels generally deeper than 10 metres

Review of the *WaterNSW* online registered bore database found 5 registered bores within 1km of the Site. These bores ranged from 6.4m to 66m deep and are used for irrigation of stock and

domestic use. The bore furthest to the west has been decommissioned and is no longer in use. The registered bore searches results are provided in **Figure 6** below.

Figure 6: Known Borehole Locations



Source: <https://realtimedata.watnsw.com.au/> (cited 17/07/2020)

3.0 SITE HISTORY

3.1 PREVIOUS REPORTS

ENRS understands that the Site has not been the subject of any previous environmental assessments. Hence, no reports were available for review at the time of this assessment.

3.2 REVIEW OF COUNCIL RECORDS

A review of council records was not undertaken during this PSI. The review of historical information supported by Site inspections was considered adequate to identify any potential Areas of Environmental Concern (AECs).

3.3 HISTORICAL LAND TITLES

A search of prior and cancelled land titles was undertaken to document the timeline of previous landowners and their occupation, which provides an indication of potential contaminating activities associated with previous land use. A summary of historical titles & owners is provided in

Appendix B. A review of Council records was not undertaken during this PSI. The review of historical information supported by Site inspection was considered adequate to identify any potential Areas of Environmental Concern (AECs).

The title records for both Lot 2 / DP551377 and Lot A / DP382471 indicated the Site has been used for farming and primary production purposes for an extended period. The title records indicated that no major development had occurred.

Table 3: Summary of Historical Titles & Owners

Date	Lot 2 / DP651377 - Title Summary - Land Owner & Occupation
24/01/1817	George Johnston Senior – by Crown Land.
03/09/1821	David Johnston – by Crown Land.
26/06/1952	Mortgaged to farmers Theodore James Grey (2/5 share), Donald Keith Grey (1/5 share), Keith Gordon Grey (1/5 share), Edith Mabel Grey (1/5 share).
18/03/1960	Transferred to farmers Theodore James Grey (2/5 share), Donald Keith Grey (1/5 share), Keith Gordon Grey (1/5 share), Edith Mabel Grey (1/5 share).
30/06/1973	Transferred to farmers Donald Keith Grey (12/30 share), Ian Theodore Charles Grey (6/30 share), Allan Stewart Grey (2/30 share), Nancy Edith Littlefield (2/30 share), Elizabeth Anne Grey 2/30 share, Robert Gordon Grey 3/30 share), Judith Grey (3/30 share).
10/11/1989 – Current	Transferred to farmers Donald Keith Grey (18/30 share), Allan Stewart Grey (2/30 share), Nancy Edith Littlefield (2/30 share), Elizabeth Anne Grey 2/30 share, Judith Grey (3/30 share), and company director Robert Gordon Grey (3/30 share).
Date	Lot A / DP382471 - Title Summary - Land Owner & Occupation
24/01/1817	George Johnston Senior – by Crown Land.
03/09/1821	David Johnston – by Crown Land.
18/09/1952	Mortgaged to farmers Theodore James Grey (2/5 share), Donald Keith Grey (1/5 share), Keith Gordon Grey (1/5 share), Edith Mabel Grey (1/5 share).
25/06/1953	Purchased by Joseph Pearson of Albion Park
1989 - Current	At the time of this investigation, the Site was owned by the Tate's and used for dairy farming purposes.

3.4 HISTORICAL AERIAL IMAGERY

Historical aerial photographs of the Site area were reviewed to identify potential contaminating land use and relevant changes in Site conditions. Copies of imagery are provided in **Appendix C**. The key observations made from the review of aerial imagery are summarised in **Table 4** below.

Table 4: Summary of Historical Aerial Photography

Year	Description of site condition and surrounding land use
1963	The Site comprised of mostly open grassed paddocks with light vegetation along sections of Marshall Mount Creek and sloped areas. The Site was considered to be characteristic of a rural land use. The residential dwelling as well as parts of the dairy infrastructure were present on Lot 2 / DP551377. A dam and drainage line were present to the south of the dairy. The surrounding area was cleared and characteristic of rural use. Lot A / DP382471 contained two water storage dams which were intersected by a drainage line. The drainage line connected all three dams on Lot 2 and Lot A. No structures or evidence of development was visible on either Lots.
1970	No significant change of the residential dwelling or dairy infrastructure of Lot 2 / DP 551377 when compared to the 1963 imagery. The dam south of the dairy was significantly larger and its shape was consistent with the current day imagery. No significant change was observed on Lot A / DP382471.
1980	Additional buildings were present within the dairy area of Lot 2 / DP551377 (assumed for dairy purposes). Additional structures were present next to the residential dwelling. The surrounding Site areas remained consistent with the 1970 imagery. No significant change was observed on Lot A / DP382471.
1993	No significant change to the Site (Lot 2 / DP551377 & Lot A / DP382471) since 1980.
2002	No significant change to the Site (Lot 2 / DP551377 & Lot A / DP382471) since 1993
2011	No significant change to the Site (Lot 2 / DP551377 & Lot A / DP382471) since 2002

3.5 SITE BUILDINGS

A review of historical aerial imagery found changes in buildings and structures on the Site since circa 1970. Additional buildings were considered to be associated with the expansion of the dairy. No buildings were observed to be removed from the Site through the review of the historical aerials. The residential dwelling has remained consistent since the 1963 imagery. A Site plan with building locations is provided within **Figure 7** attached.

3.6 LAND USE ACTIVITIES & HISTORICAL LITERATURE

Based on review of historic property titles, local museum collections and historical aerial imagery the site had been used for primary production (dairy farming) since the earliest records found (1924). Prior to 1924 the property use is unclear but assumed to be consistent with more recent usage.

The site history records document the Site had been used for rural purposes for an extended period comprising of predominantly paddocks for dairy farming. No former development or current infrastructure was identified at the Site.

A summary piece from the Shellharbour City Museum outlined the history of the Tate family and Grey family (owners of 142 & 144 Calderwood Road respectively from approx. 1924 until 2020).

The Grey & Tate families were synonymous with dairy farming in the Illawarra and used the Site for this purpose.

3.7 SAFework NSW DANGEROUS GOODS RECORDS

A registered search of SafeWork NSW records for licences to keep dangerous goods was not required for the report, as the Site has not been subject to historical commercial/industrial use. As the site was used for dairy farming there is potential for soil contamination from cattle dips, dairy farming effluent and machinery/fuel storage. Additionally, risks associated with Asbestos Containing Materials (ACM) used in construction of buildings.

3.8 EPA RECORDS

A search of the NSW EPA Contaminated Land register was conducted to assess the potential for contaminated land in the area. The search did not identify records within the EPA database for Shellharbour LGA.

3.9 UPSS RECORD

The Site inspections conducted by ENRS on the **24th of July 2020** identified an Above Ground Storage Tank (AST) adjacent the dairy area. The AST was observed in a non-functioning condition. The AST was assumed to be used for the re-fuelling of farming machinery. The site walkover did not identify any evidence of Underground Storage Tanks (USTs) at the Site.

3.10 UNDERGROUND SERVICE PLANS

The location of underground services can provide conduits and preferential pathways for contaminant migration into or from a Site. Service excavations and trenches may also comprise historical fill that may require management as waste.

A Dial Before You Dig (DBYD) search was undertaken to compile underground service plans. Records provided indicate that no underground assets are present within the Site as the Site has never been developed. All services noted in the DBYD search were located beyond the western boundary. Hence, the services are not considered to impact on the Site

3.11 SITE HISTORY SUMMARY

Review of the available records and historical data indicate the Site was used for dairy farming since circa 1926. The majority of the Site and surrounding areas have remained cleared characteristic of rural land use. The dairy was expended between circa 1963 and 1980 with the addition of large dam, sheds, steel silos and concrete slabs. All infrastructure was considered to be constructed pre-1980 and has remained relatively unchanged till the time of this assessment.

Due to the historic operation of the Site as dairy farm, it is considered that there may be potential ground contamination at the Site.

3.12 INTEGRITY ASSESSMENT

Where available this Site history assessment has utilised formal sources of information issued by local government (Council), SafeWork, NSW EPA, and NSW Land & Property Information. Review of the Site history summary demonstrates a consistent timeline of land use activities and layout with no significant data gaps or inconsistencies to trigger further historical investigations. Hence, the sources and content of this assessment maybe considered to provide a reliable and satisfactory level of accuracy to support this Site history assessment and the identification of potential sources of environmental contamination.

4.0 SITE CHARACTERISATION (SUMMARY)

At the time of this investigation the Site (Lot 2 / DP651377 & Lot A / DP382471 combined) was utilised for rural-residential and primary production as dairy farming.

Lot 2 / DP551377 was characterised by one (1) residential dwelling, four (4) outbuildings in the southern third of the Site, all constructed pre-1980. An AST was also present next to the dairy area. A review of historical records indicated that the Site had been used for dairy farming since circa 1926. Marshall Mount Creek passed through the centre of the Site with an eastern gradient towards Macquarie Rivulet. Localised PASS is mapped within Marshall Mount Creek and adjacent banks. The regional gradient is expected to present a moderate hydraulic gradient to the centre of the property (Marshall Mount Creek Catchment) and then to the East (Macquarie Rivulet and Lake Illawarra). The Site may present a risk of localised ground contamination due to the extended rural land use and the age of infrastructure.

Lot A / DP382471 remained undeveloped and used for primary production pasture. Two (2) small water storage dams exist along natural drainage lines sloping to the east. The regional gradient is expected to present a moderate hydraulic gradient to the centre of Lot 2 / DP651377 for surface and ground water (Marshall Mount Creek Catchment) and then to the East (Macquarie Rivulet and Lake Illawarra). No PASS risk is mapped within this lot as it was located outside the main Marshall Mount Creek floodplain.

5.0 SITE INSPECTION

A Site inspection was conducted by ENRS Environmental Consultants, Mr Taite Beeston & Mr Mark Tupalski, on the **24th of July 2020**. Refer to **Appendix D** for a photographic log of Site conditions and field observations.

The inspection consisted of a Site walk over to confirm the Site boundaries, access, layout, surface conditions, land use, buildings, potential for Above ground Storage Tanks (AST) and Underground Storage Tanks (UST), and a preliminary assessment for uncontrolled Fill and waste.

5.1 SITE LAYOUT

The following points outline the site activities and layout identified at the time of this investigation. A site layout plan is provided in **Figure 7**.

The investigation area comprised of a large rural block comprising of predominantly cleared pastureland used for dairy farming. Access to the Site was provided by a sealed road, off Calderwood Road, on the Southern boundary of the Site. This road ended at the primary residence, dairy yards consisting of multiple storage sheds, silos and livestock areas. A large dam was also located south of the dairy.

Small stockpiles of construction debris were located within the farming pastureland approximately 180m north-west of the dairy yards. One (1) corrugated iron pumphouse was also observed within this area, adjacent to Marshall Mount Creek. Discarded fuel storage drums and electrical boxes were observed in the pumphouse.

Storage of chemicals and machinery associated with dairy farming was evident within and around the dairy buildings. Adjacent to dairy yards, an above ground fuel storage tank was observed. An effluent trap and septic tank for the dairy yard were located on the north side of the dairy. Dairy yards and storage barns contained construction material which were presumed to be ACM.

Area surrounding dairy yards, storage barns and residence appeared to be filled and levelled.

The larger Site area comprised of large open paddocks with treed areas along the banks of Marshall Mount Creek and on the hillslope to the North of the Site. Two (2) dams were noted along the drainage in the Southern end of the property, one being constructed and one appearing naturally formed in low lying floodplain. A large number of livestock were also observed as the neighbouring farm utilises the pastureland for grazing. In general, the Site observations were consistent with primary production and rural land use. No other evidence of previous development or potentially contaminating activities was observed.

5.2 BUILDINGS

All buildings located on the Site are in the central South of the property. The main residence was a small building which appeared unrenovated. Access was only given to the outside of the building which appeared in good condition. Based on the review of historical aerials all buildings were constructed prior to 1980. Thus, may contain hazardous building materials including but not limited to heavy metal-based paints and asbestos.

The dairy infrastructure adjacent to the house consisted of multiple large areas of sealed concrete, sheds and fencing for dairy farming practices. Storage silos and dairy milking areas were also present. Dairy buildings were generally clad in corrugated iron. However, timber and other materials were also observed. Storage of farming machinery, dairy production machinery and chemicals associated with machinery and farming practices were found in the storage barns.

5.3 SURFACE CONDITIONS

The property comprised mostly of open paddock areas along the floodplain of Marshall Mount Creek. Access roads through the property were comprised of gravel and soil and the main entry road was sealed with bitumen. Sealed surfaces present at the Site consisted of the bitumen entry road and concrete slabs in the dairy yards. Concrete floor slabs were observed within most dairy sheds. However, some of the dairy/storage sheds had dirt unsealed floors. Minor localised oil or surface stains were noted to around pumps and oil drums within the dairy. The spills were not considered characteristic of the larger Site conditions.

5.4 LIQUID & SOLID WASTE

The Site inspection found the dairy yards contained effluent traps and a septic tank for dairy cattle waste/effluent.

5.5 ABOVE GROUND STORAGE TANK

An above ground storage tank was located adjacent the eastern entrance of the dairy. It did not show evidence of current use. The base area of the AST was covered in grass with no evidence of surface staining or spills visible.

5.6 ASBESTOS

This investigation did not comprise of a detailed Hazardous Materials Survey (HAZMAT). The site inspection included preliminary visual investigation for asbestos containing materials (ACM). The dairy yard buildings and storage barns were observed to contain fibro sheeting within internal areas. Given the ages of the buildings, the fibro sheeting was presumed to contain asbestos materials. The residential dwelling residence was not accessible at the time of the inspection.

5.7 LEAD PAINT & HAZARDOUS MATERIALS

Lead within domestic paints was restricted circa 1969 (AS/NZS 4361.2:2017). Given that some permanent buildings or structures were present at the Site prior to this time, it is assumed that heavy metal-based paints may be present within site infrastructure. Flaky paint was observed on external structures of the dairy.

Investigation of potential contamination in soils surrounding building will be required to detail any potential incidence of contamination from the weathering of building materials.

5.8 POTENTIALLY CONTAMINATED SOILS

Given the documented Site history for primary production/dairy farming and observed Site conditions there is potential for the presence of ground contamination at the Site. Potential ground contamination is expected to be localised to the identified AECs and not characteristic of the wider Site. Potential areas of Fill observed on the Site were surrounding some of the buildings where the building footprints appear to be raised and levelled. Two (2) stockpiles estimated to total <25m³ were observed at the Site. The inspection did not include any intrusive investigations of the stockpiles. The surface of the stockpiles, as observed, comprised of material consistent with construction debris including concrete and bricks.

6.0 CONCEPTUAL SITE MODEL

The NSW EPA contaminated sites guidelines reference the *National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1)*. The ASC NEPM (2013) recommends a tiered approach to risk assessment of ground contamination and the development of an appropriate Conceptual Site Model (CSM). The CSM describes the source(s) of contamination, the pathway(s) by which contaminants may migrate through the various

environmental media, and the populations (receptors, human or ecological) that may potentially be exposed. The following sub-sections outlines the key elements of the **CSM** subject of this assessment.

6.1 SOURCES / POTENTIAL CONTAMINANTS

Based on Site description documented in **Section 2.0**, Site history documented in **Section 3.0** and current land use, the identified Areas of Environmental Concern (AECs) are outlined in **Table 5** below. AECs locations are provided in **Figure 8**, **Figure 9** and **Figure 10**.

Table 5: AECs and Contaminants of Potential Concern (CoPC)

Areas of Environmental Concern (AEC)	Historical Activities	CoPC
AEC01 Storage Dam Wall	Potential use of uncontrolled Fill. Concrete debris observed within portions of the wall.	<ul style="list-style-type: none"> ➤ Heavy Metals (Arsenic, Cadmium, Chromium, Copper, Lead, Nickel, Zinc & Mercury) (8 HM). ➤ Total Recoverable Hydrocarbons (TRH). ➤ Polycyclic Aromatic Hydrocarbons (PAHs). ➤ Benzene, Toluene, Ethylbenzene, Xylene (BTEX) ➤ Asbestos
AEC02 Stockpiles of soil & rubble.	Stockpiled uncontrolled materials < 25m ³	<ul style="list-style-type: none"> ➤ 8HM, TRH, BTEX, PAHs. ➤ Asbestos
AEC03 Dairy	-Effluent & Waste -Pesticide Use -Use and storage of chemicals associated with dairy farming. -Livestock treatments -Mechanical Repairs -Use and storage of farming machinery and associated oils and fuels. Storage of farming equipment	<ul style="list-style-type: none"> ➤ 8 HM, TRH, PAHs, BTEX ➤ Asbestos ➤ Bacteria ➤ Arsenic ➤ Organochlorine (OC) and Organophosphate (OP) pesticides ➤ Formaldehyde
AEC04 Pumphouse	Discarded fuel containers and electricity boards	<ul style="list-style-type: none"> ➤ 8 HM, TRH, PAHs, BTEX
AEC05 Levelled Building Pads	Levelled building & potential use of uncontrolled fill.	<ul style="list-style-type: none"> ➤ 8 HM, TRH, PAHs, BTEX ➤ Asbestos
AEC06 Above Ground Storage Tank (AST)	Above Ground Petroleum Storage System (AGPSS) used for refuelling of farming machinery.	<ul style="list-style-type: none"> ➤ 8 HM, TRH, PAHs, BTEX, Phenols

Areas of Environmental Concern (AEC)	Historical Activities	CoPC
AEC07 Potential weathering of building materials	Historical weathering of building materials; Suspected heavy metals-based paints. Dairy and residential dwelling.	<ul style="list-style-type: none"> ➤ Lead ➤ Chromium (Zinc Chromate) ➤ Cadmium ➤ Arsenic ➤ Asbestos
AEC08 Acid Sulphate Soils	Potential Acid Sulphate Soils as mapped near Marshall Mount Creek.	<ul style="list-style-type: none"> ➤ Acid Sulphate Soils

Source: based on Table J1, Appendix J, in AS4482.1 (2005).

6.2 PATHWAYS

Given the primary sources of potential contamination are associated with dairy farming operations and ACM sheeting used in construction, the primary contaminant migration and exposure pathways comprise:

- Dermal exposure to surface and near surface contaminants;
- Inhalation and/ or ingestion of dust or air bound contaminants for surface soils, and during demolition works on buildings suspected to contain heavy metal based paints and ACM;
- Leaching and migration of contaminants through the vadose zone; and
- Migration in shallow groundwater – characterised by a low hydraulic gradient in unconfined alluvial sediments.
- Migration in main stream (Marshall Mount Creek) and transportation to Macquarie Rivulet and Lake Illawarra

6.3 RECEPTORS

The receptors comprise:

- Human health – dermal / ingestion / inhalation - excavations, dust, fibres and soil gas / vapour) – Site personnel during Site development and any future groundworks;
- Shallow soil and stormwater – vertical and lateral migration of contaminants (if any) and connectivity with drainage waterways and nearby tributaries; and
- Marshall Mount Creek which is a tributary of Macquarie Rivulet and source for Lake Illawarra.

7.0 CONCLUSIONS & RECOMMENDATIONS

Based on the findings outlined during this Stage 1 Preliminary Site Investigation the following conclusions and recommendations are provided;

- The Site history records indicated that the Site had been used for primary production dairy farming for an extended period of time with; three (3) water storage dams, one (1) residential house and large dairy facilities. All Site buildings were constructed prior to 1980;
- Review of acid sulphate soil maps identified both Class 3 and Class 4 mapped areas adjacent to Marshall Mount Creek. ENRS understands that the proposed development aims to avoid the mapped PASS areas. The north-eastern corner of the development footprint covers a small portion of Class 3 PASS. Class 3 presents a low risk for PASS at depths >3 metres below ground level;
- The Site walkover and inspection was conducted on the 24th of July 2020 and confirmed the Site condition was consistent with the documented Site history and land use;
- The Areas of Environmental Concern (AECs) identified during this investigation are summarised below:
 - AEC01: Storage Dam Wall. The majority of material within the dam wall is expected to be natural, excavated from the centre of the dam during its construction. However, localised piles of crushed concrete were observed within small portions of the wall. It is considered that there may be a risk of further unknown building materials;
 - AEC02: Stockpiles of soil & rubble. Estimated to total less than 25m³ of imported soil and building rubble;
 - AEC03: Dairy. Historic extended use for cattle processing, dairy farm effluent, use and storage of farming machinery, and storage of fuels, oils chemicals for farming equipment.
 - AEC04: Pumphouse. Storage of old oil drums;
 - AEC05: Levelled Building Pads. Uncontrolled fill used beneath some of the buildings;
 - AEC06: Above Ground Storage Tank (AST). Leaks and spills directly adjacent and below the AST may have caused shallow soil contamination;
 - AEC07: Potential weathering of building materials. Potential heavy metal based paints and asbestos materials within shallow soils directly adjacent Site buildings; and
 - AEC08: Acid Sulphate Soils. Associated with Marshall Mount Creek.
- As the identified AECs are generally associated with Site Infrastructure, the Site is considered suitable or capable of being made suitable for the proposed development in accordance with the NSW State Environmental Planning Policy No. 55 (SEPP55) pending further environmental investigations.

7.1 RECOMMENDATIONS

Based on the results of this PSI, the following recommendations are provided:

- Conduct a Detailed Site Investigation (DSI) to assess the Areas of Environmental (AECs) identified within this PSI. The DSI should be conducted by a suitably licenced environmental professional in accordance with the NSW EPA Guidelines for Consultants Reporting on Contaminated Sites (OEHS,2020) in support of a future Development Application;
- Prior to the demolition of Site infrastructure, conduct a Hazardous Materials Survey (HAZMAT). The HAZMAT should be conducted by a suitably licenced environmental consultant holding a current asbestos assessor's licence;

- If earth works are proposed within the mapped potential acid sulfate areas, conduct an Acid Sulfate Soil Assessment in accordance with *Shellharbour City Council* requirements, the NSW Acid Sulfate Soils Management Advisory Committee (ASSMAC;1998), NSW RTA (2005) Guidelines for the Management of Acid Sulfate Materials and where applicable WA Department of Environment and Conservation (DEC;2013) guidelines for Identification and Investigation of Acid Sulphate Soils and Acidic Landscapes;
- Should any change in Site conditions, proposed land use or incident occur which causes a potential environmental impact, a suitable environmental professional should be engaged to further assess the Site and consider requirements for any additional assessment; and
- This report must be read in conjunction with the attached Statement of Limitations.

8.0 REFERENCES

- Australian Government National Water Commission (2012). Minimum Construction Requirements for Water Bores in Australia (third Edition).
- Australian Government (2011) National Health & Medical Research Council. National Resource Management Ministerial Council. National Water Quality Strategy. Australian Drinking Water Guidelines (v3.3 updated 2016).
- Australian Standard (1999) AS4482.2–1999: Guide to the investigation and sampling of sites with potentially contaminated soil – Volatile substances.
- Australian Standard (2005) AS4482.1–2005: Guide to the investigation and sampling of sites with potentially contaminated soil – Non-volatile and semi-volatile compounds.
- enHEALTH (2005). Management of Asbestos in the Non-Occupational Environment.
- Gostin V.A & Herbert C. (1973) Stratigraphy of the upper carboniferous and lower Permian sequence, southern Sydney basin. Journal of the Geological Society of Australia 20:1, 49-70
- NEPC (2013). National Environment Protection (Assessment of Site Contamination) Measure.
- NSW Department of Environment and Conservation (2007). Guidelines for the Assessment and Management of Groundwater Contamination.
- NSW EPA (1995) Sampling Design Guidelines. ISBN 0-7310-3756-1.
- NSW EPA (2014). Waste Classification Guidelines. Part 1 Classifying Waste.
- NSW EPA (2015). Contaminated Land Management: Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997
- NSW EPA (2017). Contaminated Land Management: Guidelines for the NSW Site Auditor Scheme, 3rd ed.
- NSW Office of Environment and Heritage (OEH) (2011) Guidelines for Consultants Reporting on Contaminated sites. ISBN 0 7310 3892 4.
- Safe Work Australia (2016). How to Manage and Control Asbestos in the Workplace Code of Practice (version 3).
- Safe Work Australia (2016). How to Safely Remove Asbestos Code of Practice (version 2).
- WorkCover NSW (2014). Guidelines for Managing Asbestos in or on Soil.

9.0 LIMITATIONS

This report and the associated services performed by ENRS are in accordance with the scope of services set out in the contract between ENRS and the Client. The scope of services was defined by the requests of the Client, by the time and budgetary constraints imposed by the Client, and by the availability of access to Site.

ENRS derived the data in this report primarily from visual inspections, and, limited sample collection and analysis made on the dates indicated. In preparing this report, ENRS has relied upon, and presumed accurate, certain information provided by government authorities, the Client and others identified herein. The report has been prepared on the basis that while ENRS believes all the information in it is deemed reliable and accurate at the time of preparing the report, it does not warrant its accuracy or completeness and to the full extent allowed by law excludes liability in contract, tort or otherwise, for any loss or damage sustained by the Client arising from or in connection with the supply or use of the whole or any part of the information in the report through any cause whatsoever.

Limitations also apply to analytical methods used in the identification of substances (or parameters). These limitations may be due to non-homogenous material being sampled (i.e. the sample to be analysed may not be representative), low concentrations, the presence of 'masking' agents and the restrictions of the approved analytical technique. As such, non-statistically significant sampling results can only be interpreted as 'indicative' and not used for quantitative assessments.

The data, findings, observations, conclusions and recommendations in the report are based solely upon the state of Site at the time of the investigation. The passage of time, manifestation of latent conditions or impacts of future events (e.g. changes in legislation, scientific knowledge, land uses, etc) may render the report inaccurate. In those circumstances, ENRS shall not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance on, the contents of the report.

This report has been prepared on behalf of and for the exclusive use of the Client, and is subject to and issued in connection with the provisions of the agreement between ENRS and the Client. ENRS accepts no liability or responsibility whatsoever and expressly disclaims any responsibility for or in respect of any use of or reliance upon this report by any third party or parties.

It is the responsibility of the Client to accept if the Client so chooses any recommendations contained within and implement them in an appropriate, suitable and timely manner.

FIGURES



ENRS

Environment & Natural Resource Solutions

108 Jerry Bailey Road, Shoalhaven Heads, NSW, 2535
Tel: 02 4448 5490 Fax: 02 90374708 projects@enrs.com.au
www.enrs.com.au

Client:	INDESCO	Drawn:	MT / TB	Figure:	7
Project:	ENRS1486	Source:	Nearmap	Date:	As reported
Location:	Lot/DP 2/651377 & A/DP382471, Calderwood, NSW	Scale:	NTS	Title:	Site Plan & Layout
		Status:	Rev 1		



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	Project:	ENRS1486	Source:	Nearmap	Date:	As reported
	Location:	Lot/DP 2/651377 & A/DP382471, Calderwood, NSW	Scale:	NTS	Title:	Areas of Environmental Concern (AECs)
			Status:	Rev 1		



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Tel: 02 4448 5490 Fax: 02 90374708 projects@enrs.com.au
www.enrs.com.au

Client:	INDESCO	Drawn:	MT / TB	Figure:	9
Project:	ENRS1486	Source:	Nearmaps	Date:	As reported
Location:	Lot/DP 2/651377 & A/DP382471, Calderwood, NSW	Scale:	NTS	Title:	Areas of Environmental Concern (AECs)
		Status:	Rev 1		



<div><div>ENRS</div><div>Environment & Natural Resource Solutions</div><div>108 Jerry Bailey Road, Shoalhaven Heads, NSW, 2535</div><div>Tel: 02 4448 5490 Fax: 02 90374708 projects@enrs.com.au</div><div>www.enrs.com.au</div></div>	Client:	INDESCO	Drawn:	MT / TB	Figure:	10
	Project:	ENRS1486	Source:	Nearmaps	Date:	As reported
	Location:	Lot/DP 2/651377 & A/DP382471, Calderwood, NSW	Scale:	NTS	Title:	Areas of Environmental Concern (AECs)
			Status:	Rev 1		

APPENDICES

Appendix A

Council Records (Not used)

Appendix B

Historical Titles

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE

14/7/2020 12:11PM

FOLIO: 2/651377

First Title(s): OLD SYSTEM
Prior Title(s): VOL 10292 FOL 91

Recorded -----	Number -----	Type of Instrument -----	C.T. Issue -----
15/12/1992		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
12/9/1994		AMENDMENT: TITLE DIAGRAM	
16/8/1995	O449172	REQUEST	
23/8/1995	O470144	DEPARTMENTAL DEALING	
22/2/1996	O365900	REQUEST	
28/4/1998	3945910	DEPARTMENTAL DEALING	
23/6/1998	5072650	DEPARTMENTAL DEALING	
23/3/2007	AD11173	DEPARTMENTAL DEALING	
3/11/2017	AM858674	DISCHARGE OF MORTGAGE	EDITION 1
1/2/2018	AM913952	TRANSMISSION APPLICATION (DEWISEE, BENEFICIARY, NEXT OF KIN)	EDITION 2
13/4/2018	AN256229	LEASE	
13/4/2018	AN256230	SUB-LEASE	EDITION 3
21/12/2018	AN945669	TRANSMISSION APPLICATION (DEWISEE, BENEFICIARY, NEXT OF KIN)	
21/12/2018	AN945670	TRANSFER	EDITION 4

*** END OF SEARCH ***

PRINTED ON 14/7/2020

CERTIFICATE ORDER SUMMARY

Transaction Details

Date: 14/07/2020 12:15

Order No. 63157455

Certificate No: 96941476

Your Reference: ENRS 1486

Certificate Ordered: NSW LRS - Copy of Cancelled Title - Cancelled Title CT10292-91

Available: Y

Size (KB): 340

Number of Pages: 4

Scan Date and Time: 16/12/2010 10:23

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G. 2

NEW SOUTH WALES

Application No. 23545

Prior Titles Vol. 7870 Fols. 193, 194, 195
and 196



CANCELLED
FICATE OF TITLE
RTY ACT, 1900, as amended.
SEE AUTO FOLIO



10292091

Vol. 10292 Fol. 91

Edition issued 18-4-1966

K247441

I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

Witness *D. Sullivan.*

Jawatson
Registrar General.



ESTATE AND LAND REFERRED TO

Estate in Fee Simple in the part of Lot 2 in Deposited Plan 24143 partly in the City of Greater Wollongong and partly in the Municipality of Shellharbour Parish of Calderwood and County of Camden being part of Portion 11 granted to George Johnston, Senior on 24-1-1817 and part of Portion 10 granted to David Johnston on 3-9-1821 and shown in the plan hereon.

Jawatson
Registrar General.

FIRST SCHEDULE (continued overleaf)

~~DONALD KEITH GREY, of Albion Park, Farmer, as to two undivided one fifth shares, EDITH MABEL GREY, of Albion Park, Married Woman, as to an undivided one fifth share, KEITH GORDON GREY, of Albion Park, Farmer as to an undivided one fifth share and IAN THEODORE CHARLES GREY, of Albion Park, Farmer, as to the remaining undivided one fifth share as Tenants in Common.~~

Jawatson
Registrar General.

SECOND SCHEDULE (continued overleaf)

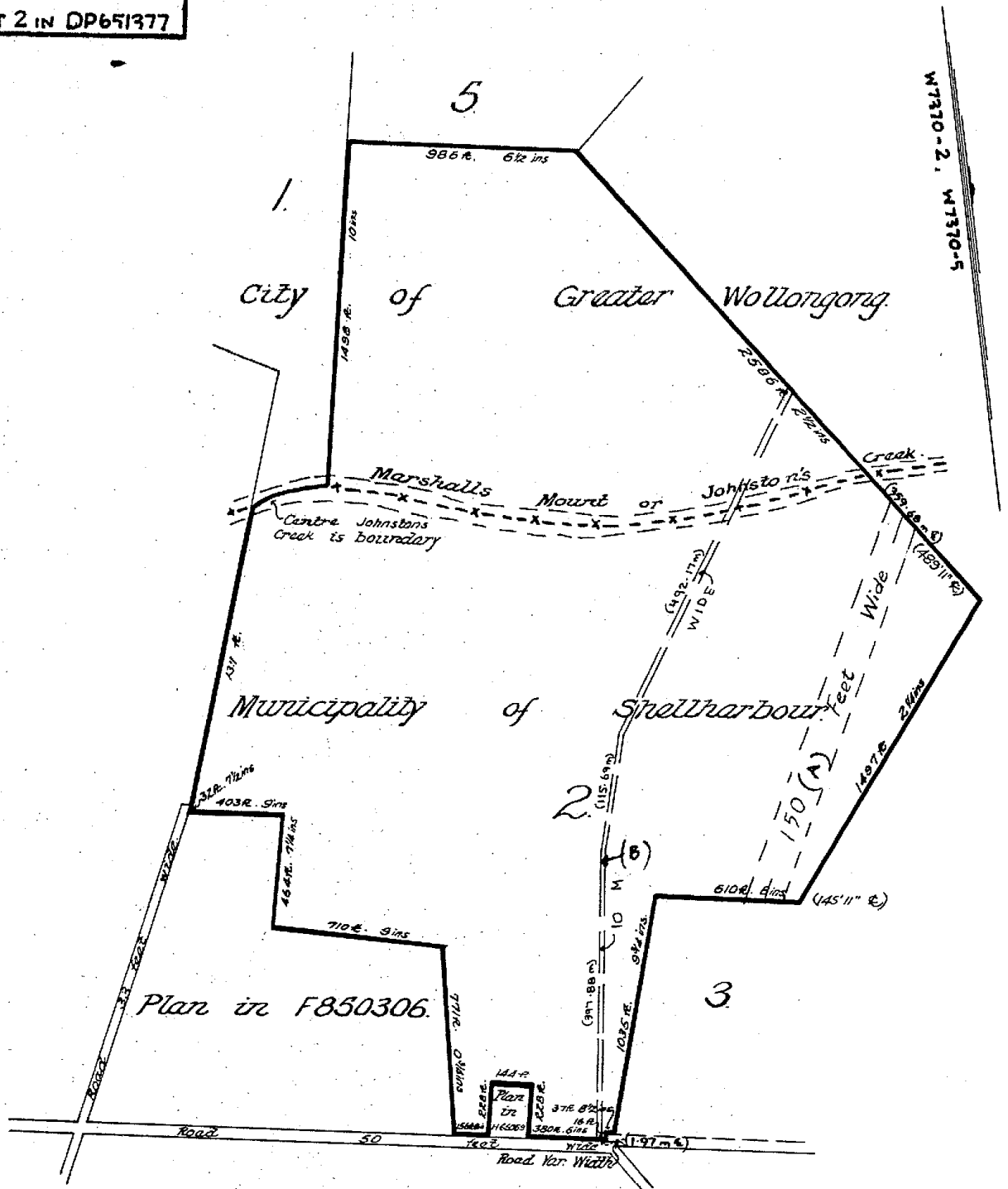
1. Reservations and conditions, if any, contained in the Crown Grant above referred to.

Jawatson
Registrar General.

WARNING: THIS DOCUMENT MUST NOT BE REMOVED FROM THE LAND TITLES OFFICE.

Plan showing location of land.

THE LAND WITHIN
DESCRIBED IS NOW
LOT 2 IN DP651377



K247441 MA
28

Total Area: 193 ac. 1 rd. 23 1/4 per.
Scale: 500 feet to one inch

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT			ENTERED	Signature of Registrar-General
	NATURE	NUMBER	DATE		
Donald Keith Grey of Acton Park, Farmer - as to two undivided one - third shares, Van Theodore Oudak of Acton Park, Farmer - as to two undivided one - third shares, Allan Stewart Grey of Acton Park, Greenkeeper as to two undivided one - third shares, Henry Edith Gutteridge of Ourimbah, Married Woman - as to two undivided one - third shares, Elizabeth Anne Grey of Schofields, Married Woman - as to two undivided one - third shares and Robert Gordon Grey of Dapto, Company Director - as to two undivided one - third shares and Judith Grey of Raby, wife of the said Robert Gordon Grey and their undivided one - third shares in common					
	Transfer	1476001	25-6-1973	25-10-1973	Jameson

SECOND SCHEDULE (continued)

PARTICULARS	INSTRUMENT			ENTERED	Signature of Registrar-General	CANCELLATION
	NATURE	NUMBER	DATE			
to The English Scottish and Australian Bank Limited Easement for Transmission Line (as more fully set out in the said instrument) affecting that part of the land within described shown as "150 feet wide" in the plan hereon with consent of mortgagee) of an Easement for Transmission Line, as more fully set out in the said instrument, affecting that part of the land within described shown as "Site of proposed easement for Transmission Line 150' wide" in DP558154 Easement for Electricity Purposes (as more fully set out in the said instrument) affecting that part of the land within described shown as "10 m wide" in the plan hereon.	Transfer	K247442 K680566	8-2-1966 13-4-1967	29-4-1966	Jameson	1476000
	Transfer	1476001	31-5-1973	15-6-1967	Jameson	
	Transfer	1476001	31-5-1973	26-10-1973	Jameson	
	Transfer	1476001	31-5-1973	29-4-1977	Jameson	

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

V6 10292 Fol 91


K680566
T.C.
DP558154
1476001
-1 D
-2 T
-3 T

CT 10292
127/11/1973
1476001
Sec One


Y6835067
— 7M.

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR

INSTRUMENT		ENTERED	Signature of Registrar General
NATURE	NUMBER		
Donald Keith Grey in 18/30 shares, Allan Stewart Grey in 2/30 shares, Nancy Edith Littlefield in 2/30 shares, Elizabeth Anne Grey in 2/30 shares, Robert Gordon Grey in 3/30 shares and Judith Grey in 3/30 shares as tenants in common by Transfer	Y683506. Registered 10-11-1989.		
CANCELLED			
SEE AUTO FOLIO			

SECOND SCHEDULE (continued)

INSTRUMENT		ENTERED	Signature of Registrar General	CANCELLATION
NATURE	NUMBER			
Y683507 Mortgage to Ian Theodore Charles Grey as regards the interest of Donald Keith Grey. Registered 10-11-1989.				
CANCELLED				
SEE AUTO FOLIO				

FORM No. 49

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR GENERAL ARE CANCELLED

CERTIFICATE ORDER SUMMARY

Transaction Details

Date: 14/07/2020 12:38

Order No. 63158288

Certificate No: 96942629

Your Reference: ENRS 1486

Certificate Ordered: NSW LRS - Copy of Cancelled Title - Cancelled Title CT6682-153

Available: Y

Size (KB): 325

Number of Pages: 4

Scan Date and Time: 09/08/2012 14:17

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Vol. 6563 Fol. 171

TENANCY IN COMMON

Vol. 6682 Fol. 153

Issued on Order No. F851429

CANCELLED 

In witness whereof I have hereunto signed my name and affixed my Seal, this Twenty-sixth day of June 1953

Signed in the presence of

Robt Fitzgerald


J. H. Pell
Registrar General.



No. F690415 Mortgage dated the 26th day of June 1952 from Theodore James Grey, Donald Keith Grey, Keith Gordon Grey and Edith Mabel Grey to Bank of New South Wales. Produced the 2nd day of July 1952 and entered the 14th day of October 1952 at 12 o'clock noon.

J. Wells
Registrar General.




MORTGAGE No. F690415 has been discharged.
See H42257 Entered 14th March 1960.
Jenkinson
REGISTRAR GENERAL.


No. 1166069 TRANSFER dated 15th July 1958
to Barrie Littlefield in exchange
with Littlefield's reversion
tenants of part of Lot 2 in D.P.
Os. 2414 300 shares of the same
Vol 1166069 of the land within bounded.

Entered 14th March 1960.
As to land in this transfer
this deed is canceled
and new certificate issued
Vol. 7890 Fol. 197

James Brown

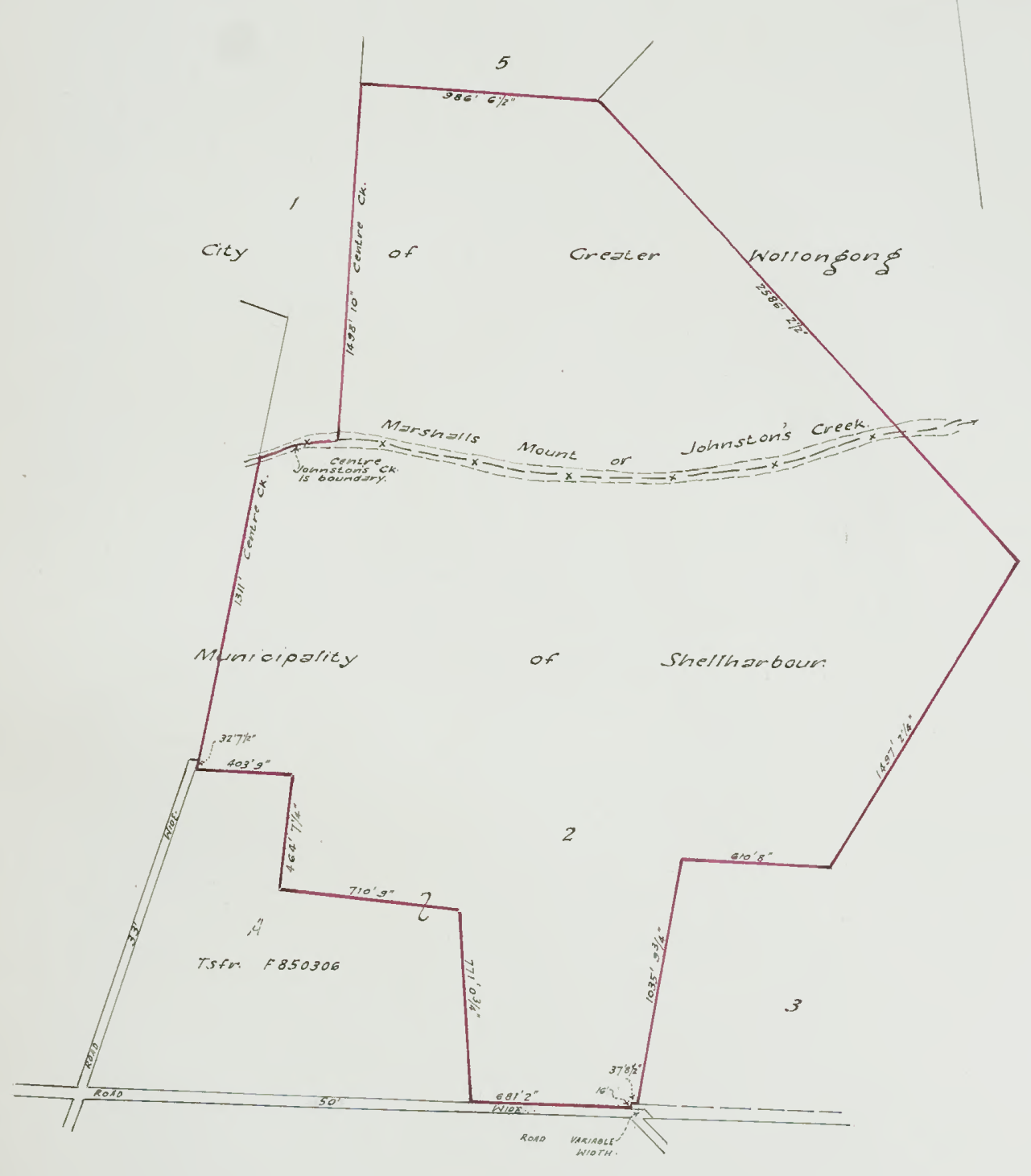
REGISTRAR GENERAL



As to Residue
this Deed is cancelled and new Certificate of Title issued
Vol. 7870 Fol. 194
Vide O H 9258

Registrar General

1. 22-988
 466069 7m 5cm
 450 450 450
 43113 9 7m 4cm
 43309 9 7m 4cm



(2) F 851429 *lls*
bb

Total Area included in Certificate.

194 A. OR 23 3/4 R.

All lengths shown hereon are in
Feet & Inches.
Scale: 500 Feet to one inch.

CERTIFICATE ORDER SUMMARY

Transaction Details

Date: 14/07/2020 12:19

Order No. 63157599

Certificate No: 96941690

Your Reference: ENRS 1486

Certificate Ordered: NSW LRS - Copy of Cancelled Title - Cancelled Title CT7870-193

Available: Y

Size (KB): 295

Number of Pages: 4

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203

New South Wales

[CERTIFICATE OF TITLE]

Primary Appn. No. 23545
Ref. to Last Title
Vol. 6682 Fol. 152



TENANCY IN COMMON

CANCELLED W

REGISTER BOOK

7870 **193**

Vol. 7870 Fol. 193
Issued on Order No. H92258.

THEODORE JAMES GREY, of Albion Park, Farmer, is now the proprietor of an Estate in Fee Simple, in two undivided one fifth, shares subject nevertheless to the reservations and conditions if any contained in the Grants hereinafter referred to and also subject to such encumbrances liens and interests as are notified hereon in That piece of land partly in the City of Greater Wollongong and partly in the Municipality of Shellharbour, Parish of Calderwood and County of Camden shown in the plan hereon and therein edged red being part of Lot 2 in Deposited Plan No. 24143 and being part of Portion 11 granted to George Johnston Senior on 24th January 1817 and also part of Portion 10 granted to David Johnston on 3rd September 1821.

In witness whereof I have hereunto signed my name and affixed my Seal, this Eighteenth day of March 1960.

Signed in the presence of

Johnston

Lawson
Registrar General



NOTIFICATION REFERRED TO

TA
K96683

Keith Gordon Grey of Albion Park
Farmer and Mariel Eileen Agnes Martin
of Dapto Married Woman are
now the registered proprietors of the land within described.
See Section 94 Application No. K96683
Entered 9th September 1965.
Lawson
REGISTRAR GENERAL

RGX
80

No. K96684 CAVEAT by the Registrar General.
Entered 9th September 1965.
Lawson
REGISTRAR GENERAL

WXR

The within Caveat No. K96684 is hereby withdrawn
Dated 22nd February 1966
Lawson
REGISTRAR GENERAL

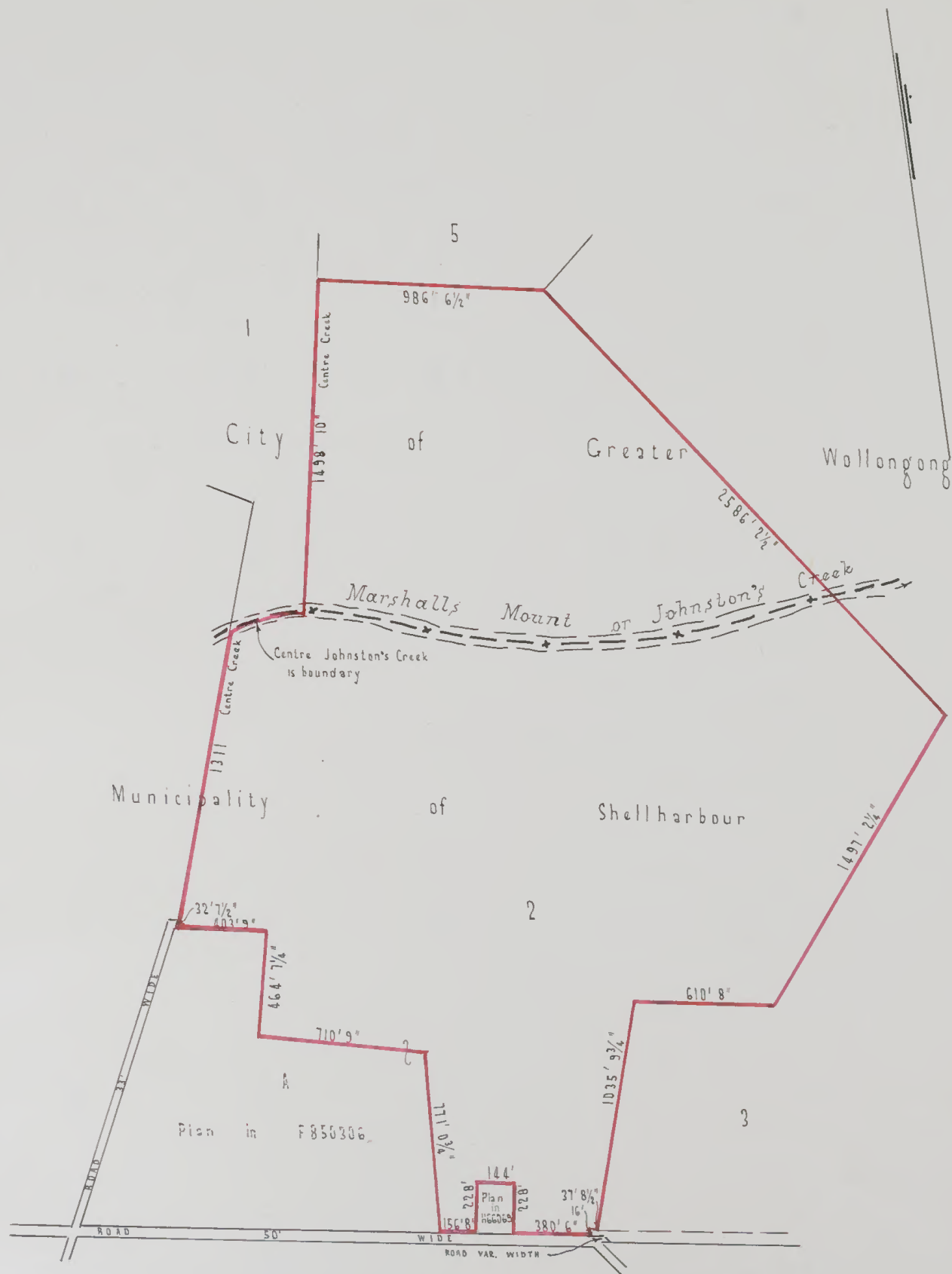
30/1
K207401

No. K247441 TRANSFER dated 24th August 1965
to Donald Keith Grey and Ian Theodore
Charles Grey as tenants in common
in equal shares
of the land within described
Entered 22nd February 1966
As to land in this
this deed is...
and new certificate...
Vol. 10292 Fol. 91
Lawson
REGISTRAR GENERAL

Persons are cautioned against altering or adding to this Certificate or any notification thereon.

K207402 M HIC

7870-193



H32258

Total Area included in Certificate.
193 ac lrd. 23 1/4 per

All lengths shown hereon are in feet and inches.
Scale 500 feet to one inch.

CERTIFICATE ORDER SUMMARY

Transaction Details

Date: 20/08/2020 14:45

Order No. 63727267

Certificate No: 97713530

Your Reference: ENRS1486

Certificate Ordered: NSW LRS - Copy of Cancelled Title - Cancelled Title CT6563-173

Available: Y

Size (KB): 321

Number of Pages: 4

Scan Date and Time: 09/08/2012 10:56

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SAI Global Property Division an approved NSW Information Broker hereby certifies that the information contained in this document has been provided electronically by the Registrar General in accordance with section 96B(2) of the Real Property Act 1900.

203

New South Wales.

[CERTIFICATE OF TITLE.]

Appn. No. 23545

Reference to Last Certificate

Vol. 3438 Fol. 27



TENANCY IN COMMON

REGISTER BOOK.

VOL. 6563 Fol. 173

CANCELLED ☒

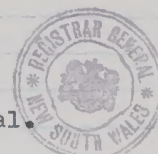
EDITH MABEL GREY of Albion Park, Married Woman, Transferee under Instrument of Transfer No. F690414 is now the proprietor of an Estate in Fee Simple, in one undivided one fifth share, subject nevertheless to the reservations and conditions if any contained in the Grants hereinafter referred to and also subject to such encumbrances liens and interests as are notified hereon in That piece of land situated partly in the City of Greater Wollongong and partly in the Municipality of Shellharbour Parish of Calderwood and County of Camden containing Two hundred and twenty five acres one rood eighteen and one half perches or thereabouts as shown in the plan hereon and therein edged red being Lot 2 in Deposited Plan No. 24143 and being part of 1500 acres (Portion 11 of Parish) originally granted to George Johnston Senior by Crown Grant dated the 24th day of January 1817 and also part of 600 acres (Portion 10 of Parish) originally granted to David Johnston by Crown Grant dated the 3rd day of September 1821.

In witness whereof I have hereunto signed my name and affixed my Seal, this Eighteenth day of September 52.

Signed in the presence of

R.R. Fitzgerald

J. H. Pells
Registrar General.



No. F690415 MORTGAGE dated 30th June 1952
from the said Edith Mabel Grey and also Theodore James Grey and Donald Keith Grey and Keith Gordon Grey
to BANK OF NEW SOUTH WALES
Produced and entered 14th October 1952
at 12 o'clock in the noon.
J. H. Pells
REGISTRAR GENERAL.



No. F850306 TRANSFER dated 1st April 1953
from the said Edith Mabel Grey and also Theodore James Grey, Donald Keith Grey and Keith Gordon Grey
of the land within described
Produced 4th May 1953 and entered 22nd June 1953
at 12 o'clock in the noon.
As to land in this transfer the Certificate cancelled and Certificate issued
Vol. 6682 Fol. 239
J. H. Pells
REGISTRAR GENERAL.

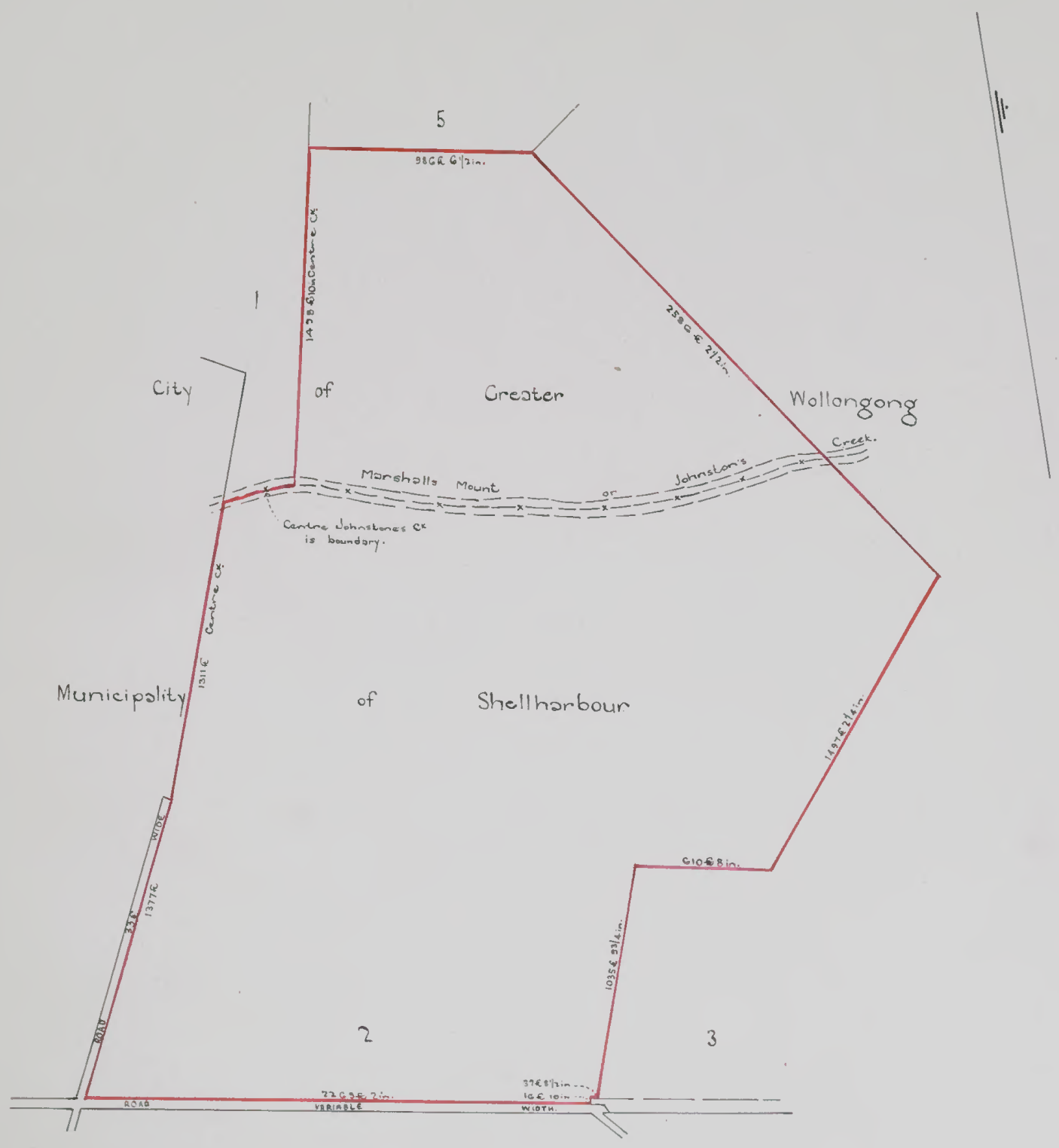


This Deed is Cancelled and Certificate of Title issued
Vol. 6682 Fol. 155
for Residue
J. H. Pells
OF 851429 REGISTRAR GENERAL.



F690415
F850306 BTA (Plan) 2
F851429 B0

6563-173



(4) F 690414
BA
BB
BB

Total Area included in Certificate.

225 a/c 18 1/2 p.

All lengths shown hereon are in feet & inches

Scale 500 ft to one inch.

Appendix C

Historical Aerial Photography

Appendix C – Historical Aerial Photography

Photograph 1: 1963



Photograph 2: 1970



Photograph 3: 1980



Photograph 4: 1993



Photograph 5: 2002



Photograph 6: 2011



Appendix D

Photographic Record of Site Conditions

Dam Wall



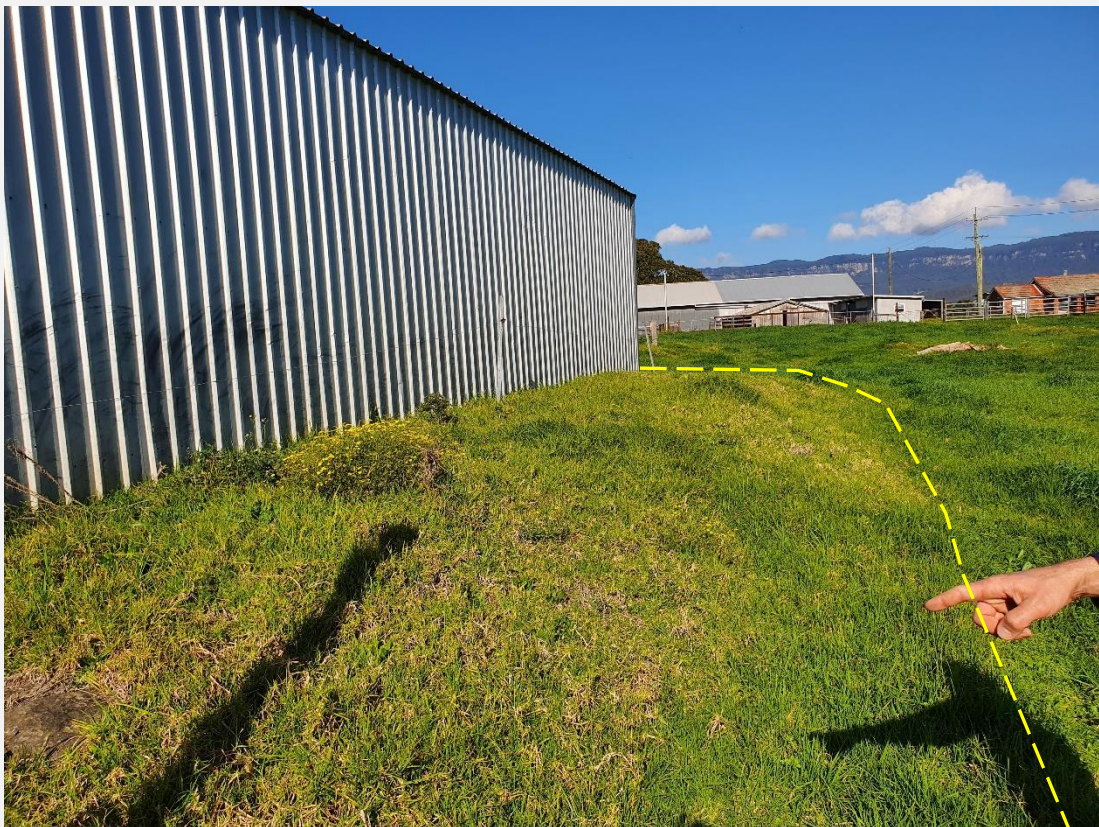
Pump House



Above Ground Storage Tank (AST)



Levelled Building Pad



Soil Stockpiles



Dairy



Dairy – Pump with surface oil spills



Dairy – Suspected ACM



Dairy – unsealed storage area



Dairy – Chemical storage



Dairy – Flaking Paint



Diary - Chemical & Oil Storage

