Douglas Partners
Geotechnics / Environment / Groundwater

Integrated Practical Solutions

Preliminary Site Investigation

Macquarie Centre Redevelopment
Stage 1 Concept Development Application
Macquarie Park NSW

Prepared for
AMP Capital
c/- Lend Lease

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The undersigned, on behalf of Douglas Partners Pty Ltd, confirm that this document and all attached drawings, logs and test results have been checked and reviewed for errors, omissions and inaccuracies.

	Signature	Date
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Executive Summary

This report presents the results of a preliminary site (contamination) investigation (PSI) of the Macquarie Centre, Macquarie Park (the site), which is proposed for redevelopment to include a mixed use development within a podium and tower form. This report supports the proposed future redevelopment in relation to the assessment of contamination potential through a review of historical uses of the site, current site features and land uses, likely sub surface conditions across the site, potential contamination source-pathway-receptor linkages, and the likely risk of contamination impacts on the proposed redevelopment.

The findings of the PSI are reported in detail in the relevant sections of the report. As discussed in Section 1, clause 7 (2) of State Environmental Planning Policy No 55 – Remediation of Land (SEPP 55) may apply and this report specifies the findings of the preliminary investigation of the land concerned carried out in accordance with Section 3.5.2 of the Managing Land Contamination – Planning Guidelines, 1998 (Guidelines) for the purpose of SEPP 55. The following Table A cross references the requirements of Section 3.5.2 of the Guidelines with the relevant sections of the report where addressed.

Table A

Section 3.5.2 of the Guidelines	Report Section where Addressed
Detailed appraisal of site history	Section 5
Visual site inspection and assessment	Section 6
Are the descriptions of activities on the site detailed enough to identify a use listed in Table 1?	Sections 5, 6 and 7 Dry cleaning activities, and engine works (mechanic workshop) have been identified as potential contamination sources at the site and are listed in Table 1.
Are there any big gaps in the site history that might hide a use listed in Table 1?	Section 5, Appendix C Site history information shows that the site was rural / pastoral in the past, prior to being developed into the shopping centre. Past agricultural activities are not identified as potential contamination sources due to the complete disturbance of the surface soils in constructing the shopping centre. Historical aerial photographs date back to 1930, with regular periodic images viewed dated up until 2015. Any significant land uses (particularly those shown on Table 1 of the Guidelines) during that time would be visible, and are not evident.
Are the sources reliable?	The main historical information of relevance was sourced from the government entities of NSW Department of Property and Land Information Division, and WorkCover NSW. The sources are therefore considered to be reliable.

Section 3.5.2 of the Guidelines	Report Section where Addressed
Is the information verifiable?	Sections 5 and 6. The historical aerial photography is factual and does not require verification. Reported site features and activities are verifiable through a site inspection.
Does the information conform with the relevant EPA guidelines?	Section 1. The report was prepared with reference to the national guidelines for the assessment of contaminated sites, for a PSI.
If contamination is found, should the proponent conduct a detailed investigation?	Sections 7, 8, and 9. A potential for contamination has been identified in the conceptual site model (Section 7). A detailed site investigation is recommended for implementation prior to a Stage 2 DA.
Does the site pose a significant threat to human health or the environment?	Sections 8 and 9. Under the current layout it is unlikely that a significant threat exists. Given the likely depth to groundwater (Sections 4.5, 5.1) the main risk resulting from activities identified on site and on Table 1 of the Guidelines is vapour intrusion into the building. Existing concrete floor slabs generally effectively limit the potential for vapour intrusion. Intrusive investigations prior to a Stage 2 DA are recommended to verify the risk.

Reference should be made to Sections 8 and 9 for the findings of the PSI, conclusions and recommendations.

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1. Introduction

1.1 Preamble

This report presents the results of a preliminary site (contamination) investigation (PSI) of the Macquarie Centre, Macquarie Park (the site), which is proposed for redevelopment. The PSI was commissioned on 19 October 2015 by Mr Derrick Burrows of Lend Lease on behalf of AMP Capital (AMPC) Pty Ltd and was undertaken in accordance with Douglas Partners' proposal dated 21 October 2015. This PSI constitutes a Stage 1 - preliminary investigation under the Guidelines.

This report has been prepared on behalf of AMP Capital (AMPC) in support of a Stage 1 Development Application (DA) for the mixed use redevelopment of Macquarie Shopping Centre (Macquarie Centre). The Stage 1 DA seeks concept approval for the redevelopment of Macquarie Centre by establishing:

- Building envelopes and design parameters for future development on the site, including the proposed uses within the podium and tower components;
- The distribution of floor space across the site; and
- Future pedestrian and vehicle connections to and within the site.

The Stage 1 DA proposes a change of land use to include residential (although at this stage the application does not authorise the carrying out of the development). As such, clause 7 (2) of SEPP 55 may apply and this report specifies the findings of the preliminary investigation of the land concerned carried out in accordance with the Guidelines.

This report supports the proposed future redevelopment of the Macquarie Centre in relation to the assessment of contamination potential through a review of:

- Historical uses of the site;
- Current site features and land uses;
- Likely sub surface conditions across the site;
- Potential contamination source-pathway-receptor linkages; and
- The likely risk of contamination impacts on the proposed redevelopment.

The PSI has been conducted in general accordance with the National Environment Protection Council (NEPC) *National Environment Protection (Assessment of Site Contamination) Measure* 1999, as amended 2013 (NEPC, 2013), which has been endorsed under section 105 of the *Contaminated Land Management Act* 1997.

1.2 Proposed Development

The Stage 1 DA seeks concept approval for the mixed use redevelopment of Macquarie Centre under s.83B of the *Environmental Planning & Assessment Act* 1979. The first stage will seek concept approval only for:

- Mixed use development to enable a range of land uses. The final mix of land uses will be subject to and determined under the relevant Stage 2 detailed DAs;
- Building envelopes for the proposed basement, expanded podium and tower forms;
- The four tower envelopes fronting Herring Road will have maximum heights ranging from 90 m and 120 m above existing ground level. The building envelope for Tower 1 is of sufficient dimensions to accommodate alternate tower forms;
- Maximum additional gross floor area (GFA) of 148,000 sqm;
- The new retail podium along Herring Road will replace the existing structure. This will provide an active frontage with separate pedestrian entries to Herring Road and the creation of a vibrant atrium space;
- The creation of 'Station Plaza' between the train station and shopping centre, framed by active uses and a landmark building known as the "Shard";
- The building envelopes for the proposed basement and upper levels of the expanded podium will accommodate a maximum of 2,175 additional car spaces; and
- New vehicle and pedestrian access points.

The Stage 1 DA does not seek approval for:

- Any works, including demolition, excavation, construction and public domain improvements;
- The final arrangement of land uses;
- Layout, mix and number of residential units;
- A specific number of car spaces (as this will be determined having regard to the final mix of land uses);
- The design of the building exteriors including facades and roofs; and
- Public domain and landscape design.

Such approvals will be sought via subsequent development applications following receipt of development consent for the Stage 1 DA.

The overview of the indicative mix of land uses within the proposed building envelopes is identified in Table B below.

Table B: Overview of Indicative Mix of Land Uses

Component	Proposed
Basement	Loading docks, car parking and associated vehicle circulation, waste rooms, utilities, future connection to existing train station (subject to consent from RailCorp) and retail premises.
Podium	Retail premises, commercial premises, food and drink premises, entertainment facilities, recreation facilities (indoor), recreation area, car parking and associated vehicle circulation, community uses (subject to further discussions with Council) and communal open space associated with the towers.
Tower 1	Mixed use development comprising commercial premises and/or residential accommodation and/or serviced apartments above a retail podium.
Towers 2, 3 and 4	Mixed use development comprising residential accommodation and/or serviced apartments above a retail podium.

2. Scope of Works

The scope of works undertaken in this PSI is as follows:

- Review the drawings provided in order to ascertain the extent of the development potentially exposed to contaminants;
- Review our previous investigations across the Macquarie Centre to assess likely sub-surface conditions and the potential for contamination in the proposed development areas;
- Conduct a site walkover to identify site features and any visible indicators of potential contamination;
- Review of historical aerial photographs to assess part land uses and features;
- Review WorkCover NSW information pertaining to the storage (past or present) of dangerous goods;
- Review the public databases held under the *Contaminated Land Management Act* 1997 and the *Protection of the Environment Operations Act* 1997 in regards to EPA issued Notices or licenses;
- Review published maps of acid sulphate soil (ASS) potential, geological and topographical maps/drawings; and
- Review the groundwater bore registry held by the NSW Office of Water.

3. Site Identification and Description

The Macquarie Centre is approximately 11.25 hectares in area and is located at the corner of Waterloo Road, Herring Road and Talavera Road, Macquarie Park. The site is legally described as Lot 100 in DP 1190494.

The site is bound by Herring Road to the north west, Talavera Road to the north east, commercial uses to the south east and Waterloo Road to the south west. Located within the Macquarie Park Corridor, the site has excellent access to public transport, situated immediately adjacent the Macquarie University Railway Station and the Herring Road Bus Station. Located between the M2 Hills Motorway and Epping Road, the site also enjoys excellent vehicle connectivity.

The Macquarie Centre was originally constructed in 1981. The centre has undergone various stages of redevelopment and extensions. A major refurbishment occurred in 2000, 2003 and most recently in 2014, creating a fresh food court, David Jones expansion, addition of second full line supermarket (Coles), a value supermarket (Aldi), with new speciality food and convenience stores. Today Macquarie Centre is the largest shopping centre in NSW and the 8th largest shopping centre in Australia and includes a wide range of retail, entertainment and service offerings.

The shopping centre currently spans five levels accommodating 368 stores, including major retailers such as David Jones, Myer, Target, Big W, Aldi, Coles and Woolworths. The centre also houses a large number of mini major international retails stores including H&M, Zara, Uniqlo, Forever 21, GAP and Sephora. A number of entertainment offerings exist in the centre including a cinema complex and ice skating rink. The site currently has a gross floor area of 170,850m2 and accommodates 4,755 car spaces.

The site boundaries are shown on Drawing 1, Appendix A.

4. Geology, Topography, Hydrogeology

4.1 Topography

The site slopes gradually from the north-west to the south-east becoming steeper toward the creek catchment to the east of the site and further towards Lane Cove National Park.

4.2 Soils

The south-western portion of the site is recorded to be on disturbed terrain in reference to the Sydney 1:100,000 Soils Landscape Sheet. This is described as level plain to hummocky terrain extensively disturbed by human activity including complete disturbance, removal or burial of soil. Land fill includes soil, rock, building and waste material.

The northern and eastern portions of the site are recorded to be residual soils of the Lucas Heights formation which is described as gently undulating crests and ridges on plateau surfaces of the Mittagong Formation (alternating bands of shale and sandstones).

Further information is provided in the geotechnical desktop study report (Project Reference 85160.00) prepared by DP.

4.3 Geology

Reference to the Sydney 1:100,000 Series Geological Sheet indicates that the site is underlain by Hawkesbury Sandstone typically comprising medium to coarse grained quartz sandstone with very minor shale and laminate lenses.

Previous geotechnical investigations during construction of the existing multi-storey carpark detected the presence of a dyke running approximately north-south in the north-east area of the Macquarie Centre. The presence of the dyke caused some construction difficulties with regards to footings. Further information is provided in the geotechnical desktop study report (Project Reference 85160.00) prepared by DP.

4.4 Hydrogeology

The course of Shrimptons Creek runs in an approximate north-easterly direction underneath the south-eastern portion of the Macquarie Centre leading into the receiving body of the Lane Cove River. Further information is provided in the geotechnical desktop study report (Project Reference 85160.00) prepared by DP.

4.5 Groundwater

A groundwater bore search of the NSW Office of Water database was conducted on 23 October 2015 for any bores registered within a 1 km radius of the site. The search is undertaken to assess possible water levels and also potential uses of groundwater in the vicinity of the site. The bores were located at Macquarie University, to the north west of the site. Work summaries were available for three bores, details were as follows:

Bore Identification	Standing Water Level (bgl)	Purpose
GW109694	Not supplied	Monitoring Bore
GW109696	Not supplied	Monitoring Bore
GW109695	Not supplied	Monitoring Bore

Drillers' logs for the bores did not provide any information on subsurface conditions, only information of the depths, which ranged from 35.5 to 46.4 metres below ground level. Work summaries are provided in Appendix B.

Further information on groundwater levels encountered during previous geotechnical investigations by DP at the site is provided in the geotechnical desktop study report (Project Reference 85160.00) prepared by DP.

4.6 Acid Sulphate Soils

Based on published 1:25,000 Acid Sulphate Soil Risk mapping data (1994-1998), the site is not located in an area with a probability of acid sulphate soil (ASS) occurrence.

5. Site History

A review of the site history was based on a review of previous reports prepared by DP, historic aerial photographs, a search of regulatory notices (issued under the CLM and POEO Act 1997), and a review of WorkCover NSW records. The results of the review are presented in the following sub-sections.

5.1 Previous reports

DP has prepared various contamination reports, on the north eastern portion of the site in particular.

***Waste Classification Assessment, Macquarie Shopping Centre, Corner of Herring Road and Talavera Roads, North Ryde*, March 2005, DP Job Number 37962**

This report was prepared for part of the Macquarie Centre undergoing redevelopment at the time. Waste classification was required for the off-site disposal of a small quantity of sandy clay material stockpiled on-site, comprising approximately 3-4 tonnes of material. This material was to be disposed off-site following classification of the waste material. It is assumed that this material was generated on-site, however the source of the material is not directly stated in the report.

The material in the stockpile consisted of light brown, medium grained sand filling with trace amounts of silt and small amounts of building rubble present including concrete, steel, blue metal, wood fragments, plastic bags and sandstone pieces. The composition of the stockpile was reasonably consistent. The material was classified as Inert Waste under the waste classification guidelines current at the time.

It is likely that the stockpile was removed from the site under the assigned waste classification, however DP was not involved in the verification.

***Report on Preliminary Contamination and Waste Classification Assessment, Talavera Road, Macquarie Centre, July 2010*, DP Job 14121.07**

This report was commissioned due to the planned demolition of existing commercial lots and the construction of additional Macquarie Centre parking and retail space in the north-eastern portion of the site. The extensions involved a five storey car park structure in which the construction required a relatively deep excavation on the existing sloping site (this development is now constructed). The site history review indicated that the land was semi-rural prior to becoming a commercial allotment.

Nine test bores were drilled as part of the investigation and they encountered filling which comprised of sand, crushed sandstone, gravel and in places clay over sandstone. Two groundwater monitoring wells were installed however groundwater was not encountered to a depth of 10 m bgl.

Pharmaceutical/cosmetic manufacturing operations are known to have occurred on this site. Council development application records indicated that two 11,900L tanks were installed on a section of the site. The locations of these tanks was unclear from the records presented.

An exceedance of TPH was recorded at one bore at a concentration of 2,600 mg/kg compared to the site assessment criteria (SAC) of 1,000 mg/kg.

The site was considered to have a low to medium potential for contamination, due to the potential presence of underground storage tanks.

The preliminary waste classification assessment indicated that the material was likely to classify as General Solid Waste (non-putrescible), with the exception of TPH contaminated soil. Sandstone bedrock was also considered likely to classify as Virgin Excavated Natural Material (VENM).

***Underground Petroleum Storage System (UPSS) Location Investigation 55-61 Talavera Road, Macquarie Park, 27 April 2011,* DP Job 14121.09**

The previous report (DP, 2010) indicated the potential presence of underground storage tanks from council records. The locations of the storage tanks had not been provided by council, and as such the locations and status of these tanks were unknown. The investigation was commissioned in order to ascertain the location of these tanks to allow for an additional contamination assessment and/or their future removal.

An inspection of the building was undertaken in order to visually identify any evidence of the presence of underground petroleum storage system (UPSS) and a ground scan with a ground penetrating radar (GPR) was also undertaken in order to potentially locate the tanks.

As a result of this investigation, one UPSS was identified (this was considered to be a distillate tank) and was considered to be abandoned *in situ* however, the second tank (a petrol UPSS) was not able to be identified.

***Report on Phase 2 Contamination Assessment, 55-61 Talavera Road, Macquarie Park, July 2011*, DP Job 14121.10**

The report documents the results of a Phase 2 contamination assessment and *in situ* waste classification completed by Douglas Partners Pty Ltd (DP) at 55 - 61 Talavera Road, Macquarie Park (the Site). The work was undertaken for Westfield Design and Construction Pty Ltd for the proposed redevelopment works discussed above.

The site history identified a potential for contamination arising from the previous filling of the site, use of the site for pharmaceuticals, cosmetics and computer electronics. These activities included the use of chemicals on site, including two, possibly three underground storage tanks.

Filling depths were found to be variable across the site, indicative of filling placed over previous sandstone outcrops in a shallow valley. Sandstone was encountered directly under the pavement materials in some locations, with the maximum filling depth encountered at the site being 3 m bgl.

Based on the works conducted for the then current and previous investigations, the following areas of concern were identified:

- UPSS 1: The distillate tank with observable fill/dip point located to the west of the northern building. Pipework associated with this UPSS is expected to comprise a pipe to the vent pipe located on the northern building wall and a delivery pipe to the former steam generator. No pump is recorded as having been installed. The fill/dip point was opened and observed to be filled with cement;
- UPSS 2: This UPSS, recorded as having been installed by Council, had not been located on site. The site had been redeveloped since the installation of this UPSS, and the UPSS may have been previously removed;
- UST 1: This anomaly detected by GPR survey may relate to a UST of unknown use, located inside the northern building. Related pipework may include two possibly related large plastic pipes venting up the exterior wall; and
- TPH C_{10}-C_{36} hotspot at BH4, 1.4-1.5 m bgl: This hotspot was located in brown sand present between 1.15 m and 1.9 m bgl, likely to be filling, with no observable signs of concern. No TPH was detected at 0.2-0.3 m bgl in BH 4, or in crushed sandstone filling observed in the nearby BH112A at 1.2-1.5 m bgl or 1.5-1.8 m bgl.

Whilst contaminant levels over the Site were generally low and within adopted SAC, contamination was noted to be potentially present adjacent to and/or beneath the identified underground tanks. UPSS 1 and UST 1 appeared to have been installed/partly installed into sandstone bedrock.

Two groundwater monitoring wells were installed during the Preliminary Contamination Assessment, to depths of 4.7 m and 9.6 m bgl. No groundwater was encountered in these wells, or in other bores at the site. It was expected that the groundwater is present at depth in bedrock, limiting the potential for groundwater to have been impacted by near-surface contamination. On this basis, and given the generally low levels of contaminants over the site, the risk of groundwater contamination being present was considered to be low. If, however, significant contamination is observed in the tank pits following removal of the tanks, further groundwater assessment may be required.

To render the site suitable for the proposed development, DP recommended the following:

- The identified tanks, namely UPSS 1 and UST 1 should be removed and disposed off-site, along with any associated structures, infrastructure and contaminated soils, and the tank pits validated;
- The TPH hotspot from the location of BH4 should be excavated, the material disposed off-site and the resultant remediation excavation validated; and
- An unexpected finds protocol should be prepared to outline the requirements if any additional tanks, including UPSS 2, are encountered during excavation works.

A remediation action plan (RAP) should be prepared to detail the required remediation works and a strategy for managing any other tanks which may be encountered during excavation works.

All materials disposed from the site should be managed and disposed in accordance with the POEO Act 1997. The classification assessments provided herein should be supplemented by additional investigation/inspection as appropriate to confirm the provisional classifications provided.

***In situ Material Classification Assessment, Macquarie Centre, 55-61 Talavera Road, Macquarie Park, November 2012*, DP Job 14121.13**

The report was prepared at the request of Westfield Design and Constructions Pty Ltd to assess the waste classification of fill at the Site should there be no asbestos present. No additional intrusive investigations were undertaken. Based on the previous data the following material classifications were assigned:

Filling: Contains asbestos.

Off-site disposal as Special Waste – Asbestos Waste. Theoretically, if asbestos was not present in the filling then the material could have been potentially classified as General Solid Waste (non-putrescible). Note: this General Solid Waste classification is theoretical and not for disposal purposes.

Reworked Clay: May be classifiable as Excavated Natural Material subject to further *ex situ* (stockpile) testing is conducted in accordance with the current ENM exemption, 2012. However, the limited volume of material involved and the need to carefully segregate the materials would need to be considered and may or may not be economical.

Provisionally classified as General Solid Waste (non-putrescible) subject to *ex situ* assessment. On-site use as general fill subject to monitoring and compaction properties and confirmation it does not contain asbestos-based materials.

Sandstone: Off-site disposal as Virgin Excavated Natural Material.

Reuse on other sites subject to prior approvals or consents from the receiving site and relevant authorities.

***Removal of Contaminated Fill, Response to Superintendent's Letter, Macquarie Centre, 55-61 Talavera Road, Macquarie Park, February 2013*, DP Job 14121.14**

The letter addressed DP's response to comments raised by the superintendent of the project, in regard to the Phase 2 contamination assessment and subsequent waste classification assessment.

5.1.1 Comments on Previous Reports

All previous investigations summarised above, apart from DP (2005) were in relation to 55 - 61 Talavera Road, which is now occupied by the north-eastern expansion of the Macquarie Centre including car parking and retail levels, DP does not have any information as to whether the identified and suspected UPSS were found and subsequently removed and validated, and/or if any remediation of the identified TPH and asbestos contaminated soils took place. It is presumed, given that bulk excavations would have taken place as part of the development, that these items were appropriately managed and validated.

Given that this Lot is located to the north-eastern portion of the Macquarie Centre, where Stage 1 works are not proposed, the absence of confirmatory information is not considered to be critical and the information which is available about the site's history is considered adequate to enable this PSI to be prepared However, it is recommended that the appropriate information be sought as part of future detailed development applications.

5.2 Historical Aerial Photographs

Historical aerial photographs were obtained from databases held by the NSW Department of Property and Land Information Division for the years 1930, 1951, 1961, 1970, 1980, 1994, and 2002. Google Nearmap images were used for the years 2009, 2013, and 2015. Extracts of the photographs are provided in Appendix C and a summary of the features observed on the site and the surrounding land is presented in Table C below.

The historical aerial photographs were observed for information on past land uses and changes to the site, in particular those of a potentially contaminating nature.

Table C: Historical Aerial Photograph Summary

Year	Site Features	Surrounding Features
1930	The site can be seen to comprise semi-rural pastoral land in the south-west and east with sparse forested areas across the site. There also appears to be several houses associated with the pastoral areas, particularly along the Herring Road frontage. Shrimptons Creek can be seen passing through the centre of the site.	The site surrounds also comprise rural and semi-rural pastoral land and patches of sparse forest. The Lane Cove River and Lane Cove National Park can be seen immediately to the north-east
1951	The site appears mostly unchanged from 1930, however some of the forest area has been replaced with more pastoral land	No significant changes to the surrounds can be seen in this photograph compared to the 1930 photograph
1961	No significant changes can be seen in this photograph compared to the 1951 photograph. The houses and shed along Herring Road frontage are more apparent.	No significant changes to the surrounds can be seen in this photograph compared to the 1951 photograph
1970	A significant area of the north-east portion of the site appears to have been cleared of vegetation and levelled for the construction of a large shed or dwelling. The remainder of the site has not changed significantly since 1961.	Construction of the Macquarie University campus has begun. Residential development can also be seen heavily increasing in North Ryde

Year	Site Features	Surrounding Features
1980	Construction of the Macquarie Centre has begun across the site. The north-east corner appears unchanged from the 1970 photograph. The development presumably included the piping of Shrimptons Creek beneath the development.	Residential subdivisions have been developed immediately to the south-west and to the north-east of the site. Many large industrial warehouses have also been constructed throughout Macquarie Park
1994	The Macquarie Centre now occupies the majority of the site, apart from the north-east and south-east portions. Two large industrial buildings can now be seen on the north-east section of the site, whilst the south-east section remains vacant and grass covered.	Macquarie Park is now heavily developed with many commercial / industrial warehouses and buildings. Macquarie University has grown considerably. North Ryde is also largely developed with residential subdivisions
2002	Further development of Macquarie Centre has taken place on the north-western quarter of the building, and extended into the south-eastern portion of the site. There appears to be no significant changes to the north-eastern section from 1994.	Further commercial / industrial development has taken place throughout Macquarie Park and the University campus has grown further.
2009	There are no significant changes to the appearance of the Macquarie Centre since 2002.	There are no significant changes to the appearance of neighboring sites since 2002.
2013	The north-east section has been cleared and is now a construction site. There appears to be no further changes to the rest of the Macquarie Centre compared to the 2009 photograph	No significant changes to the surrounds can be seen in this photograph compared to the 2009 photograph
2015	The north-east section is now fully developed. There appears to be no further changes to the rest of the site compared to the 2013 photograph	No significant changes to the surrounds can be seen in this photograph compared to the 2013 photograph

5.3 Regulatory Notices Search

The NSW EPA publishes records of contaminated sites under section 58 of the CLM Act on a public database, accessible via the internet. The notices relate to investigation and/or remediation of site contamination considered to be significantly contaminated under the definition of the CLM Act. More specifically the notices cover the following:

- Actions taken by the EPA under sections 15, 17, 19, 21, 23, 26 or 28 of the CLM Act;

- Actions taken by the EPA under sections 35 or 36 of the Environmentally Hazardous Chemicals Act 1985; and
- Site audit statements provided to the EPA under Section 52 of the CLM Act on sites subject to an in-force remediation order.

A search of the public database conducted on 23 October 2015 revealed that the subject site was not listed. No sites were listed on the contaminated land record for North Ryde or Macquarie Park.

It should be noted that the EPA record of notices for contaminated land does not provide a record of all contaminated land in NSW.

The NSW EPA also issues environmental protection licences under section 308 of the POEO Act. The register contains:

- Environmental protection licences;
- Applications for new licences and to transfer or vary or extend licences;
- Environment protection and noise control licences;
- Convictions and prosecutions under the POEO Act;
- The result of civil proceedings;
- Licence review information;
- Exemptions and provisions of the POEO Act or Regulations;
- Approvals granted under Clause 9 of the POEO (Control of Burning) Regulation; and
- Approvals granted under Clause 7a of the POEO (Clean Air) Regulation.

A search of the public register indicated that there were no licences listed for the subject site.

5.4 WorkCover Dangerous Goods Search

A search of the NSW WorkCover Dangerous Goods database was conducted and dated 9 November 2015. The search revealed that WorkCover NSW holds a Licence 35/027522 on the Stored Chemical Database (SCID).

The search indicated that Liquefied Petroleum Gas (LPG) of 190 kg is stored at the Macquarie Ice Rink (located within the Macquarie Centre). No other stored chemical items were found in the search.

WorkCover documentation is provided in Appendix D.

6. Site Inspection

An inspection of the site was conducted by an experienced Environmental Scientist from DP on the 28 October 2015 for the purposes of determining the site's potential for contamination. The following observations were made and the referenced photographs are included in Appendix E:

Express Car Park

- Hardstand cut into sandstone in basement (Photo 1);
- Ultratune mechanical workshop, which is located in the southern portion of the express car park, is likely to store chemicals (e.g. oils, degreasers), and grease traps are likely (Photo 2);
- A grease trap was observed in the northern end in compactus area (Photo 3);
- Usual stormwater and sewer pits were observed, as well as fire hydrants; and
- There was a ramp to the upper car park/loading dock which leads up to Big W parcel pick up area which may have been filled (Photo 4).

Waterloo Road

- A fire hydrant plant on the hill was observed and may be filled in some sections along the entrance to the train station (Photo 5).

Along Talavera Road

- Basement car park and loading docks cut into the sandstone below the ice skating rink (see Photo 6);
- Several loading docks, CO2 tank and above ground electrical services were observed;
- Childcare centres were observed at Herring Road end and Talavera Road end of the centre;
- Loading docks were observed along Talavera Road (Target and Rebel);
- Sewer pit under eastern-most building near driveway entrance off Waterloo Road;
- No noted USTs during walkover;
- Known dry cleaner near Woolworths but up one level. The sewer discharge was not known; and
- A grease trap was noted up to level 7, unknown if affiliated with Macquarie Centre.

Note that the walkover focussed on the lowest levels of the Macquarie Centre as higher levels are not likely to be sources or contain indicators of potential soil or groundwater contamination, other than the dry cleaner.

7. Preliminary Conceptual Site Model

A conceptual site model (CSM) is a representation of site-related information regarding contamination sources, receptors and exposure pathways between those sources and receptors. The CSM provides the framework for identifying how the site became contaminated and how potential receptors may be exposed to contamination either in the present or in the future, i.e. it enables an assessment of the potential source – pathway – receptor linkages.

7.1 Potential Contamination Sources and Contaminants of Concern

Based on the current investigation, the following potential sources of contamination and associated contaminants of concern have been identified as shown in Table D below.

Table D: Potential Contamination Sources and Contaminants of Concern

Potential Source	Description of Potential Contaminating Activity	Contaminants of Concern
Imported fill of unknown origin	Fill material across the site likely to be shallow and for levelling purposes in building and trafficked areas. Could also be potential asbestos contamination from historical uncontrolled demolition of previous structures.	Common contaminants associated with fill include heavy metals, TPH, BTEX, PAH, PCB, OCP, OPP, phenols, asbestos
Ultratune mechanical workshop	Possible oil and fuel leaks and spills, and use of degreasers containing volatile components.	Oils, grease, hydrocarbons, VOC
Dry cleaner	Possible discharge of dry cleaning chemicals to sewer (either historical or current) and potential leaks from sewer to soil and groundwater	Common contaminants associated with dry-cleaning and associated by-products such as PCE, TCE, DCE and vinyl chloride, various VOC

Notes:

TPH: Total Petroleum Hydrocarbons
BTEX: Benzene, Toluene, Ethyl Benzene, Xylene
PAH: Polycyclic Aromatic Hydrocarbons
PCB: Polychlorinated Biphenyls
OCP: Organochlorine Pesticides
OPP: Organophosphate Pesticides
VOC: Volatile Organic Compounds
PCE: Tetrachloroethene (or Prechloroethene)
TCE: Trichloroethene
DCE: Dichloroethene

The potential contamination sources (S) on the site are therefore summarised as follows:

S1 Imported fill (including potential remnants of previous demolitions)

S2 Mechanical workshop (and general vehicle use)

S3 Dry cleaner

As noted in Section 5.1.1 DP does not have any information as to whether the identified and suspected UPSS in the north eastern portion of the site were found and subsequently removed and validated, and/or if any remediation of the identified TPH and asbestos contaminated soils in the same part of the site took place. It is presumed, given that bulk excavations would have taken place as part of the recent development in the north-eastern portion of the Macquarie Centre, that these items were

appropriately managed and validated. As such, and based on the absence of shallow groundwater in the same area, these issues are not identified in this report as potential contamination sources.

7.2 Potential Receptors

7.2.1 Human Health Receptors

R1 Current site users (visitors and workers)

R2 Construction and maintenance workers (current and future development)

R3 Final end users (residents, workers and visitors)

R4 Land users in adjacent areas (residential and commercial)

7.2.2 Environmental Receptors

R5 Groundwater

R6 Surface water (urban drainage to First Ponds Creek, to the east and south east)

R7 Ecology

7.2.3 Potential Pathways

Potential pathways for contamination to impact on the potential receptors include the following:

P1 Direct contact

P2 Inhalation of dust and/or vapour

P3 Leaching of contaminants and vertical migration into groundwater

P4 Surface water run-off (to urban drains)

P5 Lateral migration of groundwater

7.3 Summary or Preliminary CSM

A ‘source – pathway – receptor’ approach has been used to assess the potential risks of harm being caused to human, water or environmental receptors from contamination sources on or in the vicinity of the site, via exposure pathways. The possible pathways between the above sources (S1 to S3) and receptors (R1 to 7) are provided in Table E below.

Table E: Conceptual Site Model

Source	Transport Pathway	Receptor	Risk Management Action Recommended
S1: Imported Filling Metals, TPH, BTEX, PAH, PCB, OCP, OPP, phenols, asbestos **S2: Mechanical Workshop** Metals, TPH, BTEX, PAH, VOC **S3: Dry cleaning** PCE, TCE, DCE, Vinyl Chloride (VOC)	P1: direct contact	R1: Current users R2: Construction and maintenance workers R3: End users R7: Ecology	An intrusive investigation prior to Stage 2 DA is recommended to assess possible contamination and aesthetic issues including chemical testing of the soils and groundwater, targeting the potential sources of contamination. The investigations should form part of future detailed development applications, with the investigations designed around the details of the proposed development. If the site soils and/or groundwater are contaminated, further investigation may be required to inform mitigation / remediation measures to manage the risk to the identified receptors.
	P2 – Inhalation of dust and/or vapours	R1: Current users R2: Construction and maintenance workers R3: End users R4: Adjacent users (residential)	
	P3 – Leaching of contaminants and vertical migration into groundwater	R5: Groundwater R6: Surface water R7: Ecology	
	P4 – Surface water runoff		
	P5: Lateral migration of groundwater providing base flow to water bodies	R5: Groundwater (freshwater)	

8. Findings

The scope of works undertaken in this PSI included a review of provided drawings, the review of previous assessments undertaken by DP on the site, a site inspection for the purposes of determining the site's potential for contamination, the review of historical aerial photographs, a review of WorkCover information regarding the storage of dangerous goods, a review of EPA notices or licences and a review of acid sulphate soil, geological, topographical and groundwater bore maps.

The review of geological maps indicates that the site slopes gradually from the north-west to the south-east becoming steeper toward the creek catchment to the east of the site and further towards Lane Cove National Park. The site is underlain by sandstone bedrock, which was verified by site inspection and previous investigations.

From the results of the groundwater desktop investigation, groundwater is likely to be found within the sandstone bedrock aquifer at significant depths and, as such, migration of contamination to the groundwater is unlikely, unless significant contamination has occurred historically and leached to depth through bedrock over time.

All previous contamination related investigations undertaken by DP, apart from DP (2005) were in relation to 55-61 Talavera Road, which is now occupied by the north-eastern expansion of the Macquarie Centre including car parking and retail levels. DP does not have any information as to whether the identified and suspected UPSS, as documented in the previous reports, were found and subsequently removed and validated, and/or if any remediation of the identified TPH and asbestos contaminated soils took place. It is presumed, given that bulk excavations would have taken place as part of the development, that these items were appropriately managed and validated. Given that this Lot is located to the north-eastern portion of the Macquarie Centre, where Stage 1 works are not proposed, the absence of confirmatory information is not considered to be critical. However, it is recommended that the appropriate information be sought as part of future detailed development applications.

The aerial photograph review showed that the site was historically used as rural or residential land before the shopping centre was constructed in 1981. No potential for significant contamination was identified from the previous land use.

The WorkCover search indicated the storage of LPG gas on the site for the ice rink. No underground tanks or other chemicals were identified. It should be noted that the UPSS found in the previous investigation were identified through a review of historical development applications at council.

The site inspection showed that the existing basement car parks are predominantly excavated into natural sandstone bedrock. The majority of the site surfaces are covered with bitumen road, car parks or concrete slab.

The Ultratune workshop is located down-gradient to the current proposed development works, a dry cleaner is also located down-gradient to the development works within the shopping centre, although the discharge and waste disposal practices are not known. These are potentially contaminating land-uses which will need to be further investigated.

It should be noted that historical placement of dry-cleaners within the shopping complex is not known. Dry cleaning can be a potentially contaminating activity, as historically, dry cleaning chemicals were known to be disposed (intentionally or otherwise) to the sewer system.

There is the potential for fill soils to be located on the site for the purposes of levelling and construction. If present, fill would be expected to be relatively shallow as sandstone bedrock is observed to be close to the surface. However, as evidenced in the investigations in the north-eastern portion of the site, asbestos contamination can occur from uncontrolled demolition practices over time, as well as other common contaminants that are associated with filling.

9. Conclusions and Recommendations

Based on this preliminary site investigation it is considered that, in general, the potential for significant or widespread contamination is low, particularly due to the suspected depth to groundwater. However, given the potential for contamination discussed in Section 7, the following further investigations / actions are recommended for implementation prior to and as part of a Stage 2 development application:

- An intrusive investigation is recommended to assess possible contamination and aesthetic issues including chemical testing of the soils and groundwater targeting the potential sources of contamination, as identified in the CSM.
- A review of sewer plans and locations of previous dry cleaning facilities within the shopping complex may be necessary during further detailed investigations due to the historical potential for discharge of dry cleaning chemicals to the sewer system;
- Hazardous materials inspection should any parts of the existing building be demolished (although it is noted that this is not part of the Stage 1 DA process) as part of the proposed development.

The recommended investigations will constitute a detailed investigation under the Guidelines.

The contaminants typically associated with the potential sources listed in the CSM are not unique and are generally remediated and/or managed through regularly applied processes such as landfill disposal, on-site encapsulation and capping (inorganics or immobile contaminants), land farming (organics), monitored natural attenuation (some organics), and chemical oxidation. On this basis, with reference to clause 7(1)(b) of SEPP 55, it is considered that the site can be made suitable for the proposed land use following the completion of the further investigations recommended above, or, if required, following subsequent remediation that will be detailed in a remediation action plan.

10. Limitations

Douglas Partners (DP) has prepared this report for this project at the Macquarie Centre for Lend Lease on behalf of AMP Capital (AMPC) and was undertaken in accordance with Douglas Partners' proposal dated 21 October 2015 and acceptance received on 23 October 2015 by Mr Derrick Burrows of Lend Lease on behalf of AMPC.

The work was carried out under a consultancy agreement between AMPC and DP. This report is provided for the exclusive use of Lend Lease and AMPC for the specific project and purpose as described in the report. It should not be used by or relied upon for other projects or purposes on the same or other site or by a third party. DP has necessarily relied upon information provided by the client and/or their agents.

The results provided in the report are considered to be indicative of the sub-surface conditions on the site only to the depths investigated at the specific sampling and/or testing locations, and only at the time the work was carried out. Sub-surface conditions can change abruptly due to variable geological processes and also as a result of human influences. Such changes may occur after DP's field testing has been completed.

DP's advice is based upon the conditions encountered during this investigation. The accuracy of the advice provided by DP in this report may be affected by undetected variations in ground conditions across the site between and beyond the sampling and/or testing locations. The advice may also be limited by budget constraints imposed by others or by site accessibility.

This report must be read in conjunction with all the attached and should be kept in its entirety without separation of individual pages or sections. DP cannot be held responsible for interpretations or conclusions made by others unless they are supported by an expressed statement, interpretation, outcome or conclusion stated in this report.

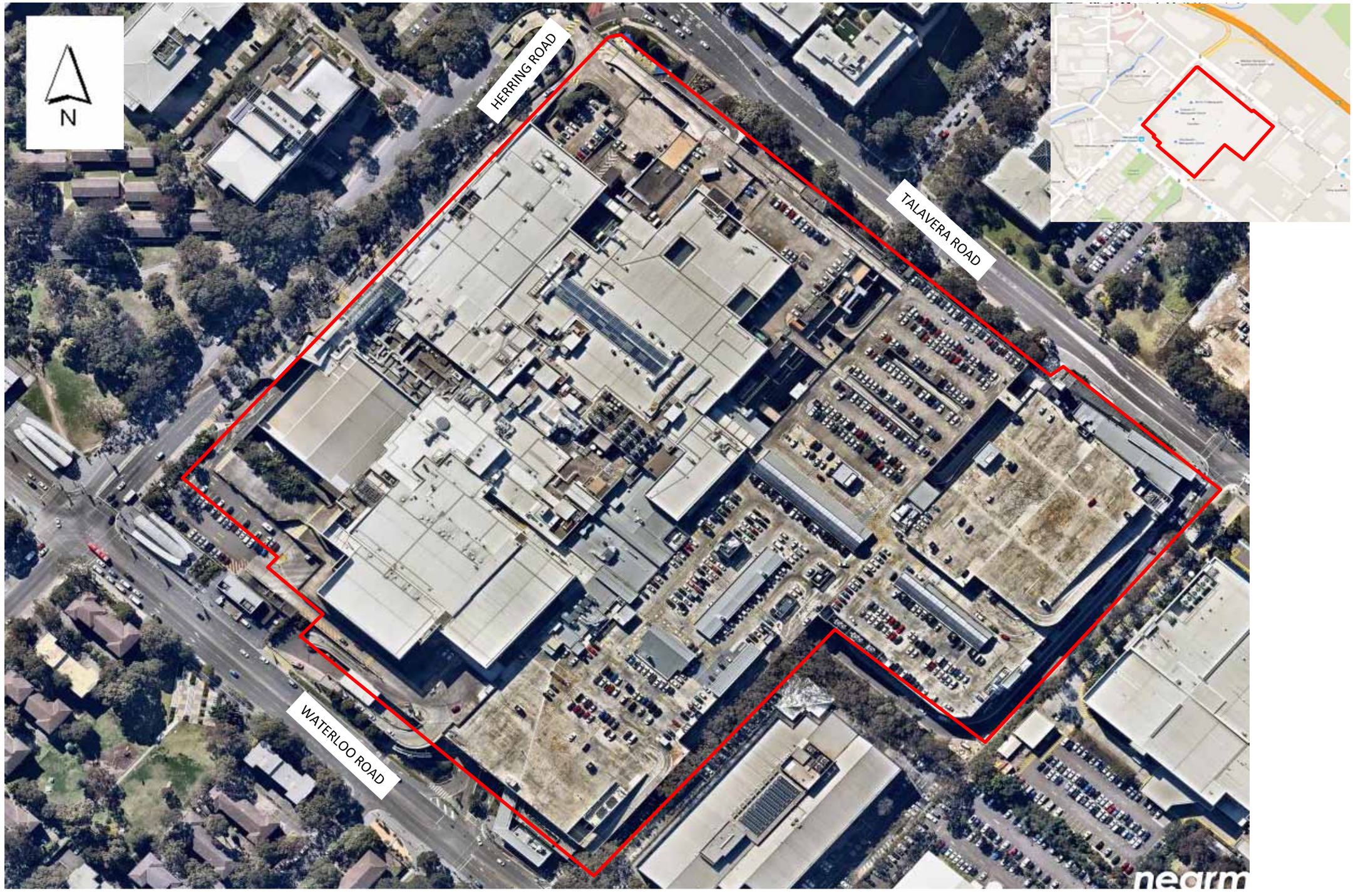
This report, or sections from this report, should not be used as part of a specification for a project, without review and agreement by DP. This is because this report has been written as advice and opinion rather than instructions for construction.

Douglas Partners Pty Ltd

Appendix A

Drawings

Notes About this Report



Douglas Partners Geotechnics / Environment / Groundwater	CLIENT:	AMP Capital / Lend Lease	**Macquarie Centre, Macquarie Park**	PROJECT No:	85160.01
	OFFICE:	Sydney	**Due Diligence Investigation (PSI)**	DWG No:	1
	DATE:	13 Nov 2015	**Boundary and Features**	REVISION:	A

About this Report

Douglas Partners

Introduction

These notes have been provided to amplify DP's report in regard to classification methods, field procedures and the comments section. Not all are necessarily relevant to all reports.

DP's reports are based on information gained from limited subsurface excavations and sampling, supplemented by knowledge of local geology and experience. For this reason, they must be regarded as interpretive rather than factual documents, limited to some extent by the scope of information on which they rely.

Copyright

Borehole and Test Pit Logs

The borehole and test pit logs presented in this report are an engineering and/or geological interpretation of the subsurface conditions, and their reliability will depend to some extent on frequency of sampling and the method of drilling or excavation. Ideally, continuous undisturbed sampling or core drilling will provide the most reliable assessment, but this is not always practicable or possible to justify on economic grounds. In any case the boreholes and test pits represent only a very small sample of the total subsurface profile.

Interpretation of the information and its application to design and construction should therefore take into account the spacing of boreholes or pits, the frequency of sampling, and the possibility of other than 'straight line' variations between the test locations.

Groundwater

Where groundwater levels are measured in boreholes there are several potential problems, namely:

- In low permeability soils groundwater may enter the hole very slowly or perhaps not at all during the time the hole is left open;
- A localised, perched water table may lead to an erroneous indication of the true water table;
- Water table levels will vary from time to time with seasons or recent weather changes. They may not be the same at the time of construction as are indicated in the report; and
- The use of water or mud as a drilling fluid will mask any groundwater inflow. Water has to be blown out of the hole and drilling mud must first be washed out of the hole if water measurements are to be made.

More reliable measurements can be made by installing standpipes which are read at intervals over several days, or perhaps weeks for low permeability soils. Piezometers, sealed in a particular stratum, may be advisable in low permeability soils or where there may be interference from a perched water table.

Reports

The report has been prepared by qualified personnel, is based on the information obtained from field and laboratory testing, and has been undertaken to current engineering standards of interpretation and analysis. Where the report has been prepared for a specific design proposal, the information and interpretation may not be relevant if the design proposal is changed. If this happens, DP will be pleased to review the report and the sufficiency of the investigation work.

Every care is taken with the report as it relates to interpretation of subsurface conditions, discussion of geotechnical and environmental aspects, and recommendations or suggestions for design and construction. However, DP cannot always anticipate or assume responsibility for:

- Unexpected variations in ground conditions. The potential for this will depend partly on borehole or pit spacing and sampling frequency;
- Changes in policy or interpretations of policy by statutory authorities; or
- The actions of contractors responding to commercial pressures.

If these occur, DP will be pleased to assist with investigations or advice to resolve the matter.

About this Report

Site Anomalies

In the event that conditions encountered on site during construction appear to vary from those which were expected from the information contained in the report, DP requests that it be immediately notified. Most problems are much more readily resolved when conditions are exposed rather than at some later stage, well after the event.

Information for Contractual Purposes

Where information obtained from this report is provided for tendering purposes, it is recommended that all information, including the written report and discussion, be made available. In circumstances where the discussion or comments section is not relevant to the contractual situation, it may be appropriate to prepare a specially edited document. DP would be pleased to assist in this regard and/or to make additional report copies available for contract purposes at a nominal charge.

Site Inspection

The company will always be pleased to provide engineering inspection services for geotechnical and environmental aspects of work to which this report is related. This could range from a site visit to confirm that conditions exposed are as expected, to full time engineering presence on site.

Appendix B

Groundwater Bore Results

NSW OFFICE OF WATER
Work Summary

GW109695

Licence : 10BL161772 **Licence Status** Active

	Authorised Purpose(s)	Intended Purpose(s)
Work Type : Bore	MONITORING BORE	MONITORING BORE

Work Status :
Construct. Method :
Owner Type : Other Govt

Commenced Date : **Final Depth :** 44.30 m
Completion Date : 18-Jan-2000 **Drilled Depth :**

Contractor Name : Reynolds Drilling
Driller : 400 UNKNOWN, Unkown
Assistant Driller's Name :

Property : - MACQUARIE UNI STATION SITE **Standing Water Level :**
GWMA : - **Salinity :**
GW Zone : - **Yield :**

Site Details

Site Chosen By	County	Parish	Portion/Lot DP
	Form A : CUMBERLAND	HUNTERS HILL	18 1058168
	Licensed : CUMBERLAND	HUNTERS HILL	20 1015626

Region : 10 - SYDNEY SOUTH COAST **CMA Map :**
River Basin : **Grid Zone :** **Scale :**
Area / District :

Elevation : **Northing :** 6261053 **Latitude (S) :** 33° 46' 35"
Elevation Source : **Easting :** 325742 **Longitude (E) :** 151° 7' 5"

GS Map : **MGA Zone :** 56 **Coordinate Source :**

Construction

Negative depths indicate Above Ground Level;

H-Hole;P-Pipe;OD-Outside Diameter;ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity;PL-Placement of Gravel Pack;PC-Pressure Cemented;S-Sump;CE-Centralisers

H	P	Component Type	From (m)	To (m)	OD (mm)	ID (mm)	Interval	Details
1		Hole Hole	0.00	44.30				

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)

(No Water Bearing Zone Details Found)

Drillers Log

From (m)	To (m)	Thickness(m)	Drillers Description	Geological Material	Comments

Remarks

***** End of GW109695 *****

NSW OFFICE OF WATER
Work Summary

GW109694

Licence : 10BL161772
Licence Status Active
Authorised Purpose(s) MONITORING BORE
Intended Purpose(s) MONITORING BORE
Work Type : Bore
Work Status :
Construct. Method :
Owner Type : Other Govt

Commenced Date :
Completion Date : 12-Dec-2001
Final Depth : 46.40 m
Drilled Depth :

Contractor Name : COFFEY GEOSCIENCES PTY LTD
Driller : 400 UNKNOWN, Unkown
Assistant Driller's Name :

Property : - MACQUARIE UNI STATION SITE
GWMA : -
GW Zone : -
Standing Water Level :
Salinity :
Yield :

Site Details

Site Chosen By

	County	Parish	Portion/Lot DP
Form A :	CUMBERLAND	HUNTERS HILL	18 1058168
Licensed :	CUMBERLAND	HUNTERS HILL	20 1015626

Region : 10 - SYDNEY SOUTH COAST
River Basin :
Area / District :
CMA Map :
Grid Zone :
Scale :

Elevation :
Elevation Source :
Northing : 6261053
Easting : 325698
Latitude (S) : 33° 46' 35"
Longitude (E) : 151° 7' 3"

GS Map :
MGA Zone : 56
Coordinate Source :

Construction

Negative depths indicate Above Ground Level;

H-Hole;P-Pipe;OD-Outside Diameter;ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity;PL-Placement of Gravel Pack;PC-Pressure Cemented;S-Sump;CE-Centralisers

H	P	Component Type	From (m)	To (m)	OD (mm)	ID (mm)	Interval	Details

(No Construction Details Found)

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)

(No Water Bearing Zone Details Found)

Drillers Log

From (m)	To (m)	Thickness(m)	Drillers Description	Geological Material	Comments

Remarks

***** End of GW109694 *****

NSW OFFICE OF WATER
Work Summary

GW109696

Licence : 10BL161772 **Licence Status** Active

	Authorised Purpose(s)	Intended Purpose(s)
Work Type : Bore	MONITORING BORE	MONITORING BORE

Work Status :
Construct. Method :
Owner Type : Other Govt

Commenced Date : **Final Depth :** 35.50 m
Completion Date : 27-Jan-2000 **Drilled Depth :**

Contractor Name : Reynolds Drilling
Driller : 400 UNKNOWN, Unkown
Assistant Driller's Name :

Property : - MACQUARIE UNI STATION SITE **Standing Water Level :**
GWMA : - **Salinity :**
GW Zone : - **Yield :**

Site Details

Site Chosen By	County	Parish	Portion/Lot DP
	Form A : CUMBERLAND	HUNTERS HILL	18 1058168
	Licensed : CUMBERLAND	HUNTERS HILL	20 1015626

Region : 10 - SYDNEY SOUTH COAST **CMA Map :**
River Basin : **Grid Zone :** **Scale :**
Area / District :

Elevation : **Northing :** 6261111 **Latitude (S) :** 33° 46' 33"
Elevation Source : **Easting :** 325625 **Longitude (E) :** 151° 7' 1"

GS Map : **MGA Zone :** 56 **Coordinate Source :**

Construction

Negative depths indicate Above Ground Level;

H-Hole;P-Pipe;OD-Outside Diameter;ID-Inside Diameter;C-Cemented;SL-Slot Length;A-Aperture;GS-Grain Size;Q-Quantity;PL-Placement of Gravel Pack;PC-Pressure Cemented;S-Sump;CE-Centralisers

H	P	Component Type	From (m)	To (m)	OD (mm)	ID (mm)	Interval	Details

(No Construction Details Found)

Water Bearing Zones

From (m)	To (m)	Thickness (m)	WBZ Type	S.W.L. (m)	D.D.L. (m)	Yield (L/s)	Hole Depth (m)	Duration (hr)	Salinity (mg/L)

(No Water Bearing Zone Details Found)

Drillers Log

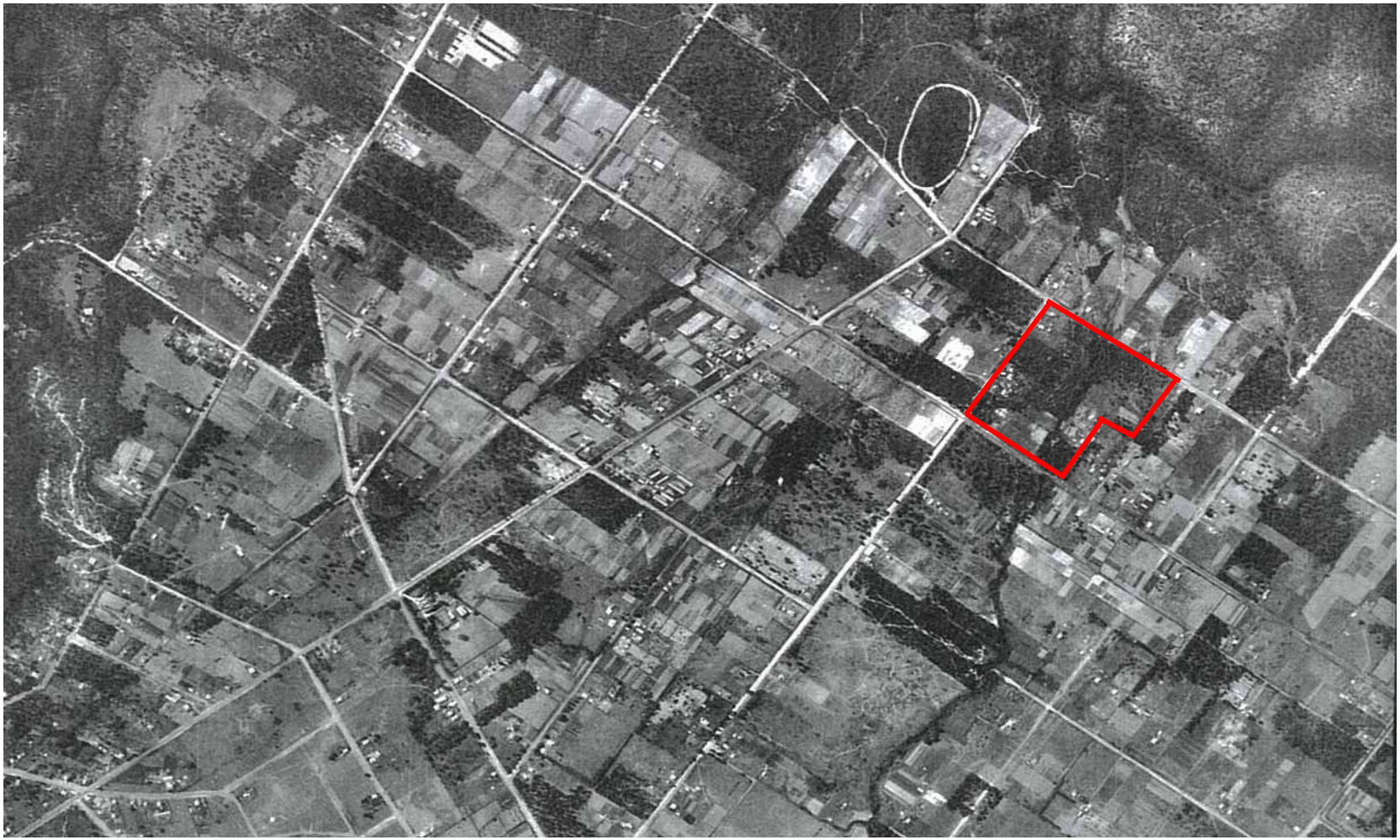
From (m)	To (m)	Thickness(m)	Drillers Description	Geological Material	Comments

Remarks

***** End of GW109696 *****

Appendix C

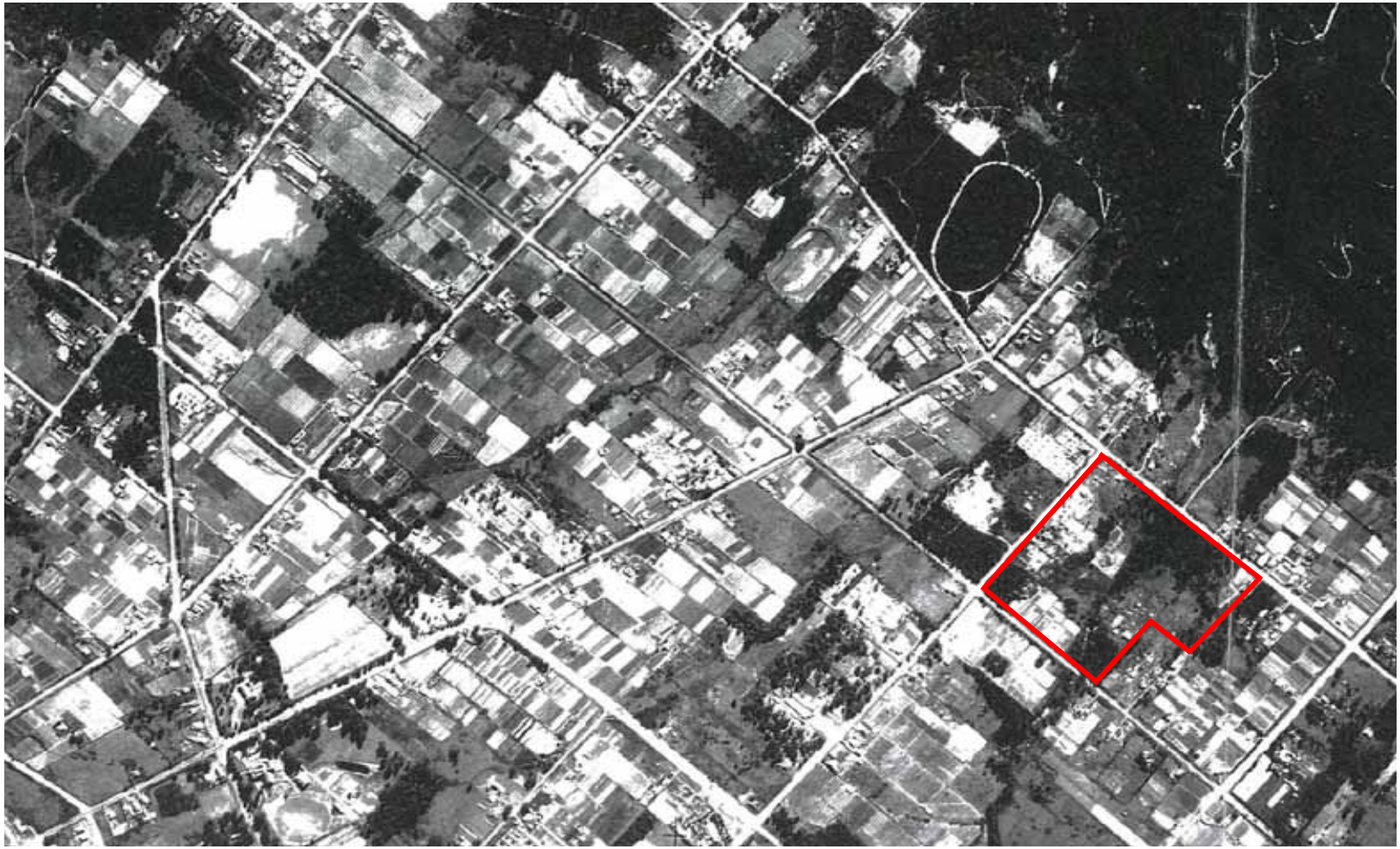
Historic Aerial Photographs



LEGEND

Approximate Site Boundary

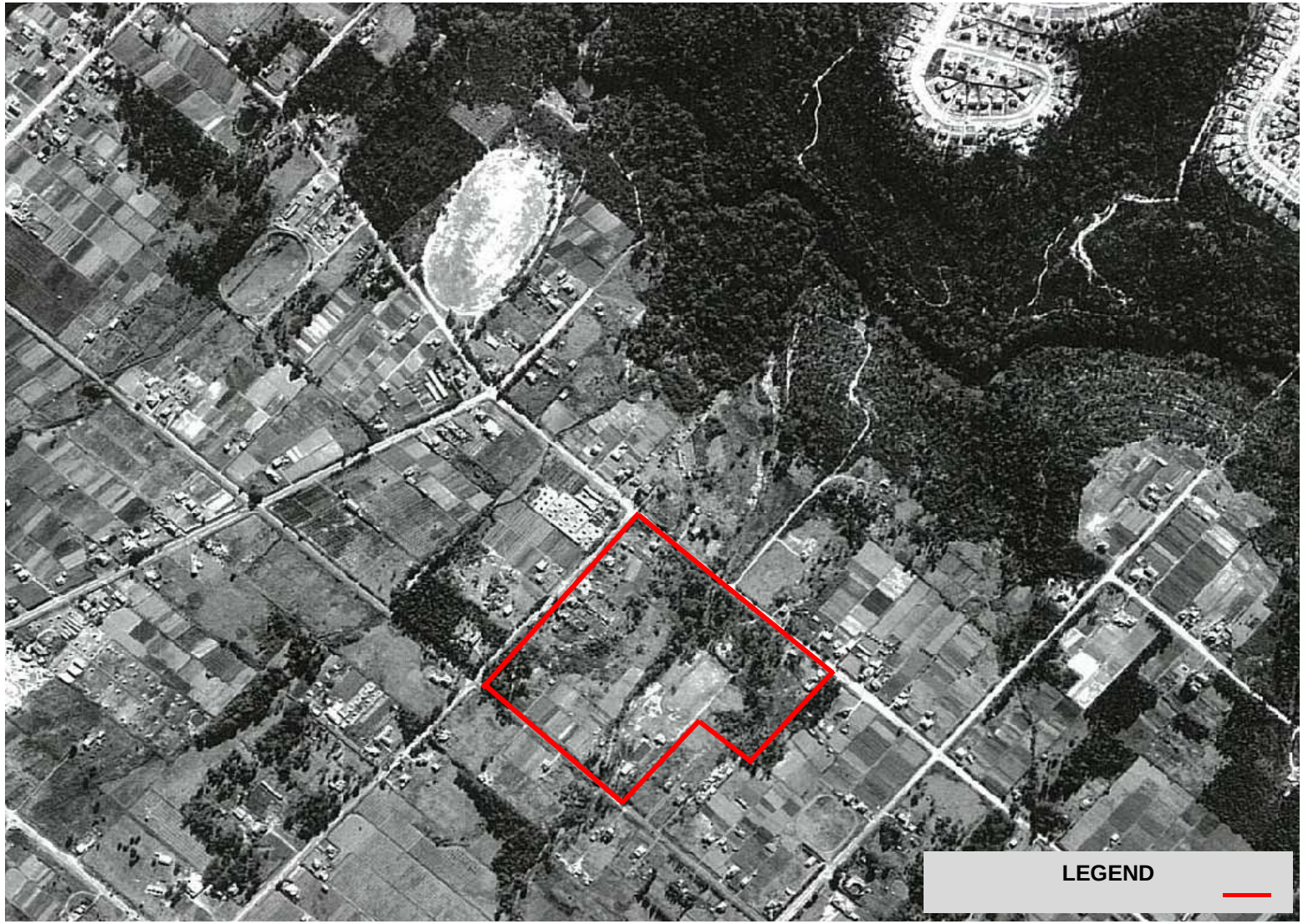
Douglas Partners Geotechnics / Environment / Groundwater	CLIENT: AMP Capital	**1930 Aerial Photograph**	PROJECT No: 85160.01
	OFFICE: Sydney	**Preliminary Site Investigation**	PLATE No: C1
	DATE: 27 Aug 2015	**Macquarie Centre, Macquarie Park**	REVISION: A



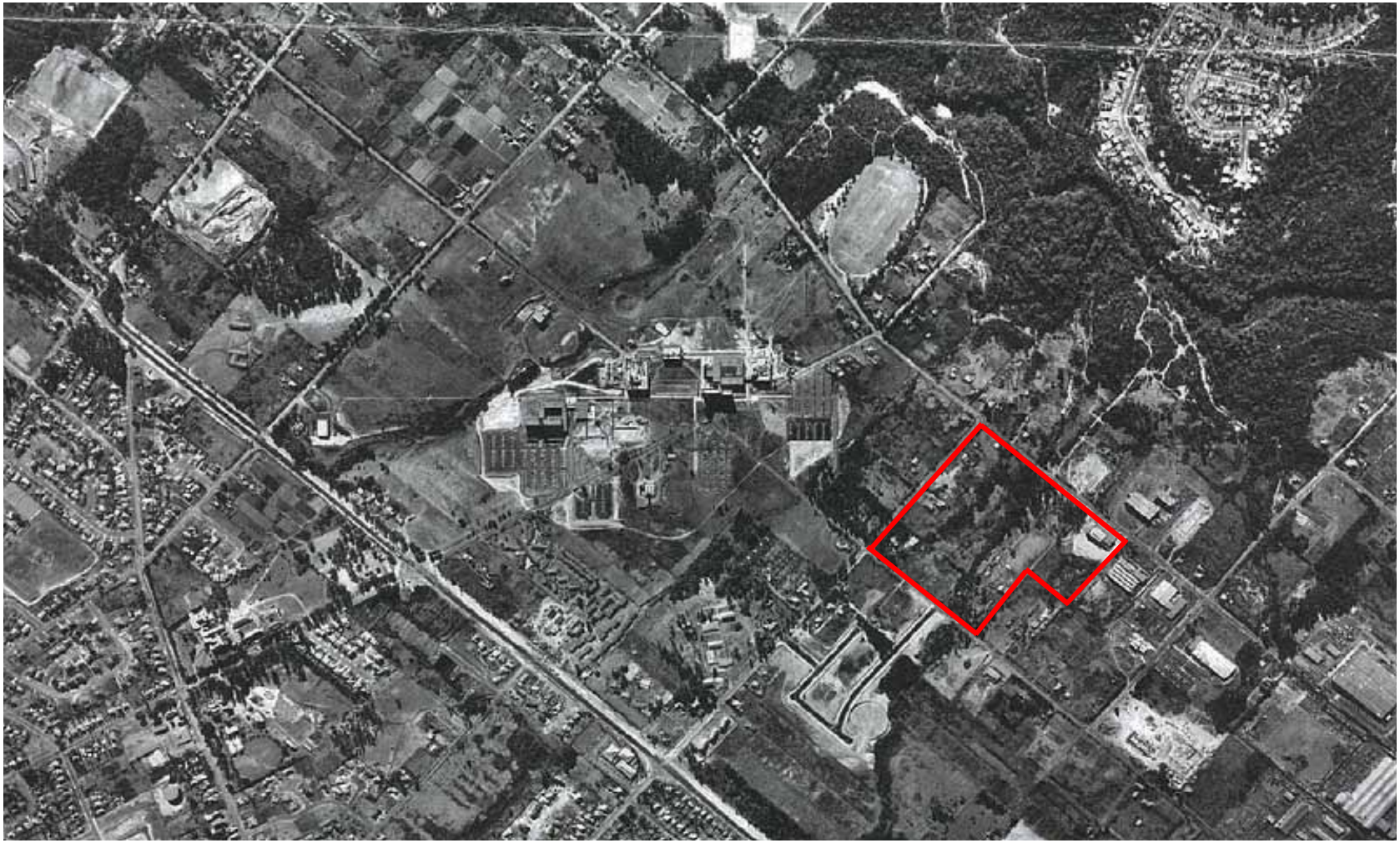
LEGEND

Approximate Site Boundary

Douglas Partners Geotechnics / Environment / Groundwater	CLIENT: AMP Capital	**1951 Aerial Photograph**	PROJECT No: 85160.01
	OFFICE: Sydney	**Preliminary Site Investigation**	PLATE No: C2
	DATE: 27 Aug 2015	**Macquarie Centre, Macquarie Park**	REVISION: A



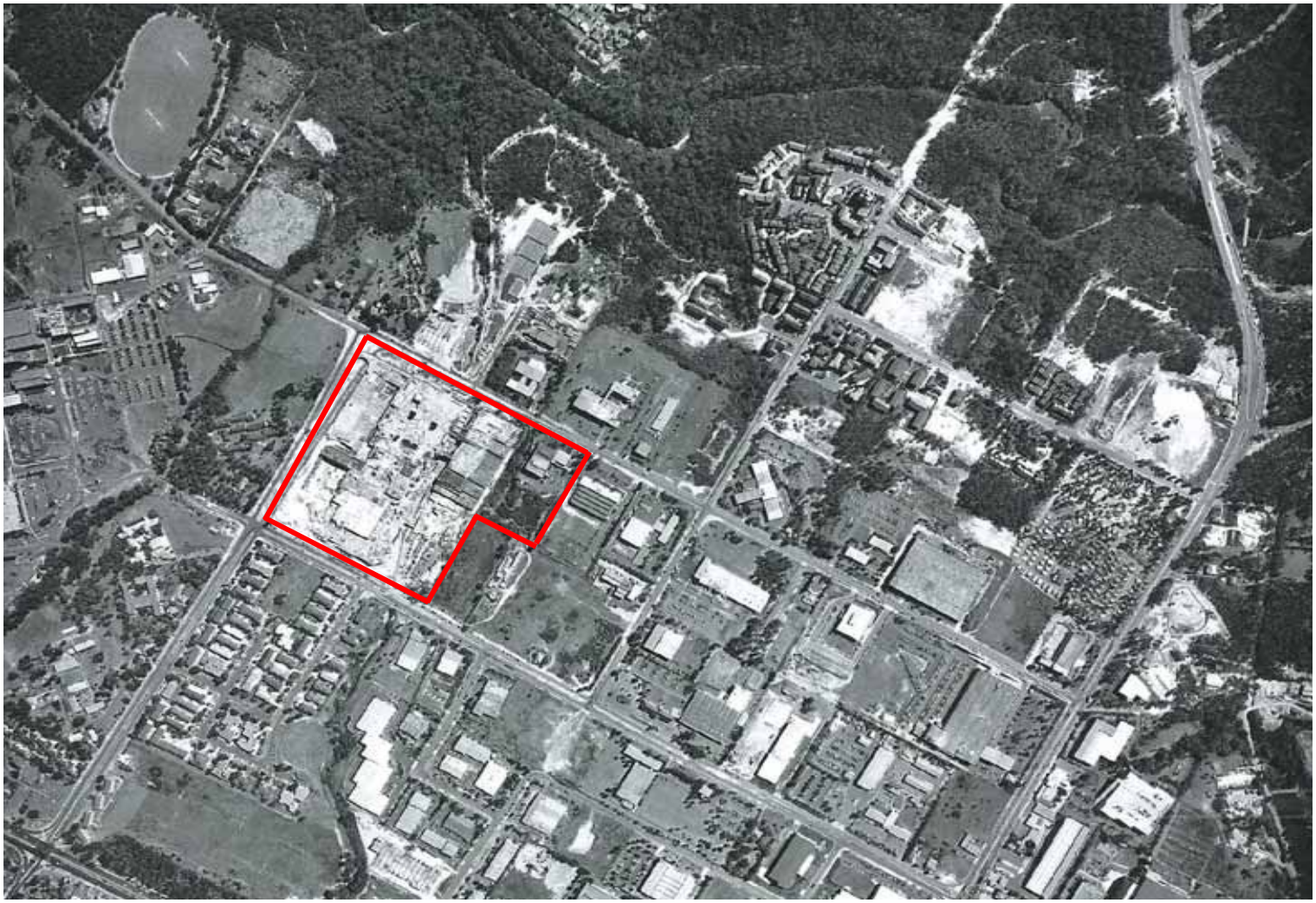
Douglas Partners Geotechnics / Environment / Groundwater	CLIENT: AMP Capital	**1961 Aerial Photograph**	PROJECT No: 85160.01
	OFFICE: Sydney	**Preliminary Site Investigation**	PLATE No: C3
	DATE: 27 Aug 2015	**Macquarie Centre, Macquarie Park**	REVISION: A



LEGEND

Approximate Site Boundary

Douglas Partners Geotechnics / Environment / Groundwater	CLIENT: AMP Capital	**1970 Aerial Photograph**	PROJECT No: 85160.01
	OFFICE: Sydney	**Preliminary Site Investigation**	PLATE No: C4
	DATE: 27 Aug 2015	**Macquarie Centre, Macquarie Park**	REVISION: A



LEGEND

Approximate Site Boundary

Douglas Partners Geotechnics / Environment / Groundwater	CLIENT: AMP Capital	**1980 Aerial Photograph**	PROJECT No: 85160.01
	OFFICE: Sydney	**Preliminary Site Investigation**	PLATE No: C5
	DATE: 27 Aug 2015	**Macquarie Centre, Macquarie Park**	REVISION: A

LEGEND

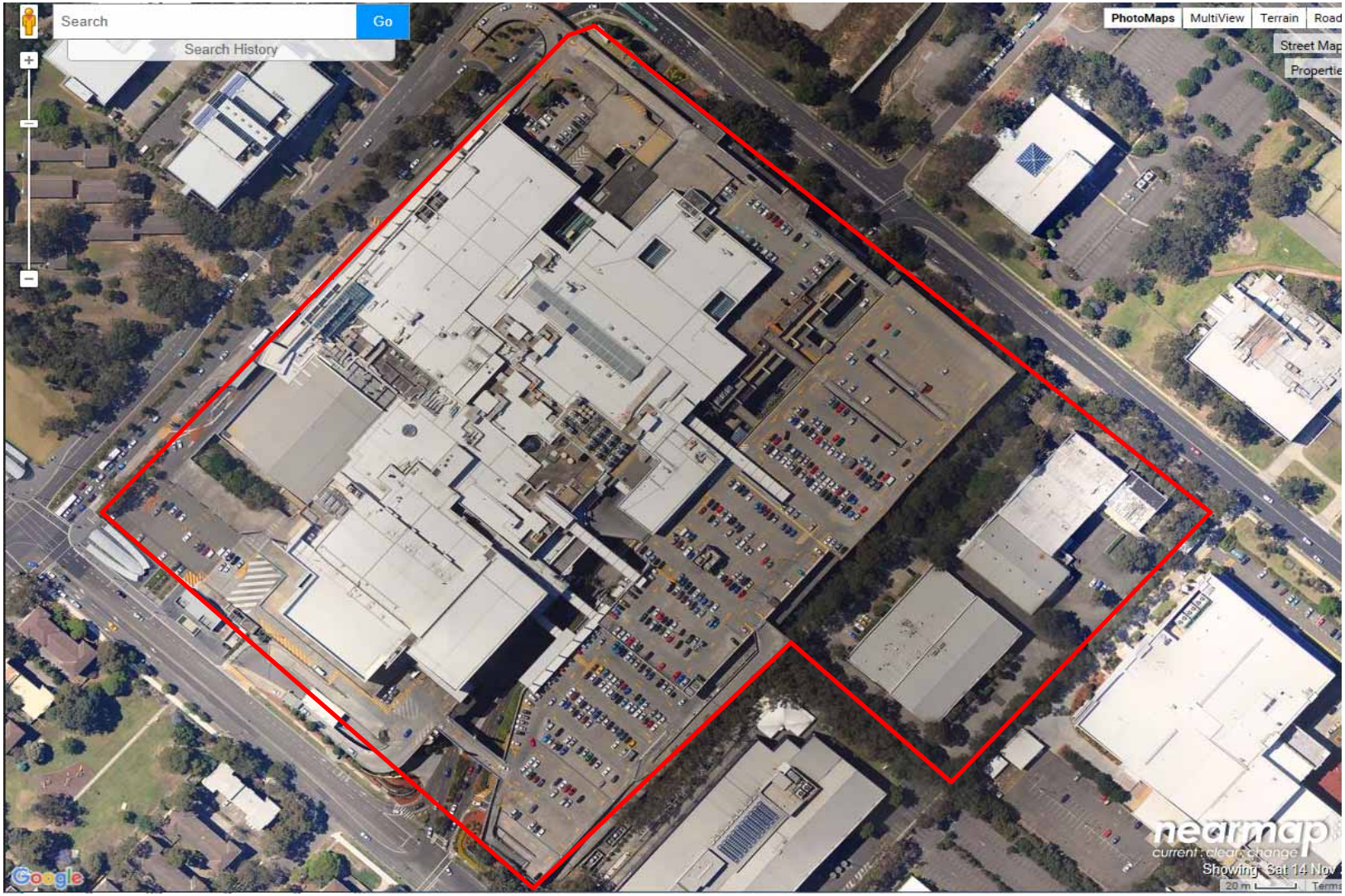
Approximate Site Boundary

Douglas Partners Geotechnics / Environment / Groundwater	CLIENT: AMP Capital	**1994 Aerial Photograph**	PROJECT No: 85160.01
	OFFICE: Sydney	**Preliminary Site Investigation**	PLATE No: C6
	DATE: 27 Aug 2015	**Macquarie Centre, Macquarie Park**	REVISION: A

LEGEND

Approximate Site Boundary

Douglas Partners Geotechnics / Environment / Groundwater	CLIENT: AMP Capital	**2002 Aerial Photograph**	PROJECT No: 85160.01
	OFFICE: Sydney	**Preliminary Site Investigation**	PLATE No: 7
	DATE: 27 Aug 2015	**Macquarie Centre, Macquarie Park**	REVISION: A



LEGEND

Approximate Site Boundary

Douglas Partners Geotechnics / Environment / Groundwater	CLIENT: AMP Capital	**2009 Aerial Photograph**	PROJECT No: 85160.01
	OFFICE: Sydney	**Preliminary Site Investigation**	PLATE No: C8
	DATE: 27 Aug 2015	**Macquarie Centre, Macquarie Park**	REVISION: A

LEGEND

Approximate Site Boundary

Douglas Partners Geotechnics / Environment / Groundwater	CLIENT: AMP Capital	**2013 Aerial Photograph**	PROJECT No: 85160
	OFFICE: Sydney	**Preliminary Site Investigation**	PLATE No: C9
	DATE: 27 Aug 2015	**Maquarie Centre, Herring Road, Macquarie Park**	REVISION: A

Approximate Site Boundary

Douglas Partners Geotechnics / Environment / Groundwater	CLIENT: AMP Capital	**2015 Aerial Photograph**	PROJECT No: 85160.01
	OFFICE: Sydney	**Preliminary Site Investigation**	PLATE No: C10
	DATE: 27 Aug 2015	**Macquarie Centre, Macquarie Park**	REVISION: A

Appendix D

WorkCover Dangerous Goods Search

NSW GOVERNMENT | WorkCover

WorkCover NSW
92–100 Donnison Street, Gosford, NSW 2250
Locked Bag 2906, Lisarow, NSW 2252
T 02 4321 5000 F 02 4325 4145
Customer Service Centre 13 10 50
DX 731 Sydney workcover.nsw.gov.au

13 NOV 2015

Our Ref: D15/182195
Your Ref: 137719

9 October 2015

Attention Paul Gorman
Douglas Partners Pty Ltd
PO Box 472
West Ryde NSW 1685

Dear Paul,

RE SITE: Cnr Waterloo and Herring Rd, North Ryde NSW 2113

I refer to your site search request received by WorkCover NSW on 30th October 2015 requesting information on licences to keep dangerous goods for the above site.

Enclosed are copies of the documents that WorkCover NSW holds on Dangerous Goods Licence 35/027522 relating to the storage of dangerous goods at the above-mentioned premises, as listed on the Stored Chemical Information Database (SCID). If you have any further queries please contact the Dangerous Goods Licensing Team on (02) 4321 5500.

Yours Sincerely

BSturgiss

Bernadette Sturgiss
Customer Service Officer - Operations
Dangerous Goods Notification Team

ication - Site Search for Licence to Keep Dangerous Goods

1 **Accompanying this application you must also provide:**

* A letter of Authorisation from the owner of the land to be searched
* A Map showing the actual location of the land to be searched

2 **Company Applying for Site Search** | **ABN**

Douglas Partners Pty Ltd	75 053 980 117

3 **Postal Address of Applicant** | **Postcode**

PO Box 472, West Ryde, NSW	1685

4 **Contact for Site Search Inquiries**

Name	**Phone**	**Fax**
Paul Gorman	02 9809 0666	02 9809 4095

5 **Existing Licence Number (if known)**

6 **Street Address of Site to Be Searched**

Unit / No Street	**Suburb / Town**	**Postcode**
Corner of Waterloo Road and Herring Road	North Ryde	2113

Nearest Cross Street Talavera Road

7 **Trading Name / Site Occupier's Name / Previous Occupiers Name**

Macquarie Centre

8 **Payment details**

I understand that the fee for a site search is $284.95 per site (inclusive of GST)

For multiple sites provide a separate attachment listing the required site details

Total Number of Sites 1 X 284.95 **Total amount payable** $ 284.95

By Cheque Enclose a cheque made payable to WorkCover NSW

American Express ☐ Bankcard ☐ MasterCard ☐ Visa ☐

Card Number Expiry date

Cardholders Name

Cardholders Signature

$ 284.95
Date: 30-10-11
Rec No: 743019

9 **Printed name of applicant** **Signature of Applicant**

KATE SARGENT

WorkCover guarantees that your application will be processed within 10 days of receipt if all information is provided.

Please send your application marked Confidential, to: **Dangerous Goods Licensing,**
WorkCover NSW, Locked Bag 2906, LISAROW NSW 2252

Hotline: (02) 4321 5500 - Fax: (02) 9287 5500

35/02752

WORKCOVER NEW SOUTH WALES

DETAILS OF LICENCE FOR KEEPING DANGEROUS GOODS ON 14 December 1998

Licence Number 35/027522 **Expiry Date** 28/11/1997 **No of Depots.** 1

Licensee Details

Licensee MACQUARIE ICE RINK AUST P/L *ACN 002 717 320*

Trading name

Postal Address BOX 1555 P O MACQUARIE CTR NORTH RYDE NSW 2113

Licensee Contact COLIN BEAVIS Ph. 9888 1100 Fax. 9887 2940

Site Details

Premises Licensed to Keep Dangerous Goods
MACQUARIE ICE RINK AUST P/L
WATERLOO RD & HERRING RD NORTH RYDE 2113

Nature of Site SPORTS GROUNDS AND FACILITIES N.E.C.

Major Supplier of Dangerous Goods ELGAS

Emergency Contact for this Site COLIN BEAVIS Ph. 9638 1235

Site staffing 19 HRS 7 DAYS

Details of Depots

Depot No.	Depot Type	Goods Stored in Depot	Qty
1	CYLINDER STORE	Class 2.1	190 KG
		UN 1075 PETROLEUM GASES, LIQUEFIED	190 KG

T McKAY HAS FILE SINCE 2 JAN 98

Issue lic.
SD 22.1.99

* License issued on 22/1/99

Printed by Scientific Services Branch, 400 Kent St, Sydney 2000 ph(02) 9370 5187

Application for Licence to Keep Dangerous Goods

WorkCover NEW SOUTH WALES

Application for ☐ new licence ☐ amendment ☐ transfer ☑ renewal of expired licence

EXP. 28.11.99

PART A – Applicant and site information

1 Name of applicant: MACQUARIE ICE RINK — ACN: 002 717 320

2 Postal address of applicant: P.O BOX 1555 MACQUARIE CENTRE — Suburb/Town: NTH RYDE — Postcode: 2113

3 Trading name or site occupier's name: AS ABOVE

4 Contact for licence inquiries — Phone: 9888 1100 — Fax: 98872940 — Name: COLIN BEAVIS

5 Previous licence number (if known): 35/ 027522

6 Previous occupier (if known): MACQUARIE ICE RINK

7 Site to be licensed — No: CNR — Street: WATERLOO & HERRING RDS — Suburb / Town: NORTH RYDE — Postcode: 2113

8 Main business of site: ICE SKATING RINK.

9 Site staffing: Hours per day: 19 — Days per week: 7

10 Emergency contact — Phone: 9638 1235 — Name: COLIN BEA

11 Major supplier of dangerous goods: ELGAS

12 If a new site or for amendments to depots — Plan stamped by: Name of Accredited Consultant: JEAN SEYMOUR. — Date stamped: 12.11.98

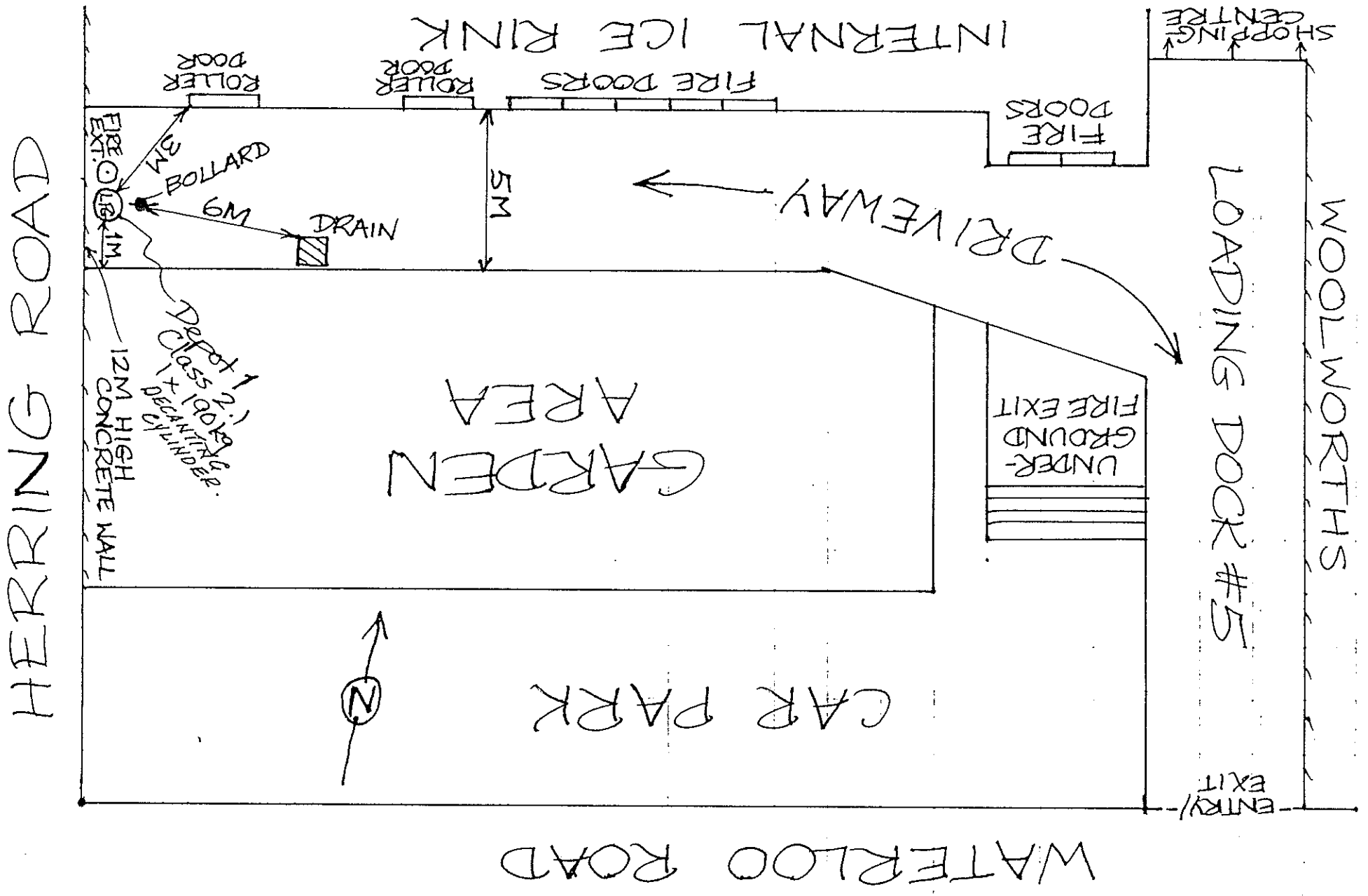
RECEIVED 14 DEC 1998 SCIENTIFIC SERVICES

I certify that the details in this application (including any accompanying computer disk) are correct and cover all licensable quantities of dangerous goods kept on the premises.

13 Signature of applicant — Date: 21/12/98

Please send your application, marked *CONFIDENTIAL*, to:
Dangerous Goods Licensing, Level 3, Locked Bag 10, Clarence Street, SYDNEY NSW 2000

Site Sketch Please carefully read the instructions on page 3 of the guide before sketching the site.



PART 3

PART C – Dangerous Goods Storage _Complete one section per depot._

If you have more depots than the space provided, photocopy sufficient sheets first.

Depot Number	Type of depot	Depot Class	Maximum storage capacity
1	DECANTING CYLINDER	2.1	190 KG

UN Number	Correct Shipping Name	Class	PG (I, II, III)	Product or common name	Typical quantity	Unit, e.g. L, kg, m^3
1075	LIQUIFIED PETROLEUM GAS	2.1		L.P.G	190	KG

Depot Number	Type of depot	Depot Class	Maximum storage capacity

UN Number	Correct Shipping Name	Class	PG (I, II, III)	Product or common name	Typical quantity	Unit, e.g. L, kg, m^3

Depot Number	Type of depot	Depot Class	Maximum storage capacity

UN Number	Correct Shipping Name	Class	PG (I, II, III)	Product or common name	Typical quantity	Unit, e.g. L, kg, m^3

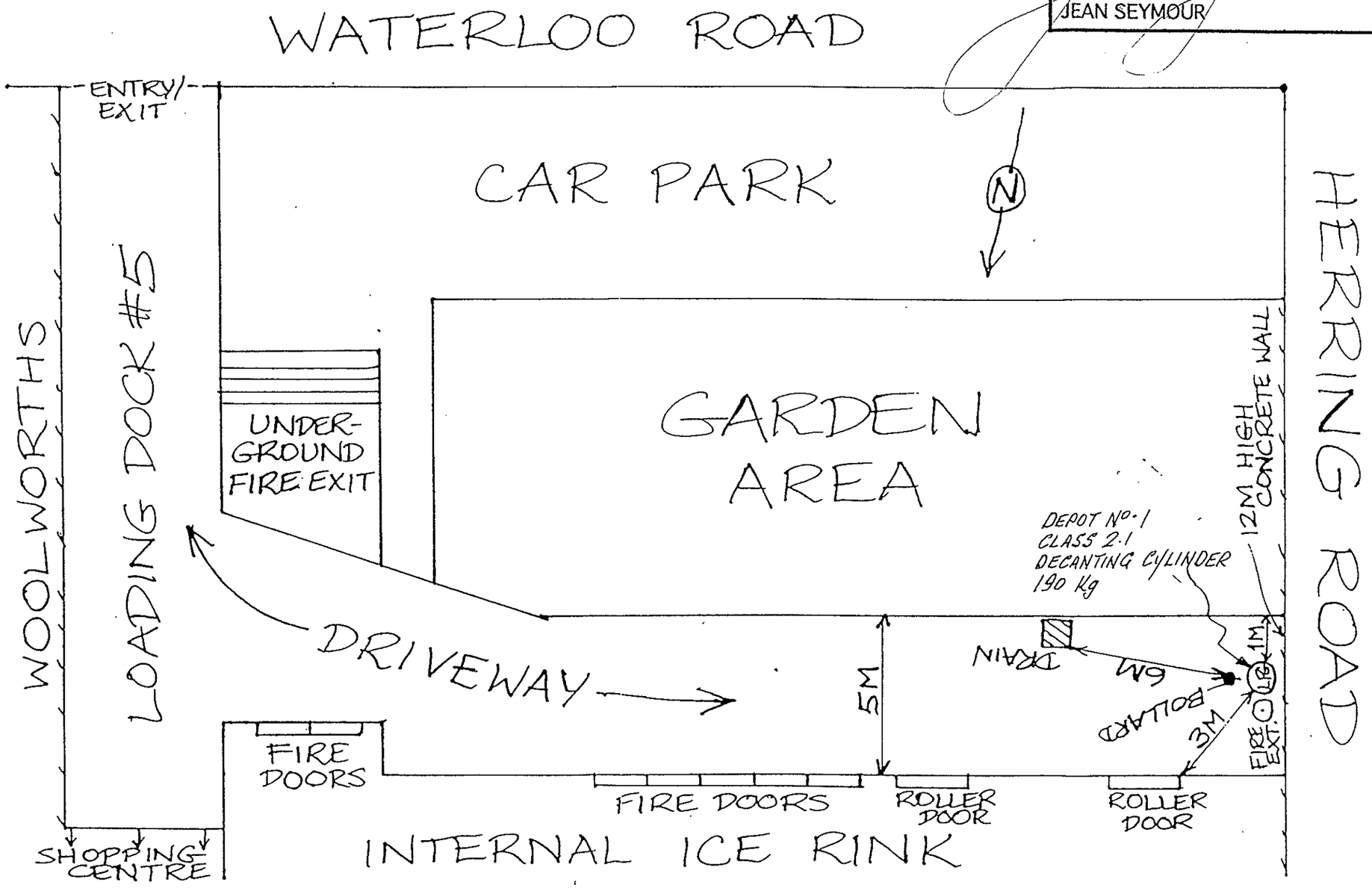
Depot Number	Type of depot	Depot Class	Maximum storage capacity

UN Number	Correct Shipping Name	Class	PG (I, II, III)	Product or common name	Typical quantity	Unit, e.g. L, kg, m^3

Depot No. 1 for 190 kg of DG Class 2.1 as shown on this plan conforms with the Dangerous Goods Act 1975 and Australian/New Zealand Standard AS/NZS 1596:1997.

Jean Seymour 12/11/98

JEAN SEYMOUR



NOTES !

THE FOLLOWINGS ITEMS MUST BE SEPARATED FROM THE DECANTING HOSE MAX. REACH.

COMBUSTIBLE MATERIAL - 5m

PUBLIC PLACES - 3m

NO IGNITION SOURCES WITHIN 5m.

MACQUARIE ICE RINK
CNR WATERLOO & HERRING ROADS
NORTH RYDE.

Appendix E

Site Inspection Photographs

Photo 1 - Express carpark - basement cut into sandstone

Photo 2 - Express car park - Ultratune workshop

Douglas Partners Geotechnics / Environment / Groundwater	**Site Photographs** **Preliminary Site Investigation** **Macquarie Centre**	PROJECT: 85160.01 PLATE No: 1 REV: A
	CLIENT: AMP Capital	DATE: 12-Nov-15

Photo 3 - Compactus with grease trap

Photo 4 - Potentially filled ramp to loading dock

Douglas Partners Geotechnics / Environment / Groundwater	**Site Photographs** **Preliminary Site Investigation** **Macquarie Centre**	PROJECT: 85160.01 PLATE No: 2 REV: A
	CLIENT: AMP Capital	DATE: 12-Nov-15

Photo 5 - Fire hydrant plant area off Waterloo Road

Photo 6 - Sandstone and garden beds along Talavera Road

Douglas Partners Geotechnics / Environment / Groundwater	**Site Photographs** **Preliminary Site Investigation** **Macquarie Centre**	PROJECT: 85160.01 PLATE No: 3 REV: A
	CLIENT: AMP Capital	DATE: 12-Nov-15