



Planning Proposal

Amendment to KLEP 2011 to
Reclassify and Rezone Land

Irvine Street, Kiama
Lots 36 and 45 DP263449, Lot 38 DP630551 and
Part Lot 12 DP708075

20 June 2016
Reference: L103162

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Planning Proposal

AMENDMENT TO KIAMA LOCAL ENVIRONMENTAL PLAN 2011 TO
RECLASSIFY AND REZONE LOTS 36 AND 45 DP263449, LOT 38
DP630551 AND PART LOT 12 DP708075 – IRVINE STREET, KIAMA

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This report has been prepared for and in accordance with the scope of services provided by Kiama Municipality Council for the purpose of preparing a Planning Proposal in accordance with Section 55 of the Environmental Planning and Assessment Act 1979. The Planning Proposal seeks to reclassify and rezone Lots 36 and 45 DP263449, Lot 38 DP630551 and Part Lot 12 DP708075 located on Irvine Street, Kiama.

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1 Statement of Objectives or intended outcomes

The objective of this planning proposal is to amend the Kiama Local Environmental Plan (LEP) 2011 to rezone and reclassify land currently owned by Council but deemed surplus to Council's needs. This would enable development and/or sale of the land for residential purposes in order to provide an income for Capital Works and/or assist in the long term financial sustainability of the Council.

The land to which this planning proposal applies is accessed from Irvine Street, Kiama and is known as Lots 36 and 45 DP263449, Lot 38 DP630551 and Part Lot 12 DP708075.

2 Explanation of Provisions

The proposed outcome will be achieved by amending the Kiama LEP as detailed below.

2.1 Reclassification

The proposal will amend the classification from 'community' to 'operational land' by including the land under Part 2 of Schedule 4 of the Kiama LEP 2011 as detailed in Table 1 below.

Column 1 Locality	Column 2 Description	Column 3 Any trusts etc not discharged
<i>Irvine Street, Kiama</i>	<i>Lot36 and 45 DP263449, Lot 38 DP630551 and Part Lot 12 DP708075</i>	<i>Nil</i>

Table 1: Reclassification

2.2 Rezoning and Provision of Principal Development Standards

The proposal will amend the Kiama LEP 2011 by rezoning the land which is currently zoned for recreational use to residential use and providing principal development standards suitable for residential development within this locality.

Specifically the Kiama LEP will be amended in the following manner:-

1. Amend the Land Zoning Map – Sheet LZN_012 applying to Lot 36 DP263449, Lot 45 DP263449, Lot 38 DP630551 and Part Lot 12 DP708075 from zone RE1 to zone R2.

2. Amend the Lot Size Map – Sheet LSZ_012 applying to Lot 36 DP263449, Lot 45 DP263449, Lot 38 DP630551 and Part Lot 12 DP708075 to apply a minimum lot size of G 450 sqm.
3. Amend the Floor Space Ratio Map – Sheet FSR_012 applying to Lot 36 DP263449, Lot 45 DP263449, Lot 38 DP630551 and Part Lot 12 DP708075 to apply an FSR of C 0.45:1.
4. Amend the Height of Buildings Map – Sheet HOB_012 applying to Lot 36 DP263449, Lot 45 DP263449, Lot 38 DP630551 and Part Lot 12 DP708075 to apply a maximum height of I 8.5m.
5. Amend the Heritage Map – Sheet HER_012 applying to Lot 12 DP 708075 to remove the Archaeological Item A103 from the portion of the lot proposed to be rezoned and reclassified.

Table 2 outlines the current and proposed land classification, zones and principal development standards.

	Current	Proposed
Land Classification	Community	Operational
Zoning	RE1 (Public Recreation)	R2 (Low Density Residential)
Floor Space Ratio	Unspecified	0.45:1
Minimum Lot Size	Unspecified	450sqm
Height Restrictions	Unspecified	8.5m

Table 2: Proposed changes to land classification, zones and principal development standards

3 Justification

3.1 *Need for a Planning Proposal*

3.1.1 Is the Planning proposal the result of any strategic study or report?

On 15 April 2014 Council's Revenue Sub-Committee recommended to Council that it *"commence the reclassification / rezoning process in relation to land surplus to Council's needs and which if sold will provide income for Capital Works and / or assist in long term financial sustainability."* This planning proposal is a result of Council adopting the recommendation to *"commence the re-classification/re-zoning process in relation to the subject lands"*.

Further to the above recommendation, the Kiama Urban Strategy (KUS) which was adopted by Council on 20 September 2011 aims to protect agricultural land from urban expansion through the provision of additional housing in suitable locations within existing townships of the Kiama Local Government Area (LGA). The planning proposal is consistent with the aims of the KUS.

3.1.2 Is the Planning Proposal the best means of achieving the objectives or intended outcomes, or is there a better way?

The land is currently classified as Community Land. In accordance with the provisions of the NSW Local Government Act 1993 Council is therefore unable to sell the land. Amending the Kiama LEP to reclassify the land is the only avenue available to achieve the objective of the Planning Proposal.

The land is currently zoned for public recreation and are without principal development standards which currently apply to adjoining land zoned residential. The best way to achieve the outcome of being able to develop or sell the sites for residential purposes is to amend the Kiama LEP such that the land is rezoned to clearly reflect the intended land use and to apply suitable development restrictions.

3.2 Relationship to Strategic Planning Framework

3.2.1 Is the planning proposal consistent with objectives and actions of the applicable regional or sub-regional strategy (including the Sydney Metropolitan and exhibited draft strategies)?

The land is located within the Kiama LGA. The Kiama LGA falls outside the scope of the Sydney Metropolitan Plan known as the 'A Plan For Growing Sydney' released in December 2014.

The applicable regional strategy for the area is the Illawarra-Shoalhaven Regional Plan (ISRP) published in November 2015. The Planning Proposal is consistent with the vision detailed in the ISRP. The ISRP projects that housing needed in the Kiama LGA over the next 20 years would be 2,850. The ISRP also found that "analysis indicates that there is not enough land or 'market ready' infill development in the planning pipeline to meet this demand."¹

This shortfall was previously noted in the 2014 Illawarra Urban Development Program Update prepared by the NSW Government. This update (and earlier updates) raised concern that the Kiama LGA does not meet any of the greenfield land supply benchmarks although "Kiama Council has identified a number of sites under its Urban Strategy that will be investigated for rezoning in the short term to address this shortfall."² This update also states that Kiama is also relying on the up zoning of land with the Kiama and Gerringong town centres to further address this shortfall.

The Planning Proposal would provide a residential allotment within an existing urban area and is consistent with Direction 2.2 of the ISRP. Furthermore this Planning Proposal will not adversely impact on the regions natural or cultural assets as identified in the ISRP.

3.2.2 Is the planning proposal consistent with a Council's local strategy or other local strategic plan?

The Kiama Urban Strategy (KUS) was adopted by Council on 20 September 2011 and is Kiama's overarching strategy to meeting housing targets identified in the IRS. The KUS had a direct influence on the preparation of the Kiama LEP 2011.

¹ NSW Government Planning & Infrastructure *Illawarra Shoalhaven Regional Plan* Published November 2015, p34

² NSW Government Planning & Infrastructure *Illawarra Urban Development Program Update 2014* Published September 2014, p6

The sites affected by this Planning Proposal were not specifically identified or explored in the KUS. The Planning Proposal is consistent with the Community Panel's recommendation stated in the KUS that "Council's aim should be to accommodate growth as much as possible by infill development to increase the density of the existing built-up areas."³

The core factors driving the KUS were the need to meet housing targets identified in the Illawarra Regional Strategy (IRS) and the desire to protect rural land in the Municipality and maintain separate towns and villages within the LGA. While the IRS has been superseded by the ISRP, the housing demand remains evident (see Section 3.2.1 above). The Planning Proposal provides for an additional residential lot within existing residential area without impacting upon rural land or expanding townships closer to each other. The planning proposal is consistent with the KUS.

3.2.3 Is the planning proposal consistent with applicable State Environmental Planning Policies?

The Planning Proposal is consistent with applicable State Environmental Planning Policies (SEPPs) and deemed State Environmental Planning Policies (deemed SEPPs) as detailed below.

SEPP 55 – Remediation of Land

SEPP 55 aims to provide a planning approach to the remediation of contaminated land for the purposes of reducing risk of harm to human health or any other aspect of the environment. Specifically relevant is that SEPP 55 specifies certain matters to be considered when rezoning land.

The Planning Proposal relates to land which is currently vacant of any built structures. Some large rocks have been positioned on the site as features for this open space. Land to the north was previously quarried. This northern land has since been remediated and is now used for recreational purposes.

A Phase 1 Contamination Assessment was carried out in accordance with the Contaminated Land Management Act. A copy of this report is provided in Attachment 1. The report found that the risk of land contamination was low and the land was suitable for residential development.

³ Kiama Municipal Council *Kiama Urban Strategy* Adopted 20 September 2011, p5.

SEPP 71 – Coastal Protection

SEPP 71 aims:-

- to protect and manage the natural, cultural, recreational and economic attributes of the New South Wales coast, and
- to protect and improve existing public access to and along coastal foreshores to the extent that this is compatible with the natural attributes of the coastal foreshore, and
- to ensure that new opportunities for public access to and along coastal foreshores are identified and realised to the extent that this is compatible with the natural attributes of the coastal foreshore, and
- to protect and preserve Aboriginal cultural heritage, and Aboriginal places, values, customs, beliefs and traditional knowledge, and
- to ensure that the visual amenity of the coast is protected, and
- to protect and preserve beach environments and beach amenity, and
- to protect and preserve native coastal vegetation, and
- to protect and preserve the marine environment of New South Wales, and
- to protect and preserve rock platforms, and
- to manage the coastal zone in accordance with the principles of ecologically sustainable development (within the meaning of section 6 (2) of the *Protection of the Environment Administration Act 1991*), and
- to ensure that the type, bulk, scale and size of development is appropriate for the location and protects and improves the natural scenic quality of the surrounding area, and
- to encourage a strategic approach to coastal management.

All land is within the SEPP 71 Coastal Zone but not within a 'sensitive coastal location' as defined by SEPP 71. Matters to be considered when preparing a draft Local Environmental Plan are detailed under Clause 8. These are addressed in the table below.

Matters for consideration	Consistency with Planning Proposal
a) aims of the policy set out in clause 2,	The Planning Proposal is consistent with the aims set out in Clause 2 of the SEPP.
b) existing public access to and along the coastal foreshore for pedestrians or persons with a disability should be retained and, where possible, public access to and along the coastal foreshore for pedestrians or persons with a disability should be improved,	The land is well setback from foreshore area and does not provide any direct public access paths to or along the foreshore. A right of way from Irvine Street to the adjoining public land is possible for future maintenance needs if deemed necessary.

Matters for consideration	Consistency with Planning Proposal
c) opportunities to provide new public access to and along the coastal foreshore for pedestrians or persons with a disability,	No significant opportunities given the setback of the land from the coastal foreshore area.
d) the suitability of development given its type, location and design and its relationship with the surrounding area,	The planning proposal involves the reclassification and rezoning of land to a classification and zone consistent with the surrounding area.
e) any detrimental impact that development may have on the amenity of the coastal foreshore, including any significant overshadowing of the coastal foreshore and any significant loss of views from a public place to the coastal foreshore,	Given the setback of the land from the coastal foreshore and the topography of the land, there will be no overshadowing of the foreshore. The land is in an elevated position. Surrounding residential development and existing vegetation restrict views from the land to the coastal foreshore. A small strip of the public land to the northern is also elevated. Distant views to the coastline can be gained from this elevated public land, however due to the danger associated with the topography and cliffs, access to this land is not afforded to the public and loss of the potential view will not be significant.
f) the scenic qualities of the New South Wales coast, and means to protect and improve these qualities,	Given the setback of the land from the coastal foreshore and the topography of the land, future residential development in a manner similar to the surrounding area will not affect the scenic qualities of the coast.
g) measures to conserve animals (within the meaning of the <i>Threatened Species Conservation Act 1995</i>) and plants (within the meaning of that Act), and their habitats,	The land is not mapped as Biodiversity land. The land is predominately open mowed grass land. A small number of trees and shrubs are located along the proposed northern boundary of the land. Residential development of the land could occur without the need for this vegetation to be removed. It is therefore not considered necessary that an Assessment

Matters for consideration	Consistency with Planning Proposal
	of Significance be carried out in accordance with Section 5A of the EP&A Act. However this can occur following the Gateway determination if determined by the Department to be necessary.
h) measures to conserve fish (within the meaning of Part 7A of the <i>Fisheries Management Act 1994</i>) and marine vegetation (within the meaning of that Part), and their habitats	The land is significantly setback from areas of marine life. The site is not directly associated with any specific watercourse. The Planning Proposal is unlikely to impact on fish, marine vegetation or their habitats.
i) existing wildlife corridors and the impact of development on these corridors,	The land is not mapped as Biodiversity land. The land is predominately open mowed grass land. A small number of trees and shrubs are located along the proposed northern boundary of the land. Residential development of the land could occur without the need for this vegetation to be removed.
j) the likely impact of coastal processes and coastal hazards on development and any likely impacts of development on coastal processes and coastal hazards,	Given the setback of the land from the coastal foreshore development of the land for a residential use will not adversely impact on coastal processes and coastal hazards.
k) measures to reduce the potential for conflict between land-based and water-based coastal activities,	The Planning Proposal will not result in any conflicts between land and water based coastal activities.
l) measures to protect the cultural places, values, customs, beliefs and traditional knowledge of Aboriginals,	The proposal will not impact on any items of known cultural importance of Aboriginals. Part of the land is mapped as having local archaeological significance (Item A103). The item is known as the Pikes Hill Quarry and does not relate to items of Aboriginal significance.
m) likely impacts of development on the water quality of coastal waterbodies,	Future residential development would be subject to development assessment with sediment control and waste management measures required where necessary.

Matters for consideration	Consistency with Planning Proposal
n) the conservation and preservation of items of heritage, archaeological or historic significance,	The land includes a small portion of Lot 12 DP 708075 which is listed as having local archaeological significance (Item A103). The item is known as the Pikes Hill Quarry. The Heritage Inventory for this item is provided in Appendix 7.4. The portion of Lot 12, DP 708075 which forms part of the land subject to this planning proposal was not quarried and remains elevated above the disused quarry. This portion of Lot 12, DP 708075 is not likely to contain any archaeological items.
o) only in cases in which a council prepares a draft local environmental plan that applies to land to which this Policy applies, the means to encourage compact towns and cities,	The Planning proposal aims to reclassify and rezone land to allow for an additional residential allotment within an existing residential area. This supports the generation of compact towns.

Table 3: SEPP 71 Matters for consideration

3.2.4 Is the planning proposal consistent with applicable Ministerial Directions (s117 directions)?

The following table identifies the proposal's consistency with the relevant Ministerial Directions.

s.117 Direction Title	Consistency of Planning Proposal
<u>2.1 Environmental Protection Zones</u> A planning proposal must include provisions that facilitate the protection and conservation of environmentally sensitive areas. A planning proposal that applies to land within an environment protection zone or land otherwise identified for environment protection purposes in a LEP must not reduce the environmental protection standards that apply to the land (including by modifying development standards that	The land is not zoned for Environmental Protection Zone. The Planning Proposal does not seek to alter the provisions made for Environmental Protection Zones. The Planning Proposal is consistent with Direction 2.1 – Environmental Protection Zones.

s.117 Direction Title	Consistency of Planning Proposal
apply to the land). This requirement does not apply to a change to a development standard for minimum lot size for a dwelling in accordance with clause (5) of Direction 1.5 “Rural Lands”.	
<u>2.2 Coastal Protection</u> A planning proposal must include provisions that give effect to and are consistent with: a) the NSW Coastal Policy: A Sustainable Future for the New South Wales Coast 1997, and b) the Coastal Design Guidelines 2003, and c) the manual relating to the management of the coastline for the purposes of section 733 of the Local Government Act 1993 (the NSW Coastline Management Manual 1990).	The land is within the Coastal Zone. Clause 5.5 of KLEP contains provisions relating to development within the coastal zone. Clause 5.5 is consistent with the relevant Coastal policy, guidelines and manual. The Planning Proposal does not seek to alter the provisions of Clause 5.5. The Planning Proposal is consistent with Direction 2.2 – Coastal Protection.
<u>2.3 Heritage Conservation</u> A planning proposal must contain provisions that facilitate the conservation of: a) items, places, buildings, works, relics, moveable objects or precincts of environmental heritage significance to an area, in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item, area, object or place, identified in a study of the environmental heritage of the area, b) Aboriginal objects or Aboriginal places that are protected under the National Parks and Wildlife Act 1974, and	Part of the land includes a portion of Lot 12, DP 708075 which is listed as having local archaeological significance (Item A103). The item is known as the Pikes Hill Quarry. The portion of Lot 12, DP 708075 which forms part of this Planning Proposal was not quarried and is positioned at an elevated height above the disused quarry. The Planning Proposal seeks to remove the archaeological mapping from the portion of Lot 12, DP 708075 which is subject to this Planning Proposal. The Planning Proposal would not seek to alter the archaeological listing of the portion of Lot 12, DP 708075 which was quarried nor the portion which contains the landmark

s.117 Direction Title	Consistency of Planning Proposal
c) Aboriginal areas, Aboriginal objects, Aboriginal places or landscapes identified by an Aboriginal heritage survey prepared by or on behalf of an Aboriginal Land Council, Aboriginal body or public authority and provided to the relevant planning authority, which identifies the area, object, place or landscape as being of heritage significance to Aboriginal culture and people.	cliff elements referred to in the Heritage Inventory (copy provided in Appendix 7.4). Clause 5.10 of KLEP contains provisions relating to heritage conservation including the conservation of archaeological sites. The Planning Proposal does not seek to the provisions of Clause 5.10. The Planning Proposal is consistent with Direction 2.3 – Heritage Conservation.
<u>3.1 Residential Zones</u> A planning proposal must include provisions that encourage the provision of housing that will: a) broaden the choice of building types and locations available in the housing market, and b) make more efficient use of existing infrastructure and services, and c) reduce the consumption of land for housing and associated urban development on the urban fringe, and d) be of good design. A planning proposal must, in relation to land to which this direction applies: a) contain a requirement that residential development is not permitted until land is adequately serviced (or arrangements satisfactory to the council, or other appropriate authority, have been made to service it), and b) not contain provisions which will reduce the permissible residential density of land.	The Planning Proposal would result in land being zoned for a residential purpose with controls under the KLEP matching that of the surrounding residential land. The land is located within an existing residential area with access to appropriate existing infrastructure and services. The Planning Proposal is consistent with Direction 3.1 – Residential Zones.

s.117 Direction Title	Consistency of Planning Proposal
<u>3.3 Home Occupations</u> Planning proposals must permit home occupations to be carried out in dwelling houses without the need for development consent.	The Planning Proposal would rezone the land to Residential R2 (Low Density). Home Occupations are permitted without consent within the R2 zone under the KLEP. The Planning Proposal would not alter this permissibility. The Planning Proposal is consistent with Direction 3.3 – Home Occupations
<u>3.4 Integrated Land Use and Transport</u> A planning proposal must locate zones for urban purposes and include provisions that give effect to and are consistent with the aims, objectives and principles of: - Improving Transport Choice – Guidelines for planning and development (DUAP 2001), and - The Right Place for Business and Services – Planning Policy (DUAP 2001).	The Planning Proposal provides an additional residential allotment within an established residential area with existing transport systems. The additional residential land will lead to increased viability of these existing transport systems. The Planning Proposal is consistent with Direction 3.4 – Integrated Land Use Transport.
<u>4.1 Acid Sulfate Soils</u> The relevant planning authority must consider the Acid Sulfate Soils Planning Guidelines adopted by the Director-General of the Department of Planning when preparing a planning proposal that applies to any land identified on the Acid Sulfate Soils Planning Maps as having a probability of acid sulfate soils being present. When a relevant planning authority is preparing a planning proposal to introduce provisions to regulate works in acid sulfate soils, those provisions must be consistent with: the Acid Sulfate Soils Model LEP in the Acid Sulfate Soils Planning	The land is not mapped as being affected by Acid Sulfate Soils. Clause 6.1 of the KLEP contains provisions relating to acid sulphate soils. The Planning Proposal does not seek to alter the provisions of Clause 6.1. The Planning Proposal is consistent with Direction 4.1 – Acid Sulfate Soils.

s.117 Direction Title	Consistency of Planning Proposal
Guidelines adopted by the Director-General, or such other provisions provided by the Director-General of the Department of Planning that are consistent with the Acid Sulfate Soils Planning Guidelines. A relevant planning authority must not prepare a planning proposal that proposes an intensification of land uses on land identified as having a probability of containing acid sulfate soils on the Acid Sulfate Soils Planning Maps unless the relevant planning authority has considered an acid sulfate soils study assessing the appropriateness of the change of land use given the presence of acid sulfate soils. The relevant planning authority must provide a copy of any such study to the Director-General prior to undertaking community consultation in satisfaction of section 57 of the Act. Where provisions referred to under paragraph (5) of this direction have not been introduced and the relevant planning authority is preparing a planning proposal that proposes an intensification of land uses on land identified as having a probability of acid sulfate soils on the Acid Sulfate Soils Planning Maps, the planning proposal must contain provisions consistent with paragraph (5).	
<u>4.3 Flood Prone Land</u> A planning proposal must include provisions that give effect to and are consistent with the NSW Flood Prone Land Policy and the principles of the Floodplain Development Manual 2005 (including the	The land is not classed as Flood Prone Land. Clause 6.3 of the KLEP contains provisions relating to flood planning. The Planning

s.117 Direction Title	Consistency of Planning Proposal
Guideline on Development Controls on Low Flood Risk Areas). A planning proposal must not rezone land within the flood planning areas from Special Use, Special Purpose, Recreation, Rural or Environmental Protection Zones to a Residential, Business, Industrial, Special Use or Special Purpose Zone. A planning proposal must not contain provisions that apply to the flood planning areas which: a) permit development in floodway areas, b) permit development that will result in significant flood impacts to other properties, c) permit a significant increase in the development of that land, d) are likely to result in a substantially increased requirement for government spending on flood mitigation measures, infrastructure or services, or e) permit development to be carried out without development consent except for the purposes of agriculture (not including dams, drainage canals, levees, buildings or structures in floodways or high hazard areas), roads or exempt development. A planning proposal must not impose flood related development controls above the residential flood planning level for residential development on land, unless a relevant planning authority provides adequate justification for those controls to the satisfaction of the Director-General (or	Proposal does not seek to alter the provisions of Clause 6.3. The Planning Proposal is consistent with Direction 4.3 – Flood Prone Land.

s.117 Direction Title	Consistency of Planning Proposal
an officer of the Department nominated by the Director-General). For the purposes of a planning proposal, a relevant planning authority must not determine a flood planning level that is inconsistent with the Floodplain Development Manual 2005 (including the Guideline on Development Controls on Low Flood Risk Areas) unless a relevant planning authority provides adequate justification for the proposed departure from that Manual to the satisfaction of the Director-General (or an officer of the Department nominated by the Director-General).	
<u>5.1 Implementation of Regional Strategies</u> Planning proposals must be consistent with a regional strategy released by the Minister for Planning.	The Planning Proposal is consistent with the Illawarra-Shoalhaven Regional Plan (see Section 3.2.1 of this report). The Planning Proposal is therefore consistent with Direction 5.1 – Implementation of Regional Strategies.
<u>6.1 Approval and Referral Requirements</u> A planning proposal must: a) minimise the inclusion of provisions that require the concurrence, consultation or referral of development applications to a Minister or public authority, and b) not contain provisions requiring concurrence, consultation or referral of a Minister or public authority unless the relevant planning authority has obtained the approval of: (i) the appropriate Minister or public authority, and	The Planning Proposal does not include any additional provisions to the LEP which would require the concurrence, consultation or referral of future development applications to a Minister or public authority. The Planning Proposal is consistent with Direction 6.1 – Approval and Referral Requirements.

s.117 Direction Title	Consistency of Planning Proposal
(ii) the Director-General of the Department of Planning (or an officer of the Department nominated by the Director-General), prior to undertaking community consultation in satisfaction of section 57 of the Act, and c) not identify development as designated development unless the relevant planning authority: (i) can satisfy the Director-General of the Department of Planning (or an officer of the Department nominated by the Director-General) that the class of development is likely to have a significant impact on the environment, and (ii) has obtained the approval of the Director-General of the Department of Planning (or an officer of the Department nominated by the Director-General) prior to undertaking community consultation in satisfaction of section 57 of the Act.	
<u>6.2 Reserving Land for Public Purposes</u> A planning proposal must not create, alter or reduce existing zonings or reservations of land for public purposes without the approval of the relevant public authority	The Planning Proposal seeks to rezone and reclassify public land currently reserved for public purposes.

s.117 Direction Title	Consistency of Planning Proposal
and the Director-General of the Department of Planning (or an officer of the Department nominated by the Director-General). When a Minister or public authority requests a relevant planning authority to reserve land for a public purpose in a planning proposal and the land would be required to be acquired under Division 3 of Part 2 of the Land Acquisition (Just Terms Compensation) Act 1991, the relevant planning authority must: a) reserve the land in accordance with the request, and b) include the land in a zone appropriate to its intended future use or a zone advised by the Director-General of the Department of Planning (or an officer of the Department nominated by the Director-General), and c) identify the relevant acquiring authority for the land. When a Minister or public authority requests a relevant planning authority to include provisions in a planning proposal relating to the use of any land reserved for a public purpose before that land is acquired, the relevant planning authority must: a) include the requested provisions, or b) take such other action as advised by the Director-General of the Department of Planning (or an officer of the Department nominated by the Director-General) with respect to the use of the land before it is acquired.	Council is the relevant public authority. The Director-General's concurrence is sought through this Planning Proposal. The land proposed to be rezoned and reclassified is owned by Council but deemed superfluous to Council's needs. The rezoning would enable development and/or sale of the land for residential purposes in order to provide an income for Capital Works and/or assist in the long term financial sustainability of the Council. This Planning Proposal is justifiably inconsistent with Direction 6.1 – reserving land for public purposes. Concurrence is sort from the Director General.

s.117 Direction Title	Consistency of Planning Proposal
When a Minister or public authority requests a relevant planning authority to include provisions in a planning proposal to rezone and/or remove a reservation of any land that is reserved for public purposes because the land is no longer designated by that public authority for acquisition, the relevant planning authority must rezone and/or remove the relevant reservation in accordance with the request.	
<u>6.3 Site Specific Provisions</u> A planning proposal that will amend another environmental planning instrument in order to allow a particular development proposal to be carried out must either: a) allow that land use to be carried out in the zone the land is situated on, or b) rezone the site to an existing zone already applying in the environmental planning instrument that allows that land use without imposing any development standards or requirements in addition to those already contained in that zone, or c) allow that land use on the relevant land without imposing any development standards or requirements in addition to those already contained in the principal environmental planning instrument being amended. A planning proposal must not contain or refer to drawings that show details of the development proposal.	The Planning Proposal does not contain any site specific planning controls. The development standards which would apply to the land are consistent with those applied on similarly zoned land. The Planning Proposal is consistent with Direction 6.3 – Site Specific Provisions.

Table 4: Applicable s117 directions

3.3 Environmental Social and Economic Impact

3.3.1 Is there any likelihood that critical habitat or threatened species, populations or ecological communities, or their habitats, will be adversely affected as a result of the proposal?

The Kiama LEP contains Biodiversity and Riparian maps and Clause 6.4 Terrestrial Biodiversity and Clause 6.5 Riparian Land and Watercourses contain controls for development occurring on or within close proximity of land so mapped. Clause 5.9 also provides controls for the preservation of trees and vegetation. The planning proposal does not seek to change the Biodiversity and Riparian maps nor Clause 5.9, 6.4 or 6.5 of the Kiama LEP. These clauses would apply to any future development of the land.

The land is not mapped as affected on the Terrestrial Biodiversity Map. The land is also not mapped as containing a water course or Riparian Land. The land is located along a ridge line and is dominated by mowed grass. One tree is located near the middle of the northern proposed boundary. Some other smaller vegetation is also located along this northern boundary. There are unlikely to be any adverse impacts on critical habitat or threatened species, populations or ecological communities, or their habitats as a result of the development. Development of this site for residential purposes could occur without the need to remove the vegetation along the northern boundary. However removal may be desirable for outlook and would be assessed as part of any future development of the land.

3.3.2 Are there any other likely environmental effects as a result of the Planning Proposal and how are they proposed to be managed?

The land is not known or mapped as affected by bushfire, flooding, landslip or acid sulphate soils. The land is located within an established residential area. A setback is provided between the subject land and the land which was quarried to the north such that a buffer would be provided between the cliff edge and the subject land which is consistent with adjoining residential properties. A Preliminary Geotechnical Assessment was undertaken. Bedrock was encountered at depths between 0.7m and 0.9m. This report provides recommendations for the type of construction of any future residential development on the land. A copy of this report is provided in Appendix 7.3. This report should be made available to any future purchaser of the property.

The Development Assessment (DA) process required to be undertaken in accordance with the Environmental Planning and Assessment Act 1979, provides the appropriate legislative framework through which environmental effects associated with any future residential development of the land would be assessed.

3.3.3 Has the Planning Proposal adequately addressed any social and economic effects?

The Planning Proposal does not apply to land identified as needing protection. The Planning Proposal aims to reclassify and rezone land to a residential zone consistent with surrounding residential zones. The development standards proposed for the land are consistent with those applicable to adjoining residential land.

The Planning Proposal will provide an additional housing allotment within an existing and well established residential area which has established infrastructure thereby assisting to reduce the housing pressure on rural and agricultural land.

Archaeological Heritage

Part of land is mapped as an archaeological site. This portion of the site is a small area of a larger lot (Lot 12 DP 708075) which covers the majority of the Kiama Quarry Sports Complex. The Kiama Quarry Sports Complex is located at the base of the former quarry and has a lower ground level than the subject site due to previous quarrying. The subject site is elevated above the quarried land and is not likely to contain any archaeological items.

Economic

The Planning Proposal relates to land currently owned by Council but deemed surplus to Council's needs and which has limited active community use. Reclassification and rezoning as proposed would enable development and/or sale of the land for residential purposes consistent with surrounding land in order to provide an income for Capital Works and/or assist in the long term financial sustainability of the Council while also reducing the ongoing costs of maintaining this land.

Access

The land provides potential opportunity to access public land located to the west of the site along the top of the quarry cliff for maintenance. Currently no access from the site to this cliff top area has been established as the occupier of each residential dwelling located to the west of the site currently maintains the respective adjoining section of public land. A right of way located along the western boundary of the site could be established as part

of any future lot consolidation / subdivision of the site to ensure that the potential for future access for Council maintenance is retained.

Loss of Public Open Space

The Planning Proposal will result in the loss of a small open space accessed from Irvine Street. This open space is not well utilised. Due to its location along on a ridgeline, this space is only likely to be attractive to residents of Irvine Street and adjoining cul-de-sacs. However, residents in these streets are provided with access to the much larger Kiama Quarry Sports Complex via a pathway from Thompson Street. This access is less than 400m from the subject land.

3.4 State and Commonwealth Interests

3.4.1 Is there adequate public infrastructure for the planning proposal?

The Planning Proposal seeks to rezone and reclassify land to residential and operational and as a result future development of the land for residential purposes is expected. The land would generate one (1) residential lot. Under the R2 zoning proposed, dwellings, dual occupancies and secondary dwellings are all permitted uses.

Development of the land for residential purposes would result in a minor increase in demand for facilities relative to the existing demand generated by the established residential population of the area. The land is located within existing residential areas where all utility services are available. It is not expected that there would be issues connecting to existing services nor for there to be any issues as a result of the minor increase in demand.

3.4.2 What are the views of State and Commonwealth public authorities consulted in accordance with the Gateway determination?

No State or Commonwealth authorities have been consulted as part of the preparation of this Planning Proposal.

It is requested that the Gateway determination confirm the following list of State authorities to be consulted and nominate any other State or Commonwealth authorities required for consultation.

- NSW Department of Planning and Infrastructure;
- NSW Department of Environment and Heritage;

3.5 Director General's Requirements for Reclassifying Public Land

3.5.1 Is the planning proposal the result of a strategic study or report?

As outlined in Section 3.1.1 above, on 15 April 2014 Council's Revenue Sub-Committee recommended to Council that it *"commence the reclassification / rezoning process in relation to land surplus to Council's needs and which if sold will provide income for Capital Works and / or assist in long term financial sustainability."* The land was identified as one of these surplus areas. This planning proposal is a result of Council adopting the recommendation to *"commence the re-classification/re-zoning process in relation to the subject lands"*.

3.5.2 Is the planning proposal consistent with the local Council's community plan, or other local strategic plan?

As outlined in Section 3.2.2 above, the Planning Proposal is consistent with the Community Panel's recommendation stated in the Kiama Urban Strategy (KUS) that "Council's aim should be to accommodate growth as much as possible by infill development to increase the density of the existing built-up areas."⁴

3.5.3 If the provisions of the planning proposal include the extinguishment of any interests in the land, an explanation of the reasons why the interests are proposed to be extinguished should be provided.

A caveat is noted on Lots 36 and 45 DP263449 and Lot 38 DP630551. The caveat number that is noted on these lots is K200000P and relates to a Registrar-General's caveat. Historically this caveat was applied where land vested in a Local Council was dedicated as a public reserve. NSW Land and Property Information advise that *"A Registrar-General's caveat prohibits the registration of certain dealings; it does not create an interest in the land."*⁵ Following gazettal of the amended LEP, the Council will seek that these caveats be removed.

⁴ Kiama Municipal Council *Kiama Urban Strategy* Adopted 20 September 2011, p5.

⁵ http://rgdirections.lpi.nsw.gov.au/land_dealings/dealings_involving/rg_caveat (1/12/14)

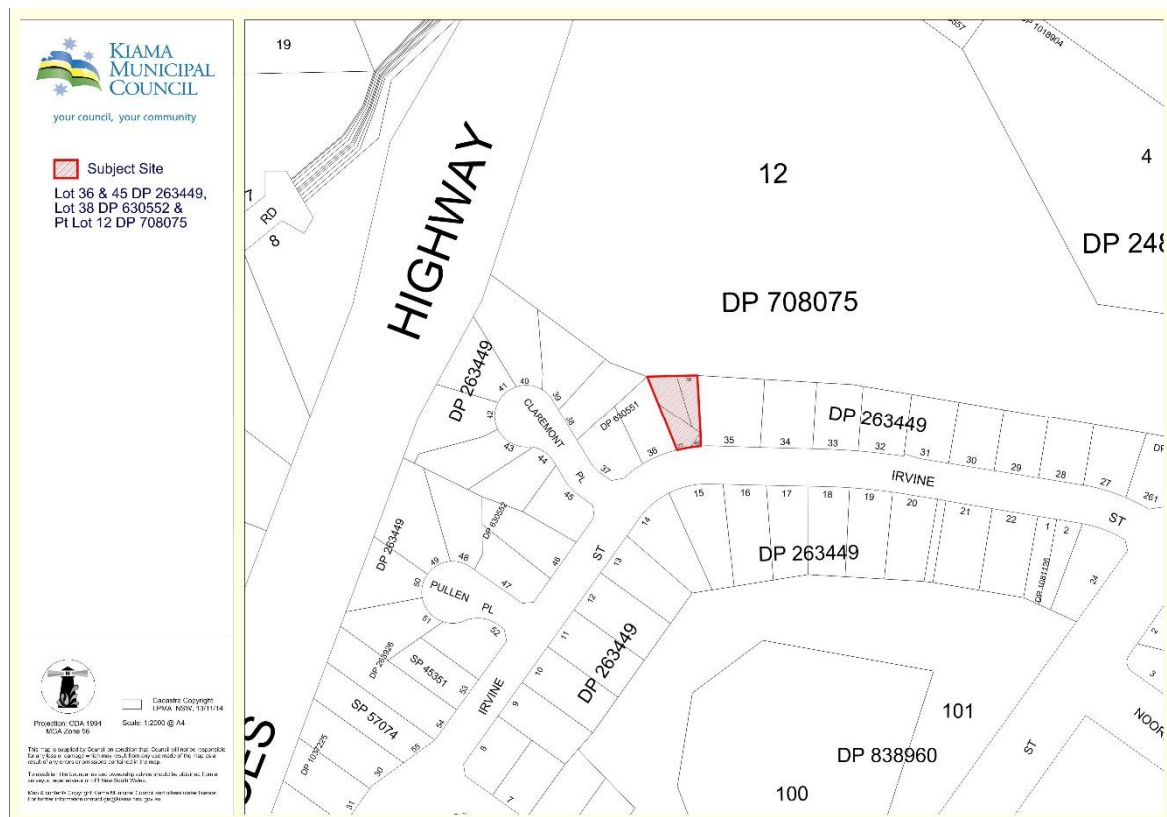
3.5.4 The concurrence of the landowner, where the land is not owned by the relevant planning authority.

Council is the landowner and endorsed the preparation of this Planning Proposal at its meeting 15 April 2014.

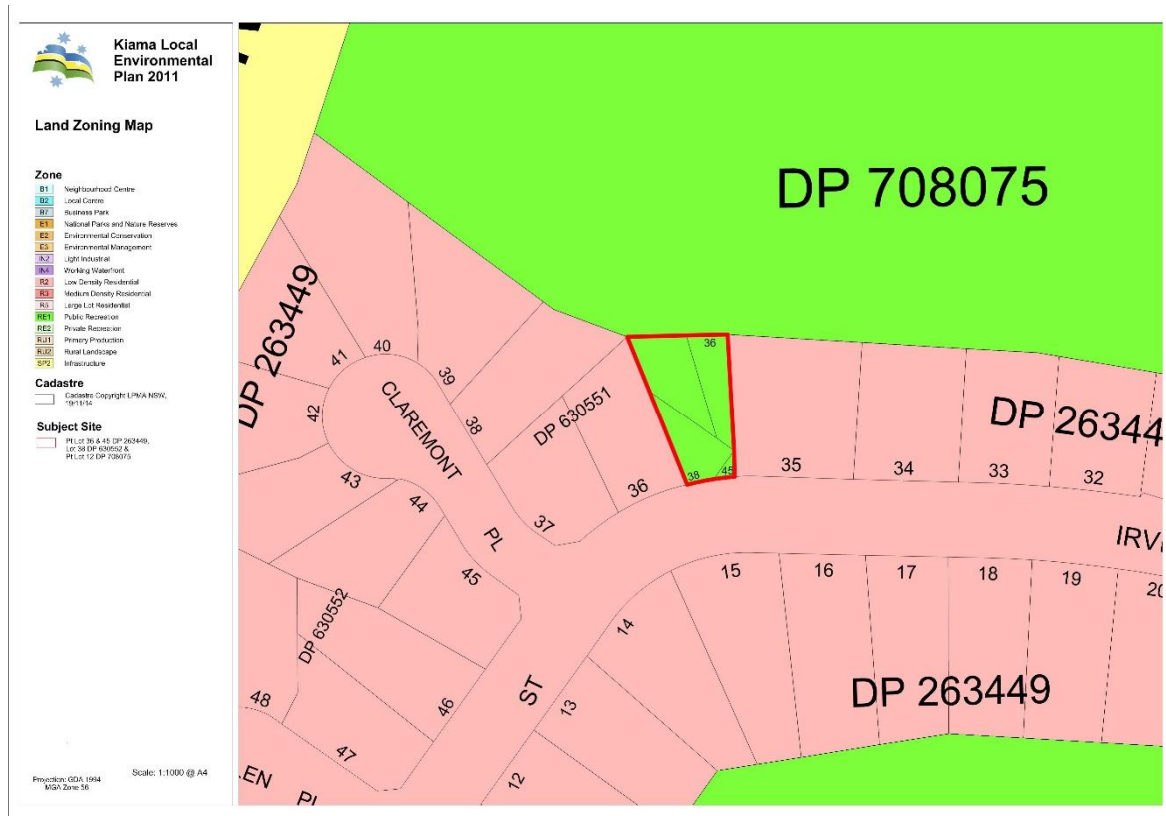
4 Mapping

The following illustrates the subject land, current land use zoning and proposed land use zoning map amendments to the Kiama LEP 2011. Changes to the Principal Development Standards are outlined in Section 2.2 and Table 2. These changes will be mapped after the gateway determination. The maps below are reproduced in Appendix 7.1 on the paper size mentioned on the scale. Aerial photographs of the sites are also included in the Appendix 7.1.

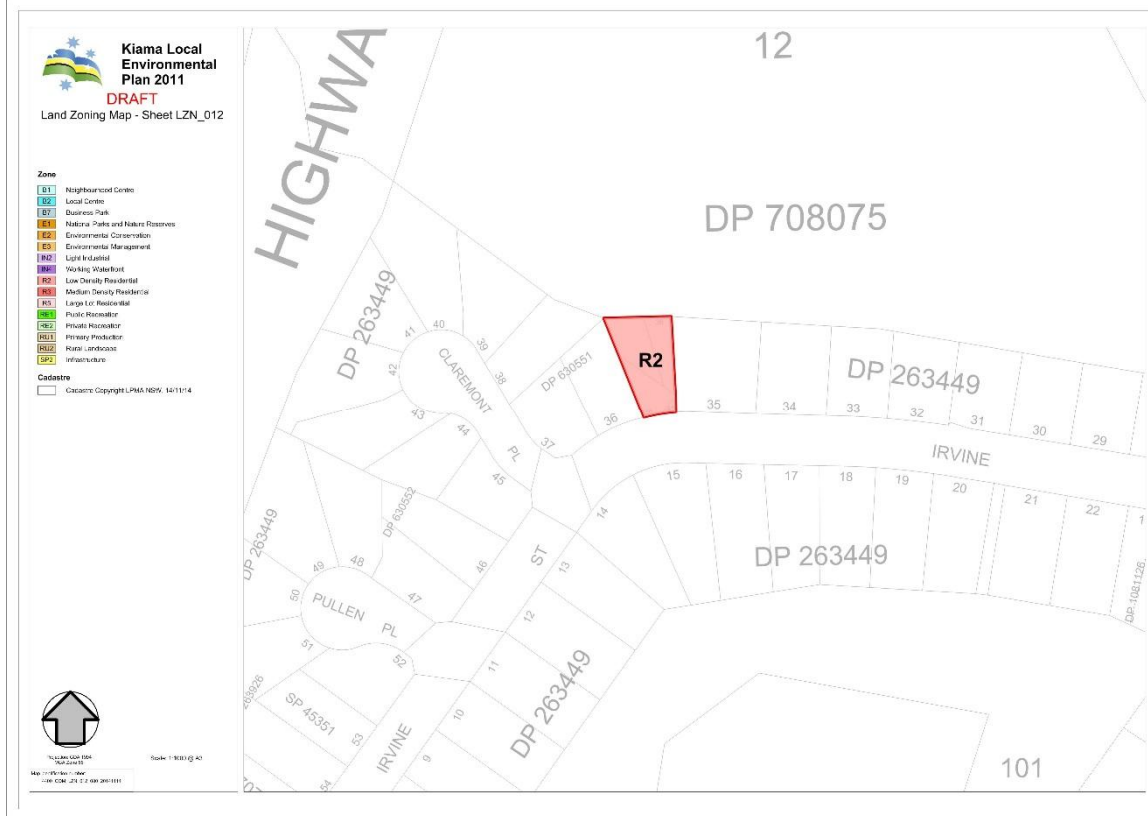
4.1 Land the subject of the Planning Proposal



4.2 Current Land Use Zone under the Kiama Local Environmental Plan 2011



4.3 Proposed Land Use Zone under this Planning Proposal



5 Community Consultation

Following the Gateway determination and approval from the Director-General (or delegate), the Planning Proposal will be exhibited for a minimum period of 28 days and include:

- Notification in local newspaper;
- Hard copies made available at the Council Administration Building and relevant libraries;
- Electronic copy on Council's website;
- Notification letters to adjoining and surrounding property owners;
- Letters to any State and Commonwealth Public Authorities identified in the gateway determination; and
- any other consultation methods deemed appropriate for the proposal.

Following the public exhibition period a public hearing will be held. Notice of the public hearing will be made in a local newspaper at least 21 days prior to the hearing date.

6 Project Timeline

The following table outlines the anticipated timeline for the project. This timeline has been established on the basis of commencement by Council in July 2016.

Stage	Anticipated Timeframe	Possible Dates
Planning Proposal to the Department	Following Council meeting July 2016	July 2016
Gateway determination	4 weeks from Council forwarding the Planning Proposal to the Minister	End September 2016
Completion of technical information or studies as determined by Gateway	4 – 6 weeks from the gateway determination	Mid November 2016
Consultation with State / Commonwealth agencies	4 weeks from the completion of any technical information or studies	December 2016
Exhibition of Planning Proposal (assuming Director General's approval for community consultation was issued with the Gateway determination)	4 weeks	December 2016
Notification of Public hearing date.	Immediately after the exhibition period.	Early January 2017 (unless holiday period is to be avoided)
Review of submissions	Immediately after the exhibition period.	January 2017
Public hearing	21 days after notification made.	Early February 2017
Review of Public Hearing report and preparation of report to Council.	4 weeks.	February / March 2017
Report to Council	First available Council meeting after review of hearing and report preparation.	March 2017
Submission to the department to finalise	4weeks from Council meeting	April 2017
Anticipated date LEP will be notified		May 2017

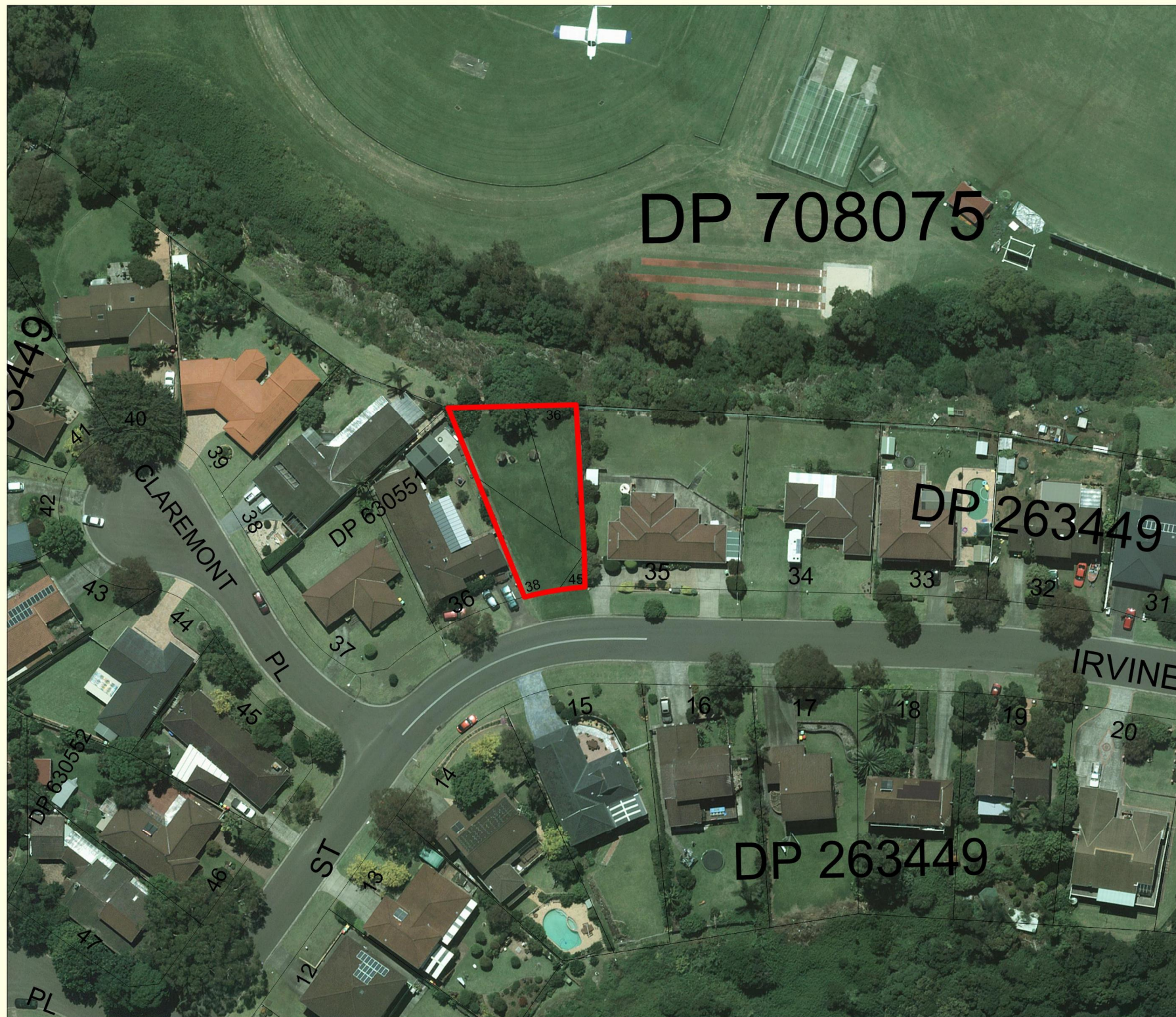
Table 5: Project Timeline

7 Appendix

7.1 Maps and Aerial Photography

 Subject Site

Lot 36 & 45 DP 263449,
Lot 38 DP 630552 &
Pt Lot 12 DP 708075



Projection: GDA 1994
MGA Zone 56

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Scale: 1:1000 @ A4

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To establish title boundaries and ownership advice should be obtained from a surveyor, legal advisor or LPI New South Wales.

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For further information contact gis@kiama.nsw.gov.au

 Subject Site

Lot 36 & 45 DP 263449,
Lot 38 DP 630552 &
Pt Lot 12 DP 708075



Projection: GDA 1994
MGA Zone 56

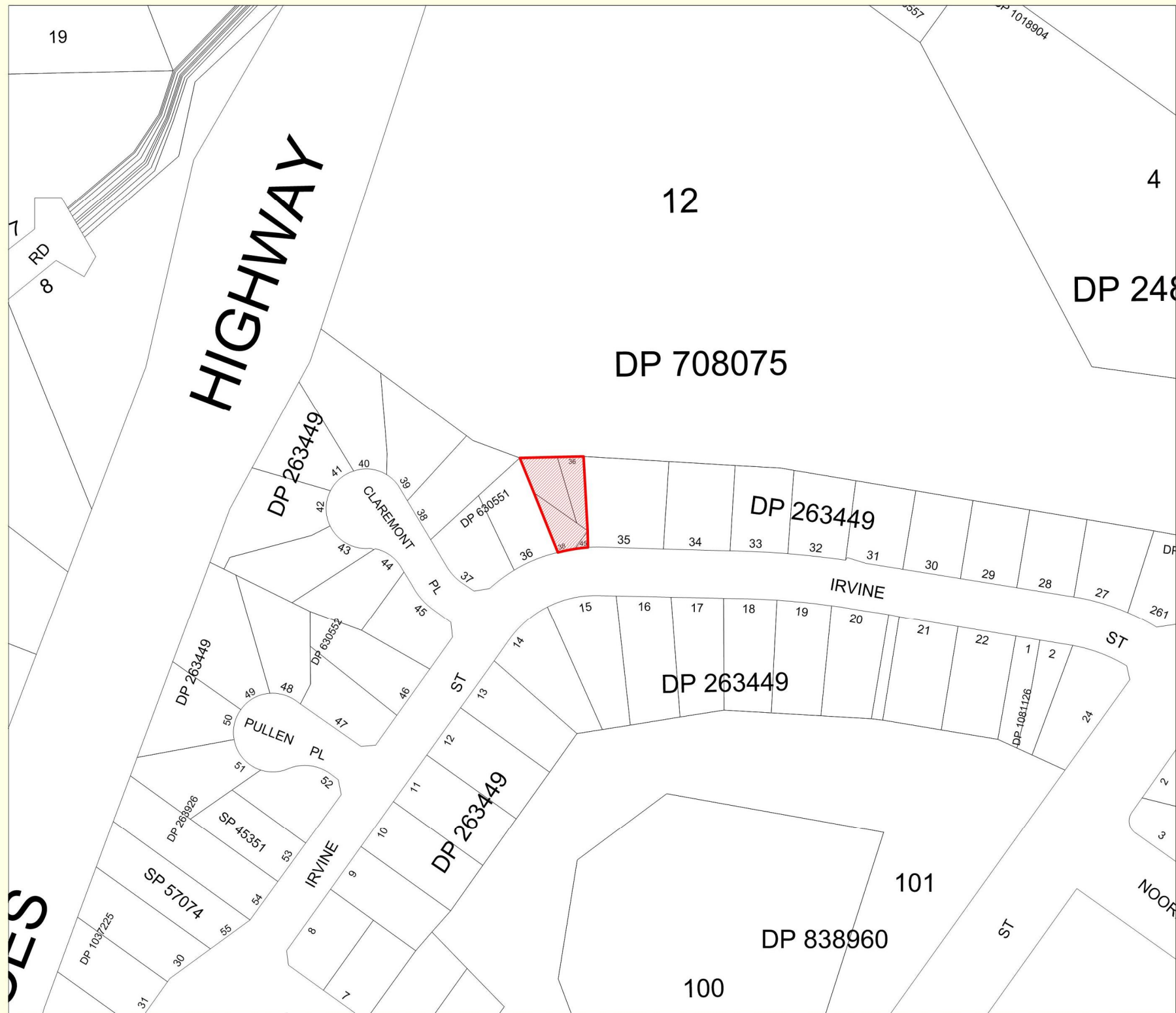
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Kiama Local Environmental Plan 2011

Land Zoning Map

Zone

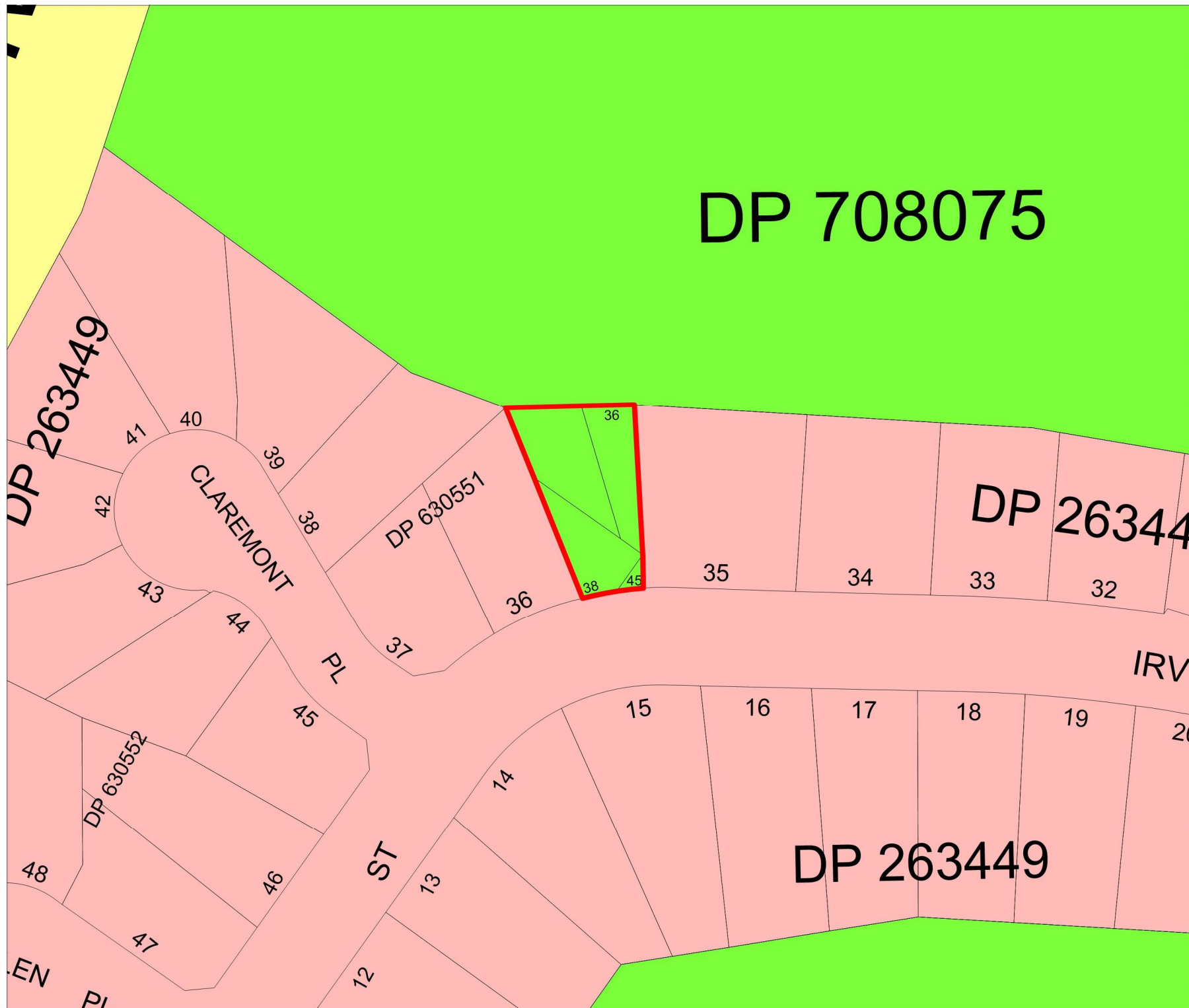
B1	Neighbourhood Centre
B2	Local Centre
B7	Business Park
E1	National Parks and Nature Reserves
E2	Environmental Conservation
E3	Environmental Management
IN2	Light Industrial
IN4	Working Waterfront
R2	Low Density Residential
R3	Medium Density Residential
R5	Large Lot Residential
RE1	Public Recreation
RE2	Private Recreation
RU1	Primary Production
RU2	Rural Landscape
SP2	Infrastructure

Cadastre

	Cadastre Copyright LPMA NSW, 19/11/14
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Subject Site

	Pt Lot 36 & 45 DP 263449, Lot 38 DP 630552 & Pt Lot 12 DP 708075
--	--





Kiama Local Environmental Plan 2011

DRAFT

Land Zoning Map - Sheet LZN_012

Zone

B1	Neighbourhood Centre
B2	Local Centre
B7	Business Park
E1	National Parks and Nature Reserves
E2	Environmental Conservation
E3	Environmental Management
IN2	Light Industrial
IN4	Working Waterfront
R2	Low Density Residential
R3	Medium Density Residential
R5	Large Lot Residential
RE1	Public Recreation
RE2	Private Recreation
RU1	Primary Production
RU2	Rural Landscape
SP2	Infrastructure

Cadastral

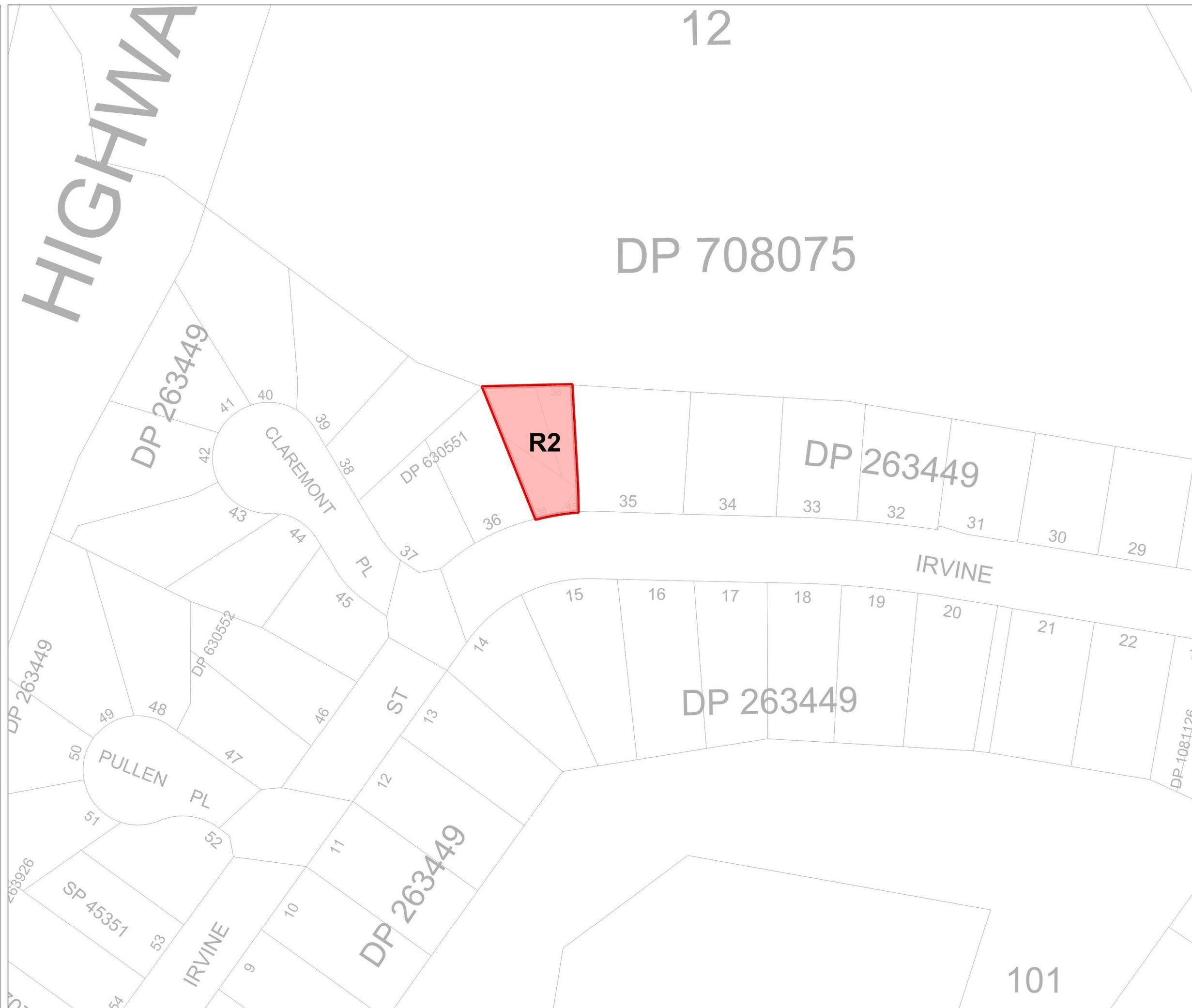
Cadastral Copyright LPMA NSW, 14/11/14



Projection: GDA 1994
MGA Zone 56

Scale: 1:1000 @ A3

Map identification number:
4400_COM_LZN_012_080_20141114



7.2 Photomontage

Appendix - Site Photographs of Irvine Street, Kiama



Figure 1: View to of subject site and adjoining properties



Figure 2: Subject site



Figure 3: Western boundary



Figure 4: Existing rocks on site

Appendix - Site Photographs of Irvine Street, Kiama



Figure 5: Existing tree located near proposed northern boundary.



Figure 6: View from rear of site toward Irvine Street.



Figure 7: Existing fence located along proposed rear boundary.

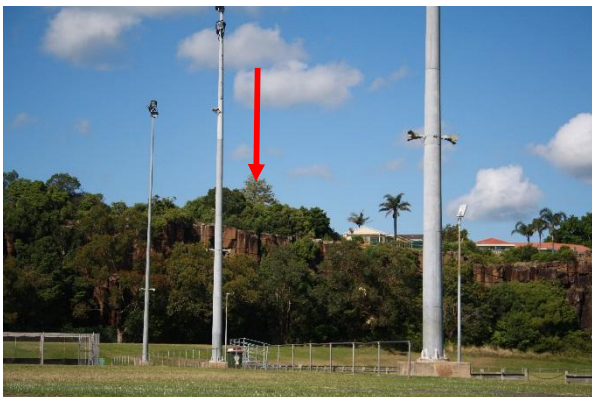


Figure 8: Subject site viewed from the Kiama Quarry Sports Complex. Arrow shows location of the subject site and illustrates its elevation above land previously quarried.

7.3 Phase 1 Contamination Assessment and Preliminary Geotechnical Assessment

Report

Phase 1 Contamination Assessment & Preliminary Geotechnical Assessment

Proposed Re-zoning, Lots 36 & 45 in DP 263449 & Pt Lot 12 in DP
708075, Irvine Street, Kiama NSW

Prepared for:

SET Consultants

No. 51 Graham Street
NOWRA NSW 2541

Prepared by:

Network Geotechnics

17 December 2015

Ref: G09/1967-B

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Appendices

Appendix A:	Information Sheets
Appendix B:	Site Plan and Test Locations
Appendix C:	Borehole Logs
Appendix D:	Laboratory Test Results

Executive Summary

SET Consultants commissioned Network Geotechnics Pty Ltd (NG) to carry out a Stage 1 Site Contamination Assessment in accordance with Contamination Land Management Act in order to lodge a Development Application for proposed re-zoning of land at Irvine Street, Kiama. The investigation also included a preliminary geotechnical assessment.

The site is identified as Lots 36 & 45 in DP263449, Lot 38 in DP630551 and Part Lot 12 in DP708075 bordering Irvine Street, Kiama in Kiama Municipal Council (KMC) Area. A plan of the site is included in *Appendix B*, Drawing No. G09/1967-2.

The objective of this investigation was to carry out a Stage I Contamination Assessment in order to assess the risks of site contamination from historical land usage and to assess the suitability of the site for the proposed rezoning.

The scope of work undertaken to achieve the objectives included:

- Review of regional geology;
- Review of historical aerial photographs and title records to facilitate identification of potential site contamination;
- Walk over assessment to identify site features affecting potential site contamination;
- Intrusive investigation involving drilling of 2 boreholes sampling and testing for geotechnical assessment;
- Evaluation of findings and preparation of Stage I Contamination Assessment.

Based on Aerial Photographs and title records, the site has been generally vacant with possible farming from 1911 to 1984. Between years 1984 and 2005, the site has been occupied by what seems like a children's playing area such as a sand pit, as aerials photos show a square shaped shaded area near the centre of the site.

Based on the above the risk of site contamination is assessed to be low and a detailed contamination assessment would not be required. The site is assessed to be suitable for the proposed residential development.

Due to the presence of uncontrolled fill within the site the site is classified as Class P (Problem) in accordance with AS2870 'Residential Slabs & Footings'. The residual clay on-site is assessed to have reactivity similar to Class H1 (Highly Reactive) indicating 40mm to 60mm of surface movement.

It is recommended that footings for the proposed residence comprise piers drilled to bedrock (Latite, extremely weathered) in order to reduce the potential differential settlement. Piers may be proportioned for an Allowable end Bearing Pressure (ABP) of 500kPa.

1.0 Introduction

SET Consultants commissioned Network Geotechnics Pty Ltd (NG) to carry out a Stage 1 Site Contamination Assessment in accordance with Contamination Land Management Act in order to lodge a Development Application for proposed re-zoning of land at Irvine Street, Kiama. The investigation also included a preliminary geotechnical assessment.

The site is identified as Lots 36 & 45 in DP263449, Lot 38 in DP630551 and Part Lot 12 in DP708075 bordering Irvine Street, Kiama in Kiama Municipal Council (KMC) Area. A plan of the site is included in *Appendix B*, Drawing No. G09/1967-2.

The investigation was undertaken in accordance with NG Proposal G09/1967 dated 20 October 2015.

2.0 Scope of Work

The objective of this investigation was to carry out a Stage I Contamination Assessment in order to assess the risks of site contamination from historical land usage and to assess the suitability of the site for the proposed rezoning.

The scope of work undertaken to achieve the objectives included:

- Review of regional geology;
- Review of historical aerial photographs and title records to facilitate identification of potential site contamination;
- Walk over assessment to identify site features affecting potential site contamination;
- Intrusive investigation involving drilling of 2 boreholes sampling and testing for geotechnical assessment;
- Evaluation of findings and preparation of Stage I Contamination Assessment;

3.0 Site Identification

The site is located north of Irvine Street, Kiama. The site is bounded by:

- Lot 36 in DP630551 to the west,
- Lot 35 in DP263449 to the east,
- And Kiama Sports Complex to the north.

The subject site is located in Kiama Municipal Council area in Parish of Kiama and County of Camden.

4.0 Site History

4.1 Zoning

Council zoning plans (LEP 2011) identifies the site as RE1 'Public Recreation'.

4.2 Land use

The land is currently vacant and generally covered with grass. There are three large rocks positioned upright at the rear of the property for aesthetic purposes.

4.3 Council Re-Zoning

It is understood that the site will be re-zoned as R2 'Low density Residential Zone' from the current zoning as RE1 'Public Recreation'.

4.4 Title Records

A record of ownership/leasing as can be inferred from title records is given in Table 1 below.

Table 1 - Historical Ownership

Date	Lot /DP Number	Volume/Folio	Remarks
20 September, 1937		4869-194	Crown Grant to Quarries Limited
14 July, 1971 3 July, 1973 3 Sept. 1981	1/248979	11459-195 12944-223	Saddleback Stud Pty Limited MIRADOU Pty Limited T&A Investments Pty Limited
6 October, 1982	36/263449	14899-36	The Council of the Municipality of Kiama
6 October, 1982	45/263449	14899-45	The Council of the Municipality of Kiama
28 November, 1975	12/708075	12944-225	The Council of the Municipality of Kiama
21 February, 1983 14 March, 1983	268/44357 38/630551	14992-52 15012-96	T&A Investments Pty Limited The Council of the Municipality of Kiama

4.5 Aerial Photographs

Aerial photographs for Lots 36 & 45 in DP 263449, Lot 38 in DP 630551 & Part Lot 12 in DP 708075 Irvine Street, Kiama were purchased from NSW Department of Lands. A summary of findings are presented in Table 2.

Table 2 - Summary of Aerial Photograph Review

Year of Photo	Scale	Colour	Description
1949	1:30000	Black & White	The site is completely covered with grasslands and the surrounding areas are partly rural properties and partly vacant.
1963	1:40000	Black & White	Same as above, however a small object is

			visible which seems to have been a small isolated shed
1974	1:40000	Black & White	Same as above, no changes.
1984	1:40000	Black & White	A square shaped shaded area is visible near the centre of the site, however it is difficult to identify if it is a structure, slab or just an area used as a children's playing area eg. sand pit.
1993	1:25000	Colour	Same as above with more residential dwellings now built to the west, east and south of the site.
2005	Google Earth	Colour	Same as above, no changes.
2015	Google Earth	Colour	The site appears to be completely vacant and covered by grasslands.

4.6 Historical Site Usage

Based on Aerial Photographs and title records, the site has been generally vacant with possible farming from 1911 to 1984. Between years 1984 and 2005, the site has been occupied by what seems like a children's playing area such as a sand pit, as aerials photos show a square shaped shaded area near the centre of the site.

Based on title records and aerial photographs, the following historical uses could be identified:

Table 3 - Historical Land Use

1911 - 1984	Vacant & possible farming
1984 - 2005	Probable use as children's playing area.
2005 - 2015	Vacant.

4.7 Potential Contamination

The site history records available do not show the use of chemicals onsite. The following chemicals and waste may be associated with demolition of a shed and filling of land.

- Contamination such as heavy metals, hydrocarbons and asbestos associated with any imported fill.

5.0 Site Condition & Surrounding Environment

5.1 Topography

The site is located north of Irvine Street, Kiama. The site is generally flat with a slight south facing slope, as observed from the centre of the site. The site is generally covered with grass overlying silty sandy CLAY fill/ silty CLAY topsoil. The fill material may have been associated with the 'square shaped structure' which is assumed to have been a children's playing area such as a sand pit. The site was vacant at the time of the investigation.

5.2 Visible Signs of Contamination

During the site visit on 19 November, 2015 two boreholes were drilled (BH6-BH7). Potential contamination sources within the site is generally associated with fill placed with unknown contaminant sources however no signs of surface soils staining suggesting oil leakages were evident at the time of the investigation. The surface soils mainly contained gravelly CLAY fill/ silty CLAY topsoil.

5.3 Flood Potential

A flood study was not carried out for this investigation. The closest body of water is the Pacific Ocean located about 950m to the east of the subject site.

5.4 Geology & Subsurface Profile

Geological maps for the area indicate the site to be underlain by Bumbo Latite Member 'P_{sgb}' comprising Aphanitic to Porphyritic Latite.

The subsurface profile encountered in the boreholes (BH6 & BH7) may be generalised as follows:

Table 4: Subsurface Profile Encountered

	Layer/Description	Depth to Base of Layer
TOPSOIL/ FILL:	silty sandy CLAY, low plasticity, dark grey, traces of gravels Only in BH7	0.7
TOPSOIL:	silty sandy CLAY, low plasticity, dark grey Only in BH6	0.2
RESIDUAL:	sandy CLAY, medium plasticity, brown mottled orange	0.7 – 0.9
ROCK:	LATITE, extremely weathered, orange/ grey	>0.7 - >0.9

Groundwater was not encountered during drilling in of the boreholes. However, the depth to groundwater may change with the variation of environmental factors.

6.0 Fieldwork

Fieldwork carried out on 19 November 2015 comprised drilling 2 boreholes (BH6 & BH7) to refusal depths ranging from 0.8m to 1.0m using a skid steer Dingo drill rig. Disturbed samples were placed in plastic bags/ buckets and sealed and transported to NG's Laboratory located in Mount Kuring-Gai for materials testing.

Field investigation was carried out by a Geotechnical Engineer from NG who selected borehole locations, carried out sampling and prepared borehole logs. Borehole locations are shown on Drawing No. G09/1967-2, included in *Appendix B* and the borehole logs are included in *Appendix C*.

7.0 Results & Discussion - Contamination

7.1 Summary of Desk Study

The site history records available do not show the use of chemicals onsite. The subject site has been generally vacant prior to 1980's with possible farming activities. Between years 1984 and 2005 a 'square shaped shaded area' was visible, indicating a children's playing area. The site has been vacant from 2005 to the present.

The following chemicals and waste may be associated with the filling material placed.

- Contamination such as heavy metals, hydrocarbons and asbestos associated with any imported fill.
- Possible pesticides/ herbicides used as part potential farming activity in the past.

In general, there is assessed to be a low risk of potential contamination.

7.2 Borehole Logs & Visual Assessment

During the site inspection carried out on 19 November 2015 by NG staff, there was no visible staining of soil surfaces. There were no signs of oil/petroleum leakages. Samples recovered from boreholes did not have any obvious odours and discolouration.

7.3 Conclusion

Based on the above the risk of site contamination is assessed to be low and a detailed contamination assessment would not be required. The site is assessed to be suitable for the proposed residential development.

8.0 Geotechnical Aspects

8.1 Laboratory Test Results

Laboratory field moisture content test results on one residual sandy CLAY sample was 31.8%. Based on the above and Table 5 Laboratory Test Results, it is assessed the residual clay soils to be moderately to highly reactive. The laboratory results are included in *Appendix D* and are summarised as follows:

Table 5 Laboratory Test Results

Borehole No/ Depth (m)	Soil Description / Origin	LL (%)	PL (%)	PI (%)	LS (%)	FMC (%)
BH6 (1.5-1.9)	sandy CLAY, brown mottled orange/ Residual	43	30	13	6	31.8

Note: LL (Liquid Limit), PL (Plastic Limit), PI (Plastic Index), FMC % (Field Moisture Content), LS (Linear Shrinkage)

Based on the test results a Shrink-Swell Index of 3.0% is assigned for residual sandy CLAY. The fill is generally described as low plasticity silty sandy CLAY and is assessed to not meet

conventional engineered or controlled fill requirements. Dynamic Cone Penetrometer (DCP) tests carried out on residual clay indicated stiff to very stiff consistency.

Bedrock was encountered at 0.7m & 0.9m depths in BH6 & BH7, respectively.

8.2 Interim AS2870 Classification & Footings

Due to the presence of uncontrolled fill within the site the site is classified as Class P (Problem) in accordance with AS2870 'Residential Slabs & Footings'. The reactivity of residual clay on-site is assessed to be similar to Class H1 (Highly Reactive) indicating 40mm to 60mm of surface movement.

It is recommended that footings for the proposed residence comprise piers drilled to bedrock (Latite, extremely weathered) in order to reduce the potential differential settlement. Piers may be proportioned for an Allowable end Bearing Pressure (ABP) of 500kPa.

The founding materials for the proposed residence foundation should be confirmed by a geotechnical engineer to ensure that the above recommended ABP be adequate for the engineering design requirement.

Placement of further reactive fill may increase the severity of classifications. Therefore, advice should be sought if fill earthworks exceeding about 0.4m depth is to be carried out on any of the lots in order to verify that the classification remains valid.

The footing systems should be designed with generous provision for structural articulation to reduce potential effects of differential movement between areas of varying fill thickness and residual soil and rock exposed by earthworks.

The classifications presented in this report are provided on the basis that the performance expectations set out in Appendix B of AS2870-2011 are acceptable and that future site maintenance complies with CSIRO Sheet BTF-18, a copy of which is attached.

9.0 Limitations

This report has been prepared for SET Consultants in accordance with NG's proposal dated 20 October 2015 (Ref. G09/1967) under NG's Terms of Engagement.

The report is provided for the exclusive use of SET Consultants for the specific development and purpose as described in the report. The report may not contain sufficient information for developments or purposes other than that described in the report or for parties other than SET Consultants.

The information in this report is considered accurate at the date of issue with regard to the current conditions of the site. The conclusions drawn in the report are based on interpolation between boreholes or test pits. Conditions can vary between test locations that cannot be explicitly defined or inferred by investigation.

The report, or sections of the report, should not be used as part of a specification for a project, without review and agreement by NG, as the report has been written as advice and opinion rather than instructions for construction.

The report must be read in conjunction with the attached Information Sheets and any other explanatory notes and should be kept in its entirety without separation of individual pages or sections. NG cannot be held responsible for interpretations or conclusions from review by

others of this report or test data, which are not otherwise supported by an expressed statement, interpretation, outcome or conclusion stated in this report. In preparing the report NG has necessarily relied upon information provided by the client and/or their agents.

Network Geotechnics Pty Ltd

Appendix A

Information Sheets

General Notes About This Report

INTRODUCTION

These notes have been prepared by Network Geotechnics Pty Ltd (NG) to help our Clients interpret and understand the limitations of this report. Not all sections below are necessarily relevant to all reports.

SCOPE OF SERVICES

This report has been prepared in accordance with the scope of services set out in NG's proposal under NG's Terms of Engagement, or as otherwise agreed with the Client. The scope of work may have been limited by a range of factors including time, budget, access and/or site constraints.

RELIANCE ON INFORMATION PROVIDED

In preparing the report NG has necessarily relied upon information provided by the Client and/or their Agents. Such data may include surveys, analyses, designs, maps and plans. NG has not verified the accuracy or completeness of the data except as stated in this report.

GEOTECHNICAL AND ENVIRONMENTAL REPORTING

Geotechnical and environmental reporting relies on the interpretation of factual information based on judgment and opinion and is far less exact than other engineering or design disciplines.

Geotechnical and environmental reports are for a specific purpose, development and site as described in the report and may not contain sufficient information for other purposes, developments or sites (including adjacent sites) other than that described in the report.

SUBSURFACE CONDITIONS

Subsurface conditions can change with time and can vary between test locations. For example, the actual interface between the materials may be far more gradual or abrupt than indicated and contaminant presence may be affected by spatial and temporal patterns.

Therefore, actual conditions in areas not sampled may differ from those predicted since no subsurface investigation, no matter how comprehensive, can reveal all subsurface details and anomalies.

Construction operations at or adjacent to the site and natural events such as floods, earthquakes or groundwater fluctuations can also affect subsurface conditions and thus the continuing adequacy of a geotechnical report. NG should be kept informed of any such events and should be retained to identify variances, conduct additional tests if required, and recommend solutions to

problems encountered on site.

GROUNDWATER

Groundwater levels indicated on borehole and test pit logs are recorded at specific times. Depending on ground permeability, measured levels may or may not reflect actual levels if measured over a longer time period. Also, groundwater levels and seepage inflows may fluctuate with seasonal and environmental variations and construction activities.

INTERPRETATION OF DATA

Data obtained from nominated discrete locations, subsequent laboratory testing and empirical or external sources are interpreted by trained professionals in order to provide an opinion about overall site conditions, their likely impact with respect to the report purpose and recommended actions in accordance with any relevant industry standards, guidelines or procedures.

SOIL AND ROCK DESCRIPTIONS

Soil and rock descriptions are based on AS 1726 – 1993, using visual and tactile assessment except at discrete locations where field and / or laboratory tests have been carried out. Refer to the accompanying soil and rock terms sheet for further information.

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This report shall not be reproduced either totally or in part without the permission of NG. Where information from this report is to be included in contract documents or engineering specification for the project, the entire report should be included in order to minimise the likelihood of misinterpretation.

FURTHER ADVICE

NG would be pleased to further discuss how any of the above issues could affect a specific project. We would also be pleased to provide further advice or assistance including:

- Assessment of suitability of designs and construction techniques;
- Contract documentation and specification;
- Construction control testing (earthworks, pavement materials, concrete);
- Construction advice (foundation assessments, excavation support).



Abbreviations, Notes & Symbols

SUBSURFACE INVESTIGATION

METHOD

Borehole Logs

AS#	Auger screwing (#-bit)
AD#	Auger drilling (#-bit)
B	Blank bit
V	V-bit
T	TC-bit
HA	Hand auger
R	Roller/tricone
W	Washbore
AH	Air hammer
AT	Air track
LB	Light bore push tube
MC	Macro core push tube
DT	Dual core push tube

Excavation Logs

BH	Backhoe/excavator bucket
NE	Natural exposure
HE	Hand excavation
X	Existing excavation

Cored Borehole Logs

NMLC	NMLC core drilling
NQ/HQ	Wireline core drilling

SUPPORT

Borehole Logs

C	Casing
M	Mud

Excavation Logs

S	Shoring
B	Benched

SAMPLING

B	Bulk sample
D	Disturbed sample
U#	Thin-walled tube sample (#mm diameter)
ES	Environmental sample
EW	Environmental water sample

FIELD TESTING

PP	Pocket penetrometer (kPa)
DCP	Dynamic cone penetrometer
PSP	Perth sand penetrometer
SPT	Standard penetration test
PBT	Plate bearing test
s_u	Vane shear strength peak/residual (kPa) and vane size (mm)
N*	SPT (blows per 300mm)
Nc	SPT with solid cone
R	Refusal

*denotes sample taken

BOUNDARIES

————	Known
— — — —	Probable
.....	Possible

SOIL

MOISTURE CONDITION

D	Dry
M	Moist
W	Wet
Wp	Plastic Limit
WL	Liquid Limit
MC	Moisture Content

CONSISTENCY

VS	Very Soft
S	Soft
F	Firm
St	Stiff
VSt	Very Stiff
H	Hard
Fb	Friable

DENSITY INDEX

VL	Very Loose
L	Loose
MD	Medium Dense
D	Dense
VD	Very Dense

SW	Well graded sands and gravelly sands, little or no fines
SP	Poorly graded sands and gravelly sands, little or no fines
SM	Silty sand, sand-silt mixtures
SC	Clayey sand, sand-clay mixtures
ML	Inorganic silts of low plasticity, very fine sands, rock flour, silty or clayey fine sands
CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays
OL	Organic silts and organic silty clays of low plasticity
MH	Inorganic silts of high plasticity
CH	Inorganic clays of high plasticity
OH	Organic clays of medium to high plasticity
PT	Peat muck and other highly organic soils

ROCK

WEATHERING

RS	Residual Soil
XW	Extremely Weathered
HW	Highly Weathered
MW	Moderately Weathered
DW*	Distinctly Weathered
SW	Slightly Weathered
FR	Fresh

*covers both HW & MW

STRENGTH

EL	Extremely Low
VL	Very Low
L	Low
M	Medium
H	High
VH	Very High
EH	Extremely High

ROCK QUALITY DESIGNATION (%)

$$= \frac{\text{sum of intact core pieces} > 100\text{mm}}{\text{total length of section being evaluated}} \times 100$$

CORE RECOVERY (%)

$$= \frac{\text{core recovered}}{\text{core lift}} \times 100$$

NATURAL FRACTURES

Type

JT	Joint
BP	Bedding plane
SM	Seam
FZ	Fractured zone
SZ	Shear zone
VN	Vein

Infill or Coating

Cn	Clean
St	Stained
Vn	Veneer
Co	Coating
Cl	Clay
Ca	Calcite
Fe	Iron oxide
Mi	Micaceous
Qz	Quartz

Shape

pl	Planar
cu	Curved
un	Undulose
st	Stepped
ir	Irregular

Roughness

pol	Polished
slk	Slickensided
smo	Smooth
rou	Rough

USCS SYMBOLS

GW	Well graded gravels and gravel-sand mixtures, little or no fines
GP	Poorly graded gravels and gravel-sand mixtures, little or no fines
GM	Silty gravels, gravel-sand-silt mixtures
GC	Clayey gravels, gravel-sand-clay mixtures

Soil & Rock Terms

SOIL

MOISTURE CONDITION

Term	Description
Dry	Looks and feels dry. Cohesive and cemented soils are hard, friable or powdery. Uncemented granular soils run freely through the hand.
Moist	Feels cool and darkened in colour. Cohesive soils can be moulded. Granular soils tend to cohere.
Wet	As for moist, but with free water forming on hands when handled.

For cohesive soils, moisture content may also be described in relation to plastic limit (W_P) or liquid limit (W_L). [$>>$ much greater than, $>$ greater than, $<$ less than, $<<$ much less than].

CONSISTENCY

Term	c_u (kPa)	Term	c_u (kPa)
Very Soft	< 12	Very Stiff	100 - 200
Soft	12 - 25	Hard	> 200
Firm	25 - 50	Friable	-
Stiff	50 - 100		

DENSITY INDEX

Term	I_D (%)	Term	I_D (%)
Very Loose	< 15	Dense	65 - 85
Loose	15 - 35	Very Dense	> 85
Medium Dense	35 - 65		

PARTICLE SIZE

Name	Subdivision	Size (mm)
Boulders		> 200
Cobbles		63 - 200
Gravel	coarse	20 - 63
	medium	6 - 20
	fine	2.36 - 6
Sand	coarse	0.6 - 2.36
	medium	0.2 - 0.6
	fine	0.075 - 0.2
Silt & Clay		< 0.075

MINOR COMPONENTS

Term	Proportion by Mass	fine grained
	coarse grained	
Trace	$\leq 5\%$	$\leq 15\%$
Some	5 - 2%	15 - 30%

SOIL ZONING

Layers	Continuous exposures
Lenses	Discontinuous layers of lenticular shape
Pockets	Irregular inclusions of different material

SOIL CEMENTING

Weakly	Easily broken up by hand
Moderately	Effort is required to break up the soil by hand

SOIL STRUCTURE

Massive	Cohesive, with any partings both vertically and horizontally spaced at greater than 100mm
Weak	Peds indistinct and barely observable on pit face. When disturbed approx. 30% consist of peds smaller than 100mm
Strong	Peds are quite distinct in undisturbed soil. When disturbed $>60\%$ consists of peds smaller than 100mm

ROCK

SEDIMENTARY ROCK TYPE DEFINITIONS

Rock Type	Definition (more than 50% of rock consists of....)
Conglomerate	... gravel sized ($> 2\text{mm}$) fragments
Sandstone	... sand sized (0.06 to 2mm) grains
Siltstone	... silt sized ($<0.06\text{mm}$) particles, rock is not laminated
Claystone	... clay, rock is not laminated
Shale	... silt or clay sized particles, rock is laminated

STRENGTH

Term	Is50 (MPa)	Term	Is50 (MPa)
Extremely Low	< 0.03	High	1 - 3
Very Low	0.03 - 0.1	Very High	3 - 10
Low	0.1 - 0.3	Extremely High	> 10
Medium	0.3 - 1		

WEATHERING

Term	Description
Residual Soil	Soil developed on extremely weathered rock; the mass structure and substance fabric are no longer evident
Extremely Weathered	Rock is weathered to such an extent that it has 'soil' properties, i.e. it either disintegrates or can be remoulded, in water. Fabric of original rock is still visible
Highly Weathered	Rock strength usually highly changed by weathering; rock may be highly discoloured
Moderately Weathered	Rock strength usually moderately changed by weathering; rock may be moderately discoloured
Distinctly Weathered	See 'Highly Weathered' or 'Moderately Weathered'
Slightly Weathered	Rock is slightly discoloured but shows little or no change of strength from fresh rock
Fresh	Rock shows no signs of decomposition or staining

NATURAL FRACTURES

Type	Description
Joint	A discontinuity or crack across which the rock has little or no tensile strength. May be open or closed
Bedding plane	Arrangement in layers of mineral grains of similar sizes or composition
Seam	Seam with deposited soil (infill), extremely weathered insitu rock (XW), or disoriented usually angular fragments of the host rock (crushed)
Shear zone	Zone with roughly parallel planar boundaries, of rock material intersected by closely spaced (generally $< 50\text{mm}$) joints and /or microscopic fracture (cleavage) planes
Vein	Intrusion of any shape dissimilar to the adjoining rock mass. Usually igneous
Shape	Description
Planar	Consistent orientation
Curved	Gradual change in orientation
Undulose	Wavy surface
Stepped	One or more well defined steps
Irregular	Many sharp changes in orientation

Infill or Coating

Clean	No visible coating or discolouring
Stained	No visible coating but surfaces are discoloured
Veneer	A visible coating of soil or mineral, too thin to measure; may be patchy
Coating	Visible coating $\leq 1\text{mm}$ thick. Ticker soil material described as seam

Roughness

Polished	Shiny smooth surface
Slickensided	Grooved or striated surface, usually polished
Smooth	Smooth to touch. Few or no surface irregularities
Rough	Many small surface irregularities (amplitude generally < 1mm). Feels like fine to coarse sandpaper

Note: soil and rock descriptions are generally in accordance with AS1726-1993 Geotechnical Site Investigations

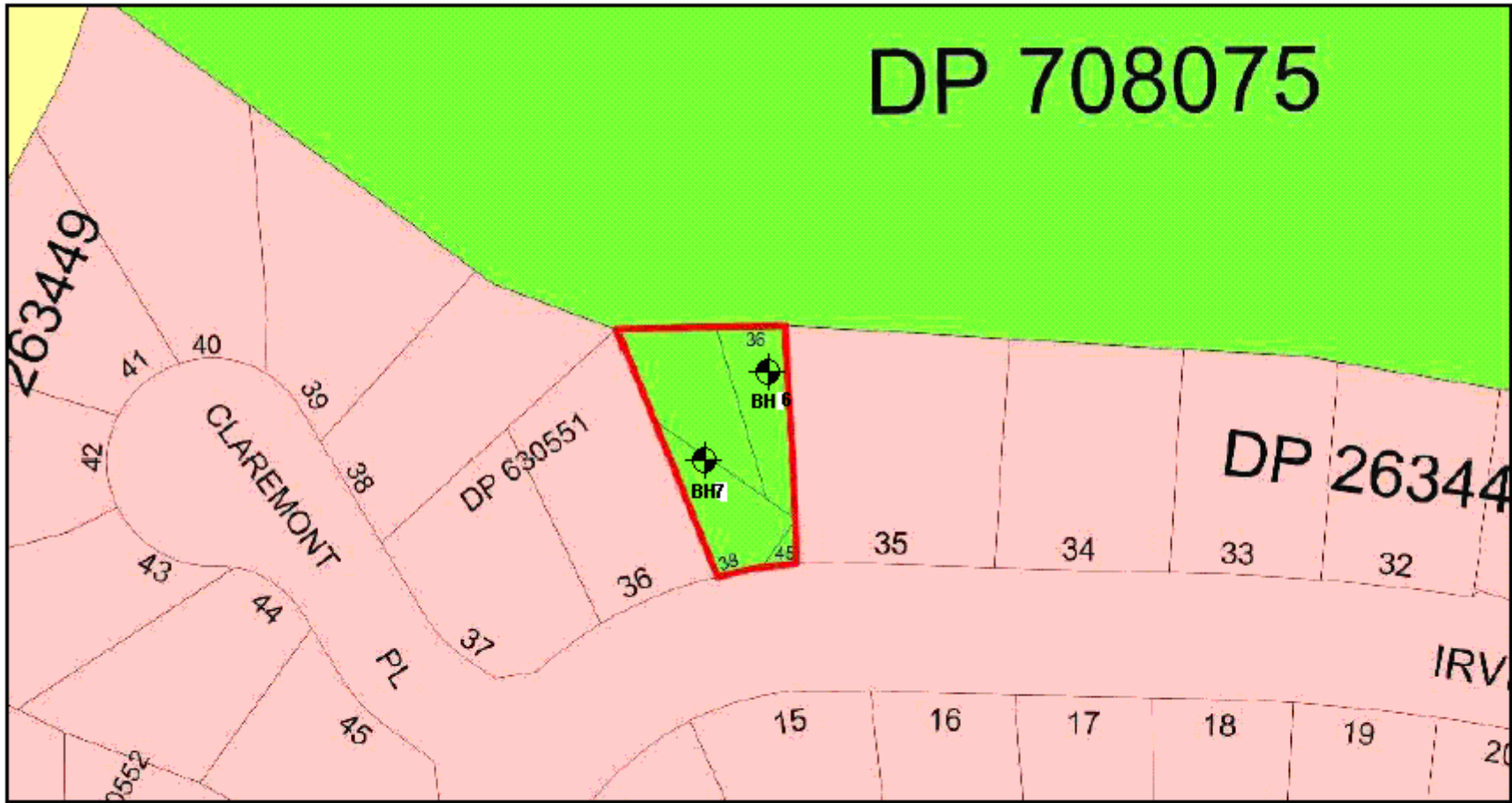
Graphic Symbols Index

Soil		Rock		Water Measurements	
	Fill		Sandstone		Level at time of drilling
	Peat, Topsoil		Shale		Level after drilling
	Clay		Clayey Shale		Inflow
	Silty Clay		Siltstone		Outflow
	Gravelly Clay		Conglomerate		
	Sandy Clay		Claystone		
	Silt		Dolerite, Basalt		
	Sandy Silt		Granite		
	Clayey Silt		Limestone		
	Gravelly Silt		Tuff		
	Gravel		Coarse grained Metamorphic		
	Sandy Gravel		Medium grained Metamorphic		
	Clayey Gravel		Fine grained Metamorphic		
	Silty Gravel		Coal		
	Sand	Other			
	Gravelly Sand		Asphalt		
	Silty Sand		Concrete		
	Clayey Sand		Brick		



Appendix B

Site Plan and Test Locations



	LEGEND:	 12/9-15 Gundah Road, MT KURING-GAI NSW 2080 Tel: (02) 8438 0300 Fax: (02) 8438 0310 Email: engineering@netgeo.com.au	Scale: A4 - NOT TO SCALE	Client: SET CONSULTANTS
	APPROXIMATE BOREHOLE LOCATIONS		Date: 17/12/2015	Project: PROPOSED RE-ZONING
			Drawing: MA	Location: IRVINE STREET, KIAMA
			Drawing No: G09/1976-2	Sheet: 1 of 1 SITE PLAN

Appendix C

Borehole Logs

BOREHOLE LOG

Job No: G09/1967

Hole No: BH7

Sheet: PAGE 1 / 1

Client: Set Consultants

Started: 19/11/15

Project: Proposed Re-Zoning of Land

Finished: 19/11/15

Location: Iluka Reserve, Kiama Downs
GPS

Logged: MA

Checked: VDS

Equipment Type: Truck Mounted Ezi - Probe Drill Rig

RL Surface:

Borehole Diameter: 110mm (I.D.)

Inclination:

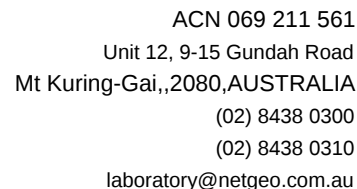
Bearing:

Datum: -

method	water	samples, tests etc	DCP Blows per 150 mm	depth (m)	graphic log	USCS symbol	Material Description	Moisture condition	Consistency/relative density	comments notes, structure, and additional observations
LB	None Encountered			1.0		CL	Silty Sandy CLAY low plasticity, dark grey, traces of gravel	≤Wp		TOPSOIL/FILL
						CI	Sandy CLAY medium plasticity, brown mottled orange			RESIDUAL
						-	LATITE, extremely weathered, orange/grey			ROCK
							BH7 Terminated at 1 m			

Appendix D

Laboratory Test Results



Client:	SET Consultants	Job No:	G09/1967	Sheet:	1 of 1
Client Address:	44 Manning St Kiama NSW 2533	Report No:	1		
Principal:					
Project:	Proposed Rezoning of Public Land	Tested By:	Cathy McDonald	Date:	20/11/2015
Location:	Illuka Reserve and Lot 38 Irvine St - Kiama				

Sample Procedure: AS1289.1.2.1 (Clause 6.5.3 - Power Auger Drilling)

Sample Number	Test Pit or Borehole	Depth	Test Results
G51850	Borehole No: BH2	1.5-1.9m	37.0
G51851	Borehole No: BH1	1.3-1.7m	32.8
G51852	Borehole No: BH6	0.3-0.7m	31.8

Mt Kuring-Gai Laboratory 1318

DATE
26/11/2015

TEST REPORT

Page 2 of 2

Client: SET Consultants
Project: Proposed Rezoning of Public Land
Location: Illuka Reserve and Irvine St - Kiama
TR Number :

Job Number: G09/1967
Report Number: 2
Issue No: 1

This report replaces all previous issues of the above report number.

Lot Number :	Lab Number:	G51852
Lot Description :	Date Sampled:	19/11/2015
Borehole No: BH6	Sampling Procedure:	AS1289.1.2.1 (Clause 6.5.3 - Power Auger Drilling)
Depth: 0.3-0.7m	Sample Description:	Refer to Borehole logs

ATTERBERG LIMITS & LINEAR SHRINKAGE

TEST PROCEDURE		TEST RESULTS
Liquid Limit (W_L)	%	43
AS1289.3.1.2		
Plastic Limit (W_P)	%	30
AS1289.3.2.1		
Plasticity Index (I_P)	%	13
AS1289.3.3.1		
Linear Shrinkage	%	6.0
AS1289.3.4.1		
LS Comments		-
Sample History:		Oven Dried
Preparation Method:		Dry
Shrinkage Mould Length(mm)		250

REMARKS:



Accredited for compliance with ISO/IEC 17025.

Mt Kuring-Gai Laboratory 1318



APPROVED SIGNATORY
Steven Waugh

DATE
26/11/2015

7.4 Kiama Heritage Inventory Sheet

Kiama Heritage Inventory

State Heritage Inventory

SHI Number

1860040

Study Number

K05-25

Item Name: **Leisure Centre Quarry**

Location: **Havilah Place, Kiama**

Address: Havilah Place

Suburb / Nearest Town: Kiama 2533

Local Govt Area: Kiama

State: NSW

DUAP Region: Illawarra & Macarthur

Historic region: Illawarra

Parish: Kiama

County: Camden

Address: Terralong Street

Suburb / Nearest Town: Kiama 2533

Local Govt Area: Kiama

State: NSW

DUAP Region: Illawarra & Macarthur

Historic region: Illawarra

Parish:

County:

Other/Former Names: Terralong Street Quarry, Pikes Hill Quarry

Area/Group/Complex:

Group ID:

Aboriginal Area:

Curtilage/Boundary:

Item Type: Archaeological-Terrest Group: Mining and Mineral Pr Category: Quarry

Owner: Local Government

Admin Codes: Kiama Council

Code 2:

Code 3:

Current Use: Indoor & Outdoor Sports complex

Former Uses: Quarry

Assessed Significance:

Endorsed Significance:

Statement of Significance: Large Basalt quarries form a distinctive part of the landscape near Kiama. They indicate the historic importance of the industry and the suitability of the stone for building and metalling, both locally and in Sydney.

Historical Notes or Provenance: Quarrying commenced in the Kiama area, at the top of Terralong Street one of the earliest Quarries was opened by Joseph Pike
In c 1863. further quarries opened were owned by Michael Hindmarsh, Capt. Samuel Charles, Carsons and several others.
Pikes Hill cut through in 1863 - Bombo Cutting to Railway - 1891
The stone was cut into cubes, much was used locally, in the building industry and smaller pieces used to pave the roads, roads in Sydney were also paved with the hard wearing basalt stone.
The stone trade continued and the last shipment from Kiama was in 1960's stone is still quarried, at Dunmore. Houses were erected for the workers, near the quarry, in Collins Street and Terralong Street, these cottages still stand.
The art of using the Knap and Spawl, is long lost, but at Carsons Kiama, old Ned, recently showed how it was done, wearing the clothing and protective head-gear at the time.

State Heritage Inventory

Date: 10/06/2004

Full Report with Images

Page 1

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Kiama Heritage Inventory

State Heritage Inventory

SHI Number

1860040

Study Number

K05-25

Item Name: **Leisure Centre Quarry**

Location: **Havilah Place, Kiama**

Themes: National Theme

3. Economy

State Theme

Mining

Local Theme

(none)

Designer:

Maker / Builder:

Year Started: 1863

Year Completed:

Circa: No

Physical Description: Cuttings besides roadways and exposed 19th Century rock quarry faces. Large Moreton Bay Fig. Rock faces now overgrown with ornamental olives.

Physical Condition:

Modification Dates:

**Recommended
Management:**

Management:

Further Comments:

Criteria a)

Criteria b)

Criteria c) Major landmark element in the landscape

Criteria d)

Criteria e) Important landmark significance in the local area and townscape.

Criteria f)

Criteria g)

Integrity / Intactness:

References:

Studies:	Author	Title	Number	Year
	Perumal Murphy Wu Pty Ltd	Illawarra Heritage Study Review Kiama Inventory	K05-25	1994
	Anne Crostin Ali	Illawarra Region Historic Buildings & Sites	B54	1981
	Edward Higginbotham	Historical & Industrial archeological sites, Illawarra Regional Heritage Study	22	1993

State Heritage Inventory

Date: 10/06/2004

Full Report with Images

Page 2

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Kiama Heritage Inventory

State Heritage Inventory

SHI Number

1860040

Study Number

K05-25

Item Name: **Leisure Centre Quarry**

Location: **Havilah Place, Kiama**

Simpson Dawbin

Kiama Heritage Review 2000

2000

Parcels: Parcel Code LotNumber Section Plan Code Plan Number

LOT 4 DP 248979

LOT 1 DP 256557

Latitude:

Longitude:

Location validity:

Spatial Accuracy:

Map Name:

Map Scale:

AMG Zone:

Easting:

Northing:

Listings:	Name:	Title:	Number:	Date:
	Regional Environmental Plan	Illawarra	No.1	11/04/86
	Local Environmental Plan	Kiama	1996	19/07/96

:

:

:

:

:

:

Data Entry: Date First Entered: 21/03/2000 Date Updated: 10/06/2004 Status: Completed

State Heritage Inventory

Date: 10/06/2004

Full Report with Images

Page 3

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Kiama Heritage Inventory

State Heritage Inventory

SHI Number

1860040

Study Number

K05-25

Item Name: **Leisure Centre Quarry**

Location: **Havilah Place, Kiama**

Image/s:



Caption: Leisure Centre Quarry

Copyright: Bruce Dawbin & Kiama Council 2000

Image by: Bruce Dawbin

Image Date: 25/06/00

Image Number: 1860040

Image Path:

Image File: 1860040.jpg

Thumb Nail Path:

Thumb Nail File:

State Heritage Inventory

Date: 10/06/2004

Full Report with Images

Page 4

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Kiama Heritage Inventory

State Heritage Inventory

SHI Number

1860040

Study Number

K05-25

Item Name: **Leisure Centre Quarry**

Location: **Havilah Place, Kiama**

Image/s:



Caption: Leisure Centre Quarry Walls

Copyright: Bruce Dawbin & Kiama Council 2000

Image by: Peter Stuckey

Image Date: 3/04/01

Image Number: 1860040

Image Path:

Image File: 1860040a.jpg

Thumb Nail Path:

Thumb Nail File:

State Heritage Inventory

Date: 10/06/2004

Full Report with Images

Page 5

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