NSW GOVERNMENT | Office of Environment & Heritage

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Mr George Koshy
Director, Land Release
Department of Planning and Environment
GPO Box 39
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Dear George Koshy

Ingleside Precinct

I refer to your letter received by the Office of Environment and Heritage (OEH) on 15 December 2016 advising that the Draft Ingleside Land Use and Infrastructure Strategy (the draft Strategy) is on public exhibition.

It is understood that the draft Strategy proposes future land uses for Ingleside and outlines the new infrastructure needed to support urban development in Ingleside. Associated with this are proposed changes to the State Environmental Planning Policy (Sydney Regional Growth Centres) 2006 which would make Ingleside a Priority Growth Area.

OEH has reviewed the draft Strategy, Structure Plan and supporting documents and provided comments in the attachment in regard to sustainability and liveability, biodiversity, Aboriginal cultural heritage, OEH estate and flood risk management matters.

Please contact Marnie Stewart, Senior Operations Officer, on 9995 6868 for any clarification or further information.

Yours sincerely

8/3/2017

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ATTACHMENT – Office of Environment and Heritage comments on Ingleside Precinct and Draft Ingleside Land Use and Infrastructure Strategy

Sustainability and Liveability

OEH supports the objective of the Ingleside Draft Land Use and Infrastructure Strategy (Draft Strategy) to "*integrate planning measures and enable environmentally, economically and socially sustainable development*" and the development outcome of *"the land use and infrastructure strategy positions Ingleside to be an exemplar of sustainable precinct planning and development in NSW".* OEH also notes that under section 3.13, the future Development Control Plan (DCP) will include *"Future proof provisions for emerging responses such as electric vehicle re-charging infrastructure and carbon reduction technology and including light-emitting diode street lighting"* and increased BASIX targets. It is also noted that the brochure *The Planning for a Sustainable Future: the Ingleside Precinct* states that "*Further investigations will explore sustainable development in Ingleside and the capability for it to be constructed at higher performance levels with a view towards creating a truly green community*".

OEH considers that the draft Strategy and draft Structure Plan provides the opportunity to establish new, but affordable standards of sustainability and liveability for the Ingleside Precinct. OEH is concerned however, that draft Strategy and the supporting *Planning for a Sustainable future for Ingleside Precinct* has missed some key opportunities to achieve this exemplar status in sustainable precinct planning. OEH is keen to assist Department of Planning and Environment (DPE) in the current and future precinct planning process in order to establish a community that is sustainable, liveable, healthy and resilient.

In this regard, OEH recommends that the Draft Strategy refers to and emphasises the importance of the *Sustainability Peer Review and Strategy Analysis for Ingleside Precinct (Kinesis 2016)* commissioned by Pittwater Council, NSW Government's climate change policy objective of net-zero emissions by 2050, United Nations Sustainable Development Goals, NSW Government's *Technical Guidelines for Urban Green Cover*, NSW Government's Better Placed policy, and other exemplar developments (e.g. Green Building Council Australia's 6-Star developments), to achieve the following:

<u>Positive carbon and water</u>

Regenerative developments produce more clean energy and water to benefit the broader community and assist with downward pressure on bills and energy security. Across the Ingleside Precinct this would mean delivering local distributed infrastructure (micro-grid), and high performing building stock to enable solar capture and storage for households and retailers along with powering public LED lighting and free Electric Vehicle charging. Homes and commercial buildings should also be oriented and designed for passive solar benefits to reduce electricity usage and costs.

Implementing underground energy infrastructure would also minimise fire risk, reduce overhanging tree maintenance costs and improve visual amenity.

Sustainable water infrastructure should be designed and delivered across the precinct including recycled water and water sensitive design features such as permeable paving, rainwater harvesting, and vegetation retention, to save water where it falls, reduce watering needs and costs, filter pollutants and help manage local rain events.

<u>Waste infrastructure considered upfront</u>

Amenity issues, safety and clean neighbourhoods and streets is important to everyone. Having large numbers of bins at kerbsides, waste collection vehicles blocking street access during collection times

and waste illegally dumped on footpaths makes neighbourhoods unattractive and impacts on amenity. To avoid this, early consideration in the planning process for how waste and recycling will be collected and managed in precincts is essential. Early consideration of waste issues will help to achieve safe, clean and efficient waste collections that allow residents the best opportunity to recycle their waste. High tech, automated waste collection systems which utilise underground vacuum pipes should be considered. These systems use waste inlets for organic, recyclable and general waste and are being implemented in Maroochydore CBD.

A thriving Ingleside community

Designing for people rather than cars means ensuring that Ingleside Precinct encourages walking and biking and the design of a public realm that maximises comfort, amenity, and safety and is easily accessible for the community to interact and enjoy down-time, as desired.

It is important that the Draft Strategy and draft Structure Plan does not privilege cars over people and there is room to improve active transport design across the precinct e.g. wide footpaths, separate high quality bike lanes and good, uninterrupted connections to public transport and amenities. Options such as park and ride facilities should also be considered to aid in the reduction of private car trips. This is also consistent with the Greater Sydney Commission Draft North District Plan Liveability Priority 6.

As temperatures rise, thermal comfort will be important to consider when designing public spaces, and the built and natural form within the precinct to leave larger trees intact to provide their enhanced cooling and amenity benefits.

Healthy Ingleside ecosystems

Healthy bushland, vegetation and integration with natural waterways will deliver numerous ecosystem services to Ingleside residents including improved air and water quality, privacy, climate change resilience, noise reduction, mental and physical wellbeing, as well as habitat for local species.

Rather than clearing all the land for the built form zones, the following principles should be included in the Draft Strategy and precinct planning process to ensure that they are taken into consideration when developing the precinct:

- Retain, maintain and increase good quality patches of native trees, shrubs and grasses.
- Maintain undisturbed connection of these patches to aid species dispersal and genetic diversity, or provide a connection by restoring vegetation native to the area, or by planting non-native plants that also support the needs of local wildlife.
- Ensure that vegetation along drainage lines and creeks continues to play a critical role in creating effective green corridors, preventing erosion and keeping waterways healthy.
- Restore lower-quality bushland by removing or minimising causes of degradation including pests, weed and pollution.
- Strategic planning should prioritise compact development and use high environmental value land and overlapping formal and informal green space to provide natural buffers and connect these patches, including Green Grid.
- Design nature-friendly neighbourhoods to increase habitat and community benefits including:
  - limiting the removal of any trees in the landscape and especially mature trees larger than 80cm in diameter and those with hollows.
  - using street verges, median strips, backyards, carparks, private and public land to increase the density of native trees and different plant layers with species that are local to the area and providing artificial habitat where needed.
  - encouraging water efficient green roof, wall plantings and urban wetlands to enhance ground level vegetation and increase urban habitat and cooling.

- Integrate Water Sensitive Urban Design elements such as permeable surfaces, bioswales and raingardens to capture rain and stormwater runoff to water vegetation, filter pollutants and reduce local flooding.

Transport

To encourage cycling and other active transport, shade trees should be planted along walkways and cycle ways. In this regard, consideration should be given to ensure the trees selected do not overshadow roofs that have the potential to accommodate solar hot water systems and solar panels. In addition, there should be Investment in electric vehicle infrastructure to increase uptake, especially in an area with limited public transport.

Green Star communities

The draft Strategy, section 3.8.8 Non-indigenous heritage, indicates that the Heritage Interpretation Strategy would assist in meeting the requirement of Green Star Communities. It is noted that there are no other references to the Green Star Communities in the draft Strategy. It is therefore unclear whether it is proposed to seek a Green Star certified rating. If Green Star certification is proposed, this would be strongly supported by OEH.

Technical Guidelines for Urban Green Cover in NSW

An important aspect of liveability will be the ability of communities to adapt to the impacts of climate change. It is expected over the near and far future that maximum and minimum temperatures will increase, as will the number of hot days and severe fire weather days. Unlike hard surfaces, trees and vegetation reflect heat and cool and clean the air by evapotranspiration. Other benefits are better health and well-being for urban-dwellers, more biodiversity and wildlife, and regulation of localised flooding.

Types of urban green cover include bushland, private and community gardens, parks, greenways, habitat corridors, street trees, roof gardens and plant-covered walls, as well as reflective and permeable walls, pavements and other surfaces. Protecting local green spaces, designing eco-friendly buildings and creating urban networks of green space can help to minimise the impacts of urban heat in our cities and towns.

The NSW Government has produced the *Technical Guidelines for Urban Green Cover in NSW* to provide practical advice on best practice (http://climatechange.environment.nsw.gov.au//Adapting-to-climate-change/Green-Cover). The purpose of these guidelines is to increase the resilience of NSW settlements and communities to climate change, specifically to increasing temperatures in urban settings. OEH recommends that DPE consider opportunities to address and deliver green cover in the draft Strategy and precinct planning process. This could include specific provisions to deliver green cover and requiring the retention of existing vegetation.

This recommendation is consistent with the Greater Sydney Commission Draft North District Plan "*Sustainability Priority 6: Protect, enhance and extend the urban canopy – When making strategic plans, relevant planning authorities should consider how tree canopy cover in land release and established urban areas can be protected and increased, with a focus on providing shade to streets. Councils should include green cover and shade tree planting along major transport corridors in local infrastructure investment planning, development control and urban design. How these matters have been taken into account is to be demonstrated in any relevant planning proposal".*

And

"Sustainability Priority 5: Align strategic planning to the vision for the Green Grid Consistent with Action 3.2.1 of A Plan for Growing Sydney, relevant planning authorities should consider opportunities to support the delivery of the North District Green Grid. This could include how land use zones can be applied, how new development is designed, or where voluntary planning agreements and agreements for dual use of open space and recreational facilities could contribute to delivering

the Green Grid. How these matters have been taken into account is to be demonstrated in any relevant planning proposal".

In addition to mitigating the effects of urban heat, a UTS study has recently found that green space and urban tree cover impacts the concentration of airborne particulate matters. Particular matter generally comes from motor vehicle exhaust and this pollution is responsible for several cancers and serious respiratory diseases like asthma. The study concluded that regardless of where people lived in Sydney, the volume of trees within 100m radii of where a person is, is the most important determinant of the quality of the air people are breathing.

Biodiversity

Biodiversity Certification

As DPE is aware, OEH provided detailed comments on 14 December 2016 on the letter to DPE from Eco Logical Australia (ELA) of 10 October 2016 containing the May 2016 version of the revised draft Biodiversity Assessment Report (draft BAR) (version 5) and other documents relating to the biodiversity certification of the Ingleside Precinct. OEH understands that DPE are currently considering these comments.

OEH notes that the exhibited draft BAR was prepared in October 2016 prior to the most recent OEH comments in December 2016 and therefore the exhibited version would not have addressed OEH's most recent comments. In regard to biodiversity certification, it is also noted that the draft BAR states:

"Subsequent to this Draft Biodiversity Assessment Report, it is anticipated that a formal Biodiversity Assessment Report and a Biodiversity Certification Strategy (not yet prepared) will be exhibited as part of the Ingleside precinct planning process. The future formal Biodiversity Assessment Report will include calculation of the impacts and gains according to the Biodiversity Certification methodology. The Biodiversity Certification Strategy will set out the conservation actions proposed and will be prepared to accompany the formal rezoning application. This document thus primarily identifies the biodiversity values present within the precinct, and also provides indicative details of biodiversity outcomes, noting that full credit calculations will be provided in the future documentation".

OEH will continue to work with DPE and provide comments on the proposed biodiversity certification application as additional information and future reports become available.

Draft Biodiversity Assessment Report

To assist DPE, OEH provides the following specific comments in regard to the exhibited draft BAR:

- The draft BAR has highlighted the importance of the heath vegetation to the north of Powderworks Road, particularly as habitat for the Eastern Pygmy-possum. This vegetation is shown as corridor 7 on Figure 32. However, it is noted that on the draft Structure Plan the centre of this area is proposed to be E3 rather than E2. If an area of E3 is required in this locality, it would be preferable if this zoning was at the edge rather than in the centre of this patch (i.e. split zone of E2 and E3).
- It is noted that Figure 22 is a species polygon for three threatened fauna species which have quite different habitat requirements (i.e. eastern Pygmy-possum, Red-crowned Toadlet and koala). Although it is acknowledged some of their habitats overlap, it would be preferable if separate polygons were provided for these species.
- The outcomes for the different vegetation types are listed in Table 15 of the draft BAR. More than half (56%) of the vegetation listed under 'Other native vegetation' is proposed to be outside the areas proposed for Environmental Conservation. The 'Other native vegetation' includes a variety of habitats, and given that they have been grouped together it isn't possible to establish the relative impacts on each of the vegetation types or habitats. It would be preferable if these data were provided separately for each vegetation and/or habitat type.

Ecological corridors

The Draft Strategy states that "Wildlife corridors, which connect areas of high biodiversity value with each other and other large areas of habitat outside of the Precinct, are protected to achieve ecological connectivity" and "Areas of high biodiversity value are protected within the riparian corridor or through wildlife corridors, mostly through environmental conservation or environmental management."

Figure 31 of the draft BAR maps the wildlife corridors proposed by ELA and Figure 32 of the draft BAR shows the final corridors in the draft Structure Plan. In this regard, OEH provides the following comments:

- it is noted corridor 6 proposed by ELA "Wirreanda Creek" has not been included in the draft Structure Plan. There is a corridor proposed nearby (corridor 6 on the draft Structure Plan) but it does not link up to Garigal National Park in the west, it stops at Manor Road, thereby not providing as good a connective link as the corridor proposed by ELA. It also stops short of providing connectivity to the small patch of Upland Swamp Endangered Ecological Community (EEC) west of Manor Road.
- the ELA corridor map proposes a corridor between the Bahai Temple, Ku-ring-gai Chase National Park and Garigal National Park, but this hasn't been included on the draft Structure Plan. Vegetation at the Bahai Temple has high conservation significance, given the presence of Duffys Forest EEC and a large population of *Grevillea caleyi*, so it is important that connectivity is maintained and enhanced to this site.
- Corridor 3 on the draft Structure Plan provides an important link between the Cicada Glen Creek area (where a number of threatened fauna have recently been sighted) and the Ingleside Scout Camp area (which includes the Upland Swamp EEC and the draft BAR states it may be suitable as a Biobank site). However, the corridor as proposed in the draft Structure Plan is severed by the proposed development of lots west of Chiltern Road (e.g. Lot 210 DP752046), so its efficacy will be compromised.

It is recommended that the draft Strategy and draft Structure Plan be amended to address these issues.

Mona Vale Road upgrade – fauna crossings

Figure 33 of the draft BAR shows nine culverts that could be utilised for fauna crossings. It is noted the proposed Mona Vale Road Upgrade which is currently on exhibition, proposes three fauna crossings at different locations to those in the draft BAR. OEH supports measures to maintain fauna connectivity. It is also noted that the section 5.1 of the draft BAR includes a proposal to prepare a *Fauna Connectivity on Local Roads Strategy* as part of the Biodiversity Certification application, to further investigate these crossings.

Angus Onion Orchid

OEH will provide comments in regard to the *Microtis angusii* and *Grevillea caleyi* assessments separately to this advice.

OEH estate

OEH's *Guidelines for developments adjoining land managed by the OEH* have been prepared for use by planning authorities when assessing development that may impact on land and water bodies managed by OEH which should be considered as part of the current and future precinct planning process (http://www.environment.nsw.gov.au/protectedareas/developmntadjoiningdecc.htm).

OEH notes that part of Ku-ring-gai Chase National Park has been included within the precinct boundary. It is unclear to OEH why part of the national park have been included in the precinct. In the absence of any justification, OEH requires the national park to be removed.

On a specific matter, it is noted that while Figure 31 of the draft BAR shows a 'habitat buffer' around the whole edge of Ku-ring-gai Chase National Park, the draft Structure Plan shows that the lots at the northern end of Chiltern Rd do not include a buffer to Ku-ring-gai Chase National Park. OEH therefore recommends that the 'habitat buffer' as shown in Figure 31 be incorporated into the draft Structure Plan and draft Strategy.

Flood Risk Management

OEH has reviewed the Ingleside Precinct Water Cycle Management and Flooding Assessment Strategy (Cardno, 2016) (Cardno report). The Cardno report adequately identifies all relevant floodplain management issues and constraints, including that the subject land is steep and is not itself significantly impacted by the 1:100 AEP flood event, but has the potential for significant downstream impacts.

The modelling shows that the proposed development generally increases the intensity of stormwater flows within and from the site. This is due to the changes in land use, with the transition from green space and bushland that slowly absorbs stormwater, to a higher proportion of hard, impermeable, surfaces. The Cardno report recommends that the stormwater runoff constraints identified are able to be satisfactorily managed through more detailed investigations and designs as part of the future, more detailed, approval processes. In particular, to deal with the increased stormwater flows caused by increased impervious surfaces, flood detention basins have been proposed for incorporation into the draft plan to attenuate the peak stormwater flows to existing levels in the precinct. Both on-line (i.e. on the existing watercourse) and off-line (located away from the watercourse) basins are proposed to provide peak stormwater control and ensure that there are no adverse impacts on stormwater flows and flood behaviour within and downstream of the developed precinct.

The proposed recommendations in the Cardno report are supported by OEH. Further investigation and design studies will be required once detailed development options have been progressed to confirm findings of the Cardno report.

Water quality – impacts Narrabeen lagoon catchment

OEH recommends the adoption in the Draft Strategy of OEH and Environment Protection Authority's risk based framework to determine the appropriate stormwater and wastewater management targets that contribute to maintaining, improving or restoring water quality and waterway health to help meet the NSW Water Quality and River Flow Objectives. This will protect the watercourses and protect the community values and expectations of how waterways will be used and is consistent with Greater Sydney Commission Draft North District Plan Sustainability Priority 1: Maintain and improve water quality and waterway health.

Aboriginal Cultural Heritage

OEH notes that the draft Ingleside Precinct: Aboriginal Heritage Assessment report prepared by Kelleher Nightingale Consulting dated October 2016 (the report) has found that the Aboriginal heritage of Ingleside Precinct is of high Aboriginal cultural heritage significance.

Investigations identified 25 Aboriginal heritage sites (Aboriginal objects) within Ingleside Precinct. These were all rock marking sites, including rock engravings, grinding grooves and a shelter site with art and archaeological deposit. All identified Aboriginal heritage sites were assessed to be of high significance in terms of both their archaeological and Aboriginal cultural heritage values. Further Aboriginal heritage sites of similar types to those identified through the assessment likely occur in the Precinct, such as in heavily vegetated areas or in private properties which were not accessible for this study. The Aboriginal heritage of the Precinct is significant and should be conserved wherever possible.

Despite the planned conservation of 60% of identified sites, rezoning of the precinct according to the draft Plan may allow for potential future development impact to four Aboriginal heritage sites (16%), including:

- 2 sites (8%) within the proposed 'Houses' land use area. Of these:
    - Site 45-6-0869 was not able to be accessed for the study as permission to access the property was not provided – the location of this site is unverified.
    - Site 45-6-1417 was not able to be relocated, with the AHIMS record noting it has likely been destroyed.

Further investigation would be required for these sites prior to any development in the vicinity of the AHIMS registered site locations.

- 2 sites (8%) within the proposed 'Low Rise Apartments / Townhouse' land use area. Of these:
    - Site 45-6-0072 is located on the margin of the residential area in an area which is proposed to be a road reserve (towards the edge of the reserve) to allow for conservation of the site within the road reserve. Further investigation would be required during the detailed investigations for the future design/development application for the road or development within the residential area. It is recommended the site be avoided by future development.
    - Site 45-6-0844 was not able to be relocated for the study as permission to access the property was not provided so its location is unverified. Further investigation would be required.

All four potentially impacted sites are rock marking sites, including rock engravings and grinding grooves. The sites are of high Aboriginal cultural heritage significance, important to the local Aboriginal community and worthy of conservation.

OEH recommends these sites be avoided by any future development within these land use areas. Loss of these significant sites would be a negative effect of rezoning on Aboriginal heritage, however informed and sympathetic development should be able to conserve these sites. Given these types of sites are fixed points in the landscape and usually have clearly defined boundaries, it is achievable that these sites could be avoided through informed and sympathetic detailed design of any future development proposals within these areas. Further detailed impact assessment, Aboriginal community consultation and development of specific heritage management measures would be required at the detailed development layout stage.

Aboriginal heritage assessment should form part of the site analysis/environmental assessment undertaken to support any future development application (DA) made to Council. The site analysis should:

- Investigate the property and its surroundings to identify the location of on-site and nearby Aboriginal heritage items (archaeological sites) or areas of potential Aboriginal cultural heritage significance;
- Assess how future development would relate to the Aboriginal heritage on the property and its immediate surroundings; and
- Produce a design which minimises negative effects on Aboriginal heritage.

An Aboriginal Heritage Management Plan is recommended for any Aboriginal sites being retained within development areas or for land within a conservation area. Aboriginal heritage provisions should be included in any Plan of Management prepared for the environmental conservation land use areas within the Precinct.

Overall, DPE is advised that the provided report satisfies the recommendations of OEH's previous comments regarding an Aboriginal cultural heritage study of the precinct and OEH supports the findings and recommendations of the report.

(END OF SUBMIISION)