



26 September 2018

Long Bow Point Golf Course (SSD 8406)

1. INTRODUCTION

1. On 4 July 2018, the Independent Planning Commission NSW (the **Commission**) received from the NSW Department of Planning and Environment (the **Department**) a State significant development application from Allen Price & Scarratts Pty Ltd, on behalf of the Halloran Trust, (the **applicant**), to develop an 18-hole championship golf course at Long Bow Point (the **Project**).
2. On 7 March 2017, the Minister for Planning declared the Project to be State Significant Development (**SSD**), following advice dated 29 November 2016 from the then Planning Assessment Commission (**PAC**), which considered the Project to be of State and regional significance, due to the high ecological value and State and regional importance of the adjoining Lake Wollumboola.
3. The Commission is the consent authority in respect of the development application (the **application**) under section 4.5(a) of the *Environmental Planning and Assessment Act 1979 (EP&A Act)* and clause 8A of the *State Environmental Planning Policy (State and Regional Development) 2011 (SEPP SRD)*. This is because:
 - the Project constitutes SSD under section 4.36 of the EP&A Act; and
 - the Department received more than 25 submissions from the public objecting to the Project.
4. Professor Mary O'Kane AC, Chair of the Commission, nominated herself (as Panel Chair), Ross Carter, and Ilona Millar to constitute the Commission determining the Project.

1.1 Site and locality

5. During its meeting with the Commission on 19 July 2018 (discussed in further detail below at paragraph 42), the applicant stated that the Project is located on Long Bow Point, (the **site**), which covers approximately 196 hectares (**ha**), and that the proposed golf course would occupy approximately 36 ha, or 18 percent of the site. The site is bound by Culburra Road to the north-west, a retirement village and Bowling Club to the north, Lake Wollumboola and the Jervis Bay National Park to the south-east.
6. The Department's Assessment Report (the **Department's AR**) stated that Long Bow Point is located on the southern side of Culburra Road and is approximately 15 kilometres (**km**) south-east of Nowra in the Shoalhaven local government area (**LGA**). The coastal township of Culburra Beach is located approximately 2.5 km north-east of the site. *Figure 1* shows the site in a regional context.

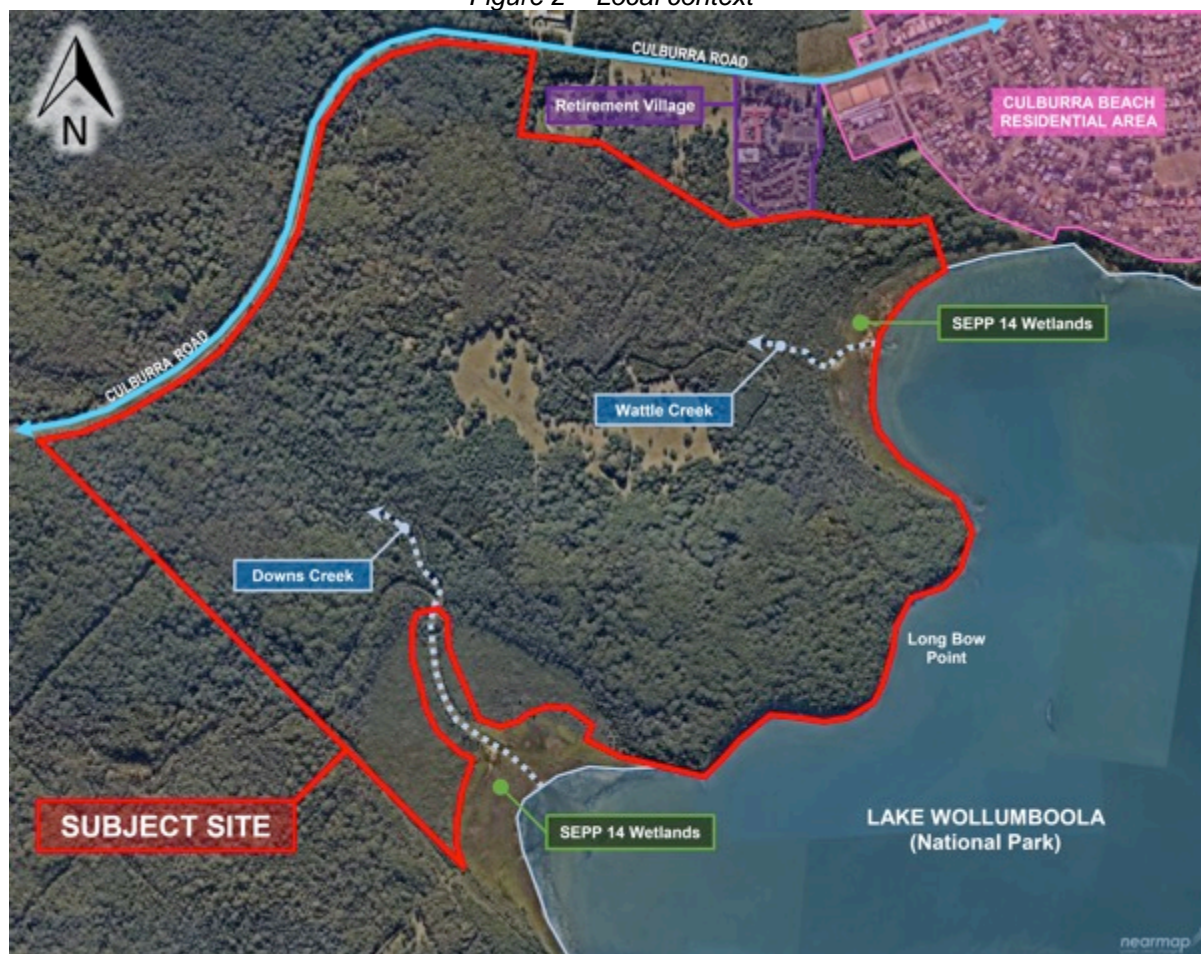
Figure 1 – Regional context



Source: Department of Planning and Environment's Assessment Report

7. The applicant's Statement of Environmental Effects (**SEE**) and the Department's AR describe the site as being heavily vegetated with areas towards the centre of the site having been subject to historic clearing.
8. The Commission noted that during its site inspection on 23 July 2018 (further discussed at paragraph 43) the physical characteristics of the site can be described as consisting of having a ridgeline which runs through the centre of the site in a north-west/south-east alignment. The site drains south to Lake Wollumboola through a series of water courses, including Downs Creek in the southern part of the site and Wattle Creek in the northern part of the site. The Commission notes that land surrounding the site is predominantly vegetated and undeveloped. *Figure 2* shows the boundary of the site, associated watercourses and proximity to Lake Wollumboola.
9. The Department's AR stated that Lake Wollumboola is "a 'back-dune' lagoon system, which naturally opens and closes to the ocean intermittently. The lake can remain closed to the ocean for periods of up to 5 years. The lake chemistry changes substantially during open periods, with the lake becoming tidal. During low tides, water drop exposing large areas of sand and mud. When the lake is closed, water levels rise due to freshwater inputs and possibly groundwater flows".
10. The Department's AR stated that the site contains two wetland areas listed in *State Environmental Planning Policy No. 14 Coastal Wetlands (SEPP 14)*, which are shown in *Figure 2*.

Figure 2 – Local context



Source: Department of Planning and Environment's Assessment Report

1.2 Site Background

11. The Department's AR noted that land west of Culburra Beach has been earmarked for urban development since the 1980s. In 1992, Shoalhaven City Council (**Council**) rezoned parcels of land west of Culburra Beach from rural to residential and other land a mix of industrial, commercial and environmental protection zones.
12. The Department's AR noted that in 1993, "*Realty Realizations (a company related to the Halloran Trust)*" submitted a development application (DA No. SF 7477) to Council for an 837-lot residential subdivision at Long Bow Point. In 1996, a Commission of Inquiry (**Col**) was held, on the direction of the then Minister, to examine and make recommendations into the environmental aspects of the proposed subdivision. The Col was adjourned in 1996 to allow the applicant time to prepare a Fauna Impact Assessment, and was reconvened in November 1999, with final hearings held in January 2000. In March 2000 the Col recommended to the Minister, that the residential subdivision be refused on the following grounds:

"its likely unacceptable environmental impacts, including loss of water quality of the important Lake Wollumboola and loss of fauna and habitat of conservation value.

Areas of the site identified as having conservation value should be protected and not cleared or modified based on likely adverse impacts to threatened fauna or threatened

fauna habitat. Similarly, the highest levels of protection from pollution or impacts are required for the important Lake Wollumboola to protect habitat and fauna, including threatened species.

Review of overall planning controls is warranted to assist both the Applicant and agencies with integrating the Commission's precautionary and staged development approach in this sensitive and important environment".

13. In June 2000, the then Minister for Planning refused the development application (DA No. SF 7477) for residential subdivision.
14. In 2002, the NSW State Government commissioned an independent inquiry into the coastal lakes of NSW, which was conducted by the Healthy Rivers Commission (**HRC**) and culminated in the *Coastal Lakes: Independent Inquiry into Coastal Lakes - April 2002 (HRC Inquiry)*. The HRC Inquiry gave Lake Wollumboola the highest classification of 'Comprehensive Protection', noting that the Lake has extreme natural sensitivity, a largely unmodified catchment, a slightly affected lake condition, and high conservation value.
15. The HRC Inquiry recommended that the Minister for Planning 'call-in' development affecting a coastal lake if the Minister considers that the proposed development may not have a neutral or beneficial effect on natural ecosystem processes in cases where the Lake is classified as having Comprehensive Protection. In 2002, Lake Wollumboola was added to the Jervis Bay National Park, in line with recommendations of the HRC Inquiry.
16. In 2006, the Draft South Coast Regional Strategy (**SCRS**) was publicly released. Following this, the then Minister for Planning appointed an independent panel to investigate and report on sensitive sites in the South Coast Sensitive Urban Lands Review, 2006 (**SCSULR**), to help inform the finalisation of the SCRS. The SCSULR considered the Culburra area which includes Long Bow Point and recommended:

"Land within the Lake Wollumboola catchment is unsuitable for urban development, principally on the grounds of the potential negative impacts on the lake which is a sensitive Intermittently Closing & Opening Lake or Lagoon (ICOLL).

The land in the Lake Wollumboola catchment should be zoned for conservation purposes (the most appropriate zone under the LEP template is Zone E1 National Parks and Nature Reserves).

Negotiations should be commenced with the land owner to determine their interest in dedicating the land in the Lake Wollumboola catchment for conservation purposes, and including the site as a potential bio-banking site."

17. The Department's AR noted that the outcomes and recommendations of the SCSULR are embodied in the current Illawarra Shoalhaven Regional Plan 2015 (**ISRP**) (this is considered further in paragraphs 71-75).
18. In 2013, the Office of Environment and Heritage (**OEH**) commissioned the *Environmental Sensitivity of Lake Wollumboola: Input to Considerations of Development Applications for Long Bow Point, Culburra*, prepared by Scanes, Ferguson and Potts, 2013 (the **Scanes Review**), to consider water quality impacts on Lake Wollumboola, and to assist OEH in its consideration of the Project. The Scanes Review concluded:

“Lake Wollumboola should be regarded as a unique and highly valuable example of an intact back-dune lagoon, and accordingly be given high conservation status.

...we recommend that a precautionary approach be adopted as a high priority when assessing development proposals in the Lake Wollumboola catchment”.

19. In 2016, OEH commissioned the *Detection of Groundwater Inputs to Lake Wollumboola*, prepared by Baida, Scanes and Ferguson (November 2016) (**OEH 2016**) and subsequently revised in May 2018 (**Revised OEH 2018**) to address issues raised by Professor Isaac Santos. Professor Santos had been commissioned by the OEH to review the OEH 2016 report. The aim of the studies was to investigate spatial patterns in groundwater tracers in Lake Wollumboola. The results of the Revised OEH 2018 state:

“groundwater influence along the western shores of the lake cannot be discounted, particularly adjacent to the proposed Long Bow Golf Course site...It is likely that groundwater contributions would be greatest during periods when shallow groundwater tables are high following extended wet periods.

20. The Revised OEH 2018 study concluded that the study was intended as a preliminary survey of groundwater tracers and that while the results suggest potential influence on groundwater, this needs to be quantified with a carefully designed groundwater flux study: *“This would confirm whether groundwater can be considered integral to both the overall ecology and water cycle of Lake Wollumboola, and whether groundwater pathways are an important vector of pollutants to the lake”.*
21. In 2017, Council commissioned the *West Culburra groundwater assessment: Preliminary report (Stage 1)*, prepared by Hgeo, June 2017 (**Hgeo 2017**) to carry out a groundwater investigation in an area west of Lake Wollumboola, including land at Long Bow Point. The purpose of Hgeo 2017 was to inform preparation of an integrated water cycle assessment for a Planning Proposal submitted by the applicant (see paragraph 27). Hgeo 2017 recommended a monitoring network comprising 14 locations and a baseline monitoring program over a two-year period, with groundwater samples being collected quarterly, to establish baseline groundwater chemistry and nutrient concentrations.

1.3 Background to Development Application

22. The application for the golf course was originally submitted to Council in June 2011 (DA11/1728), under Part 4 of the EP&A Act. The original application included a clubhouse and a pro shop which were later withdrawn from the proposal (see paragraph 29).
23. On 4 November 2016, the Minister for Planning sought advice from the then Planning Assessment Commission (**PAC**) on the State and regional significance of the Project, ‘calling-in’ in the Project in line with the recommendations of the HRC Inquiry (paragraphs 14 and 15). The Minister sought advice from the then PAC given the site’s location within the catchment of Lake Wollumboola and recognition of the high environmental significance of the area.
24. On 16 November 2016, the PAC responded to the Minister for Planning’s request and concluded that *“The Commission considers that the proposal is of State and regional importance because the site is in close proximity to Lake Wollumboola, which is of State*

environmental significance”.

25. On 7 March 2017, the Minister for Planning declared the application SSD under Part 4 of the EP&A Act by an Order made by the Minister.

Other Proposals by the Halloran Trust

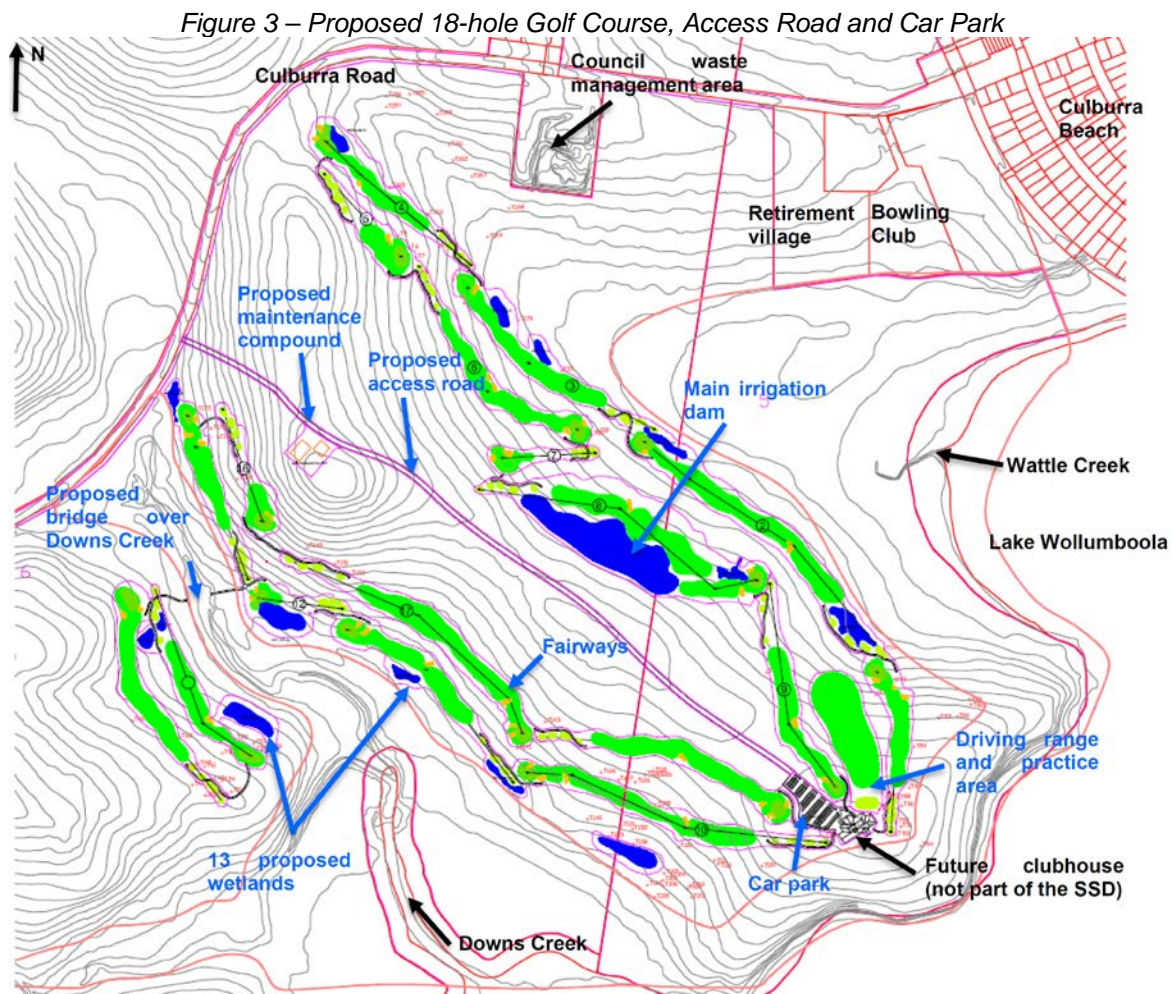
26. In March 2013, John Toon Pty Ltd, on behalf of the Halloran Trust, lodged a development application for a concept plan proposal for a residential subdivision on land west of Culburra Beach. The West Culburra Concept Proposal application is currently being considered separately by the Commission.
27. On 4 August 2014, the applicant lodged a Planning Proposal to rezone 1,681.5 ha of land for residential, commercial, industrial, recreation and environmental conservation uses in the Shoalhaven LGA, including land at Long Bow Point, West Culburra, West Callala Bay and Kinghorn Point. In November 2015, a Gateway Determination was issued recommending that land in the Lake Wollumboola catchment be zoned for environmental protection, dependent on the outcomes of a biodiversity offset strategy and water quality studies prepared to support the Planning Proposal. The Department's AR stated that Council predicts that the Planning Proposal will take between three to four years to complete.

1.4 Summary of Development Application before the Commission

28. During the assessment of the application, the applicant made various amendments. The Project now before the Commission for determination is represented in *Figure 3*, and proposes the following:
 - Golf course:
 - 18-hole golf course covering approximately 35.7 ha in area;
 - practice area including a driving range, putting and chipping greens;
 - golf course furniture;
 - Maintenance facilities:
 - green keepers shed and toilet facilities;
 - maintenance compound (approximately 3,500m²), fenced and located on the existing cleared area adjacent to the proposed access road;
 - turf nursery;
 - Landscaping:
 - planting of tees, greens, fairways and surrounds with grasses, groundcovers, shrubs and trees;
 - bush regeneration works;
 - Access and parking:
 - access road from Culburra Road along the central ridgeline of Long Bow Point toward Lake Wollumboola;
 - internal access roads for golf carts and pedestrians to connect each hole;
 - a bridge across Downs Creek between holes 12 and 14 for pedestrians, golf carts and maintenance vehicles;
 - 121 car parking spaces at the end of the main access road between holes 9 and 18;
 - Integrated Water Management:
 - capture and re-use of stormwater for irrigation through a series of vegetated swales and 13 constructed wetlands adjacent to the fairways;
 - water from the wetlands would be pumped directly to a large detention basin for golf course irrigation and other non-potable uses;

- sediment basin and gross pollutant traps to treat run-off from the car park;
- a sewer main connecting the green keepers shed to Council's sewerage system in Culburra Road;
- Clearing:
 - 35.7 ha in total comprising 32.2 ha of native vegetation which includes 10.16 ha of endangered ecological communities and 3.5 ha of already cleared land;
- Offsets and buffer zone – the proposed offset strategy includes:
 - retention of 167.36 ha of land at Long Bow Point as private conservation reserve with long-term maintenance and management;
 - re-introduction of threatened species and habitat creation within the golf course;
 - 100m retained vegetated buffer to the foreshore of Lake Wollumboola;
- Construction – three stages of construction over 7-12 months including:
 - Stage 1: marking the edge of clearing, pre-clearing surveys, relocation of tree-hollows and clearing across the development area;
 - Stage 2:
 - bulk earthworks, drainage, construction of golf course holes 1 to 9, landscaping, green keeper's facilities and toilets;
 - construction of access road and parking;
 - install services including power, sewer, communications, water supply and stormwater detention basins for holes 1 to 9;
 - Stage 3:
 - earthworks and construction of golf course holes 10 to 18 and landscaping;
 - construction of stormwater detention basins for holes 10 to 18;
 - construction of a bridge over Downs Creek for golf buggies, maintenance vehicles and pedestrians to access holes 13 and 14; and
- Capital Investment Value - \$9,045,130.

29. As noted above, a clubhouse is not part of the written material submitted, however the applicant said at the Public Meeting that a clubhouse may form part of a future development application on the site: *"a clubhouse or whatever is associated with it, will come later and will depend, to some extent, on how the strategy that we evolved for the development of that golf course takes place"* (John Toon, 24 July 2018).



Source: Department of Planning and Environment Report Assessment

1.5 Need for Project

30. In its Statement of Environmental Effects, 18-Hole Championship Golf Course for the Halloran Trust (**Final SEE**), December 2017, the applicant stated that the proposed golf course in the Project is:

"considered to be an appropriate use of the land for a range of reasons and is consistent with relevant development controls applying to the site.

...it is considered that the proposed golf course is a means by which the land and its unique attributes may be enjoyed by local residents and visitors to the area. The proposal for a golf course upon the subject site at Long Bow Point will effectively make the location accessible to the general public and this is considered to be a positive and significant asset for residents and visitors to the area".

2. THE DEPARTMENT'S CONSIDERATION OF THE APPLICATION

2.1 Key steps in consideration of the Application

31. As outlined in paragraph 22, the applicant first submitted the application to Council on 29 June 2011. The Council publicly exhibited the application on three occasions, and

the applicant submitted a number of responses over the assessment period. A list of the key steps in that process is provided below:

- 2011:
 - Statement of Environmental Effects, Proposed 18 Hole Championship Golf Course Facility for Mr. Warren Halloran (**SEE**), June 2011, with supporting application drawings and technical reports;
 - Public exhibition - 20 July 2011 to 17 August 2011 resulting in 350 submissions;
 - Visual Impact Assessment, October 2011;
 - Response to Submissions (**RTS**), December 2011;
- 2012:
 - SEE March 2012, with supporting application drawings and technical reports;
 - Public exhibition - 18 April 2012 to 21 May 2012 resulting in 79 submissions;
 - Shoalhaven City Council Peer Review of Flora and Fauna Assessment, July 2012;
- 2014:
 - SEE August 2014, with supporting application drawings and technical reports;
 - Draft Plan of Management for Culburra Golf Course (**draft PoM**), prepared by Golf by Design, March 2014;
- 2015:
 - SEE December 2015, with supporting application drawings and technical reports;
- 2016:
 - Public exhibition - 4 May 2016 to 8 June 2016 resulting in 88 submissions;
 - Updated Civil Engineering Plans, June 2016.

32. The Department's AR provides an analysis of the submissions received during the public exhibition periods undertaken by Council and provides a summary of the percentage that support or object to the application. *Table 1* lists the number of submissions from the public and special interest groups over the three public exhibition periods.

Table 1 – Public Exhibition Periods and Number of Submissions (General Public and Special Interest Groups)

Year	Exhibition period	Submissions			
		Support	Object	Comment	Total
2011	20 July 2011 – 17 August 2011	302	47	1	350 ¹
2012	18 April 2012 – 21 May 2012	40	39	1	79
2016	4 May 2016 – 8 June 2016	16	72	0	88

¹ Approximately 284 submissions were received in the month following the 2011 exhibition period. These submissions have also been considered in the Department's assessment of the proposed development.

In 2011: 86% supported, 14% objected

In 2012: 51% supported, 49% objected

In 2016: 18% supported, 82% objected.

Source: Department of Planning and Environment's Assessment Report

Department of Planning and Environment

33. As outlined in paragraph 25, the Department's AR stated that following the Project being declared SSD on 7 March 2017, the Department commenced its assessment of the Project. The Department's AR stated that the development assessment processes followed by Council prior to the Project being declared SSD are taken to be processes

completed under the SSD assessment process. Therefore, the Department did not repeat the assessment processes, including public exhibition, undertaken by Council, but continued with the assessment.

34. The Department's AR stated that it reviewed all the information submitted by the applicant, visited the site, met with the applicant and the applicant's consultants and met with local interest groups, including the Lake Wollumboola Protection Association (LWPA), the Culburra Chamber of Commerce and the Culburra Beach Progress Association.
35. On 1 August 2017, the Department wrote to the applicant requesting final information on water quality and biodiversity, to complete its assessment of the Project. The Department's letter stated: *"if the additional information is not received by 18 October 2017, the Department will proceed to finalise its assessment based on the information provided to date"*. The applicant sought an extension of time and the Department agreed until 18 December 2017. On 15 December 2017, the applicant submitted the following:
 - Final SEE;
 - Culburra Golf Course SIS Addendum Report (**SIS Addendum**), prepared by Cumberland Ecology (**CE**) and applicant signed declaration, December 2017;
 - Proposed Culburra Golf Course: Water Quality Modelling and OEH Radon Data Review (**Model Review 2017**), prepared by Martens and Associates Pty Ltd (**Martens**), 13 December 2017;
 - Updated Golf Course Design Plans, prepared by Golf by Design, November 2017; and
 - Updated Concept Access Road and Carparking Engineering Plans, prepared by Allen, Price & Scarratts, August 2012, April 2014, June 2016.
36. The Department's AR stated that it considered the issues raised in Government agency, public and special interest group submissions made to Council throughout its assessment of the Project. The Department's AR, identified consistency with strategic planning objectives, surface water and groundwater quality, and flora and fauna as the key issues associated with this proposal.
37. Other issues assessed by the Department include need for the development; social and economic impacts, Aboriginal cultural heritage and traffic (see section 5.6 of this Statement of Reasons).
38. The Department's AR concluded the following in relation to the golf course proposal:
 - *"it is inconsistent with the recommendations of independent Government inquiries and strategic plans, to protect Lake Wollumboola from further urban development*
 - *the applicant has been unable to demonstrate with scientific certainty that the proposed water management system would achieve a neutral or beneficial effect on water quality in the lake*
 - *there is inadequate information on groundwater inputs to the lake to inform an accurate assessment of the proposal's potential impacts on groundwater*
 - *the potential water quality impacts present an unacceptable risk to the lake's unique ecosystems and the threatened and migratory species it supports*
 - *the Applicant has been unable to demonstrate with certainty that the proposal would not have a significant impact on threatened flora and fauna species, despite completing four separate flora and fauna assessments for the application*
 - *the potential impacts on threatened flora and fauna species on Long Bow Point and in Lake Wollumboola are likely to be significant*

- *the potential economic and social benefits of the golf course are unlikely to significantly outweigh the environmental impacts of the proposal.”*
39. The Department’s AR also concluded that the proposal is *“not consistent with the objectives of the ecologically sustainable development, is not in the public interest and should be refused. The Department considers the Planning Proposal is the most appropriate mechanism for determining suitable locations for recreational development and environmental conservation across the Halloran landholdings consistent with the objectives of the strategic studies and the ISRP”.*

3. THE COMMISSION’S MEETINGS AND SITE VISIT

40. As part of its determination, the Commission met with the Department, the applicant, Council, and the Jerrinja Local Aboriginal Land Council. The Commission also conducted a site inspection, toured the locality, and conducted a public meeting.

3.1 Meeting with the Department

41. On 18 July 2018, the Commission met with the Department in relation to the Department’s AR. The Department’s technical water quality experts (BMT and Alluvium) joined the meeting by conference telephone. A record of this meeting and the issues discussed has been available on the Commission’s website since 27 July 2018.

3.2 Meeting with the Applicant

42. On 19 July 2018, the Commission met with the applicant, representatives from the Halloran Trust and the applicant’s consultants Martens and CE. A copy of the applicant’s presentation from the meeting has been available on the Commission’s website since 31 July 2018. A record of this meeting and the issues discussed has been available on the Commission’s website since 27 July 2018.

3.3 Site inspection

43. On 23 July 2018, the Commission conducted a site inspection. The inspection included a drive through the site observing the cleared areas in the centre of the site and the Lake Wollumboola foreshore. The applicant identified the proposed site access off Culburra Road. The applicant provided maps that have been available on the Commission’s website since 26 July 2018. A summary of the site inspection has been available on the Commission’s website since 5 August 2018.
44. The Commission invited a representative from each of four local community groups to attend and observe the site inspection. These groups and representatives were:
- Frances Bray (Wollumboola Protection Association, President);
 - Alan Pendleton (Culburra Beach Progress Association, President);
 - Jack Kerr (Culburra Beach Progress Association, Member); and
 - Brian Muller (Culburra Chamber of Commerce, President).
45. On 23 July 2018, the Commission separately inspected the surrounding locality, including the areas adjacent to the site and the village of Culburra Beach, to understand the physical attributes of the site and locality. No members of the public, the applicant or Department participated in this locality tour.

3.4 Meeting with Shoalhaven City Council

46. On 23 July 2018, the Commission met with Council to discuss its views on the Project. A record of this meeting and the issues discussed has been available on the Commission's website since 31 July 2018. The Council provided the Commission with a hard copy of the Col Report, which has been available on the Commission's website since 1 August 2018.

3.5 Meeting with the Jerrinja Local Aboriginal Land Council

47. On 24 July 2018, the Commission met with the Jerrinja Local Aboriginal Land Council who also form the Jerrinja Traditional Owners Corporation (the **Jerrinja**) to discuss their views on the Project. A record of this meeting and the matters discussed has been available on the Commission's website since 31 July 2018.

3.6 Public meeting

48. On 24 July 2018, the Commission held a public meeting at the Culburra Bowling Club, Cnr Prince Edward Avenue and West Crescent, Culburra Beach, to hear the public's views on the Project. The Commission received requests to speak from 13 people. Of the 13 registered speakers, nine elected to speak at the public meeting and four registered speakers elected not to speak on the day. The Chair accepted a late registration to speak, bringing the total number of speakers to ten. A list of speakers and the transcript from the public meeting has been available on the Commission's website since 26 July 2018. Written comments and presentations of speakers who presented at the public meeting have also been made available on the Commission's website since 26 July 2018.
49. An opportunity to lodge written comments with the Commission was afforded until seven days following the public meeting. The Commission received 109 written comments. All comments have also been made available on the Commission's website shortly after they were received.
50. Counsel assisting was used to assist in the conduct of the public meeting in accordance with the Commission's *Public Meeting Guidelines*.
51. The speakers at the public meeting reflected a mix of views both in support of and in objection to the Project. The main issues raised at the public meeting and in written comments received by the Commission following the public meeting, included:

Issues in Support:

- economic and social benefits, including employment generation during construction stages, support and employment generation for local businesses and services;
- concerns that the town of Culburra is 'dying', for example with shops closing; and
- benefits of having a quality championship golf course in Culburra.

Issues in Objection:

- surface water quality impact and potential for the Project to impact on Lake Wollumboola and the SEPP 14 wetlands;
- impacts from fertilisers and subsequent runoff to the lake;
- claims of neural or beneficial effect are unsubstantiated;
- potential impacts on groundwater and uncertainty due to limited baseline data;

- biodiversity impacts associated with clearing of native vegetation;
- impacts on bird species, including migratory birds, that use Lake Wollumboola as a breeding and nesting ground;
- the importance of Lake Wollumboola and surrounds to the Jerrinja culture; and
- strategic planning matters and outcomes of environmental studies that have considered the site.

4. INDEPENDENT CONSULTANT ENGAGED BY THE COMMISSION

52. After the public meeting, the Commission sought independent advice on the hydrology and water quality impacts of the proposal from water quality experts at the University of New South Wales, Water Research Laboratory (**UNSW WRL**). The advice requested was a review of the documentation submitted by the applicant, the Department's AR and the independent studies commissioned by the NSW Government.
53. The UNSW WRL review titled *Independent Review on Water Quality Assessment regarding the Long Bow Point Golf Course (Independent Review)* dated 21 August 2018 was provided to the applicant and made publicly available on the Commission's website on 23 August 2018. The Independent Review concluded that:

"the previous scientific reviews from OEH, the Department and Dr Santos are justified and technically sound. We recommend that the final decision on the project application awaits the final results of the Gateway Determination for the Planning Proposal associated groundwater investigation..."

Based on the review the technical surface water, groundwater and water quality reports prepared in support of Long Bow Point Golf Course State Significant Development (SSD 8406), as well as the warranted precautionary approach due to the sensitive ecological nature of Lake Wollumboola, the reviewers support DPE's recommendations to the Independent Planning Commission".

54. The applicant provided a letter to the Commission, dated 30 August 2018, responding to the Independent Review. The response included a letter from Martens outlining the applicant's position in relation to the Independent Review and was made publicly available on the Commission's website on 30 August 2018. The Martens letter concluded:

"the review completed has misunderstood or misrepresented the details of the proposal and the completed assessments and as a result has come to an incorrect conclusion regarding the proposal. As previously detailed and documented the proposed golf course development, with the extensive water quality control systems, shall not result in increased nutrient loads to the Lake, shall have negligible impact on the hydrology of the Lake and should be approved".

5. THE COMMISSION'S CONSIDERATION

5.1 Material considered by the Commission

In determining this Project, the Commission has carefully considered all of the material set out in Appendix 1 (the "**Material**").

5.2 Mandatory considerations

55. In determining this Project, the Commission has taken into consideration the following relevant mandatory considerations, as provided in section 4.15 of the EP&A Act (**mandatory considerations**):

- the provisions of all:
 - environmental planning instruments (**EPIs**);
 - proposed instruments that are or have been the subject of public consultation under the EP&A Act and that have been notified to the Commission (unless the Secretary has notified the Commission that the making of the proposed instrument has been deferred indefinitely or has not been approved);
 - development control plans;
 - planning agreements that have been entered into under section 7.4 of the EP&A Act, and draft planning agreements that a developer has offered to enter into under section 7.4; and
 - the *Environmental Planning and Assessment Regulations 2000* (**Regulations**) to the extent that they prescribe matters for the purposes of section 4.15(1) of the EP&A Act;
- that apply to the land to which the application relates;
- the likely impacts of the development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality;
- the suitability of the site for development;
- submissions made in accordance with the EP&A Act and Regulations;
- the public interest.

5.3 Relevant Environmental Planning Instruments

56. The applicant's Final SEE and the Department's AR (at Appendix C) provide detailed assessment of the EPIs that apply to the Project. These EPIs are:

- *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP);
- *State Environmental Planning Policy No. 14 - Wetlands* (SEPP 14);
- *State Environmental Planning Policy No. 71 - Coastal Protection* (SEPP 71);
- *Illawarra Shoalhaven Regional Plan 2015* (ISRP);
- *Jervis Bay Regional Environmental Plan 1996* (JBREP); and
- *Shoalhaven Local Environmental Plan 1985* (SLEP 1985).

State Environmental Planning Policy No. 14 - Wetlands and State Environmental Planning Policy No. 71 - Coastal Protection

57. The Department's AR noted that SEPP 14 and SEPP 71 have now been repealed by *State Environmental Planning Policy (Coastal Management) 2018* (**SEPP Coastal Management 2018**). However, the savings and transitional provisions in *SEPP Coastal Management 2018* state that the SEPP Coastal Management 2018 does not apply to development applications lodged prior to the commencement of that SEPP. Accordingly, the Department advised that SEPP 14 and SEPP 71 still apply to the Project.

58. The Department's AR stated that SEPP 14 aims to ensure coastal wetlands are preserved and protected in the environmental and economic interest of NSW. The Department's AR concluded in relation to SEPP 14: *"the proposal has the potential to cause serious impacts on Lake Wollumboola and the SEPP 14 wetlands through*

increased pollutant loads and changes to surface and groundwater discharges". See paragraph 112.

59. The Department's AR stated that SEPP 71 aims to protect and manage the NSW coast through improving public access, protecting Aboriginal cultural heritage, protecting visual amenity and coastal habitats and managing the scale, bulk and height of development along the coast. The Department's AR concluded that the *"proposal is inconsistent with the aims of SEPP 71 and other matters for consideration in SEPP 71. The proposal would remove 32 ha of high quality native vegetation and is likely to result in irreversible, flow-on impacts on Lake Wollumboola, which has been identified as having high ecological significance for the State of NSW"*.

Applicant's Consideration

60. The applicant's response to the Independent Review, dated 30 August 2018, stated: *"the provisions of the SEPP (Coastal Management) 2018 do not relate to this DA as it was not even in draft form when the DA was lodged in 2011....Further, mention is also made of "two SEPP Coastal Wetlands" in Section 3.1 and that the golf course is in the "proximity areas" for two wetlands.....As there are no works proposed within these mapped areas, the provisions of SEPP14 do not apply to this DA"*.

Commission's Consideration

61. The Commission notes the applicant's response regarding the application of the SEPP Coastal Management 2018 set out in paragraph 60, and accepts the Department's conclusion that SEPP Coastal Management 2018 does not apply because of the savings and transitional provisions set out in paragraph 57. SEPP Coastal Management 2018 has therefore not been considered as part of this determination. The Commission notes that the Independent Review incorrectly stated that the SEPP Coastal Management 2018 applied to the Project.
62. The Commission has reviewed SEPP 14 (now repealed) which stated that it *'applies to the land outlined by the outer edge of the heavy black line on the map'*. The Commission has not been provided with the map referred to in SEPP 14 but has been provided with a map from the Department at *Figure 2*. The Project appears to be outside the SEPP 14, however there are two SEPP 14 wetlands located immediately adjacent and downstream from the Project. On the basis that SEPP 14 aims to ensure that coastal wetlands are preserved and protected, and the two SEPP 14 wetlands are immediately adjacent, the Commission finds that SEPP 14 is relevant to its consideration.
63. The Commission has reviewed SEPP 71 and finds that it applies to the Project because the Project falls within the coastal zone.
64. The Commission accepts the conclusions stated in paragraphs 58 and 59, that the Project has the potential to cause serious impacts on the Lake Wollumboola and the two SEPP 14 wetlands and is therefore inconsistent with the aims and other matters for consideration of SEPP 14 and SEPP 71.
65. The Commission has reviewed all of the Material, including the Department's assessment of these EPIs, the Independent Review and the applicant's response to it. The Commission finds that the Project is inconsistent with the objectives of SEPP 14 and SEPP 71 because of the reasons in paragraph 64 and the uncertainty related to Project generated surface water and groundwater impacts, as discussed further in

sections 5.4.1 and 5.4.2.

Jervis Bay Regional Environmental Plan 1996

66. The JBREP was repealed in 2016 but was in force at the time that the application was lodged, and therefore applies to the Project. The aims of the JBREP are to protect the natural and cultural values of Jervis Bay and allow proposals that contribute to the natural and cultural values of the area. The JBREP details requirements for new development proposals to address, including catchment protection, landscape quality, cultural heritage and habitat protection.
67. The applicant's Final SEE assessed the provisions of the JBREP and concluded that the Project is consistent with these provisions. In relation to cultural heritage and the potential for archaeological sites to be disturbed, the applicant noted that *"the proposal may require disturbance or destruction of the artefacts. If so, this will be undertaken in accordance with the necessary protocols outlined in this report"*. The applicant stated that the Project is not near the identified geological site referred in the in JBREP.
68. The Department's AR stated that it evaluated the JBREP in its assessment of the Project, as set out in the assessment section of its report and concluded that the development is not consistent with the aims of the JBREP which are to *"protect the natural and cultural values of Jervis Bay and to allow proposals that contribute to the natural and cultural values of the area"*.

Commission's Consideration

69. The Commission has reviewed all of the Material, including the Department's assessment of the JBREP, the Independent Review and the applicant's response to it, and issues raised by the Jerrinja. The Commission accepts the conclusion stated in paragraph 68 and finds that the Project does not meet the requirements for protection of the Lake Wollumboola catchment and is inconsistent with the aims of the JBREP.
70. The Commission makes this finding because of the reasons discussed in sections 5.4.1, 5.4.2 and 5.7. The Commission is further satisfied that the conclusions of the Independent Review support this finding.

Illawarra Shoalhaven Regional Plan 2015

71. The ISRP provides a vision and goals for the region, including housing, communities, resources and the natural environment. The ISRP identifies the significance of Lake Wollumboola, and the need to adopt a strategic approach to provide certainty about future land use and to preserve the unique characteristics of the natural environment as the region grows (Direction 5.4).
72. The ISRP states that Lake Wollumboola is one of Shoalhaven's sensitive estuaries. The ISRP states *"lands within the catchment are considered unsuitable for urban development because of potential negative impacts on the lake, which is a sensitive, intermittently closing and opening lake with very high conservation values"*.
73. The Department's AR stated that ISRP, along with other studies undertaken in the area, concluded that development in the lake catchment is not suitable because of potential adverse impacts on the Lake's hydrology and ecosystem. In so finding, the Commission understands the Department to have implicitly concluded that the Project is a form of

urban development.

Commission's Consideration

74. The Commission has reviewed the ISRP and finds that it applies to the Project because the Project falls within the land to which the ISRP applies. The Commission considers that the Project is a form of urban development, as outlined in the Collins Dictionary, "*the development or improvement of an urban area by building*", because the Project will be developed by building a golf course, which includes all elements set out in paragraph 28.
75. The Commission notes that the ISRP makes reference to the Scanes Review (see paragraph 18), which stated that its outcomes, coupled with the outcomes of the SCSULR (see paragraph 16), will guide protection and conservation of the Lake Wollumboola catchment and future land use planning decisions for Culburra Beach.
76. The Commission has reviewed all of the Material, including the Department's assessment of the ISRP, the Independent Review and the applicant's response to it. The Commission accepts the conclusions stated in paragraph 73 that the project is not suitable because it is urban development that may have potential adverse impacts on the catchment of Lake Wollumboola including the Lake's hydrology and ecosystem.
77. The Commission finds that the Project is inconsistent with the objectives of the ISRP for the reason given in paragraph 76 and the uncertainty related to Project generated surface water and groundwater impacts, as discussed in sections 5.4.1 and 5.4.2.

Shoalhaven Local Environmental Plan 1985

78. Pursuant to the SLEP 1985, the site is zoned:
 - 2(c) Residential (Living Area); and
 - 7(a) Environmental Protection 'A' (Ecology).
79. As set out in paragraph 11, in 1992, land to the west of Culburra beach, including Long Bow Point, was rezoned from rural to a mix of residential, industrial, community and environmental protection, in an amendment to the *Shoalhaven Local Environmental Plan 1985 (SLEP 1985)*, gazetted on 28 August 1992 as SLEP 85 Amendment No 41.
80. The applicant's Final SEE stated: "*the proposal is not prohibited within the 2(c) zone*" and "*the proposal is not inconsistent with the aims and objectives of the 2(c) zone*". The applicant further stated: "*No part of the actual golf course is located within the area of the subject site zoned 7a Environment Protection. A walkway is proposed within a portion of land zoned 7a, however this is considered to be both appropriate and permissible. The walkway is ancillary to the main use of the land for the purposes of a golf course, and itself does not constitute a separate definable land use per-se*".
81. The Department's AR stated that the Project is wholly within the 2(c) Residential (Living Area) zone with the exception of the proposed bridge across Downs Creek, which is within the 7(a) Environmental Protection 'A' (Ecology) zone. The Department stated: "*The proposed development is permissible with consent in these zones*". The Department's AR also noted that the Project is consistent with the objectives of the residential zoning, which is "*to provide for new residential areas with a range of housing types with provision for urban facilities to serve the local community*".

82. However, the Department's AR also stated that the proposal is not consistent with the broader aims of the SLEP 1985 as it does not provide an appropriate balance between development and conservation.
83. The Commission notes that clause 40B of the SELP 1985 provides 'special requirements' in respect of expansion of the Culburra urban area. Clause 40B(2) states:

"Notwithstanding the provisions of clause 9, the Council may consent to an application for the use of areas, which in the opinion of the Council are of minor importance, for passive recreation and the construction of ancillary facilities on land to which this clause applies within Zone No 7 (a) subject to the consideration by the Council of a statement, provided by the applicant, of the environmental effects of the proposed development".

Commission's Consideration

84. The Commission has considered all of the Material, including the Department's assessment of SLEP 1985. The Commission finds that the Project is permissible in the 2(c) zone and is consistent with the zone objectives, as set out in paragraph 81, because a golf course would provide a type of urban facility to serve the local community. In relation to permissibility of the proposed bridge in the 7(a) zone, the Commission accepts the applicant's assessment of permissibility in that the bridge across Downs Creek is ancillary to the principal use of the land being for the purpose of a golf course, pursuant to clause 40B.
85. Notwithstanding, the Commission agrees with the Department's assessment set out in paragraph 82, namely that the Project is inconsistent with the broader aims for the SLEP 1985 because it does not provide an appropriate balance between development and conservation and because of the uncertainty related to Project generated surface water and groundwater impacts, as discussed in sections 5.4.1 and 5.4.2.

Shoalhaven Local Environmental Plan 2014

86. The Department's AR stated that Council released the *Shoalhaven Local Environmental Plan 2014 (SLEP 2014)* shortly after the application was lodged with Council. On 31 July 2013, Council resolved to defer the zoning of the land until the application is determined. The Department's AR stated: *"The former Minister for Planning agreed to the deferral, subject to a Planning Proposal for the land that protects the Lake Wollumboola catchment and provides for the sustainable growth of Culburra Beach"* (see paragraph 27). The Department's AR noted that as the original development application was submitted prior to SLEP 2014 being enacted, SLEP 1985, still applies to the Project, as set out in paragraphs 78 and 79. The Commission notes that SLEP 2014 shows the site as a 'deferred matter' to which SLEP 1985 applies and therefore SLEP 2014 does not apply to the Project.

5.4 Likely impacts of the development on both natural and built environments

5.4.1 Surface water quality

87. The Commission has taken into account the Material insofar as it relates to the impacts of the Project on surface water quality and the hydrology of Lake Wollumboola.

Comments / submissions received

88. The Commission heard concerns from speakers at the public meeting and received written comments regarding the impacts of the Project on surface water quality. The Commission considered submissions made to Council during public exhibition of the application and submissions to the Department. Council also raised concerns regarding the sensitive nature of the site given its proximity to Lake Wollumboola. The concerns raised in relation to surface water quality included:
- the natural surface water run-off from Long Bow Point is critical to the water quality of Lake Wollumboola which has not been adequately assessed;
 - claims of neutral or beneficial effect from the golf course have not been substantiated;
 - use of chemicals, including fertiliser and pesticides would impact the lake and appropriate water pollution controls have not been presented;
 - there should be no urban development within the Lake Wollumboola catchment, as supported by long term expert advice and Government policy;
 - constructed wetlands are not capable of reducing nutrients in sediment polluted run-off to natural levels;
 - Lake Wollumboola has been coping with untreated urban run-off from existing urban areas of Culburra;
 - stormwater management is inadequate; and
 - construction impacts have not been assessed by the applicant.
89. OEH's final submission to the Department dated 9 March 2018 stated that previous water quality comments made by OEH in its May 2016 letter have not been addressed in the updated package documents submitted to the Department in December 2017 (see paragraph 35). OEH noted it conducted a preliminary review of the MUSIC modelling undertaken by the applicant's consultant and stated: *"whilst this outlines that the neutral or beneficial effect (NorBE) principle can be achieved in theory, we do not accept that nutrient and sediment exports from the proposed golf course development will be less than current exports from this predominantly vegetated site"*.

Applicant's consideration

90. In September 2015, the applicant submitted a Revised SEE and accompanying Revised Integrated Water Management Plan (**IWMP**) prepared by Martens, June 2015 (see paragraph 31). The IWMP provided an assessment of stormwater management, riparian protection zone requirements, water and sewer supply to the site. The IWMP stated that the following planning and engineering controls and design principles were used in preparation of the IWMP:
- *Engineering Design Specifications*, Shoalhaven City Council, 1999;
 - *Managing Urban Stormwater*, Landcom, 2004; and
 - Neutral or beneficial effect (**NorBE**) design principles in determining minimum stormwater quality structure requirements.
91. The applicant's Final SEE stated that an IWMP would be implemented for the Project, to cater for irrigation demand and water quality treatment through the capture and re-use of stormwater runoff from the site (see paragraph 28). The site has access to mains water supply and sewage would be discharged from the site to Council's sewer main on land at Regmoore Close, north of Culburra Road.

92. The applicant submitted a draft PoM (see paragraph 31), which provides information on the proposed methods and processes to be employed in the construction, establishment and on-going maintenance of the Project. The draft PoM considered construction and establishment, nutrient and water conservation design, and irrigation and stormwater management.
93. The IWMP 2015 noted the following observations in relation to site watercourses:
- *“Lower portions of watercourses were generally in good condition.*
 - *At the time of inspections the water level in Lake Wollumboola was lower than typical due to the entrance between the lake and the ocean being open in recent storms, (Plate 3 of Attachment F).*
 - *Visible signs of erosion were minimal.*
 - *Riparian vegetation consisted mainly of trees (mostly Melaleuca sp. and Casuarina sp. and some Eucalypt sp.) with grass understorey.*
 - *Downs Creek was lined with trees, shrubs and grasses with the creek being approximately 10 m in width in the vicinity of the proposed golf course.*
 - *The Northern Drainage Depression was also lined with trees, shrubs and grasses and is approximately 2 – 3 m in width.*
 - *Minor flow was observed in the Northern Drainage Depression. Tidal flow was evident in lower portions of Downs Creek due to lake entrance being open. It is assumed under normal conditions where this entrance is closed that Downs Creek does not receive tidal flow.*
 - *Both the Northern Drainage Depression and Downs Creek had considerable depth of standing water.*
 - *Southern Creek was not observed during site inspections as no development is proposed within this creek’s catchment.*
 - *When observed at low lake levels, there was no evidence of seepage, neither from the watercourse banks nor from the lake shore. This suggests that there is no significant discharge of groundwater to the lake”.*
94. The IWMP stated that vegetated riparian zones (**VRZ**) and corridor widths have been adopted in accordance with Landcom’s (2004) *Managing Urban Stormwater* and the NSW Office of Water’s (**NOW**) ‘*Guidelines for Riparian Corridors on Waterfront Land*’ (2012) and appropriate buffers are proposed to ensure the health and overall catchment is maintained.
95. The IWMP noted that a Site Vegetation Management Plan (**SVMP**) would be required to ensure appropriate bank vegetation is selected, established and maintained. Management regimes would be required to ensure that turf species do not invade bank vegetation or adjacent riparian areas. The IWMP recommended consultation with NOW prior to commencement of site works to confirm that the adopted riparian corridors are appropriate and to obtain a Controlled Activity Approval.

Modelling and stormwater management

96. The IWMP described the applicant’s proposed stormwater management system, which includes surface grading, constructed wetlands, irrigation dam, gross pollutant traps, a 20 kilolitre (**KL**) rainwater tank and an on-site detention basin (**OSD**). The IWMP used DRAINS hydraulic modelling to determine preliminary requirements for OSD, and the current version of MUSIC modelling, to determine requirements for water quality treatment measures.
97. The following come from the DRAINS model results:

- *“The site post development peak discharge is limited to existing peak discharges for all 1 in 100 year ARI storms modelled. This requirement is combined with existing peak flow rates for all storms modelled to determine the development’s Permissible Site Discharge (PSD).*
 - *More frequent storm events (e.g. the 1 in 20 year ARI or 5% AEP storms) have not been analysed at this stage and will need to be analysed at the detailed design stage.*
 - *Results indicate that the minimum SSR is 112 KL for approximately 0.542 ha of impervious area draining to the OSD. PSD from the OSD basin is 0.369 m³/s, based on the existing peak flow from the 2 hour, 1 in 100 year ARI storm event.*
 - *The requirements are satisfied by a 1.5 m deep basin with a 350 mm orifice with a 375 mm outlet pipe and a 3 m wide overflow spillway”.*
98. The IWMP concluded that final detailed design of the OSD basin, including position, dimensions, outlet control, overflow weir and final volume will need to be undertaken at the construction certificate stage.
99. In relation to MUSIC modelling, the IWMP stated that following comments received from OEH, which raised concern that the source nodes had been modelled as having pollutant generation rates for a rural-residential land use type, as opposed to agricultural land use type, the MUSIC model was subsequently adjusted to model the area as an agricultural catchment. The IWMP noted that the pollutant load from the golf course would be considerably less than that of a typical agricultural catchment and therefore the results of the modelling are *‘highly conservative’*.
100. The IWMP noted that OEH raised concerns regarding a lack of evidence as to the applicant’s adoption of OEH’s *Constructed Wetlands Manual (1998)*. The IWMP stated that: *“Detailed design of wetlands is not completed at this development application stage. The use of MUSIC to size structures is appropriate. Detailed design at the construction certificate stage of the development shall consider the referenced design manual”*.

Site chemical use

101. The applicant’s draft PoM provided an indicative nutrient application program for the golf course. The draft PoM stated that the actual total quantities of phosphorus and nitrogen would vary as a result of adjustments in the total playing surface areas to be determined at the detailed design phase. The draft PoM provided a number of controls for the application of fertiliser products, including avoiding applying fertiliser during inclement weather conditions and ensuring that all chemical applications to the golf course are documented annually and that soil testing would be carried out to monitor chemical content. The draft PoM stated the intention would be to exclude the use of pesticides within five metres of an area of environmental significance.
102. The IWMP stated that the use of chemicals is required for the purposes of weed, pest and fungus control and for fertilising of turf grasses. It also notes that the misuse of chemicals has the potential to result in impacts on receiving environments. The IWMP proposed management measures to ensure that the storage and use of chemicals on the site does not result in impacts off-site, including:

“1. Prior to the commencement of use of any site chemical a thorough review by the course superintendent shall be undertaken to ensure that potential water way impacts of the chemical are appropriately understood and that only chemicals which shall not

harm aquatic receiving environments are used.

2. A **site chemical register** shall be developed and maintained by the course superintendent. This register shall include details of all herbicides; fungicides; pesticides and fertilisers used on the site; areas to which they were applied; their application rates; and application times.

3. All chemicals stored on-site shall be stored in accordance with manufacturer's recommendations and any other requirements of state and federal regulations. As a minimum all chemicals shall be stored (when not in use) within a weather proof enclosure (green keepers shed); on a concrete slab floor; with appropriate bunding to prevent loss of any spilled chemical".

103. The IWMP concluded that the proposed chemical storage and use measures, together with the water quality control measures detailed in the IWMP are considered adequate to mitigate the risk of chemical impacts on the sensitive receiving environment.
104. The Model Review 2017 considered the potential surface water impacts, comparing pre-development conditions, with the post-development scenario. The Model Review 2017 presented the results of the updated modelling, noting that the site would achieve a:
- 30% reduction in total suspended solids;
 - 20% reduction in total phosphorus;
 - 20% reduction in total nitrogen; and
 - 37% reduction in flows.
105. The results of the MUSIC modelling presented in the applicant's IWMP indicated that post development water quality objectives will be met by the proposed stormwater treatment train and therefore the NorBE criteria would be met. The Model Review 2017 stated that the conclusions of the previously submitted IWMP "*continue to be supported by each avenue of assessment and review completed*".

Construction impacts

106. The applicant's Final SEE stated that a Sedimentation and Erosion Control Plan (**SECP**), would be prepared, in accordance with Landcom's (2004) Managing Urban Stormwater, prior to any earthworks being undertaken on the site. The draft PoM noted that a SECP is to be prepared for each stage of construction.
107. The Final SEE further noted that the SIS recommends that an environmental management plan be prepared to guide construction and ongoing management of the site.
108. In summary, the Final SEE stated: "*the Martins report concluded that the proposed golf course development has been engineered to ensure that it shall not adversely impact on the water quality of Lake Wollumboola*".

Department's consideration

109. The Department's AR noted concerns raised by OEHL since it first reviewed the IWMP in 2011: "*The Applicant has submitted two further versions of the IWMP and review of the model in Martins 2017. Despite these revisions, the Department notes OEHL's concerns have not been adequately addressed*". In addition, the Department stated that the IWMP does not include any analysis of construction phase impacts.
110. The Department's AR stated that the draft PoM suggests significant nutrient inputs

through phosphorus (1,000 kilo (kg)) and nitrogen (10,000 kg) applications over the first three years of operation of the golf course. Despite these volumes, *“the Applicant maintains the proposal would achieve a 20% reduction in phosphorus and nitrogen concentrations compared to pre-development conditions. The Department questions the validity of this conclusion, given the significant phosphorus and nitrogen applications proposed, compared to the existing unmodified catchment”*.

111. The Department’s AR stated that the applicant has been unable to provide the quantitative assessment to demonstrate the NorBE water quality objective can be achieved. The Department’s AR stated that the significance of Lake Wollumboola has been recognised by the State Government as a significant ecosystem warranting the highest level of protection from pollution and is acknowledged in its inclusion within the Jervis Bay National Park and recognition as a Wetland of National Importance. The Department’s AR further noted that protection of Lake Wollumboola from urban development has been identified in a number of strategic studies, including the Col, the HRC Inquiry, SCSULR and ISRP (see paragraphs 12, 14-16 and 71-73).
112. The Department’s AR raised concern with the assessment of two SEPP 14 wetlands provided in the SIS Addendum, noting that it does not clearly demonstrate that the proposal will not adversely impact on the two SEPP 14 wetlands, as it relied on unsupported conclusions within the IWMP to inform this conclusion: *“The Department’s assessment concludes the proposal has the potential to cause serious impacts on Lake Wollumboola and the SEPP 14 wetlands through increased pollutant loads and changes to surface and groundwater discharges”*.

Commission’s consideration

113. As set out in paragraph 52, the Commission sought independent expert advice on the water quality assessments and supplementary information submitted by the applicant. The Independent Review considered the construction phase, over a minimum of 20 months, as set out in the draft PoM. The Independent Review stated: *“an Erosion and Sediment Control Plan, completed to industry standards with a sufficient level of protection to stormwater discharges during construction is required. This plan should provide detailed information on temporary controls proposed to minimise the potential of erosion to disturbed areas and limit the transport of sediments from the development site to the receiving waters during construction”*.
114. In relation to the IWMP, the Independent Review stated: *“Overall, the presented IWMP is not consistent with the standard typically expected for a proposed development adjacent to three (3) highly sensitive ecosystems. In this circumstance a precautionary approach is warranted, especially when limited field data is available”*.
115. Based on consideration of all the Material, the Commission finds that the applicant’s IWMP does not include adequate analysis of construction phase impacts, including how it proposes to minimise the potential for erosion and limit the transport of sediments from the development to Lake Wollumboola. The Commission further finds that the applicant’s IWMP is not consistent with what would be expected for a proposed development adjacent to a highly sensitive ecosystem for the reasons given by the Independent Review as set out in paragraph 114.
116. The Independent Review noted that the Project is surrounded by wetlands, and that in the site’s current pre-development state surface run-off flows and groundwater are key components of the hydrology of these two wetlands: *“Wetland environments such as the*

two wetlands on the study site are highly sensitive to changes in surface water flows and groundwater table elevations, and would be likely impacted by any changes to the wetting/drying cycle within their catchment”.

117. The Independent Review considered the applicant’s modelling presented in its IWMP, noting that *“MUSIC, like any other numerical model, requires calibration based on local flow data as well as treatment performance. Based on our review, it appears that the presented MUSIC model has not been field calibrated or peer-reviewed”.*
118. The Independent Review further noted that the applicant’s modelling: *“indicates a decrease in the annual average pollutant loads into the two neighbouring coastal wetlands or into Lake Wollumboola despite the required input of fertiliser in the system. This conclusion has been previously questioned both by OEH an DPE and appears not to have been further justified by the applicant”.*
119. The Commission accepts the analysis contained in the Independent Review as outlined in paragraphs 116, 117 and 118.
120. The Commission shares the Department’s concerns (see paragraph 112) and finds that in relation to the assessment of impacts on the SEPP 14 wetlands, because the applicant has not clearly demonstrated that the Project will not have an adverse impact the two SEPP 14 wetlands. These concerns are supported by the analysis contained in the Independent Review regarding the limitations of the IWMP (see paragraph 115) for a Project adjacent to a sensitive ecosystem.
121. The Commission accepts the conclusions of the Department outlined in paragraphs 110 and 111, in line with the concerns raised by OEH (paragraph 89), that despite the applicant’s statements outlined in its Final SEE that it can achieve the NorBE criteria, the applicant has not adequately demonstrated that the Project would not significantly impact receiving environments. The Independent Review further stated: *“at present, it is difficult to establish an acceptable level of nutrient or pollutant increase to a complex ecosystem such as Lake Wollumboola”.*
122. The Commission notes that the applicant’s response dated 30 August 2018 to the Independent Review stated: *“no detail in the review refutes the modelled conclusion that the proposed development with the extensive water quality control systems, will result in no increase in nutrient loads to the Lake. If there is no increase as a result of the development the contribution to the cumulative impact of a range of unrelated existing and proposed developments shall remain zero”.*
123. The Commission acknowledges the applicant’s 30 August 2018 response and has carefully considered that information provided. However, the Commission finds that the response did not provide any evidence which alters the Commission’s view in relation surface water quality, potential impacts on receiving environments or proposed management of potential impacts.
124. The Independent Review concluded that: *“unless detailed scientific processes are supported with field data, a precautionary approach is recommended”.* The Commission is therefore persuaded to adopt a precautionary approach to the consideration and determination of the Project’s surface water quality and hydrological impacts because there is insufficient data and uncertainty as to the potential for significant and irreversible impacts on the ecosystem of Lake Wollumboola.

5.4.2 Groundwater

125. The Commission has taken into account the Material insofar as it relates to the impacts of the Project on groundwater.

Submissions / comments received

126. The Commission heard concerns from speakers at the public meeting and received written comments regarding the impacts of the Project on groundwater. The Commission considered submissions made to Council during public exhibition of the application and submissions to the Department. Council also raised concerns regarding the sensitive nature of the site given its proximity to Lake Wollumboola. The concerns raised in relation to groundwater include:

- observed freshwater seepage, possibly groundwater, at sites around Long Bow Point and the northern shore;
- the groundwater assessment is limited and not sufficient to fully assess the impacts;
- there is a lack of baseline data to consider whether there would be an impact on groundwater resources; and
- there is evidence that, at times, a large component of the total volume of water in the lake is sourced from groundwater.

127. OEH's final submission to the Department, dated 9 March 2018, stated that *"the understanding of the hydrogeology and groundwater which underpins the modelling work completed by Martens is limited, appears inaccurate and is therefore not sufficient to enable a detailed understanding of the potential groundwater impacts to Lake Wollumboola"*.

Applicant's consideration

128. The IWMP described the field investigations and laboratory studies undertaken in March and October 2011 and March 2014 to determine groundwater conditions on the site. Site observations (March and October 2011) identified groundwater in 5 of 10 completed test holes. Site observations in March 2014 identified groundwater in all completed test holes.

129. The IWMP stated that groundwater was encountered at approximately 0.3 to 0.7 metres below ground level (**mBGL**) on lands with elevations lower than 0.3m Australian Height Datum (**AHD**) adjacent to the northern drainage depression and Downs Creek. Groundwater was encountered at 4.9 mBGL at a borehole located with a surface elevation of 6.16m AHD. Investigations of ridge top and side slope areas where the golf course would primarily be located, indicated deeper groundwater than was identified in low lying areas of the site.

130. The IWMP stated that groundwater was not encountered at two boreholes drilled to 4.3 mBGL and 7 mBGL. However, groundwater was encountered downslope of these two boreholes where a standing water level of 2.66 mBGL was recorded. Groundwater was also encountered at depths greater than eight metres at two other boreholes.

131. The IWMP provided an analysis of the potential for Lake Wollumboola to be a Groundwater Dependent Ecosystem (**GDE**), noting that water flowing through the shallow groundwater system (described above in paragraphs 129 and 130), is unlikely to discharge to the lake as suggested in a site assessment undertaken by OEH. The

applicant considered that this is supported by site observations at low lake water levels which have found no evidence of shallow groundwater seepage either to the watercourses or the lake foreshore.

132. The IWMP stated that groundwater contribution to Lake Wollumboola is 85.8 ML/day/m², which it considered to be an insignificant rate for a water body, and it did not consider ecological processes would be determined by groundwater contribution. The IWMP concluded that Lake Wollumboola is not a GDE.
133. In addition, the IWMP stated that under the post development conditions, the volume of groundwater seepage is likely to increase to 44 ML/year, which it considered to be minor. The assessment indicated there would be more water in the shallow zone and an increase in downslope water supply as a result of the proposed development, which it considered likely to be consumed by dense vegetation on site slopes, in riparian vegetated zones on lower slopes or stored in alluvial soils. The IWMP concluded that the impact of the proposed golf course on existing groundwater seepage to Lake Wollumboola is considered negligible.
134. The IWMP groundwater assessment concluded that:
*“Groundwater is anticipated to exist beneath the site at shallow depths (<1 mBGL) within alluvium deposits in the vicinity of low lying areas and drainage depressions and at significantly deeper depths (>2.5 – 9 mBGL) within siltstone beneath ridges and side slopes.
Assessment indicates that proposed golf course operations will not adversely impact groundwater beneath the site. While seepage to groundwater shall increase as result of the proposed development, nutrient concentrations within seepage water will be slightly reduced compared to existing conditions. Modelled golf course nutrient leachate concentrations are considerably lower than observed existing local groundwater nutrient concentrations. Any change to nutrient leaching is very minor with annual nutrient budgeting suggesting there shall be an annual nutrient deficit. Given these findings it is concluded that the proposed development achieves the required NorBE test and shall not adversely impact on local or regional groundwater resources or groundwater receiving environments”.*
135. The Model Review 2017 considered analysis undertaken by OEH to support its view that Lake Wollumboola was significantly impacted by groundwater flows from the surrounding catchment and OEH’s subsequent statement that the lake was susceptible to detrimental impacts from catchment development through potential groundwater pollution. The Model Review 2017 concluded the significance of groundwater inflows is likely to be very minor, and that groundwater discharge to the lake is negligible. The review concluded: *“The data presented does not support OEHs conclusions regarding the significance of groundwater to Lake Wollumboola nor does it support a conclusion that catchment development is likely to influence lake water quality via groundwater”.*

Department’s consideration

136. The Department’s AR noted the findings of Santos 2018:
- *“the reviewer has little confidence in the model as it overlooks soil properties to estimate groundwater recharge and discharge;*
 - *the reasoning used to dismiss groundwater inputs to the lake is not strong;*
 - *the modelling has weak assumptions and analysis, resulting in weak conclusions;*
 - *based on local conditions and the reviewer’s extensive experience of similar waterways, groundwater discharge may be important in Lake Wollumboola, however*

- *there is currently insufficient data to make this conclusion;*
 - *the water quality information available is inadequate to make an evidence-based decision on the impacts of the proposed golf course”.*
137. The Department’s AR noted there is currently limited knowledge about groundwater on Long Bow Point. As set out in paragraph 21, the Hgeo 2017 preliminary study reviewed available groundwater data, included preparation of a conceptual model and proposed a two-year monitoring program. The Department’s AR stated: *“Hgeo 2017 noted groundwater has the potential to influence water quality near the lake-sediment interface”*. The Department noted that a full report will be provided once the two-year monitoring program is complete and the information used to define the extent of the groundwater catchment of Lake Wollumboola to inform development boundaries near Lake Wollumboola. The Department’s AR noted that the Planning Proposal will also be supported by an investigation into alternative sites for a golf course.
138. The Department’s AR stated that it has reviewed publicly available information on golf courses and notes there is high level of active management required to limit nitrogen and phosphorus leaching to nearby and surface water and groundwater. The Department’s AR stated that: *“Nitrogen is highly susceptible to loss through volatilisation (dispersal in air), leaching through soils into groundwater, via surface runoff and removal through grass clippings. Phosphorus is lost through movement of soil particles and leaching when loads are in excess of plant requirements, or in sandy soils”*.
139. The Department’s AR further noted that impacts resulting from increases in nitrogen and phosphorus entering adjacent waterways can lead to algal blooms, growth of aquatic weeds, and overgrowth of plants due to excess nutrients. The Department’s AR stated that such changes can lead to loss of aquatic species and available food sources for birds and other species.
140. The Department’s AR concluded: *“Several studies have also identified the existing lack of detailed information on groundwater inputs to the lake and this alone is considered reason enough to defer any decision on the proposed development until the results of the long-term groundwater study are available”*.

Commission’s consideration

141. As set out in paragraphs 52 and 53, the Commission sought independent expert advice in relation to water quality matters, including groundwater. The Independent Review noted that groundwater is typically an important component of the water balance for coastal wetlands and Intermittently Closed or Open Lake or Lagoons (**ICOLLS**). The Independent Review further noted that groundwater contribution can only be verified and quantified through field-based data.
142. The Commission finds that there is a lack of sufficient data on groundwater contribution on the site. The Commission therefore accepts the conclusions of the Department outlined in paragraphs 137 and 140. The Commission’s finding of a lack of sufficient data is supported by the Independent Review, which stated: *“Based on our review of the limited onsite groundwater data presented by the proponent, and Professor Santos’ review of the 2018 Radon study undertaken by OEH, we believe that groundwater discharges to Lake Wollumboola cannot be adequately assessed. Due to the potential importance of the groundwater regime to sensitive receivers, we consider that this is a critical data gap that warrants further consideration.*

...the proposed field investigation and monitoring program, which we understand will be performed over two years, will provide valuable insight into the groundwater contribution to Lake Wollumboola.... More importantly, this investigation will offer critical information regarding predevelopment conditions at the site and allow baseline conditions to be measured as a benchmark for assessing any impact of the proposed development on the two neighbouring coastal wetlands and Lake Wollumboola”.

143. Based on consideration of all the Material, the Commission finds that there is a “critical data gap”, as identified by the Independent Review, which prevents an appropriate assessment of the potential groundwater impacts of the Project. The Commission finds that application of the precautionary principle is appropriate, based on uncertainty and the potentially significant and irreversible impacts on the Lake Wollumboola ecosystem.

5.4.3 Biodiversity

144. The Commission has taken into account the Material insofar as it relates to the impacts of the project on biodiversity.

Submissions / comments received

145. The Commission heard concerns from speakers at the public meeting and received written comments regarding the impacts of the Project on biodiversity. The Commission considered submissions made to Council during public exhibition of the application and submissions to the Department. The concerns raised in relation to biodiversity include:
- the complex opening and closing character of the lake is the foundation of its diverse ecology, which attracts migratory bird species, and listed species under State and Commonwealth legislation;
 - the natural surface and groundwater runoff from Long Bow Point and surrounds is critical in maintaining the water quality of the lake, its wetlands, aquatic environment and abundant wildlife;
 - sensitive coastal location with high level of conservation;
 - inadequate survey of some threatened fauna species known to occur on the site;
 - no consideration of threatened species listed on the Commonwealth’s *Environment Protection and Biodiversity Conservation Act 2000 (EPBC)*;
 - potential impacts to birdlife and bird habitats;
 - elevated phosphorus concentrations in groundwater are likely to adversely impact submerged vegetation;
 - potential impacts on water birds such as the Chestnut Teal and Black Swan and other bird and marine species populations; and
 - Lake Wollumboola is recognised as part of the East Asian Australasian Flyway which is vital for the survival of internationally significant migratory birds.
146. OEH’s final submission to the Department (9 March 2018) stated that:
- *“The conclusions of likely impact of the proposal on species deemed ‘affected’ by the golf course development are not based on adequate observations and evidence...we conclude that a significant impact on some threatened species cannot be ruled out at this stage.*
 - *The proponent has not described the full suite of mitigation measures they intend to adopt. Instead they suggest that they will deal with these post-approval. This approach is contrary to normal process as it does not allow an informed decision to be made on the extent and significance of impact”.*

Applicant's consideration

147. The Final SEE was accompanied by the *Culburra Golf Course SIS Addendum Report (SIS Addendum)*, December 2017, prepared by Cumberland Ecology (CE). The SIS Addendum was prepared in support of the applicant's final submission to the Department in December 2017. Up to that point, the applicant had submitted a number of flora and fauna studies both to Council and the Department at different stages of the application process.
148. The SIS Addendum stated that direct impacts comprise the removal of 35.7 ha of native vegetation, which includes 10.16 ha of threatened ecological communities. Five of approximately 200 hollow bearing trees identified in the study area would also be removed.
149. The SIS Addendum noted that the biometric vegetation types found on the site conform to four threatened ecological communities (TECs), including:
- *Bangalay Sand Forest of the Sydney Basin and South East Corner Bioregions (Bangalay Sand Forest) (TSC Act: EEC; EPBC Act: Not listed);*
 - *Coastal Saltmarsh in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions (Coastal Saltmarsh) (TSC Act: EEC; EPBC Act: Vulnerable Ecological Community (VEC));*
 - *Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions (Swamp Oak Floodplain Forest) (TSC Act: EEC, EPBC Act: Not listed); and*
 - *Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions (Swamp Sclerophyll Forest) (TSC Act: EEC, EPBC Act: Not listed)".*
150. The SIS Addendum noted that no threatened orchids were recorded during targeted surveys. Three orchids previously recorded within the study area were recorded during the surveys.
151. The SIS Addendum noted that no threatened fauna species listed under the *Threatened Species Conservation Act 1995 (TSC Act)* were recorded during surveys within the study area.
152. The SIS Addendum stated that vegetation on the site provides habitat for a range of flora and fauna species, including those that are listed as threatened under the TSC Act and/or EPBC Act. The vegetation communities also support specific habitat features that provide foraging, shelter and breeding opportunities for fauna, and the proposed development will result in the removal of some of these habitat features. The SIS Addendum noted that the design of the golf course has been adjusted to minimise the direct impacts by retaining threatened ecological communities and retention of hollow-bearing trees where possible.
153. The SIS Addendum concluded: *"The removal of these habitat features is considered to have only minor implications for fauna species due to the presence of available habitat features remaining within the study area and wider locality as well as the high mobility of the species likely to utilise these habitats. It is anticipated that these features will continue to provide habitat for the suite of species within the study area"*.
154. The SIS Addendum further stated: *"The ephemeral drainage lines within the subject site will only be disturbed temporarily during construction. Furthermore, the ephemeral*

drainage lines do not provide significant habitat for the affected species identified within the subject site”.

155. In relation to migratory birds, the SIS Addendum stated that a number of migratory bird species have been recorded in the study area which utilise habitats on the foreshore of Lake Wollumboola. The SIS Addendum noted that the IWMP demonstrated that: *“groundwater seepage and stormwater runoff will not have significant or irreversible flow on effects on the water quality of the lake or associated habitats. As stated by Martens (2017), the NorBE requirements will be met. Therefore, there will be no significant impact on the migratory birds that utilise the lake. As these species will not be impacted by the proposed development they are not considered as subject species”.*
156. The SIS Addendum noted that pre-construction measures including pre-clearance surveys to check for any nesting or roosting fauna, and relocation any identified fauna to adjacent habitat and sediment controls and reduction measures should be implemented to reduce sediment runoff into waterways.
157. The SIS Addendum recommended a suite of management plans be prepared following consent of the development application. These include a comprehensive Environmental Management Plan (**EMP**) (as referred to paragraph 107) to address all environmental matters. A component of the EMP would be a SVMP (see paragraph 95) to detail management tasks for different vegetation zones within the retained vegetation.
158. The SIS Addendum described the ‘compensatory strategies’ for the Project, including the majority of retained vegetation on the site becoming an onsite offset that will be managed in perpetuity, or the acquisition of credits from an offsite biobanking site. A preliminary biobanking assessment was undertaken to evaluate the credits generated by the proposed offset area. The SIS Addendum noted that although BioBanking is not required for the proposed development, it was undertaken to provide a scientific approach to quantify impacts and assess the offset liability.
159. The SIS Addendum stated that the onsite offset provides 68% of the credits required to offset the proposed clearing, which results in a shortfall of 719 credits, or 1,123 credits of like-for-like vegetation. The SIS Addendum noted the following options to satisfy the offset liability:
 - purchase additional credits;
 - commit additional land to conservation; or
 - apply offset variations through financial contributions to research/conservation projects or biodiversity funds.

Department’s consideration

160. The Department’s AR noted that the assessments and studies submitted by the applicant, including the most recent SIS Addendum containing a number of statements about the Project and that it will not impact on threatened flora and fauna species. However, the Department’s AR stated that the applicant does not provide sufficient quantitative analysis to support the statements.
161. The Department’s AR reiterated OEH’s position that a significant impact on some threatened species cannot be ruled out and the Project could have significant impact on the water quality of Lake Wollumboola, with irreversible consequences on habitat for migratory birds.

162. The Department's AR noted that the applicant did not refer the Project to the Commonwealth Government under the EPBC Act, as the SIS Addendum concluded that the proposal would not impose a significant impact on any matter of national environmental significance (**MNES**). The Department considers that a referral to the Commonwealth Government should have been made to determine if the proposed clearing is a controlled action and whether assessment under the EPBC Act was required, given that:
- *“during the COI, the National Parks and Wildlife Service (NPWS) noted the lake supports a population of nationally endangered Little Tern as well as internationally listed migratory birds*
 - *the EnviroKey 2012 independent review of the Applicant's first ecological assessment, identified 22 threatened or migratory species listed on the EPBC Act having been recorded on or adjacent to the site*
 - *the Director-General's Requirements (DGRs) issued by the OEH for the SIS strongly advised the Applicant to consult with the Commonwealth Government in relation to potential impacts on MNES, specifically threatened species listed on the EPBC Act*
 - *OEHs submissions advised the SIS and SIS Addendum had not adequately addressed the DGRs and the flora and fauna survey effort was not adequate to determine the impacts on threatened species”.*
163. The Department's AR stated that it has sufficient information to form a view on the potential biodiversity impacts of the Project, having taken account of the various studies and assessment undertaken for the site. The Department's AR noted that: *“The strategic studies undertaken by Government have consistently identified Long Bow Point as an area of high biodiversity that should be protected from urban development. These studies recognise the value of the vegetation on Long Bow Point and the important role it plays in maintaining water quality in Lake Wollumboola and protecting the threatened and migratory birds that rely on the lake's unique ecosystem”.*
164. The Department's AR concluded that the Project has the potential to cause significant impacts on threatened flora and fauna species both on the site and the adjacent Lake Wollumboola, which forms part of the Jervis Bay National Park and is a Wetland of National Importance: *“On balance, the Department concludes the potential biodiversity impacts and associated flow-on effects to water quality warrant refusal of the application”.*

Commission's consideration

165. The Commission acknowledges written comments it received in relation to the EPBC referral and notes the Department's view, as set out in paragraph 162. However, the Commission finds that the EPBC Act referral is not relevant to the Commission's consideration of the Project under section 4.15 of the EP&A Act.
166. The Commission notes the applicant's commitment to prepare an EMP to manage construction impacts and other management plans at a later stage, however the Commission finds that the mitigation measures described in the SIS Addendum are inadequate for this stage of the application process, because the measures set out in the SIS Addendum do not provide an adequate level of detail to determine whether the measures would prevent potential harmful impacts. The Commission agrees with the OEH and shares its view (see paragraph 146) that a full suite of mitigation measures should have been provided at this stage of the Project, rather than the applicant relying on provision of these measures post-approval.

167. Based on consideration of all the Material, the Commission finds that the references to IWMP in the SIS Addendum (see paragraph 155) which underpin the conclusion that there will be no significant impact on migratory bird and threatened species that use Lake Wollumboola as habitat cannot be relied upon because of the limitations of the IWMP as set out in section 5.4.1 (see paragraphs 115 and 116). The Commission finds that the proposed development has the potential to impact on threatened flora and fauna species with potential flow-on effects to Lake Wollumboola, for the reasons outlined in the Department's conclusions in paragraph 164.

5.4.4 Aboriginal cultural heritage

168. The Commission has taken into account the Material insofar as it relates to the impacts of the Project on Aboriginal cultural heritage.

Submissions / comments received

169. The Commission heard concerns from speakers at the public meeting and received written comments regarding the potential impacts of the Project on Aboriginal cultural heritage. As outlined in section 3.5, the Commission met with the **Jerrinja** and received written comments from the Jerrinja in relation to the proposed Project. The Commission also considered submissions made to Council during public exhibition of the application and submissions to the Department. A summary of the matters raised at the meeting and in written comments is provided below:

- Lake Wollumboola is a sensitive ecosystem, opening to the sea intermittently and therefore does not get flushed often. The lake is an important breeding ground for birds and fish the lake catchment contains an important fish trap site. It is a culturally significant environment to the Jerrinja;
- Lake Wollumboola has always been used and valued by the Jerrinja for its cultural and related resource significance up until today. The lake is geographically situated between the Bundarwa, the Jerrinja birth place, and the Cullunghutti, on the eastern ridge of Mount Cullunghutti is the departure site when Jerrinja people pass on and go into the spiritual world;
- the Jerrinja community hold a lot more cultural knowledge regarding the whole of the Wollumboola and Crookhaven catchments;
- concerns raised regarding a lack of consultation between the applicant and the Jerrinja;
- concerns that a golf course development would have a significant impact on Lake Wollumboola and destruction of native flora, fauna and cultural heritage sites.

Applicant's consideration

170. The applicant submitted an Aboriginal Cultural Heritage Assessment (**ACHA**), prepared by South East Archaeology in 2011 and revised in March 2012. The ACHA included a site survey with Registered Aboriginal parties, conducted in March 2012 with Jerrinja representatives.

171. The ACHA indicated no evidence of focused occupation close to Lake Wollumboola, due to a lack of shellfish in the lake and the steep slopes of the foreshore which may limit access. Two sites were identified along the cleared access tracks and dominant ridgeline, both were small open artefacts occurrences. The ACHA concluded that these artefact occurrences have 'low significance' however the area up to 200 m from the edge of the Lake has low to moderate potential for deposits.

172. The ACHA concluded that the *“overall impacts of the Proposal on Aboriginal heritage will be low within a local context and very low within a regional context. Mitigation measures can be implemented to further reduce impacts to the identified sites and any potential deposits. The cumulative effect of the Proposal on the identified and potential Aboriginal heritage resources of the region would be very low”*.
173. In its presentation to the Commission on 19 July 2018, the applicant tabled a letter from the Department to the applicant, dated 1 August 2017 and an email from the Department to the applicant, also dated 1 August 2017. In the letter the Department had stated that *“no further information relating to Aboriginal cultural heritage was required”*. The applicant raised concerns with the Commission that the Department had subsequently stated in its assessment report that the OEH request for further Aboriginal archaeological information had not been addressed.

Department's consideration

174. The Department's AR noted in its assessment report there is a lack of detailed information to determine the actual impacts of the development on Aboriginal heritage. The Department's AR stated *“A review of publicly available background information on Aboriginal heritage suggests the area was well utilised by Aboriginal people for seafood resources. The Department understands that Aboriginal people have retained an important connection to the land in and around Orient Point, the Crookhaven River and Lake Wollumboola, as noted in the submissions from the JTO and JLALC”*.
175. The Department's AR identified the following evidence:
- *“a 1998 study by the Australian Heritage Commission noted around 200 Aboriginal sites have been recorded in the area immediately around the lake.*
 - *The Jervis Bay National Park and Woollamia Nature Reserve Plan of Management, 2011 notes 15 recorded archaeological sites along the ocean, Jervis Bay and Lake Wollumboola shoreline.*
 - *Publicly available information and advice from OEH suggests the area extending 200 m from Lake Wollumboola has moderate to high potential for Aboriginal heritage items, however further survey is required to establish this”*.
176. The Department's AR further noted that *“there is a lack of detailed information to determine the actual impacts of the development on Aboriginal heritage”*. The Department's AR further noted that in order to complete a detailed impact assessment, test excavations would be required, which would involve isolated clearing in densely vegetated areas within 200m of the Lake. The Department's AR considered that this would require unnecessary removal of native vegetation: *“given the other impacts of the development are sufficient to warrant refusal”*.
177. The Department provided a response to matters raised by the applicant in paragraph 173, and in a letter to the Commission, dated 7 August 2018, reiterated its position as set out in the Department's AR: *“the Department does not consider it warranted to require the Applicant to conduct archaeological test excavations, given the potential water quality and biodiversity impacts of the proposal are sufficient to warrant refusal of the application. Test excavations would require isolated clearing in densely vegetated areas within 200 m of Lake Wollumboola, presenting unnecessary potential impacts on water quality and threatened species”*.

Commission's consideration

178. Based on consideration of all the Material, the Commission finds that Lake Wollumboola is of cultural significance to the Jerrinja. The Commission finds that the full extent of archaeological deposits, sites and artefacts is unknown, given the limited survey information available to the Commission, as set out in paragraph 176.

5.5 Social and economic impacts and benefits in the locality

179. The Commission has taken into account the Material insofar as it relates to the impacts of the Project on social and economic benefits and impacts in the locality.

Submissions / comments received

180. The Commission heard from speakers at the public meeting and received written comments regarding the social and economic benefits and impacts of the Project. The Commission also considered submissions made to Council during public exhibition of the application and submissions to the Department. The Commission noted that many of the issues raised are contested by various parties, and therefore some comments may read as being inconsistent with other comments.

Issues in support:

- the Project would generate employment opportunities for local residents and may alleviate the fear of the town 'dying';
- the project may become an internationally recognised golf course; and
- the golf course would attract visitors and tourists to the area.

Issues in objection:

- a championship golf course would not be successful without a clubhouse;
- the total cost to construct the golf course has not been considered to determine financial viability;
- other golf courses nearby are struggling financially, and a further golf course has the potential to jeopardise other facilities; and
- the 'need for the project' has not been demonstrated.

181. As well, Council raised concerns regarding the demand for a golf course given the proximity of other facilities in the area that are currently in decline, noting that successful golf courses are supported by clubhouses and clubs with broader business models.

Applicant's consideration

182. The Final SEE stated that the golf course would be an asset that will enhance the range of recreation opportunities for the community of Culburra, as well as providing an additional attraction encouraging tourism to Culburra Beach. The Final SEE further noted that the golf course would provide employment opportunities for the local community during the construction phase as well as the long-term management and maintenance phase.

183. In its presentation to the Commission, the applicant stated that it did not undertake an economic assessment to determine need for the proposal. The applicant stated that there are limited community facilities in Culburra and the local community generally supports the proposal, which it estimates would generate between 20-30 jobs during

construction and approximately eight permanent jobs.

Department's consideration

184. The Department's AR stated that many of the submissions received by Council during public exhibition of the application supported the development of a golf course (see *Table 1*). The Department notes that many of the submissions noted that the proposal would bring social and economic benefits to Culburra Beach through the creation of jobs and increased tourism and would stimulate existing businesses that have been in decline.
185. The Department's AR stated that the applicant had made these statements in its Final SEE. However, it noted that no analysis was provided to demonstrate how and to what extent the proposal would generate jobs, nor did the applicant submit an economic assessment in support of its application.
186. The Department's AR noted that: *"removal of the clubhouse and pro shop from the Project potentially undermines the economic benefits that the golf course could generate"*. The Department concluded: *"the potential economic and social benefits of the golf course, whilst not quantified by the applicant, are unlikely to significantly outweigh the environmental impacts of the proposal"*.

Commission's consideration

187. The Commission acknowledges that the Project would generate some employment opportunities, both during the construction and operational phases.
188. The Commission finds that no formal assessment of the economic and social benefits or detriments has been undertaken by the applicant. Therefore, statements regarding the social and economic benefits of the Project, including those set out in paragraph 183, are not able to be relied upon. The Commission notes that even though clarification was sought from the applicant's consultant during the public meeting, regarding a statement made during the public meeting in relation to the economic benefits of the Project, no empirical evidence based on a detailed analysis was provided.

5.6 Other issues

189. As set out in paragraph 37, the other issues assessed by the Department include the need for the development; social and economic impacts; Aboriginal cultural heritage; and traffic. The Commission has considered the need for the development in section 5.5 under social and economic impacts, and Aboriginal cultural heritage in section 5.4.4.
190. In relation to the issue of traffic, the applicant submitted a Traffic and Parking Assessment (**TPA**), prepared by Traffic Solutions in March 2012. The TPA considered estimated traffic movements, site access and intersection performance. The proposed intersection location, design and sight distances was also considered by the applicant and Council. The Department's AR stated that Council did not provide a final acceptance of the TPA or the proposed intersection design and, based on Council's review, the Department considered: *"the TPA 2012 did not adequately evaluate the potential traffic impacts of the development. Despite this, the Department acknowledges golf courses are unlikely to generate excessive traffic movements and an appropriate intersection design could be achieved to meet relevant road design standards"*.

191. The Commission accepts the Department's assessment of traffic, as set out in paragraph 190, for the reasons given in Table 11, section 6.4 of the Department's AR. The Commission finds that any residual issues associated with intersection design or revisions to the TPA could be made to address any outstanding concerns of Council.

5.7 Suitability of the site for the development

Submissions / comments received

192. The Commission heard from speakers at the public meeting and received written comments with a mix of views regarding the suitability of the site for the proposed development. The Commission notes that many of the issues raised are contested by various parties and including suitability of the site given the high environmental values and sensitivity and suitability of the site given its availability and location, including proximity to Culburra Beach.

Applicant's consideration

193. The Final SEE provided a review of strategic documents that apply to site, as set out in paragraphs 12 and 16. The Final SEE considered the outcomes of the Col and the SCSULR, noting that the outcomes of these studies *"suggest that part of the site is not suitable for residential development. The conclusions and recommendations of both the Col and the SLRP are respected and acknowledged. The proposed golf course is however considered to be an appropriate use of the land for a range of reasons and is consistent with the relevant development controls applying to the site"*.

Department's consideration

194. In relation to suitability of the site for the development, the Department's AR noted that it considered: *"the site is unsuitable for the development due to the potential water quality and flora and fauna impacts on Lake Wollumboola. The proposed development is likely to adversely impact on water quality, SEPP 14 wetlands and threatened and migratory species. The proposal would require clearing of endangered ecological communities and is likely to adversely impact on Aboriginal heritage."*

The proposal is not consistent with strategic studies and plans that recommend the Lake Wollumboola catchment is protected from further urban development".

195. The Department noted that it considered the suitability of the site for the development in sections 3, 4 and 6 of the AR.

Commission's consideration

196. Based on consideration of all the Material, the Commission finds that the site is not suitable for the proposed Project, because of the sensitivity of Lake Wollumboola and its catchment and the uncertainty related to Project generated surface water and groundwater impacts (see sections 5.4.1 and 5.4.2) on the highly sensitive ecosystem (see paragraph 115). The Commission recognises that many of the speakers at the public meeting were of the view that the golf course would be suitable, however the Commission finds that given the proximity of the two SEPP 14 wetlands and Lake Wollumboola, together with the evidence set out in paragraph 204, the site is not suitable for the Project.

5.8 The public interest

197. In determining the public interest merits of the project, the Commission has had regard to the objects of the EP&A Act.

Department's consideration

198. The Department has outlined its considerations against the objects of the EP&A Act in its AR and concludes that the Project is not consistent with all objects of the EP&A Act. The Department stated that the Project:

- does not promote the proper conservation of the State's natural resources;
- is not consistent with the aim of protecting threatened species, populations and ecological communities;
- the development has the potential to adversely impact on Aboriginal cultural heritage items, although these impacts were not quantified through detailed investigations.

199. The Department considered the principles of ecologically sustainable development (ESD) throughout its assessment of the Project, noting the aspects of most relevance include (a) the precautionary principle and (c) conservation of biological diversity and ecological integrity.

200. In relation to the precautionary principle, the Department stated:

"The Department's assessment has identified the potential for serious or irreversible impacts on water quality in Lake Wollumboola, see Section 6.2. These issues were highlighted by Council when the application was first lodged in 2011 and reiterated in submissions from OEH throughout the assessment of the application. Despite this, the Applicant continues to maintain the development would achieve a neutral or beneficial effect on water quality from the proposed stormwater management system and would not adversely impact on threatened or migratory species that rely on the lake's unique ecosystem.

The Applicant has attempted to address the concerns raised by Council, OEH and the Department through multiple revisions of the Integrated Water Management Plan and four separate flora and fauna assessments. However, the application documents have been unable to convince OEH and the Department that the water quality and biodiversity impacts are not significant. The Applicant has been unable to demonstrate with certainty there is no threat of serious or irreversible damage, or that these impacts can be effectively avoided or mitigated".

201. In relation to conservation of biological diversity and ecological integrity, the Department stated:

"The Department's assessment has concluded the impacts of clearing native vegetation on Long Bow Point and the impact on water quality presents an unacceptable risk to biodiversity and ecological integrity. The Department's view is supported by OEH.

The Department's assessment concludes the development poses an unacceptable risk to threatened species, habitat, water quality and ecology of Lake Wollumboola. Therefore, it does not satisfy the objectives of conserving biodiversity and ecological integrity. The proposal is inconsistent with numerous strategic studies and planning instruments that unequivocally recommend the protection of the Lake Wollumboola

catchment from urban development that negatively impacts on the lake”.

202. The Department concluded that the Project would adversely impact the environment and is not consistent with the objects of the EP&A Act and the principles of ESD.

Commission’s consideration

203. The relevant objects of the EP&A Act to the Project, as set out in s 1.3 of the EP&A Act, include:

(a) to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State’s natural and other resources,

(b) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,

(c) to promote the orderly and economic use and development of land,

(e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,

(f) to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage),

(i) to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State,

(j) to provide increased opportunity for community participation in environmental planning and assessment.

204. The Commission accepts the Department’s assessment in paragraphs 198-202, for the reasons given by the Department in Table 3, section 4.8 of the Department’s AR. Based on consideration of all the Material, the Commission finds that the Project is not in the public interest because:

- there is potential for serious or irreversible impacts on surface water quality and groundwater on the Lake Wollumboola ecosystem and the SEPP 14 wetlands, and the applicant has been unable to demonstrate with certainty that there is no threat of serious or irreversible damage, or that these impacts can be effectively avoided or mitigated;
- the impacts of clearing native vegetation and impacts on surface water quality and groundwater present an unacceptable risk to biodiversity and ecological integrity;
- there is potential for the Project to adversely impact on the cultural heritage items of the Jerrinja; and
- the Project is inconsistent with a number of strategic studies and EPIs that state land within the catchment of Lake Wollumboola is unsuitable for urban development because of potential adverse impacts on the lake.

6. HOW THE COMMISSION TOOK COMMUNITY VIEWS INTO ACCOUNT IN MAKING DECISION

205. Community views were presented to the Commission via public submissions to the Council and written comments to the Commission, as well as speakers at the public meeting many of whom supported the Project while several raised a number of concerns regarding the Project. The Commission also received written comments and heard from members of the public in support of the Project.

206. The Commission carefully considered all views of the community. The way in which

these concerns were taken into account by the Commission is set out in detail in **sections 3 and 5**.

7. CONCLUSION: THE COMMISSION'S FINDINGS AND DETERMINATION

207. The Commission has carefully considered all of the Material.

208. The Commission concludes that:

- the site is unsuitable for the Project, because of the sensitivity of Lake Wollumboola and its catchment and the potential for adverse impacts on the highly sensitive ecosystem, as outlined in paragraphs 16, 72, 73, 76, 193-196 and 204;
- there is uncertainty regarding impacts on receiving environments, including Lake Wollumboola and the two SEPP 14 wetlands and adoption of a precautionary approach is appropriate, as outlined in paragraph 62, 65, 77, 85, 123, 142 and 196;
- there is a lack of critical groundwater data to enable an appropriate assessment of the potential impacts of the Project, and until a more detailed investigation is carried out, supported by appropriate field data, a precautionary approach is appropriate, as outlined in paragraphs 139 and 143;
- there is uncertainty in relation to construction impacts and mitigation measures to manage potential impacts during construction, as outlined in paragraphs 106, 107, 109, 115 and 166;
- there is uncertainty in relation to social and economic benefits of the Project, as outlined in paragraphs 186 and 188; and
- the project is not in the public interest, as outlined in paragraph 204.

209. For all the reasons outlined in this Statement of Reasons for Decision, the Commission has decided to refuse consent to the Project.



Mary O'Kane (Chair)
Chair of the Commission



Ross Carter
Member of the Commission



Ilona Millar
Member of the Commission

Appendix 1 Material considered

- March 2000:
 - Report to the Honourable Dr Andrew Refshauge, 837 Lot Subdivisions Long Bow Point, Culburra, March 2000;
- May 2011:
 - 25437-02 Sheet 1 of 4 golf course sketch plan, Allen Price & Associates, May 2011;
 - 25437-02 Sheet 2 of 4 Cadastral Information, Allen Price & Associates, May 2011;
 - 25437-02 Sheet 3 of 4 trees to remove, Allen Price & Associates, May 2011;
 - 25437-02 Sheet 4 of 4 Carpark, Allen Price & Associates, May 2011;
- June 2011:
 - Acid Sulfate Soils Assessment, Martens, June 2011;
 - Statement of Environmental Effects, Proposed 18 Hole Championship Golf Course Facility for Mr. Warren Halloran, at Long Bow Point Culburra Beach, Allen Price and Associates, in association with John Toon Pty Limited, June 2011;
 - Integrated Water Management Plan – Proposed Golf Course Development, Culburra Road, West Culburra, NSW, Martens & Associates Pty Ltd, June 2011;
 - Application Form, Allen Price & Associates, 29 June 2011;
 - Cover Letter, Allen Price & Associates, 29 June 2011;
 - Ecological and Riparian Assessment Report, Whelans InSites Pty Ltd, 24 June 2011;
 - Preliminary Bushfire Risk Assessment, Martens, June 2011;
 - Stage 1 Contamination Assessment, Martens, June 2011;
 - Amended SEE Proposed 18 Hole Championship Golf Course for Mr Warren Halloran, Allen Price & Associates, June 2011;
- August 2011:
 - 302 submissions in support, 47 objections and 1 comment received by the Department during public exhibition period;
- September 2011:
 - Visual Impact Assessment for Mr W. Halloran, John Toon Pty Ltd, September 2011;
- October 2011:
 - Visual Impact Assessment Cover Letter, Allen Price & Associates, 24 October 2011;
- November 2011:
 - Amended Integrated Water Management Plan, Martens, November 2011;
- December 2011:
 - RTS Cover Letter, Allen, Price & Associates, 6 December 2011;
- January 2012:
 - Amended SEE Greenkeeper Hut Plans, John Toon, 20 January 2012;
- March 2012:
 - Statement of Environmental Effects, Proposed 18 Hole Championship Golf Course Facility for Mr Warren Halloran, at Long Bow Point Culburra Beach, Allen Price and Associates, in association with John Toon Pty Limited, June 2011 with revisions dated March 2012;
 - Integrated Water Management Plan – Proposed Golf Course Development, Culburra Road, West Culburra, NSW, Martens & Associates Pty Ltd, November 2011 (prepared to address comments received by OEH in letter received by the applicant 7 September 2011);
 - Amended Supplementary Ecological Assessment Report, SLR, 16 March 2012;
 - Amended SEE Cover Letter Allen Price & Associates, 16 March 2012;

- Amended SEE Proposed 18 Hole Championship Golf Course for Mr Warren Halloran, Allen Price & Associates, March 2012;
- Amended SEE Second Cover Letter, Allen Price & Associates, 29 March 2012;
- Amended SEE Traffic and Parking Assessment, 15 March 2012;
- Amended Aboriginal Cultural Heritage Assessment, South East Archaeology, May 2012;
- April 2012:
 - Amended SEE Confirmation of Cost Estimates, McKay & Sons, 16 April 2012;
- May 2012
 - 40 submissions in support, 39 objections and 1 comment received by the Department during public exhibition period;
- July 2012:
 - Peer Review Flora and Fauna Assessment a report prepared for Shoalhaven City Council, EnviroKey, July 2012;
- August 2012:
 - Amended SEE Plans Intersection Detail, Allen Price & Associates, August 2012;
 - Amended SEE Plans Intersection Details, Allen Price & Associates, August 2012;
- April 2013:
 - Amended SEE Plans Bulk Earthworks Plan Holes 1-9, Golf by Design, 12 April 2013;
 - Amended SEE Plans Bulk Earthworks Plan Holes 10-18, Golf by Design, 12 April 2013;
 - Amended SEE Plans Golf Course Layout Plan, Golf by Design, 12 April 2013;
 - Amended SEE Plans Grassing and Landscape Plan Holes 1-9, Golf by Design, 12 April 2013;
 - Amended SEE Plans Grassing and Landscape Plan Holes 10-18, Golf by Design, 12 April 2013;
 - Amended SEE Plans Vegetation Clearing Plan Holes 1-9, Golf by Design, 12 April 2013;
 - Amended SEE Plans Vegetation Clearing Plan Holes 10-18, Golf by Design, 12 April 2013;
 - Amended SEE Plans Bulk Earthworks Plan Holes 1-9 (1), Golf by Design, 12 April 2013;
 - Amended SEE Plans Bulk Earthworks Plan Holes 1-9 (2), Golf by Design, 12 April 2013;
 - Amended SEE Plans Bulk Earthworks Plan Holes 1-9 (3), Golf by Design, 12 April 2013;
 - Amended SEE Plans Bulk Earthworks Plan Holes 10-18 (1), Golf by Design, 12 April 2013;
 - Amended SEE Plans Bulk Earthworks Plan Holes 10-18 (2), Golf by Design, 12 April 2013;
 - Amended SEE Plans Bulk Earthworks Plan Holes 10-18 (3), Golf by Design, 12 April 2013;
 - Amended SEE Plans Clearing Plan Holes 1-9 (1), Golf by Design, 12 April 2013;
 - Amended SEE Plans Clearing Plan Holes 1-9 (2), Golf by Design, 12 April 2013;
 - Amended SEE Plans Clearing Plan Holes 1-9 (3), Golf by Design, 12 April 2013;
 - Amended SEE Plans Clearing Plan Holes 10-18 (1), Golf by Design, 12 April 2013;
 - Amended SEE Plans Clearing Plan Holes 10-18 (2), Golf by Design, 12 April 2013;
 - Amended SEE Plans Clearing Plan Holes 10-18 (3), Golf by Design, 12 April 2013;
 - Amended SEE Plans Golf Course Plan, Golf by Design, 12 April 2013;

- Amended SEE Plans Landscape Plan Holes 1-9 (1), Golf by Design, 12 April 2013;
- Amended SEE Plans Landscape Plan Holes 1-9 (2), Golf by Design, 12 April 2013;
- Amended SEE Plans Landscape Plan Holes 1-9 (3), Golf by Design, 12 April 2013;
- Amended SEE Plans Landscape Plan Holes 10-18 (1), Golf by Design, 12 April 2013;
- Amended SEE Plans Landscape Plan Holes 10-18 (2), Golf by Design, 12 April 2013;
- Amended SEE Plans Landscape Plan Holes 10-18 (3), Golf by Design, 12 April 2013;
- October 2013:
 - Integrated Water Management Plan – Proposed Golf Course Development, Culburra Road, West Culburra, NSW, Martens & Associates Pty Ltd, October 2013;
 - Amended SEE Integrated Water Management Plan – Proposed Golf Course Development, Culburra Road, West Culburra, NSW, Martens & Associates Pty Ltd, October 2013;
- November 2013:
 - Sensitivity of Lake Wollumboola: Input to Considerations of Development Applications for Long Bow Point, Culburra, Scanes, Ferguson and Potts, 4 November 2013;
- December 2013:
 - SIS Figures, SLR, 19 December 2013;
- February 2014:
 - Amended SEE Plans Typical Bunker Profile, Golf by Design, 14 February 2014;
 - Amended SEE Plans Typical Green and Collar Profile, Golf by Design, 14 February 2014;
 - Amended SEE Plans Typical Profile of Greens, Golf by Design, 14 February 2014;
 - Amended SEE Plans Typical Tee Profile, Golf by Design, 14 February 2014;
 - Amended SEE Plans Typical Tree Protection Detail, Golf by Design, 14 April 2014;
 - Amended SEE Plans Bunker Profile, Golf by Design, 14 February 2014;
 - Amended SEE Plans Green and Collar Profile, Golf by Design, 14 February 2014;
 - Amended SEE Plans Green and Tee Surrounds, Golf by Design, 14 February 2014;
 - Amended SEE Plans Greens, Golf by Design, 14 February 2014;
 - Amended SEE Plans Tree Protection Detail, Golf by Design 14 February 2014;
 - Construction Detail Greens 1, Golf by Design, 14 February 2014;
 - Construction Detail Greens 2, Golf by Design, 14 February 2014;
 - Construction Detail Greens 3, Golf by Design, 14 February 2014;
 - Construction Detail Greens 4, Golf by Design, 14 February 2014;
 - Typical Bunker Profile, Golf by Design, 14 February 2014;
- March 2014:
 - Amended SEE Draft Plan of Management prepared for the Halloran Trust, Golf by Design, March 2014;
 - Amended SEE Integrated Water Management Plan, Martens, March 2014;
- April 2014:
 - Amended SEE Plans Access Road Plan, Allen Price & Associates, April 2014;
 - Amended SEE Plans Longitudinal Section, Allen Price & Associates, April 2014;
 - Amended SEE Plans Access Road, Allen Price & Associates, April 2014;
 - Updated Civil Plans (1), Allen Price & Scarratts, April 2014;
 - Updated Civil Plans (2), Allen Price & Scarratts, April 2014;
 - Updated Civil Plans (3), Allen Price & Scarratts, April 2014;
 - Updated Civil Plans (4), Allen Price & Scarratts, April 2014;

- Concept Road Design, Allen Price & Scarratts, April 2014;
- May 2014:
 - SIS Species Impact Statement, SLR, May 2014;
- August 2014:
 - Amended SEE 18 Hole Championship Golf Course for the Halloran Trust, Allen Price & Associates, August 2014;
- October 2014:
 - Planning Proposal (PP006) – Rezoning of The Halloran Trust Landholdings at Culburra Beach, Callala Bay and Currarong, Planning and Development Services Group, Shoalhaven City Council, October 2014;
- April 2015:
 - Updated SIS Figure 1, SLR, 23 April 2015
 - Updated SIS Figure 2, SLR, 23 April 2015
 - Updated SIS Figure 3A, SLR, 23 April 2015
 - Updated SIS Figure 3B, SLR, 23 April 2015
 - Updated SIS Figure 4, SLR, 23 April 2015
 - Updated SIS Figure 5A, SLR, 23 April 2015
 - Updated SIS Figure 5B, SLR, 23 April 2015
 - Updated SIS Figure 6, SLR, 23 April 2015
 - Updated SIS Figure 7A, SLR, 23 April 2015
 - Updated SIS Figure 7B, SLR, 23 April 2015
 - Updated SIS Figure 7C, SLR, 23 April 2015
 - Updated SIS Figure 8A, SLR, 23 April 2015
 - Updated SIS Figure 8B, SLR, 23 April 2015
 - Updated SIS Figure 8C, SLR, 23 April 2015
 - Updated SIS Figure 9, SLR, 23 April 2015
 - Updated SIS Figure 10, SLR, 23 April 2015
 - Updated SIS Figure 11A, SLR, 23 April 2015
 - Updated SIS Figure 11B, SLR, 23 April 2015
 - Updated SIS Figure 12A, SLR, 23 April 2015
 - Updated SIS Figure 12B, SLR, 23 April 2015
 - Updated SIS Figure 13A, SLR, 23 April 2015
 - Updated SIS Figure 13B, SLR, 23 April 2015
 - Updated SIS Figure 14A, SLR, 23 April 2015
 - Updated SIS Figure 14B, SLR, 23 April 2015
 - Updated SIS Figure 15, SLR, 23 April 2015
 - Updated SIS Figure 16A, SLR, 23 April 2015
 - Updated SIS Figure 16B, SLR, 23 April 2015
 - Updated SIS Figure 17, SLR, 23 April 2015
 - Updated SIS Figure 18, SLR, 23 April 2015
 - Updated SIS Figure 19, SLR, 23 April 2015
- August 2015:
 - Updated SIS Species Impact Statement, Gunninah, August 2015;
- September 2015:
 - Amended SEE 18 Hole Championship Golf Course for the Halloran Trust, Allen Price & Associates, September 2015;
- November 2015:

- 20151116 Gateway Determination to Shoalhaven Council, Marcus Ray DPE, 16 November 2015;
- December 2015:
 - Amended SEE Cover Letter for the Shoalhaven City Council General Manager, Matt Philpott, 21 December 2015;
 - Amended SEE Detailed Cost Estimate, Golf by Design, 15 December 2015;
- June 2016:
 - Updated Civil Plans & Cover Email, Matt Phillipott, June 2016;
 - 16 submissions in support and 72 objections received by the Department during public exhibition period;
- November 2016:
 - PAC Advice on Application Call-In to the Minister, Lynelle Briggs (PAC), 29 November 2016;
 - Detection of Groundwater Inputs to Lake Wollumboola, Baida, Scanes and Ferguson, November 2016;
- March 2017:
 - Council Notice of Call-In, Anthony Roberts MP, 9 March 2017;
- June 2017:
 - West Culburra Groundwater Assessment, Preliminary report (Stage 1), Hgeo Pty Ltd, 28 June 2017;
- July 2017:
 - All written comments received by the Commission;
- August 2017:
 - All written comments received by the Commission;
- November 2017:
 - Bulk Earthworks Plan, Golf by Design, 13 November 2017
 - Golf Course Layout, Golf by Design, 13 November 2017;
- December 2017:
 - Clearing Plan, Golf by Design, 5 December 2017;
 - Cover Letter to Chris Ritchie, Allen Price & Scarratts, 15 December 2017;
 - Final SEE 18 Hole Championship Golf Course for the Halloran Trust, December 2017;
 - Grassing Plan, Golf by Design, 5 December 2017;
 - Signed SIS Declaration, Allen Price & Scarratts, 15 December 2017;
 - SIS Addendum Report for Allen Price & Scarratts, Cumberland Ecology, December 2017;
 - Proposed Culburra Golf Course: Water Quality Modelling and OEH Radon Data Review, Martens, 13 December 2017;
- May 2018:
 - Detection of Groundwater Inputs to Lake Wollumboola, Baida, Scanes and Ferguson, May 2018;
 - Review of OEH and Martens reports on Lake Wollumboola, Dr Santos of Southern Cross University (Santos 2018);
- July 2018:
 - Department of Planning and Environment Assessment Report, 3 July 2018 and appendices;
 - DPE Briefing Notes, IPC, 18 July 2018;
 - Culburra Beach Golf Course – Applicant’s presentation to the Commission, dated 19 July 2018;

- Letter to IPC, Dr Robert Tong, 18 July 2018;
- Applicant Presentation to IPC – Allen Price & Scarratts, 19 July 2018;
- Site Visit Itinerary, John Toon, 21 July 2018;
- Long Bow Site Visit Record, IPC, 19 July 2018;
- Applicant Briefing Notes, IPC, 19 July 2018;
- Shoalhaven City Council Briefing Notes, IPC, 23 July 2018;
- Jerrinja Local Aboriginal Land Council Briefing Notes, IPC, 24 July 2018;
- Public Meeting Transcript, Auscript Australiasia Pty Limited, Tuesday, 24 July 2018;
- written comments received by the Commission before and after the public meeting;
- August 2018:
 - Culburra Golf Course – Response to the Santos Review N25437, email from the applicant, received 10 August 2018;
 - Independent Review on Water Quality Assessment regarding the Long Bow Point Golf Course, University of New South Wales, Water Research Laboratory, 23 August 2018;
 - Letter to IPC, Chris Ritchie DPE, 7 August 2018;
 - UNSW Water Research Laboratory Review, Grantley Smith UNSW, 21 August 2018;
 - Letter to IPC, Response to the UNSW’s Independent Review of the Water Quality Assessment of the proposed Golf Course at Culburra Beach, N24537, dated 30 August 2017.