



Heritage Impact Statement

**for Planning Proposal to amend certain provisions in
Gosford Local Environmental Plan 2014 applying to
R2 Low Density Residential zoned land, Narara
Ecovillage, Narara**



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for
Sara Roach Planning Services

on behalf of
Narara Ecovillage Cooperative Ltd

Final Draft, 23 November 2020



Report Register

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Figure 1 (Front cover) **(Left):** View northwest into NEV site from entrance at northern end of Research Road (Photo: Chris Betteridge, 8 November 2019); **(Centre):** View south to LEP-listed stand of *Taxodium distichum* (Swamp Cypress); **(Right):** Archival photograph of LEP-listed gateposts and fence sections (currently in storage) (Photo: NSW Department of Primary Industries).

1.0 Introduction

This section provides background information, location details, methodology used, authorship and disclaimer.

1.1 Background

The former Gosford Primary Industries Institute at Narara was rezoned for a mix of residential, conservation and public open space uses and sold to Narara Ecovillage (NEV) Cooperative in 2013. Approval was given by the former Gosford City Council on 8 August 2014 for the Stage 1 community title residential subdivision of part of the site, with associated infrastructure and landscaping, the current stage 1 consent allowing for 49 lots.

A number of built and landscape elements within the site of the former Gosford Primary Industries Institute at Narara were listed as items of the environmental heritage on the Section 170 Register of heritage assets compiled by the former owners, the NSW Department of Primary Industries. A number of items were recommended for LEP listing in the 2007 Conservation Management Plan (CMP) for the site prepared by this author and were subsequently listed on Schedule 8 to Gosford Local Environmental Plan No.464, an instrument made to amend Gosford Planning Scheme Ordinance (GPSO) and to facilitate the site's disposal and rezoning. A number of those items are now on Schedule 5 of Gosford LEP (GLEP) 2014.

Pursuant to clause 5.10 of GLEP 2014, consent is required for subdivision of or building on land on which a heritage item is located. As the relevant consent authority, Central Coast Council must before, granting consent, consider the effect of the proposed development on the heritage significance concerned. The consent authority may, before granting consent to any development on land on which a heritage item is situated, or within the vicinity of land containing a heritage item require a heritage impact statement to be prepared that assesses the extent to which the carrying out of the proposed development would affect the heritage significance of the heritage item concerned. This Heritage Impact Statement (HIS) has been prepared as part of the documentation to accompany a Planning Proposal (PP) to Central Coast Council for amendments to certain planning provisions in GLEP 2014 relating only to land zoned R2 Low Density Residential in Narara Ecovillage, Narara, as follows:

1. Minimum lot sizes for dwelling houses and dual occupancies.
2. Floor space area limitations for secondary dwellings, home industries, home businesses and neighbourhood shops.
3. Additional permitted land uses for housing types and other uses.
4. Updated Lot and DP references for the heritage listings in Schedule 5 of GLEP 2014 to make them relevant to the current Plan of Subdivision.
5. Amendment to Map sheet AP_148 to identify NEV (R2 Low Density Residential Land) on the additional permitted uses map.

Emphasis in the Planning Proposal has been placed on improving the flexibility of the land uses and planning provisions applying to the site, with the aim of increasing the viability of its adaptive reuse as an ecovillage while ensuring the retention and conservation of the listed heritage items and other potential heritage values. This HIS addresses the likely impacts on the heritage values of the subject land for the following two scenarios:

1. The Base Case (i.e. if the ecovillage was developed under the current planning controls); and,
2. The Planning Proposal case (i.e. if the ecovillage was developed with the proposed amendments in regard to dwelling types, densities and non-residential land uses)

1.2 Property Location

The location of the subject site is shown in Figure 2 below.

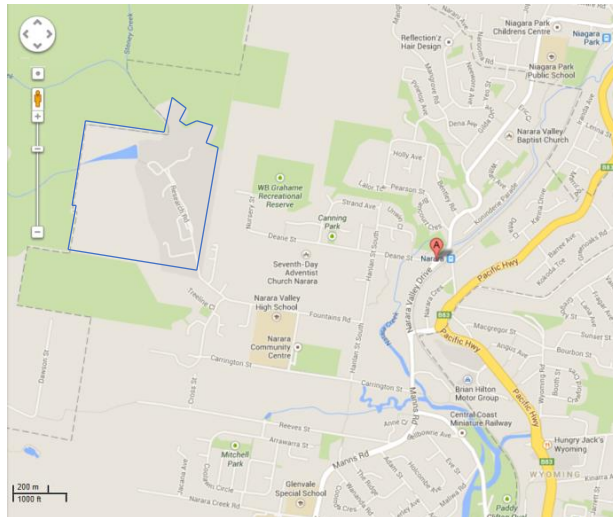


Figure 2 Location of the former Gosford Primary Industries Institute site, edged blue, in relation to Narara (railway station marked by 'A' in red dot). (Source: Google Maps, MUSEcape Pty Ltd)

The distribution of buildings on the former Gosford Primary Industries Institute (formerly Gosford Horticultural Institute) site is shown in Figure 3 below.

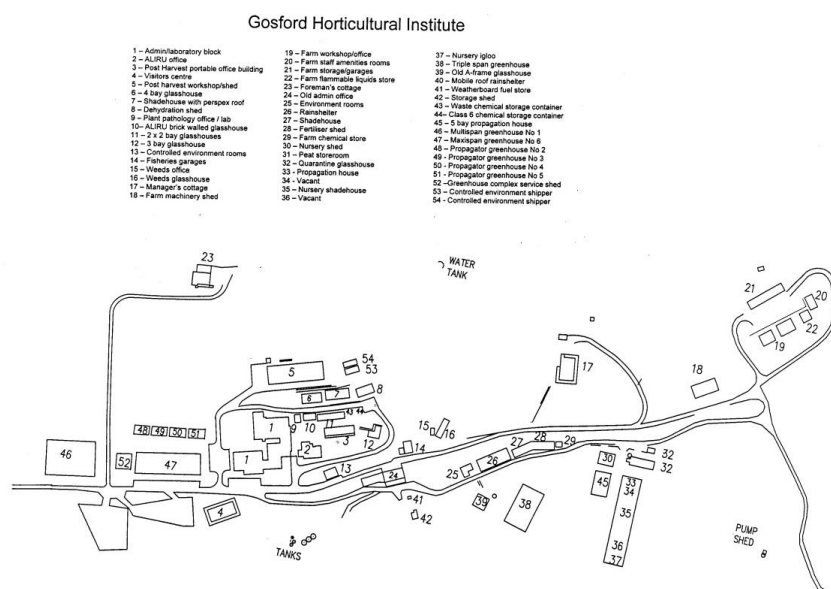


Figure 3 Map of former Gosford Primary Industries Institute (formerly Gosford Horticultural Institute) site, showing distribution of disused horticultural research structures. Structure 46 (Multi-span Greenhouse No.1) is proposed for demolition in Stage 2 DA (subject to a separate HIS). Greenhouses Nos.48-51 were approved for demolition under the Stage 1 DA consent. (Source: DPI)

1.3 Methodology

This report has been prepared in accordance with the guidelines in the “Statements of Heritage Impact” section of the *NSW Heritage Manual* (former NSW Heritage Office / Department of Urban Affairs and Planning, 1996, as amended). Preparation of the report involved research of documentary material on the site, a site inspection on 8 November 2019 and consultation with NEV Cooperative and their consultants. The report includes a history and physical description of the site, an assessment of the cultural values of the place, a brief description of the Planning Proposal, assessment of its impact on significance and recommended mitigative measures.

1.4 Authorship

This report has been prepared by Chris Betteridge, Director of Betteridge Heritage, specialists in the identification, assessment, management and interpretation of cultural landscapes. The author was Specialist – Environmental / Landscape in the Heritage & Conservation Branch, NSW Department of Planning for ten years. He has been in private practice as a heritage consultant since 1991, serving as consultant Heritage Advisor to both Port Stephens Council and Wollondilly Shire Council for eight years. Chris has specialised in the conservation of significant places, including some of the most important cultural landscapes in NSW. He has prepared or contributed to conservation planning documents for many significant sites and in recent years has prepared many heritage impact statements for proposed developments affecting listed items or conservation areas.

As the author of the 2007 CMP, the 2013 CMP Review and the Stage 1 and the Stage 2 HISs for the NEV site, Chris has had a long association with the subject site and has liaised closely with the owners and their consultants during the preparation of the Planning Proposal.

1.5 Acknowledgments

The author would like to thank the following individuals for their kind assistance in the preparation of this report.

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Mark Wesson, Central Coast Council.

1.6 Limitations and Disclaimer

Research was limited to those sources available to the author within the timeframe of the study. No physical intervention in the site was carried out apart from collection of botanical specimens for identification. Investigation of structures was limited to external visual inspections. No archaeological excavations of the site were carried out.

This document may only be used for the purpose for which it was commissioned and in accordance with the contract between Betteridge Heritage (the consultant) and Sara Roach Planning Services (the client) on behalf of Narara Ecovillage Cooperative (the property owner). The scope of services was defined in consultation with the client and property owner, by time and budgetary constraints agreed between the consultant and client, and the availability of reports and other data on

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2.0 Analysis of Documentary and Physical Evidence

2.1 Site History

2.1.1 Aboriginal occupation and use

First Nations people have lived in the Central Coast area of NSW for at least 11,000 years, based on carbon-dating of a site at Mangrove Creek. The true extent of the Aboriginal population in the Brisbane Water District prior to European settlement is unknown, however it is estimated that several hundred people lived in the area pre-contact. A census of Aboriginal people in Brisbane Water taken in 1828 recorded 65 persons between the Hawkesbury River and Wyong but this figure is increasingly believed to underestimate severely the native population, which may have numbered several hundred.¹ The local Aboriginal clans are believed to have spoken the Guringai language which was used from the northern shores of Port Jackson to the Tuggerah Lakes.

The Narara Creek and Valley areas would have provided fish and shellfish, macropods, small mammals, reptiles, birds and edible plant parts in season to feed the local Aboriginal people. An abundance of tall trees, bush and rock overhangs in the area also would have provided adequate shelter. Local examples of early Aboriginal life in Narara can be found in the Narara Valley sandstone platforms and caves where engravings of kangaroos, footprints and a deity figure, as well as axe-grinding grooves can be seen. It is possible that Aboriginal people used the Narara site prior to and after first contact with Europeans, although smallpox introduced by the early European visitors had a devastating impact on the Aboriginal population.

2.1.2 Early European exploration and settlement

After exploration of Broken Bay and the Hawkesbury River by Governor Phillip and his party in 1788 and 1789, the first European settler in the Brisbane Water area was James Webb in 1823. He and the other early settlers took up land for timber getting, small farming enterprises, shell collection for lime-burning and boat building operations that lasted into the 20th century. Webb was also the first local shipbuilder. By 1828 the population of the district was around 100 people, half of whom were convicts. In the first half of the 19th century the tall Sydney Blue Gum / Turpentine forest in the gullies of the district were heavily logged by timber getters who also took the prized red cedar logs.

In 1824, principal superintendent of convicts, Irish-born Frederick Augustus Hely (1794-1836) was granted 1,340 acres of land adjoining the Government reserve at Narara, land which covered the suburbs now known as Wyoming, Narara and parts of Niagara Park. In 1829 his land was increased to take in parts of the Ourimbah and Tuggerah districts. In 1824 Thomas Street had received 300 acres at Narara. Around 1828, John Jones had 150 acres at Narara, and in 1830, Columbus Fitzpatrick was granted 100 acres at Narara Creek which by 1832 he had sold to

¹ <https://www.centralcoast.nsw.gov.au/history/local-history/people-gosford-district> accessed online 7 October 2020

Robert Henderson. By the end of 1834, all the land belonging to Street, Jones and Henderson had been purchased by Hely - in effect Hely owned the entire Narara Valley. At the time of his death, Hely's estate consisted of over 4,000 acres. He had built numerous buildings on his property which he called 'Wyoming' and had commenced the planning of the main homestead 'Wyoming House', a stone and brick construction which was not completed until 1842, sadly six years after his death. The first recorded planting of citrus on the Central Coast occurred at Narara in 1824 on the Hely property.

2.1.3 The expansion of the timber industry

From the 1850s until the 1880s trees in what is now Strickland State Forest were being felled and taken by bullock to the local sawmills where they were sawn into posts and rails, shingles, palings, girders and later as railway sleepers. From there the timber was transported by horse-drawn wagons to be loaded onto ketches docked at the Narara Creek public wharf. A fleet of six or seven vessels would then ship the timber to the Sydney market. The *Sydney Morning Herald* of 12 March 1867 reported that at least "three million feet of sawn timber" was exported from a radius of seven miles of Gosford each year. The area had been heavily logged as timber getting was largely uncontrolled until management of the industry began by 1879. In that year Forest Ranger Griffin inspected the site that is now Strickland State Forest, adjoining the Narara site and reported no commercial timber but wrote that the area should be reserved.²

The timber industry kept Narara Creek busy until the railway bridge was completed in 1888. After this time, the timber was transported by either road or rail to Sydney. While the cleared land would be utilised for farms, by 1886, the Government established the first NSW forest nursery on 25 hectares of land in Hogan's Brush Forest Reserve at Narara for forest regeneration. However, the site was flood liable and considered too far from the railway, so the forestry nursery was developed on a site closer to Gosford although some of the many trees planted at Narara survive today in Strickland State Forest's arboretum and in the northern part of the proposal site.

2.1.4 The expansion of citrus growing

Also, in the late 1880s, the areas of Hogan's Brush on either side of the railway line were being subdivided and sold as town and farm lots. Although citrus trees had been grown in the Narara area for many years, it was not until Narara was boosted by the completion of the railway line from Sydney that the citrus industry really began to flourish. Although limes, mandarins, lemons and grapefruits were grown at Narara, most of the citrus crops grown were oranges. The Narara Valley citrus orchards had the reputation of being some of the finest in the land and stone fruits were also grown to a lesser degree.

2.1.5 A site for agricultural experimentation

In 1891 the Council clerk at Gosford drew the attention of the Minister for Mines and Agriculture to the excellent soils in the district and suggested that the Government consider establishing a model fruit farm. While the Department did not take up this suggestion, in 1907-08 it did establish an Insectarium or Experiment Station at Narara for the purpose of studying methods of dealing with locally-occurring fruit flies and codling moth and demonstrating the value of enforcing the requirements of Regulations under the *Vine and Vegetation Diseases, Fruit Pests Act*, which came

² Strickland State Forest entry in Brayshaw, Bickford and Proudfoot 1998, *Thematic Forest History UNE/LNE CRA Regions*

into force in 1907. In 1910-11 pupae of fruit flies infested with a small hymenopterous³ parasite were bred and sent to well-known economic entomologists in Italy but experimental work at Narara closed at the end of that year.

On 7 July 1911 George Valder, the Superintendent and Chief Inspector, Department of Agriculture and Forestry had advised the Department's Under Secretary that Portion 187 of 100 acres at Hogan's Brush, occupied by four small settlers, should be resumed. Together with two reserves, Valder believed these lands would make an ideal site for a school of forestry, a training ground for forest officers and cadets and a potential site for a new viticultural nursery.

R D Hay, Director of Forests recommended that the Department of Lands be asked to survey that part of Portion 187 at Hogan's Brush proposed to be resumed for afforestation and re-afforestation purposes and he subsequently referred the matter to the Director General of Public Works for resumption action to proceed for "Forestry and Agricultural Purposes". Hay was of the opinion that even if the mooted national forestry school in Canberra went ahead, the Hogan's Brush site would be used by the Forestry Department for planting and probably as a State training ground for students. The Minister had already approved resumption, at an estimated cost of about £2,050. While Forestry had decided to defer resumption due to lack of funds, the need for a new viticultural nursery site increased the urgency for action and Forestry and Agriculture decided to share the costs.

After some delays, the resumption of 100 acres (40 hectares), being Portion 187 and an associated road at Hogan's Brush, was gazetted on 16 July 1913. The affected landowners requested to vacate their resumed land as soon as practicable, but it was to be two years before their claims for compensation were settled. The Government's haggling over the value of the land and its improvements were to be the source of considerable acrimony, with numerous representations being made to ministers and senior departmental staff. One of the landowners argued that the land had been particularly difficult to clear, and the Department of Agriculture was to learn this when it came to prepare areas for the viticulture nursery. Many of the huge stumps of trees previously logged for timber had to be grubbed out by hard manual labour or blasted with explosives.

2.1.6 Establishment of the viticulture nursery

A viticulture nursery was subsequently established at Narara, replacing two earlier unsuccessful facilities, one at Belmont and one at Raymond Terrace. The nursery was specifically set up for the production of phylloxera-resistant grape vines to supply the NSW wine and table grape industries. In the early days of the nursery, staff used existing buildings left by the previous settlers but in 1915 a cottage was built for the Superintendent, with a dormitory wing for the accommodation of ten Gosford Farm Home boys, who assisted with grape vine grafting and other work during the First World War. In 1917-18 a new two-storey weatherboard building containing a large grafting shed on the ground floor and packing room and offices on the first floor was erected. A new stables, cart shed and feed room were also constructed at that time.

Production of disease-resistant grape vines for the NSW wine and table grape industries remained the mainstay of the nursery's work throughout the interwar years, with additional horticultural research focusing on a wide variety of other food and medicinal plants including maize, pecans, passionfruit, mandarins, bananas, sweet potatoes and jujube.

³ A member of the insect order Hymenoptera, which includes bees, wasps and ants.



Figure 4 Undated image circa 1920s of the Narara site looking north, with the grafting shed / administration office to the right of a mature pine tree and the manager's residence in the distance, to the left of the tree. Both these buildings survive, albeit slightly altered, and are listed as heritage items. (Source: Picman d1_38568r, State Library of NSW)

2.1.7 The Gosford Farm Home for Boys Annexe

The Gosford Farm Home for Boys was established in 1913 under the provision of the *Neglected Children and Juvenile Offenders Act 1905*.⁴ An annexe of the Gosford Farm Home on the Narara Viticultural Station was declared an industrial school on 29 November 1927 and came under the control of the superintendent of the Home at Mt Penang.

*The Narara home served several purposes. It provided some easing of the numbers at Gosford, more fertile soil for the growing of crops, and a better opportunity for agricultural training. It was economically advantageous for both the Agriculture Department and the Department of Child Welfare as it provided labour for the former and produce for the other institutions run by the latter. A building was made available at the Viticultural Station for the thirty boys chosen to move there from Gosford. These boys were highly trusted inmates and the Narara home became a privilege for them. At first they were given a special gratuity per week to do vine grafting work at the viticultural nursery under the guidance of officers from the Agriculture Department. They also did clearing work and fencing. Forty-three acres of land were fenced by the end of 1931, and fourteen of these acres were cleared for use by the Agriculture Department.*⁵

The boys were housed in a dormitory (since demolished) attached to the former Manager's Cottage but part of their ablutions block survives as the hen house associated with the former Manager's Cottage. The Narara annexe to the Gosford Farm Home was disestablished as an institution for delinquent boys in 1934 and by the end of the following year all inmates had been discharged or moved to a new farm at Berry.

2.1.8 Citrus research at Narara

During the 1920s and '30s citrus propagation and research began to assume more importance on the Narara site and experimental work was being conducted into fertilizers, sprays and dust, and the cold storage of grapes. During World War II, personnel from the Australian Women's Land Army assisted with vine production and the citrus harvest at Narara.

⁴ Rubie 2003, p.29

⁵ Ibid., p.54



State Viticultural Nursery, Gosford.

Figure 5 View looking south over the former State Viticultural Nursery circa late 1920s. The two-storey building at centre of the photograph is the former Grafting Shed / Administration Office (more recently, the Fisheries office). The building to its left, adjacent to the pine plantation, is the former Stables and Cart Shed, approximately where the former office / laboratory complex is located. The building at right is the former Manager's Cottage, with its dormitory block (the latter since demolished). (Source: DPI, Ourimbah from *Central Coast Express*, late November 1975)

By 1946-47 the citrus industry was expanding, particularly in the Gosford area, where it was estimated that about 2,000 acres of land had been cleared for citrus groves in the previous year. 2,500 acres of land for citrus planting was allocated for ex-servicemen in NSW. On the recommendation of the Department's Advisory Committee on Co-ordination of Agricultural Research, approval was given for the establishment of a Citrus Research Station at Gosford and enquiries were proceeding with a view to locating a suitable property. It was considered that the establishment of the station would enable increased attention to be paid to many problems of the citrus industry in need of detailed investigation. In 1948 the Citrus Wastage Research Laboratory (later known as the Horticultural Post-harvest Laboratory), was established at the corner of the Pacific Highway and Racecourse Road, West Gosford, as a joint venture between the NSW Department of Agriculture and CSIR Division of Food Research.

2.1.9 Expansion of research projects

In the early 1950s, emphasis at Narara was still mainly on viticultural research but the then manager promoted research into varietal suitability and cultural methods for strawberries, prompted by the success of a Wamberal strawberry grower who had developed a high-yielding variety he called "Wamberal Beauty".

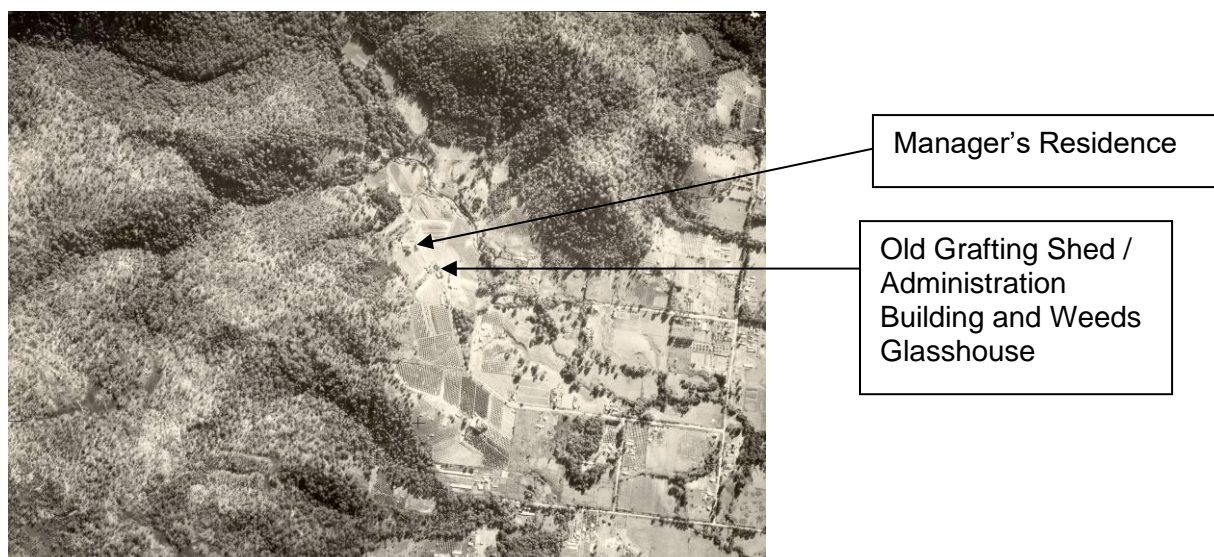


Figure 6 1954 aerial photograph of Narara showing the horticultural research institute right of centre. Buildings were limited to the original Grafting Shed / Administration Office building, Manager's Residence (still with dormitory wing), the Weeds Glasshouse and office and several structures beside the main drive. (Lands photo NSW 134-5014, Gosford Run 9, flown 16 May 1954 at an altitude of 11,000 feet)

A new site at Somersby for horticultural research was acquired by the NSW Government in 1950-51 and from June 1952 the Narara and Somersby properties were together known as the "Gosford Citrus Experiment Station". In the austerity following World War II, Manager Hely was faced with severe funding cuts but persuaded the Department against the sale of the Narara property, probably emphasizing its usefulness for small area research projects, while research involving large plantings of citrus could be developed at Somersby. By this time the land at Narara was seriously degraded by erosion and soil deterioration, the insectary was in need of restoration and the manager's residence was severely run down, with termite infestation in the dormitory wing. Only 1 ½ acres of grape mother vines were maintained at this time and production of phylloxera-resistant vine rootlings had declined to 17,000, with 50,000 cuttings made for propagation.

Research on grapes, citrus and strawberries continued at Narara and in 1962 the name of the property at Narara was changed from Gosford Citrus Experiment Station to Horticultural Research Station, Narara. Research on early blight fruit rot on trellised tomatoes and citrus nutrition trials continued and grapefruit stem pitting and brown spot on Emperor mandarin experiments were conducted; Scalybutt infection of Eureka lemon was investigated to determine if nematodes were the cause. In 1963-64 Narara continued as the major centre for the Department's Citrus Improvement Committee's work and the strawberry breeding program, with investigations into black root rot, an important disease of strawberries.

A trial of 19 varieties of peach including early, middle and late season types was established at Narara to investigate performance under Central Coast conditions. By 1964 about half of all strawberries grown in NSW were of the Kendall variety, developed at Narara. In 1965-66 field trials associated with fruit fly control and strawberry breeding continued, along with studies on citrus preservation and storage methods. A comprehensive collection of seed and bud wood of Australian native limes, *Microcitrus australis* and *M. australasica* was assembled for eventual field planting. The significance of this species was seen to be its potential as a parent in breeding phytophthora root rot resistance.



Figure 7 Undated image of the entrance to the Narara site, showing the entrance gate posts with the post-1962 naming of the facility as 'Horticultural Research Station Gosford'. The number plate on the vehicle suggests a late 1970s date for the photograph. The heritage-listed gate posts were placed in storage for safe keeping during the NEV Stage 1 development works and will be reinstated as part of the Stage 2 DA works. This evidence would enable possible restoration of the gatepost lettering as part of the site interpretation strategy. (Source: DPI archives, Ourimbah).

Another new strawberry variety 'Nared', developed at Narara in 1966-67 was found to have improved yields from the virus-tested plants. A new area was developed for the permanent establishment of indexing material for deciduous fruit tree improvement work. Rootstock trials established in the 1960s began to yield valuable data, with citrus and mandarin species outperforming lemons. In the late '60s field trials for indexing of citrus trees for greening virus, fungicide trials on Valencia oranges, an extension of citrus nutrition investigations and strawberry breeding continued at Narara, with further research conducted into handling and decay control of citrus fruit; fruit fly infestation in Queensland bananas; and washing and waxing lemon and grapefruit varieties.

Other research projects included soil fumigation trials for nematode control of Valencia orange rootstock; planting to investigate 'sudden death' of trifoliata rootstock initiated and hormone treatment to improve citrus rind quality. In the late 1960s major repairs to the cottages including demolition of the original dormitory wing on the manager's residence were undertaken at Narara and boundary fencing was renewed.

2.1.10 New facilities and infrastructure

In 1973 the first stage of a new complex of offices and laboratories was built at Narara and in the following year the Australian Inoculants Research and Control Service (AIRCS) moved from the Biological and Chemical Research Institute at Rydalmere to Gosford, where it continued its monitoring activities and research work on nitrogen fixation. Another new strawberry variety, 'Naratoga', developed at Narara, was released. By this time most of the commercial citrus orchards in the Narara area had disappeared, subsumed by urban expansion. In 1975-76 the strawberry research program was severely limited by an outbreak of angular leaf spot disease, which had been introduced on a variety imported from California but not identified for 18 months and not eradicated by subsequent quarantine. The entire

strawberry planting at Gosford was removed and no further outbreaks were identified.



Figure 8 The office / laboratory complex at Narara, opened in stages in 1973 and 1987. (Source: DPI archives, Ourimbah).

Citrus and strawberry research continued throughout the 1970s and '80s, with a cooperative research program commenced between Narara and scientists at the University of California and the Guangdong Entomological Institute in China to study biological control of citrus red scale and citrus red mite for pesticide use.

In 1985 the Department lodged strong objections to a claim under the *Aboriginal Land Rights Act*, 1983, over Portion 187 at Narara. The Director-General argued that all the laboratory, administrative buildings and nursery facilities of the Department's Horticultural Research Station, Gosford had been constructed on that particular piece of land. He stressed the importance of the station in providing a research service in the horticultural and floricultural industries of NSW and in particular on the central coast. He cited the fact that the station accommodated the Australian Inoculants Research and Control Service laboratory that had been designed to conduct a research program and control service for legume inoculants for the Commonwealth. The station, which at that time had a staff of 45, carried out vital research and that the Department had invested about \$2.5 million in infrastructure and associated resources, with a further \$1 million planned for new laboratories in 1985.

In 1985-86 an earth and rock wall dam was constructed on a small tributary of Narara Creek to mitigate flood risks and provide a more secure water supply for the Research Station. In 1987 the second stage of major works to the laboratories and offices was completed and an old laboratory was removed to allow construction of the Temple Kiely Visitors' Centre. In opening the new facilities, the then State Premier, the Hon. B J Unsworth stated that 75% of nursery production in NSW occurred within a 100 kilometres radius of Gosford and that the new facilities at Narara would provide farmers with a 'one stop shop' for all advisory, inspection and research information.

By that time much of the work at Narara related to the region's fruit, vegetable and cut flower industries, with research topics including development of new orange varieties capable of bearing year-round, studies of hydroponic strawberry production and trials with new crops such as feijoa, pepino and babaco.

In 1990-91 construction of laboratory-type facilities commenced to accommodate the Horticultural Post Harvest Laboratory relocated from Gosford city. The following year, with a total staff of 75, Narara was giving priority to the evaluation of a range of Asian vegetables for the export market. The tomato breeding program continued, with variety 'Juliette' the latest release.

The post-harvest group increased its focus on disinfestations and market access issues to meet protocols and phytosanitary requirements for new horticultural commodities such as leafy vegetables that showed strong export potential. New cultivars were released to industry from breeding programs associated with tomatoes and Australian native ornamental crops such as Geraldton wax, kangaroo paw and Leschenaultia. Post-harvest decay control measures in citrus fruit and the establishment of disinfestation schedules were developed to enable export of citrus and pome fruit to Japan and the United States. In 2003 a new foreman's cottage was constructed to replace an earlier, termite-infested structure.

2.1.11 Suburbia encroaches and the threat of closure

In 2004-05 the Director-General of the Department of Primary Industries (DPI) established a steering committee of local and State government representatives to consider the future of the Narara site. By this time urban development was encroaching and it had become clear that Narara did not have the potential of the Somersby site to meet DPI's current and likely future needs to address changing industry requirements. Investigations were begun to assess the environmental and other parameters of the site and to determine appropriate rezoning. In May 2006 a rezoning application was submitted to Gosford City Council.

In 2008 the Narara Agricultural Research Station was one of eight stations slated for closure across the state in the NSW Government's mini budget, but after months of protests from scientists and farmers, DPI in May 2009 signed a Memorandum of Understanding with the University of Newcastle to relocate some DPI staff to the University's Central Coast campus at Ourimbah. Other staff were to transfer to Somersby. After the NSW Government's decision to close Narara and to consolidate research operations at Ourimbah, Somersby and Dareton, the Narara site was rezoned, with Gosford LEP No.464 gazetted to amend Gosford Planning Scheme Ordinance and facilitate the disposal of the site.

2.1.12 Rezoning and sale

Gosford Development Control Plan (DCP) No.175 was approved by the former Gosford City Council to provide more detailed guidelines for the development and use of the land for a residential subdivision into approximately 120 lots, approximately four rural residential lots to be zoned Scenic Protection Rural Small Holdings 7(c2), and one residue rural residential lot to be zoned Conservation 7(a) or other permissible development. As part of the rezoning process it was also proposed to transfer land to be zoned Open Space 6(b) Special Purposes (Forestry) to NSW Forests and to dedicate land to be zoned Open Space 6(a) to Gosford City Council.

After lengthy negotiations with potential purchasers and winding down of DPI operations at Narara, the site was finally sold to Narara Ecovillage Cooperative Ltd in September 2012, with settlement in May 2013. The Stage 1 DA (DA44994/2013) for a community title subdivision of the site for residential lots with associated infrastructure and landscaping was approved by the former Gosford City Council on 8 August 2014 but the subdivision certificate was not received until 2018, following the amalgamation of Gosford City Council and Wyong Shire Council to form Central

Coast Council. Construction of dwelling units and other developments within the Stage 1 area is continuing.

Experience gained during the Stage 1 DA process and the planning for the Stage 2 DA has shown that the existing planning controls relating to the NEV site in Gosford LEP 2014 do not contain sufficient flexibility in residential lot sizes and permissible uses to allow for a more viable mix and community potential. Accordingly, a Planning Proposal has been prepared to amend certain provisions in the planning instrument relating only to land zoned R2 Residential in GLEP 2014.

2.2 Site Description

The former Gosford Primary Industries Institute site adjoins residential areas of Narara on parts of its eastern and southern boundaries. Dense bush land adjoins to the north, north-east, south-west and west. Strickland State Forest is adjacent to the north and western boundaries. Narara Creek runs across the site from the north-west to the south-east. Most of the land slopes gently toward Narara Creek, intersected by steep gullies. The site includes two strips of natural or modified vegetation which run between areas of cultivated and/or cleared land. Each of these two areas surrounds drainage lines which run north-east toward Narara Creek. The more southerly strip is approximately 50 metres wide and covers a steep, narrow gully. Buildings and cleared land are situated immediately south of this strip, and a small citrus orchard lies to the north. On the other side of this orchard is another strip of vegetation which varies in width from approximately 100 metres to 200 metres at the widest point. Two drainage lines run through this strip along steep, somewhat eroded gullies. To the north of this section lies more cleared land and buildings.

2.3 Landscape Character

The site of the NEV (former Gosford Primary Industries Institute) is located within the narrow Narara Creek valley, enclosed by forested slopes on its western, northern and north-eastern sides, with the developed areas of Narara to the south and southeast. The bulk of the area proposed for residential subdivision, as shown in the indicative masterplan, and subject to this Planning Proposal, is largely cleared land sloping down to the east, with scattered remnants of experimental plantations, the caretaker's cottage and the multi-span greenhouse, the last two accessed via the internal road network.

2.4 Views and Visual Absorption Capacity

Views within the area subject to the NEV Planning Proposal (PP) are generally unrestricted towards the Stage 1 subdivision area, adjoining bushland and parts of the residential areas of Narara.

Visual absorption capacity is an estimation of the ability of a particular area of landscape to absorb development without creating a significant change in visual character or a reduction in scenic quality of the area. The capacity of an area to absorb development visually is primarily dependent on landform, vegetation and the location and nature of existing development. Generally, flat or gently undulating open forest or woodland has a higher capacity to visually absorb development than open heathland or swamp or heavily undulating topography with cleared ridges and slopes.

A major factor influencing visual absorption capacity is the level of visual contrast between the proposed development and the existing elements of the landscape in which it is to be located. If, for example, a visually prominent development already exists, then the capacity of that area to visually absorb an additional development of

similar scale and form is higher than a similar section of land that has no similar development but has a natural undeveloped visual character.

The visual absorption capacity of the area of the NEV PP varies considerably from very high in places where there is a high concentration of existing horticultural research buildings to relatively low on the bulk of the area where there are no existing structures.

Should the PP be approved, the dwelling units likely to follow future subdivision will be of modest domestic residential scale, with the caretaker's cottage to be retained for residential use. Public perceptions of the place are likely to change post-subdivision, but the nature of an eco-village is considered a good fit for the site, emphasising environmental sustainability and essentially continuing some of the historic uses on the site e.g. plant propagation.

3.0 Heritage Significance Assessment

This section describes the principles and criteria for the assessment of cultural significance and applies them to the cultural landscape of the subject site.

3.1 Principles and Basis for Assessment

The concept of 'cultural significance' or 'heritage value' embraces the value of a place or item which cannot be expressed solely in financial terms. Assessment of cultural significance endeavours to establish why a place or item is considered important and is valued by the community. Cultural significance is embodied in the fabric of the place (including its setting and relationship to other items), the records associated with the place and the response that the place evokes in the contemporary community.

Cultural landscapes by their name imply human intervention but they may also include substantial natural elements. "They can present a cumulative record of human activity and land use in the landscape, and as such can offer insights into the values, ideals and philosophies of the communities forming them, and of their relationship to the place. Cultural landscapes have a strong role in providing the distinguishing character of a locale, a character that might have varying degrees of aesthetic quality, but, regardless, is considered important in establishing the communities' sense of place."⁶

The *NSW Heritage Manual* outlines the criteria for assessing the nature of significance. These criteria, relating to historical, associational, aesthetic, social and technical / research values, are considered in addition to an item's rarity and / or representativeness, criteria that relate to comparative significance. These seven criteria adopted by the Heritage Council of New South Wales for the assessment of items for potential listing on the State Heritage Register apply equally well for items of local significance.

The *Australia ICOMOS charter for the conservation of places of cultural significance* (the 'Burra Charter') was formulated in 1979 and is the standard adopted by most heritage practitioners in Australia. The 1999 amendments to the Burra Charter emphasise the importance of setting in the conservation of heritage items.

⁶ Pearson, Michael and Sullivan, Sharon (1995), *Looking After Heritage Places*, Melbourne University Press.

3.2 Current Heritage Listings

The following items are listed on Schedule 5 – Environmental Heritage, Gosford Local Environmental Plan (GLEP) 2014. They are all listed as being located within Lot 13, DP 1126998 but are now within new lots created after the subdivision of the land by NEV. Part of the Planning Proposal is to amend Schedule 5 of the LEP to update the heritage listings and ensure that they include the updated Lot and DP numbers. Amended State Heritage Inventory (SHI) database forms for each of the listed items are being prepared by this author, along with an inventory form for an item identified as significant in the 2013 CMP Review.

- Former Grafting Shed / Administration Block and curtilage, Gosford Horticultural Institute, Research Road, Narara.
- Group of *Araucaria cunninghamii* (Hoop Pines) near farm complex, Gosford Horticultural Institute, Research Road, Narara.
- Group of *Taxodium distichum* (Bald Cypress) inside front gate, Gosford Horticultural Institute, Research Road, Narara.
- Manager's Cottage, Hen House (former Shower Block) and curtilage, Gosford Horticultural Institute, Research Road, Narara.
- Main Entrance Gate Posts, Gosford Horticultural Institute, Research Road, Narara.
- Plantation of *Carya illinoensis* (Pecan), Gosford Horticultural Institute, Research Road, Narara.
- Row of *Pyrus calleryana* (Callery Pear), Gosford Horticultural Institute, Research Road, Narara. **Note:** These trees were identified as of Moderate significance in the 2013 CMP Review and in poor condition They were removed to facilitate the construction of the new entrance road and associated swale in the Stage 1 DA consent and will be replaced by new landscaping.
- Specimen of *Syncarpia glomulifera* (Turpentine) on eastern boundary, Gosford Horticultural Institute, Research Road, Narara.
- Type specimen of *Pyrus calleryana* (Callery Pear) strain D6, Gosford Horticultural Institute, Research Road, Narara.

The SHI listings for the above items vary considerably in the extent and accuracy of information they contain and are being updated by this author.

3.3 Review of Heritage Significance

Several built and landscape elements within the NEV site (former Gosford Horticultural Institute site) are of at least local heritage significance as items with historical, associational, aesthetic social and technical/ research significance for the Central Coast local government area.

3.3.1 Historical Significance (Criterion A)

An item is important in the course, or pattern, of NSW's or an area's cultural or natural history.

Elements of the NEV site (former Gosford Primary Industries Institute site) at Narara have historical significance at a local and possibly at a State level as evidence of a former State Government establishment with a long history of significant scientific research and horticultural extension services across a range of forestry, food-producing and other horticultural and agricultural industries important to the development of the Central Coast and other regions of NSW. The place is important as the focus of the contribution made by the NSW Department of Agriculture (later NSW Agriculture and NSW Department of Primary Industries) to the advancement and efficiency of agricultural production in NSW. The former Viticultural Nursery made a major contribution to the development of the wine and table-grape industries in NSW. In its later phases the site made a major contribution to the development of the citrus industry, strawberry production, Asian greens cultivation and many other food crops. The site retains a number of built elements from its early phases of development that demonstrate the architecture of such horticultural research facilities. The site also retains built fabric associated with the short-lived NSW School of Forestry.

3.3.2 Historical Associational Significance (Criterion B)

An item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's or an area's cultural or natural history.

The place has historical associations with many horticultural research scientists, technical staff, field officers, and support staff who, individually and collectively, have made a major contribution to the development of the viticultural, horticultural and floricultural industries in NSW. Those who have worked at Narara include several individuals who became senior officers in the NSW Department of Agriculture.

3.3.3 Aesthetic Significance (Criterion C)

An item is important in demonstrating aesthetic characteristics and / or a high degree of creative or technical achievement in NSW or an area.

Aesthetic significance of a place may result from the beauty of the natural setting, the quality of the designed landscape, the level of workmanship and artistic merit of the site layout and its elements, and views and vistas to, within and from the place.

Elements of the cultural landscape of the NEV site have aesthetic values at a local level arising from the valley location surrounded on three sides by wooded hills, remnant areas of indigenous vegetation and the wildlife communities they support, the surviving research plantations (e.g. hoop pines and pecans), a type specimen of Callery pear and a number of ornamental plantings, including mature stands of trees such as the bald cypress trees near the entrance gates and sessile oak trees near the former Visitors Centre. The water supply dam has some aesthetic appeal as a body of water in a natural and human-modified setting. Views from the site to surrounding natural areas have aesthetic values. Early buildings, including the former Manager's Cottage, including the hen house (remains of the former Gosford Farm Home Annexe ablutions block) and the former Grafting Shed / Administration Office / Laboratory building have architectural merit at a local level derived from their design, construction, materials, detailing and surviving original fabric.

3.3.4 Social Significance (Criterion D)

An item has strong or special association with a particular community or cultural group in NSW or an area's for social, cultural or spiritual reasons.

Social significance of a place may be derived from the esteem in which the place or certain parts of it are held by the local community, or by recognisable groups within the community.

Social significance is hard to quantify without considerable consultation with present and past staff, the local community and the horticultural industries. However, it is highly likely that many individuals and groups hold the NEV site in high esteem or fond regard either as a former workplace or as a former source of valuable advice. It is understood that former manager John Stone has established an 'old boys' group' of former employees. A number of former employees have expressed regret at the closure of the agricultural research and extension facility.

3.3.5 Technical Significance and Research Potential (Criterion E)

An item has potential to yield information that will contribute to an understanding of NSW's or an area's cultural or natural history.

Educational and research significance of a place may result from the opportunities the place provides for interpretation and further study for present and future generations. Technological significance may be derived from the information a place may provide about construction techniques, unusual skills and types of expertise which are being lost as a result of social changes or technological advances.

The available documentary evidence suggests that the Narara site may contain potential archaeological evidence relating to the earlier phases of its use and development, particularly in the vicinity of the earlier buildings on the site e.g. the site of the former Forestry School. The Narara site has educational and research potential at a local level arising from the ways in which it can demonstrate changes in the landscape over time. It is considered that further research of the documentary evidence related to Narara has the potential to contribute to a wider understanding of horticultural research methods in NSW from the early 20th century to the present day.

3.3.6 Rarity (Criterion F)

An item possesses uncommon, rare or endangered aspects of NSW's or an area's cultural or natural history.

The cultural landscape of the NEV site includes several relatively rare elements, including the former Grafting Shed / Administration Building, the lower level of the building retaining considerable original form and fabric. Rare plantings include the *Pyrus calleryana* D6 type specimen and a few mature ornamental plantings including a stand of *Taxodium distichum* (Bald Cypress) and a stand of *Quercus petraea* (Sessile Oak, Cornish Oak), exotic species which are locally uncommon.

3.3.7 Representativeness (Criterion G)

An item is important in demonstrating the principal characteristics of a class of NSW's or an area's cultural or natural places or environments.

The former research facility at Narara includes features representative of the Department of Primary Industries' horticultural research stations but the extent of that representativeness requires further comparative analysis with other facilities.

3.4 Summary Statement of Significance

Several built and landscape elements within the NEV site (the former Gosford Primary Industries Institute site), Narara, are items of heritage significance with historical, associational, aesthetic, social and potential archaeological, educational

and technical research significance. The place features some rare built and landscape elements and is representative of horticultural research facilities in coastal NSW, retaining evidence of research activities spanning more than a century.

Elements of the place have historical significance at a local and possibly at a State level as evidence of a former NSW Government establishment related to both forestry and agriculture and with a long history of significant scientific research and horticultural extension services across a range of food-producing and other horticultural industries important to the development of the Central Coast and other regions of NSW.

The NEV site has historical associations with many horticultural research scientists, technical staff, field officers, and support staff who, individually and collectively, have made a major contribution to the development of the viticultural, horticultural and floricultural industries in NSW.

Several elements of the cultural landscape at Narara have aesthetic values at a local level arising from the valley location surrounded on three sides by wooded hills, remnant areas of indigenous vegetation and the wildlife communities they support and the surviving research and ornamental plantings. The 1980s water supply dam has some aesthetic appeal as a body of water in a natural and human-modified setting. Views from the site to surrounding natural areas have aesthetic and amenity values. Early buildings, including the former Manager's Cottage, including the hen house (remains of the former Gosford Farm Home Annexe ablutions block) and the former Grafting Shed / Office / Laboratory building have architectural merit at a local level derived from their design, construction, materials, detailing and surviving original fabric.

It is highly likely that many individuals and groups hold Narara in high esteem or fond regard either as a former workplace or as a source of valuable advice, providing a measure of the site's social significance, which is also attested by the listing of many items on the Gosford LEP heritage schedule.



The documentary and physical evidence relating to the site suggests that it contains potential archaeological evidence relating to its early development, with links to the original Gosford Forestry Nursery site, the short-lived Narara Forestry School and the use of the site as an annexe of the Gosford Farm Home. The Narara site has considerable interpretive potential arising from the ways in which it can demonstrate changes in the landscape over time. It is considered that further research of documentary evidence related to the cultural landscape at Narara has the potential to contribute to a wider understanding of horticultural research methods on the Central Coast and in NSW generally from the early 20th century to the present day.

The cultural landscape of the NEV site includes several rare elements, particularly the former Manager's Cottage and hen house and the former Grafting Shed / Office building. Rare plantings include the *Pyrus calleryana* D6 type specimen and several mature ornamental plantings which are locally uncommon.

The research facility at Narara includes features representative of NSW Department of Primary Industries' horticultural research stations but the extent of that representativeness requires further comparative analysis with other facilities.

3.5 Item to be added to Schedule 5, Gosford LEP 2014

Two elements associated with the former Strickland Forestry School were identified in the 2013 CMP Review as of Exceptional / High significance, being the last-remaining physical evidence of the historically significant but short-lived NSW forestry school on the NEV site in the area more recently known as Farm Square in the Gosford Horticultural Institute. These elements are a set of concrete steps, built circa 1918-19 that led up to the former forestry school building and a sandstone block retaining wall at the rear of the former building. Given that these elements relate to the same site and phase of development of the Narara site, it is suggested they be listed as one item on Schedule 5. The section of the 2013 CMP Review relating to these elements is repeated below.

Element	History / Key Values / Issues	Conservation Management / Compatible Use Options
Un-numbered – set of concrete steps east of Building 19		
	Steps, built 1918-19 that led to the former Strickland Forestry School on site of farm complex. Exceptional significance as remnant of first forestry school in NSW	Conserve in accordance with best practice. Add to schedule of heritage items on LEP.
Element	History / Key Values / Issues	Conservation Management / Compatible Use Options
Un-numbered – sandstone retaining wall at rear (west) of Building 21		
	Sandstone retaining wall, probably, built 1918-19, and associated with the former Strickland Forestry School on site of farm complex. High significance as remnant of first forestry school in NSW	Conserve in accordance with best practice. Add to schedule of heritage items on LEP.

3.6 An item for further investigation

A stand of *Quercus petraea* (Sessile Oak) just south of the Visitor Centre is of a species rare in cultivation in the Central Coast LGA and in NSW generally and requires further heritage and arboricultural investigation and assessment of its historical, aesthetic and rarity values and its condition and retention value.



Figure 9 Stand of *Quercus petraea* (Sessile Oak) south of Visitor Centre. (Photo: Chris Betteridge, 8 November 2019)

4.0 The Planning Proposal

The objectives of the NEV Planning Proposal are as follows:

- The Planning Proposal is limited to amendments to the planning provisions in Gosford Local Environmental Plan 2014 (GLEP 2014) which apply only to the R2 Low Density Residential zoned land.
- The amendments to GLEP 2014 principally seek to expand the range of housing options (residential accommodation) available to the ecovillage. This includes to promote smaller housing lots (i.e. the minimum lot size is reduced from 550sqm to 450sqm) and a range of housing types which will provide greater housing choice and affordability to support varying household types and community needs.
- The amendments to GLEP 2014 also seek to confirm the maximum amount of floorspace that will be allocated to various non-residential land uses within the ecovillage. This is also about ensuring a range of employment opportunities and services are available within the ecovillage to support the village economy and the broader community.
- To update the heritage listing by amending the property description of the relevant items in Schedule 5 of GLEP 2014.

Set out in the following table are the proposed Residential Lots for the various stages of the NEV, the numbers and types of dwellings and the square metres devoted to business premises, an information and education facility and neighbourhood shops.

NEV Development Stage	RESIDENTIAL LOTS					
Type of Lot	Total Number of residential lots	Single dwelling lots (+550sqm)	Additional Single dwelling lots (+450sqm)	Shop top housing lots	Multi dwelling or attached housing lots	Estimated no. of lots w/ dual occupancies or annexes
notes	(ie. includes re-subdivision and changes to layout permissible as if PP controls approved)	(this figure does not include dual occupancy/secondary dwellings)	(these lots may be created from larger lots in stage 2 with 450sqm provision)	residential dwelling above	(ie. on lots over 750sqm) (these lots may be subdivided on completion of development)	(the Dual Oc lots may be subdivided on completion of development. Secondary Dwellings cannot be subdivided)
Stage 1	45 <i>(figure includes admin bldg residential conversion)</i>	44			1 <i>cluster housing. 18 no 182 bedroom units able on one lot</i>	11 <i>(25% of lots assumed to have secondary)</i>
Stage 2	46	33	8	1	4 <i>assumed 3 dwellings per lot</i>	22 <i>(for 50% of lots assumed dual occup or secondary)</i>
Stage 3	6			2	4 <i>assumed 4 dwellings per lot</i>	
TOTAL LOTS	97	77	8	3	9	33
% of TOTAL LOTS based on Indicative Masterplan	100%	79%	8%	3%	9%	34%
Proposed distribution of lots as a %		min. 75%	max. 10%	max. 5%	max. 10%	

Set out in the table below is a comparison of the areas devoted to business premises, information and education facility and neighbourhood shop in the Indicative Masterplan and under the Planning Proposal.

Stage	Business premises (m2)	Information & education facility (m2)	Neighbourhood shop (m2)
Stage 1			
Stage 2			138
Stage 3			240
Admin	841		
Grafting shed	120		120
Vistor centre		341	
Current (m2) based on Indicative Masterplan	961	341	498
Proposed maximum floorspace distribution within Ecovillage (m2)	1,200	550	650

Shown in the table below is a comparison between the number of lots, number of dwellings and areas devoted to business premises, an information and education facility and neighbourhood shops in the Base Case scenario and with the proposed amendments to GLEP 2014 in the Planning Proposal, with the additional lots, dwellings and areas shown in the bottom line.

	lots	dwellings	business premises m2	info & education facilities m2	neighbourhood shops m2
Base Case	94	147	150	350	400
with Planning Proposal	97	167	1,200	550	650
additional with PP	3	20	1050	200	250

An Indicative Masterplan (below), prepared for the site by Envirotecture, illustrates how the changes proposed in the Planning Proposal could translate to the future

development of the site i.e. to include 450sqm lot sizes and to illustrate where the different residential accommodation could be located- this is indicative only.



Figure 10 An Indicative Masterplan of the NEV site, showing the distribution of lots and land uses under the PP. (Source: Envirotecture)

5.0 Heritage Impact Assessment

5.1 Assessment Guidelines

Heritage NSW (formerly Heritage Division, Office of Environment and Heritage) has published a standard set of questions that need to be addressed in the assessment of the impact of proposed development on items of environmental heritage. The following assessment answers those questions that are relevant to both the Base Case scenario and the Planning Proposal scenario and details those aspects of each which are considered likely to enhance the significance of the place and any considered likely to be detrimental. A conclusion is then drawn as to whether the Planning Proposal is acceptable in terms of its heritage impacts, and recommendations are made for mitigative measures to reduce any adverse impacts.

5.2 Comparison of impacts under the two scenarios

Under the Base Case scenario, the Stage 2 and Stage 3 subdivisions of the NEV site would proceed under the existing controls in GLEP 2014 relating to land zoned R2 Low Density Residential. Ninety-four residential lots, all 550m² or greater in area would accommodate 147 dwellings. Only 150m² would be devoted to business premises, 350m² to information and education facilities, restricted to the former visitor centre, and 400m² devoted to neighbourhood shops.

Under the Planning Proposal scenario, future subdivision of the NEV site would proceed under amended controls in GLEP 2014 relating to all land zoned R2 Low Density Residential in Stages 1, 2 and 3 in the Indicative Masterplan. There would

be three more lots compared with the Base Case scenario, but 20 additional dwellings due to a reduction in lot size to 450m² for 8 lots and provision for some shop-top dwellings, dual occupancies and secondary dwellings.

5.2.1 Can all the significant elements of the heritage item/s be kept, and new development located elsewhere?

All remaining listed items on the NEV site will be retained under both scenarios and the PP merely proposes a more flexible mix of lot sizes / FSAs and lot uses in the R2 Residential zoned land within the NEV site to improve the future viability of the adaptive reuse of the site from horticultural research facility to ecovillage.

5.2.2 Has the advice of a heritage consultant been sought? Have their recommendations been implemented? If not, why not?

This heritage impact statement has been prepared by a heritage consultant with extensive experience in cultural landscape conservation including preparation of the 2007 CMP, the 2013 CMP Review and the Stage 1 and Stage 2 Heritage Impact Statements for the place which includes the areas subject to this Planning Proposal. The author has liaised with the NEV Cooperative and their consultants throughout the planning and redevelopment process.

5.2.3 How are the impacts of the alternative scenarios on the significance of the item/s to be minimised?

The indicative subdivision layout and infrastructure design possible under either scenario have been designed to minimise impact on listed heritage buildings and their settings and listed landscape items.

5.2.4 Why is the land subject to either scenario required to be adjacent to a heritage item/s?

Developable land on the subject property is limited by a number of factors including slope, flood liability, zoning, bushfire risk, and access. The parts of the site zoned R2 Residential are those areas suitable for residential subdivision and happen to be adjacent to some of the listed heritage items which were associated with the former use of the place. The Indicative Masterplan shows that the changes to the controls proposed in the Planning Proposal can produce a subdivision layout / development which will not result in adverse heritage impacts but will allow for a more flexible mix of lots sizes, densities and uses.

5.2.5 How do the curtilages of the heritage items contribute to the retention of their significance?

The curtilages allowed around those heritage items on the NEV site are considered sufficient to retain their heritage significance if either scenario is approved.

The changes to the landscape under the Planning Proposal i.e. employing the proposed amendments to the provisions in GLEP 2014 relating to R2 Low Density Residential zoned land will be slightly greater than in the Base Case scenario, mainly as a result of greater residential density and different housing types, particularly either side of Gugandi Road near the entrance to the NEV site, compared with the Base Case scenario, but any additional heritage impacts are considered manageable and they can be reduced to acceptable levels by implementation of the recommended mitigative measures.

5.2.6 How do the alternative scenarios affect views to, and from, the heritage item/s? What has been done to minimise negative effects?

Future development possible following implementation of either scenario may result in changes to the views to and from the listed heritage items. Impacts likely to result from development following the Planning Proposal are considered acceptable and manageable through a range of siting and design solutions including building form, scale, height, bulk and mass, sympathetic exterior finishes and appropriate landscaping.

5.2.7 Are the alternative scenarios likely to impact on any known, or potentially significant archaeological deposits? If so, have alternative sites been considered?

Implementation of either scenario is not considered likely to adversely impact on any known or potentially significant archaeological deposits. The original 'office' and the later stables / cart shed associated with the former Viticultural Research Station are thought to have been located on a site approximately where the later Administration complex was built. These were lightweight timber structures and construction of the Administration building is likely to have disturbed any remaining archaeological evidence. The most likely location for archaeological deposits would be in the vicinity of the former Grafting Shed within the Stage 3 area in the Indicative Masterplan and these would be subject to existing controls on archaeological finds in NSW.

5.2.8 Are the alternative scenarios sympathetic to the heritage items? In what way?

The subdivision layouts possible under either scenario have been designed to supplement the existing contour street network. Subdivision lots are configured so that they contribute to a site-wide system of 'greenways' and common gardens. This is considered sympathetic to the cultural landscape of the site, interpreting the plantations that previously characterised the site. The suggested dwelling sites and setbacks and landscaping have all been designed to be sympathetic to the heritage items and at the same time environmentally sustainable in terms of their orientation, solar access and contribution to local amenity. The Indicative Masterplan proposed under the Planning Proposal is considered sympathetic to the heritage items on site.

5.2.9 Will the additions under either scenario visually dominate the heritage items? How has this been minimised?

While the new buildings to follow subdivision will result in a change to the cultural landscape setting of the heritage items under either scenario, they will be sited and designed so that they will not visually dominate those items. Considerable provision has been made for 'greenways' and common gardens and site landscaping to enhance the settings of the heritage items and the site generally.

The proposal for some smaller lots for single dwellings under the Planning Proposal are still relatively generous in size at 450m² and are mostly arranged around the access road to the centre of Stage 2.

The proposed multi-dwelling lots and shop-top housing lots near the NEV entrance under the Planning Proposal will create a higher density character in the vicinity of two landscape heritage items which will need to be mitigated by setbacks and additional landscaping.

The proposed multi-dwelling housing in the Stage 1 area under the planning Proposal will result in a greater density in that area which will need to be mitigated by setbacks, design and landscaping.

Overall, the number of additional lots, the percentage of new dwelling types and the quantum of GFA for business and retail uses under the Planning Proposal are all low in comparison with the totals possible across all the R2 Residential land and considered within the limits of acceptable change.

5.2.10 Will the public, and users of the item/s, still be able to view and appreciate its/their significance?

Residents of and visitors to the Narara Ecovillage will still be able to view the heritage items and appreciate their significance as built and landscape elements relating to the former horticultural research facility. Those non-listed plantings to be retained will also contribute to the ability of residents and visitors to read the landscape's horticultural history and heritage values. Resident and visitor appreciation of the history and significance of the site would be enhanced by implementation of a site-wide interpretation strategy and plan.

5.3 *Potential positive and negative aspects of the Base Case scenario*

5.3.1 Aspects of the Base Case scenario considered likely to retain and / or enhance significance

Under this scenario, all the remaining listed heritage items would be retained in their cultural landscape settings, with new development possible in accordance with the existing controls for R2 Residential land on the NEV site.

While there would be considerable perceptible changes to the cultural landscape arising from new housing and infrastructure associated with future subdivision these would be carefully located and designed to comply with requirements for access, fire safety, etc. while minimising visual and other impacts on heritage values. Proceeds from the sale of the proposed lots would contribute to the conservation and ongoing maintenance of the listed heritage items and the site generally.

The NEV site is transitioning from a landscape created by agricultural research and experimentation to one of residential subdivision driven by environmental sustainability objectives, in fact, continuing the tradition of experimentation on the site.

5.3.2 Aspects of Base Case scenario considered likely to have a possible adverse impact on significance

Subdivision following implementation of the Base Case scenario would lead to the introduction of new buildings where none exists at the present time but the impacts on significance are considered to be acceptable and manageable.

5.4 *Potential positive and negative aspects of the Planning Proposal scenario*

5.4.1 Aspects of the Planning Proposal scenario considered likely to retain and / or enhance significance

Similarly, under this scenario, all the listed heritage items would be retained in their cultural landscape settings, with new development possible in accordance with the amended controls for R2 Residential land on the NEV site.

While, under the Planning Proposal, there would be slightly different perceptible changes to the cultural landscape arising from new housing and infrastructure

associated with future subdivision these would still be carefully located and designed to comply with requirements for access, fire safety, etc. while minimising visual and other impacts on heritage values.

Proceeds from the sale of the proposed lots would similarly contribute to the conservation and ongoing maintenance of the listed heritage items and the site generally.

The more flexible mix of lots sizes, densities and uses will likely contribute to a more viable outcome for the NEV, particularly in the light of uncertainties arising from the COVID-19 pandemic.

The NEV site is transitioning from a landscape created by agricultural research and experimentation to one of residential subdivision driven by environmental sustainability objectives, in fact, continuing the tradition of experimentation on the site.

5.4.2 Aspects of Planning Proposal scenario considered likely to have a possible adverse impact on significance

The Planning Proposal scenario will lead to the introduction of a slightly larger number of new buildings than the Base Case scenario where none exists at the present time but the impacts on significance are considered to be acceptable and manageable.

5.5 Amendments to item and property descriptions for heritage items at NEV listed on Schedule 5, GLEP 2014.

The property descriptions for the LEP-listed heritage items within the NEV site, shown in the extract from Schedule 5, GLEP 2014 below, are out of date and place all those items within Lot 13, DP 1126998, i.e. the lot prior to subsequent approved subdivisions.

Suburb	Item	Street	Property Description	Significance Ranking	Item No.
Narara	Former grafting shed/administration block and curtilage	Research Road	Lot 13, DP 1126998	Local	120
Narara	Group of <i>Araucaria cunninghamii</i> (hoop pines)	Research Road	Lot 13, DP 1126998	Local	123
Narara	Group of <i>Taxodium distichum</i> (bald cypress)	Research Road	Lot 13, DP 1126998	Local	121
Narara	Main entrance gate posts	Research Road	Lot 13, DP 1126998	Local	127
Narara	Manager's cottage, hen house (former shower block) and curtilage	Research Road	Lot 13, DP 1126998	Local	119
Narara	Plantation of <i>Carya illinoensis</i> (pecan)	Research Road	Lot 13, DP 1126998	Local	124

Suburb	Item	Street	Property Description	Significance Ranking	Item No.
Narara	Row of <i>Pyrus calleryana</i> (Callery pear)	Research Road	Lot 13, DP 1126998	Local	125
Narara	Specimen of <i>Syncarpia glomulifera</i> (turpentine)	Research Road	Lot 13, DP 1126998	Local	122
Narara	Specimen of <i>Pyrus calleryana</i> (Callery pear), strain D6	Research Road	Lot 13, DP 1126998	Local	126

Note: Item 125, a row of *Pyrus calleryana* (Callery pear) no longer exists. They were in poor condition and were removed as part of previous consent for infrastructure upgrades along Research Road / Gugandi Road.

The corrected descriptions for an amendment to Schedule 5, GLEP 2014 are shown in the table below.

Suburb	Item	Street	Property Description	Significance Ranking	Item No.
Narara	Former grafting shed/administration block/Fisheries office and curtilage	Gugandi Road	Lot 50, DP 270882	Local	120
Narara	Group of <i>Araucaria cunninghamii</i> (hoop pines)	Gugandi Road and un-named road to former Farm Square	Lot 38, DP 270882	Local	123
Narara	Group of <i>Taxodium distichum</i> (bald cypress)	Gugandi Road	Lot 1, DP 270882	Local	121
Narara	Main entrance gate posts	Gugandi Road	TBC, DP 270882	Local	127
Narara	Manager's cottage, hen house (former shower block) and curtilage	Gugandi Road and Syncarpia Crescent	Lot 15, DP 270882	Local	119
Narara	Plantation of <i>Carya illinoensis</i> (pecan)	Gugandi Road	Lot 38, DP 270882	Local	124
Narara	Specimen of <i>Syncarpia glomulifera</i> (turpentine)	Gugandi Road	Lot 50, DP 270882	Local	122
Narara	Specimen of <i>Pyrus calleryana</i> (Callery pear), strain D6	Middle Gully (off Gugandi Road)	Lot 1, DP 270882	Local	126
Narara	Flight of concrete steps and sandstone retaining wall associated with former Narara Forestry School	Un-named road to former Farm Square	Lot 38, DP 270882	Local	To be added to Schedule

5.6 Recommended Mitigative Measures

The following mitigative measures are recommended to reduce any adverse impacts likely to arise from subdivision and development following implementation of the Planning Proposal.

1. Any new dwellings on the multi-dwelling housing lots proposed for either side of Gugandi Road north of the entrance to the NEV site should be set back sufficiently far from their front boundaries to allow for landscaping to reduce the visual impact of the new dwellings.
2. Designs, materials and exterior finishes of new dwelling units should be in accordance with the Narara Horticultural Institute DCP controls (Section 5.8 Gosford DCP 2013). They should be chosen to minimise visual impacts when viewed from the listed heritage items and major viewing points within the former Gosford Primary Industries Institute site.
3. Site to be landscaped in accordance with the Narara Ecovillage Landscape Standards and Guidelines and with plant species appropriate to the locality, to meet one or more of the following requirements:
 - Known to be part of the original ecological community;
 - Environmentally sustainable;
 - Non-invasive;
 - Any exotic ornamentals should be historically appropriate for the cultural landscape of the area.
4. Measures should be taken to ensure that during site works and construction there is no runoff or spillage of concrete, adhesives or other waste from the site that might have a negative impact on heritage values or the environment generally.
5. Any existing significant trees or other vegetation to be retained during future subdivision and housing construction should be protected in accordance with current best practice in arboriculture (i.e. Australian Standard AS 4970—2009: Protection of trees on development sites), any other recommendations by a consulting arborist, and in consultation with the NEV Landcare team.
6. Any major trees required to be removed for future infrastructure construction to comply with relevant controls / standards should be replaced where feasible with specimens of the same species, ideally propagated from the removed trees, and planted close-by if conforming with landscape design intent or, if not, in another more appropriate location on site.

6.0 Conclusion

Should the Planning proposal be approved, all extant built and landscape heritage items on the NEV site listed on Schedule 5, GLEP will be retained and conserved.

Infrastructure construction and subsequent housing likely to follow implementation of either the Base Case or Planning Proposal scenario will result in considerable changes to the cultural landscape of the former Gosford Primary Industries Institute, but these are considered to be within the limits of acceptable change for the site and the heritage items within it, given the transition from NSW Government research facility to ecovillage.

The Planning Proposal, based on amendments to the provisions of GLEP 2014 relating to R2 Low Density Residential land, is considered to be acceptable in terms of likely heritage impacts.

In my opinion, provided the recommended mitigative measures are implemented, the Planning Proposal is within the limits of acceptable change for the listed heritage items and the site generally, and any impacts are manageable.

It is recommended that the listings of heritage items within the NEV site at Narara be updated on Schedule 5, GLEP 2014 in accordance with the second table in Section 5.5 of this HIS. It should be noted that the new location of the former entrance gates, which had actually been outside the former Gosford Primary Industries Institute boundary is still to be determined.

It is recommended that consideration be given by Central Coast City Council to the addition to Schedule 5 GLEP 2014 of the item on the NEV site identified in Section 3.5 of this HIS.

It is recommended that further heritage and arboricultural investigation and assessment of a stand of *Quercus petraea* (Sessile Oak) just south of the Visitor Centre be conducted to assess its historical, aesthetic and rarity values and its condition and retention value.



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7.0 References

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