HERITAGE COUNCIL OF WESTERN AUSTRALIA

REGISTER OF HERITAGE PLACES – ASSESSMENT DOCUMENTATION

11. ASSESSMENT OF CULTURAL HERITAGE SIGNIFICANCE

The criteria adopted by the Heritage Council in November 1996 have been used to determine the cultural heritage significance of the place.

PRINCIPAL AUSTRALIAN HISTORIC THEME(S)

- 3.4.4 Making forests into a saleable resource
- 3.11.4 Clearing vegetation

HERITAGE COUNCIL OF WESTERN AUSTRALIA THEME(S)

- 104 Land allocation & subdivision
- 107 Settlements
- 302 Rural industry & market gardening
- 304 Timber industry

11. 1 AESTHETIC VALUE*

Hamel Nursery is a diverse and visually rich cultural landscape that results from the juxtaposition of exotic and indigenous trees and shrubs that remain extant from the various stages of development of the place from 1897 to the present. (Criterion 1.4)

11. 2. HISTORIC VALUE

Hamel Nursery is the oldest surviving nursery in Western Australia and the second State Nursery established in Western Australia and includes the first arboreta in the State, the site of one of the first Experimental farms in the State and the first out-station established under Fremantle Prison for short term and near release prisoners. (Criterion 2.1)

Hamel Nursery played an integral role in the development of forest industries in the State, especially pine growing, and arboriculture over more than 80 years,

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* For consistency, all references to architectural style are taken from Apperly, Richard; Irving, Robert and Reynolds, Peter *A Pictorial Guide to Identifying Australian Architecture: Styles and Terms from 1788 to the Present* , Angus & Robertson, North Ryde, 1989.

For consistency, all references to garden and landscape types and styles are taken from Ramsay, J. *Parks, Gardens and Special Trees: A Classification and Assessment Method for the Register of the National Estate,* Australian Government Publishing Service, Canberra, 1991, with additional reference to Richards, O. *Theoretical Framework for Designed Landscapes in WA*, unpublished report, 1997.

and the establishment of public parks and gardens throughout the State for more than 60 years. (Criterion 2.2)

Hamel Nursery was established by Conservator of Forests, John Ednie Brown, the founder of economic and scientific forestry in Australia and instigator of forestry systems in South Australia, New South Wales and Western Australia. (Criterion 2.3)

In the 1960s *Hamel Nursery* was the site of the development of new techniques and implementation of soil hygiene in Western Australia. (Criterion 2.4)

11. 3. SCIENTIFIC VALUE

Hamel Nursery has the potential to yield a wealth of information relating to the history of nurseries in Western Australia, including plant selection, propagation techniques, irrigation systems, nursery structures and transport methods. (Criterion 3.1)

Remnant mature plantings in the plant nursery and associated arboreta at *Hamel Nursery* have the potential to provide information on the species used in the development of a wide range of cultural landscapes in Western Australia including King's Park, Hyde Park, Harold Boas Gardens, Beatty Park, Point Walter Reserve, Karrakatta and Fremantle Cemeteries. (Criterion 3.1)

The presence of many varieties of Eucalypts at *Hamel Nursery* provides evidence of the developing interest in their cultivation in Western Australia from the turn of the 20th century. (Criterion 3.1)

The footbridge over Sampson Brook at *Hamel Nursery* is significant as part of an early nursery reticulation system including a weir, dam and hydraulic ram. (Criterion 3.3)

11. 4. SOCIAL VALUE

Hamel Nursery is valued by the community for social, cultural and aesthetic reasons. Its inclusion in the Shire of Waroona's Municipal Heritage Inventory and the National Trust of Australia (WA) classification of some plantings reflect concerns for the future of the site expressed by the community. (Criterion 4.1)

Hamel Nursery contributes to the community's sense of place as an integral part the district of Hamel from the 1890s to the present day. (Criterion 4.2)

12. DEGREE OF SIGNIFICANCE

12. 1. RARITY

No other location in Western Australia has such a diverse and mature collection of trees as *Hamel Nursery.* Its unique arboreta represent a rare record of the many exotic species introduced to Western Australia in the first half of the 20th century by the Government, for the purpose of developing arboriculture in Western Australia and for use in the State's public parks, gardens and cultural landscapes. (Criterion 5.1)

The present day nursery at *Hamel Nursery* retains some elements that demonstrate horticultural and arboricultural practices that were used in the past, that are generally no longer practiced. This includes the use of 'bamboo tubes' in seedling cultivation and the innovative early reticulation system. (Criterion 5.2)

12. 2 REPRESENTATIVENESS

While *Hamel Nursery* is not itself a representative example of a significant cultural landscape, the remnant plantings in the various arboreta at the State Nursery are representative of the plants used to create the state's public parks and gardens, including some significant cultural landscapes including King's Park, Queen's Gardens, Hyde Park, Harold Boas Gardens, Beatty Park, Point Walter Reserve and Karrakatta and Fremantle Cemeteries. (Criterion 6.1)

12. 3 CONDITION

The present day nursery at *Hamel Nursery* is managed and maintained as a commercial enterprise and as such is in good condition. There are a number of mature species within the boundaries of the current operations that appear from visual inspection to be in good condition. These include the Cocos Palm and associated trees to the north-west of the office and hedging around the seedling nursery. However, around the periphery of the site other species from previous phases of development, including trees and shrubs in the original and Jubilee arboreta and along the banks of Sampson Brook, appear to be degraded as a result of regrowth of indigenous vegetation, and along the banks of the brook from Ti-tree infestation.

On the eastern side of the railway the remnant plantings from the 1897 nursery have become intertwined with the edge of the adjacent pine plantation and re-establishing indigenous species. A number of significant tree species are now in competition with more recent invaders. The majority of surviving trees appear healthy, but may benefit from a thorough aboricultural assessment.

The physical structures are in fair condition. Generally these are not significant; however, the fence by the main entry and the footbridge at the present day *Hamel Nursery* are extant elements of the early period of development. The footbridge is in fair condition, but the fence at the entrance is in a deteriorated state.

At present (2005), there is no comprehensive record of existing species and consequently no means of identifying rare plants.

Overall, the site is in fair condition, however the condition varies throughout as a result of being managed by a combination of organisations with differing maintenance requirements.

12. 4 INTEGRITY

Hamel Nursery is currently used as a plant nursery and as such has a high integrity. The former nursery (1897) to the east of the railway is no longer in use and has lower integrity due to the invasion of other plant species to the area. The area contains several sites of domestic gardens that have moderate integrity although no houses are extant.

The original and Jubilee arboreta have moderate integrity also due to the invasion of indigenous plants.

12. 5 AUTHENTICITY

Overall, *Hamel Nursery* has high to moderate authenticity. The site retains a number of rare exotic species, including some introduced in the late 1890s and early 1900s. The contemporary development of the area east of the railway for pine plantation purposes reflects the on-going use of this area for plantation purposes and contributes to the authenticity of the place. The original buildings that were located at the present day nursery are not extant, however, the site retains a number of original features and elements.

13. SUPPORTING EVIDENCE

The documentation for this place is based on the heritage assessment completed by Robin Chinnery, Historian, Rosemary Rosario, Architectural Heritage Consultant, and John Viska, Horticulturist in July 2005, with amendments and/or additions by HCWA staff and the Register Committee.

The recommended curtilage comprises an area bounded James Road to the north (GPS easting 398690 x northing 6363040), McFarlane Road to the west (GPS easting 398351 x northing 6362352), Roberts Road to the south (GPS easting 399231 x northing 6362586) and an area bounded by the northern perimeter of the Hamel townsite and a line north from a point located at approximately GPS easting 399231 x northing 6362577, to James Road (GPS easting 399249 x northing 6363054).

13. 1 DOCUMENTARY EVIDENCE

Hamel Nursery is a commercial horticultural nursery with associated buildings and structures, sites of earlier buildings and structures associated with the nursery, prison and forestry at Hamel, arboreta, and remnants of earlier plantations, is a commercial/industrial/scientific type of landscape.[1]

In 1897, the State Nursery was established at the place, the earlier De Hamel homestead was occupied, the first nursery and arboreta plantings were made, and associated buildings and structures erected under nurseryman A. McFarlane. The arboreta and pine plantations were progressively planted and maintained through into the 1970s. Subsequently, the nursery operation was leased, firstly to Greening Australia, and then to current lessee, R. Hordacre.

Hamel takes its name take their name from the former owner of the land, Lancel Victor De Hamel (d.1894), Mayor of Albany (1889-90), Member of the Legislative Council (1889-90) and of the Legislative Assembly (1890-94). The English lawyer had immigrated to Albany for health reasons in the mid-1880s.[2] Among his investments in the Colony was De Hamel Estate at Drake's Brook (as the district was then known), where a homestead and outbuildings were built.[3]

In 1895, John Ednie Brown (b. Scotland, 1848, d. Perth, 1909) was commissioned to review the forests of Western Australia, before being appointed as the first Conservator of Forests in Western Australia (1895-99).[4] Eminently qualified for the position, his work would leave a lasting impact on forestry and forestry practices in Western Australia, and this significant legacy included the establishment of *Hamel Nursery* in 1897.

After training under his father, Dr. James Brown, Deputy General of Woods and Forests, Scotland, an authority of silviculture and arboriculture, John Ednie Brown

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1 Richards, O. *Theoretical Framework for Designed Landscapes in WA*, unpublished report, 1997, amended June 2003, p. 83. Richards notes: 'It has been suggested that designed landscapes associated with scientific facilities could form a separate category distinct from those associated with commercial and industrial facilities'. (ibid.)

2 Garden, Donald pp. 202-09, pp. 243-44. Note: Streets in Waroona and Albany commemorate De Hamel.

3 Report of Conservator of Forests, J. Ednie Brown, to Commissioner of Crown Lands, 27 September 1897, published in the *West Australian* 29 September 1897, p. 7.

4 Jones, David 'Brown, John Ednie' in Aitken, Richard & Looker, Michael *The Oxford Companion to Australian Gardens* Oxford University Press, South Melbourne, Victoria, 2002, pp. 107-08. Note: The family name was later hyphenated as Ednie-Brown. Documentary evidence follows Jones, referring to him as Brown, or repeats the name as it appeared in contemporary reports.

worked in Aberdeenshire and then in England, where he was responsible for the design of several plantations in Yorkshire and Sussex. As Conservator of Forests for South Australia (1878-90), his achievements included the successful establishment of a number of nurseries, reserves, and plantations where he extensively trialled Monterey pines, *Pinus radiata*.[5] His *Report on a System of Planting the Adelaide Park Lands* (1880), which 'displays an appreciation of contemporary landscape design practice and writings in Britain, Canada, and the USA', is believed to have provided the framework for planting and managing the park lands under August Pelzer, City Gardener, Adelaide (1899-1934).[6] In 1889, Brown introduced Arbor Day to South Australia, and the concept subsequently spread to the other Australian colonies. He was the first advocate of a school of forestry in Australia to provide specialised training for foresters. Elected a Life Fellow of the Linnean and Royal Horticultural Societies in 1890, in the same year he accepted the offer of Henry Parkes, Premier of New South Wales, to take up the appointment of Director General of Forests in New South Wales, serving in this capacity until the department and his position were abolished in 1893.[7]

In 1896, at the instigation of Brown, it was decided a State Nursery should be formed for propagation of commercial soft wood timber trees for planting in the Woods and Forests Department's plantations, and a temporary nursery was established at Guildford on land leased for this purpose. In 1896-97, 67,850 plants were raised there, including 60,000 Pines, 2,000 Oaks, 500 Elms, 150 Ash, 2,500 Sugar Gums, 1,000 Poplars, 200 Sandalwood, 500 Pepper Trees, 300 Tamarisk, 200 Planes, and 500 other sorts. After 'numerous applications' were made for trees for planting in streets and parks of various towns, and also from the Education Department for trees to be planted on Arbor Day 'for ornamenting the several school grounds in the Colony', their supply was approved from stock surplus to the Department's needs.

In 1897, because growing conditions at the Guildford nursery had proven unsatisfactory due to the poor nature of the soil and salty nature of the water, a site was sought for the establishment of a permanent nursery. Initially, the intention was to locate it near Bunbury, but in early spring Brown inspected De Hamel's Estate at Drake's Brook, recently purchased by the Government, and well located on the South-West Railway, about 30 miles north of Bunbury, to ascertain its suitability.[8] On 27 September, he reported that he considered 'the place altogether highly adapted' for this purpose, and accordingly, as instructed, he had 'begun formation of the nursery'.[9]

A permanent stream, Sampson's Brook, ran through the property, 'a valuable and indispensable acquisition to the place'.[10] Brown reported:

> the soil upon the flats is comprised of a deep, rich, dark, loamy, mould on top, lying upon a retentive sub-soil of a clayey nature, both being very desirable for the raising of such trees as oaks, sycamore, elm, ash, planes, and other exotic trees which

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5 ibid.

6 Jones, David 'Adelaide Park Lands' and Pelzer, August' in ibid, p. 10 and p. 467 respectively.

7 Jones, David 'Brown, John Ednie' op. cit., p. 108.

8 Woods and Forests Annual Report, 1897, in *Votes and Proceedings* 1897, p. 13; and Department *Forestry in Western Australia* Bulletin No. 63, Forests Department of WA, Government Printer, Perth, 1957, p. 148.

9 Report of Conservator of Forests, J. Ednie Brown, to Commissioner of Crown Lands, 27 September 1897, published in the *West Australian* 29 September 1897, p. 7.

10 J. Ednie Brown, to Commissioner of Crown Lands, 27 September 1897, op. cit.

> produce the finer timbers of our imports. On the higher-lying portions, the soil is of a sandy character, and more suited for the raising of pines and coniferous trees generally.[11]

Brown selected 15 acres 'to form the permanent nursery', and reported 'I cannot speak too highly of it for nursery purposes; a better could not be obtained'. He noted that this area would require fencing 'in a substantial manner'.[12] For grazing and 'spelling' the horses to be used at the place, it was essential to have 'a large and good paddock at the nursery – which will really become the outside headquarters of the Department', and he delineated the adjoining area to be set aside for this purpose. As there was 'a seven-roomed house, stabling and tool shed' on this portion of the land, east of the railway line, 'no expense as regards these will be necessary'. Brown proposed a room be allotted to Forest Ranger Cox to avoid the expense of providing a temporary out-station when he was inspecting forests 'in this important neighbourhood'.[13] Co-existence of nursery and forestry employees at the place would continue throughout its operation by the Department.

Initially, the new nursery was known simply as the 'State Nursery at Drake's Brook'.[14] In November 1897, Brown reported 'We are now busy putting in a stock of trees in the nursery', with the plantings to date including 'Poplars of sorts, 10,000; osiers, 5,000; planes, 3,000; elms, 10,000; tamarisks, 7,000; oaks, 500; ash, 500; New Zealand flax, 500'.[15] He believed the large number of poplars 'will be of great value to the various settlers as shelter belts in the open country', and noted the osiers 'of various kinds … the principal variety being the golden osier, … much used in basket making', which he believed could bring about 'a considerable industry'.[16] He planned '15,000 pine seedlings … raised at Guildford' would be '"lined in" for further growth and development of root-fibre', and also 'to raise at least 250,000 pines of sorts this coming season', and noted 'Araucarias, chiefly the species called "Excelsa", will, if possible, be raised for planting upon Rottnest Island'.[17] South Australian Sugar Gums were to be 'largely grown in bamboos for growing in our dry country', and 'Date palms will also form a special feature of the season's stock of plants' to be 'available for planting round our interior dams and wells'.[18] Brown's broad vision is reflected in his plant selection including species for use in a number of regions and also 'economics' such as flax and timbers that might prove commercially viable.

Most of the various cuttings planted at the nursery in spring 1897 were received from Victoria. As proposed, 'A large number of pines of various kinds… raised from seedlings at the old nursery at Guildford' were 'lined out in the sandier parts of the Drake's Brook nursery', at the east of the railway line, and Brown expected good results.[19] Pine plantings would be an integral part of the operations of the State Nursery through into the early 1980s.

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11 ibid.

12 ibid.

13 ibid.

14 *West Australian* 29 September and 23 November 1897, p. 7 and p. 4 respectively.

15 J. Ednie Brown, to Commissioner of Crown Lands, 27 September 1897, op. cit.

16 *West Australian* 23 November 1897, p. 4.

17 ibid. J. Ednie Brown, to Commissioner of Crown Lands, 27 September 1897, op. cit.

18 ibid. J. Ednie Brown, to Commissioner of Crown Lands, 27 September 1897, op. cit.

19 *West Australian* 23 November 1897, p. 4

In November 1897, Brown commented that the more he saw of the nursery the better he was 'pleased with the quality of the soil, and the results obtained from it'.[20] Nursery employees were erecting shade houses, in which it was planned to raise 200,000 pines of different kinds for planting in the next two seasons, and erection of a wire netting fence to enclose the 15 acre nursery would commence in late November. The nursery's horses and livestock were accommodated in the adjoining 150 acre paddock, and 'all timber required for fencing, etc.' was obtained on the property'.[21] A bridge was built across Sampson Brook.[22]

In 1897-98, a total of 333,931 trees and shrubs were raised at the State Nursery: 114,746 in pots, 12,740 in bamboos, and 91,715 open rooted.[23] Most plants were raised in seed flats and ricked on to 'Thumb Pots', some remains of which have been found on the early site at the east of the railway line.[24]

McFarlane's diary recorded activities at the State Nursery, including potting 100 Norfolk Island Pines received from Shepherd's in Sydney in April 1898. Other sources of seed for the State Nursery included Government Gardens, Perth, and Newmans supplied Cupressus seed. Pots were purchased from Woodbridge Pottery at Guildford. In August, McFarlane rowed out seedling plane trees, elm cuttings, catalpa and Lygustrum, sowed grevillea, pepper and cupressus, and also sequoia gigantea. In September, a Lagunaria hedge was planted, further Norfolk Island Pine seed was sown, and also catalpa, ash, sycamore, ailanthus, teak and kurrajong.[25] Some of the mature trees at *Hamel Nursery* in 2005 date from the late 19th and early 20th centuries.[26]

In January 1899, part of the De Hamel Estate near the State Nursery was sub-divided to provide lots for a land settlement scheme, the first being offered for sale at auction on 21 January. A plan of the subdivision of Lot 156, Harvey Agricultural Area, shows the lots to be sold and 'a number of scattered experiment areas', where one of the Department of Agriculture's first experimental farms was established in the early 1900s.[27]

In 1899, permanent plantations of oak, catalpa and pines were planted at the State Nursery. They were to be treated 'according to silvicultural methods' and 'to serve as object lessons to the public'.[28] The catalpa tree, among the first exotics introduced into Western Australia by Brown, was much valued for its timber. Suitable for dense plantation development, producing 'splendid timber, with straight stems fully fifty feet to the first branch', it was 'so durable that it lasts for an almost indefinite period', and railway sleepers and platforms made from this timber were 'almost indestructible'.[29] Seeds from the Forest and Water Society of Southern California and the Inspector General of Forests in India provided 'valuable' additions to the Nursery, including '*Sequoia gigantea* (mammoth-tree of California) and the *Cedrus deodora*, of India, both of which may be successfully

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20 ibid.

21 ibid.

22 Memos. etc. in Hamel State Nursery, SROWA AN 80/1 Acc. 934 Item 208, 1899.

23 Woods and Forests Annual Report, 1897, in *Votes and Proceedings* 1897, p. 12.

24 Typescript 'Eucalypt Nurseries', n.d., Collection of John Viska.

25 A. McFarlane's Hamel Nursery Diary, April-September 1898. CALM Library, Woodvale.

26 Site visit, John Viska, Robin Chinnery and Rosemary Rosario, 23 May 2005.

27 Cullity, Maurice *A History of Dairying in Western Australia* UWA Press, Nedlands, 1979, pp. 39, 140.

28 Report Woods & Forests, 1899, in *Votes and Proceedings* 1900, Vol. 1, p. 13.

29 ibid, pp. 13-14.

grown in the rich humid valleys of the South-West Division of the Colony'.[30] The Forestry Department of California provided seeds of Copernica ceriferi and Carnauba palms, which were 'understood to be suitable for planting in dry goldfields country'.[31]

In 1899, John Ednie Brown died from influenza at the age of 51. In his own period, 'An under-recognised individual with considerable energy', he was 'the father of economic and scientific forestry in Australia, founding the forestry systems in SA, NSW, and WA', whilst his apprentice, George Perrin, was responsible for founding those of Victoria and Tasmania.[32]

In 1899, McFarlane visited the coast to collect seed from Tuart trees for the State Nursery. He arranged an exchange of seeds with the WA Seed & Nursery Co., receiving various plants and seeds, including 12 *Kennedygos nigrescans* in pots, 4 lbs of Lord Howe Island palm seed, and seeds of *Hibiscus herbaceous, H. grandiflora, H. pendulum-culatus, Cassia corymbosa, laevigata, Cordyline bauri, Alanthus puciens, Pittosporum buchanii, Margueritte carnations, Clematis jackmanii Superb, Cordyline australis, Eu. risdonii* and *Eu. funelata*. McFarlane obtained six packets of tobacco seed from Hawkesbury Agricultural College, and one half bushel of carobs in pods from a Mrs Fawcett, and exchanged ornamental trees for boronia plants from Mr Wright at Mount Barker. McFarlane potted red flowering gums, and lifted flax to plant on the east and west sides of the brook. In early 1900, he visited the coast to procure peppermint seed and leaves.[33]

After Brown's death, Charles Gough Richardson (b. Ireland, 1865, arr. 1887) was Acting Conservator of Forests, and subsequently Conservator of Forests, Secretary to the Forestry Department, Acting Inspector-General of Forests and Inspector General of Forests.[34] Richardson was employed in the Lands Department from 1890 and he became an officer in the Woods and Forests Department in 1895. Like Brown, Richardson took a keen personal interest in the State Nursery and encouraged its further development. Under his direction, the pine plantations at Hamel were 'greatly extended', and 'pine-planting on a very large scale' was begun at Ludlow,[35] stock being provided by the State Nursery at Hamel. From the early 1900s, through to 1984, the Nursery played a similar integral role in the establishment of pine plantations in Western Australia.[36]

In the Annual Report for 1899, Acting Conservator Richardson reported the State Nursery was 'looking very well and reflects great credit on the exertions of Mr A. McFarlane, the foreman in charge, who has veritably changed the wilderness, in the shape of a Ti-tree swamp, into a smiling garden'.[37] It was noted that 'With the

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30 ibid, p. 14.

31 *West Australian* 8 February 1899, p. 7.

32 Jones, David 'Brown, John Ednie' op. cit., p. 108.

33 A. McFarlane's Hamel Nursery Diary, February 1899-August 1900.

34 Battye, J. S. *The Cyclopedia of Western Australia* The Cyclopedia Company, Perth, 1912-13, Facsimile Edition Hesperian Press, Victoria Park, Western Australia, 1985, Vol. 1, p. 433; and Erickson, Rica (Ed.) *Bicentennial Dictionary of Western Australians pre-1829-1888* UWA Press, Nedlands, 1988, p. 2616.

35 Battye, J. S. ibid.

36 Woods and Forests, and Forests Department Annual Reports, 1899-1984.

37 Report Woods & Forests, 1899, in *Votes and Proceedings* 1900, Vol. 1, p. 13.

aid of a little money the Nursery could not only be made a more attractive spot, but an instructive one to the public generally'.[38]

In the late 1890s, although established principally 'to supply commercial timber trees to Departmental plantations', the State Nursery also raised 'a number of ornamental trees… for supply to the Education Department for planting in school grounds, to local authorities for street and park planting, and to other public bodies and charitable institutions'.[39] Over a period, this was extended to landholders requiring shade trees and for sheltering stock, and 'for ornamental and shelter plantings around farm homesteads, and for farm woodlots'.[40] Through into the early 1900s, plantings and seed were supplied without charge. After demand became ever greater and the system was abused, a charge to cover the cost of raising the trees was introduced in 1917. Private nurseries complained of loss of trade consequent to the State Nursery providing plants in the metropolitan area, and the Department agreed to cease supplying trees to urban individuals, and determined 'no further shrubs would be raised at Hamel'.[41]

Since late 1896, George Berthoud had been growing experimental crops on a portion of the railway reserve at Drake's Brook. In the late 1890s, Reserve 9890, south of the Nursery at the east of the railway line, was reserved for the Agricultural Department for the purpose of an Experimental Plot, where Berthoud undertook further experimental plantings for the Department.[42] A roadway from the main road in Hamel provided access, rather than Berthoud going through the grounds of the Nursery and across their bridge.[43]

In summer 1899-1900, McFarlane and nursery employees built a new bridge over Sampson Brook, utilising timber from Waroona Mills, the first bridge having been 'too small to carry the flow of water at flood time' after the brook was deepened and other improvements made.[44] The 1900 bridge has undergone some repair at various periods, but remains extant in 2005.[45]

In 1900, a fumigation chamber was erected at the Nursery.[46] No details of its location or eventual fate have been ascertained.

In 1901-02, the Department of Agriculture established one of the State's first experimental farms at Hamel (the other being at Narrogin), under Berthoud as manager.[47] After an enclosed five acre block of the farm was 'handed over to the Forestry Department' to become part of the State Nursery, the farm's experimental work was temporarily curtailed.[48]

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38 ibid.

39 *Forestry in Western Australia* Bulletin No. 63, Forests Department of WA, Perth, 1957, p. 149.

40 *Forestry in Western Australia* Bulletin No. 63, 1957, p. 149.

41 *Forestry in Western Australia* Bulletin No. 63, 1957, p. 149.

42 Palassis Architects 'Hamel Eco-historic Precinct Conservation Plan' for the Shire of Waroona, February 2005, p.17. Note: Refer to conservation plan for further information on background and development of Experimental farms, also to Cullity, op. cit.

43 G. F. Berthoud to Secretary of Agriculture, in Hamel State Nursery op. cit., 25 September 1899.

44 Memos. etc. in Hamel State Nursery, SROWA AN 80/1 Acc. 934 Item 208, 1899.

45 Len Purcell, telephone conversation with Robin Chinnery, March 2005; Don Ross, conversation with Robin Chinnery, and site visit, Robin Chinnery, Rosemary Rosario and John Viska, 23 May 2005.

46 Mansfield, Carol 'A Colonial Legacy' in *Australian Garden History* Vol. 14, July/August 2002, p. 6.

47 Cullity, Maurice op. cit., p. 140.

48 Report of Department of Agriculture, year ending 30 June 1902, in *Votes and Proceedings* 1902, Vol. 2, p. 10.

A total of 240 acres was reserved for the Experimental farm at Hamel. However, while contract labour cleared and fenced at Narrogin, further work at Hamel was delayed until 1902, when a prison out-station was established to provide 'beneficial employment for first offenders under short sentences, and those nearing the end of their terms of imprisonment'.[49] Considered 'an integral part' of Fremantle Prison, it was the first such out-station established in WA.[50]

In 1902, prisoners at Hamel erected the prison buildings, namely a barracks and cookhouse, a warder's cottage, and associated out-buildings. They were employed in clearing and fencing land for the experimental farm and other minor works there.[51] By early 1903, experimental work at the farm was well underway, and structures there included a 'bush-house' for raising plants.[52] Prison labour was also employed at the Nursery at various periods during the operation of the out-station, which closed in May 1907.[53]

In 1903-04, plantations of Remarkable pine (*Pinus insignis)* (now known as Monterey Pine (*Pinus radiata*), native to California, were established at the east of the railway line.[54]

In 1909, a plan shows the State Nursery at Reserves 5174 and 4764, with the plantations to date, including the 1900 plantings of *Pinus insignis* by Burney Road and the 1901 plantings of *Pinus insignis* at the north-east corner, by James and McFarlane Roads.[55] After these failed, these areas were re-planted at various dates with various species rather than as plantation areas. The latter area, at the north-east by James and McFarlane roads, has been referred to as the Jubilee Arboretum and is also shown as the Coronation Arboretum on a later plan.[56]

As per the 1909 plan, Reserve 6704, to the south of the nursery, is the prison garden and south again, the Agricultural Department's experimental plot at Reserve 9890, beyond which are Lots 23, 24 and 25, bounded at the east by Burney Road, at the south by Roberts Road and at the west by McFarlane Road. These were included in *Hamel Nursery* after closure of the Experimental Farm, and were developed as part of the Nursery from c. 1917-18.[57]

East of the railway line is the prison at Reserve 8219, bounded at the south by Bethungra Street, and at the east by the experimental pine and jarrah plantations. Various plantings at Lot 141, Reserve 8380 (about 85 acres in area) bounded at the south by Cornucopia Street, at the east by the Bunbury Road, at the north by James Road, and at the north-east corner by Lot 142, Reserve 8380 (about 8 acres in area) are also shown. There are 'Patches' of Canary Island pine (*Pinus canariensis)*, Northern pitch pine (*Pinus rigida)*, Maritime pine (*Pinus Pinaster)*, and Scots pine (*Pinus sylvestris)* at the south-east; to the north of which is shown

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49 Report of Gaols and Prisoners for the year 1902, in *Votes and Proceedings* 1903-04, Vol. 2, p. 5. Note: Refer to Palassis Architects 'Hamel Eco-historic Precinct Conservation Plan' for the Shire of Waroona, Feb. 2005, for further details of the development of the prison depot; also Reports of Gaols and Prisoners, and Annual Reports for the Department of Agriculture, in *Votes and Proceedings* 1902-07.

50 Report of Gaols and Prisoners for the year 1902, in *Votes and Proceedings* 1903-04, p. 14.

51 ibid, p. 5.

52 *Southern Times* 6 February 1902, quoted in ibid, pp. 140-141.

53 Report of Gaols and Prisoners for the years 1902 to 1908, in *Votes and Proceedings*.

54 State Nursery and Pine Plantations at Hamel, 1909.

55 State Nursery and Pine Plantations at Hamel, 1909.

56 Don Ross, conversations with Robin Chinnery, May 2005; and retired Silviculturist A. J. Hart, telephone conversation with Robin Chinnery, May 2005.

57 ibid; and Hamel Nursery, 1975, amended 1982, courtesy A. J. Hart.

'Majority Pinus insignis planted in 1905', with 1904 plantings of *Pinus insignis* and *Pinus sylvestris* to the north; and north again, Jarrah and Yate Gum, planted in 1905. There is natural jarrah bush to the north; and at an angle from James Road an area of jarrah planted in 1903, to the south of which is an area of *Pinus insignis* and *Pinus sylvestris* planted in 1903. At the north-west corner, bounded by James Road and the railway reserve, are *Pinus insignis*, Aleppo pine (*Pinus halepensis)*, and Himalayan pine (*Pinus excelsis)*, together with Deodar, Himalayan Cedar (*Cedrus deodora)*, planted in 1901. To the south, bound at the west by the railway reserve, is shown the area with the cottage, bush sheds, packing sheds and frames.[58]

From the outset, it had been envisaged that the work of the State Nursery would include efforts to propagate Western Australia species, jarrah, tuart and karri among them, as evidenced by entries in McFarlane's diary and correspondence in the Department's files under Brown and Richardson.[59]

In 1910, the Experimental farm at Hamel was closed. Its operations were transferred to the State Farm at Brunswick (est. 1906), and its Manager George Berthoud, transferred to the State Nursery at Hamel, together with his horticultural equipment and experimentation.[60] It is believed that the Camellias at *Hamel Nursery* were brought from Berthoud's earlier garden and established at the State Nursery in the subsequent period.[61] The area of the Nursery west of Burney Road was increased when 'several' of the plots from the farm were 'reserved for the extension of the State nursery'.[62]

In 1912, Richardson obtained agreement that the Prison Reserve, Reserve 8219, would be placed under the Forests Department. The former warder's quarters mostly accommodated seasonal employees over a number of years until 1926, when it became the residence of the Officer-in-Charge.[63] Part of this Reserve would become the site of the dry land arboretum from 1956.[64]

In 1912-13, the *Cyclopedia of Western Australia* reported 'one of the principal functions' of the Woods and Forests Department was 'the planting of indigenous trees to replace those sacrificed to the commercial spirit of the age', and drew attention to re-afforestation efforts, noting '57,799 trees were supplied to various public bodies, while something like 150,000 trees and shrubs were raised in the nurseries' in 1910-11.[65] 600 acres had been set apart for pine plantations, including the area at Hamel and 300 acres under pines at Ludlow. An eight year old pine tree harvested at Hamel, from which 42 fruit cases were made, was cited as an illustration of 'the potential value of such plantation to the State' and 'the wisdom of planting pines'.[66]

In January 1913, after McFarlane expressed concerns about the risk of fire to the plantations from careless visitors en route to and from the 'old Hamel Prison'

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58 State Nursery and Pine Plantations at Hamel, 1909. For *Pinus excelsa* refer to *Pinus wallichiana*.

59 McFarlane's Diary, 1898-99; and Hamel State Nursery SROWA AN 80/1 Acc. 934 Item 742.

60 Typescript notes, Drakesbrook Road Board, 1948, n.p.

61 Don Ross, conversation with Robin Chinnery, 23 May 2005.

62 Battye, J.S. op. cit., Vol. 2, p. 414.

63 Correspondence etc. in Hamel Nursery- Quarters Building, Stables etc. SROWA AN 80/1 Acc. 934 Item 352/12, 1912-15; and Don Ross, conversation with Robin Chinnery, 23 May 2005.

64 Don Ross, op. cit.

65 Battye, J. S. op. cit., Vol. 1, p. 430.

66 Acting Inspector-General of Woods and Forests, C.G. Richardson, quoted in Battye, ibid., pp. 430-31.

(barracks building), Richardson requested that it be brought under the control of the Forests Department. Initially the Under Secretary for Works agreed to the request, but subsequently informed him that as the building had been left as an Agricultural Hall, it had not been transferred.[67]

In 1916, Charles Edward Lane-Poole was appointed as Conservator of Forests, and like his predecessors he took a keen interest in *Hamel Nursery*.[68] On McFarlane's retirement in September 1916, Alfred Ken, from Victoria, was appointed as Nursery Manager.[69] In 1917, nursery operations were re-located to a site on lower land at the west of the railway line 'to bring them down to the stream… and also do away with the difficulty of pumping water'.[70] Plans were drawn for a potting shed of timber construction with a shingle roof incorporating an office at one side, and a substantial tank stand.[71] These were duly erected, and a hydraulic ram was also installed in the brook.[72]

In 1917-18, issues over the Hall came to a head when the remaining original trustees refused to hand over keys to Ken, and did not always comply with a requirement to advise Ken when the building was to be used for dances and festivities so extra men might be employed as fire guards. Those attending functions took the shortest route, which was through the plantation area, and the risk of fire from men smoking was high. At Ken's suggestion, the Conservator requested the Hall be relocated to an alternative site away from the plantation. The Trustees welcomed the suggestion of removing it in closer proximity to the populated area that would enable greater use of the Hall. After the Road Board obtained a grant from the Repatriation Department for this purpose, the Hall was relocated to its present site in Cornucopia Street in 1919.[73]

In the post-World War I period, following suggestions made in the 1890s, forestry apprentices were trained at *Hamel Nursery*, which continued to play a role in forestry education over more than 60 years. The Nursery also continued to play an integral role in the development of pine plantations in the South-West, and to raise pines and other species for rural use and for ornamental uses, with continued distribution to government bodies, including the Railways, Municipalities and Roads Boards, and the Zoological Gardens.[74] Mature specimens that originated from *Hamel Nursery* in the late 19th century and the first half of the 20th century are significant among the surviving plantings in King's Park, the Zoological Gardens and Karrakatta Cemetery, and most public parks and gardens established in the State in that period.

Signage was erected advising *Hamel Nursery* was open for inspection. There was considerable public interest in the arboretum, where various exotics including catalpa, Bunya Bunya, deodar and Sequoia were reaching maturity.

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67 Correspondence etc. in Hamel Nursery-Quarters Building, Stables etc., op. cit., 1913-15.

68 Mansfield, Carol op. cit., p. 7.

69 Annual Reports Woods and Forests, 1916 and 1917, in *Votes and Proceedings* 1917 and 1918.

70 Quoted in Mansfield, Carol op. cit., p. 7. No reference given.

71 Plans for Potting Shed and Tank Stand, and memos etc. in SROWA An 80/1 Acc. 934 Item 1721, 1917.

72 Mansfield, Carol. op. cit.

73 Correspondence etc. in Hamel Nursery- Quarters Building, Stables etc. SROWA AN 80/1 Acc. 934 Item 352/12, 1917-19. Note: This information, based on primary documents, was not included in 'Hamel Eco-historic Precinct Conservation Plan' for the Shire of Waroona op. cit.

74 Correspondence etc. in Hamel State Nursery SROWA AN 80/1 Acc. 934 Item 208, 1899; and Annual Reports, in *Votes and Proceedings* 1919 to 1930.

Signage identified particular species, and recorded dates of planting of the pine plantations.[75]

In 1918, a photograph of the State Nursery shows the timber weatherboard office and potting shed with its shingle roof, and the shade-houses, hedging and other plantings, with the open paddocks to the north, where seedling stock, including pines, were planted in open ground. Other photographs show various well-advanced trees, including Norfolk Island pines, the footbridge over the brook, the weir, and stone walling associated with the dam and the hydraulic ram. Whilst some portions of these stone walls were washed away in later floods[76], some portions still remain near the bridge.[77]

Photographs from the 1920s show various views of *Hamel Nursery*. A photograph of the entrance to the road leading to the arboreta and the residences at the east of the railway line, with the windmill at the north side of the roadway, shows mature trees, dating from early plantings under McFarlane. A photograph shows the entrance to the nursery to the west of the railway line with a white painted timber picket fence and gates and signage reading 'Woods & Forests Dept. State Nursery', a small timber weatherboard building, and post and wire fencing extending beyond the picket fence in both directions. Photographs show the seedlings in kerosene tins in the open nursery area, with mature tree plantings in the rear ground. Photographs also show the bridge over the brook, the potting shed, shade house and covered seedling beds, with the hedge and other mature plantings including palms, and the pine plantation in the distance to the west. The roadway to the potting shed area is lined with rocks, as was the roadway to the east of the railway line, of which there are visible remains in 2005. Photographs show the *Cupressus lusitanica* hedge at four years old. A 1923 photograph shows *Euc. Botryoides* at four years, with Norfolk Island pines in the rear ground, and an unidentified building to the right. The plantings in the area near the potting shed included palms and the date palm that survives in 2005. Photographs show the former prison warder's house, which was the Assistant Forester Ross' home, and the nearby former cookhouse that served as a shed.[78]

In 1918-25, extensive new plantings of *Pinus pinaster* were made at Hamel, including re-planting an area planted with *Pinus pinaster* in 1920, with failures re-planted in 1921-22. In 1926, when Ken resigned, Herbert Leonard Purcell was appointed as Nurseryman, and Assistant Forester Bill Ross was promoted to Officer-in-Charge at *Hamel Nursery*, where he served until his retirement in 1962. Both men devoted their working lives to the place.[79] In 1926, Ross marked up the 1909 plan, showing more recent pine plantation plantings in the southern portion of Reserve 8380, shown as about 102 acres, including the area shown in 1909 as cottage and gaol. The 1926 plan shows the swamp, approximately 7 acres, with plantings around the perimeter.[80]

Between 1925 and 1957, distribution of trees from *Hamel Nursery* varied from 30,000 per annum during the Great Depression period, up to 314,000 annually, with an overall total of 4.5 million trees, of 75 different varieties produced over the

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75 Mansfield, Carol op. cit.

76 Photographs of State Nursery, 1918. Collection of John Viska.

77 Site visit op. cit.

78 Photographs, Collection of Don Ross.

79 Len Purcell, telephone conversations with Robin Chinnery, March and May 2005; and Don Ross, conversation with Robin Chinnery, 23 May 2005.

80 Hamel Townsite and Pine Plantations, W.A. R. 1926, courtesy Don Ross.

whole period.[81] Demand for Western Australian and Australian species increased, which was reflected in the Nursery's production.[82]

By the late interwar period, a number of New South Wales Waratahs were successfully established at *Hamel Nursery*, which flowered profusely each year. In the 1940s and 1950s, despite continued efforts to find a method of raising them successfully from seed, survival rate of Waratahs raised at the Nursery remained low, frustrating efforts to establish plantings of the species at Mundaring and Harvey Weirs, at Manjimup, Kirup and other Forests Department out-stations. Each year, Waratah flowers from *Hamel Nursery* were sent to Perth for flower shows and to grace the Premier's Office.[83] In 2005, a number of Waratahs remain at the place, albeit largely untended in recent years.[84]

In the mid-late 1940s, and early 1950s, trials were undertaken of stripping cork oaks established at Hamel Nursery in the late 1890s, early 1900s, and 1919, with a view to the possibilities of establishing an industry in this State. However, this did not eventuate.[85] In 2005, scarring from the stripping is evident on a number of the trees, including the cork oak planted in 1898.[86]

From 1956, an Inland Arboretum was established at *Hamel Nursery*, in part on the former Prison Reserve. The plantings were largely eucalypts and included a number of rare and/or endangered species planted for seed orchard purposes. [87]

By 1957, most of the areas planted with pines at the beginning of the century at *Hamel Nursery* had been cut out, with the remaining 'one or two stands … being probably the oldest stands of commercial pines in the State'.[88] Among the mature trees at the place at this period were 'many fine trees and shrubs planted at the time of establishment of the nursery', with Norfolk Island pines more than 100 feet in height; camelia bushes up to 20 feet in height; a number of New South Wales waratah; and, of particular interest, 'a huge specimen of cork oak about 80 feet high and 11 feet in girth, from the butt of which strippings of commercial cork have been obtained'.[89]

In 1957, the Forests Department concluded:

> Little is to be gained by even departing from our own eucalypts which exhibit such an outstanding variety of form and shades of leaf colour, while many bear blossoms of very great beauty. Furthermore, they possess that rather uncommon combination - fast initial growth and long life. Eucalypts also exhibit a great deal of adaptability enabling many to thrive over relatively great variations in climate and soil.[90]

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81 *Forestry in Western Australia* Bulletin No. 63, 1957, p. 149.

82 Annual Reports, in *Votes and Proceedings* 1925 to 1960.

83 Seed Collection Stocks & Supply-Dept. Nurseries-Hamel-Raising of Waratahs SROWA Cons. 5922 Was 1984 Item 003278F1010.

84 Site visit, Robin Chinnery, Rosemary Rosario and John Viska, 23 May 2005.

85 Research Trees Experimental Planting of Cork Oak, SROWA Cons. 5589 WAS 1984 Item 03014F0909, 1944 to 1953.

86 Site visit, Robin Chinnery, Rosemary Rosario and John Viska, 23 May 2005.

87 A. J. Hart, op. cit., and letter to Robin Chinnery, 15 June 2005; and Sketch plan of Dry Country Eucalypts Arboretum, Hamel, courtesy A. J. Hart.

88 *Forestry in Western Australia*, Forests Department of WA, Bulletin No. 63, Perth, 1957, p. 149.

89 ibid. Note: *Forestry in Western Australia* Bulletin No. 63, Revised Ed., 1966, p. 158, reported the cork oak was 'now over 64 ft. high and 12 feet in girth.' No explanation was given as to the discrepancy.

90 *Forestry in Western* Australia Forests Department of WA, Bulletin No. 63, Perth, 1957, p. 149.

This was reflected in a greater shift towards planting Western Australian eucalypts at the State nurseries, including *Hamel Nursery*. Consequently, by 1966, eucalypts constituted the bulk of trees they distributed.[91]

After Ross retired in 1962, the former warder's cottage was utilised for a number of years to accommodate various workers. Eventually, the Department disposed of it, and the buyer transferred it to a site at Hamel, where it remains in 2005.[92] In 1963, five Forests Department houses were re-located from Hoffman to *Hamel Nursery* to accommodate forestry workers, and their families, who were being transferred from Hoffman, following the decision to centralise forestry operations, which were to be transferred to Hamel.[93] Later plans of *Hamel Nursery* show these standard plan dwellings aligned to the access road from South Western Highway to Burney Road and the Nursery, and various associated structures, all within easy walking distance of the pre-existing buildings at the place, as were other buildings erected at Hamel in the 1960s, as shown[94], including House 1673, erected for T/A Gruske, which served as Hart's residence when he was Officer-in-Charge.[95] In 1966, a timber framed, timber and fibro clad office building on brick foundations, with a tile roof, was erected at *Hamel Nursery* on a level site at the west of the railway, with access from Burney Road. Landscaping around the building included lawns and native species, some of which are extant in 2005.[96] The building served as an office for many years, before serving as a residence for lessee Richard Hordacre in the 1990s. In 2005, it is used for storage.[97]

Since 1897, soil had been taken directly from the site at *Hamel Nursery*, but increasing concerns about plant hygiene brought change and use of sterilised soil and plastic pots was introduced in the mid-1960s.[98] Use of Jiffy Pots, made of pressed peat moss imported from Norway with pots made of moss from Ireland, Germany and Scotland, was commenced under Officer-in-Charge, Silviculturist A. J. Hart.[99] In 1967-68, after Hart made a study trip to the Eastern States to examine layouts and practices in nurseries, layout of the nursery at Hamel was altered, and various improvements implemented including the use of raised seedling beds, improvements to water supply and introduction of chlorinated water, and restrictions were imposed on access to the site. *Hamel Nursery* became 'a leading example of nursery hygiene'.[100]

In 1971, a prefabricated machinery shed was erected at *Hamel Nursery* to the south-west of the potting shed, being shown as 'vehicle bay' on a later plan.[101] The machinery shed continues in use in 2005.[102]

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91 *Forestry in Western Australia* Bulletin No. 63, Revised Ed., 1966, p. 158.

92 Don Ross and A. J. Hart op. cit.

93 PWDWA Contract Register No. 2, SROWA Cons. 3506 Was 94 Item 10 (1955-68), 1963. Note: It was publicly announced that the Hoffman forestry settlement was to be 'centralised' and transferred to Hamel November 1963 (*Harvey Murray Times* 15 November 1963, p. 1)

94 Hamel Nursery, 1975, amended 1982, courtesy A. J. Hart.

95 Memos and correspondence in Accommodation & Services Dept. Hamel Nursery HQ op. cit., 1970.

96 ibid, 1966-67, and 1967-78.

97 A. J. Hart op. cit.; and Richard Hordacre, conversations with Robin Chinnery, March-May 2005.

98 'Hamel Nursery' Collection of John Viska; 'Eucalypt Nurseries' op. cit.; and A. J. Hart, telephone conversation with Robin Chinnery, May 2005.

99 'Eucalypt Nurseries' ibid; and A. J. Hart, ibid.

100 'Hamel Nursery' Collection of John Viska.

101 Accommodation & Services Dept. Hamel Nursery HQ op. cit., 1971; and Hamel Nursery, 1975, amended 1982, courtesy A. J. Hart.

102 Site visit, Robin Chinnery, Rosemary Rosario and John Viska, 23 May 2005.

In the 1960s-80s, there was little time available for active maintenance of the earlier arboreta at the east of the railway and those at the west of the railway, together with the oakum and pinetum, and consequently they languished.[103] A 1975 plan of *Hamel Nursery*, which was amended in 1982, shows details of surviving trees in the oakum and pinetum at the southern portion of the place, bordered by Roberts Road and Sampson Brook Drain, but plantings in the other arboreta and elsewhere at the place were not specifically shown. The plan shows the arboretum (recorded as the Coronation Arboretum) at the north-west by James and McFarlane Roads, the layout of the nursery area, with the nursery beds to the north of the buildings, which include the glass house, potting shed and nursery office, shade house and propagation tunnel, and two storage sheds, and farther south-west, the vehicle bay building, and to the west, by the entry road from Burney Road, the main office. At the east of the railway, through to South Western Highway, are shown the various pine plantation areas and the mixed Eucalypts plots. Buildings to the east of the railway include those originally associated with the prison depot, forestry houses from Hoffman, and the other existing buildings and structures, none of which remain in 2005.[104] Another plan shows details of the dry country Eucalypts Arboretum, including plantings made in the period since its establishment in 1956.[105]

In the 1970s and 1980s, the growing spread of jarrah dieback disease led to further emphasis on disease control, and the *Hamel Nursery* undertook research to identify species resistant to the disease fungus.[106]

In the 1980s, *Hamel Nursery's* production averaged 500,000 seedlings per annum, which were used by CALM for departmental purposes, including the Forest Rehabilitation Scheme and rehabilitation of gravel pit sites, for mine site rehabilitation, revegetation of catchment areas and vegetation of road verges, and there was also an increasing number of plants sales to farmers.[107]

On 5 November 1984, the National Trust of Australia (WA) included 23 Cork Oak *Quercus suber* and 16 Camellia *Camellia japonica* growing at *Hamel Nursery* in the Register of Significant Trees.[108]

In the late 1980s, *Hamel Nursery* was leased to Greening Australia, which intended to continue the commercial use of the place by producing high quality seedlings for various uses, among them the organisations commitment to re-greening Australia. The front cover of Greening Australia's promotional brochure for *Hamel Nursery* showed a photograph of the entrance to the nursery in 1918, and advertised the place as 'Producers of quality native tree seedlings, advanced trees and shrubs, exotic and landscape plants'.[109] The available facilities included 'an attractive picnic area complete with barbecues and tables'.[110] The brochure included a brief history of *Hamel Nursery*, and listed a number of the historic tree species grown at the place: *Quercus suber,* Cork Oak*, Araucaria heterophylla,* Norfolk Island Pine*, Ginko biloba, Ginko or Maidenhair tree, Eu. citriodora*,

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103 A. J. Hart, op. cit.. Note: He had hoped to complete a total inventory, but time constraints precluded it.

104 Hamel Nursery, 1975, amended 1982, courtesy A. J. Hart.

105 Sketch Plan of Dry Country Eucalypts Arboretum, Hamel.

106 'Hamel Nursery' Collection of John Viska.

107 'Hamel Nursery' Collection of John Viska.

108 HCWA Database Place No. 3084.

109 'Hamel Nursery' Collection of John Viska.

110 ibid.

Lemon-scented Gum*, Araucaria bidwillii,* Bunya Bunya Pine*, Araucaria cunninghamii,* Hoop Pine*, Syncarpia glomulifera,* Turpentine Tree*, Telopea speciosissima*, New South Wales Waratah. Under Greening Australia, the Nursery produced 'a wide range of native and exotic plant species for re-vegetation, landscaping and general ornamental horticulture'.[111]

In 1988, photographs show portions of *Hamel Nursery* with the relatively recent timber fencing that enclosed the seed raising area by this date, and the older white painted timber fence bordering the roadway and the two mature palms close to the fence, whilst the old glasshouse was obscured from view.[112] The glasshouse is believed to have been among the older structures that were removed during Greening Australia's tenure.[113]

In the early 21st century, a public outcry followed Waroona Shire Council's earmarking of Hamel as a future industrial precinct. There were also community concerns related to purchase of properties in the town by Alcoa, operator of the nearby Wagerup refinery, and uncertainty as to Government retention of the State Forest. In early 2004, representatives of local residents, the Shire, Alcoa, CALM and the Heritage Council formed a steering committee Hamel Eco-Historic Precinct Project, to which Alcoa has donated $100,000 from its community development fund. In 2004, with funding through Lotterywest's Conservation of Cultural Heritage Program, Palassis Architects were commissioned to prepare a Conservation for the Eco-Historic Precinct comprising Hamel townsite and the State Forest, bounded at the west by South-Western Highway and at the east by the railway line. This study area includes the sites of the former prison buildings, Experimental Farm, forestry workers' settlement and early nursery and associated buildings and structures, as well as plantation areas and the arboreta, which also form part of this heritage assessment of *Hamel Nursery*.

In June 2005, tree plantings at the east of the railway line that were considered to be significant were demarcated by Murray Love, CALM, Mandurah, prior to logging of the pines, which commenced mid-2005.[114]

13. 2 PHYSICAL EVIDENCE

Hamel Nursery is located approximately 3km south of the Waroona townsite in the Shire of Waroona. From the South Western Highway, the nursery is reached by travelling west on James Road and then south on Burney Road, along the western side of the railway. The present day nursery (from 1917) and arboreta are located on the western side of Burney Road with their northern boundary on James Road. The original nursery (1897) was located to the east of the railway on the edge of the present day pine plantation. The area east of the railway contains remnants of former nursery plantings together with remnant sites from the former forestry settlement (1963).

The area defined for the purposes of assessment is bounded by James Road to the north, McFarlane Road to the west, Roberts Road to the south and an area bounded by the northern perimeter of the Hamel townsite and a line north from a point located at approximately GPS easting 399231 x northing 6362577, to James Road.

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111 ibid.

112 Hamel Nursery, looking west, 1988. Collection of John Viska.

113 John Jackson, conversation with Robin Chinnery, 2 June 2005.

114 Murray Love, telephone conversation with Robin Chinnery, June 2005.

The site is described here as two locations within each of which a series of zones and sites are identified for ease of presentation. Location One, on the eastern side of the railway comprises the former nursery site (1897) and the pine plantation and the Inland Arboretum established in 1956. Location Two, on the western side of the railway contains the present day nursery (from 1917) the adjacent arboreta and the Pinetum and Oakum dating from 1929/30.

Within Location One, zone one refers to the former nursery site where two specific sites of interest are identified. These are identified as site one containing remnants of the garden from the former nursery manager's house, and site two containing remnants of a second garden. To the south of the former nursery three other sites (three, four and five) have been identified, each relating to a former domestic garden. Zone two, also in Location One, contains the Inland Arboretum established in 1956.

Location Two comprises the area west of the railway and contains the present day nursery site, zone one, accessed from the carpark via the footbridge (1900) over Sampson Brook. A second, more recent, vehicular access across the brook is located further south. To the north east of the nursery is the original arboretum, zone two, and to the north-west, the Jubilee Arboretum (also known as the Coronation Arboretum), zone three. Zone four comprises a parking and barbecue area with a canopy of tall gum trees.

The Pinetum and Oakum is located in the south east corner of the nursery site and comprises a collection of trees including pines, firs, oaks swamp cypress and sequoia, dating from 1929 and 1930.

The following section describes each of the locations, zones and sites.

Location One

Location One, to the east of the railway, is bounded by James Road to the north, Bethungra Street to the south and Burney Road to the west. The area comprises predominantly recent pine plantation, however on the western edge of the plantation the remnant plantings from the original *Hamel Nursery* established in 1897 remain extant. The area of the former nursery is located approximately opposite the current nursery with its western boundary on the edge of the railway reserve. The site is located on sand overlying ironstone and slowly rises to a relatively flat area at its highest point before sloping away to the east.

The majority of the area is covered with a mixture of plantation pines with the Maritime pine (*Pinus pinaster)* predominating and remnant Monterey pines (*Pinus radiata)*. Other interesting species also occur such as Coulter's pine (*Pinus coulter)i* which can recognised by its extremely large cones. On the eastern side of the location is a large population of the native cypresses (*Callitris species)* including the Rottnest Island cypress (*Callitris preissi)*. A mixture of exotic and native trees and shrubs can be found throughout the location, being the vestiges of former gardens, remnants of previous cultivation or arboretum specimens.

A series of tracks traverse the area with a main one providing access through the location. This is located east of the railway line opposite the entrance drive into the present day nursery site from Burney Road, and runs due east with another branching south to the Hamel Townsite. This appears to overlay in part the original entrance to the 1897 nursery.

Zone One - Former Nursery (1897) Site

Remnants of well-constructed laterite rock edging, delineating both sides of the original track, can still be discerned. Six mature Norfolk Island pines (*Araucaria heterophylla),* line the northern side of the path, and these, in conjunction with a paired planting twenty metres apart, visually reinforce the entrance to the site. Approximately 75 plants of the Arborvitae or Bookleaf cypress (*Thuja occidentalis)* planted 30cm apart form a hedge on the southern side of the entrance with many still surviving but in a state of decline. There is evidence of former regular trimming to a height of about 1.5m. To the south, and within close proximity of the hedge, are two Hoop pines (*Araucaria cunninghami),* the remains of a large Monterey cypress (*Cupressus macrocarpa)* and a Cedar wattle (*Acacia elata).* Two solitary specimens of the Bunya pine (*Araucaria bidwillii)* are located on either side of the path as it continues east of the former nursery site.

There are a variety of trees along the path as it continues east including a stately group of Lemon Scented gums (*Eucalyptus citriodora),* while to the east are specimens of the Monterey cypress (*Cupressus macrocarpa),* the Port Jackson fig (*Ficus rubginosa),* the Kurrajong (*Brachychiton populneus),* the Queensland Box tree (*Lophostemon confertus)* and English oak (*Quercus robur.)* As the path reaches the crest of the hill it levels out to an area of denser planting of exotic pines *Pinus species* and native cypresses *Callitris species.*

To the north-east there is a mixture of remnant plantation trees consisting mainly of Maritime pines (*Pinus pinaster)* and senescent Monterey pines (*Pinus radiata)*. Throughout the location are also wattle populations consisting of the Silver wattle (*Acacia dealbata),* the Golden Wattle *Acacia pycnantha,* Mount Morgan wattle (*Acacia podalyriifolia)* and the Black wattle (*Acacia decurrens)*, as well as Marri saplings, *(Corymbia calophylla)* some specimens of Tagasaste (*Cytisus proliferus)* and the Cork oak (*Quercus suber*.) A population of Tuarts (*Eucalyptus gomphocephala)* inter-planted within the pines are thriving in the sandy soil of the north-western corner of the zone.

Within the area remnants of plants at five sites suggest former garden layouts.

Site One is the former site of the original manager's house. Here garden elements are located on the north side of the path at its junction with the second path that continues to the south. The planting consists of two clusters of shrubs backed by trees suggesting a shrubbery of a former residence that faced the track. The presence of plumbago (*Plumbago auriculata)*, a plant popular for hedging purposes, suggests that it may be the remnants of a former hedge or boundary treatment. The laurenstinus (*Viburnum tinus)* has become a wide spreading shrub indicating its age and a large Kei Apple (*Dovyalis caffra)* with its pointed thorns is a rare specimen. Note that in the 1899 Annual Report of the Woods and Forest Department the *Dovyalis caffra* was listed as being available from the nursery with 103 specimens having been raised in pots. Former specimens could be seen in the gardens of the Perth Zoo and Council House. A small gum tree located behind the shrubs could possibly be a Red Flowering gum (*Cormbyia ficifolia)* as it was the only West Australian Gum grown due to its spectacular red flowers and was available from the nursery as early as 1897. The best example of the use of this tree early in the late 19th century was in the avenue leading into Kings Park. Two tall singled trunked specimens of Monterey cypress (*Cupressus macrocarpa)* located in this area are excellent examples of this conifer. This species was one of the earliest available, appearing in the nursery plant list for the year 1898 when 600 were offered.

Site Two is located due east of the former nursery facing the track as it bends south. The major garden elements consist of shrubs with some trees and the layout suggests that it faced the track as it turns south. The close planting of six specimens of the Victorian Tea tree (*Leptospermum laevigatum)* suggest a former hedge at the front of the property. To the rear of the site and within close proximity to the former nursery is a section of laterite edging that forms a raised garden bed. Nearby is a solitary rose bush of 'Cecile Brunner', a variety that was very popular in the late 19th and early 20th century as it could be propagated from cuttings and successfully grown on its own roots.

Due east and on the opposite side of the path, is a large English oak (*Quercus robur)* with a substantial trunk. In the past the tree has been heavily pollarded and the consequent re-growth has produced many vigorous branches. Due to the nature of this growth much inherent weakness has resulted which is evident in the number of large sized, fallen branches around the base of this aged specimen. Further south along are remnant trees and shrubs that suggest two former properties adjoining each other with a large stand of smoothed barked angophoras (*Angophora costata)* in close proximity. The stand contains a large specimen surrounded by many younger examples.

Site Three comprises planting to the south starting with a jacaranda (*Jacaranda mimosifolia)* and terminating with a Lilly Pilly (*Acmena smithii)* and a line of shrubs in between that suggest screen planting or boundary delineation. Three gum trees positioned on the north side of the garden are in close proximity to a stand of angophoras.

Site Four adjoins site three and is the closest to the Hamel townsite. The close-planted Bookleaf cypress (*Thuja orientalis)* on the west side of the site suggest a former hedge treatment and garden front. On the eastern side the presence of fruit trees suggest a productive garden that was usually located at the rear of properties. The specimens remaining are a citrus (*Citrus species)* which has reverted to the citronelle understock, apple (*Malus domestica),* loquat (*Eriobotrya japonica)* and grapes (*Vitis vinifera).*

Site Five is located to the east of the previous garden site (Four) at the junction of two gravel tracks in an open flat area. The presence of three jacaranda trees in a row suggest the garden front while to the south a linear planting of shrubs for screening. A large population of the tree of Heaven (*Alianthus altissima)*, renown for it suckering habit, has developed in the south east corner. Clumps of buffalo grass (*Stenotaphrum secundatum)* scattered throughout the site suggests that a section of the area was formerly grassed.

Zone Two – Inland Arboretum

Remnant planting of native trees from the Inland Arboretum established in 1956 are located in the south-west corner of Location One. The area is located on the south side of the original nursery site and parallel to the railway reserve on the east side of Burney Road and terminating at the Hamel townsite. A track from the Hamel townsite delineates its eastern side, the railway line indicates the western boundary and a firebreak track the northern boundary.

Growing in sandy soil amongst pine trees are species of native plants with the majority from the genus Eucalpytus. The greater proportion originates from the Goldfields and adjacent Wheatbelt area and display a mallee growth habit. Many interesting species and flower colour forms were planted in the arboretum. Some good examples of melaleucas can also be seen. Even though the remaining

plants are surviving well the majority are now competing with self seeded pines that obscure most of the collection.

Location Two

Location Two, to the west of the railway, is bounded by James Road to the north, Burney Road to the east, McFarlane Road to the west and Roberts Road to the south. Bisecting the site is Sampson Brook, which runs from the north-east corner through the property to the southern boundary. Within this site there are five distinct zones namely the nursery production site, the original arboretum, the Jubilee Arboretum, the barbeque and parking area and the Pinetum and Oakum. The boundaries for each zone are defined at the beginning of each section.

Zone One – Nursery Site

The present day nursery is situated on the west side of Sampson Brook, edged by James Road to the north, McFarlane Road to the west and Roberts Road to the south. A footbridge over Sampson Brook provides pedestrian access to the site from the main entrance driveway while further to the south is a second drive and bridge for vehicles entering the nursery.

The bridge over Sampson Brook is original to the early period of development of the nursery (1900). It is a timber structure 4m wide with a timber handrail 80cm high on either side. Under the bridge the banks are lined with stones with cement joints to form a water catchment area that was used as part of the nursery's original reticulation system. The system comprises a weir, dam and hydraulic ram of which only the stone embankments adjacent to the bridge are remnants. The top of the bridge is lined with timber with a bitumen sealed section at the centre for vehicles.

The plantings along the brook have matured into a continuous canopy that provides shelter from the easterly winds and a shaded entrance to the nursery. Immediately to the north of the footbridge in a protected position at the edge of the brook is a grove of twenty Camellias (*Camellia japonica)* of different cultivars. Originally evenly planted on a grid, they have been in-situ for so long that their canopies have now merged together and the ground below is thickly mulched with their leaves. Also contained within this area is a range of decorative shrubs including Crepe Myrtles (*Lagerstroemia indica)* a Magnolia (*Magnolia grandiflora)* and a large Bushman's Tea (*Catha edulis)*. Although now partially obscured by the camellias and the nursery fence, sections of the original Arborvitae hedge (*Thuja occidentalis)* can still be discerned. Portions of it have grown above the fence line in its quest for sunlight while other parts under the shrub canopy have died. A hedge in a similar location can be recognised in an early photograph of the nursery. An extensive planting of New Zealand Flax (*Phormium tenax)* is well established along the brook's edge. It is noted in the Hamel Nursery section of the Woods and Forest Annual Report for 1908 that 'flax roots' were distributed to settlers.

Immediately to the south of the footbridge is a planting of trees on the brook's edge which include the Maidenhair tree (*Ginkgo biloba),* Jacaranda (*Jacaranda mimosifolia),* Australian cedar (*Toona ciliata)* and a large Cork oak (*Quercus suber)*, which shows various stages of bark regrowth suggesting that in the past the cork has been harvested. The planting continues with a line of six Plane trees (*Platanus x hispanica)* comprising four close together at 1.5m suggesting they were part of an in ground plantation and two large specimens 13m apart. The latter have diameters at breast height [D.B.H.] of 3.5m and 3.8m respectively and

on their western side a canopy radius of approximately 13m. A line of nine cork oaks (*Quecus suber*) continues the planting before terminating at the bridge that provides vehicular access to the nursery. The trees continue for approximately 100m on the other side with another nine specimens of cork oak. All have produced corky bark and show no signs of attempts to harvest it.

In close proximity to the final cork trees but on the eastern side of the brook is a solitary plane tree (*Platanus species),* an English Elm (*Ulmus campestris)* and two clumps of the Spanish Reed (*Arundo donax)*. This plant was much valued in the early days of the nursery as the cane segments provided potting containers. These were for the seedling trees that were raised and dispatched in 'bamboo tubes'. Stock in the early days of the nursery was available in four different ways, namely in ground, terracotta pots, bamboo tubes and later split kerosene tins.

The production section of the nursery is located on a flat site immediately to the west of the footbridge. To the north is a fenced area that contains raised benches for the seedling plants and nursery stock, while to the south is the area that houses the office, sales area and potting sheds.

The original timber framed nursery buildings are no longer extant, having been replaced with contemporary structures in 1966. The main potting shed is a rectangular timber framed weatherboard clad structure, with a low-pitched cgi roof. A fibrous cement clad office has been added to the southeast corner. Behind the potting shed is a former railway carriage painted green and used for storage. A series of covered areas extend to the west of the potting shed, and these contain seed tables and planted beds containing seedlings. On the northern side of the office and shed a concrete paved yard contains seed boxes for packing. East of the office and near to the bridge is a timber tank stand with a metal water tank. This is not an original structure but replaces an earlier similar stand, as shown on early photographs of the nursery. To the north of the yard, and behind a picket fence, are the nursery beds. This area is fenced on all sides, gravelled with planter beds outlined with concrete pavers and is planted with seedlings.

Plantings within this area contain tall aged specimens of palms, namely two Cocos palms (*Syagrus romanzoffiana),* two Skydusters (*Washingtonia robusta)* and one Canary Island Date palm (*Phoenix canariensis)* as well as a Norfolk Island pine (*Araucaria heterophylla)* and Camellias (*Camellia japonica)*. Palms and pines are evident in early photographs showing this section of the nursery but an avenue of Norfolk Pine Trees in this area has disappeared. A long, well trimmed, conifer hedge leading from the shade house to the open ground north of the nursery can also be clearly seen in early views of the nursery. The species planted was the Cedar of Goa (*Cupressus lusitanica)* and it was later replaced with the Victorian Tea tree (*Leptospermum laevigatum)*. Today there is no evidence of any of theses hedges.

Zone Two – Original Arboretum

The original arboretum is located on the east side of Sampson Brook and bordered by James Road to the north, Burney Road to the east and the main entrance driveway to the south. The soil in this area is a fertile clay based soil and supports a selection of tree species that have been planted on a grid. The collection contains many mature specimens of native and exotic trees in various states of health. Self-sown pine trees have invaded this area and the construction of a drain suggests that some seasonal waterlogging may occur which could possibly be detrimental to the health of the trees. Some of the species that

survive in the arboretum include the New South Wales waratah (*Telopea speciosissima)*, which has colonised a section of the brook's edge. The Swamp cypress (*Taxodium distichum),* Turpentine tree (*Syncarpia glomulifera),* Spotted gum *Eucalyptus maculata*, Hoop pine (*Araucaria cunninghami)* Queensland kauri (*Agathis robusta)*, Bunya Bunya pine (*Araucaria bidwilli),* Coast banksia (*Banksia integrifolia)*, Pencil juniper (*Juniperus virgianiana)* and an unusual holly *(Ilex species)* are some of the many species that add to the diversity of the collection.

Many trees have attained large canopies due to their age such as the Camphor Laurel (*Cinnamomum camphora),* The Irish Strawberry tree (*Arbutus unedo*), the Golden Monterey cypress (*Cupressus macrocarpa 'Aurea')* and the New Zealand Christmas tree (*Metrosideros tomentosa)*. A fine specimen of the New South Wales Christmas bush (*Ceratopetalum gummiferum)* can also be seen. Extensive clumps of the New Zealand flax are thriving along the watercourse as well as the Swamp Ti tree (*Agonis linearifolia),* a WA native species re-establishing itself on the brook's edge.

Zone Three – Jubilee Arboretum

The Jubilee Arboretum (Coronation Arboretum) is located to the north of the nursery production site and bordered by James Road, McFarlane Road to the west, the nursery fence to the south and Sampson Brook to the east. This flat area consists of a rich friable chocolate loam and seems to be under some form of regular, intensive cultivation with portions of the site parallel to James and McFarlane Streets being ploughed. In other sections tall, perennial grasses have invaded and swathes have been mown through it to provide access. Large populations of the Black wattle *(Acacia decurrens)* and Albizzia (*Paraserianthes lophantha)* have estabished themselves in the eastern sector of the site adjoining Sampson Brook. There are surviving eucalyptus trees scattered throughout the area and some larger specimens of earlier plantings still exist including an interesting collection of Angophoras and some ornamental deciduous trees. A feature in the north-east corner, located in close proximity to Sampson Brook, is a massive spotted gum and further west a well established Moreton Bay chestnut (*Castanospermum australe)* surrounded by a forest of its seedlings.

Zone Four - Parking and Barbecue Area

The parking and barbecue area is located on the east side of Sampson Brook with the entrance driveway at its northern edge, the subsidiary driveway as its southern boundary and Burney Road defining its eastern extremity. Contained within this zone is an informal parking area at the end of the entrance drive, the manager's former office and a barbecue and picnic spot under the canopy of tall, gum trees.

The area is relatively flat and kept mown and, due to the number of trees, quite shady. On entering the site from Burney Road elements of the original entry statement can still be seen on the northern side of the entrance in the form of two posts, a small gate and white painted picket fence partially hidden by specimens of the Golden Monterey Cypresses *Cupressus macrocarpa* 'Aurea'.

Plantings along the east side of the brook include Campor laurels (*Cinnamomum camphora)* and the Chinese Windmill palm (*Trachycarpus fortunei.)* which is one of the few palms endemic to the northern hemisphere and tolerant of low temperatures. The two specimens of this slow growing palm have attained a height of approximately 2m.

The majority of specimens in the mown area are stately examples of evergreens with eucalypts dominating. Their solitary trunks and various coloured bark provide a winter contrast with the deciduous trees, such as the ash (*Fraxinus species)* and an avenue of Lombardy poplars (*Populus nigra 'Italica)'*. The Eucalypts are species from Eastern Australia and as yet have not been identified.

Zone Five - Pinetum and Oakum

The Pinetum and Oakum is located in the south-east corner of the nursery site with Roberts and Burney Roads defining its southern and eastern boundaries respectively. The collection of trees consisted of species of pines, firs, oaks swamp cypress and sequoia with the earliest surviving plantings dating from 1929 and 1930. Seeds of the pines being sourced from imported stock from overseas. This area still contains many mature specimens of the various pine and oaks even though the area has become invaded by self-sown pines, lantana and other garden escapees. Some interesting tree specimens surviving are the Swamp Cypress (*Taxodium distichum)* one of the few conifers tolerant of wet sites and a large mature example of a Himalayan Cedar (*Cedrus deodara)*, even in decline it is still an amazing sight from Burney Road.

13. 3 COMPARATIVE INFORMATION

Nurseries: The population increase and suburban expansion in the late 1890s and the early 20th century in the wake of the Western Australian gold boom led to a demand for trees of a functional nature, such as street trees, and for ornamental purposes in the parks and squares of Perth, including Kings Park, Hyde Park, Russell and Weld Squares, which were only developed from this period. A substantial proportion of the early tree plantings that survive in Perth's parks, including King's Park, Hyde Park, Queen's Gardens, Harold Boas Gardens, Beatty Park, at Point Walter Reserve, and also at Karrakatta and Fremantle cemeteries originated from the State Nursery.

Suburban expansion of the city led to an increase in demand for street tree planting for shade and amenity. In the late 1890s, a handful of nurseries existed in Western Australia, such as Barratt's Wellington Nursery, Hawter's Darling Nursery, Charles Newman and Sons, and Harper and Price's Woodbridge Nursery, which were joined by Wilson and Johns, and Dawson and Harrison in the early 20th century. The major concentration of the commercial nurseries was on or around the swamps or wetlands of Perth, but still within easy access of the railways as a means of transport. The majority of stock raised at these nurseries was either ornamental in nature such as trees, shrubs and roses, or productive such as fruit trees and vines, while the City of Perth's Trafalgar Road Nursery concentrated mainly on raising annuals for bedding out purposes in Queens Gardens and the city's parks and squares. In contrast, the State Nursery was located in a rural area, on a site that provided varied soil types suitable for a wide range of species, and was a government undertaking and not intended for commercial purposes. The plant selection at the State Nursery was from tree and shrub species that were hardy, quick growing, reliable and easy to raise from seed, and did not generally include fruit trees or annuals.

Settlers returning from the goldfields and going onto the land brought an unprecedented demand for stock for re-afforestation, shelter belts and shade as well as for ornamental purposes. Prior to this the private nursery trade had been able to adequately supply the local demand. The State Nursery was established to propagate commercial soft wood timber trees for planting in the Woods and

Forest Department's plantations, came also to serve these increased demands, initially providing trees for free and later at cost, before supply to the metropolitan area was curtailed after continued complaints from the nursery trade.

In 1947, the Forests Department established a nursery at Kalgoorlie, as heavy rainfall conditions at Hamel had 'proved unfavourable for the raising of trees suitable for planting in the low rainfall of the wheatbelt'.[115] In the 1950s, the nursery at Kalgoorlie was re-located to Dryandra, near Narrogin, to better meet the demand for such stock.[116] Whilst species from overseas and the Eastern States had 'figured largely in the Hamel stocks' in the late 19th and early 20th centuries, over an extended period it was found that the trees most suitable for the wheatbelt, and which were generally raised at Dryandra, and later at Narrogin, were 'mostly' those indigenous to Western Australia.[117] Through the State Nursery at Hamel and the subsequent nurseries the Forests Department aimed to be able to furnish a suitable tree for every type of site and purpose.[118] Species raised at Narrogin were 'mostly our own Western Australian trees' which were 'most suitable for the wheatbelt and dry inland areas', whilst species from overseas or the Eastern States figured largely in the stocks raised at Hamel for more than 60 years, together with species indigenous to Western Australia.[119]

Hamel Nursery is the oldest surviving nursery in Western Australia and still fulfils a nursery role. Operated continuously from this location since 1897, the place has the potential to yield a wealth of information relating to the history of nurseries in this State, including plant selection, propagation techniques, irrigation systems, nursery structures and transport methods.

Nursery techniques: In the late 1890s and early 20th century, propagation techniques employed at the State Nursery were similar to those employed in private nurseries: in ground (often referred to as open-rooted) especially for pines and deciduous trees, with seedling stock propagated in terracotta pots, bamboo tubes and split kerosene tins. The small size made them easy to transport but transplanting losses were high.

In the 1960s, the State Nursery was to the fore in the introduction of new techniques and implementation of soil hygiene in Western Australia.

Arboreta and pine plantations: Commenced in 1897, the establishment of arboreta at the State Nursery at Hamel to provide a collection of plants for reliable seed source as well as enhancing the environs was a significant innovation in Western Australia. From 1949, the Department established and maintained a programme of arboreta over a wide area of the State to enable the assessment of the varieties of trees most suitable for planting in different localities.[120] Arboreta were also established at or in association with the other Departmental nurseries and at other sites to provide seed sources and for scientific research. Generally, these later arboreta were more limited in the variety of plantings in comparison with *Hamel Nursery*, where the varied soils provided opportunities to establish a wider variety of species in a number of arboreta from the outset. By the early 1960s, the number of arboreta at *Hamel*

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115 *Forestry in Western Australia* Bulletin No. 63, Forests Department of WA, Perth, 1957, p. 149.

116 *Forestry in Western Australia* Bulletin No. 63, 1957, p. 149.

117 *Forestry in Western Australia* Bulletin No. 63, Revised Ed., 1966, p. 158.

118 *Forestry in Western Australia* Bulletin No. 63, 1957, p. 149.

119 *Forestry in Western Australia* Bulletin No. 63, Revised Ed., 1966, p. 158.

120 *Forestry in Western Australia* Bulletin No. 63, Revised Ed. 1971, p. 188.

Nursery and the variety of species therein was second to none in Western Australia, and has not been surpassed.

The first pine plantations in the State were founded on stock provided from the State Nursery at Hamel, and it continued to play an integral role in the development of this industry through into the 1980s, to which other sources such as Gnangara also contributed. The 1903 plantation of *Pinus pinaster* at Hamel is 'possibly the oldest commercial plantation' in Western Australia.[121]

Landscape type: *Hamel Nursery* is a commercial/industrial/scientific type of landscape, the present day nursery being of the utilitarian style, and the arboreta of the plant collections type.[122] Other examples, per Richards' *Theoretical Framework for Designed Landscapes*, include Roselea Nursery, Osborne Park (1890); Osborne Hotel, Peppermint Grove (c.1895); Riverdale Nursery (C.F. Newman & Son), Belmont (c.1900); and Western Australian Herbarium, Como (c.1970s), of which only the last survives. Influenced by its scientific role (1897-1984) and the manner in which the commercial nursery operation has been conducted under both governmental and private operations, *Hamel Nursery* is less conspicuous in its design landscape approach than some horticultural nurseries established in the latter half of the 20th century which incorporate areas intended to be open for public display and inspection. Nonetheless, in its early period, and also at various periods thereafter, some consideration appears to have been given to the landscape design and aesthetic aspects of the arboreta in particular with an awareness of the possibilities of opening the place to wider public view. No other location in Western Australia offers such a diverse and mature collection of trees as can be seen in the earliest arboreta at *Hamel Nursery*, with notable examples such as Plane trees, Camphor laurels, Cork oaks, Waratahs, Camellias, Australian cedars, Angophoras, Turpentines and Spotted gums. This varied and interesting collection of plants includes notable specimens of exotic species from South Africa, the Mediterranean Basin, India, the Middle East and America, with the trees being raised on site from seed sourced from around the world, together with notable and sometimes rare specimens from Eastern Australia and Western Australia.

There are 5 other nurseries on the HCWA database. Mary Caroll Park is a natural swamp area encompassing the former site of Kurtz Ti-tree nursery (1940). Carpene's home and Nursery dates from 1936. Helena River Nursery was a fruit tree nursery from 1888 to 1910. All the places above have not been assessed for HCWA's assessment programme.[123]

House and former Floriculture Nursery comprises a timber and iron House (c.1935, 1982) and the remnants of a Floriculture Nursery (c.1935-c.1967). The place is the site of an early commercial cut-flower nursery and is an example of the early European land use in the Darling Ranges before population pressures and rising land values rendered agricultural land use unviable. It has scientific value and the oak trees growing on site are rare in Western Australia and the camellias, crepe myrtles and oaks are unusual as large, robust and well-formed

121 Richards, O. op. cit., p. 64.

122 Richards, O. op. cit., pp. 83-84, 98-99, 102-03.

123 HCWA database 9/11/05

examples of early 20th century cultivars of these plants. It is on the State Register on an interim basis.[124]

13. 4 KEY REFERENCES

Palassis Architects 'Hamel Eco-historic Precinct Conservation Plan' for the Shire of Waroona, February 2005

13. 5 FURTHER RESEARCH

There are a considerable number of files held in State Records relating to *Hamel Nursery*. Further documents relating to the place are held at Dwellingup, which probably include additional information about the place, were unavailable for this assessment. Some of records at SROWA were accessed for research for this assessment, but since exhaustive research was not possible, it is likely that further information may be found in the records held there.

124 HCWA database 9/11/05