



**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)**

- 3.5.3 Developing agricultural industries
- 8.10.5 Advancing knowledge in science and technology

#### **HERITAGE COUNCIL OF WESTERN AUSTRALIA THEME(S)**

- 302 Rural industry & market gardening
- 402 Education & science

#### **11.1 AESTHETIC VALUE\***

*Frank Wise Institute of Tropical Agriculture* has aesthetic significance as a research station that provides a visual experience of consistency and form of the buildings in a picturesque tropical setting on the banks of the Ord River. (Criterion 1.1)

The School of *Frank Wise Institute of Tropical Agriculture* is a good representative example of the North West Vernacular style. (Criterion 1.1)

*Frank Wise Institute of Tropical Agriculture* forms a distinctive rural cultural environment that demonstrates associations with government initiatives and the function of an agricultural research station. (Criterion 1.3)

The established and picturesque tropical landscape of the *Frank Wise Institute of Tropical Agriculture* has aesthetic significance that reflects the management and philosophy associated with a tropical research station in its combination of mature and new species and the changing nature and diversity of the species that has come out of past and ongoing experimentation. (Criterion 1.4)

#### **11.2 HISTORIC VALUE**

*Frank Wise Institute of Tropical Agriculture* is illustrative of State Government support for land settlement and agricultural advancement, with various schemes

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\* For consistency, all references to architectural style are taken from Apperly, R., Irving, R., Reynolds, P. *A Pictorial Guide to Identifying Australian Architecture. Styles and Terms from 1788 to the Present*, Angus and 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.

developed since the late 1880s to improve farming conditions and encourage people to take up agricultural land. (Criterion 2.1)

*Frank Wise Institute of Tropical Agriculture* is significant for its association with the development and ongoing support of the Ord River Irrigation Project, which was a major land settlement programme supported by the Commonwealth and Western Australian governments following World War II, when invasion from Australia's northern neighbours was feared and the phrase 'populate or perish' had high currency. (Criterion 2.1)

*Frank Wise Institute of Tropical Agriculture* is significant for its association with the ongoing development of tropical agriculture in the North West. (Criterion 2.2)

The establishment of the township of Kununurra was due to the development of the Ord River Irrigation Project, which itself rested on the research work undertaken at *Frank Wise Institute of Tropical Agriculture*. (Criterion 2.2)

*Frank Wise Institute of Tropical Agriculture* was named in 1986 for Frank Joseph Scott Wise, an officer of the Department of Agriculture who was a pioneer of tropical agriculture in Western Australia and supported development in the North West as Minister for Lands and Agriculture (1939-45), Premier (1945-47) and MLC for the North Province (1963-71). (Criterion 2.3)

*Frank Wise Institute of Tropical Agriculture* has been associated with the Western Australian Department of Agriculture since its establishment in 1947 and with the CSIRO from 1947 to 1986. (Criterion 2.3)

*Frank Wise Institute of Tropical Agriculture* is associated with the prominent Durack family who were pastoral industry pioneers in the north west of the State.

### **11.3 SCIENTIFIC VALUE**

*Frank Wise Institute of Tropical Agriculture* has scientific value in that the combination of mature and new species and the changing nature and diversity of the landscape contributes to an understanding of the management and philosophy associated with a tropical research station and the results of past and ongoing experimentation; (Criterion 3.1)

*Frank Wise Institute of Tropical Agriculture* has scientific value for its role as one of only two research stations in the State specialising in tropical agriculture. (Criterion 3.2)

### **11.4 SOCIAL VALUE**

*Frank Wise Institute of Tropical Agriculture* is valued by the farmers of the Ord River district for its association with the establishment and ongoing support for agriculture in the region, and has value for Departmental employees who have worked and lived there. (Criterion 4.1)

*Frank Wise Institute of Tropical Agriculture* contributes to a sense of place for the local and wider farming community for its role in the ongoing development of tropical agriculture in the State. (Criterion 4.2)

## **12. DEGREE OF SIGNIFICANCE**

### **12.1 RARITY**

*Frank Wise Institute of Tropical Agriculture* is one of only two research stations established in the State for research into tropical agriculture and displays residential and administration buildings not typical of research stations in Western Australia. (Criterion 5.1)

## **12.2 REPRESENTATIVENESS**

*Frank Wise Institute of Tropical Agriculture* represents an agricultural research station in a tropical climate, and a way of work and after work life for the employees at the place that demonstrates associations with government initiatives. (Criterion 6.1)

## **12.3 CONDITION**

The buildings and elements that comprise *Frank Wise Institute of Tropical Agriculture* are generally in fair to good condition, and for the most part are maintained. However, the School (8) has a damaged roof that is exacerbating interior damage, the concrete stumps are deteriorated, and timber frames and flooring weathered in exposed area. CSIRO (6) has structural cracking from differential settlement that has caused a linear crack in the slab, along the length of the building. Similarly, the recreation room (9) has a linear crack in the slab, along the length of the building.

## **12.4 INTEGRITY**

*Frank Wise Institute of Tropical Agriculture* has retained a high degree of integrity. The place has continued to be used for the intended purpose, although some buildings no longer have the original function; administration building (1), archives/farm office (20): and some buildings are vacant; School (8), cotton laboratory (21), office (former APB) (5), recreation room (former CSIRO conference room, mess) (9), sheds (24-29) carport (2), and shade houses (32, 33); they still demonstrate their original intent.

## **12.5 AUTHENTICITY**

The original structure, form and fabric of the places that comprise *Frank Wise Institute of Tropical Agriculture* are mostly intact. The only structural alterations that are evident to any of the buildings are the School (8) verandah enclosure. Most places have had minimal if any intervention to continue to facilitate their continued use. The trial plots have altered over time. *Frank Wise Institute of Tropical Agriculture* demonstrates a high degree of authenticity.

### 13. SUPPORTING EVIDENCE

The documentary evidence has been compiled by Irene Sauman, Historian. The physical evidence has been compiled by Laura Gray, Heritage and Conservation Consultant.

#### 13.1 DOCUMENTARY EVIDENCE

*Frank Wise Institute of Tropical Agriculture* consists of a group of timber, fibro, steel, iron and brick buildings constructed 1947-77, comprising workshop (17) (former ex-Army hut, 1947); duplex residence (28R) (former single men's quarters, 1953); school (8) (1958); archives/farm office (20) (former grain store, drying room and machine room, 1961); cotton laboratory (21) (former field laboratory and office, 1961); administration building (1) (former technical officer's quarters, 1962); four 2-storey residences (18R, 20R-22R) (1962-65) and six other single residences (23R-25R, 34R) (1965-67); offices (3A, 3B), former Agriculture Protection Board (APB) office (5), herbarium (4) and entomology annex (7) (former single men's demountable quarters, 1968); Commonwealth Scientific and Industrial Research Organisation (CSIRO) laboratory (6) (1977); recreation room (9) (former mess, 1977), six flats (48R) (1977); duplex residence (49R) (1977); carport and a number of sheds constructed for various purposes (10-16, 18-19, 24-29) (1950s-90s).<sup>1</sup> Other elements include a tennis court, swimming pool, oval, water tanks, shade houses, pump houses, pump remains, various outbuildings and plantings. The buildings were designed by the WA Public Works Department (PWD) and the Commonwealth Department of Works and were generally constructed by private contractors.

Alexander Forrest first explored the Kimberley region in 1879, when he named the Ord River and discovered the fertile rich black soil in the area. As a land agent for the region in the 1880s, Forrest leased out millions of acres for pastoral use, and in 1887 became the first MLC for the Kimberley. Among those who took up land in the region was the Durack family, who drove cattle across from Queensland and established Lissadell, Argyle, Rosewood and Ivanhoe stations.<sup>2</sup>

Agriculture in Western Australia had been led by the Agricultural Society since the establishment of the colony. In 1894, the Government established the Bureau of Agriculture (later Department of Agriculture) to assist in opening up the State to farming and increasing wheat production, which was still insufficient for local consumption. One of the Bureau's first resolutions involved a request to Government to finance the establishment of agricultural colleges and experimental farms.<sup>3</sup> Between 1889 and 1894, agricultural areas had been surveyed in at least forty localities throughout the south and central regions of the State and the selected areas had become progressively borderline for agricultural and pastoral pursuits. The first experimental farms were established to demonstrate the viability of this lower class land.<sup>4</sup>

By 1911, the original task of the experimental farms was considered to have been achieved, and the farms were given a new purpose to produce pure seed wheat

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<sup>1</sup> Note: building numbers in parenthesis relate to the current Department of Agriculture site plan. Numbering of buildings varied over the years as they were removed or use changed.

<sup>2</sup> Durack, Mary, *Kings in Grass Castles*, Constable & Co, London, 1959.

<sup>3</sup> *Bureau of Agriculture Journal*, 7 August 1894, p. 132.

<sup>4</sup> *Journal of Bureau of Agriculture*, June 1896, pp. 829-38; Kelsall Binet Architects & Kristy Bizzaca & Associates, *Thematic History and preliminary heritage assessment of agricultural research stations*, June 2000, pp. 5-6.

of standard varieties for sale to farmers, and to develop new and improved varieties more suitable to Western Australian conditions. The work required qualified people and, in 1921, a system of cadetships was established to facilitate professional training. Experimental Farms were renamed Research Stations to reflect their new status. The establishment of Research Stations was ongoing over the years, as various agricultural areas and various types of agriculture were established around the State.<sup>5</sup> The Government continued to promote land settlement for agriculture with construction of agricultural railways into wheatbelt areas (1904-30s) and migration and land settlement programmes, such as Group Settlement in the 1920s and Soldier Settlement after both World Wars.<sup>6</sup>

In 1928, a Royal Commission into the meat industry in the Kimberley recommended the establishment of a research laboratory for the industry. In 1929, agricultural adviser Frank Joseph Scott Wise, who was involved with the establishment of tropical plantations along the Gascoyne River at Carnarvon, wrote a report suggesting a research station be established in the Kimberley to investigate the feasibility of irrigated crops. Nothing was done at the time, but the matter of a research station in the Kimberley was raised again in 1932 and 1938.<sup>7</sup>

In 1939, with the increase in anti-Semitism and onset of World War II, places outside Europe and Russia were considered as possible settlements for Jewish refugees. One such area was the Kimberley in north-west Western Australia.<sup>8</sup> A major advocate of this scheme, Dr Isaac Steinberg of the Freeland League for Jewish Territorial Colonization, visited the area with the encouragement of the State Government. With the assistance of agricultural adviser George Melville, Steinberg produced a report on the region's agricultural potential, outlining a proposal to establish a Jewish settlement accommodating 75,000 refugees, who could both establish farms and provide labour for major infrastructure projects. The settlement was to be culturally autonomous, though still adhering to the nation's laws. The proposal had support from prominent individuals around the State and country, most importantly the Duracks who offered some of their land, which they were looking to off-load owing to the slump in the beef industry.<sup>9</sup>

As well as Steinberg's proposal for a Jewish refugee scheme, in 1941, Kimberley Durack presented a proposal to the Government for the establishment of a research station at Carlton Reach on Ivanhoe Station to trial irrigated crops for the region. Kimberley Durack was the son of Michael Patrick Durack and brother of Mary and Elizabeth. He had graduated from Muresk Agricultural College in 1938 and been involved in small-scale irrigation trials on the family properties. Director of Public Works, Russell Dumas, studied the reports of Kimberley Durack and Dr Steinberg and recommended that the State Government

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5 Kelsall Binet Architects & Kristy Bizzaca & Associates, op cit, pp. 5-6.

6 Glynn, Sean, *Government Policy and Agricultural Development: A study of the role of government in the development of the Western Australian wheat belt, 1900-1930*, UWA Press, 1975; Burvill, G. H., *Agriculture in Western Australia: 150 years of development and achievement, 1829-1979*, UWA Press, Perth, 1979.

7 Durack, W. A., *Early History of Research Station, Carlton Reach*, paper presented at the conference '50 Years of Ord Irrigation: review & future perspectives' held at Kununurra, 1-3 November 1991.

8 Gettler, Leon, interview, Radio National, 21 August 2005 on Steinberg's proposal for a Jewish settlement, explored in his book *An Unpromised Land*, Fremantle Arts Centre Press, 1993,

9 Gettler, Leon, interview, Radio National, 21 August 2005,

investigate the Ord Valley as a potential site for post-war land settlement and extensive irrigation.<sup>10</sup>

In the end, the Federal Government did not accept the proposal put forward by Dr Steinberg, rejecting it on the grounds of immigration regulations.<sup>11</sup> Although the supporters of the scheme viewed it as a way of addressing both the problems of the Jewish refugees and the under-population of Australia – particularly in the remote regions – its opponents had reservations about establishing a settlement with cultural autonomy and the effects of such an influx of migrants.<sup>12</sup>

In the meantime, Kimberley Durack's proposal for a research station was accepted and a 14-acre site was established at Carlton Reach in 1941. The research station was run by Kimberley and his brother William (Bill) Durack with the assistance of an Aboriginal stockman, Munday Moore. The station trialed grasses for pasture and hay, crops of sorghum, millet, cotton, cow peas and soy beans and vegetables and fruit, including bananas and pawpaws.<sup>13</sup>

In 1944, a survey was made of the proposed Ord River irrigation area. The soil at the Carlton Reach station was red alluvial but most of the soil (92.8%) in the proposed irrigation area was black 'Kununurra clay'. It was realised that the research station would have to be relocated to an area that included the black soil type. Kununurra Research Station was established in late 1945 on a 2,000 acre (900 ha) site on the Ord River, sixteen kilometres downstream from the Carlton Reach research station and opposite the Ivanhoe Station homestead.<sup>14</sup> The place was gazetted Reserve 22609 in February 1947.<sup>15</sup>

Establishment and operating costs for Kununurra Research Station were shared between the State and Commonwealth governments, while responsibility for the place was divided between the CSIRO and the WA Department of Agriculture.<sup>16</sup> The participation of the Commonwealth Government was due to a widely held view at the time that the north west of Australia had to be populated – and quickly. There was a heightened fear of invasion from the more populous Asian countries to the north following World War II, epitomised in the popular catchphrase of the time, 'populate or perish'.

The purpose of Kununurra Research Station was to determine if the soils were satisfactory for irrigation and if a stable system of agriculture could be developed to support permanent settlement. The earliest experiments were designed to obtain factual information on: major crops that could be disposed of on world markets, such as rice, cotton, peanuts, etc; perennial pastures for fattening cattle or for dairying; annual pastures and fodders; and minor crops to provide stock food, assist soil management and improvement and which might be developed as new marketable crops.<sup>17</sup>

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10 Millington, Dr John, op cit, pp. 1-2.

11 Millington, Dr John, *Achievements of the Kimberley Research Station*, paper presented to the conference '50 Years of Ord Irrigation', op cit, p. 1.

12 Gettler, Leon, interview On Radio National 21 August 2005,

13 Durack, W. A., *Early History of Research Station, Carlton Reach*, op cit.

14 Millington, Dr John, op cit, p. 2; Dept of Agriculture, *Annual Report*, 1946, pp. 35-36 & 1947, pp. 27-28.

15 DLI, online Reserve Enquiry, Reserve 22609.

16 Millington, Dr John, op cit, p. 2; Dept of Agriculture, *Annual Report*, 1946, pp. 35-36; Kelsall Binet Architects & Kristy Bizzaca & Associates, op cit, p. 19.

17 'Kimberley Research Station Progress Report, 1947-49', *Journal of Agriculture, WA*, June 1950, pp. 199-209.

The Department of Agriculture *Annual Report* of 1946 reported that a capital expenditure of approximately £25,000 had been provided and an 'extensive programme of investigational work' was to be put into operation immediately after the wet season.<sup>18</sup> £21,000 had been allocated for the construction of buildings by the PWD.<sup>19</sup> Three ex-Army tubular steel huts were erected as workmen's quarters, mess and storeroom, and a start was made on the construction of houses for technical officers.<sup>20</sup> The work was reported as almost complete by the end of 1947, except for installation of electric light and some plumbing, with the work being carried out by PWD workmen.

Accommodation now in use includes the research laboratory, single men's quarters, kitchen and mess building, and four houses occupied by married men and their families. A fifth family occupies temporary quarters in one of the ex-Army tubular huts, and it may be necessary in the next year or two to commence a further building programme if staff expands still further.<sup>21</sup>

This PWD report, however, was premature as progress on construction continued into 1949, owing to shortage of materials and labour difficulties.<sup>22</sup> The earliest site plan located for Kununurra Research Station shows thirteen buildings, comprising two houses for married research officers, one house for an unmarried officer, workmen's quarters, manager's old quarters, laboratory, three ex-army tubular huts, electric light plant, pump house and two 5,000 gallon tanks on a 20-foot high stand. The plan coincides with the description in the 1947 PWD *Annual Report*. A photograph published in the *Journal of Agriculture* in June 1950 shows the laboratory and pump house in the locations indicated on the site plan.<sup>23</sup> The 1947 PWD plans for the married men's quarters and the laboratory match the buildings (not extant) shown in the 1977 photographs in the CSIRO Kununurra album.<sup>24</sup>

By mid 1947, 450 acres of land had been fenced and 40 acres cleared and ready for irrigation. Another 15 acres were under pasture. Early reports indicated that the black soil of the region was very different to other soils in the State, behaving differently under irrigation and being 'prone to speedy erosion'. Insect pests were also a severe problem in the humid summer months.<sup>25</sup>

Early maize and rice trials at Kununurra Research Station were hampered by quarantine restrictions on the import of large quantities of seed. Birds destroyed three of the first five rice plantings.<sup>26</sup> In 1954, a birdcage (not extant) covering an area of around 2,250 square metres was constructed to protect the rice trials. The cage had a metal frame and chicken wire covering.<sup>27</sup> Sugar cane trials conducted between 1951 and 1957 gave yields similar to those in Queensland

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18 Dept of Agriculture, *Annual Report*, 1946, pp. 35-36.

19 PWD, *Annual Report*, 1945-46, p. 19.

20 Dept of Agriculture, *Annual Report*, 1947, pp. 27-28.

21 PWD, *Annual Report*, 1946-47, p. 26.

22 Dept of Agriculture, *Annual Report*, 1948, p. 21.

23 PWD site plan, late 1940s, Kimberley Research station, plan book, SROWA, WAS 399 CONS 6200 Item 30427; photograph, 'Kimberley Research Station Progress Report, 1947-49', op cit, p. 202.

24 PWD plans, Ord River Experimental Station, New laboratory, Drawing 3 & Married Men's Quarters, Drawing 2, 1947, SROWA, Item 30427, op cit; CSIRO, Kununurra photograph album, National archives, Perth, Series K989, Item 11.

25 Dept of Agriculture, *Annual Report*, 1947, pp. 27-28 & 1948, p. 21.

26 'Kimberley Research Station Progress Report, 1947-49', op cit, p. 203.

27 'Birdproofing of ricefield', Drawing 14, PWD file, Item 30427, op cit; measurement from c.2001 survey plan.

trials. Cotton trials were begun in 1948, but suspended in 1951 when it was found that DDT could not control the insect pests. In 1955, the introduction of dieldrin and associated insecticides led to successful cotton trials.<sup>28</sup> Summer cereal crops suffered from severe pest infestations and yields from winter planting were strongly dependent on a narrow window for sowing. Oil seeds, peanuts, grain legumes, and kenaf and other fibre crops were among the other crops trialled with varying success in the 1950s.<sup>29</sup>

New single men's quarters, comprising two wing-shaped buildings, were constructed at Kununurra Research Station in the mid 1950s from a PWD plan dated 1953. The quarters are shown on a c.1957 site plan and in photographs in the 1977 CSIRO album. The smaller of these quarters was later refurbished as the duplex residence (28R) while the other has been removed.<sup>30</sup> The machinery shed (14) also appears on the c.1957 site plan, as do the three ex-Army huts. The two easternmost huts were still occupied in 1957, while the third hut was in use as a workshop and appears to be part of the 2005 carpenter's workshop (17).<sup>31</sup>

In 1957, negotiations regarding the establishment of the Ord River Irrigation Project had not been finalised, but the future of Kununurra Research Station was confirmed:

[I]rrespective of settlement decisions, the station will continue on a long-term basis as a research station for agricultures in northern Australia, and that research work will extend to cover possible crops under natural rainfall and pastoral studies as well as irrigation possibilities.<sup>32</sup>

In 1958, the Commonwealth Government enacted The Western Australian Grant (Northern Development) Act 1958-59, which provided funds for Stage 1 of the Ord River Project – construction of the Kununurra Diversion Dam, irrigation works and development of the town of Kununurra.<sup>33</sup> As work on the Ord Project got under way, there was a concurrent programme of construction and development of facilities at Kununurra Research Station, which continued throughout the 1960s. This entailed an extension of the quarters for single men and technical staff, the provision of a school building, and construction of a larger laboratory and associated test buildings.<sup>34</sup>

The contract for construction of the school (8) was awarded in November 1957 to George A. Esslemont & Son of Welshpool, who tendered an amount of £5,340. The place was completed on 27 June 1958.<sup>35</sup> The school catered for Kununurra Research Station, Ivanhoe pastoral station, and the families of the men working

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28 Millington, Dr John, op cit, pp. 2-3.

29 Millington, Dr John, op cit, pp. 7-9.

30 PWD site plan, c.1957, PWD file, SROWA, Item 30427, op cit; PWD plan, Single Men's Quarters, drawing 12, SROWA, Item 30247, op cit; Commonwealth Dept of Construction plan, Duplex quarters, building 28A-B, WA 77/1175/A2, provided by Dept of Agriculture.

31 PWD site plan, c.1957, PWD file, Item 30427, op cit.

32 Agriculture Department, *Annual Report*, 1962, p. 24.

33 PWD Public Relations Section, *Ord Irrigation Project*, Gov. Printer, 1973, p. 3.

34 PWD File, Kimberley Research Station, laboratory-building no. 3-erection, SROWA, WAS 82 CONS 1562 Item 1955/1464.

35 PWD file, Kimberley Research Station school-erection, SROWA, WAS 82 CONS 689 Item 1957/0558; PWD plan, SROWA, Item 30247, op cit.

on the Ord River project who were located in the newly developing township of Kununurra, some 16 km away.<sup>36</sup>

In 1959, a contract for a 'machine room and drying area' and 'new laboratory and office building, first stage only' was let to D. Bosveld of Armadale for £7,221. The contract provided for the building marked as 'grain and machine shed' on early plans and known in 2005 as the archives/farm office (20), and a small field laboratory, now one half of the cotton laboratory (21).<sup>37</sup> The office, which forms the other half of the cotton laboratory (21), appears to have been constructed as a separate contract at around the same time. The work was completed early in 1961.<sup>38</sup> The U-shaped technical officer's quarters (currently administration offices, building 1) was completed in 1962, as were two new residences, likely the first of the two-storey houses (18R & 19R).<sup>39</sup>

These and other improvements were reported in the 1962 *Annual Report of Kununurra Research Station*:

In the two year period 1961-62 the fenced area of the Station has doubled; a large scale move has been made into the cockatoo sands; the research staff, with new appointees to arrive in early 1963, has doubled; the technical staff has increased from two field and technical assistants to a total of eleven; the number of houses has doubled; there has been a fifty percent increase in single men's living units; the laboratory floor space has doubled; the storage for machinery, etc, has doubled; new livestock facilities have been built and the farm machinery pool has been greatly strengthened by purchase of many new and costly items.<sup>40</sup>

In 1963, the school had an enrolment of 89, comprising 7 children from Kununurra Research Station, 15 from Ivanhoe station, most of them Aboriginal, and the remainder from the Kununurra township, who were transported to the school each day by bus. The school closed at the end of 1963, and was replaced with a new school in the Kununurra township.<sup>41</sup>

The Ord River Project Stage 1 was officially opened by Prime Minister Sir Robert Menzies on 20 July 1963. By 1966, 31 farms of average 660 acres in the irrigation area had been allocated.<sup>42</sup> The first commercial crop in the Ord irrigation area was cotton. Initial yields were among the highest in the world, but weathering of the cotton boll and the growing resistance of insect pests to the insecticides presented new problems. A second research area was established on a 240 hectare block (Block 36) to the south of Kununurra Research Station, where trials on insect control for cotton production were undertaken. Other trials on watering times and levels of nitrogen application produced an earlier harvest

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- 36 Education Department files, Kimberley Research Station school, admissions register, SROWA, microfilm CONS 5694, Item 2228/1-3.
- 37 PWD File, Kimberley Research Station, laboratory-building no. 3-erection, SROWA, WAS 82 CONS 1562 Item 1955/1464.
- 38 PWD site plan, c.1957 & plans 36550, Field laboratory, grain store, drying area & machine room, 12 January 1960 & 30627, New office, 27 July 1960, SROWA, Item 30427, op cit; PWD File, laboratory, Item 1955/1464, op cit; PWD file, building no 20-grain shed & laboratory erection, SROWA, WAS 82 CONS 6781 Item 1957/2659.
- 39 Kimberley Research Station, *Annual Report*, 1962, p. 2.
- 40 Kimberley Research Station, *Annual Report*, 1962, p. 1.
- 41 Education Department files, Kimberley Research Station school, admissions register, SROWA, microfilm CONS 5694, Item 2228/1-3.
- 42 PWD Public Relations Section, *Ord Irrigation Project*, Gov. Printer, 1973, p. 3.

and reduced the number of insecticide sprays needed.<sup>43</sup> By 1967, of the total 5,540 hectares of irrigated land, 4,775 hectares were under cotton.<sup>44</sup>

At Kununurra Research Station, the search continued for new crops for the Ord River area and more houses were added to the place, with a 1967 site plan showing that all the existing timber and fibro residences had been built by that time.<sup>45</sup> These constructions were part of a larger programme by the Dept of Agriculture to bring single men's housing on research stations up to State Housing Commission standards.<sup>46</sup> With more residential accommodation available at Kununurra Research Station, the technical officer's quarters were converted for use as the administration offices (1).<sup>47</sup> Sometime between 1967 and 1971, the drying shed (19) was added.<sup>48</sup> A later plan shows the 'cyclone' unit which was installed in this shed by the CSIRO.<sup>49</sup>

Grants and loans for Stage 2 of the Ord River Project, which entailed construction of the Ord River Dam (Lake Argyle) and the development of more irrigation areas and infrastructure, were approved by the Commonwealth Government in June 1968. By the time the Ord River Dam was officially opened on 30 June 1972 by Prime Minister William McMahon, however, the cotton industry in the irrigation area had entered an unprofitable period, resulting in its total collapse in 1974.

The CSIRO Division of Tropical Crops and Pastures took over sole control of Kununurra Research Station in 1974, and the Department of Agriculture concentrated their efforts on Block 36, where they operated an irrigation research station.<sup>50</sup> CSIRO's main objective in its operation of Kununurra Research Station was to establish principles for cropping and pasture systems throughout northern Australia, on both dryland and under irrigation. The place was one of seven research stations located across the north of Australia and operated by the CSIRO for this purpose.<sup>51</sup>

A number of new buildings were added to the place by the CSIRO in the late 1970s. They comprised the laboratory (6), mess, now the recreation room (9), a block of 6 flats (48R) and a duplex (49R). All the new buildings were of brick construction.<sup>52</sup> The Department of Agriculture continued its work at Block 36 and expanded to Blocks 63 and 68, where it ran a pilot commercial sugar farm, and to Block 318, which was developed for growing peanuts.<sup>53</sup>

In 1986, the Commonwealth withdrew from Kununurra Research Station and sole ownership and control was passed to the State Government and the Department of Agriculture. The place was renamed *Frank Wise Institute of Tropical Agriculture* in honour of Frank J. S. Wise. Frank Wise was born and educated in

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43 Millington, Dr John, op cit, pp. 2-3.

44 CSIRO, Division of Tropical Crops and Pastures, *Kimberley Research Station: Visitors Information*, 1980, p. 9.

45 Site plan of the station in CSIRO, *Soils of the Kimberley Research Station, Kununurra, WA*, 1969

46 Kelsall Binet Architects & Kristy Bizzaca & Associates, op cit, p. 25.

47 Aerial photograph c.1971, cover page of *Kimberley Research Station Review of Progress, 1968-71*, op cit.

48 Building 19 is not shown on the 1967 site drawing, but appears on the c.1971 aerial photograph.

49 Plan WM77/984/A1, provided by the Dept of Agriculture.

50 Dept of Agriculture, *Ord River Irrigation Area: Irrigation Research Station, Kununurra*, 1982.

51 Roberts, Femmeke & Diaz, Fiona, *Ord River Irrigation Area: Kununurra Western Australia*, 5<sup>th</sup> ed, Department of Agriculture, Bulletin 4335, March 1997, p. 3.

52 Various plans provided by the Agriculture Dept; CSIRO, Kununurra photograph album, 1977, op cit; physical evidence.

53 Dept of Agriculture, *Ord River Irrigation Area: Irrigation Research Station, Kununurra*, op cit, p. 5.

Queensland where he began his work in tropical agriculture as a field officer and agricultural instructor before moving to WA in 1923 to work as an agricultural adviser in Broome. He was responsible for the first investigation into the various soil types of the Ord Valley and his later work at Carnarvon earned him the acknowledgement as the 'Father of the State's banana industry'.<sup>54</sup> He was elected MLA for the Gascoyne in 1933, was Minister for Lands and Agriculture, 1939-1945 and Premier of Western Australia from July 1945 to March 1947. Wise was Administrator of the Northern Territory from 1951 to 1956.<sup>55</sup> He later served as MLC for the North Province, 1963-71, when he retired.<sup>56</sup> *Frank Wise Institute of Tropical Agriculture* was officially opened by Premier Brian Burke on 20 July 1986, as 'The Frank Wise Institute of Tropical Agricultural Research'.<sup>57</sup>

In the Ord River Irrigation Area in the second half of the 1980s, the production of tropical fruits, such as melons and bananas, and the fattening of cattle on high protein leucana pastures was expanding, these having proved most successful for the region, although there continued to be a large variety of minor crops grown. To support the diversity, *Frank Wise Institute of Tropical Agriculture* conducted research programmes into field crops, horticulture, new crops, entomology and beef production. Rockmelons and bananas were the main source of income in 1995, with watermelons and mangoes to a lesser extent. Successful sugar cane trials led to the establishment of a sugar industry in the late 1990s.<sup>58</sup>

In 1997, the school building (8), which had been used for many years as a visitors centre, was entered on the Shire of Wyndham-East Kimberley Municipal Heritage Inventory, but with an incorrect construction date of 1943. There was no allocated management category given for the place.<sup>59</sup>

There have been changes to the use of some buildings over the years, resulting in internal changes but little evidence of any changes externally. The sheds currently referred to as the mango sheds (25) were previously cattle and hay sheds adjacent to the cattle yards. The older of the sheds, in particular 14 & 17, have been reclad and refurbished. One residence (19R) has been removed, as has the 1954 birdcage, which, during more recent use, protected a trial for cut flowers. Vacant buildings include the school (8), cotton laboratory (21), former APB office (5), recreation room (9), Sheds (24-29), and the shade houses.<sup>60</sup> The APB office became redundant in 1996, when the Board amalgamated with the Department of Agriculture and the Department became known as Agriculture Western Australia (AGWA).<sup>61</sup> The introduced plantings around the built area of

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54 *The Kimberley Echo*, 1 June 1986, p. 1.

55 [www.dcdsca.nt.gov.au/dcdsca/intranet.nsf/Files/ntlis\\_ntl\\_papers/\\$file/occpaper28\\_ej6.pdf](http://www.dcdsca.nt.gov.au/dcdsca/intranet.nsf/Files/ntlis_ntl_papers/$file/occpaper28_ej6.pdf), 21/5/05

56 *The Australian Encyclopaedia*, Sydney, Grolier Society, 4<sup>th</sup> ed 1983, Vol. 11, p. 49; *West Australian*, 27 May 1986, p. 20.

57 Commemorative plaque, physical evidence.

58 Watson, A. N., *Recent Research on the Ord*, paper presented at the conference '50 Years of Ord Irrigation', op cit, pp. 1-5; Roberts, Femmeke & Diaz, Fiona, op cit.

59 O'Brien Planning Consultants, *Shire of Wyndham-East Kimberley Municipal Heritage Inventory*, 1995; HCWA Place 09576.

60 Dept of Housing & Works, c.2001 survey plan and earlier site plans; physical evidence.

61 Kelsall Binet Architects & Kristy Bizzaca & Associates, op cit, p. 31.

*Frank Wise Institute of Tropical Agriculture* do not appear in the 1977 photographs of the place, and postdate that time.<sup>62</sup>

Modernisation of the site is imminent in 2005. Preliminary proposals include the demolition of the laboratory (6), entomology annex (7), and former APB office (5). It is also proposed to demolish the school (8) or relocate it off site. The school and tennis court site is the proposed site of a new administration building, linking to and utilizing the recreation room (9), which would be modified. Administration functions currently housed at the administration building (1) will relocate to the new development, leaving administration building (1) redundant.<sup>63</sup>

In 2005, *Frank Wise Institute of Tropical Agriculture* continues to provide research and support for the expansion of tropical agriculture in the North West.

## 13.2 PHYSICAL EVIDENCE

*Frank Wise Institute of Tropical Agriculture* comprises an administration building (1), laboratory (6), entomology annex (7), school (8), archives/farm office (20), cotton laboratory (21), former APB office (5), offices (3A, 3B) and herbarium (4) (demountables), recreation room (9), carport (2), sheds (10-16, 18-19, 24-29) workshop (17), 11 residential buildings (18R, 20R-25R, 28R, 34R, 48R, 49R), tennis court, swimming pool, water tanks, shade houses, pump houses, pump remains, various outbuildings and various plantings.

The buildings that comprise *Frank Wise Institute of Tropical Agriculture* are located approximately 20 kilometres north of Kununurra, at the north-west termination of Durak Road, and bounded by the Ord River across the south-west of the site. *Frank Wise Institute of Tropical Agriculture* is located approximately 20 kilometres north of Kununurra.

### Plantings

The entry approach is bounded on the left (south-east) by a pond of water, a pump house (34), shade houses (32, 33), tennis courts, and the School (8) on the corner of the main intersecting road through the site. On the south-west side of the road, set back behind a stand of trees comprising a group of Teak trees (*Tectona grandis*) a group of Snapdragon trees (*Gmelina arborea*) and two rows of white gums (*Eucalyptus wandoo*), are offices (3A, 3B) and the herbarium (4), set at an angle to the regular road grid, unlike the remaining buildings in the central block, that are aligned parallel with the road. Closer to the road, opposite the school (8), is the north-east end of the laboratory (6) fronting the road behind a row of Tamarind trees (*Tamarinds indica*) on the road verge, which are complemented on the school side of the road. Immediately adjacent to the laboratory (6), and linked by a covered way, is the entomology building (7), on the north west corner of the intersection.

The site is level except for the steep embankment to the Ord River along the south-west boundary. The setbacks and areas between and around the buildings have lush grass with various plantings including palms and other tropical species. Tamarind trees (*Tamarinds indica*) feature on the site, lining the roads and providing extensive shade canopies and giving a picturesque quality to the internal streetscapes and parkland. A number of mature Boab trees (*Andansonia gregorii*) are also evident, most significantly, the Boab in the services area. The site is a simple grid layout of bitumen roads with a main north west-south east

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62 CSIRO, Kununurra photograph album, 1977, op cit.

63 Information provided to Laura Gray during onsite visit.

artery, and a more freeform service area at the south east end, and other services similarly deviating from the grid in the north west of the site. The main administration section has the most dense concentration of buildings, located immediately west of the entry, with services to the south and south east, and the residential sector sprawling along both sides of the main artery to the north west, bounded by the Ord River along the south west.

The main frontage of the entomology building (7) faces the main road through the site on a north west-south east alignment. Behind the entomology building (7) is the laboratory building (6) and adjacent is the former APB office (5). In front of the former APB office (5) is a small car park area, flanked each side by Tamarind trees (*Tamarinds indica*), and central is a small stone plinth with a plaque commemorating the opening of the *Frank Wise Institute of Tropical Agriculture*. The next building on the north west-south east alignment is the administration building (1). Between buildings 1 and 5 is a timber framed gazebo set in the garden, and at the rear of the administration building (1) is a 16-car carport (2). Along the north west side of the administration building (1) is a grassed area planted with Tamarind trees, a Boab tree, and various immature plantings.

On the south west corner of the primary intersection of the site (opposite the entomology building (7) is the archives/farm offices building (20), close to the road alignment and parallel with the main road. Adjacent, on the same alignment, on the north-west side, is the cotton laboratory (21). Set some distance to the west is a residence (28R) concealed amongst tropical plantings.

Going south-east from the intersection, with the school on the left, the next building on that side is the recreation room (9). On the south-east corner is the swimming pool. Progressing south-east, there are some mature Tamarind trees (*Tamarinds indica*) on the south west side of the road. As the road curves around to the south-east, the first of a group of sheds is located, open to the road (10, then 11). The road then junctures with a road from the north east (the original entry), and on the south the entire area is bituminised between and around a collection of sheds (12, 13, 14, 15, 16) extending to the fenced boundary of a residence (34R) in the extreme south. Workshop (17) is located on the west side of the bituminised area, where the road emerges to the north west, parallel with the Ord River on the south west. Along that section of road there are a number of elements including a loading ramp, two large water tanks (one steel, one concrete), a mechanic pit, a pump house and sheds (27, 28, 29). The only element on the river side of the road is a concrete slab remains of a pump, in the vicinity of a mature Boab tree (*Andansonia gregorii*). The road continues and bends around to the north, with sheds located on the west side (18 and 19) before intersecting at the main junction (swimming pool on south east side).

Going north west through the main administration area, the road extends through the residential area, with residences set back from the road on both sides, mostly at skewed angles and surrounded by lush tropical gardens. The road bends to the north at the north west end where residential units (48R) are located, looping back to the east past the hay shed (24), cattle yards and mango sheds (25) on the north side. The road verges back onto a south-east alignment parallel with the main road through the site, intersecting with the entry road, near the entrance to the site, opposite the pond.

The buildings on the site display no specific styles. The dwellings are predominantly purpose designed for on site residential purposes of government employees, with consideration of the tropical climate particularly evident in the double storey elevated designs (18R, 20R, 21R, 22R), and the administration

building (1) (formerly an accommodation facility), and the single storey buildings elevated on stumps as evidenced by the school (8) and cotton lab (21). The laboratory (6) and recreation room (9) are masonry constructions, the archives/farm offices are clad with corrugated iron, and the remaining offices are transportable and demountable buildings. The school (8) and cotton laboratory (21) are both elevated on concrete stumps, with timber floors, and are clad with asbestos sheeting. Similarly, buildings 5 and 7 are demountables clad with asbestos. The service buildings are steel framed and clad, with the exception of shed 16, which is a brick construction, and the workshop (17) and drying shed (19), which are clad with corrugated iron.

## **Buildings**

### *Administration building (1)*

The double story structure has a 'U' shaped floor plan that forms a central courtyard. Concrete piers at ground level support the upper floor where areas are infilled with ablution and other service areas, including open spaces and the stair access. The walls are clad with vertical profile asbestos and the low-pitched gable roofs are clad with corrugated iron. The regular window openings are vertical in configuration with solid (non glazed) vents at the base. The staircase entry to the upper floor is identified on the front façade by a feature stone wall at ground floor level and a glazed element above, defined by geometric timber framing. On the interior some walls have been removed between original rooms to form larger offices, but otherwise the place remains mostly intact.

### *School (8)*

The single-storey asbestos clad building is raised on concrete stumps. The hipped roof extends into a skillion along the rear enclosed verandah and the north west side, and the extended eaves are bracketed on the south west (front) and south east elevations. The windows are vertical configurations of three paned pivot awnings that form a continuum along the front (south-west). The original rear verandah, and side corner adjacent to the store, has been enclosed, seemingly with the original rear wall including window configuration, except that the lower panes have been boarded over. On the interior the extension of the single classroom is evident in the steel parallel chord trusses that support the roof. All classroom fitouts have been removed. There is some damage consistent with water ingress from the damaged roof.

### *Archives/farm office (20)*

The single-storey corrugated iron clad building is predominantly at ground level, except for the south-east original corner that is raised on concrete stumps. The original structure has a gable roof clad with corrugated iron. There is an extension along the rear, also clad with corrugated sheeting. It has a skillion roof and a series of roller doors opening along the rear wall. The rear wall of the original front section is unpainted corrugated iron. The interior fitout in the north-west room remains as original.

### *Cotton laboratory (21)*

The single-storey asbestos and iron clad building is raised on concrete stumps with a timber decked front verandah. It has a corrugated iron gable roof that extends over the verandah. Two laboratories flank a central service area, all opening onto the verandah that extends across the entire frontage. The laboratory fitouts are as original.

#### *Workshop (17)*

Steel framed corrugated iron clad workshop, with high-pitched roof (relative to other sheds on site). Roof trusses are angle steel with tubular truss sections.

#### *Drying Shed (19)*

Steel framed corrugated iron clad shed, with high-pitched roof (relative to other sheds on site). The roof and wall vent units relevant to the drying function have been removed and were stacked on the ground next to the building at the time of site inspection.

#### *Residential buildings (18R, 20R, 21R, 22R)*

The dwellings are rectangular buildings elevated to first floor level, and supported by steel posts. At the ground floor level, the area is open except for ablutions. The dwellings are asbestos clad with low-pitched corrugated iron gable roofs. There is no obvious evidence of changes. Tropical garden settings restrict views to the places. The dwellings are all located at angles offset to the road.

#### *Residential building (28R)*

The single-storey dwelling comprises two dwellings (duplex) adjoining at a 45-degree angle. The building is constructed on a concrete pad at ground level, is clad with asbestos, and has a low-pitched corrugated iron gable roof. Separate carport and laundry facilities are located within the angled enclosure. There is no obvious evidence of changes to the place. Tropical garden settings restrict views to the place.

Overall, elements on site of *Frank Wise Institute of Tropical Agriculture* are in fair to good condition, and for the most part are maintained. However, the school (8) has a damaged roof that is exacerbating interior damage, the concrete stumps are deteriorated, and timber frames and flooring are weathered in exposed area. The laboratory (6) has structural cracking from differential settlement that has caused a linear crack in the slab, along the length of the building. Similarly, the recreation room (9) has a linear crack in the slab along the length of the building.

Elements on site of *Frank Wise Institute of Tropical Agriculture* that have some significance are the administration building (1), School (8), workshop (17), drying shed (19), archives/farm office (20), cotton laboratory (21), residential buildings (18R, 20R, 21R, 22R, 28R), pump remains, Tamarind streetscape plantings and isolated Boab trees (*Andansonia gregorii*). The demountable offices (3A, 3B), herbarium (4), former APB office (5), laboratory (6), entomology annex (7), recreation room (9), carport (2), sheds (10-16, 18, 24-29), residential buildings (23R, 24R, 25R, 34R, 48R, 49R), tennis court, swimming pool, oval, water tanks, shade houses, pump houses, various outbuildings and groves of trees and plantings not specified, are of little or no heritage significance.

The birdcage and dwelling (19R) are no longer extant. Sheds (22 and 23) are located approximately 600 metres north west of main group of buildings, and are outside of the recommended curtilage.

### **13.3 COMPARATIVE INFORMATION**

There are two agricultural research stations and a station manager's house entered on the State Register of Heritage Places. Avondale Research Station (1924) and Merredin State Farm Manager's House (fmr) 1904 are both

associated with wheat and sheep research.<sup>64</sup> Gascoyne Research Station, Carnarvon (1940) is the only other research station established during the same period as *Frank Wise Institute of Tropical Agriculture*. This period of establishment has been defined as the World War II and planning for Post-War reconstruction period.<sup>65</sup>

After the War, a large number of research stations were established, in response to the enormous growth of the State and Post War reconstruction and development. These included: Abydos-Woodstock (1947-48); Bramley (1950-52); Wokalup (c.1951); Wembley (1950s); Swan viticulture (1954); Stoneville horticulture (1955); Newdegate (1955); Badgingarra (1959); Medina (1963); Fitzroy Crossing (1965); Manjimup (1967); Mt Barker (1968); and Northam (1969).

Research stations established in the second half of the twentieth century can be classified by use because this affects the type of agricultural buildings constructed. Almost all stations established prior to World War II researched wheat and sheep production so their buildings were similar – e.g. wheat silos, shearing sheds – while those established post-war had more varied use.<sup>66</sup>

Generally, house styles at research stations varied little in the first half of the twentieth century, but cladding material changed from weatherboard in the early 1900s to fibrous cement by World War II. Gascoyne Research Station, Carnarvon was the only other station established for research into tropical agriculture and examples of the residential buildings at Carnarvon can also be found at other stations throughout the State, but the buildings at *Frank Wise Institute of Tropical Agriculture* are non-typical post-war residential and administration buildings.<sup>67</sup>

The steel-framed, rectangular farm buildings of the later twentieth-century are common to all the various types of research stations in the State.

*Frank Wise Institute of Tropical Agriculture* is a rare example of a research station in Western Australia designed for a specific purpose.

#### **13.4 KEY REFERENCES**

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#### **13.5 FURTHER RESEARCH**

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<sup>64</sup> HCWA database.

<sup>65</sup> Kelsall Binet Architects & Kristy Bizzaca & Associates, op cit, p. 10; HCWA assessment documentation, Gascoyne Research Station, Place 06839.

<sup>66</sup> Kelsall Binet Architects & Kristy Bizzaca & Associates, op cit, pp. 11-12.

<sup>67</sup> Kelsall Binet Architects & Kristy Bizzaca & Associates, op cit, p. 18.