

Parliamentary Standing Committee on Public Works

REPORT

relating to

LABORATORY DEVELOPMENT AT CSIRO FLOREAT PARK LABORATORIES, PERTH

(Seventh Report of 1985)

THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA

1985



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PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

R E P O R T

relating to

LABORATORY DEVELOPMENT AT CSIRO FLOREAT PARK
LABORATORIES, PERTH

(Seventh Report of 1985)

Australian Government Publishing Service
Canberra 1985

MEMBERS OF THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS
(Twenty-Eighth Committee)

Senator Dominic John Foreman (Chairman)
Percival Clarence Millar, Esq., M.P. (Vice-Chairman)

Senate

House of Representatives

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Senator Dr Glenister Sheil	Robert George Halverson, Esq., O.B.E., M.P.
	Colin Hollis, Esq., M.P.
	Leonard Joseph Keogh, Esq., M.P.
	Keith Webb Wright, Esq., M.P.

EXTRACT FROM THE
VOTES AND PROCEEDINGS OF THE HOUSE OF REPRESENTATIVES
NO. 20 DATED 23 APRIL 1985

- 13 PUBLIC WORKS COMMITTEE - REFERENCE OF WORK - LABORATORY DEVELOPMENT, CSIRO FLOREAT PARK LABORATORIES, PERTH; Mr West (Minister for Housing and Construction), pursuant to notice, moved - That, in accordance with the provisions of the Public Works Committee Act 1962, the following proposed work be referred to the Parliamentary Standing Committee on Public Works for consideration and report: Laboratory development at CSIRO Floreat Park Laboratories, Perth.

Mr West presented plans in connection with the proposed work.

Debate ensued.

Question - put and passed.

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PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

LABORATORY DEVELOPMENT AT CSIRO FLOREAT PARK LABORATORIES, PERTH

R E P O R T

By resolution on 23 April 1985 the House of Representatives referred to the Parliamentary Standing Committee on Public Works for consideration and report the proposal for the construction of new laboratories, the provision of additional support services and refurbishment of existing laboratory accommodation at CSIRO Floreat Park Laboratories, Perth.

The Committee has the honour to report as follows:

THE REFERENCE

1. The main elements of the proposal are:

- a new building for the Laboratory for Rural Research;
- upgrading the existing Minerals and Geochemistry Laboratory;
- a new common facilities area housing an enlarged library, lecture theatre, administrative space and amenities;
- remodelling of the existing main laboratory building for the Division of Groundwater Research; and

- general improvements to car parks and various site works.

2. The estimated cost of the proposed work is \$7.75 million at January 1985 prices.

THE COMMITTEE'S INVESTIGATION

3. The Committee received submissions and plans from the Commonwealth Scientific and Industrial Research Organization (CSIRO) and the Department of Housing and Construction (DHC) and took evidence from their representatives at a public hearing held in Perth on 20 June 1985.

4. The Committee also received submissions and took evidence from Dr J.R. de Laeter, Chairman, W.A. State Advisory Committee of CSIRO; Professor P.G. Harris, Department of Geology, University of Western Australia, and Chairman, W.A. Committee, Water Research Foundation of Australia, Inc.; and representatives of the CSIRO Technical Association.

5. Prior to the public hearing the Committee inspected CSIRO Laboratories at Floreat Park and the proposed site for the new laboratory and common facilities building.

6. A list of witnesses who appeared at the public hearing, together with the organisations they represented, is at Appendix A.

7. The Committee's proceedings will be printed as Minutes of Evidence.

BACKGROUND

8. The role of CSIRO CSIRO is a Commonwealth statutory body created to carry out scientific research relevant to industry, the community and other national and international interests of Australia. It was established by the Science and Industry Research Act of 1949.

9. The main role of the CSIRO is to plan and execute a comprehensive program of broad research on behalf of the Commonwealth.

10. In summary, the functions of CSIRO are to:

- carry out scientific research relevant to Australian industry, the community, national objectives, national or international responsibilities, or for any other purpose determined by the Minister;
- encourage and facilitate the application and utilisation of research results;
- liaise with other countries in matters of scientific research;
- train research workers;
- make grants and award fellowships and studentships relevant to CSIRO's research;
- recognise, co-operate with and make grants to industrial research associations;
- establish, develop, maintain and promote the use of standards of measurement of physical quantities;

- collect, interpret and disseminate scientific and technical information; and
- publish scientific and technical reports, periodicals and papers.

11. The research work of CSIRO is carried out in five Institutes, namely:

- Energy and Earth Resources;
- Industrial Technology;
- Animal and Food Sciences;
- Biological Resources; and
- Physical Sciences.

12. Each Institute is headed by a Director. The Institutes are groupings of Divisions and Units with related research interests. Divisions are headed by Chiefs and Units by Officers-in-Charge. Divisions and Units are each responsible for coherent sets of research programs, with Units generally being responsible for narrower fields of research and having fewer staff than Divisions.

13. At 30 June 1984, CSIRO had a total staff of 7276 in more than 100 locations throughout Australia. About one-third of the staff are professional scientists, the remainder provide technical, administrative and other support.

14. CSIRO is funded primarily by direct appropriation from the Parliament. In 1983/84 this direct appropriation accounted for 88 per cent of CSIRO's budget. A further 9 per cent was provided by individual companies, Commonwealth and State instrumentalities, private foundations and from rural research trust funds. (These trust funds are supported through a levy imposed on production in the industry concerned and 'dollar-for-dollar' assistance from Commonwealth Government.)

15. The remaining 3 per cent of income comes from revenue earned by the Organisation and from unspent funds of the previous year.

16. CSIRO in Western Australia The Institute of Science and Industry, the forerunner of CSIRO, located its first laboratory in Perth to investigate the suitability of Australian timber for paper pulp, in the early 1920s.

17. By 1927 the Institute of Science and Industry had become the Council for Scientific and Industrial Research (CSIR) and had eight scientists employed in Western Australia. However, it was not until 1949 that the Organisation experienced growth in the number of scientists. CSIR became CSIRO, and 19 scientists were stationed at the W.A. Regional Laboratory.

18. Between 1949 and the 1970s staff numbers in W.A. rose steadily. In 1962 a section of the Division of Applied Mineralogy was located in Perth. In 1971 the Division of Mineralogy set up headquarters in Perth. In 1973 the Division of Land Resources Management established headquarters in Perth.

19. New Research Initiatives In 1981 CSIRO established a Committee to advise on future organisational arrangements for its activities in Western Australia. That Committee investigated ways of enhancing CSIRO's efforts in research areas of water, crops and pastures, soils, forest and animal production. The recommendations relevant to Floreat Park were:

- (i) the establishment of a Division of Groundwater Research; and
- (ii) Laboratory of Rural Research which would include a newly established
 - . unit of the Divisions of Plant Industry and Soils;

- the transfer of staff from the Division of Land Resource Management; and

- staff of the Divisions of Forest Research and Animal Production.

20. Re-organisation of CSIRO In 1982 CSIRO carried out a re-organisation with the aim of strengthening its water resource research. The Division of Land Resources Management was dissolved and the Division of Groundwater Research established with headquarters in Perth. Staff from the Divisions of Forest Research and Animal Production, together with the Division of Entomology, formed the CSIRO Laboratory for Rural Research. This Laboratory was established to support research in the Mediterranean region (summer-drought, winter-rain) of Western Australia. The largest area with a Mediterranean climate in Australia is in the south-west of Western Australia.

21. In 1983 the CSIRO Executive announced that an additional 18 positions would be allocated for expansion of CSIRO activities in fields of surface chemistry, Mediterranean agriculture and the dynamics and management of nature reserves. These positions came from redeployment of resources from other areas within CSIRO.

22. Twelve of the additional positions were located at Floreat Park to study plant and soil problems associated with dryland cropping on sands and sands over clay which are extensive in the Western Australian cereal belt and pose important problems from agriculture management.

23. The following Divisions are now represented in Western Australia and are located as follows:

Floreat Park

Groundwater Research, Minerals and Geochemistry, Plant Industry, Soils, Animal Production, Forest Research, Entomology, and Mathematics and Statistics

Marmion

Fisheries Research and Oceanography

Helena Valley

Wildlife and Rangelands Research

Bakers Hill

Floreat Park field station for Animal Production

Kununurra

Tropical Crops and Pastures

24. CSIRO Laboratories, Floreat Park The CSIRO Laboratories are situated on a 10.9 hectare site at the corner of Brockway Road and Underwood Avenue at Floreat Park. (A map of the site is at Appendix B.)

25. CSIRO obtained the land from the University of Western Australia in 1965 on the understanding that it would carry out research relevant to the needs of Western Australia.

26. Three research groups are now located at Floreat Park. The research objectives of these groups are summarised as follows:

27. Division of Groundwater Research The Division of Groundwater Research investigates the physical, chemical and biological processes affecting the quality and quantity of groundwater. It concentrates on three research programs, hydrology, water quality and groundwater resource assessment and management.

28. The Hydrology program aims to develop better methods for the identification of aquifer properties and for quantitative modelling of the behaviour of groundwater systems.

29. The Water Quality program aims to assess the impact of agricultural, mining and waste disposal activities on the quality of groundwater, and as appropriate, develop ameliorative practices.

30. The Groundwater Resource Assessment and Management program aims for better assessment and management of the available resources.

31. Division of Minerals and Geochemistry The Division of Minerals and Geochemistry conducts research in support of the Australian mineral industry. The Division also contributes to the maintenance of the mineral resources inventory for Australia's mining future, and provides part of the research base for improved mineral recovery technologies and for environmental control.

32. The research is organised into two programs, namely: Mineral Deposit Characteristics and Geochemical Exploration Methods.

33. The Mineral Deposit Characteristics program investigates known ore bodies and mineralised environments, in an attempt to

- (i) understand the interplay of geological and chemical factors that govern the accumulation of ore minerals; and

- (ii) establish the specific characteristics of ore bodies.

34. The Geochemical Exploration Methods program aims to develop new geochemical and mineralogical techniques for the purpose of discerning reliable surface indications of the existence of concealed mineral deposits.

35. Laboratory for Rural Research The Laboratory for Rural Research was established to provide research concentrating on the needs of agriculture and forestry in the Mediterranean climatic regions. The laboratory is composed of groups from the Divisions of Animal Production, Forest Research, Entomology, Plant Industry and Soils, each with its own research program.

36. The research of the Division of Animal Production aims to assist the animal industries by providing new and improved technologies offering significant gains in efficiency of livestock production..

37. The Division of Forest Research aims to supply a scientific basis for balanced management of Australia's forests to meet the needs of a broad range of uses including wood production, water supply and ecosystem preservation.

38. The Division of Entomology aims to undertake biological research on insects and related arthropods to acquire knowledge relevant to the solution of problems of economic and social significance. The research involves the study of the identity, abundance, and distribution of insects and of their behaviour, pathology and genetics.

39. The Division of Plant Industry is concerned with improving agricultural production through research in the plant sciences, including molecular biology, plant breeding and plant introduction, biochemistry and physiology, nutrition and microbiology, and with developing new and existing crops, pastures and agricultural practices to meet both current and future requirements in Australia. The Division is also a major centre for research in the Australian flora and vegetation, its taxonomy, ecology and management.

40. The Division of Soils studies the physics, chemistry and biology of soils and other porous media, together with the integrative disciplines of pedology and geomorphology. It also seeks to establish principles for the application of soil science to agriculture, forestry, hydrology, engineering and conservation.

41. The Dryland Crops and Soils research program is a joint initiative of the Divisions of Plant Industry and Soils. The program aims to increase understanding of crop production, particularly wheat and lupins, in the sand plain and duplex soils of the cereal belt of Western Australia which occurs in the Mediterranean climate zone.

THE NEED

42. The Committee's 1964 Investigation The Committee investigated the proposal to construct a Regional Laboratory at Floreat Park in 1964 [Parliamentary Paper No. 44/1964].

43. The proposal put to the Committee in 1964, represented the first of a three-stage development. It consisted of a simple four-storey laboratory building, a single storey brick potting shed, incorporating an electrical sub-station at one end, and an animal house of single storey structure. Also included was a caretaker's cottage, glass house and workshop and electrical and mechanical engineering services.

44. The Headquarters and main laboratories of the Western Australian Regional Laboratory were, at that time, located in the grounds of the University of Western Australia. They consisted of two main buildings of timber frame with asbestos and brick veneer finish, which were erected in 1954. These buildings were modified and extended in order to cope with increasing staff. Some other minor buildings were also constructed.

45. Because of the economic importance of agriculture in Western Australia, staff and resources had been concentrated in the division of plant industry and soils with other activity relating to entomology, fisheries, wildlife and mathematics.

46. Continued occupancy by CSIRO of part of the University campus created difficulties for the University of Western Australia and it became essential for another site to be found for CSIRO in order to provide a better standard of accommodation to carry out their important and expanding research program.

47. The Committee recognised that existing buildings were over-crowded and that there was an urgent need to construct a laboratory and associated buildings and further that the whole laboratory should be air-conditioned. The Committee agreed that these buildings be constructed on a new site at Floreat Park, of 27.5 acres, which would be eminently suitable for CSIRO purposes. The site was about 6 kilometres from the University, and large enough for the initial and future requirements.

48. Existing Facilities Following the Committee's investigation in 1964, the four-storey laboratory and associated support buildings were completed in 1966 and occupied by about 110 staff involved in agriculture research. In 1971 a three-storey wing was added and staff numbers rose to approximately 150.

49. During the 1970s there was a steady growth in staff numbers and accommodation difficulties were only partially resolved by the construction of further support buildings, including a mineralogy sample storage building, a hydrothermal laboratory and two animal holding buildings.

50. A further rapid increase in staff numbers has recently been experienced due to the concentration of research in the areas of cropping and sheep in the Mediterranean climatic region; groundwater research; and a number of aspects of agriculture including soil chemistry and forest research. A further increase is anticipated with a proposed initiative in plant pathology.

51. Recently, a Plant Industry/Soils group of 14 scientists was formed. It is anticipated that this number will increase during the next three years by redeployment within CSIRO. Temporary laboratories have been provided on site pending the provision of new laboratory accommodation.

52. Extra laboratory space has been created by relocating the canteen to a temporary building. The library has become congested and a temporary building has been provided for an overflow of books and journals. Other temporary buildings house a workshop, an electronics workshop and room for storage and maintenance of field equipment.

53. Accommodation Needs The proposal seeks to provide adequate laboratory and support services accommodation for 277 staff. This number includes some provision for projected growth which will occur during the laboratory redevelopment.

54. The accommodation requirements include:

- A new building for the Laboratory for Rural Research with a gross floor area of 3837 square metres.
- An upgrade of the existing Minerals and Geochemistry laboratory which is 1200 square metres.
- An additional laboratory wing of 647 square metres to link buildings 1 (Groundwater Research) and 1A (Minerals and Geochemistry) at the two upper levels.

- A new common facilities area of 1874 square metres to house a library, lecture theatre, canteen and staff amenities, and administration space.

- Remodelling of the existing four-storey laboratory to meet the requirements of the Division of Groundwater Research.

- Improvements and extensions to car parks and site works.

55. CSIRO building needs cover anticipated trends in research activities which will result in additional laboratory, office and associated areas, and the provision of accommodation for specialised facilities not presently available at Floreat Park. Existing laboratories are to be modified where necessary.

56. The three research groups will share library, canteen, computer rooms and lecture theatres.

57. Occupational Health and Safety Issues Occupational health and safety surveys were conducted in the Floreat Park Laboratories between August 1983 and March 1984. These surveys were carried out by the CSIRO Chief Safety Officer (the Barnes Report), the W.A. Public Health Department, the Australian Council of Trade Unions/Victorian Trades Hall Council (ACTU/VTHC) Occupational Health and Safety Unit, and the Commonwealth Institute of Health, Sydney (the Findlay Report).

58. These surveys found that there was a need to:

- improve standards of finish for laboratory floors and benches to contain spillages and leaks of toxic materials.
- upgrade fume cupboards to meet minimum Standards Association of Australia air flow requirements at sash openings that permit proper use of fume cupboards.

- improve general ventilation for cases where volatile substances are to be handled outside fume cupboards.
- provide suitable storage for small drums and other containers of solvents which are kept in close proximity to working areas, and
- improve drainage and waste disposal arrangements to meet recirculation of chemical fumes into laboratory areas. During the public hearing evidence was given to the Committee that amyl alcohol had been poured down a grate in the road outside the animal production building. The fumes resurfaced 50 metres away in the lower ground floor of building 1. The Committee seeks reassurance that in future staff will be better supervised and/or educated in the proper handling and disposal of chemicals.

59. Surveys have found that the Laboratories need to be upgraded in order to meet the requirements of occupational health and safety specified in the National Health and Medical Research Council's occupational health guides and in the various Australian standards relating to laboratory safety and construction.

60. Summary The main four-storey laboratory building and support buildings were built in 1964 to accommodate a staff of 110. A three-storey wing was constructed in 1971 when staff numbers had risen to 150. Accommodation requirements did not keep up with the increase in staff during the 1970s, when only support buildings and a hydrothermal laboratory were constructed. Staff numbers have increased significantly and extra laboratory space has been created by relocating existing facilities to temporary buildings.

61. The laboratory complex will have a staff of 277 by the time it is completed. Hence, additional laboratory, office and support buildings are required.

62. Occupational health and safety surveys highlight the need for the laboratories to be upgraded to conform with current occupational health and safety standards for laboratory design and construction.

63. Committee's Conclusion The existing laboratories and support buildings at CSIRO Laboratories, Floreat Park, are old, overcrowded, and represent significant occupational health and safety hazards.

64. Attempts to overcome the lack of facilities to house increasing staff numbers over recent years have been of an ad hoc nature.

THE PROPOSAL

65. Details of the proposed work are as follows:

- A new two-storey Laboratory for Rural Research.
- A new single storey Common Facilities building which will include a library, lecture facilities, Regional Administrative office, staff amenities and a display exhibition area.
- Refurbishment of the existing West Wing Laboratory building to accommodate the Division of Groundwater Research.
- Refurbishment and extensions of the existing East Wing Laboratory to house the Division of Minerals and Geochemistry.

- Upgrading of associated engineering services and site works.

66. Laboratory for Rural Research This new two-storey building for the Laboratory for Rural Research will house laboratories and offices on both levels. Laboratories will be located on the south face and offices on the north face of the building. A balcony will be provided on the south face at the first floor level to serve as a fire escape from laboratories and as a service route. A lift will be incorporated in the building.

67. Provision will be made for fume cupboards, constant temperature rooms and two 'C' class radioactive suites. The laboratory will be air-conditioned and will have sufficient fresh air ventilation to dilute any toxic vapours.

68. New Common Facilities Building This single storey building will house an enlarged library, a lecture theatre for 100 people, a board room for 60 people, a canteen with staff amenities, a Regional Administrative Office and a foyer/reception/exhibition area.

69. Groundwater Research The existing four-storey laboratory will be refurbished to meet the requirements of the Division of Groundwater Research. Refurbishment will include:

- re-arrangement of office and laboratory layouts on all four levels of the building;
- refitting and provision of finishes in laboratories to comply with laboratory construction and Occupational Health Safety Standards;
- fire compartmentation and provision of fire isolated escape routes;

- upgrading of air-conditioning and ventilation;

- sub-standard fume cupboards will be removed and a class 350 clean room and a 'C' class radioactive isotope suite will be provided.

70. Minerals and Geochemistry The existing Minerals and Geochemistry laboratory will be refurbished and extended. The extension will link this building with the Groundwater Research laboratory. The ground level of the link building will be the staff canteen/amenities and part of the common facilities. Refurbishment will include change to the laboratory layouts, an improvement in mechanical engineering services, and refitting and provision of new finishes to laboratories.

71. Car Parks and Site Works The car parks and site works will be improved and extended.

72. Site Development Plan The location of the new buildings on the site followed an investigation in September 1984 by a Joint Working Party.

73. The investigation established a strategy plan for the future development of the site based upon:

- divisions presently represented on site;
- recognition of space and buildings occupied by current users;
- projected growth of divisions;
- identification of areas of future new divisions on the site;
- location of new buildings close to existing development and common facilities;

- provision of a single address for the site through which security control of all visitors to the site will be effected.

74. The proposal conforms to the principles of the strategy plan.

75. Science Education Centre Dr J.R. de Laeter's submission on behalf of the Western Australian State Advisory Committee proposed that a Science Education Centre should be established at Floreat Park. Dr de Laeter stated that CSIRO is the premier research and development organisation in Australia, and as such its presence should be enhanced in a public relations sense. One way of doing this would be to establish a Science Education Centre on the CSIRO site similar to those at CSIRO, Highett, Victoria, and CSIRO, Adelaide. Dr de Laeter suggested that a Centre at Floreat Park would also attract support from State Government bodies such as the Education Department and the State Energy Commission.

76. The Committee believes that this proposal has some merit and should be given sympathetic consideration by the CSIRO Executive.

77. Construction The materials to be used in the construction and refurbishment of the laboratories have been selected for durability and suitability for laboratory function.

78. The structure of the Common Facilities building will be post and beam. The Rural Research and Link buildings will have a reinforced concrete frame with a steel roof structure. Floors will be reinforced concrete. Columns will have pad footings and external walls will have strip footings. The new buildings will have reinforced concrete shear walls to provide stability against wind and earthquake loadings.

79. The new buildings walls will be of prefinished aluminium cladding with anodised aluminium windows and door frames. The roof will be metal decking colour coated for corrosion protection and appearance. The external finishes will be sympathetic with existing buildings and internal finishes will be compatible in function of the spaces.

80. Internal walls will be of lightweight steel framed partitions lined with plasterboard. Where required walls will be fire rated, plasterboard partitions in compliance with fire safety regulations. Wet areas and plant rooms will be of masonry construction with finishes to cater for waterproofness, health and acoustic requirements.

81. Laboratories, workshops and canteen will have floors covered with sealed sheet vinyl. Carpets will be provided in corridors, offices, foyers, lecture facilities, library and function areas. Ceramic tiles will be provided in wet areas.

82. Engineering Services The existing buildings are served by a centralised chilled water system located in a remote central plant room. Chilled water is reticulated to fan coil units throughout the complex. The existing chilled water system will be replaced by a new and large system. The existing central plant room will be extended to cater for the new equipment.

83. Cooling towers were recently replaced. These will be supplemented with new cooling towers to match the new chilled water system. Existing chilled water piping between the existing buildings and the central plant will be retained and extended to the Rural Research building.

84. The Laboratory for Rural Research uses special gases, compressed air and demineralised water. The special gases will be reticulated from bottled supplies and the compressed air and

demineralised water will be reticulated from the existing plant locations. The existing plant for demineralised water will be replaced with a larger capacity plant to cater for total requirements.

85. In the new buildings the air distribution system will consist of packaged units with simple duct runs. In the laboratory areas ducted air supply will provide the number of air changes required in accordance with the National Health and Medical Research Council's guidelines.

86. The ablution areas will be served by an exhaust system.

87. Wind tunnel tests are being conducted to ensure building exhaust does not re-enter the fresh air intake to the air-conditioning plants.

88. The current air handling units in the Minerals and Geochemistry laboratory building will be retained. Additional units will be provided in the new areas of the building. In the Groundwater Research laboratory building fan coil units will be replaced. The outside air plant will be refurbished to accommodate the increased outside air requirement in accordance with the Draft Code for Laboratory Construction.

89. New fume cupboards will be provided for the Rural Research laboratory. New and refurbished fume cupboards will be provided in the existing laboratories. The fume cupboards will be designed to comply with the relevant draft standard.

90. Electrical lighting and power will be provided as required.

91. The main electrical substation feeding the complex will be upgraded.

92. A fire detection and alarm system will be provided. The existing emergency warning and inter-communication system will be extended to the new facilities.

93. A goods/passenger lift will be provided in the Laboratory for Rural Research.

94. A security system comprising an intruder alarm system on laboratory buildings and access control system to the Groundwater Research building will be provided.

95. Vehicular access to the new building will be provided via the existing road system. A new car park for 34 cars will be provided adjacent to the Common Facilities building.

96. Stormwater, water supply and sewerage services will be connected to, or provided from, the existing system. Discharge of all wastes will be in accordance with the requirements of the relevant authorities. Some existing sewer and stormwater mains will be relocated prior to construction of the new buildings.

97. Committee's Conclusion There is a need for modern laboratories and support areas to be provided as a consequence of changes in emphasis on research in Western Australia, the resultant re-organisation and the requirement for additional staff.

98. The proposed facilities are satisfactory and will provide an impetus to research and improve staff morale.

CONSULTATIONS

99. Throughout the development of the proposal several interested parties have been consulted and briefed. These have included:

- Department of Arts, Heritage and Environment
- Commonwealth Fire Board
- Department of Local Government and Administrative Services
- ASIO
- W.A. Fire Brigade
- State X-Ray Laboratories
- State Energy Commission
- Metropolitan Water Authority
- Nedlands County Council
- CSIRO Staff - meetings presented to staff details of the proposed design and layout concepts
- CSIRO Staff Associations - discussions were held on the provision of staff amenities

100. Other bodies consulted included Universities, Commonwealth and State departments and CSIRO West Australian State Committee.

101. Occupational hygiene and health surveys conducted by the W.A. Public Health Department, the ACTU/VTRC and the Commonwealth Institute of Health, Sydney, have been used as a source of advice in designing the new buildings and planning for upgrading of existing facilities.

102. Environmental Considerations CSIRO referred the proposal to the Department of Arts, Heritage and Environment, and received formal advice that preparation of an Environmental Impact Statement was not required.

LIMIT OF COST

103. The limit of cost of the proposed work is \$7.75 million at January 1985 prices.

CONSTRUCTION TIMETABLE

104. Following parliamentary approval, DHC expects to call for tenders in March 1986. The anticipated completion date is June 1988.

105. Committee's Recommendation The Committee recommends construction of the work in this reference.

RECOMMENDATIONS AND CONCLUSIONS

106. The recommendations and conclusions of the Committee and the paragraph in the report to which each refers are set out below:

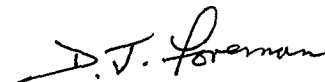
Paragraph

- | | | |
|----|--|-----|
| 1. | THE EXISTING LABORATORIES AND SUPPORT BUILDINGS AT CSIRO LABORATORIES, FLOREAT PARK, ARE OLD, OVERCROWDED AND REPRESENT SIGNIFICANT OCCUPATIONAL HEALTH AND SAFETY HAZARDS. | 63 |
| 2. | ATTEMPTS TO OVERCOME THE LACK OF FACILITIES TO HOUSE INCREASING STAFF NUMBERS OVER RECENT YEARS HAVE BEEN OF AN AD HOC NATURE. | 64 |
| 3. | THERE IS A NEED FOR MODERN LABORATORIES AND SUPPORT AREAS TO BE PROVIDED AS A CONSEQUENCE OF CHANGES IN EMPHASIS ON RESEARCH IN WESTERN AUSTRALIA, THE RESULTANT RE-ORGANISATION AND THE REQUIREMENT FOR ADDITIONAL STAFF. | 97 |
| 4. | THE PROPOSED FACILITIES ARE SATISFACTORY AND WILL PROVIDE AN IMPETUS TO RESEARCH AND IMPROVE STAFF MORALE. | 98 |
| 5. | THE LIMIT OF COST OF THE PROPOSED WORK IS \$7.75 MILLION AT JANUARY 1985 PRICES. | 103 |

Paragraph

6. THE COMMITTEE RECOMMENDS CONSTRUCTION OF THE WORK IN THIS REFERENCE.

105



(D.J. FOREMAN)
Chairman

Parliamentary Standing Committee
on Public Works
Parliament House
CANBERRA

22 August 1985

APPENDIX A

LIST OF WITNESSES

Cullen, H.G., Esq., Project Manager 2, Department of Housing and Construction, Sheraton Court, 207 Adelaide Terrace, Perth, Western Australia

de Laeter, Dr J.R., Chairman, State Advisory Committee of CSIRO, 28 Kings Park Road, West Perth, Western Australia

Dunn, J.V., Esq., Manager, Buildings and Property, CSIRO, CSIRO Headquarters, Limestone Avenue, Canberra, Australian Capital Territory

Dyson, M., Esq., Assistant General Secretary, CSIRO Technical Association, G.P.O. Box 1523N, Melbourne, Victoria

Harris, Professor P.G., Professor of Geology, University of Western Australia, Chairman, Western Australia Committee, Water Research Foundation of Australia, Inc.

Hudson, Dr D.R., Acting Chief, CSIRO Division of Mineralogy and Geochemistry, Floreat Park Laboratory, Private Bag, Wembley, Western Australia

Justin, M.J., Esq., Chairman, Western Australian Branch, CSIRO Technical Association, c/- CSIRO, Western Australia Laboratories, Underwood Avenue, Floreat Park, Western Australia

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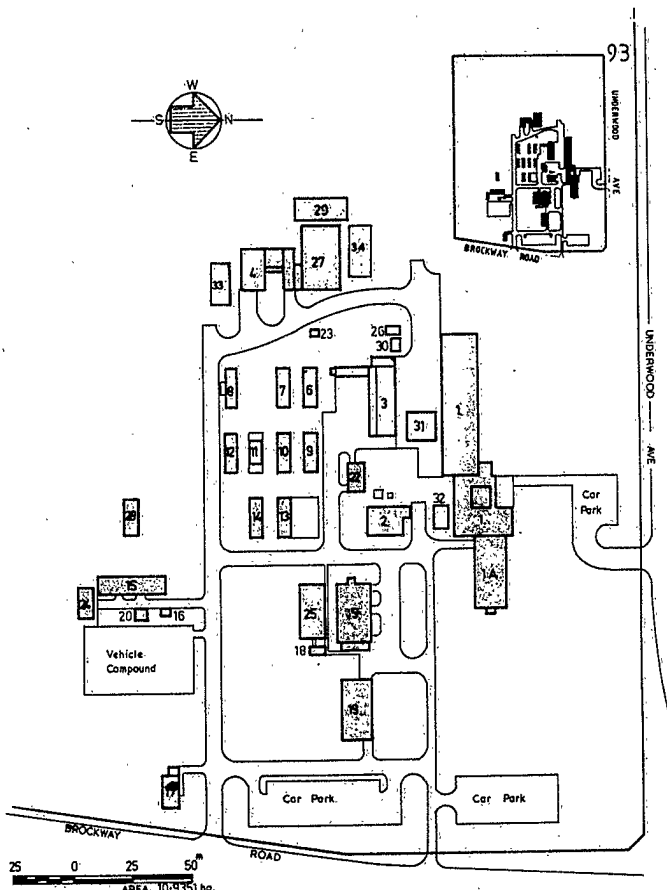
APPENDIX B

Site Plan

(See map, Appendix B, CSIRO's evidence)

Legend

- | | |
|---------------------------------------|-----------------------------|
| 1. Main Building | 22. Maintenance Workshop |
| 1a. Main Building Mineralogy | 23. Flammable Liquids Store |
| 2. Services Building | 24. Storage Shed |
| 3. Pot Culture House | 25. Hydrothermal Laboratory |
| 4. Animal House | 26. Office Prefab |
| 5. Workshop | 27. Animal House |
| 6,7,9,10 & 12. Glasshouse | 28. DGR Workshop |
| 8. C/T Glasshouse | 29. Animal Holdings |
| 11. Insectary | (Animal Prod) |
| 13,14 Open Glass Shelter | 30. Electronics Laboratory |
| 15. Storage Shed | 31. Canteen - Prefab |
| 16. Transport Office | 32. Library - Prefab |
| 17. House, 3 BR/Car Port | 33. Feed Preparation and |
| 18. Spray Painting Booth | Threshing Shed |
| 19. Minerals Samples/Storage Building | 34. Wet Sampling Lab |
| 20. Car port | |



LABORATORIES FOR RURAL RESEARCH
DIVISIONS - GROUNDWATER RESEARCH
MINERALOGY
FLOREAT PARK W.A.

CSIRO

site codes
FPL
FPM