

THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

REPORT

relating to

CSIRO NORTH RYDE LABORATORIES
SITE REDEVELOPMENT, STAGE 1

(Fifth Report of 1989)



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**MEMBERS OF THE PARLIAMENTARY STANDING COMMITTEE
ON PUBLIC WORKS**

(Twenty-ninth Committee)

Mr Colin Hollis MP (Chairman)
Mr Percival Clarence Millar MP (Vice-Chairman)

Senate

House of Representatives

Senator Bryant Robert Burns	Mr George Gear MP
Senator John Robert Devereux	Mr Robert George Halverson OBE MP
Senator Dr Glenister Sheil	Mr John Graham Mountford MP
	Mr William Leonard Taylor MP *

* Appointed on 29.9.88 following resignation of
Mr Maxwell Arthur Burr MP

**SECTIONAL COMMITTEE ON CSIRO NORTH RYDE LABORATORIES
SITE REDEVELOPMENT, STAGE 1**

Mr Colin Hollis MP (Chairman)
Mr Percival Clarence Millar MP (Vice-Chairman)
Mr Robert George Halverson OBE MP

EXTRACT FROM THE VOTES AND PROCEEDINGS OF
THE HOUSE OF REPRESENTATIVES

NO. 77 DATED THURSDAY 29 SEPTEMBER 1988

- 21 PUBLIC WORKS COMMITTEE - REFERENCE OF WORK - CSIRO NORTH
RYDE LABORATORIES SITE REDEVELOPMENT, STAGE 1: Mr West
(Minister for Administrative Services), pursuant to
notice, moved - That, in accordance with the provisions
of the Public Works Committee Act 1969, the following
proposed work be referred to the Parliamentary Standing
Committee on Public works, for consideration and report:
CSIRO North Ryde Laboratories, Site Redevelopment,
Stage 1.

Mr West presented plans in connection with the proposed work.

Debate ensued.

Question - put and passed.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

CSIRO NORTH RYDE LABORATORIES
SITE REDEVELOPMENT, STAGE 1

By resolution on 29 September 1989 the House of Representatives referred to the Parliamentary Standing Committee on Public Works for consideration and report the proposal for CSIRO North Ryde Laboratories Site Redevelopment, Stage 1.

THE REFERENCE

1. The proposal provides for redevelopment of laboratories and other facilities for three Divisions of CSIRO, namely, the Divisions of Biotechnology, Exploration Geoscience and Coal Technology, which are located on Commonwealth-owned land at North Ryde, Sydney NSW. It is the first stage of a multi-stage plan to redevelop substandard facilities on the site.

2. The proposed redevelopment comprises:

- . a new three-storey gene technology laboratory building, a new computer and administration building, additions to the library/conference centre and refurbishment of an existing laboratory building for the Division of Biotechnology
- . a new three-storey geophysics laboratory building for the Division of Exploration Geoscience

- . the first stage of a central chilled water installation for the Divisions of Exploration Geophysics and Coal Technology
 - . refurbishment/modification of part of two buildings to be occupied by the Division of Coal Technology
 - . demolition of some obsolete and substandard buildings
 - . relocation of some existing roads and services
 - . upgrading of car parks and landscaping.
3. The estimated cost of the proposed works when referred to the Committee in September 1988 was \$18.5m at August 1988 prices.

THE COMMITTEE'S INVESTIGATION

4. The Committee received submissions and plans relating to the proposed work from CSIRO and Australian Construction Services (ACS) and took evidence from representatives of both organisations at a public hearing held in Sydney on 14 December 1988.
5. The Committee also received submissions and took evidence from:
- . CSIRO staff associations - CSIRO Institute of Minerals, Energy and Construction, Division of Geophysical Exploration; NSW Branch of CSIRO Officers Association; Institute of Minerals, Energy and Construction and Ryde Site Staff Associations

- . Institute of Minerals, Energy and Construction, North Ryde Site Safety Committee
 - . Dr Powell, Head of School, School of Earth Sciences, Macquarie University.
6. A list of the witnesses who appeared at the public hearing is at Appendix A.
7. Written submissions also were received from the following organisations and are incorporated in the Minutes of Evidence:
- . Amrad Corporation Ltd
 - . Australian Coal Association
 - . BHP Research and New Technology, Melbourne Research Laboratories
 - . BHP-UTAH-Minerals International, Asia Pacific Division
 - . Coal Corporation of Victoria
 - . CRA Exploration Pty Ltd
 - . CRA Ltd
 - . Davy McKee Pacific Pty Ltd
 - . Department of Mines, Geological Survey of Western Australia
 - . Electricity Commission of NSW
 - . Joint Coal Board
 - . Kembla Coal and Coke Pty Ltd
 - . Pacific Biotechnology Ltd
 - . Royal Prince Alfred Hospital
 - . Ryde Municipal Council
 - . The Sedgman Group
 - . Sirius Biotechnology Ltd
 - . State Electricity Commission of Victoria
 - . Dr G.J. Smith, Associate Professor and Director, Carcinogenesis Research Unit, University of NSW

- . Western Mining Corporation Ltd
- . Dr Whalley, Senior Lecturer in Biological Sciences,
School of Biological Sciences, Macquarie University
- . White Industries Ltd
- . Dr K. Williams, Professor of Biology, School of
Biological Sciences, Macquarie University.

8. Prior to the public hearing the Committee inspected the sites for the proposed development and the existing facilities at CSIRO North Ryde.

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

BACKGROUND

CSIRO: Research Advancing Australia

10. CSIRO is one of the largest and most diverse national research institutions in the world. CSIRO's major objectives are to:

- . carry out strategic research which can be applied by
Australian industry or government for community benefit
- . collaborate with other institutions and industry to
strengthen the research effort and ensure its transfer
and application
- . lead and promote an expanded science and technology
effort in Australia.

11. CSIRO and its scientists have established a world-wide reputation for excellence and achievement in basic and applied research. Its work contributes to the ongoing prosperity of Australia's primary industries, and to the creation of new products and techniques for the continuing development of technology, manufacturing and service-based industries.

12. Research is carried out by CSIRO in six institutes each relating to vertically integrated sections of industry and within each institute there are divisions each focusing on an area of science and technology. Divisions and institutes are located all over Australia with many divisions spread over more than one site.

CSIRO'S North Ryde Site

13. The North Ryde site is CSIRO's principal research centre in NSW and accommodates the Divisions of Biotechnology (the Laboratory for Molecular Biology); Exploration Geoscience; Coal Technology; Food Processing; and some research activities of the Divisions of Animal Production, Construction and Engineering, Mineral and Process Engineering and Plant Industry. The current redevelopment proposal relates to the first three of those divisions.

Division of Biotechnology

14. The Division of Biotechnology was established in January 1988 following a review of the structure of CSIRO. It was formed by the amalgamation of the former Division of Molecular Biology (North Ryde NSW) and the relevant research programs of the former Division of Protein Chemistry (Parkville, Victoria) and Chemical and Food Technology (Clayton, Victoria). The Division's

objective is to discover, develop and implement new principles and methods of molecular and cell biology to aid in the generation of wealth in the biotechnology-based pharmaceutical, chemical and agricultural industries. The headquarters and principal laboratories of the new Division are located at North Ryde and there are 142 staff at the site.

15. The Division is recognised at a centre of excellence in molecular biology having a major impact on the development of both the molecular biology and the biotechnology industries in Australia. Biotechnology and biotechnology-related businesses are among the fastest growing industries in OECD countries and it is estimated that by year 2000 the world technology market will be valued at \$US100 billion.

Division of Exploration Geoscience

16. The objective of the Division of Exploration Geoscience is to improve and develop new procedures in support of the mining and exploration industry for use in locating mineral and hydrocarbon deposits in Australia. The Division currently has 97 staff at North Ryde and this number is expected to increase to 112 over the next decade. There are an additional 14 Division staff most of whom are based at Floreat Park in Perth.

17. The Division's research supports a major Australian export industry - minerals and petroleum. In 1986-87 Australia's mineral, metal and fuel exports were valued at \$A16 billion. Australia is a major world supplier of alumina, rutile and zircon, lead, zinc and manganese, gold, diamonds and coal. Mining is thus critical to the economic well-being of the Australian economy. The mining industry can only remain competitive if it continues to find and develop high grade deposits and to produce efficiently. In 1986-87 mining companies spent \$A556 million on exploration activities.

Division of Coal Technology

18. The Coal Technology Division's objective is to support and improve the production, use and marketing of coal. To achieve this objective there are 95 staff on the North Ryde site and five staff located at Lucas Heights, Sydney.

19. The coal industry is critical to the Australian economy as Australia is the world's largest exporter of coal. Coal is Australia's largest earner of income (currently valued at \$A5.4 billion) and coal supplies meet most of the country's needs for electricity and industrial cokes. The Division's work helps to ensure that fuel resources are developed and used to maximise the benefits to industry and to the Australian economy.

THE NEED

Inadequacies of the Existing Facilities

20. CSIRO currently is experiencing a number of unsatisfactory situations regarding its accommodation for the Divisions of Biotechnology, Exploration Geoscience and Coal Technology on its North Ryde site. Increasing staff numbers and the volume of collaborative research coupled with biotechnology, minerals, mining and energy being high priority research areas is creating a difficult work environment for the three divisions.

Division of Biotechnology - Laboratory for Molecular Biology

21. The continuing expansion of research activities in molecular biology since the 1960s has resulted in an ongoing need to find additional space to house biotechnology research at North Ryde. The main laboratory/administration building and support

buildings were constructed and occupied in 1963. A second laboratory was constructed in 1975 and the undercroft was later filled in as laboratory space. These buildings generally provide insufficient laboratory-office space, lack storage space for laboratory consumables and there is no space to locate a small-instrument repair workshop. More specifically, the existing two laboratory buildings lack adequate air-conditioning, electrical services, ventilation, fire protection standards for laboratory chemicals, temperature control features and alternative means of egress.

Gene Technology Laboratory

22. A new gene technology laboratory is needed to accommodate some 50 scientists and support staff. Laboratories are required in which separate research experiments can be carried out without risk of cross-contamination or danger to staff. Support areas are needed for culturing of tissues, breeding of drosophila and preparation of sterile glasswares.

Computer/Administration Building

23. An enlarged computing facility with some support functions is required to handle the increasing volume of biotechnology data and to cater for some expansion.

Building 1 Refurbishment

24. Space currently occupied by substandard laboratories in Building 1 need to be refurbished for administrative use or upgraded for the specified laboratory purpose.

Addition of Kitchen/Servery to Existing Library/Conference Centre

25. The existing combined canteen/meeting room is too small and canteen and meeting functions often conflict. If a new kitchen were constructed outside the existing facility, the usable space for the meeting room would increase.

Divisions of Exploration Geoscience and Coal Technology

26. These two divisions occupy approximately 40 buildings only six of which have an area of more than 500 m². These buildings mostly are refurbished 'utility' structures which are being used well beyond their original life span and usage and are unsuitable for many modern specialist laboratory procedures. The number of buildings does not facilitate staff interaction nor the linking of associated research activities.

Geophysics Laboratory

27. A new geophysics laboratory is needed to permit the grouping of scientists in one facility.

Refurbishment of Buildings 12 and 36 for Laboratory Accommodation

28. The construction of a new geophysics laboratory will permit more effective use of the laboratories in Buildings 12 and 36 by the scientists of the Division of Coal Technology. Building 12 also will require some repartitioning of the first floor, rectification of air ventilation problems, and provision of adequate chemical storage. For Building 12 as well as Buildings 3, 24 and 36 the existing refrigeration plant will be augmented.

Site Entry and Circulation Road

29. The entrance to, exit from and internal circulation road on the site have been a problem for staff for some time. The entrance to the site is unsafe and CSIRO is involved in detailed negotiations with the NSW Department of Main Roads and the Ryde Municipal Council to rectify the situation. The existing entrance adjacent to the site of the proposed Geophysics Laboratory will be relocated approximately 40 m to the east to allow proper master planning of the minerals and energy precinct.

Research Funding Versus Building Priorities

30. In a written submission to the Committee, Western Mining Corporation Limited (WMCL) Exploration Division-Minerals (Australasia) stated that while supporting research at the CSIRO North Ryde Laboratories it did not support in principle the proposed site redevelopment. WMCL considers that the extra capital costs of the development can only be justified if it can be demonstrated that the investment will materially improve the quality of research performed at North Ryde. WMCL would prefer to see the cost of the proposed redevelopment devoted to research.

31. CSIRO responded by stating that the provision of adequate buildings and other facilities is as much a part of research as that which is spent on salaries and equipment.

32. In contrast to the WMCL comment, the Committee also received twenty-one letters of support for the proposal from research organisations and industry throughout Australia. Copies of those letters are included in the Minutes of Evidence.

33. In summary, the inadequacies of the existing laboratories and facilities on the North Ryde site include overcrowding, lack of proper ventilation services, substandard electrical and mechanical services, inappropriate space and conditions for highly sensitive equipment and lack of adequate fire safety measures. The number of buildings used also results in the site being used inefficiently and makes effective communication difficult between staff and linking of research activities. In addition, the current rundown character of the site has a negative impact on staff morale.

Committee's Conclusion

34. To support Australia's research performance in the areas of biotechnology, mining and minerals and energy there is a need to construct new research facilities at CSIRO North Ryde as well as to replace existing inadequate structures on the site.

THE PROPOSAL

35. To fulfil the accommodation requirements of several CSIRO Divisions at North Ryde for sophisticated new research facilities and to replace several old facilities, CSIRO proposes to undertake a major capital works program.

36. The site for the proposed redevelopment is contained within the existing boundaries of CSIRO's North Ryde site which covers an area of some 30 hectares. The site is located 11 km from the Sydney City Centre and is zoned 'Special Uses (Research)' under the Ryde Planning Scheme. It is bound by the Delhi Road, Epping Road, the Lane Cove River and the Channel 10 television station.

37. The site was acquired by CSIRO in the late 1950s and early 1960s. In 1985 and 1986 CSIRO expanded the size of the site by acquiring two land packages of 0.32 hectares and 0.3 hectares respectively from the National Building Technology Centre at a total cost of \$1.17m. More recently, the National Building Technology Centre functions and facilities have been incorporated into CSIRO thereby enabling a more rational use of the acquired site.

38. In its submission to the Committee, CSIRO stated that the proposed redevelopment comprises:

. Preliminary works

- relocation of existing roads and services
- demolition of obsolete buildings
- preparation of the building sites

. Division of Biotechnology

- new gene technology laboratory building of 2700 m² usable floor space
- new two-storey computer/administration building
- refurbishment of existing Building 1
- addition of kitchen/servery to existing library/conference centre

. Division of Exploration Geoscience

- new geophysics laboratory/administration building of some 1800 m² usable floor space

- . Division of Coal Technology

- refurbishment of first floors of existing Buildings 12 and 36 for laboratory accommodation
- modification to mechanical services in Building 12

- . Divisions of Exploration Geoscience and Coal Technology

- stage 1 of a new central chilled water installation

- . General works

- upgrading of car parks and landscaping of immediate work areas including courtyards.

39. Further details on the construction of the buildings are provided at Appendix B and project drawings are at Appendix C.

40. The proposed buildings will provide accommodation complying with all relevant codes. Particular attention will be given to the provision of facilities for those who will use the premises, including staff, the public and disabled persons.

MASTER PLAN

41. A master plan for the Commonwealth lands at North Ryde was prepared in 1984. It proposes a multi-precinct development strategy with access from a new internal circulation road, rationalisation of current land holdings and a reduction in the number of entry points from Delhi Road. With the inclusion of the National Building Technology Centre within CSIRO there is a need to reappraise some facets of the master plan. In evidence to the Committee however, ACS stated that this is unlikely to affect the current redevelopment proposal.

42. The current proposal is the first stage of the redevelopment of the North Ryde site. Future works are expected for the Divisions of Exploration Geoscience and Coal Technology and include:

- . progressive demolition of 1500 m² substandard buildings
- . refurbishment of 2000 m² of existing accommodation
- . construction of 8500 m² of new accommodation for isotope and general laboratories, new canteen, library extension, additional stores and workshops, enlarged technical scale laboratories and mineral sample facilities
- . improvements to roads, site entry, car parks and landscaping.

43. Those works are expected to be completed by the year 2000 at an estimated cost of some \$40m at current prices.

44. Concern has been expressed by some members of the CSIRO Isotope Group on the North Ryde site that the construction of the proposed new isotope laboratory is to be delayed until Stage 2 of the redevelopment plan. ACS told the Committee that the decision is based on CSIRO's priorities. Stage 1 allows for the demolition of inefficient buildings to establish a site for the isotope laboratory which is required to be close to the central plant and remote from Delhi Road. Construction of the laboratory is scheduled for inclusion in Stage 2.

DESIGN OF THE PROPOSED BUILDINGS

General Design Features

45. The proposed new laboratory buildings have been designed in 'L' configurations and linked to existing laboratories to create landscaped courtyards. This configuration has been proposed as it provides efficient workspace and facilities, pleasant environments for staff and the lateral planning has enabled building heights to be kept to a minimum.

New Geophysics Laboratory

46. While generally supporting the redevelopment of the North Ryde site, the CSIRO staff association raised a number of concerns regarding the design of the proposed new geophysics laboratory. In evidence to the Committee ACS provided the following comments on the issues raised.

North-South Orientation of the Laboratory

47. The staff association considers the proposed north-south orientation of the new geophysics laboratory is likely to result in a higher cooling load than an east-west aligned building with shades for each floor on the north side.

48. ACS continues to support the north-south orientation of the geophysics laboratory and notes that the following techniques and devices have been used to reduce heat-load to acceptable levels of comfort and efficiency: deeply recessed glazing; double glazed units with 'slave' blinds; roof overhangs; building fabric of high thermal mass; and insulation of components.

Inclusion of Internal Rooms

49. Internal rooms are designated for use as storage, laboratory support areas such as dark-rooms, laboratories which require enclosure, computer and associated spaces where screen-based equipment is used.

Covered Walkway Between Proposed Geophysics Laboratory and Building 12

50. A ground-level walkway is provided between Building 12 and the geophysics laboratory. A covered ramp will link the first floor only of Building 38 to levels of the geophysics laboratory. A continuous covered link at ground level cannot be provided while maintaining access to the delivery door on the ground floor of Building 38.

No Basement Storage for Laboratory

51. ACS stated that a basement was included in the early plans and estimates indicated it would cost \$200 000. CSIRO decided to save funds by deleting the basement from the design.

Committee's Conclusion

52. The Committee is satisfied that the design of the proposed laboratories and buildings will satisfy the accommodation needs as outlined for CSIRO on its North Ryde site.

AMENITIES AND FACILITIES

Staff Amenities

53. Amenities including toilets, showers and an extension to the canteen in the molecular biology laboratory building will be provided in accordance with the standards applicable to such development proposals. The provision of canteen facilities on the site is important given the site's location some 5 km from the nearest shopping centre at Chatswood.

54. The staff association raised the issue of the provision of work-related child-care facilities. CSIRO informed the Committee that it is considering the provision of such facilities as part of a separate project.

Facilities for Disabled Persons

55. The Committee was advised by ACS that facilities in the proposed redevelopment have been designed according to the Australian standards for disabled access. Specifically:

- . ramps will provide access to the ground floor
- . there will be a lift service to the upper floors of the new laboratory building
- . links to other floor levels of existing buildings will improve handicapped access to facilities on the site.

Occupational Health and Safety Issues

56. In developing amenities and facilities for the proposed development relevant safety regulations and operational practices will be met so as to minimise their impact without compromising planning and functional efficiency. Officers from CSIRO's Occupational Health and Safety Unit have been consulted in the design of the proposed development.

Car Parking

57. Twenty additional car spaces are included as part of the current proposal. This is the number of spaces specified for the development by the Ryde Municipal Council. In its submission the staff association suggested that these and other car parking spaces be provided as roadside parking bays in the design of the semicircular ring road proposed for future development at North Ryde. In response to this suggestion, ACS stated that the distribution of parking on the North Ryde site needs to be reviewed in the context of the main circulation road. However, the concept of using that road for car parking is not recommended as an engineering or planning solution in the master plan.

Waste Disposal

58. CSIRO currently has a number of contracts and agreements to ensure the safe disposal of wastes from the North Ryde site. Waste disposal contractors remove liquid wastes prohibited from entering the Water Board's sewer. There is also a contract for the collection of contaminated waste. These waste disposal services will be extended to cater for the new facilities. The Division of Biotechnology is also a very small user of radioactive material which is disposed of in accordance with the National Health and Medical Research Centre code of practice.

59. Laboratory procedures producing fumes will be undertaken in fume cupboards designed to Australian Standards and vented in accordance with State Pollution Control Commission guidelines.

Fire Protection

60. ACS has proposed a comprehensive fire protection scheme to deal with the higher fire risk that generally is associated with laboratories. The buildings will be of fire-rated materials, subdivided into compartments and with fire-rated exits. Active fire protection will include an automatic fire detection system, fire hose reels and hand held extinguishers. Management and user groups have identified potential fire hazards involved in laboratory work and provision has been made for safe storage and handling of flammable materials.

Asbestos

61. A survey of Buildings 1, 12 and 36 for asbestos material was undertaken in the mid 1980s. As a result of that investigation Building 12 has undergone an asbestos removal program which was completed in 1987. Any asbestos material detected during the current building program will be removed following established procedures agreed with the unions.

ENVIRONMENTAL ISSUES

62. ACS advised the Committee that the proposal had been referred to the Department of Arts, Sport, the Environment, Tourism and Territories (DASETT) which advised ACS that an Environmental Impact Statement was not required. However, DASETT requested that in proceeding with the design and implementation of the proposal ACS should ensure that the suggestions made by

the New South Wales Department of Environment and Planning are implemented. These are that:

- . traffic control for access to the site is improved
- . a statement of the activities being carried out on the site and the chemical and biological materials stored there is prepared and is available to the State Pollution Control Commission if required
- . appropriate consideration is given to the provisions of SEPP No 19, Bushland and Urban Areas particularly regarding bushland preservation
- . the requirements of the Ryde Municipal Council and the Department of Main Roads are obtained and applied in the implementation of the proposal.

63. CSIRO informed the Committee that the issues raised by DASETT have been specifically addressed in the design solution for the project proposed by ACS.

64. While areas surrounding the proposed redevelopment previously have been landscaped there are significant areas of remnant bushland on the lands occupied by the National Building Technology Centre. As a result ACS told the Committee that it is proposed that landscaping in the vicinity of the Stage 1 buildings will be designed to reinforce the existing bushland environment. ACS also stated that every effort will be made to minimise the loss of trees as a result of the proposed construction activities.

CONSULTATION

65. ACS informed the Committee that the following authorities and organisations have been consulted in the development of the proposal and details of concerns raised have been outlined in the previous sections of this report:

- . Australia's Council on Rehabilitation of the Disabled - ACROD
- . Australian Gas Light Company
- . Department of the Arts, Sport, the Environment, Tourism and Territories
- . Department of Main Roads
- . NSW Fire Brigade
- . Ryde Municipal Council
- . State Pollution Control Commission
- . Sydney City Council
- . Telecom Australia
- . Water Board.

66. In its submission CSIRO stated that it has established a North Ryde Redevelopment Committee with representation from the Division's Safety Committee and the staff associations. All relevant issues in relation to the proposal have been discussed in that Committee and more extensive consultation will take place if the project is approved. Overall the Division's Safety Committee is satisfied with those consultations; however, the staff associations are not. The associations identified a number of deficiencies for their members with the proposed design of the buildings and the facilities provided. Details of those concerns have been discussed in earlier sections of this report.

67. Consultation with staff associations has taken place at two levels. Representatives of staff associations at North Ryde have been elected to serve on a panel, which has liaised with all staff on issues relating specifically to the redevelopment program. In addition, the general secretaries of staff associations represented at North Ryde have been informed of the proposed redevelopment.

68. CSIRO also has consulted widely with other relevant organisations, universities and Commonwealth and State departments concerning the design and benefits of the proposed redevelopment.

Committee's Conclusion

69. The Committee recognises the efforts that CSIRO and Australian Construction Services have made to consult with government departments, research institutions and staff groups on the proposed redevelopment and welcomes CSIRO's commitment to continue those consultations.

CONSTRUCTION PROGRAM

70. The estimated time for the preparation of tender documents and the letting of contracts is twelve months. An initial contract for relocation of existing roads and services on the site is expected to take six months to complete with other construction taking a further two years. The proposed completion date for the project is 1991.

71. In their submission to the Committee the staff associations expressed considerable concern about the inevitable disruption to scientific research activities during the construction phase as

the existing geophysics building 38 is in close proximity to the proposed new geophysics building and both buildings have to be connected. Research staff are concerned that the levels of dust and noise (vibration) pollution will have an adverse effect on sensitive research equipment.

72. In response to those concerns both CSIRO and ACS have stressed that they recognise the need to avoid any unnecessary disruption to research activities during the construction phase, that the work required within the existing geophysics building is minimal and that they will work co-operatively with site staff, scientists, contractors and subcontractors to ensure minimum disruption during the construction period.

LIMIT OF COST

73. The limit of cost for the proposal is \$18.5m at August 1988 prices.

74. The limit of cost estimate includes the following:

- . preliminaries
- . building works
- . mechanical, electrical and hydraulic services, lifts, fire protection
- . landscape and external services.

Committee's Recommendation

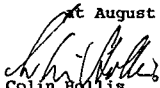
75. The Committee recommends the construction of the Stage 1 redevelopment facilities at CSIRO North Ryde at an estimated cost of \$18.5m at August 1988 prices.

COMMITTEE'S CONCLUSIONS AND RECOMMENDATION

76. The conclusions and recommendation of the Committee are set out below with the paragraph in the report to which each refers:

Paragraph

1. To support Australia's research performance in the areas of biotechnology, mining and minerals and energy there is a need to construct new research facilities at CSIRO North Ryde as well as to replace existing inadequate structures on the site. 34
2. The Committee is satisfied that the design of the proposed laboratories and buildings will satisfy the accommodation needs as outlined for CSIRO on its North Ryde site. 52
3. The Committee recognises the efforts that CSIRO and Australian Construction Services have made to consult with government departments, research institutions and staff groups on the proposed redevelopment and welcomes CSIRO's commitment to continue those consultations. 69
4. The Committee recommends the construction of the stage 1 redevelopment facilities at CSIRO North Ryde at an estimated cost of \$18.5m at August 1988 prices. 75



Colin Hollis

Chairman

9 March 1989

APPENDIX A

LIST OF WITNESSES

EMBLETON, Dr Brian Jerrad Jack, Chief, Division of Exploration
Geoscience, CSIRO, Floreat Park Laboratories, Wembley, WA
6014

FARRAR, Mr Ian Lloyd, General Manager, Corporate Resources
Branch, Corporate Resources Department, CSIRO, PO Box 225,
Dickson, ACT 2602

GIBBS, Mr Bruce Glanville, Building Project Officer, Property
Management and Planning Unit, CSIRO, PO Box 225, Dickson ACT
2602

GRAY, Mr William John, Acting Deputy State Manager, Projects I,
Australian Construction Services, Department of
Administrative Services, 15 Help Street, Chatswood, NSW 2067

ISRAEL, Mr Colin Michael, Design Project Leader, Australian
Construction Services, Department of Administrative Services,
15 Help Street, Chatswood, NSW 2067

LEUNG, Dr Leung Sun, Chief, Division of Coal Technology,
Institute of Minerals, Energy and Construction, North Ryde
Laboratories, CSIRO, PO Box 93, North Ryde, NSW 2113

PAKCHUNG, Mr Laurence Vincent, Project Manager, Australian
Construction Services, Department of Administrative Services,
15 Help Street, Chatswood, NSW 2067

POWELL, Dr Christopher McAulay, Associate Professor and Head,
School of Earth Sciences, Macquarie University, NSW 2109

REID, Dr Alan, Director, Institute of Minerals, Energy and
Construction, CSIRO, North Ryde Laboratories, PO Box 93,
North Ryde, NSW 2113

RUSSELL, Mr Nigel John, Group Representative, CSIRO Officers
Association, PO Box 136, North Ryde, NSW 2113

SLEIGH, Dr Marilyn Joy, Acting Chief, Division of Biotechnology,
CSIRO, North Ryde Laboratories, PO Box 184, North Ryde, NSW
2113

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CONSTRUCTION DETAILS

Building Structure

Footings will generally be of reinforced concrete pads and strips supported on sandstone. The new buildings will be constructed using conventional reinforced concrete frames and floor slabs. Roof structures will be steel framed except for areas of roof mounted plant where reinforced concrete will be used. Special consideration has been given to the location and acoustical isolation of plant to prevent unacceptable noise and vibration.

Materials and Finishes

The principal external materials will be concrete, face brickwork and prefinished steel cladding, with anodised aluminium window frames. These materials have been selected for cost and performance. Roofs will comprise either concrete slabs with continuous membrane coverings or prefinished metal roofing over steel framing as appropriate. Internal materials will generally follow conventional practice with 'hard', smooth finishes to walls and ceilings and welded sheet vinyl flooring and skirting to laboratories and laboratory support areas. Offices and corridors will have carpeted floors. Floors in wet areas will have ceramic tiles. Service areas will have a waterproof, non-slip finish. Particular attention will be paid to detailing of laboratory/laboratory support areas to meet the requirements of laboratory work, allow ease of cleaning and safe disposal of wastes.

Mechanical Services

The laboratory buildings will generally be air conditioned except for plantrooms, toilets and storage, which will be mechanically ventilated. Fresh air will be drawn from low levels to avoid possible contamination from cooling towers and fume cupboard exhausts. Reticulated services will provide potable and non-potable hot water and natural gas. In the Geophysics Laboratory, nitrogen, vacuum, process cooling water and compressed air will be reticulated as required. Fume cupboards and fume exhaust systems will be provided as required, exhausting above roof level, in accordance with current Australian Standards. Chemical storage cabinets will be provided as required.

The ground floor plantroom of the Molecular Biology Laboratory will house chillers, gas-fired boilers, stand-by diesel generator

and fresh-air filtering and tempering plant. Fresh air, chilled water and hot water will be circulated to rooftop fan coil units serving individual laboratories or groups of offices. Fresh air make-up will maintain laboratory pressurisation to prevent cross-contamination. Cool rooms and constant temperature rooms will support laboratory functions as required.

The Geophysics Laboratory will be supplied with chilled water from the Central Plant Stage 1. Roof mounted plant includes gas fired boilers for heating and cooling towers. Individual variable volume air handling units housed in plantrooms on each floor will serve office areas of that floor. Laboratories and computer room will be served by dedicated air handling units. Fresh air make-up will maintain laboratory pressurisation to meet occupational health and safety standards. An economy cycle will be incorporated to minimise running costs when ambient air temperature is sufficiently low.

Chilled water will be supplied from a new plantroom (Central Plant Stage 1) located close to the existing central plant with provision for further redevelopment of the precinct.

Electrical Services

Mains power will be supplied from existing substations on site. Dedicated power circuits will be provided to each laboratory. Elsewhere outlets will be in accordance with standard office accommodation provisions.

For personnel protection power circuits in wet process areas will be fitted with earth leakage circuit breakers and each laboratory will be provided with emergency switches for isolation of its circuits.

Generally, lighting levels will meet the relevant Australian Standard. Additional provisions will be made to meet specific requirements for task lighting. Energy efficient fluorescent luminaires will be used throughout and supplemented as appropriate with incandescent luminaires. Glare control diffusers will be provided where required. A diesel alternator set will be installed for standby power supply to nominated equipment at the Division of Biotechnology. An emergency evacuation lighting system will be provided in accordance with the relevant codes and standards.

Telecom block-cabling will be provided and additional duct space will be made for computer and data cabling. Electronics work benches will be fitted with earth planes. A separate earthing system and for the filtering of power and data cables will secure the future screened room.

Civil and Hydraulic Services

Adequate town water, sewerage and drainage systems exist on the site. Existing fire hydrant and laboratory water treatment systems are also adequate for extension to the proposed facilities. Hydraulic services include hot and cold laboratory water and hot and cold drinking water to basins, showers and fittings. Sewerage and drainage facilities will be provided as required.

Civil works will include a new access road to the east of the Geophysics laboratory, relocation of the road serving the Division of Animal Production, diversion of services in the vicinity of new buildings, construction of service tunnels, construction of driveways and turning areas for delivery vehicles, upgrading of existing carparking to the Divisions of Exploration Geoscience and Coal Technology and connection of new facilities to stormwater mains.

Lifts, Materials Handling and Storage

A goods/passenger lift will be installed in each of the new laboratory buildings to serve the occupied levels. Corridors will have adequate width for trolley and pedestrian traffic. Trolley 'parking' areas will be provided where required. Appropriately segregated safe storage areas will be incorporated into the buildings.

A loading dock will be provided in each of the new laboratory buildings. Ramped access to ground floor areas will facilitate movement of goods by trolley. Walkway links between new and existing laboratory accommodation will facilitate movement of people and goods, and provide access to the new lifts.

APPENDIX C

PROJECT DRAWINGS

Figure

- 1 Location Plan
- 2 Commonwealth Lands at North Ryde Site Plan
 New Gene Laboratory
- 3 Site Plan
- 4 Elevations
- 5 New Computer Administration Building Plans and
 Elevations
 New Geophysics Laboratory
- 6 Site Plan
- 7 Elevation

LEGEND

- 1 CSIRO SITE
- 2 DELHI ROAD
- 3 EPPING ROAD
- B BAYSTOWN
- C CARLSTOWN
- E EPPING/EASTWOOD
- H HORNSBY
- NR NORTH RYDE
- P PARRAMATTA
- R ROCKDALE
- S SYDNEY - CITY



LOCATION PLAN

PREPARED BY ALSTRA, AN AUSTRALIAN CONSTRUCTION SERVICES

FIGURE 1 - C2

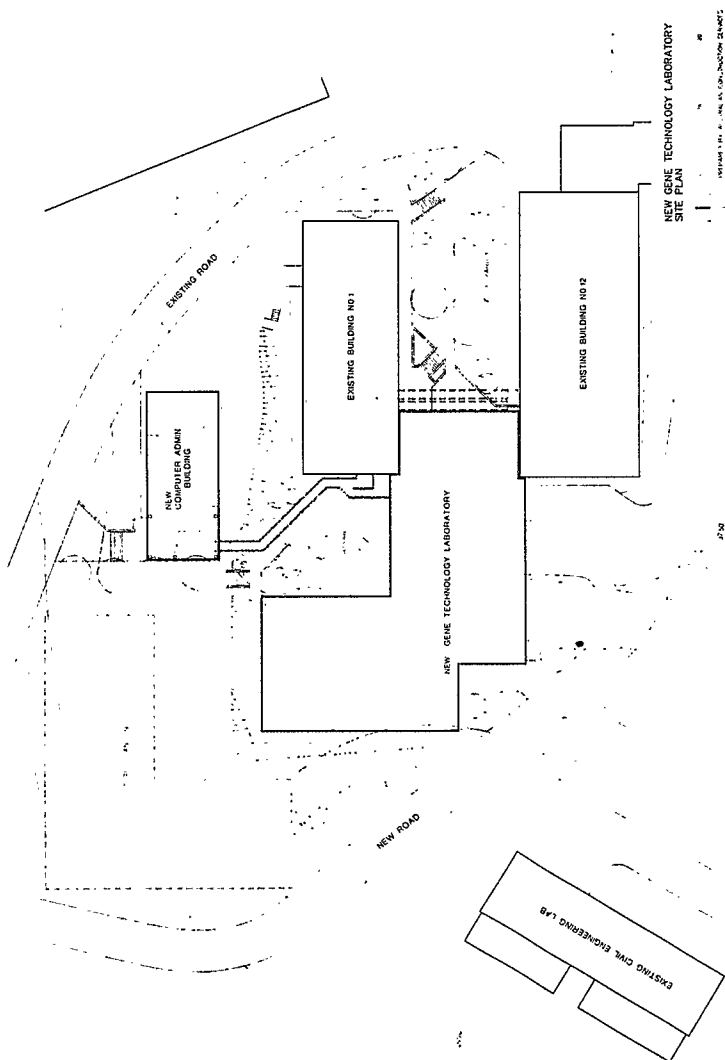


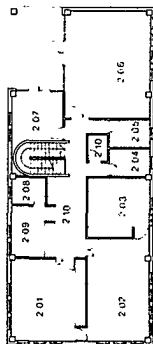
FIGURE 3 - C4



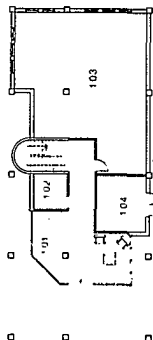
NORTH ELEVATION



SOUTH ELEVATION

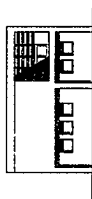


FIRST FLOOR PLAN



GROUND FLOOR PLAN

EAST ELEVATION



WEST ELEVATION



LEGEND

- 101 RECEPTION
- 102 COMP TAPES
- 103 COMPUTER ROOM
- 104 PLANT
- 201 CHIEF'S SUITE
- 202 CONFERENCE ROOM
- 203 ASSIST CHIEF
- 204 MALE TOILET
- 205 FEMALE TOILET
- 206 INDUSTRY LIASION OFFICE
- 207 OFFICE
- 208 CHIEF
- 209 SECRETARY
- 210 STORE

NEW COMPUTER ADMINISTRATION BUILDING
PLANS + ELEVATIONS

18

PREPARED BY: ALSTON/CONSTRUCTION SERVICES

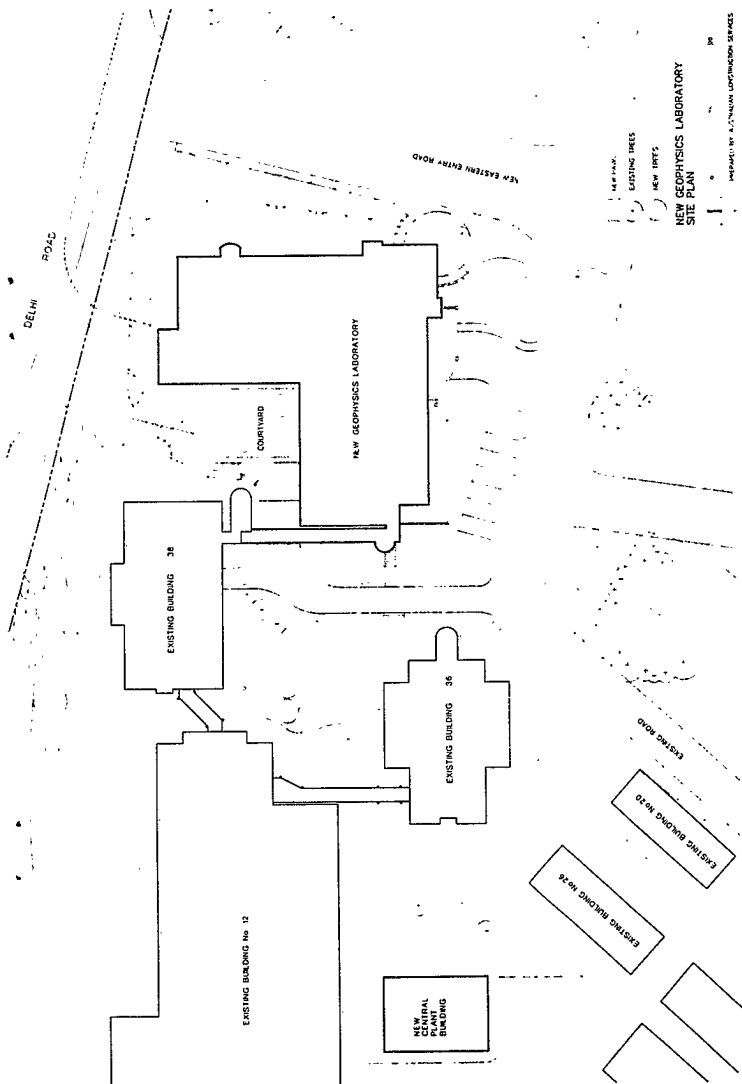
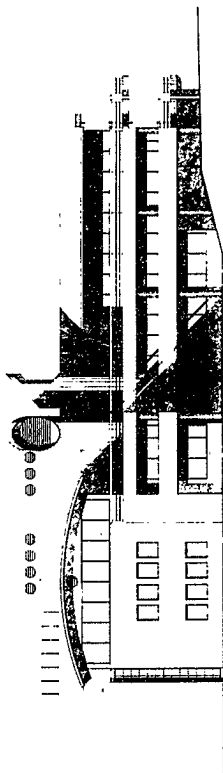


FIGURE 6 - C7



NORTH ELEVATION



SOUTH ELEVATION

NEW GEOPHYSICS LABORATORY
ELEVATION - 1