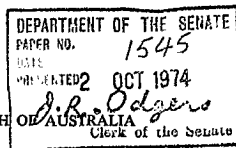


1974

THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA



Parliamentary Standing Committee on Public Works

REPORT

relating to the proposed construction of a

CENTRAL HEALTH LABORATORY

at

Woden

Australian Capital Territory

(FOURTH REPORT OF 1974)

C O N T E N T S

	<u>Paragraph</u>
The Reference	1
The Committee's Investigation	4
The Need	
Historical Background	6
Present Situation	9
Alternatives to Central Health Laboratory	11
Centralised Laboratories Elsewhere	16
Committee's Conclusion	19
Future Use of Existing Facilities	20
The Proposed Central Health Laboratory	
Function and Total Concept	22
The Site	34
The Building Proposal	
Design	37
Structure	41
External Finishes	42
Internal Finishes	43
Fittings	44
Mechanical Services	45
Electrical Services	57
Lifts	59
Fire Protection	60
Civil	61
Equipment	64
Committee's Conclusion	65

	<u>Paragraph</u>
Environmental Impact	66
Programme	70
Estimate of Cost	71
Recommendations and Conclusions	73
Perspective of the Proposed Central Health Laboratory	

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

CENTRAL HEALTH LABORATORY
AT WODEN, A.C.T.

R E P O R T

By resolution on 30 July 1974, the House of Representatives referred to the Parliamentary Standing Committee on Public Works for investigation and report to the Parliament, the proposal for the construction of a Central Health Laboratory at Woden, Australian Capital Territory.

The Committee have the honour to report as follows:

THE REFERENCE

1. The proposal referred to the Committee is for the construction of a Central Health Laboratory building which will serve the residents of the Australian Capital Territory and surrounding districts, both as patients admitted to or attending hospitals and other health institutions and as patients referred direct by medical practitioners. The Central Health Laboratory will also cater for all the public health and forensic laboratory work of the A.C.T. The central blood bank for the A.C.T. will also be housed in the building.
2. It is proposed that the building be located on a site adjacent to the main hospital block of the Woden Valley Hospital with a physical connection at the lower ground and first floor levels.

3. The proposal when referred to the Committee was estimated to cost \$4.4 million.

THE COMMITTEE'S INVESTIGATION

4. The Committee inspected the site and existing facilities on 20 August 1974 and received written submissions and drawings from the Department of Health and the Department of Housing and Construction and took evidence from their representatives at a public hearing in Canberra on 22 August 1974.

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

THE NEED

6. Historical Background During 1968, the A.C.T. Hospital Advisory Committee investigated the possibility of a central pathology laboratory for the A.C.T. and subsequently recommended to the Director-General of Health that pathology services should be integrated and that a building to house a central laboratory should be planned as early as possible. The Hospital Advisory Committee also recommended that each hospital should have a pathology laboratory for urgent diagnostic and therapeutic needs.
7. Other expert committees were subsequently established during 1968 and 1969 to examine and report on the desirability of providing a central health laboratory for the A.C.T. They recommended that a central laboratory should be established in the A.C.T. as the technical and administrative headquarters, with the clinical pathology, public health and forensic laboratory services integrated as one unit; that a high degree of automation of equipment should be introduced; that shift work be introduced for maximum utilisation of equipment and that minimal pathological services be performed at each hospital.

8. The English consultants, Llewellyn Davies, Weeks, Forestier-Walker and Bor, in their report of November 1970 "Future Health Care Services in the A.C.T." recommended that centralisation of clinical pathology services and their integration with other related services should proceed as soon as possible.

9. Present Situation The Committee were advised that for some years, the pathology laboratory for the A.C.T. and surrounding district has been based at the Canberra Hospital and also at the Woden Valley Hospital since mid-1973. The overall workload of the pathology laboratory has increased by approximately 12% per annum from 1967-68 to 1972-73. This increase has been unevenly distributed between various sections of the laboratories which are not inter-changeable. Some sections have increased workloads of up to 40% in one year. Because of the expansion of services during the past two years it has been necessary to find temporary accommodation for some sections of the laboratories. To relieve overcrowding, the cytology section was transferred to an area in a disused hostel and subsequently transferred again to a ward area in the Woden Valley Hospital. In addition, the teaching role of the pathology laboratory, both at the level of training of specialist pathologists and in the training of technical staff, is suffering because of these accommodation problems. The extension of services is limited by lack of space. This effect has been felt most seriously in virology and biochemistry.

10. The public health laboratory is located at the Institute of Anatomy, mainly in the basement, and provides an analytical service for the Health Department and other government departments. In 1973, over 10,000 samples of water, milk, foodstuffs and drugs were received for analysis. This work

is continually increasing, and in addition, it is planned to extend air pollution monitoring in the near future. The present quarters occupied by the laboratory are already extremely overcrowded and, besides being unsuitable in many respects, are totally inadequate in size to allow the necessary expansion to cope with these increased activities.

11. Alternatives to Central Health Laboratory Alternative proposals include separation of the public health laboratory or the blood bank from the rest of the laboratory, or varying the degree of centralisation or rationalisation of pathology tests.

12. Complete decentralisation to the degree that each laboratory would do every possible test is not practical and is not attempted anywhere in Australia. To attempt to do the maximum possible number of tests in each hospital would result in large laboratories in each hospital, difficulties in staffing, unnecessary duplication of equipment, and increased capital and running costs.

13. Hence the main consideration so far as clinical pathology services are concerned is how much centralisation is desirable.

14. Centralisation cannot be complete because certain facilities are required in each hospital to provide for emergency and other on-the-spot requirements. Despite these requirements, the bulk of specimens can be transported to the proposed Central Laboratory and tests carried out there with real advantage.

15. The major benefits resulting from the establishment of a Central Health Laboratory include provision of more comprehensive services, better quality control, ease of access to specialist pathologist opinions, better training facilities for pathology staff, more economical use of sophisticated equipment, less staffing problems, greater efficiency of operation and ease of administration.

16. Centralised Laboratories Elsewhere Some degree of rationalisation applies to all pathology services in Australia. No laboratory carries out every test. Some tests are carried out for the whole of Australia at one centre, e.g. some VD tests are only performed at the Institute of Clinical Pathology and Medical Research, Sydney and some typhoid tests only at the microbiologic diagnostic unit at Melbourne University. Some tests are carried out at one laboratory for each State e.g. T.B. sensitivity testing or Guthrie tests and others are carried out at one hospital for a group of hospitals.

17. In the United Kingdom the policy of the National Health Service is that, as far as possible, all laboratory investigation of disease should be concentrated in area laboratories attached to particular hospitals with only a minimum number of satellite laboratories in individual hospitals; the latter should be fully integrated with the service provided by the area laboratory.

18. The Committee recalled that its report on the Woden Valley Hospital made reference to the plan to co-ordinate pathology services for the A.C.T. at the Commonwealth Health Laboratories then located at Canberra Community Hospital.

19. Committee's Conclusion The Committee concluded that there is a need for a Central Health Laboratory building to serve the residents of the Australian Capital Territory and surrounding districts.

FUTURE USE OF EXISTING FACILITIES

20. The establishment of a Central Health Laboratory for the A.C.T. will not eliminate the need for limited pathology laboratories in the individual hospitals. Such laboratories will still be required in each

hospital to carry out urgent pathology tests and certain other tests that are better carried out near to the patients. Some of the existing laboratories in Canberra Hospital will provide the necessary facilities for this work while those planned for each future hospital will have only the limited facilities required for tests considered desirable to be carried out on the hospital site.

21. The laboratory areas vacated in the Canberra and Woden Valley Hospitals will be used for other purposes. Proposals are in hand for such space to be used in the Canberra Hospital laboratory area for redevelopment of and extension to the podium of the building and in the Woden Valley Hospital space is required for a satellite pharmacy to service the outpatients/casualty area, for outside organizations such as hospital employee unions, employee credit unions, Diabetes Association, National Heart Foundation and some administrative elements for servicing area health centres.

THE PROPOSED CENTRAL HEALTH LABORATORY

22. Function and Total Concept The function of the proposed Central Health Laboratory is to provide the following services to government controlled hospitals, nursing homes, health service hostels, community health centres and all other medical personnel who wish to avail themselves of the facilities in the treatment of their patients.

- Haematology (study of the blood cells) and serology (study of blood transfusion) routine tests;
- Biochemistry tests of a routine nature;
- Histopathology (study of tissues removed from the body) services;
- Cytology tests (examination of cells from the body);

7.

- Virology (micro organisms) laboratory services and research;
- Tuberculosis and mycology (fungi) laboratories;
- Public health and forensic service laboratories;
- Specimen collection areas;
- Blood donors facilities; and
- Central blood bank.

23. In addition, a 24-hour laboratory service will be available for emergency work which cannot be undertaken in the hospitals or other health institutions. It is also proposed to have some veterinary laboratory services available.

24. Specimens will be collected by couriers from health centres and other collection points throughout the A.C.T. and taken to the Central Health Laboratory. Some laboratories within the centre will have automated analysers linked by direct line to computers to enable the printed results to be immediately placed on the patients record with a full printed report becoming available for the patient's doctor. The information will also be automatically stored on a disc in that computers memory bank. This is in line with modern developments taking place in laboratory services elsewhere.

25. The Central Health Laboratory and appropriate institutions will be linked by on-line computer facilities and where necessary special facsimile transmission will be used as a support service particularly between the hospitals and the Central Health Laboratory.

26. Samples of water, milk, meat etc. will be taken to the public health laboratories for analysis. These samples will be collected mainly by health inspectors during the course of their daily work. The public health laboratories will also be equipped to handle toxic substances and pesticides plus the future needs for analysing various forms of pollution of air and water.

27. The forensic laboratory work will be dovetailed in with the public health laboratory work and the chemists employed in this area will carry out tests requested by the police and coroners. The need for security in this area cannot be over emphasised.

28. Autopsy work for the coroners will continue to be done at the public mortuary located at Kingston (Institute of Forensic Science) and therefore no provision for a mortuary has been made within the Central Health Laboratory building. Autopsies will also continue to be carried out within the martuaries of the respective public hospitals.

29. The Department of Health has veterinary responsibilities in the A.C.T. and in discharging these has established a small veterinary section within A.C.T. Health Services. The section is currently located in the basement of the Institute of Anatomy but it is considered to be opportune for this function to be included in the Central Health Laboratory. Consequently, a small laboratory, together with office accommodation and a store, has been planned into the building for veterinary work.

30. In addition to the services mentioned, facilities are to be provided on each floor of the proposed building for the training of pathologists and technical staff in pathology services. Areas for research and development are also planned and there will be provision for such teaching facilities for undergraduate and post-graduate medical education in the A.C.T. as may be authorised.

31. The building will also accommodate the central administration for all pathological services in the A.C.T. plus the administration connected with the blood transfusion services for the A.C.T. and surrounding district.

32. Within the Central Health Laboratory it is expected that some 250 staff will be employed when it is in full operation and of that number it is anticipated that 75% will be female workers. Some safety features to be incorporated for the staff include emergency shower facilities on each floor and within the individual laboratory areas. Although the building will be air conditioned throughout, special areas will be provided with additional exhaust systems to ensure that fumes or infectious agents do not enter laboratories and become harmful to the staff. A sprinkler system is proposed for all areas in conformity with the fire authorities requirements and normal fire escape routes have been planned.

33. Staff amenities will be provided in the building and the staff will have access to the staff dining room and other recreational facilities within the Woden Valley Hospital.

THE SITE

34. After consideration of a number of sites, it was agreed that the Central Health Laboratory could best be located on the Woden Valley Hospital site as this would be almost the centre of the future Canberra and adjacent to a large public hospital. Accordingly, an area was allocated on the master plan for the development of the total hospital site.

35. The site is located to the north of the main hospital block and is presently being used as a temporary car park.

36. The Committee agree that the site selected is suitable.

THE BUILDING PROPOSAL

37. Design To achieve the requirements set down for the Central Health Laboratory, an eight storey structure, connected to the main hospital block at the lower ground and first floor levels has been planned. The

building has been designed with its axis running east and west and with windows in the north and south sides to avoid the undesirable effect east and west windows have on laboratories. The Committee noted that the building is designed to take an extra two storeys.

38. The design will harmonise with the existing main hospital block and this has been achieved by the use of light coloured quartz finish as used on the deep concrete heads and sills of the windows, external stairs and concrete balconies of the existing building.

39. The connection to the main hospital block at first floor level will be by a bridge constructed of concrete and glass and at the lower ground level by a framed and glazed covered way.

40. The following accommodation is to be provided:

Basement - Mechanical plant, electrical plant, P.A.B.X. and store.

Lower Ground Floor - Central blood bank and blood donors, collection of specimens from patients, 24-hour laboratory, central specimen, reception and administration.

Ground Floor - Haematology, library, lecture theatre, seminar room, staff accommodation and training.

First Floor - Clinical biochemistry, automatic data processing, seminar room, staff accommodation and training.

Second Floor - Public health, forensic services, veterinary services, seminar room and staff accommodation.

Third Floor - Histopathology and morbid anatomy, cytology, seminar room, museum, staff accommodation and training.

Fourth Floor - Microbiology, seminar room, staff accommodation and training accommodation.

Plant Room - Mechanical plant.

41. Structure The building structure will be a reinforced concrete frame, with external precast infilling panels and glazed panels. Floors will be reinforced concrete and the metal deck roof will be supported on steel beams and purlins.

42. External Finishes The laboratory building will be finished with exposed aggregate precast panels and in situ concrete to match the main hospital block. Window frames will be the same as the windows of the main hospital block and the roof will be metal deck.

43. Internal Finishes Internal partitions will be steel framed sheeted with plaster board, brick walls finished with hard plaster and tiles, bagged brickwork and face brickwork. Floors will be finished with welded sheet vinyl, ceramic tiles, carpet and granolithic. Ceilings will be acoustic tiles and plaster board. There will be no ceilings on plant rooms.

44. Fittings Throughout the buildings, fittings will be provided in each room or laboratory area and will be appropriate for the particular areas. Benches will be to the standard C.S.I.R.O. pattern.

45. Mechanical Services The building will be air conditioned. The air conditioning system will be of conventional type having central conditioners located in the roof plant room and will employ chilled water for cooling and hot water for heating.

46. The existing chilled water system in the main hospital block has spare installed capacity to meet the cooling requirements of the laboratory; thus it is proposed to extend this system to serve the laboratory air conditioners with chilled water.

47. Heating will be obtained by a hot water system located in the laboratory; heating of the water will be by a steam/water heat exchanger located in the basement.

48. A fourth steam boiler will be installed in the main hospital block to cope with the demand of the laboratory and other future buildings planned to be in the vicinity of the laboratory such as the creche and medical school. The boiler will also be of a size to match in with the existing boiler installation.

49. A number of mechanical exhaust systems will be provided to serve general areas such as toilets, change rooms, wash-up rooms and basement rooms, and special equipment such as safety cabinets, fume cupboards on laboratories such as the pesticide laboratory, infectious work room, etc. where for technical reasons the air must not be recirculated.

50. Hot water will be obtained by a steam heated calorifier located in the basement. Appropriate steam and hot air sterilizers will be provided in wash-up rooms. Distilled water will be obtained by steam heated stills located in wash-up rooms.

51. Liquid petroleum gas, compressed air, hydrogen, acetylene and nitrogen will be reticulated to the appropriate laboratories. The liquid petroleum gas and compressed air will be piped from the existing systems in the main hospital block. Hydrogen, acetylene and nitrogen will be piped from cylinder manifolds located outside the laboratory at lower ground level.

52. The existing pneumatic tube system in the main hospital block will be extended into the laboratory to serve a station at each reception area.

53. Miscellaneous services such as chilled drinking water coolers, refrigerators, hot and cold room equipment, safety and fume cabinets, glassware washing and drying equipment will be provided.

54. The supervisory control system in the main hospital block will be extended to serve the laboratory.

55. Pathological and infectious wastes will be destroyed in the incinerator at the central services complex at Grace and other general waste will be removed from the site as normal garbage.

56. A diesel driven alternator will be installed in the basement to supply essential lighting requirements and to maintain power supply to certain types of laboratory and engineering equipment such as cold and hot rooms, refrigerators, air conditioner serving the A.D.P. area, exhaust fans handling toxic or infectious air, lift and fire boost pump. The alternator will be provided with some excess capacity to cater for the expected future demands of the proposed medical school.

57. Electrical Services Mains power will be reticulated at 415/240V from an adjacent switchboard and emergency power will be provided to the above mentioned essential areas throughout the laboratory from a standby generating set. Lighting throughout the building will be in accordance with the SAA code CA30 recommendations. General purpose outlets will be provided throughout the building. In certain areas special electrical safety precautions will be made to ensure that the personnel are protected.

58. Other supporting services will include electric clocks, PABX, background music and extension of the hospital radio paging system.

59. Lifts Two lifts, one passenger and one bed/passenger, will be installed. Provision will be made to instal another bed/passenger lift, if required, at a later date. A service hoist will service all floors.

60. Fire Protection Automatic sprinklers, fire hydrant, small bore hose reels and hand fire extinguishers will be installed.

61. Civil The existing roads adjacent to the new laboratory will be extended to serve the new building. Car parking facilities located at the southern end of the site will be expanded to provide 187 car spaces,

the north-western car park will be expanded to provide 240 car spaces. Outside the main entrance, 8 spaces will be provided, making in all 435 car spaces for this laboratory.

62. The laboratory will be connected to the hospital internal water supply and sewerage systems. Acid wastes will be discharged into neutralising chambers prior to discharge into the sewerage system. Water will be reticulated for domestic and fire fighting purposes.

63. The areas adjacent to the laboratory will be landscaped and will be integrated into the existing hospital landscaping.

64. Equipment Wherever practicable, equipment which is currently in use will be transferred to the Central Health Laboratory. This will be mainly confined to the mobile equipment as in many instances it will be impossible to remove and re-install the built-in equipment because the existing laboratories must continue to function until the Central Health Laboratory can take over. Also it is considered that in another three years many items would be approaching obsolescence. Accordingly, the estimated cost of the building includes many items of built-in equipment.

65. Committee's Conclusion The Committee recommend the construction of the work in this reference.

ENVIRONMENTAL IMPACT

66. It is intended that the laboratory building will become part of the Woden Valley Hospital complex harmonising with the existing design concept. In general, services required for the laboratory building can be connected to those within the hospital complex but some additional plant would be necessary.

67. When stage 1 of the Central Hospital Services Complex at Grace is functioning in late 1975, all laboratory waste which requires incineration will go to the complex for destruction. This will also apply to hospital

waste of a morbid nature and therefore it is expected that the incinerator in the Woden Valley Hospital will cease to function from late 1975 or early 1976. All general waste from these areas will be disposed of through normal garbage collection contracts which is the current practice at the Canberra Hospital.

68. The additional traffic generated by the establishment of the laboratory on the hospital site and the extra car parking facilities required were taken into account in the master plan. The proposals were acceptable to the National Capital Development Commission, subject to the possibility of some parking areas being decked at a later date.

69. The proposal was submitted by the Department of Health to the Minister for the Environment and Conservation in May 1973 and received his concurrence.

PROGRAMME

70. The Committee were advised that preparation of tender documents is expected to take 15 months after approval to proceed is obtained. Construction is expected to take 20 months following acceptance of a contract.

ESTIMATE OF COST

71. The estimated cost of the project when referred to the Committee was \$4.4 million made up as follows:

	\$
Building work	2,580,000
Electrical services	426,000
Mechanical services	1,169,000
Civil works	225,000
	4,400,000

72. The Committee noted that the final cost could rise to \$7 million when tenders are called, if the present escalation rate continues.

RECOMMENDATIONS AND CONCLUSIONS

73. The summary of recommendations and conclusions of the Committee is set out below. Alongside each is shown the paragraph in the report to which it refers.

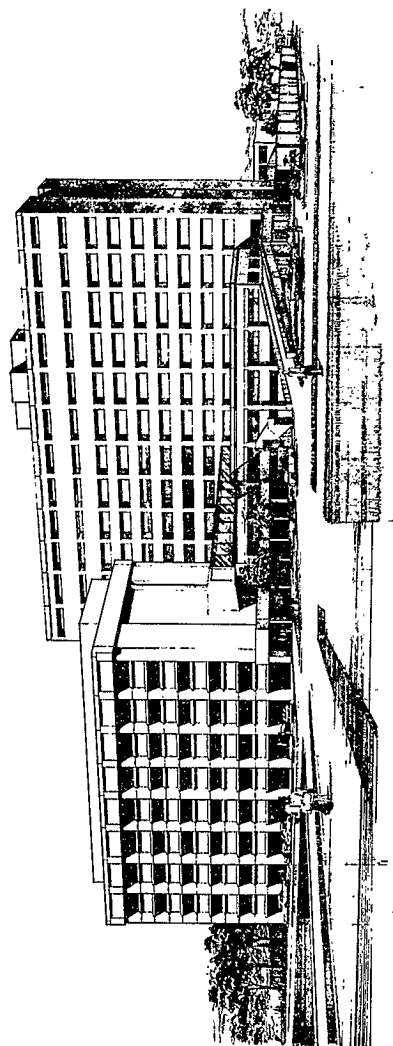
	<u>Paragraph</u>
1. THE COMMITTEE AGREE THAT THERE IS A NEED FOR A CENTRAL HEALTH LABORATORY BUILDING TO SERVE THE RESIDENTS OF THE A.C.T. AND SURROUNDING DISTRICTS.	19
2. THE SITE SELECTED IS SUITABLE.	36
3. THE COMMITTEE RECOMMEND THE CONSTRUCTION OF THE WORK IN THIS REFERENCE.	65
4. THE ESTIMATED COST OF THE PROJECT WHEN REFERRED TO THE COMMITTEE WAS \$4.4 MILLION.	71



(I.K. JOHNSON)
Chairman

Parliamentary Standing Committee on Public Works,
Parliament House,
CANBERRA. A.C.T.

19 September 1974.



PERSPECTIVE
VIEW FROM THE NORTH-WEST

CENTRAL HEALTH LABORATORY (Foreground)