THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

R E P O R T

IN CONNECTION WITH THE

ERECTION OF A MULTI-STORY BLOCK

AND ASSOCIATED BUILDINGS

AT THE

MACKIE REPATRIATION TUBERCULAR SANATORIUM,

M E L B O U R N E.

For Senator Lamp -

I bring up the Report of the Parliamentary Standing Committee on Public Works, relating to the following work :-

The erection of a Multi-story Block and associated buildings at the Macleod Repatriation Tubercular Sanatorium, Melbourne -

and I move that the Report be printed.

Passed.

(Date) 15 JUN 1949

C O N T E N T S.

S E C T I O N I.

INTRODUCTORY.

S E C T I O N II.

THE PRESENT PROPOSAL.

S E C T I O N III.

THE COMMITTEE'S INVESTIGATIONS.

S E C T I O N IV.

THE COMMITTEE'S CONCLUSIONS.

THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

MACLEOD REPATRIATION TUBERCULAR SANATORIUM, MELBOURNE.

R E P O R T.

1. The Parliamentary Standing Committee on Public Works, to which the House of Representatives referred for investigation and report the question of the proposed erection of a multi-story block and associated buildings at the Macleod Repatriation Tubercular Sanatorium, Melbourne, has the honour to report as follows :-

S E C T I O N I.

INTRODUCTORY.

THE EXISTING ESTABLISHMENT.

2. Under the Australian Soldiers' Repatriation Act 1920-1947, and its Regulations, the Repatriation Commission must provide treatment for all ex-service personnel who, either as the result of war service, or at any time subsequent to their discharge from the Services, and irrespective of its relationship to service, develop pulmonary tuberculosis. It is the responsibility of the Repatriation Commission, therefore, to provide hospital and sanatorium accommodation where it is required for the in-patient treatment of ex-service personnel suffering from pulmonary tuberculosis. In the State of Victoria the commitments of the Commission in this respect are heavy, and, for some years, it has been recognised that steps should be taken to augment the present inadequate facilities for the treatment of the patients for whom the Repatriation Commission is responsible.

3. The existing establishment consists of a group of several buildings which have been erected without the benefit of a master development plan, and many of the ancillary buildings are obsolete. Certain of these obsolete buildings will have to be demolished, thus widening and improving the open spaces between the existing buildings, and some will be converted to conform to the plan being developed for the institution and provide urgently needed buildings.

4. The present ward blocks are of pavilion type and will still be used for the patients who have reached the stage at which such accommodation is desirable and necessary.

5. The establishment at Macleod forms part of the Repatriation Commission's organisation in Victoria, in which State there are, at present, 456 beds available by virtue of emergency arrangements at the Repatriation General Hospitals at Heidelberg and Caulfield. This total is distributed as follows : Heidelberg Hospital, 240 beds, including 40 female beds; Caulfield Hospital, 96 beds for chronic cases; and Macleod Sanatorium, 120 beds.

6. The number of persons eligible for treatment in the Repatriation establishments at 30th June, 1948, was 1990, and the basis upon which provision of beds is calculated is set down at one bed for every three cases. The present establishment is therefore greatly inadequate and the plans are being put forward to add 201 beds to the Macleod Sanatorium to bring the number of beds as near as possible to the theoretical requirement of 660 beds for efficient treatment of the disease.

7. Up to the present the Macleod Sanatorium has been developed purely as a Sanatorium for the accommodation of ambulant patients, and the proposed expansion to provide accommodation and facilities for hospital type patients implies a complete change in the function and character of the institution, whereby it will be enlarged in size and its facilities augmented and expanded, until it reaches the optimum size for efficient and economical management. The existing nurses' quarters, boiler house, and other facilities will also have to be adequately enlarged to cope with the additional patients and staff.

S E C T I O N II.

THE PRESENT PROPOSAL.

GENERAL PLAN.

8. The present proposal aims at establishing a modern institution of the hospital-sanatorium type, carefully planned to make the best use of the land and the structures already in use on the property.

9. The complete planning includes the provision of a multi-storey ward block; nurses' and household workers' quarters; conversion of present nurses' quarters for male staff; conversion of existing office building to provide emergency overnight accommodation; new boiler house; and long-range development and landscape work.

THE MULTI-STORY WARD BLOCK.

10. The multi-story ward block will be a modern structure consisting of Lower Ground Floor, Ground Floor, and eight upper floors. The Lower Ground Floor will house the Kitchen and associated services; the Ground Floor will be given over in the main to Administrative functions; the First Floor, which will be air-conditioned, will provide accommodation for the Operating Unit, the Recovery Ward, the X-ray Department, and the Physio-therapist's office and waiting room; the Second Floor will accommodate the Pathology and Dental sections, Isolation Ward, Change rooms, etc.; and the Third to Eighth Floors will be typical ward floors, each containing 32 beds with access to a Balcony extending along the eastern side of the building.

NURSES' AND HOUSEHOLD WORKERS' QUARTERS.

11. The Home for Nurses and Household Workers will be situated in the north-eastern corner of the grounds, and will be of similar construction to the Multi-story Ward Block, having a Lower Ground, Ground and Eight Upper Floors, in which accommodation will be provided for 182 persons.

CONVERSION OF NURSES' QUARTERS FOR MALE STAFF.

12. The male staff will be housed in the former Nurses' Quarters at the north end of the establishment. The building is of brick construction, consisting of Basement, Ground and First Floors, and it will be remodelled for its new purpose.

CONVERSION OF EXISTING OFFICE BUILDING.

13. Emergency overnight accommodation will be planned in this building by re-arranging offices to serve as bedrooms.

BOILER HOUSE.

14. The Boiler House has been designed on two levels, and, although it will be an industrial building, its design will

conform to that of the other new buildings. It will be of brick construction and is to be placed in a position in the grounds where the prevailing winds will carry away any smoke which would be likely to become a nuisance to the institution.

PLANTING AND LANDSCAPE WORK.

15. Although the area has considerable natural beauty it is highly desirable that a properly designed and co-ordinated landscape treatment should be developed. A tentative scheme has therefore been prepared, covering the supply and planting of trees, shrubs, plants, and grassed areas, as well as the construction of rock gardens and bowling green.

ESTIMATED COST.

16. The details of costs estimated for the complete project are set down as :-

Multi-story Ward Block	£559,020
Nurses and Household Workers' Quarters	321,570
Boiler House ...	85,263
Minor items including conversion of existing Nurses' Quarters to Male Staff Quarters ...	72,630
Landscaping ...	11,517
	£1,050,000

S E C T I O N III.

THE COMMITTEE'S INVESTIGATIONS.

GENERAL.

17. Having only recently completed investigations into the proposal to erect a multi-story block for the Repatriation Department at the Lady Davidson Home, Turramurra, New South Wales, the Committee was in a position to consider this project, for a similar purpose in Victoria, with a wealth of knowledge and evidence on the subject which was particularly appropriate and helpful. The general problems to be dealt with were largely the same, and the Turramurra evidence was of use in showing that the Macleod proposal fitted into the overall plans previously submitted by the Repatriation authorities as their scheme of action to be implemented throughout Australia in the fight against tuberculosis, so far as ex-service personnel and their dependants are concerned.

18. It remained for the Committee to concern itself particularly with the Victorian section of the problems, and requirements of the institution at the Macleod Sanatorium, in order to determine whether, as specified in its Act, the Committee deemed it "expedient to carry out the work".

19. The Committee studied the plans for the new buildings and for the conversions and alterations necessary in the complete set of proposals, and evidence was taken from Repatriation and other officials, architects, and other witnesses interested in the undertaking, with a view to informing itself of all the points at issue, and obtaining all the information necessary to make decisions on the work referred by Parliament.

20. The present institution was inspected, the sites for the new buildings were examined, and, as a result of evidence regarding the possibility of concerted action by the State authorities and the Repatriation Department, inspections were made of State institutions treating tubercular patients in Victoria and New South Wales.

REASONS FOR THE PROPOSAL.

21. In general terms the reason for planning the proposed building is to provide sufficient beds to handle the number of cases likely to be eligible for treatment. The total number estimated on the basis of one bed to three cases is 660, and the number of beds now available in the three Repatriation institutions is only 456. The distribution of the various types of cases amongst these institutions, where there are insufficient beds to meet requirements, causes a great deal of difficulty and delay. Apart from the actual number of beds available, it is also desirable to establish at Macleod a hospital section, so that all the patient's treatment, with the exception of the acute surgical chest operations, should be carried out in the same institution, under the same medical control.

22. It is essential that the acute Chest Hospital shall form part of the General Hospital where all kinds of other diseases are treated, and so it is proposed that it shall remain

at the Heidelberg Repatriation General Hospital, where all the facilities are available for the major operations and subsequent attention. However, as this acute chest section should be kept to a minimum in a General Hospital, it is considered that it should be reduced to a maximum of 100 beds, the hospital cases other than the most acute ones being treated at the new hospital section to be established at Macleod. This would allow the majority of cases to pass from their initial hospital treatment, when they are constantly confined to bed, to the sanatorium section, in which they need remain in bed for only a limited period, and finally, when they have improved to the required standard, will be able to resume their place in society.

23. In order to make this complete system possible it is necessary to have the proposed new building of 201 hospital beds and to retain the existing sanatorium as the section required for the ambulant patients.

24. It will, of course, be necessary to provide, in addition to the hospital beds proposed, additional accommodation for nurses and other staff, and the portions of the present proposal dealing with a new building for this purpose follow naturally on the need for the hospital wards. The same is also true of the boiler house and other facilities, all of which will need to be expanded to cope with the large increase in personnel to be housed in the institution.

25. Inquiries were made concerning the possibility of development in the near future of special methods of treatment which might materially reduce the incidence of the disease or the time necessary for its treatment, and it was stated that it was not possible to envisage any dramatic developments within the next ten or twenty years that would remove the need for this work. It was also pointed out that, in the event of the fortunate discovery of some new treatment which would wipe out the disease rapidly, the urgent need for a hospital building such as the one proposed would remain undiminished. Moreover, it was pointed out that the only way to handle such a problem as this disease presents is to give the patients the benefit of

the most modern treatment that we know is desirable, otherwise we shall have to shoulder the responsibility in a few years' time of having neglected to provide facilities which are generally accepted as beneficial and necessary.

26. It was therefore submitted that, until the Macleod Sanatorium is developed into a Hospital-sanatorium and provides all those facilities and requirements which are included in the plans as they are submitted, the Repatriation Commission cannot fulfil its function in the treatment of pulmonary tuberculosis in ex-service personnel in Victoria satisfactorily.

ALTERNATIVES TO NEW BUILDING.

27. Some opposition was expressed, in evidence, to the expenditure of so much money, and the use of so much material and labour, on the plans put forward. Although it was stressed that increased facilities are urgently needed in the fight against tuberculosis, it was considered that the proposed building was most palatial and more elaborate than will be required by the patients which the Repatriation Commission will place in the sanatorium. The view was expressed that the shortage of beds for civilian patients was much more severe than is the case for ex-service patients, and the kind of building proposed would be more suitable if the facilities to be provided were going to be available to both civilian and Repatriation services. Even more urgent was the necessity for nurses' accommodation, and, in the view of one authority, priority over this project for the use of materials and manpower should be given to the building of nurses' quarters at Heatherton Sanatorium, Austin Hospital, Greenvale Sanatorium and Greswell Sanatorium.

28. The Committee considered the possibility of any practical alternative which might serve the purpose satisfactorily instead of the project under investigation, and evidence was viewed with this in mind. The argument was advanced that the Chest Wing of the General Hospital at Heidelberg should be extended rather than expanding the Macleod institution into a hospital-sanatorium. However, it is generally accepted that such a course would be most undesirable, as the role of a General Hospital is quite different, by virtue of its planning and

functions, from a Sanatorium, and the hospital wards are not designed for a large number of patients who may be confined to bed for periods often in excess of twelve months, as is the case in a Hospital-sanatorium. It is also affirmed that the dichotomy of treatment into the separate sections of the hospital and the sanatorium inevitably results in a break in the continuity of the patient's treatment and supervision, and is neither satisfactory from the medical viewpoint, nor readily acceptable to the patient. For these reasons the alternative of increasing the size of the Chest Wing at the General Hospital, Heidelberg, does not answer the necessary requirements, and the Committee agrees that the steps suggested for the reduction of the number of beds at Heidelberg to provide for only the most acute cases should be effected.

29. Another alternative to proceeding with the plan to erect the building, which is regarded in some quarters as too extensive for the purpose under present conditions, was the possibility of delaying portion of the work proposed until materials and manpower difficulties became less acute. As a result of its inquiries in this regard the Committee is convinced that the proposed multi-story building is necessary and cannot reasonably be reduced in size, and that the associated buildings planned will also be necessary at the same time.

PROVISION FOR CIVILIAN CASES.

30. The Committee was most impressed by the statistics and information put forward by Dr. Wunderly, and by his plea for the combination of every possible effort in an attempt to consolidate all facilities and trained manpower in the general fight against tuberculosis. His long experience, his position of Commonwealth Director of the Division of Tuberculosis, and his sincere enthusiasm in this important work lent very considerable weight to the opinions he expressed to the Committee in his evidence, and his advocacy of complete amalgamation of all the available forces into an organised entity cannot be lightly discarded. In all its investigations and deliberations the Committee kept this ideal in mind, and evidence was sought from

various sources to establish the advisability or otherwise of proceeding with the Macleod project for Repatriation cases as planned.

31. At the outset it was recognised that no stone should be left unturned in the effort to provide the best treatment available for the ex-service patients whose sacrifices have made their claims on the community so strong and an opportunity was given to representatives of their own Association to state their opinions. Having decided that the ideal of a complete Hospital Sanatorium is desirable, the Committee set out to determine whether such a building should be used solely for Repatriation purposes or whether any material advantage would be gained by using the institution for combined civilian and ex-service purposes.

32. Visits were made to comparable State institutions where civilian cases are being treated, and details were obtained of buildings available, and projected in the near future, for cases needing to be dealt with in the Victorian Government institutions. The Committee found that there is considerable activity in the State of Victoria in regard to the treatment of tuberculosis, and the liaison between the State and the Commonwealth authorities and experts is very strong. A great deal of co-operation exists, and new information is disseminated freely amongst the scientists and other staff of the establishments concerned. A representative Committee exists which is tackling the problems of the disease in a practical manner, and a good deal of hope is held for the future. A good deal of building activity has already been commenced in Victorian State institutions, and, encouraged by the Tuberculosis Act, 1948, a most impressive plan has been conceived for a 400 bed Sanatorium at Watsonia, with every modern facility and comfort. The Committee was agreeably surprised to see that some of the buildings connected with the Sanatoria in Victoria were well in train, and, so far as patients' accommodation is concerned, the number of beds available in the not too distant future appears likely to reach practically to the theoretical number estimated as essential.

The same cannot be said in regard to nurses' and staff accommodation, however, and the value of the building scheme is considerably marred by the necessity to use certain wards to house the staff. Until materials and manpower can be set aside for building this type of accommodation the whole scheme will not be able to progress satisfactorily.

33. The position in New South Wales appeared to the Committee to be very different, and a visit to a comparable Sanatorium near Sydney gave Members a most depressing view of facilities available for civilian treatment in that State. This instance presented a spectacle of heroic efforts by doctors and staff to make the best of obsolete and uncomfortable buildings and totally inadequate facilities. It is to be hoped that, with the assistance to be made available under the Commonwealth Tuberculosis Act, an active body will be set up to institute large scale improvements in New South Wales.

34. As it seems to the Committee that provision for a reasonable number of beds for the overall needs of the community is in sight, so far as the State of Victoria is concerned, the exclusive use of the Macleod Hospital Sanatorium for Repatriation purposes appears more reasonable. On considering the size of the complete establishment it seems evident that the optimum for efficient control will have been reached, and an organisation as near as possible to the ideal in number of beds, patients, staff, and necessary facilities will be practicable. It also appears from the figures quoted that Repatriation cases sufficient for such a building may be anticipated.

35. The only section of the organisation for which full time work might not be always available and perhaps could be used for part time work outside the institution would be the special apparatus and some of those responsible for its use. Any extensive grouping of institutions to ensure full use of these would be likely to defeat the main object, and create administrative problems attendant on large institutions which are beyond the recognised optimum limits.

36. Under these circumstances the Committee is convinced that the need of the Repatriation Department for a building of this size exists, and, until the time comes when the number of ex-service patients begins to diminish below that required for the establishment, the Macleod Hospital-sanatorium should be given over exclusively to ex-service patients.

Unified Control.

37. A considerable amount of evidence was taken in regard to the possibility of combining available resources under a unified control, and it was found that a certain amount of direct co-operation already exists in some States. In Western Australia arrangements have been made for a limited number of female patients who require special treatment to be taken into the Repatriation ward at Hollywood, although they are the responsibility of the State Government. It is also planned, in Tasmania, to combine the services available, and it has been recommended that a 200 bed sanatorium be built in Hobart with 40 of the beds set aside for Repatriation cases. The opinion is also expressed that co-operation will be such that this arrangement will be flexible enough to permit reasonable variation in the number of beds for each purpose as occasion arises. This appears to be an excellent augury for the future, and, under the stimulus of the Commonwealth Tuberculosis Act, it should be possible to extend similar arrangements in the various States.

38. It was pointed out, however, that, while it is theoretically advantageous to control the whole of the available resources under one organisation, practical difficulties would arise in administration and other departments of a unified scheme, and progress towards the ideal will have to be gradual.

39. The Committee, therefore, although it has recommended the project for the Repatriation purposes, is fully aware of the importance of combined action in this field, and it also recommends that, so long as adequate facilities are always ensured for Repatriation cases, the closest possible liaison should be maintained between the Repatriation Commission and the authorities directing the civilian tuberculosis campaign.

THE MULTI-STORY BUILDING.

General.

40. The multi-story building is conveniently situated on the main approach to the establishment, which is from the south. The building is designed as a steel framed concrete cased structure, faced externally with brick, and it comprises a Lower Ground Floor, Ground Floor and eight Upper Floors.

41. The Public Entrance is at Ground Floor level at the south-west corner, while Patients' Admission and Services Entrances are on the Lower Ground Floor, approached from the new perimeter road.

42. The building contains all modern facilities being generally recognised as eminently suitable for the purpose it is designed to fulfil, and the Committee is convinced that the plans are generally satisfactory.

Architecture.

43. The appearance of the building is modern and pleasing, showing the long narrow lines typical of present architectural practice in utilising light and air in the rooms. The wards open on to balconies extending along the eastern side of the building where they will be of maximum use and comfort, and a feature of the design is the provision of a solarium, glazed on three sides, at the northern end of each ward floor.

Lower Ground Floor.

44. The Lower Ground Floor contains the Kitchen, associated Stores, Kitchen Staff Dining and Change Rooms, Engineering services, Baggage, Clean and Soiled Linen Stores, and also a section for the Morgue, Autopsy, Chapel and Waiting Room. The entrance to the Morgue has been planned on the western side where waiting vehicles are screened from general view.

45. Some concern was expressed that the entrance to the Morgue was through the foyer which also connects to the Kitchen and Stores. This was stated to be undesirable, and it was suggested that the mortuary section should not be contiguous to the section where food is stored and cooked, nor should it have a door which will open into the general part of the sanatorium.

It was suggested that the mortuary section should be removed to the Boiler House building, or at least completely closed off from the section where food is prepared. The Repatriation authorities are quite satisfied that the mortuary section is planned as a unit, separated from the rest of the building by several doors, and is sufficiently isolated from the kitchen. The Committee has studied the matter in the light of all the evidence taken on this point, and is of opinion that it is desirable to make a slight alteration to the Lower Ground Floor plan to keep the mortuary section completely separate from the remainder of the facilities on that floor, and recommends accordingly.

The Ground Floor.

46. The Ground Floor will be given over in the main to administrative functions. From the Main Entrance Foyer, where a Kiosk will provide service to visitors, corridors lead off on either side. On the southern side is the general office group, while the north corridor serves Conference, Waiting rooms, Occupational Therapy Department and offices for Social Worker, Medical Officer, Typist and Visiting Clergy.

At the north-eastern corner of the Ground Floor is the Patients' Dining Room, where food is to be served Cafeteria fashion.

47. The Social Workers' Room. Inquiries were made regarding the use for which the Social Worker's Room was provided, as strong representations were made by the witnesses from the Federated T.B. Sailors, Soldiers and Airmen's Association of Australia regarding the necessity for a room in which one of their officials could carry on the extensive work they have to conduct on behalf of patients. It is claimed that the Association has almost 100 per cent membership among patients in the Sanatorium, and their welfare officers have to interview patients on confidential matters which cannot be discussed in the wards.

48. The Committee was informed that the room shown on the plan was to be set aside for the hospital Welfare Worker, but that it would be possible to arrange for a suitable room for the

Association's workers. The Committee therefore recommends that a suitable room be provided, on the Ground Floor if possible, in which the Association's welfare workers may be accommodated whenever their work requires it.

The First Floor.

49. The First Floor will be air-conditioned and will contain the Operating Unit, Recovery Ward, X-ray Department and Physiotherapist's Office and Waiting Room. Four single bed rooms with ancillary rooms are provided in the Recovery Ward, where it has been found that, after operations some cases cannot be returned to an open ward until the post-operative period has elapsed.

The Second Floor.

50. The Second floor accommodates the Pathology Department and Laboratory; Dental Unit comprising Dental Surgery, Laboratory and Orderlies' Room; Isolation Ward of 5 beds with ancillary rooms; and Male and Female Staff Change Rooms, and Amenities room for the day technical staff.

The Upper Floors.

51. The Third to Eighth Floors are Ward Floors, and each ward contains 32 beds in 7 units of 4 beds and 2 units of 2 beds. The 2-bed units are for patients who are seriously ill and require special attention. All the bed rooms open on to the balconies on the eastern side of the building, and, at the northern end of each ward floor is a large solarium glazed on three sides. A wide corridor runs the whole length of the floor, having the bedrooms on the eastern side, and the ancillary rooms on the west.

The Solaria.

52. The placing of the glazed solarium at the northern end of each ward floor creates an attractive and distinctive appearance to the north elevation of the building, and, in winter time they should provide a maximum amount of warmth and comfort for the patients on each floor. However, it was pointed out that the effect on hot summer days might not be so agreeable, and some steps ought to be taken to ensure that these rooms would be provided with some type of protection which would enable them to be fully used in all seasons of the year.

53. Inquiries were made as to whether it would be desirable to instal louvres similar to those which are to be provided at the Lady Davidson Sanatorium at Turramurra, but objections were expressed to such louvres on the ground that they are subject to breakage and difficult to keep clean, and windows are considered a better protection against the strong northerly winds experienced in this locality.

54. It was also suggested that a permanent type of projection might be planned to shade the interior in the heat of the summer days, but the Repatriation authorities, while admitting that T.B. patients can be exposed to too much sun, are satisfied that suitable blinds and shades can be arranged to ensure maximum comfort for the patients on the hot days.

55. The Committee considered the various points raised and is of opinion that, while it would not be prepared to recommend an external type of shade which would spoil the aesthetic effect of the northern facade, it is desirable to provide some efficient guard against the hot weather, and further attention therefore should be given to the planning of the solaria in order to provide some efficient protection in this end of the building.

Single Bed Rooms.

56. It was strongly advocated in some quarters that the ward floors should be provided with a number of single bed rooms instead of the arrangement of four-bed and two-bed rooms planned. Difference of opinion exists on the desirability of providing single rooms for T.B. patients, and, whereas special provision has been made in the plans for the proposed new Watsonia Sanatorium for the wards to be 50 per cent single bed rooms and 50 per cent two-bed rooms, the accommodation planned for Macleod has been specified as four-bed rooms with two two-bed rooms on each ward floor. The Repatriation authorities, after a close study of this question, state that, apart from the single rooms already provided in the post-operative section and the isolation area, additional single rooms are not necessary. They could be

provided only by sacrificing the number of beds provided on each floor, and it would be preferable to divide two of the four-bed rooms to provide two additional two-bed rooms, and so retain the total number of beds..

57. The reason given for the provision of a high percentage of single rooms at Watsonia is that patients may be placed in them on entering the institution, and, when it has been possible to find those who will make good room mates, to transfer them to the two-bed rooms. It is agreed, however, that single bed rooms are not very suitable for long term cases who are usually kept in two-bed rooms.

58. The Committee therefore recommends that two of the four-bed rooms on each ward floor be subdivided to provide extra two-bed rooms for additional privacy.

Ceiling Heights.

59. The height of the rooms was stated to be eleven feet from floor to floor, and the question of ceiling heights was discussed and considered. In view of recent experiments on this subject at the Hyde Experimental Station, where lower ceilings are proved to be more economical and comfortable, the question arose as to the possibility of reducing the ceiling heights by one foot, and thus allowing space for an extra floor to be added to the building without increasing the height of the walls. Inquiries reveal that, although considerable research has been carried out on cottages, no definite results are available concerning hospital wards. It is stated that experiments are being conducted abroad in connection with the question of the spread of disease by air distribution, and some interesting work is being done in regard to air hygiene. Up to the present, however, no reliable medical evidence has been adduced to show whether or not reduction of the air space in a room would increase the danger of infection or affect the general question of air hygiene, nor has anything conclusive been shown concerning the psychological effect of low ceilings on sick persons. It is pointed out, however, that, by placing the ducts for mechanical services in a false ceiling in the corridors,

the extra height of the normal ceilings could be maintained in the wards. The ceiling heights in the proposed Watsonia sanatorium are stated to be ten feet from floor to ceiling, which, after allowing approximately one foot for the thickness of the floor, makes the available height in the rooms approximately the same as that planned for the Macleod building.

60. The Committee is therefore of opinion that, under the existing circumstances, a reduction of the planned ceiling height is not desirable.

Engineering Services.

61. Co-ordination of the engineering services has been arranged in the architectural planning of the building, and the Committee studied the details placed before it by the Director of Engineering. The provision for services, so far as the multi-story block is concerned, is bound up with the erection of the boiler house block, equipment and reticulation. The total estimated cost of all the services is £150,300, of which £79,300 is in respect of the multi-story building.

62. All modern facilities are provided, including heating of various parts of the building, supply of hot water, air conditioning of the Operating Theatre section, Kitchen equipment, ventilation, steam supply, lifts, sterilizing equipment, and other miscellaneous services.

63. The heating of the open type four-bed wards will be effected by means of pipe ceiling panels, a method of heating which is considered particularly suitable for open air T.B. wards in view of the simulated sun effect. Up to the present this method of heating has not been applied in Australia, but it has been proved very effective in U.S.A., and it will be possible to conform to medical requirements in regard to the temperature necessary.

64. A steam ring main is to connect the boiler house with the various points where the service is required in the buildings, and inquiries were made about the efficiency of long distance piping and possible loss of heat in transit in steam and hot water systems. However, the Committee was assured that hot water pumped through the pipes retains its heat over long distances,

the distance depending on the nature of the ground. It was stated, in evidence, that it is possible, when the ground is flat, to pump hot water about 4 miles.

Auditorium and Amenities.

65. Study of the plans by the Committee raised the question of amenities for the patients, and the multi-story block appeared to lack any provision for patients' recreation, though a section was set aside on the Second Floor for staff amenities. At the present time the patients are catered for with a room which was stated in evidence to have been built many years ago and is not big enough for the patients at the institution now. A plea was raised, therefore, for enlarged facilities for use when the additional buildings bring increased numbers of patients into the establishment.

66. The Committee was very impressed with the plans for an auditorium in connection with the projected Watsonia Sanatorium, and, when inspecting the Greenvale Sanatorium had an opportunity of inspecting a similar, partly completed one, at that institution.

67. The cost of an additional auditorium was stated to be about £25,000, and information was given to the Committee by the Repatriation authorities that an auditorium had not been included in the present plans because the Red Cross building, which is part of the ultimate scheme for Macleod, is to provide auditorium and other recreational facilities when it is erected. This course was considered more desirable than providing an auditorium as a separate building or as part of the multi-story block.

68. It is therefore considered satisfactory by the Committee for these facilities to be provided in the future Red Cross building, so long as adequate plans are made to include some type of theatrette and additional space for billiard room and other recreations and amenities, with as little delay as possible after the building of the structures under consideration in this reference.

THE SITE.

69. The Committee visited the Macleod Sanatorium and inspected the site and the positions to be used for the proposed buildings planned in the complete scheme, and, from its inquiries, is satisfied that the land is adequate and suitable, while the outlook and scenery visible from the multi-story block will be very pleasant, the locality being eminently appropriate for the purpose.

ACQUISITION OF THE LAND.

70. The present Sanatorium buildings are erected upon land which is the property of the Victorian State Government, the Commonwealth Government holding a lease of permissive occupancy. The approximate dimensions of the land are 722 feet by 406 feet, with an area of some 9 acres.

71. The land immediately to the south is Commonwealth owned, triangular in shape, and a little more than 20 acres in extent, and negotiations are proceeding between the Commonwealth and State Governments with a view to the Commonwealth acquiring the building area in exchange for the adjoining land. The Committee considers it desirable for the Commonwealth to own the land upon which such a large building programme is to be implemented and agrees with the action being taken to acquire the property.

THE ANCILLARY BUILDINGS.

<u>The Nurses' Quarters.</u>

72. All through the Committee's investigations it was emphasised that shortages of nurses were causing great difficulty, and that one of the contributary causes was lack of necessary accommodation in which to house the nurses and keep them contented. Some of the quarters visited by the Committee amply confirmed the position, and the wisdom of providing in the plans for the erection of adequate buildings to house the increased staff at Macleod was readily evident.

73. The Home for Nurses and Household Workers, consisting of Lower Ground, Ground and Eight upper Floors, and making accommodation for 182 persons, will be provided with comforts and amenities of the most modern type. Provision is made for the

Nurses and for Household Workers on different floors, with lifts and modern mechanical services to make the accommodation efficient and attractive.

74. The Lower Ground Floor contains hairdressing salons, laundry and ironing rooms, baggage, linen, blanket, and furniture stores, as well as space for the engineering services.

75. The Ground Floor contains a Main Lobby, opening off which are the Home Sister's Office, Public telephones, Anteroom and Dining Rooms with their serveries to which food is brought by heated trolleys from the Kitchen in the multi-story block. At the northern end of this floor are situated suites for the Matron and Sub-matron.

76. The First Floor provides for the main recreation areas, Living Rooms and Reading Rooms, and also, at the northern end, bed rooms for six Senior Sisters.

77. The Upper Floors provide 28 single bed rooms each, together with Sitting Room, Pantry, Linen and Box Rooms, Drying verandah and Ablutions unit. Each bedroom is 12 feet by 9 feet clear of furniture and should provide comfortable living space.

78. The Third Floor has the accommodation reduced to 17 bed rooms, thus providing space for a self-contained Sick Bay of 6 beds, Nurses' Station, Sitting Room and Stores.

79. The Eighth Floor has only 19 bedrooms but also contains Sewing Room and Sitting Room which open on to a flat roof.

80. Engineering Services include heating throughout by means of hot water radiators; hot water supply; pendant and wall bracket lighting as well as radio outlet point in each bedroom; passenger elevators and a food lift; and a fire service of the latest design.

The Committee is satisfied that the new building for Nurses' Quarters is essential and should proceed simultaneously with the multi-story building for additional patients, in accordance with the plans submitted.

Male Staff Quarters, and Overnight Accommodation.

81. Accommodation for the Male Staff is to be provided by remodelling the Nurses' Quarters at the north end of the establishment. The building, which is of brick construction, consists of a Basement, Ground and First Floor.

82. The Basement at present contains Laundries, Ironing Rooms and Stores, and this floor will remain unaltered.

83. The Ground Floor will be re-arranged to accommodate 16 males, and a four-bed Sick Bay, with ancillary rooms, while additional lavatories and showers will be provided. The existing kitchen will be remodelled and become the Mess Room, while the present Patients' Dining Room will become the Male Staff Recreation Room. A wash hand basin will be installed in each bedroom.

84. The First Floor consists of 21 bed rooms and provision for toilets and baths. This floor is satisfactory for its new purpose and will remain unaltered.

85. Over night Accommodation is necessary in emergencies, and it is planned to re-arrange the existing office building to serve as bedrooms.

86. The Committee recommends that the conversion of the existing Nurses' Quarters into Male Staff Quarters and the conversion of the existing office building are necessary and should be carried out as planned.

The Boiler House.

87. In this building machinery will be installed to make possible the services and facilities used in the various buildings of the institution, and the projected expansion of the building programme will result in the demand for increased services from those provided in the present Boiler House.

88. The building planned has been designed on two levels, with Lower Ground Floor and Ground Floor, and, although it will be an industrial building, it will conform in design to the other buildings in the institution, being of brick construction with concrete floors and roof.

89. The Lower Ground Floor will be set aside for the maintenance staff provided by the Department of Works and Housing, and will include Store, Lunch Room, Lockers, and Ablutions block.

90. The Ground Floor provides accommodation for Boiler Room, with workshop, and Engineer's Office; Incinerator; Three Workshops for Carpenter, Plumber and Electrician, and Painter; Office; Calorifier; Mechanical Laundry for Patients' clothing; and Hospital and Staff Garages.

91. The Committee instituted inquiries in regard to the necessity for the building shown on the plans, and also in regard to the site and the possibility of the Boiler House creating a nuisance. As a result it is satisfied that the building and machinery proposed are necessary for the conduct of the establishment, and the structure should be erected in accordance with the plans referred to the Committee.

COST OF THE PROJECT.

92. Considerable evidence was taken in regard to the cost of the proposals included in the reference, and the Committee endeavoured to ascertain whether the buildings had been planned with due economy and the estimates calculated with all possible accuracy. This part of the Committee's investigations was particularly difficult in view of the uncertain factors involved in the calculations necessary for such a large project. The Committee was informed, at the outset, that, due to changing circumstances governing costs in the Building Industry, the estimates would be subject to variation, and the figures supplied with the plans were those calculated on the basis of costs at December, 1948.

93. The total cost of £1,050,000 for the combined projects included £150,300 for the engineering services, and the Committee was informed, in evidence, that an attempt had been made in the overall estimate to provide for possible variations in cost, but it was not practicable to forecast what the actual variation would be, or whether it was likely to exceed the amount estimated. At the same time it was stated that, although the estimates had been made to allow for changing conditions in the building industry, it was not considered that the figure was a very conservative one.

94. The Committee was somewhat concerned, in connection with the cost of this project, when it considered plans in connection with the proposed Sanatorium for the Victorian Government, at Watsonia. The Watsonia structure is intended to serve a similar purpose, and the facilities planned include even more than those provided for Macleod. In addition it is to provide, in a multi-story building of modern design, accommodation for 400 beds, approximately half of which are in single bed rooms, as well as an impressive auditorium and other facilities. The estimated cost of the Watsonia project was stated to be considerably less than the Macleod estimate for a 201 bed establishment, and, allowing for increases to bring it in line with the date of the Macleod calculations, would be approximately the same though it would provide almost double the number of beds.

The Corridors.

95. Inquiries made by the Committee revealed that the Macleod building was wider and had been designed according to requirements deemed essential by the authorities who will be required to use it. All care and economy had been exercised in planning the building which is considered urgent and necessary. The corridors are wider than those planned for Watsonia, and on the First Floor part of the space is occupied by three parallel corridors, some of which appeared at first to be unnecessary. However, the doctors concerned are satisfied that these corridors are necessary on the floor where surgical operations make attention essential to post-operative cases in special wards there. Although some witnesses considered that space was wasted in these corridors the Committee feels constrained to agree to their inclusion on the grounds of the special purposes for which they are planned.

96. The Committee feels that, in these times of rapid and uncertain changes, one of the important requirements of the Committee's work, which concerns the investigation of the cost of the structures concerned, is to some extent frustrated, but, from the inquiries it has made it is convinced that the officials who have prepared the estimates for the Committee have used all the

information at their disposal, and have submitted figures which can be regarded as reasonably accurate under present circumstances.

SHORTAGE OF NURSES.

97. The question of staffing the Sanatorium when it is completed was an important section of the Committee's inquiries, and it is recognised that there is an acute shortage of nurses at the present time, with no assurance of adequate relief in the near future.

98. It was stated, in evidence, that training of personnel for work in the tuberculosis field was being undertaken, and at Heidelberg one school for nurses had been completed showing 100 per cent of passes, another is at present in course, and a third school will start shortly. A certain amount of training is provided for males with the object of securing trained male nurses and orderlies, and some former patients take up this work. The Committee feels that the training of former patients, who would possess a natural sympathy and enthusiasm for the work should be specially encouraged.

99. The general trend of evidence appeared to suggest that one of the chief causes for shortage of nurses was the inadequate accommodation offered at the present time, and some of the ward floors in new buildings were to be utilised for staff accommodation. It seems, therefore that construction of attractive staff quarters at Macleod simultaneously with the erection of the multi-story ward block will be likely to attract adequate staff to operate the institution efficiently when it is complete.

100. After pursuing thorough inquiries into this matter, therefore, the Committee feels that the hope for improvement in present conditions is well founded, and no good purpose would be served by delaying the erection of structures, taking several years to build, only because certainty of complete staffing could not be assured at the present time.

SHORTAGE OF MATERIALS.

101. A good deal of attention was given to the question of the provision of materials in these buildings, and the effect it would have upon other urgent building operations in the State. It was stressed that buildings of this nature would use a considerable quantity of bricks, timber, steel, etc. which would otherwise be utilised in very necessary construction work elsewhere.

The Committee made inquiries regarding the supplies of materials and manpower available and the trend of the position in the near future. The information obtained suggested improvement in the supply of certain materials, but the general position does not appear to indicate a rapid overall improvement in supplies, and the Committee sought means whereby any other alternatives might be used to provide the essentials necessary for the tuberculosis campaign. After considering all the alternatives, and the weight of the demands from other directions, the Committee feels that the buildings are sufficiently urgently required in the tuberculosis fight that no delay should be occasioned in providing them.

S E C T I O N IV.

THE COMMITTEE'S CONCLUSIONS.

102. The following is a brief summary of the decisions made by the Committee after studying the plans and considering the evidence :-

		Paragraph in Report.
(1)	The Committee agrees that an additional building is necessary for the treatment of ex-service T.B. patients.	36
(2)	The plans of the multi-story building are generally satisfactory for the purpose.	42
(3)	The site chosen is the most suitable and should fulfil the necessary requirements for such a building.	69
(4)	The Committee agrees with the negotiations in progress to acquire the land for the building area.	71
(5)	A slight alteration to the lower Ground Floor plan is desirable to ensure that the Autopsy Section shall be completely separated from the adjacent Kitchen Section.	45
(6)	Some efficient method of protection should be devised for the Solarium so that the excessive heat in summer can be avoided.	55
(7)	Although the Committee recommends the project for the Repatriation Commission, it is most impressed with Dr. Wunderly's plea for concerted efforts in the interests of both ex-service and civilian patients, and it is recommended that the closest possible liaison be maintained between the Repatriation Commission and the authorities directing the civilian T.B. campaign.	39

		Paragraph in Report.
(8)	Adequate steps should be taken to provide an auditorium and amenities section in a building to be erected for the purpose as soon as possible after the hospital building is erected.	68
(9)	A suitable room should be made available for the use of the representative of the Soldiers' T.B. Association.	42
(10)	The proposals to convert the Nurses' Quarters and the existing office building are both recommended as proposed.	86
(11)	The Boiler House is an essential part of the establishment and is recommended.	91
(12)	Re-planning of the Ward Floors to allow 2-bed rooms to provide more privacy for certain patients is recommended.	58
(13)	Training of former male patients should be specially encouraged.	98.

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