THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

R E P O R T

relating to the

proposed erection of a

WOOL BIOLOGY LABORATORY

at

PROSPECT, NEW SOUTH WALES.

CONTENTS.

THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

WOOL BIOLOGY LABORATORY, PROSPECT, N.S.W.

R E P O R T.

The Parliamentary Standing Committee on Public Works, to which the House of Representatives referred for investigation and report the question of the erection at Prospect, New South Wales, of a Wool Biology Laboratory for the Council for Scientific and Industrial Research, has the honour to report as follows :-

S E C T I O N I.

INTRODUCTION.

HISTORICAL.

1. As a result of the provisions made in the Wool Use Promotion Act, 1945, and other related legislation, allowing for the establishment of certain funds for the expansion of sheep and wool research, the Executive of the Council for Scientific and Industrial Research (now the Commonwealth Scientific and Industrial Research Organisation) made a survey of the whole of the progress being made in Australia in connection with sheep and wool research, whether conducted by the Council for Scientific and Industrial Research, the State Department of Agriculture or the Universities.

2. It became clear, as a result of that survey, that, while we in Australia had made great progress in the control of sheep diseases, and had some very notable achievements to the credit of Australian science in that respect, we had not done very much in this country on the general subject of research into the problems of healthy sheep as distinct from the diseased sheep. In Australia today between 60 per cent and 70 per cent is the average production of lambs, and it is obvious that, if this could be raised to 100 per cent and the sheep could each be made to grow an extra pound or two of wool, the advantage to the Australian economy would be far greater than by the control of all the diseases which may be in existence.

3. In consequence the Executive considered that, from the funds which would become available, the sheep and wool research programme should be expanded in the study of the problems of the physiology of the sheep; its fertility and reproductive capacity;

and its capacity for improvement in terms of the quantity and quality of the wool grown as the result of better breeding and feeding. It was therefore decided that the work of the laboratory should be concerned essentially with the productivity of sheep, thinking of productivity in terms of the materials which the animal is capable of producing for the benefit of the Australian economy, first wool, then mutton and lamb, and, finally, skins and any by-products of the fleece that may be of importance.

4. The laboratory space available and the facilities in existence for research work in this field were very limited. However, some space was made available at the Division of Animal Health and Production at Parkville, Melbourne, and at the McMaster Animal Health Laboratory, in the grounds of the University of Sydney. Both these laboratories were fully occupied with disease investigations, and the temporary space made available has added to the difficulties in these institutions. It was then decided to look immediately for a site, suitable for another laboratory, and possessing all the prerequisites for the type of work contemplated. It was eventually decided that the site at Prospect, New South Wales, only 4½ miles from Parramatta, would suit the purpose, and the land was acquired in 1946.

5. As it was recognised that it would be some time before the new buildings would be erected and ready for use, work has been carried on, in spite of the difficulties, in various localities where it has been possible to obtain some space.

6. Plans for the first stage of the proposed buildings have been under discussion since 1946, and the second stage since 1948. Owing to the importance of the research in the economy of Australia the work is regarded as particularly urgent, and a special plea has been raised that at least the Animal Houses should be erected at the earliest possible moment, so that the research may continue, even with the laboratory space severely restricted for the time being.

SECTION II.

THE PRESENT PROPOSAL.

THE BUILDINGS.

7. The present proposal is to erect, on the site acquired at Prospect, New South Wales, a group of eight buildings, five of which are included in a first constructional stage, with the remaining three planned for completion shortly after the first group. The first stage comprises Food Store, two Animal Houses, Garage and Workshop, and Fleece and Shearing Building, while the second stage consists of the Main Laboratory building, Examination and Climate Control Rooms, and Boiler House and Mechanical Services.

8. It is recognised that the construction of the whole of the project in one stage would be a major undertaking in the present critical period of labour and material shortage and would delay occupancy, with full working facilities, of any part of the scheme until the whole scheme has been completed. The Main Laboratory and Examination Buildings are large and will involve installation of extensive engineering services, they will take longer to complete, and will absorb a greater range of labour and materials than the buildings included in the first stage. It has been decided, therefore, to urge the early construction of the Animal Houses and buildings comprising the first stage, continuing to make use of the temporary laboratory facilities and difficult conditions under which the work is at present being carried on. It is then hoped that, if the second stage is completely planned and pushed ahead without delay, the Main Laboratory buildings will be available soon after occupation of the first buildings is possible.

THE SITE.

9. The site proposed comprises an area of approximately 116 acres with a frontage of approximately 1233 feet to the Great Western Highway, and, to a portion at the rear of the site, a frontage of approximately 660 feet to Greystanes Road. It is approximately 4½ miles from Parramatta and is divided into two portions by a private railway line, one portion measuring approximately 17 acres and the other 99 acres.

ESTIMATED COST.

10. The estimated cost of the project was stated to be - First Stage £99,500, Second Stage £224,900, making a total of £324,400. The figures were stated to include 15 per cent for contingencies, but further rises in prices may increase the estimate as compiled, especially as quantities of steel may have to be imported at very much higher prices than those charged for the local product.

S E C T I O N II.

THE COMMITTEE'S INVESTIGATIONS.

GENERAL.

11. The Committee studied the plans and visited Sydney to inspect the laboratories at present being used in connection with the work. Evidence was taken from the officials of the Department of Works and Housing concerned in the preparation of the plans and estimates, as well as from officials of the Commonwealth Scientific and Industrial Research Organisation and other persons who are interested in the research work and able to inform the Committee regarding the project being investigated.

REASONS FOR THE PROPOSAL.
Necessity for Research.

12. In the first place the Committee sought evidence giving details of the necessity for the research being undertaken, and following that, inquiries were made into the present buildings available and the conditions under which the work has proceeded so far. Finally, information was obtained regarding the scope of the research planned and the buildings required to carry it on.

13. Broadly speaking, the research into problems concerned with the improvement of the sheep is essential because Australia is dependent upon the production of wool, mutton, lamb, and by-products of the sheep industry for the major part of her exports, and for the results effected upon her national economy and prosperity. If improvements can be secured in the quantity and quality of sheep products, and in the efficiency of methods of production, a great step will have been taken towards stabilisation of the conditions feared in the future, when the present high world prices will decline and competition from other countries will have to be met in greatly increasing degrees. The necessity for

measures to improve production was realised years ago, and legislation has been introduced from time to time with the object of providing money for scientific research as well as for publicity in connection with the industry. A large amount of money has been accumulated and set aside for various sections which will need it, and it is generally recognised that action must be taken as soon as possible, to push ahead with research work with the aid of the money in hand.

14. The Committee was impressed with the programme of work envisaged, and was most interested in the steps already being taken to initiate the research with such facilities as could be arranged. It was informed that the Division of Animal Health and Production had been asked to advise upon the purpose which the proposed laboratory would serve, and what were the specific projects to be undertaken in the course of its programme. In defining itsmeed the main types of work to be undertaken were stated to be genetics and sheep breeding, reproductive physiology, wool biology, and fleece analysis, and an explanation was given of the activities to be pursued along these lines.

15. Genetics and Sheep Breeding. This field is a most important one, covering the study of the methods of inheritance of fleece and body characters; how actually they are inherited; how selected characteristics of wool and carcass may be recombined; how to secure improvement in conformation of fleece type; and the study of the influence of environmental factors. For this work the sheep are kept in single pens and fed with a strictly controlled diet, and in some cases the temperature must also be controlled.

16. Reproductive Physiology. This section of the work aims at an understanding of the factors influencing reproduction and fertility in the sheep, and it is considered basic to the whole of the future sheep and wool industry. According to the Commonwealth Statistician's report the production of lambs throughout Australia shows an average of 62 per cent. This is stated to be incredibly low when compared with the production frequently attained under good conditions, and it indicates the great scope for improvement in the overall results. It is stated that there is a potential in our sheep to produce 100 per cent or even 105 per cent of lambs,

and one grower with large flocks averaged 116 per cent of pure Merinos in the last six years. This is possible owing to the tendency for the production of twins and other factors. It is felt that there is insufficient knowledge of these factors affecting fertility, though it is known that hot atmospheric conditions, lack of vitamin A in pasture, and seasonal factors have an influence on fertility.

17. Wool Biology. This work involves the study of the method of growth and development of the wool fibre, and a study of the relationship of fleece type to the character and distribution of the wool follicles in the skin, the influence of fibre growth and a number of other factors. As a result of the researches of some of the men who will go into the new laboratory it has recently been shown that high temperature, by itself, will increase the rate of wool production, and this significant fact may have a very practical application when the indications are pursued further.

18. Fleece Analysis. The section dealing with fleece analysis is already in being, though it is working under far from ideal conditions at the moment. It will be responsible for the study of methods of measurement of fleece characters such as length, breadth, regularity of wool fibres and density of the fleece. The fleeces from the experimental sheep are thus measured and studied in the various characteristics, and a picture is presented of the actual experimental material which is coming from the field trials and laboratory studies. The function of this section is to evolve methods of doing that work rapidly and accurately, in order to deal with the thousands of fleeces coming in from the field trials for comparison.

The Present Facilities.

19. With this extensive programme planned steps were taken to begin as much as possible of it at once, and various sections of the work have been commenced in widely scattered premises in Sydney and Melbourne.

20. The Wool Biology Laboratory. This laboratory is situated on the top floor of a factory building at 17 Rundle Street, Sydney, and some of the more detailed investigations are carried out there.

21. The McMaster Laboratory. The McMaster Laboratory, in the grounds of the Sydney University, also provides a small amount of space in which some of the research workers can carry on a limited amount of their work for the time being. In the grounds also it has been possible to construct a building containing 14 pens where experimental sheep are kept in connection with the investigations which have been started there.

22. Fleece Analysis Laboratory, Villawood. Facilities have also been provided in another hired building in the old Munitions area at Villawood, where routine measurements of wool are undertaken, and particular attributes of the fleeces are accurately measured.

23. Parkville, Melbourne. There are also a number of officers working at Parkville, Melbourne, on problems of reproductive physiology, and their work will be added to that of the other sections when the proposed new buildings are completed at Prospect, New South Wales.

24. In all these sections work has been begun on the pressing problems in hand, but the teams are scattered, communication between them is very difficult, and, in some respects, they are completely stultified by the lack of accommodation for experimental animals.

The Buildings Required.

25. In order to carry out the research involved in the investigations to be undertaken in the various fields determined upon, it is necessary to have extensive accommodation provided in a favourable locality, and offering all the modern facilities which will tend to assist and encourage the scientific research workers in attaining results destined to be of the greatest importance to the whole of Australia.

26. The First and Second Stages. In the completed project it is planned to erect eight buildings, five to be included in the first stage, and the remaining three in the second stage. Those in the first stage are the two Animal Houses, Feed Store, Garage and Workshop, and Fleece and Shearing Building; the second stage consists of the Main Laboratory Building, the Examination and Climate Control Building, and the Boiler House and Mechanical

Services Building. The various buildings have been carefully planned to provide the respective facilities essential in the scientific experiments for which each one is to be constructed, and for which the institution as a whole is being established.

27. The Animal Houses. In the first stage the most important buildings are the two Animal Houses, in which it is intended to maintain in single pens at least 160 animals. Each of the buildings is 252 feet long and 40 feet wide, and is divided by concrete dwarf walls into 22 transverse rows of 7 single pens, with separate feed lanes and general sheep traffic lanes to every alternate row of pens. These lanes will open off a main corridor running the full length of the building against the north wall. Separate feed and water troughs are to be provided at the back of each pen adjacent to the feed lane, so that the feed can be supplied from a travelling bin carried on a monorail supported from the roof trusses alongside the main corridor. Each sheep traffic lane is to open on to a concrete paved, open air exercise yard planned to hold 14 sheep.

28. At one end of each building a feed store will be provided so that weekly deliveries of feed from the Main Feed Store can be sorted and mixed according to the particular diets desired for the experiments in hand, and can be loaded into the travelling bin for distribution to the pens concerned.

29. At the other end of each building will be an office and a large Work Room, providing space for keeping records and for the examination of animals and collections of experimental material, such as fleece samples. The Work Room will be connected by covered ways to the Main Laboratory, Examination and Climate Control Building, and to the Fleece and Shearing Building to facilitate transfer of animals for special experiments.

30. It is proposed that one of these animal houses shall not be subdivided with pens at the outset, but shall be fitted up with portable benches and fitments for a temporary laboratory in the first stage of the project. On the completion of the Main Laboratory in the second stage, the fitments can be removed and this Animal House completed for its proper place in the scheme.

31. The Feed Store. This building is a single storey, barn-like structure, measuring 105 feet 9 inches long by 49 feet 6 inches wide, and having a mezzanine or loft over a loading dock area at one end. Space is to be provided for bulk storage of bagged grain and hay, to ensure that continuity of special feeding mixtures may be maintained for the periods necessary in the experiments. A vehicle loading dock and travelling hoist to facilitate handling of the feed have also been planned.

32. Garage and Workshop. This is to be a single storey building, 135 feet by 40 feet, subdivided to provide garage accommodation for six motor vehicles; equivalent space for the storing of farm machinery and equipment; a general store; machine shop for maintenance of laboratory and farm equipment; carpenters' workshop; an office for Farm Manager; and a small store, and toilet facilities.

33. Fleece and Shearing Building. The building designed for the handling of fleeces, from shearing to storage of fleece samples, is 150 feet long by 40 feet wide. It contains space for shearing pens and three-stand shearing floor, large fleece bins, and a wool press. A large area is to be fitted up with 800 small steel bins for storage of experimental fleeces, and some storage space for wool bales will also be provided. An area has been set aside for scouring of whole fleeces and samples, and an air conditioning room is to be provided for the storage and weighing of fleece samples under standard conditions.

34. The Main Laboratory Building. Although the buildings in Stage 1 of the programme have been considered in some detail, no finality has been reached on the detailed planning of the buildings comprising Stage 2, especially in the case of the Main Laboratory Building, which will be installed with a comprehensive system of engineering services necessitating full consideration of all aspects of the layout of laboratories and associated rooms. However, plans have been prepared on general requirements and have been advanced to the stage when a reasonably firm estimate can be determined. For the Main Laboratory Building a three storey structure has been designed with an overall length of 262 feet and a width of 42 feet, and the general layout of the floors,

although not recognised as finally determined, provides for long corridors down the centre, and the tentative subdivisions for laboratory and other purposes have been indicated on the plans.

35. The Ground Floor contains the Administrative section at one end of the building, adjacent to the main entrance, and it allows space for offices, Committee Room, Records and Store. The opposite end of this floor is occupied by a large store, while the space in between has been allocated for Chemical and Physical Laboratories and ancillary rooms, First Aid Room, Toilets and Lift.

36. The First Floor is to be occupied by Chemical and Physical Laboratories, Visiting Officers' Laboratories and offices, and ancillary work rooms, as on the Ground Floor, and similar toilet accommodation is provided.

37. The Second Floor is also to be used for Laboratories, except for the eastern end which is to house the Library, Library Office, Stack Room, Map Room and Drawing Office.

38. Examination and Climate Control Building. This building is to be of two storeys with a basement extending over approximately two thirds of its length. Covered ways will serve this building at ground level, and will connect the canteen with the Main Laboratory at the First Floor level also.

39. The Basement section will house the Main Electricity Substation, and there will also be three Cold Rooms, required in connection with the Main Laboratory and the Air Conditioning and Refrigeration Plant Room.

40. The Ground Floor will provide space for a Clinical Wing including Operating Theatre and associated rooms. The section for animal studies will include Animal Ward, Post Mortem Room, X-Ray Room and Dark Room and Animal Studio. There will be a Metabolism Laboratory and Constant Climate Rooms, where any prescribed weather conditions can be maintained.

41. The First Floor will be used for an Experimental Laboratory associated with the small animals, the animal colonies, and a Feed Store. Temporary Canteen and Kitchen to serve the whole staff will also be located on this floor.

42. Boiler House and Mechanical Services Building. This structure will be one storey in height, and will be 80 feet long by 40 feet wide. It is to contain the various mechanical equipment in addition to the central steam boiler. A large Common Room, together with locker room and lavatories have been added in order to provide the main lunch room and off duty room for the whole of the outdoor staff.

The Complete Institution.

43. Having considered the foregoing details of the research programme planned, the Committee is fully convinced that such scientific investigations are of the greatest importance to Australia and should be pushed forward without delay.

44. It was also evident, from the Committee's inspections, as well as from the evidence tendered regarding the present facilities, that the scientific workers already employed to inaugurate the programme are carrying on under difficult conditions which hamper their progress and prevent efficient co-ordination of the various sections scattered in premises in different parts of Sydney and in Melbourne.

45. With details in mind of the comprehensive programme of research work planned, and of the meagre facilities so far available, the Committee considered the extent of the building proposals submitted and the details of the eight buildings considered essential to carry out the investigations. Detailed evidence was received indicating the activities planned for each building and the relative urgency of the respective units of the proposal as set forth by the representatives of the Commonwealth Scientific and Industrial Research Organisation, and, after studying the requirements outlined, it is satisfied that the eight buildings projected are necessary for the institution.

URGENCY OF THE WORK.

46. From the outset it was emphasised that the importance of the work made it imperative to commence the proposed programme without delay, and, for this reason funds had been made available for the inauguration of the institution in the present wide-spread units which have been secured up to the present, and in which considerable progress has already been made, in spite of serious

handicaps, by enthusiastic scientists anxious to press forward their research to obtain the results they seek.

47. It was therefore stressed that better facilities are urgently required to extend the work, and, to make the best possible use of available labour and materials, the research officials concerned are prepared to carry on as best they can with the present laboratory facilities, so that the two Animal Houses may be made available at the earliest opportunity. It will then be possible to house and study the animals while the remainder of the programme of construction is proceeding, without the delay which would be occasioned by waiting for completion of the entire institution. The Committee agrees that there is an urgent necessity to start the project and recommends that the two Animal Houses should be pushed to completion as early as possible.

48. The programme of construction set out by the Department of Works and Housing, allowing for the erection of the first stage of five buildings, and the second stage of the remaining three buildings, assumed that 12 months would be needed to prepare working drawings, specifications and bills of quantities and to call tenders for Stage 1, while the time necessary to construct the first stage would be two years. Stage 2 was estimated to take two years to the time of calling tenders, and approximately three years to construct that stage. According to this estimate the date of invitation of tenders for Stage 1 was estimated to be January, 1951, and completion of contract January, 1953; invitation of tenders Stage 2, January, 1952, and completion of contract September, 1955. If the whole scheme were to be executed in one contract invitation of tenders could not be expected until January, 1952, though the final completion of the contract would still be expected by September, 1955.

49. These estimated dates regarding the progress of construction were regarded with considerable alarm by most of the witnesses concerned with the scientific programme, and one authority went so far as to say that the work contemplated in the institution is vital to the whole future of the wool industry, and post-war competition from synthetics will be dangerous. The programme is already several years later than it should have been,

and, if the buildings are executed in one contract, the six-year period for completion would possibly result in a delay which could be fatal to the wool industry.

50. The Committee agrees that the project should be regarded as one of great urgency, and, with the exception of housing, it should rank amongst those for which materials may be allocated without delay.

51. In order to gain the advantage of early planning it is recommended that construction should proceed in two stages as planned, and that Stage 1 should be proceeded with first, as suggested in the proposal.

52. With regard to the detail planning it has also been suggested that, if preliminary delays are caused mainly by lack of sufficient trained architects, the assistance of professional men outside the Department should be sought, so that nothing but lack of the essential materials should be allowed to delay the work, and the Committee recommends that this should be done.

DESIGN.

53. The design for the buildings included in the scheme is generally of a utilitarian character which should suit the practical purposes for which the various units are planned. The individual buildings allow for the different sections of the work, and they are arranged in convenient positions which will help to achieve an efficient co-ordination necessary in the whole institution. As a result of its inquiries the Committee is satisfied that the design can be regarded as eminently suitable for the project.

SITE.

54. The site has been chosen as the result of a great deal of thought and consideration of the problems involved and a realisation of the facilities essential for such an undertaking. The total area of 116 acres is divided into one area of 17 acres and another of 99 acres by a private railway line, and the land has a general slope to east and north. It is well grassed and slightly wooded, and offers suitable country for the irrigation and cultivation planned, as well as for grazing paddocks and the building programme envisaged. It is approximately 4½ miles from

Parramatta, to which it is connected by an adequate 'bus service, and it is thus in a position to provide the greatest variety of opportunity for the staff to find accommodation for themselves.

55. It is stated that, in the area selected an unusual formation for County Cumberland has been located, in that it is a basalt intrusion into the prevailing shale and sandstone, and it therefore provides surface soils of a high potential productivity from the agricultural viewpoint. This formation makes the site an area in which sheep could be most successfully grown, while offering at the same time suitable building foundations and proximity to populated areas.

56. The Committee is therefore satisfied that the site is most suitable for the purpose of the proposed institution.

CONSTRUCTION.

57. In determining the materials desirable for the various buildings allowance has been made for the type of work to be carried on in each. The main principles applied in the construction of the sheep buildings include the necessity for supporting heavy loads on floors; protection against birds, rats and other vermin; and effective cleansing and fumigation. For these reasons the materials proposed are reinforced concrete for floors and concrete or 11" cement brick cavity walls, steel framed windows and stairs, corrugated asbestos cement sheets for roof, and doors of timber. Steel roof trusses and tubular railings and gates are to be adopted because of the need to obviate any possible harbour for vermin. These materials are specially necessary in buildings like the Animal Houses where general hygiene is of prime importance, and the materials will have to withstand daily hosing and periodic steam pressure cleaning. The Main Laboratory and other principal structures will have 11" cavity walls with face bricks externally and 4½" brick internally. In the Animal Examination and Climate Control Building large open spaces will be provided for, and it will be designed as a reinforced concrete framed building in order to obviate the use of heavy brick bearing walls, thus substantially reducing the number of bricks required on this building.

Use of Bricks.

58. The construction of these large buildings will entail the use of a considerable number of bricks, and the Committee made inquiries regarding the possible alternatives which might be made use of to save bricks. Consideration was given to the use of cement bricks or cement blocks instead of clay bricks for the buildings concerned, but it was stated that the cement blocks are undesirable from the point of view of appearance, and also there would be some difficulty in getting men to lay them because of their size and weight. If cement bricks were to be used there would be a resultant saving of a considerable number of clay bricks, though there would be an increase in the amount of cement used. A comparison made for the Committee showed that, if cement bricks were used, there would be a saving of about 83,000 clay bricks in the first stage and 735,000 in the second stage. However, the increased cement necessary would amount to 65 tons in the first stage and 757 tons in the second stage.

59. As it is recognised that there is a shortage of cement as well as of clay bricks at the present time it appears that the use of additional cement would have the effect of neutralising the advantage gained by the saving on clay bricks. The Committee therefore recommends that the decision regarding the choice of these materials should be left until a later stage of the planning when the relative supply positions of the materials concerned can be more accurately gauged.

ENGINEERING SERVICES.

60. Architectural planning has made provision for the engineering services in the scheme, and they include electric light and power, travelling hoists in Feed Store and Animal Houses, fire extinguishers and sprinkler systems where necessary, full air conditioning system to sections where control is essential, water supply, drainage, roads, boilers, incinerator, refrigeration, lift for 14 persons, and various services required in the laboratories and ancillary rooms. The items required for the first stage have been planned, but a good deal of detail still remains to be determined in regard to all the requirements of the second stage, particularly in the Main Laboratory Building.

However, sufficient information is available for estimates to be made of the main details, and individual items will be determined in the light of further planning as the establishment proceeds.

ESTIMATE OF COST.

61. The detailed estimate of costs, based on all the information at present available, but stated to be subject to variations in accordance with rises in prices, were shown as follows :-

	£	£	£
Stage 1.			
Buildings -			
Feed Store	11,250		
Animal House (Building No.2)	23,100		
Animal House (Building No.2a)	23,100		
Workshop and Garage	7,150		
Fleece and Shearing Building	8,800	74,000	
Engineering Services.			
Mechanical	3,000		
Electrical	2,500		
Road and site preparation	8,500		
Water supply and drainage	11,500	25,500	99,500
Stage 2.			
Buildings -			
Boiler House	6,000		
Examination and Climate Control Building	44,000		
Main Laboratory	94,000	144,000	
Engineering Services -			
Mechanical	41,900		
Electrical	7,000		
Roads and Site preparation	16,500		
Water and Drainage	15,500	80,900	224,900
Total estimated cost of completed scheme			£324,400.

EFFECT ON HOUSING.

62. The main structural materials to be used are reinforced concrete, cement and clay bricks, structural steel, corrugated asbestos cement sheeting, steel framed windows and glass. As far as possible materials have been chosen with a view to avoiding the use of materials necessary for home building, and, where it has been considered essential to include items used in housing, the amounts have been cut to a minimum. Floor finishes have been selected to avoid the use of wood, steel framed windows will be of the industrial type, and the steel double hung type of windows on the Main Laboratory is not used in housing.

63. Although a considerable quantity of glass will be required in Stage 1, this can be obscure glass which is also not

used to any extent in housing. Roofing tiles have been omitted altogether, and timber is adopted only for joinery, etc. and ceiling joists.

64. As it is stated to be 18 months or two years before the bulk of the materials will be used in Stage 1 of the programme, and a further two years before Stage 2 develops, it is hoped that supplies of the necessary materials will be readily available. In any case, the immediate approval to proceed with the detailed planning will provide an opportunity for forward ordering which will assist in regulating the allocation of supplies.

65. The immediate need will be for cement, structural and reinforcing steel, and corrugated asbestos cement roofing sheets. The Committee made inquiries regarding the possibility of further alternatives to avoid competition with housing, while details of the various materials proposed for the different buildings and sections of the construction were closely examined. Consideration was given to the method, used recently in Adelaide, by which the main buildings could be temporarily erected without the facing bricks planned, in order to save the use of bricks, the facing of the buildings being completed some time in the future.

66. When the Committee made inquiries regarding the allocation of materials to the various building projects, it was informed, in evidence, that building materials are allocated by the State Director of Building Materials. At present 85 per cent of materials is allotted to the housing programme, while all other works, including all public works, share in the remaining 15 per cent. The Committee was informed that the Commonwealth share of the 15 per cent allotted to other than housing projects has met most of the demands so far, owing to the restricted staff available to complete the drawing of the plans.

67. After considering all these circumstances the Committee is of opinion that, as the erection of this building will have to take its place for allocation of materials out of the 15 per cent allotted to projects other than housing, the project should be approved immediately and erected as soon as materials from the quota are available.

PRIORITIES.

68. The Committee was informed that, with War Service Homes, the Housing of displaced persons has been allotted number one priority, and the other projects in an extensive works programme fall into other varying priorities, the work under investigation being in a rather low priority. In this connection the Committee recommends that, as the Sheep Biology Laboratory is considered to be a work of major importance to the whole of Australia, it should be placed in as high a priority for materials as is possible.

S E C T I O N IV.

THE COMMITTEE'S CONCLUSIONS.

69. The following is a summary of the recommendations made by the Committee :-

		Paragraph in Report.
(1)	The scientific investigations are of the greatest importance and should be pushed forward without delay.	43
(2)	Progress is being hampered by the difficult conditions under which the institution is at present functioning.	44
(3)	The eight buildings projected are necessary for the programme.	45
(4)	The two Animal Houses should be completed as early as possible.	47
(5)	To avoid delays in planning the work should be proceeded with in two stages as planned.	51
(6)	If shortage of architects delays the early planning professional men from outside the Department should be engaged.	52
(7)	The design is suitable for the institution.	53
(8)	The site is satisfactory for the purpose.	56.
(9)	Decision regarding use of clay bricks or cement bricks be determined at a later stage when the supply position can be more accurately gauged.	59
(10)	As the materials will have to come from the 15 per cent allocated to general works after 85 per cent has been set aside for housing, this project should be approved immediately.	67

Paragraph in Report.

(11) The importance of the research demands a higher priority for this project than it has held up to the present. 68.

CHARLES A. LAMP
CHAIRMAN.

The Office of the
Parliamentary Standing Committee
on Public Works,
Parliament House,
CANBERRA, A.C.T.

22nd September, 1949.