1944.

THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA

JOINT COMMITTEE ON WAR EXPENDITURE

SEVENTH PROGRESS REPORT

DEFENCE CONSTRUCTION IN QUEENSLAND and NORTHERN TERRITORY

27th NOVEMBER, 1944

THE SENATE.

Lavigne

I bring up the Seventh Progress Report from the Joint Committee on War Expenditure, and move - That the Report be printed.

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JOINT COMMITTEE ON WAR EXPENDITURE

(Appointed: 20th July,1944)

H.M. Johnson, Esquire, M.P.,
Chairman.

Senator W.J. Large	:	Hon. H.E. Holt, M.P.,
Senator Burford Sampson, D.S.O., V.D.,	:	Hon. George Lawson, M.P.,
		D. McLeod, Esquire, M.P.,
		G.J. Rankin, Esquire, D.S.O., V.D., M.P.,

JOINT COMMITTEE ON WAR EXPENDITURE.

SEVENTH PROGRESS REPORT.

DEFENCE CONSTRUCTION IN QUEENSLAND AND THE NORTHERN TERRITORY.

1. The Joint Committee on War Expenditure, actuated mainly by certain evidence given before it concerning the construction of two large projects in the Northern Territory - a seaplane base and an Air depot - in which allegations of waste, mismanagement and over-staffing were made against the Allied Works Council, considered that as complete a survey as possible should be made by members of the expenditure incurred in the construction of Defence projects in Queensland and the Northern Territory. The Committee was also desirous of informing itself further on the desirability or otherwise of using pre-fabricated materials in building construction before expressing any definite opinion on this phase of the Allied Works Council's activities.

2. Accordingly, Messrs. Johnson, Holt and McLeod, and Senator Large, left Melbourne by plane on 4th October, 1944, and after a tour of inspection extending over seventeen days, returned to Melbourne on 21st October. Owing to private reasons, Senator Sampson and Messrs. Lawson and Rankin, were unable to accompany the other members of the Committee. Mr. Lawson, however, was able to take part in the inspections made in the Brisbane area.

3. This Report is divided into the following Parts :-

Part I. - A general survey of Defence construction in Queensland and the Northern Territory.

Part II. - Subjects of special inquiry and comment. These include matters the subject of previous inquiry by the Committee, and other which the Committee considers deserving of special comment.

Part III. - Inspection of other projects.

Part IV. - Committee's conclusions.

Part I. - GENERAL SURVEY OF DEFENCE CONSTRUCTION.

4. Although it was not possible in the time available to visit all the centres in the Northern areas where extensive Defence construction has taken place, the Committee considers that it has covered a cross-section of projects sufficiently wide for it to arrive at a definite viewpoint concerning construction in those areas.

5. At each centre visited the Committee carried out inspections of aerodromes, stores depots, repair shops, aeroplane assembly works, naval installations, fuel storage depots, munition dumps, hospitals, camps, gun emplacements, cool storage installations, ordnance depots, control stations, harbour installations and berthing facilities, and many other constructions, all of which have been erected within the last few years and which have converted Northern Australia from a comparatively defenceless area into, not only a strongly defensive zone, but one from which mighty offensive operations can and are being launched.

6. The Committee was gratified to note that almost all of the major Defence projects, including roads, aerodromes and air strips, harbour facilities, water supplies, hospitalization, abattoirs, refrigeration, &c., had been planned to provide a peace-time as well as a war-time need.

7. The Committee stresses the point that one has to actually see the works which have been constructed in Northern areas to fully appreciate the gigantic task undertaken by the constructing authorities. Members were also better able to understand the difficulties which had to be overcome and the local circumstances affecting costs and the time required for completion of works.

8. As the criticisms referred to concerned the Allied Works Council, the opportunity was given the Deputy Directors-General in the areas visited of explaining to members the circumstances under which the vast programme of Defence works was carried out and of the difficulties which had to be overcome.

9. Formation of Allied Works Council - The Allied Works Council

was formed in February, 1942, to take over the works previously carried out by the Works and Services Branch of the Department of the Interior. The Council thus became responsible for the implementation of the huge programme of works to be carried out in Australia for the Army, Navy and Air Force, including also the vast amount of work required by the American Services. In addition to this special work the Council became responsible for the construction of all Commonwealth works previously handled by the Works and Services Branch of the Department of the Interior.

10. Civil Constructional Corps - Following this change-over, the Civil Constructional Corps came into being in order to assemble and utilise, so far as was practicable, the manpower available for the work. Corps conditions, by reason of their exceptional nature, necessitated conditions of employment quite different from the usual peacetime standards under which men were paid in accordance with industrial awards, and these conditions were provided for in the first instance by determinations made by the Director-General of Allied Works under powers conferred upon him, and later by a special award made by the Commonwealth Court of Conciliation and Arbitration. In addition to the costs as a result of these Determinations, were the improved camping and messing facilities which contributed towards the comfort of the workmen and made it possible for the men to endure the arduous tropical conditions which exist in the areas where the major Defence projects were established. The Committee believes that the provision of these improved living conditions has had a most beneficial effect on the morale of the workmen, and contributed very largely to the successful carrying out of our Defence programme.

11. Civil Constructional Corps Wages Costs - The effect of the special determinations and the subsequent Award was that the average cost per man week in Queensland for wages, holidays, sick pay, messing, accommodation and welfare services increased in the following proportion :-

	1941-42 State Award.	C.C.C. Award.	Increase per week.
Engineering Works	£7-14- 0	£11-14- 0	£4- 0- 0
Building Works	£9-15- 3	£12- 4- 6	£2- 9- 3

Owing to a shortage of staff in the Northern Territory, detailed information in respect of that area is not available, but it has been ascertained that the average cost of wages per man week is approximately :-

North of 20th parallel £12-13-11

South of 20th parallel £11- 5- 5

Actually the increases were greater for the greater part of the period from the inception of the Council to a few months ago, as the extreme pressure from the Client Services in the period of great stress and danger to Australia demanded the working of overtime to an extent hitherto unknown. During the early stages of construction men were called upon to work up to 60 hours per week, but, except on urgent works, the normal working week now applies in Queensland and the Northern Territory. Calculations indicate that overtime payments further increased the wages cost per man week in Queensland by £1- 8- 0 for building construction and £1- 6- 0 for engineering field works.

12. Additional factors due to the employment of a compulsorily enlisted civil works army, which increased the effective cost per man week were :-

(i) Distribution of works over a vast area involved organisation al difficulties and large amounts for fares and freights.

(ii) The necessity to transfer men (and subsequently return them) from as far afield as Tasmania and South Australia.

(iii) The unavoidable necessity of using untrained labour.

Although no statistical information is available on which to fix definitely the value per man week of the above additional factors, it will be seen that the total additional costs over and above Queensland State conditions in 1941-42 were greater than is indicated in the above tabulation.

13. Material Costs - It is estimated that costs of materials are approximately 30% higher than pre-war, and heavy transport charges

have also added greatly to construction costs, particularly in outlying areas in Queensland and the Northern Territory. The following table shows the landed costs of some of the main items of building construction :-

Item.	Melbourne.	Sydney.	Brisbane.	Adelaide River.	Alice Springs.
¾" Galvanised Iron Piping - per 100 feet	£1-10-4	£1-10-4	£1-10-4	£1-15-10	£2- 0- 4
Galvanised Corrugated Iron - per ton (average price)	£29- 3-4	£28-13-4	£29- 3-4	£34-11- 2	£37- 0- 0
Cement - per ton	£3-15-2	£4-5-10	£4- 1-0	£10-19- 4	£12- 6- 0
Timber, hardwood scantlings - per 100 super feet	£1-14-4	£2- 4-6	£1-18-5	£4-17- 9	£4- 3- 0
Masonite - 3/16" standard - per 100 sq. feet	£1-5-11	£1-5-11	£1-5-11	£1- 9- 6	£1- 8- 2

14. Plant Hire Rates - Plant Hire rates rose to approximately 100% over ruling rates in respect of plant supplied by the Allied Works Council. Conditions under which huge quantities of plant had to be acquired brought forth special directions from the Commonwealth Treasury that the cost of plant be recivered over a very short period. This greatly increased plant hire costs over what would normally be required for the purpose, with a corresponding increase in construction costs.

15. Allied Works Council Expenditure in Queensland and Northern Territory - Expenditure by the Queensland Branch of the Allied Works Council since the commencement of its activities on 1st July, 1942, is in the neighbourhood of £38,000,000, made up as follows :-

	Approximate Expenditure.
Strategic Roads	£7,000,000
Airfields	9,000,000
Brisbane Graving Dock	1,000,000
Services' hospitals	1,700,000
U.S.A. Encampments	2,000,000
Australian Army Camps	2,000,000
Naval facilities, Brisbane River	700,000
Oil Fuel Installations	1,500,000
Reckless Munitions and conversion	600,000
U.S. Storage facilities	2,500,000
Australian Army Stores, Workshops, and Rail sidings	2,000,000
U.S. Transhipment Port	650,000

Balance being sundry items for all Services	£7,350,000
Total	£38,000,000

In September, 1943, work in hand amounted to £19,466,000, of which £8,660,000 remained uncompleted, while in September, 1944, work in hand amounted to £9,300,000, of which £2,286,000 was uncompleted.

16. Similar details in respect of expenditure incurred by the Northern Territory Branch of the Allied Works Council are not readily available, but the total expenditure for the area since the inception of the Council in February, 1942, to 31st October, 1944, amounted to £12,587,428. The approximate value of work in hand or uncompleted is £2,500,000.

17. Assistance rendered by State Instrumentalities and private contractors - The huge construction programme undertaken demanded the use of all existing organisations capable of carrying out such work. All State organisations were readily made available by their respective State Governments; all available contractors, both large and small, co-operated very fully; and the Allied Works Council itself set up a day labour organisation which it directly operated.

18. A large number of contracts were carried out under the Cost-Plus-Fixed-Fee system specially developed for conditions which did not permit of the expenditure of the time necessary to prepare detailed surveys, plans and specifications, and to invite public tenders. This system actually provided for the fullest use and co-operation of all available contractors, and provided at the same time that they were tied by terms which would ensure the utmost possible speed in completing contracts.

19. Allied Works Council organisational difficulties - Both Queensland and the Northern Territory, particularly the latter, were largely dependent on supplies of manpower and materials from the Southern States. Shortage of shipping space and the uncertainty of shipping timetables made it very difficult for constructing authorities to carry adequate materials in store to meet all requirements.

20. Difficulty was also experienced in having men, plant and materials readily available in these distant areas the moment an

approved requisition was received. Allied Works Council executives stressed these difficulties in carrying on their organisations without a defined programme of work. They stated that on many occasions there has been delay in the provision of funds that has made it most difficult to maintain an organisation which would be adequate to deal in a reasonable time with projects of a major nature when they were finally brought forward with requisite funds.

21. With particular regard to the Northern Territory, it was emphasised that, on account of the possible diminution of work in that area, it will be more necessary than ever that the Allied Works Council should be kept fully informed by the Services of their projected requirements in order that its organisation in the provision of manpower and materials may be maintained to enable it to carry out the work in a reasonable time and at reasonable cost. It was pointed out that, although there has been no appreciable amount of "waiting time" in the Northern Territory in the past, caused by men having to stand by until further work is available, there is a danger in that regard in the future if men are to be kept in the Territory to cope with work of a major nature which may come forward unexpectedly. With these contentions the Committee is in agreement. It fully realises that in the past when our strategic position was changing almost daily it was a most difficult matter for the Services to finally settle on any pre-arranged plan and give adequate notice to the constructing authorities of a future building programme. But with the theatre of war gradually moving away from Australia, the Committee is of opinion that the Services should be able to give reasonable notice of future building requirements so far as the Australian mainland is concerned. Only by the closest co-operation between the various authorities can works be carried out expeditiously and at a reasonable cost.

22. Other difficulties experienced and brought to the notice of members are referred to under the specific projects concerned.

23. Queensland Airfields - The majority of the airfields built to Service requisitions in Queensland were undertaken and finished, at least to the extent necessary to enable them to be used for operational purposes, in the crucial period before the Northern shores of Australia could be regarded as reasonably safe from imminent attack. Speed of construction was the essential factor. In addition to the rear line of airfields in South Queensland, the programme of front-line operational fields in the North and Far North required, and was given, what now stands out as a gigantic effort. The air operations which turned back the enemy from his advance to the Australian mainland, and subsequently forced him to continue that retreat were launched from the Townsville, Charters Towers, and Mareeba airfields, which had been prepared at the greatest possible speed, and with the greatest effort on the part of the engineers, their staffs and the workmen on the jobs, with all the plant that could be obtained from every possible source in the time available.

24. In the case of Charters Towers, where no facilities existed for landing any of the types of aircraft used by the U.S. Army Air Corps or the R.A.A.F., a signal from headquarters was received at 8.30 p.m. by the Deputy Director-General (who was in Townsville at the time) on the night of Saturday, 14th February, 1942. Instructions were issued to the Main Roads Commission to start work at the earliest possible moment. The removal of the huge quantity of earth to be excavated was commenced with some 200 men, and a large collection of plant, at 7.30 a.m. on the following Monday - thirty-five hours after the originating signal was sighted. In the meantime, the men and plant were assembled from other jobs over a wide area, and three special train-loads of plant and materials were despatched on the Sunday, and arrangements made at Charters Towers to accommodate and feed the men. An aircraft landed on the first runway sixteen days after commencement of work. This was not an easy job, as the conformation of the country required the handling of much excavation and filling, and the production of a great quantity of crushed metal and screening.

25. Several airfields in the Townsville area were roughed from virgin forest to a state when aircraft could land on them, notably Antill Plains, Woodstock and Reid River. In the first mentioned place, Allied Works Council authorities were advised in Townsville at 7 p.m. that 50 pursuit aircraft were actually en route, and expected to land on this field at 9.30 the next morning. This was a day prior to the day on which the Main Roads Commission expected to have the strip fit for such aircraft to land on; however, by working shifts throughout the night, the strip was completed and the aircraft landed according to schedule.

26. Reid River was another case where urgent action was demanded and requirements complied with. From virgin forest one strip was cleared and smoothed, and put into use in approximately two weeks.

27. The full improvement schemes were proceeded with on these fields whilst they were under actual and intensive use by fighter and bomber aircraft, the Squadrons being operated off a cleared and smoothed strip whilst another strip on the same field was being gravelled or metalled.

28. The total programme of urgently required operational airfields in North Queensland alone comprises twentytwo fields, on which were laid a total of thirtythree flight strips, aggregating 36 miles. To this must be added a vast aggregate length of taxiways and roadways on the field which would total approximately 100 miles.

29. Strategic Roads in Queensland and Northern Territory. Australian Army requirements in respect of strategic roads in these areas amounted to a huge programme of work, the most notable individual schemes being :-

Inland Defence road - length 980 miles, at a cost of £2,525,000.

Mt. Isa - Tennant Creek Road - length 405 miles, at a cost of £1,750,000.

Charleville - Blackall Road - length 187 miles, at a cost of £422,600.

Stuart Highway, Alice Springs to Darwin - length 954 miles, at a cost of £4,150,000.

30. The construction of the Mt. Isa - Tennant Creek Road is the subject of special comment in another part of this Report (See paragraphs 76 - 85).

31. In-so-far as Queensland is concerned, the strategic road system is an integral part of the State road system, and therefore the improvements made to meet defence needs will be of great value to Queensland. This factor has been recognised by the State which has contributed towards the cost of the strategic road programme. Actually, the total cost of this programme in Queensland approximates £7,000,000, of which the State contribution approached £2,000,000.

32. Defence Construction in Far North Queensland.- Although it was not possible for the Committee to carry out an inspection of this area, information has been supplied which indicates that a heavy programme of important work was carried out on the Northern section of Cape York Peninsular and in the Torres Strait Island, comprising airfields and radio, stores and anti-aircraft installations at Iron Range, Jacky Jacky River, and Horne Island; heavy coastal defence batteries on four islands in the Torres Strait area; and large oil fuel installations, encampments, naval repair facilities and general work on the waterfront.

33. The ordinary difficulties associated with obtaining and transporting men, plant and materials, were greatly magnified in these cases. Normal services were no longer available and special service were incapable of handling with the desired expedition the immediate needs of those defending the areas as well as Allied Works Council men, plant and materials. Delays in getting men and supplies to the areas occurred frequently and many times special aircraft were sent there (when such were obtainable) with men, food and material, particularly plant spare parts. The difficulty re supplies of timber, of which a large quantity was required, was overcome by the Main Roads Commission setting up a saw-mill just under Cape York. Advantage of this source of supply was taken by the Army, Navy and Air Force, and timber was sent as far afield as New Guinea. This, together with a number of other mills established or taken over by the Allied Works Council in Northern Queensland, resulted in the supply of several million super feet of timber being made available either for milling or for use in the construction of

bridges, culverts, water-front structures, etc.

PART II. - SUBJECTS OF SPECIAL INQUIRY AND COMMENT.

PRE-FABRICATED BUILDINGS.

34. Shortly prior to its tour of inspection of Queensland and the Northern Territory, members of the Committee took the opportunity of inspecting, in Sydney, what are known as Bundling Depots. At these depots, which are under the control of the Allied Works Council, the many components of pre-fabricated buildings are bundled together in convenient form ready for transhipment to forward operational areas where they are assembled into either accommodation huts, warehouses or 500-bed Hospitals.

35. The Deputy Director-General of Allied Works, N.S.W. (Mr. E.R. Bradshaw), who accompanied the Committee when making this particular inspection, stated that the adoption of the policy to pre-fabricate buildings and transport them to forward areas had resulted in a large saving of public money.

36. The timbers used are all cut to requisite sizes at various Sydney joinery mills, and sent to the Bundling Depots, where they are labelled and bundled together in convenient form in order that the assembly of the building can readily be carried out at the receiving end, in accordance with the complete plans and instructions which accompany them. Each unit is complete in every detail, even to the nails and bolts required and the cement that is necessary to construct the flooring. Sanitary, kitchen, ablution and electrical equipment is also provided.

37. During a period of 12 months, orders for such buildings had been received from the U.S.A. authorities amounting to £6,000,000. These included -

Ordered	Supplied to 30/9/44, or in Store
Hospital accommodation for 37,250 beds	28,250
Huts - 18,980 buildings	17,208
Warehouses - 268 buildings	214

Mr. Bradshaw considers that the actual cost of these buildings will be over £1,000,000 less than that estimated by the U.S.A. authorities.

38. The pre-fabrication is almost entirely carried out in Sydney, and consists of unit huts 54' x 20', unit warehouses 393' x 88', and 405' x 110', and hospital units (based upon the unit hut) of 500 hospital bed capacity. A percentage test erection of all units is carried out in Sydney before shipment. Following certain observations made by the Army Business Adviser regarding the re-erection, subsequent to dismantling of pre-fabricated buildings, Mr. Bradshaw visited Northern operational areas, and inspected many of the buildings erected, and a copy of his report to the Director General of Allied Works has been made available to the Committee.

39. The Business Adviser stated --

> "It is suggested that, in view of the statements made by Australian engineers previously that the State of Australian timbers is such that prefabrication will not be reasonably successful unless the huts are put together almost immediately after fabrication, and that many of them will not be capable of being removed for re-erection, some enquiry should be made to ascertain what experience has proved in these directions as a guide to future demands of a similar nature."

40. In his report, Mr. Bradshaw stated that Northern N.S.W. hardwood is used entirely for prefabricated buildings constructed in N.S.W. The Minute may have been justified if Victorian hardwood had been used, this being a much poorer quality than the N.S.W. hardwood. The manufacture is based on using N.S.W. hardwood for all hut construction, and N.S.W. hardwood and oregon for warehouse construction. Where wooden floors are required, N.S.W. cyprus pine is used. Further, the production schedule was such that it became necessary to store large quantities of the bundled frames for these units and owing to shipping delays, the storage had the effect of duly seasoning the timber, in some cases, for months.

41. While he maintains that no difficulty is experienced in the erection, dismantling and re-erection of pre-fabricated buildings, he has observed from his inspection that certain materials supplied are susceptible to damage in shipping, dismantling and re-erection, notably fibro-cement, concrete cisterns, porcelain W.C. pans, slop sinks, etc. Also, that ungalvanised iron, unless coated with protective paint, is vulnerable to tropical conditions and will

require renewal in twelve months if not so protected. The metal clips which form an integral part of assembly in the junction of wall posts, rafters and purlins, rust rapidly and present difficulty in re-use after exposure in the tropics for a few months. Action has already been taken with a view to overcoming these difficulties - metal clips are being galvanised or otherwise treated; designs have been completed for substituting porcelain and concrete fittings in sheet metal; and it is suggested that fibrolite be not used beyond the mainland.

42. Although the Committee has no personal knowledge of pre-fabricated establishments erected beyond the Australian mainland, it did inspect several such hospitals and camps in both Queensland and the Northern Territory. The Committee was most impressed with the standard of this accommodation and with the speed in which the actual buildings were erected. The actual working time to erect the 157 buildings of a large American hospital in Queensland, and providing accommodation for 1,000 beds, was only 6 weeks. The 500-bed hospital at the K.40 project was entirely completed in two months.

43. It has been reported that a loss has occurred, particularly in timber, after arrival at the destination, sometimes ranging from 10% to 25%. This is due to inadequate parking of the supplies as they arrive, and is caused by an inconsiderate taking of structural members by other units for usage, other than for the purpose for which it was intended.

44. The Committee considers that the difficulties experienced to date by this method of building construction are of such minor character that they can quickly and effectively be overcome.

45. The Committee agrees with a suggestion put forward by Mr. Bradshaw that men experienced in pre-fabrication should be appointed in forward areas, with a view to exercising proper supervision over all the fabricated material used either in the erection, dismantling or re-erection of buildings, and that supplies of reserve stocks of components to replace those that may be damaged in transit or dismantling should also be provided in forward areas.

46. The Committee, from its own observations, and in view of the fact that --

(i) the pre-fabrication of timber on mass production lines with the aid of modern machinery can be carried out more expeditiously and cheaper in the city areas;

(ii) the erection, dismantling and re-erection of pre-fabricated materials can be carried out under proper supervision by unskilled labour; and

(iii) the use of skilled labour on building construction in Northern areas can be kept to a minimum;

is convinced that this form of building construction for forward areas should be adopted wherever practicable. It also considers that, in connection with post-war planning, the pre-fabrication of accommodation, particularly for people in outlying districts, could be organised to play an important part in relieving the serious shortage which at present exists.

K.40 PROJECT - DARWIN AIR DEPOT.

47. In May last, considerable publicity was given in the press to allegations of waste and inefficiency on the part of the Allied Works Council by Mr. R.C. Brown, a member of the Civil Construction Corps. The Committee decided to investigate such charges, and when Mr. Brown returned to Sydney on annual leave he was called to give evidence.

48. The inquiry, to which the press was admitted, opened in Sydney on 23rd August, and the following witnesses were examined:-

REGINALD CECIL BROWN, carpenter and joiner, of Killeaton St., St. Ives, a member of the Civil Construction Corps;

JOSEPH WILFRED CHARLES PASCOE, Civil Engineer, employed by the Allied Works Council, and who was Engineer-in-Charge, during the construction of the K.40 Project; and

WILLIAM STANLEY MEW, of Merton Hall, 284A, Victoria St., King's Cross, who, until recently had been employed by the Allied Works Council as a Personnel Officer.

49. Briefly the allegations made by Mr. Brown were as follows:-

(a) With hundreds of other skilled tradesmen, he was sent from Sydney on 11th March, 1944, to an urgent construction job, known as K.40 in a forward operational area, but on arrival there on 24th March, the men were told there was no work for them to do, and they would have to be placed on waiting time.

(b) Work commenced on 27th March, but a few hours later, the materials ran out and the men were again put on waiting time. For weeks after hundreds of men kept pouring into K.40 and were placed on waiting time, as there was no material available. Such delays continued throughout the construction of the job.

(c) Notwithstanding that materials were continually in short supply, overtime was worked every Saturday and on holidays.

(d) During the construction, 26 painters were sent from Sydney, but during the 3 months they were stationed at K.40, not more than three of them did a day's painting as there was very little painting to be done.

(e) 600 men could have carried out the construction of the project with the materials available, yet a total of 1280 were employed.

(f) On Anzac Day, April 25th, for which double time had to be paid, he and 21 other men were employed placing concrete screeds in position at the hospital section. The following day the screeds had to be removed as they had been placed in the wrong position.

(g) Early in the job there was continual muddle over the system of pay. Some men were under-paid, some over-taxed and some not paid at all. Some received no pay at all for periods up to eight weeks and their wives received no allotment.

(h) Shortly after his allegations received publicity in the press, he was dropped from the gang to which he was attached, and put to work around the K.40 camp.

50. Mr. Mew, in his evidence, supported Mr. Brown's contention that a large proportion of the men were not gainfully employed, and were placed on waiting time, and this state of affairs continued the whole time he was there. He alleged that he was directed by the Deputy Director of Personnel at Alice Springs to proceed to Adelaide River, where a car would be made available for his use as Personnel Officer at Gorrie. At Adelaide River a car was refused him, and as there was no accommodation there, and no apparent duties for him to perform, he proceed to K.40 - not on instructions, but on the suggestion of the Personnel Officer of K.40. He did work of a clerical nature, but his hours of work only averaged 1½ per day.

51. Mr. Pascoe, who replied to the charges on behalf of the Allied Works Council, stated that he was appointed project engineer of K.40 in February last and was instructed to give an estimate of the cost of the work to be carried out from the details supplied. His

estimate was £1,400,000 for all material, plant and labour. He was later advised that portion of the work would be carried out by the Allied Service who would make 750 men available. His revised estimate was £646,000, excluding cost of pre-fabricated buildings supplied from Sydney by the Allied Service.

52. The project was to be completed in 120 days, and it was completed within the time allotted, at a cost of £528,000.

Neither men nor materials were available in the area to carry out the work, and it was agreed that transport of labour would be undertaken by the Personnel Section of the A.W.C.; supply of portion of the equipment by the A.W.C. and the balance by the Allied Service; and the transport of all material by the Allied Service.

53. Briefly, the work carried out, which commenced on 13th March, and which was scattered over about twelve square miles of country, included:-

Erection of workmen's camp, to house 1200 men;
Clearing of timbered areas for roads, camp sites, storage areas, hospital, etc. - approximately 770,000 square yards;
Erection of igloo hangar - 309 ft. by 205 ft.; several steel butler hangars; 10 large tubular steel warehouses; a 500-bed hospital, complete with sewerage and water supply, and approximately 40 other small timber frame buildings;
Railway Siding, loop line, unloading platform and truck unloading platform;
Water reticulation and fire services to hangars;
Tarmacs and taxiways - construction of 200,000 square yards of pavement, with gravel and double seal coat of bitumen;
Several miles of road - about 120,000 square yards sealed in bitumen;
About 20,000 cubic yards of concrete to be mixed and placed; 20,000 cubic yards of metal and concrete aggregate, and 150,000 cubic yards of gravel;
Development of quarries;
Erection of Cold Storage Warehouses, and a number of air-conditioned repair shops;
Electrical reticulation and installation to all buildings;
Concrete floors in all buildings - in hangars 8" thick, in warehouses 6", and in other buildings 4".

54. Answering the charges made by Messrs. Brown and Mew, Mr. Pascoe emphatically denied that men were constantly idle throughout the construction of the job, and placed on waiting time on account of shortages of materials. He admitted that the first Allied Service ship bringing material did not arrive at port until

about the 14th April, but he pointed out that all men assigned to the project before that date were fully employed in the construction of their camp, land clearing, unloading of lumber, the initial development of a quarry, and the clearing of about four miles of road. The only inefficiency he admits is that he had more men employed on the construction of the camp than was economical, but he used that time for organisation and for training the men in teams, and for hardening them up for the work to follow. From the arrival of the first boat there were no serious hold-ups for materials, except for cement which was always in short supply in the Darwin area. Slight delays in transport may have occurred, but it must be appreciated that the work was scattered over twelve square miles of country, and he had no jurisdiction over the unloading of the boats.

55. With regard to Saturday and holiday work, Mr. Pascoe explained that it was not usual to work the men on holidays in the Darwin area unless specially directed to do so by the Deputy Director-General, but in connexion with this particular project the work was being carried out in conjunction with the Allied Service which worked its men seven days per week. For instance, the Allied Service undertook to mix the concrete at a central mixing plant and deliver it to where it had to be put down. Therefore, if the Allied Works Council had stopped work the Allied Service would have had to close down its mixer.

56. Approximately thirty painters were sent to the K.40 project, but not on requisition from Mr. Pascoe, because he did not require any. He explained that when a man is called into the Civil Construction Corps and sent to a particular area, it is as a member of the Corps and not as a particular tradesman. At the location of the work he is allocated work by the project engineer and carries out such duties as he is told to do. Mr. Pascoe stated that every man employed by him was put to a job for which he was best suited and trained. In the case of the painters it was found that they were skilled in plastering. He accordingly employed them as concrete

finishers and they did a good job.

57. With regard to the concrete screeds which were laid by a gang of twenty men on Anzac Day at the hospital site, and were taken up and re-laid in another position the following day, Mr. Pascoe explained that he was advised by the Allied Service Hospital expert that the erection of the hospital was an urgent matter as planes were continually arriving with more and more casualties. From the Hospital expert he took instructions as to where particular buildings should be erected. On 20th April work was commenced on the laying of concrete floors in readiness for the erection of pre-fabricated material which would be arriving at any time. The building sites had to be prepared, cut or filled according to locality, and gravel had to be put in, watered, rolled and consolidated; the concrete formwork had to be prepared and the concrete poured. The Allied Service concreting plant would have been disorganised if the Allied Works Council men had not worked on Anzac Day. The concrete screeds laid on that day and later removed concerned the sites of five buildings which were to become the nursing sisters' quarters. The sites were fixed by the Allied Service Hospital expert, but during the afternoon of 25th April the Base Commander and his staff made an inspection, and the following morning advice was received that these particular sites had to be altered to another position. The Allied Works Council was in no way responsible for any mistake that may have been made.

58. In regard to Mr. Brown's statement about the system of pay, Mr. Pascoe stated that he was desirous of having a pay staff directly under his control on the project, but as clerical assistance wasnot available, the Deputy Director-General directed that the pay of all men was to be carried out from the sectional headquarters at 13 Mile Camp. There a staff had been built up to deal with approximately 2,800 men. Everything was done to obtain further clerical assistance to cope with the additional 1,200 men assigned to the K.40 project but, unfortunately, it was not forthcoming until sometime later. In the early stages there was trouble over pay. With an additional 1,200 men on the pay sheets a few mistakes were inevitable and they did occur, but all complaints were investigated

and quickly straightened out. Mr. Pascoe stated that there was trouble for three pays, but there is no trace of any men not being paid for eight weeks, as alleged by Mr. Brown.

59. Mr. Pascoe assured the Committee that the dropping of Mr. Brown from his gang to do maintenance work at the camp was not done as a reprisal for the publicity which his complaints received in the press. A carpenter was required for this maintenance work, and as the gang to which Mr. Brown was attached had practically completed the particular job it was working on, it was decided to take a man from that gang. Mr. Brown was chosen because he was considered by his supervisor to be a good worker.

60. The Committee took the opportunity of closely inspecting the K.40 project. It was a vast undertaking urgently required for the carrying out of the gigantic offensive campaign now being waged against the Japanese, and the fact that it was completed in the comparatively short time of approximately 120 days reflects the highest credit not only on the Allied Service and the Allied Works Council engineers who organised and supervised it, but also on the personnel who carried out the work. A huge "igloo" hangar, to accommodate B.29 aircraft, 309' long with a span of 205 feet, was erected in seventeen days, and the 500-bed hospital, complete with septic sewerage, water supply and electric supply, was finished in just over two months.

61. As pointed out earlier in this Report, one has to actually see the project to fully appreciate the magnitude of the task so successfully undertaken, particularly in view of the conditions that had to be overcome in this particular area. Trying weather conditions acute transport difficulties owing to shortage of shipping space, and when our sea lanes were not entirely free from enemy attack and staff shortages all made the task more difficult. The Committee also appreciates the difficulties experienced by those in charge of co-ordinating the supply of manpower and materials, and realises that some lag in one or the other was well nigh inevitable.

62. That mistakes were made and some confusion did perhaps exist at times, the Committee has no doubt, but it is fully convinced

that they were of minor consequence compared with the ultimate result.

63. With regard to Mr. Brown's allegations, the Committee is satisfied after full investigation that there was little substance in them. Being only a unit in a huge organisation, he was unable to appreciate fully the difficulties his leaders had to face. Had he done so, the Committee is confident that the allegations would not have been made. He was certainly not in a position, nor has he the qualifications to express the view that the project could have been just so effectively carried out by 600 men. Concerning his charge that men were continually placed on waiting time throughout the construction of the project, the Committee has examined the whole of the pay sheets of the K.40 project, and there is no evidence of excessive waiting time having been paid for.

64. Concerning Mr. Mew's allegations in connexion with his employment in the Northern Territory, the Allied Works Council has reported that, although Mr. Mew attached himself to the K.40 project without proper authority, he was allowed to remain there for some time, following representations made on his behalf by the Senior Personnel Officer of the project, as additional assistance was required there. Arrangements were then made for another Personnel Officer to proceed to Gorrie.

EAST ARM FLYING BOAT BASE.

65. On 22nd August, 1944, evidence was taken from Mr. R.H. Nesbitt, Business Member of the Air Board, and from Mr. H.F. Richardson, Deputy-Chairman of the Board of Business Administration. These two gentlemen had recently returned from an official tour of Northern Australia.

66. Both Mr. Nesbitt and Mr. Richardson informed the Committee that in May last, when they visited this Flying Boat Base which was being constructed by the Allied Works Council and which was urgently needed by the R.A.A.F., they found that very little progress had been made, notwithstanding the fact that the requisition had been placed several months earlier.

67. The project which involved the construction of a flying boat slipway, a marine craft slipway, a jetty, marine craft workshop, control tower, hangar, underground fuel storage and a camp for personnel, was approved by the Air Board in November, 1943, and approved in principle by the Board of Business Administration shortly after. The details of the plan were prepared in January, 1944, and the total estimated cost was £142,000.

68. When inspected by Messrs. Nesbitt and Richardson in May only about 1/7th of the jetty and about 1/15th of the slipway had been constructed. The camp had practically been completed and the site for the hangar had been cleared and levelled. The number of men employed was not great - about 30 or 40 - and they did not appear to be very busy. There was an obvious shortage of mechanical equipment.

69. Mr. Nesbitt and Mr. Richardson both considered that, in view of its urgency, full advantage should have been taken of the low tides with the object of doing as much work as possible on the slipway. This could have been achieved by means of broken shift work and overtime, but the foreman in charge of the project informed them that he had been instructed not to work overtime. Neither had he received instructions to work broken shifts or work to the tides.

70. Both gentlemen were of opinion that the chief cause of the delay was that the controlling authority over all Allied Works Council projects in the area was stationed at Alice Springs. They considered he should be in closer touch with works being carried out in the Darwin area.

71. When this project was inspected by the Committee, it was found that although work was still proceeding, sea-planes were being repaired and serviced. Allied Works Council engineers explained that work on the project commenced on 1st February last. The first job was the construction of a road 1½ miles long. As the "wet" season was in progress, bogging of vehicles considerably delayed the work. They attribute the delay in the construction of this Base, particularly in the early stages, to an acute shortage of mechanical tools and trucks, a shortage of labour, and the fact that much of

the material required had to be requisitioned from the southern States. Some of the pre-fabricated material for the workshop never arrived, as the barge on which it was being transported was washed ashore on the east coast of Australia. It was then necessary to improvise with local material. At the date of the Committee's inspection they were still awaiting delivery of the cradle for the marine slipway. A further difficulty was the extremely hard rock encountered and which had to be shattered before piles for the jetty could be placed in position.

72. With regard to the assertion that advantage was not taken of the tides, the Chief Engineer of the Allied Works Council, Darwin, assured members that this matter had been considered. Tide levels were ascertained and scheduled for the months of May, June, July and August. When the work was inspected by Messrs. Nesbitt and Richardson the tides were in the neap, and the variations in height amounted to only about seven feet. In any case, the work on the slipways had not then reached the stage of being affected by the tides. When they did so, action was taken to work broken shifts and overtime.

73. The Chief Engineer maintained that the project was properly planned at the outset, but on account of the difficulties mentioned above it was not possible to proceed with the work as expeditiously as he had hoped. With regard to the shortage of mechanical equipment and trucks, it was pointed out that the Darwin Air Depot was being constructed at the same time, and as this project was being constructed on the very highest priority, all mechanical equipment that could be spared had to be diverted to it.

74. The Committee also considered the matter of the headquarters of the Deputy Director-General of Allied Works which are situated at Alice Springs. An examination of the setup of the Council showed that in the Darwin area, which is divided into three districts, all works are under the control of the Chief Engineer. He is assisted by the Assistant to the Deputy Director-General,

the Superintending Engineer, the Superintending Architect, three District Engineers, Maintenance Manager, Assistant Deputy Director of Personnel, and the Accountant. The Chief Engineer acts for the Deputy Director-General during the latter's absence from Darwin.

75. The Committee, having carefully considered the explanations given by the Allied Works Council engineers, and from its own observations, is satisfied that the delays during the early stages of construction were unavoidable, and having regard to all the circumstances associated with it, the project is being completed as early as practicable.

MT. ISA - TENNANT CREEK ROAD.

76. This road which was constructed to cope with the large convoys of troops and materials passing to and from Queensland and the Northern Territory, commences at Mt. Isa and finally links up with the North-South Road a few miles from Tennant Creek, 402 miles to the west.

77. Members of the Committee, accompanied by the Road Engineer, Mr. D.S. Hall, took the opportunity of travelling by car over that portion of the road between Camooweal and Tennant Creek, a distance of 286 miles.

78. When work was commenced in May, 1941, the provision of communication lines with the Northern Territory was a vital necessity to our defence system. As the survey party pegged out the site it was quickly followed by road gangs with graders, with the result that sixty-two days later the whole of the road was formed and fit to take heavy Army traffic. However, the urgent necessity of this heavy traffic having to pass over the road during the early stages of construction considerably retarded its progress and necessitated a good deal of re-gravelling before the sealing was eventually put on and the road completed early this year.

79. An outstanding feature in connexion with the construction of this road is the provision of bores, spaced approximately every

ten miles along the 286 miles of the road between Camooweal and Tennant Creek. These are equipped with pumps or 22-ft. diameter mills, and with overhead tanks for water storage. Water from some of these bores was sampled by members and found to be excellent. Prior to the establishment of the bores the construction of the road was proceeded with under great difficulty, as in order to service the camps along the route, water had to be carted distances of up to 64 miles.

80. Up to a maximum number of 900 men were employed during the construction period, many of the Australian workmen being replaced by enemy aliens during the latter stages.

81. One and three quarter million cubic yards of gravel and 30,000 drums of bitumen were used in the formation and surfacing of the road, and 140,000 cubic yards of screenings prepared along the route. The total cost of construction was approximately £1,750,000.

82. Mr. Hall informed members that, during the early stages of construction, the lack of proper camping and messing equipment inflicted great hardship on the men. This was due to a shortage of transport facilities to this outlying area. However, this unsatisfactory position was later remedied by the receipt of adequate supplies, and, with the establishment of bores along the route, the construction of the road was proceeded with under much improved conditions.

83. Complaint was also made of the physical fitness of a number of Civil Constructional Corps workers who were sent to work on the construction of the road. Many were quite incapable of working under the trying conditions which exist in this part of the continent. Mr. Hall estimates that approximately £3,000 was wasted in this way. The Committee, in bringing this matter under notice, expresses the opinion that the greatest care should be taken by the Allied Works Council in the allocation of men to their various projects with a view to ensuring that those selected, particularly for outback areas, are physically capable of performing the work required of them.

84. Members who inspected the road were impressed with its importance, not only as a strategic military highway linking the Northern Territory with Queensland, but also in connexion with the post-war development of the vast areas through which it passes. A portion of it passes over the Barkly Tablelands, excellent cattle and sheep raising country, but at the present time all this land is leased by only a few companies and individuals. With the provision of bore water and the construction of dams, also with the establishment of a closer settlement scheme, the Committee believes that this part of the continent's productive capacity could be greatly improved. If this were done, proper lines of communication would be essential. For this reason, the Committee hopes that this excellent highway, which has cost so much, will not be allowed to deteriorate when no longer required for military traffic.

85. Already slight signs of wear are noticeable in parts, and engineers have informed members that this could be remedied by a further sealing with hot bitumen. The Committee recommends, therefore, that this matter should receive the Government's consideration as early as possible.

ALLIED WORKS COUNCIL ADMINISTRATION IN THE NORTHERN TERRITORY.

86. During its tour the Committee took the opportunity of inquiring into the administration of the Allied Works Council in the Northern Territory.

87. Rumours of overstaffing had come to its notice from time to time, and Mr. Mew when giving evidence in Sydney on 25th August, 1944, alleged that the staff at the headquarters of the Northern Territory administration at Alice Springs had been almost doubled and that, as a result of the administrative staff being divided, portion of it being at Alice Springs and the remainder at Adelaide River and the 13 Mile Camp, the work was being duplicated. Claiming to be an expert on office administration and staff organisation, he expressed the opinion that fifty Allied Works Council clerks could

efficiently perform the work at present being carried out by the Alice Springs staff of 480.

88. Figures supplied to the Committee indicate that the total staff of the Council in the Northern Territory in October, 1944, was 838, made up as follows:-

Alice Springs -		
Males	222	
Females	174	396
Adelaide River and 13 Mile Camp - males		442
	Total	838

Included in these figures, however, are about 150 officers classified as field engineers, works supervisors, resident architects, &c., who are actually engaged on constructional works.

89. The Deputy Director-General of Allied Works in the Northern Territory (Mr. Haslam) and his senior officers were closely examined on the necessity of maintaining such a large staff, and also as to why the administration was divided. The following is a summary of the explanations advanced by these officers:-

(a) In the Northern Territory, which actually experienced war conditions within its boundaries, the Council was subjected to extreme pressure from the Americans and the Service Departments in the execution of urgent Defence works. Under these circumstances huge projects were rushed to completion by field and technical units of the organisation without anything like a stable complementary clerical staff to keep pace with the accounting functions and routine associated with the works.

(b) There is always a lag between field work and completion of accounting records in any normal operations, but, firstly, because of the extensive area covered by the constructional operations necessitating the initial records having to be sent long distances to headquarters, and, secondly, because of a severe shortage of trained clerical staff, a huge pile of arrears of clerical work

has accumulated. Not an inconsiderable amount of this has been associated with the necessity to sort out and attempt to rectify the omissions in records caused by the bombing of Darwin.

(c) In the Northern Territory there are no grounds for recruitment of labour, and all assistance has to be obtained from other States. In this connexion great difficulty has been experienced in retaining staff long enough to be of any real value. While releases are only granted under special circumstances, in the main, on the grounds of medical unfitness supported by a medical certificate, the administration has suffered the experience of being supplied with new officers from other States to carry out clerical duties only to find that within a period of from six weeks to three months a large number of both old and experienced officers and these new appointees have to be released. A schedule showing the staff changes in the Accounts Branch at Alice Springs reveals that, during the three months ended 30th September, 1944, fifty-three officers were released and thirty-seven new clerks appointed in their place. Of the total staff employed at Alice Springs, an exceedingly small percentage has been in the Northern Territory for twelve months or more, and in the Accounts Branch there are only six trained permanent officers, two of whom are recent additions.

(d) Lack of accommodation and equipment is another factor that has retarded the development of an adequate and competent staff. On occasions additional staff has been offering but because of insufficient office accommodation and furniture, or because living accommodation could not be found, they could not be employed. The Administration has at all times observed a policy of caution in that it has not consented to the erection of additional quarters and accommodation at Alice Springs

without being thoroughly satisfied that it was justified. It has been necessary to consider this angle very carefully, in the knowledge that when the output of work diminishes in the Territory many of these buildings will no longer be required.

(e) Accounting machines of various types have been virtually impossible to obtain throughout the Commonwealth, and much of the early work has been manually performed. Several of these machines, which have been on requisition for many months, are expected shortly, and, if these expectations are realised, it is considered that the arrears of work may be overcome within a period of three months. In the meantime it may be even necessary to provide for a further small increase in the Accounts Branch staff over and above the normal flow of recruitments for replacement purposes only. It is a matter of urgency to use all existing staff to the greatest extent and to provide for overtime conditions in certain sections. The alternative to this is a further increase in staff with consequent costly additions of buildings and equipment which, even if warranted, would not be available.

(f) It is essential that the headquarters of the Council remain at Alice Springs, mainly because a large percentage of the staff employed is female. Adelaide River and 13 Mile Camp, being situated in an operational area, are directly under Army control, and for that reason no civilian female employees can be stationed there. Of the total staff employed at Alice Springs during October, 1944, 174 were females and 222 were males, but it is pointed out that in recent months the female staff has been increasing while the male staff has decreased. Alice Springs, in addition to being the chief administrative centre for the Northern Territory, is the headquarters for all accounting and staff records. The work being carried out there involves, inter alia -

(i) The recording of every Civil Constructional Corps employee's movements while stationed in the Territory; wages paid to him at the various projects; family allotments; taxation and other deductions.

(ii) Requisitioning of all stores.

(iii) The recording of all stores issues made from the twenty-six stores which have been established in the Territory. The total value of these stores on hand amounts to approximately £2,000,000.

(iv) The recording of costs of wages, materials, plant hire, &c., incurred on each individual project.

(v) The supervision of all Trust Account operations, including the keeping of control ledgers.

(vi) The examination of all pay sheets prepared at the various projects, and checking of all vouchers by the Internal Audit staff.

(vii) The recording of all plant movements.

(viii) The recording and dissecting of all expenditure in connexion with mechanical workshops, joinery and plumbing shops, sawmills, quarries, bitumen plants, &c., established throughout the Territory, and the computing of production costs, and recovering the costs on delivery basis.

With regard to the establishments at Adelaide River and 13 Mile Camp, these are merely branch offices of the central administration situated in close proximity to the actual projects. The administration as at present organised does not involve duplication of work.

(g) Concerning Mr. Mew's opinion that fifty clerks could efficiently perform the work of 480, the administration staff at Alice Springs has never reached that number. Further, Mr. Mew only stayed in Alice Springs for a few days en route to Adelaide River, and during that time did not have any opportunity of arriving at any definite conclusion regarding the efficiency or inefficiency of the Administration.

90. The Committee, after making an inspection of the administrative records and obtaining a true perspective of the work involved, and considering the explanations given by senior officials, is of opinion-

(i) That the administration of the Northern Territory is being carried out as efficiently as possible after due consideration of the difficult circumstances under which it operates.

(ii) That every effort is being made by the Deputy Director-General of Allied Works to keep his staff down to a minimum.

(iii) That the opinion expressed by Mr. Mew was made without knowledge of the true position.

ARMY FARM UNITS IN THE NORTHERN TERRITORY.

91. Members carried out inspections of two Army Farms and an experimental farm, and were most impressed with their value in providing fresh vegetables, fruit, eggs, poultry and honey to troops stationed in the area, the importance of which cannot be over-stressed.

92. The scheme was commenced late in 1940, when a one acre garden was planted at Adelaide River. Today a series of farms extending from near Darwin to Spinifex Bore, 700 miles to the South, have been established and cover an area of 311 acres. Two poultry farms have also been established, and it is estimated that the total egg production for 1944 will be 35,000 dozen. Further, in order to assist in the pollination of crops, bees have been introduced and have proved very satisfactory, with the result that considerable quantities of honey are made available for issue to hospital patients.

93. Planting, which cannot commence until the "wet" season abates late in March, is timed so that produce will continue to be cropped during the whole of the six dry months - May to October. Notwithstanding the lateness of the season when these farms were inspected, members viewed a fine display of tropical fruits, vegetables and honey, which included paw paws, mangoes, bananas, pineapples, melons, cucumbers, tomatoes, carrots, lettuce, silver beet and radishes.

94. From one farm of five acres, employing five men and a cook, 124,000 lbs. of produce has been cropped since its establishment on 5th April, 1944.

95. The following table shows the estimated yields from all farms during the 1944 season:-

Commodity	Acreage being cultivated	Estimated yield. lbs.
Tropical fruits	50	79,000
Citrus fruits	2½	Nil
Tomatoes	86	1,000,000
Cabbages	70	1,000,000
Cucumbers	64½	230,000
Beans	18	19,400
Lettuce	9	190,000
Carrots	5½	220,000
Beetroot	5½	160,000
Total	311	2,898,400

96. The Committee is informed that without special water storage, 1,000 acres could be irrigated in the Adelaide River area, and 3,000 acres at Katherine. By damming the Adelaide River, a much greater area could be utilised.

97. Another pleasing feature of the scheme is the Experimental Farm of sixteen acres at Katherine. There, working in conjunction with the Council for Scientific and Industrial Research, experimental tests are made with a view to determining the most profitable crops to grow and the most suitable varieties.

98. The Army, by the use of comparatively few men, has clearly demonstrated what can be grown with success in this area, and it is hoped that every effort will be made to have the farms extended, firstly, with a view to providing more fresh vegetables and fruit to those at present stationed in the Northern Territory, and, secondly, with a view to their later being taken over by settlers when the re-building of Darwin takes place.

99. It has been suggested that there is a likelihood of manpower being withdrawn from these farms. The Committee strongly recommends against such action. In its opinion it would be a tragedy if these farms were allowed to revert to their original state.

THIRD AUSTRALIAN FIELD BUTCHERY.

100. Another project of immense importance and dealing with the supply of meat to the Services and the Allied Works Council was the Third Australian Field Butchery situated at Katherine, which was erected by the Army but is now being extended by the Allied Works Council at a cost of approximately £20,000. The additions

include the erection of a new slaughter house, hides store, and stock yards.

101. At present approximately 120 beasts are being slaughtered per day, but when the new buildings are available shortly, the unit will be able to handle between 250 and 300 per day. The existing Cool Stores on the site can accommodate 500 carcases, and another store at Katherine 130.

102. It was explained to members that only about 10% of the men attached to this unit, the strength of which is 250, were butchers by trade; the remainder have been trained to the work since joining the Army.

103. While it is recognised that this establishment has given very valuable service in its contribution of meat supplies, the Committee found that it fell short of the necessary requirement to make it complete. Inspection disclosed that not only was there no provision for utilising waste offal for the production of blood and bone manure which would be considerable and of great value towards the production of garden produce, but that the blood was at present being diverted by means of cement drains into the Katherine River. It is understood that the cost of destroying the offal is nearly as great as the cost would be of converting it into manures.

104. The Committee also considers that the accommodation of this semi-permanent unit should be immediately improved, particularly insofar as it relates to the sleeping quarters which are of earthen floors and which are the cause of much discomfort resulting from excessive dust which under these conditions is unavoidable.

NATIVE SETTLEMENTS.

105. Quite apart from the expenditure involved, the Committee was most interested in its inspection of a native settlement of 338 inhabitants which was established, and is being controlled, by the Army authorities. This camp is only one of six similar settlements which have been set up in the Northern Territory, and

which provide accommodation for 1062 natives. Of this number, 644 able-bodied men and women are performing useful duties in Service units, such as transport driving, salvage, canteen and butchery work, engine assembly, and as deck hands. The camps also accommodate 52 aged and infirm natives, 241 women and 125 piccaninnies

106. The camps were built by the natives themselves, and are kept in good order by the aged inhabitants and women not otherwise engaged by the Service authorities. The conduct and administration is similar to a white unit.

107. The control of the camps is under the supervision of the Director of Native Personnel, Lt. Morris, who is assisted by a Warrant Officer and several non-commissioned officers. The latter are given special training in native administration and psychology to fit them for the specialised work they are called upon to undertake.

108. A scale of Army rations has been determined, the menu being changed four times a week. The meat ration is double that of ordinary Army units. Hunting of natural foods is encouraged and native women produce green vegetables and yams in the Settlement gardens.

109. The inhabitants are allowed to leave camp for their periodical "walkabouts", but since they have become accustomed to the conditions prevailing in these camps only a few of them fail to return.

110. A native hospital has been established at Katherine, where among other services, provision is made for the special pre-natal treatment of women. A separate native wing is also attached to each Australian General Hospital in the Territory.

111. The Committee was most impressed, not only with the cleanliness and orderliness of the camp, but with the apparent contentedness of its occupants and its well nourished children. The Army is to be commended for the valuable work it is doing in the interests of the Australian native, and the Committee hopes that the establishment of additional settlements will quickly follow.

RECONSTRUCTION OF DARWIN.

112. Although this subject does not perhaps come within the ambit of the Committee's inquiries, it desires to express its opinion regarding the future of Darwin, after having made an inspection of this area.

113. The Committee believes that in the post-war years Darwin, with its excellent harbour and other facilities which have been provided since its occupation by the Services - improved water and electricity supplies, roads, wharves, aerodromes, hospitalisation, &c. - will become a most important centre, not only in a military sense, but also from a commercial and tourist point of view.

114. With the lessons of the past to act as a guide, the Committee can foresee the establishment of a permanent garrison of considerable strength in the area. This in turn will result in the expansion of commercial enterprise and all the other services that make for the building of a flourishing town.

115. With added and speedier means of transport being available after the war, this town, with proper planning, could be [illegible] a most attractive tourist resort, particularly during the winter months of the year.

116. Having suffered considerable damage as a result of enemy air attacks, a good deal of this town will have to be rebuilt, and in view of its future importance the Committee is strongly of opinion that immediate steps should be taken by the Government to ensure that, as soon as the war ends, such re-building will take place in accordance with a definite pre-arranged modern town plan. Otherwise, there is a grave danger of re-building taking place in a haphazard way which can only have a most detrimental effect on the town's progress. In this connexion the control exercised by the Government over buildings erected in our Federal Capital might well be carried out in the reconstruction of Darwin.

117. The point is also stressed that some authentic information of the Government's proposals regarding the future of Darwin should be made available at an early date in order that workmen who are

already in the Territory and wish to remain there may be given an opportunity of doing so, with the intention that later on they may be permitted to bring their families there and make the Territory their home. Otherwise great difficulty may be experienced in carrying out the reconstruction of Darwin if the required labour has again to be brought from the Southern States.

ROCKLEA AIRCRAFT ENGINE REPAIR DEPOT.

118. This project was the subject of inquiry by the Committee prior to its visit to Queensland.

119. It was ascertained that the Rocklea Munitions Factory was taken over by the Department of Aircraft Production for the repair of aircraft engines for the U.S.A. Air Force. For this purpose War Cabinet approved of the following expenditure :-

Additional works and buildings	£348,000
Test Stands situated about one mile from main buildings	171,000
Machine Tools, general equipment and hand tools	350,000
Total	£869,000

120. The Department of Aircraft Production arranged that, with the exception of the Tool Shop, the Depot be taken over by the Ford Motor Company of Australia and General Motors (Holden's) Ltd., who were appointed contractors to carry out separately the engine repair work. The terms of remuneration to each of the Companies was £3 per engine delivered and accepted by the U.S.A. Forces, with a minimum reimbursement of £1,250 per month. The Department of Aircraft Production was also to reimburse the Companies for all approved costs of carrying out the work. It was estimated by the Department that the approximate cost of repairing an engine would be £300, and that when the Depot was in full production the remuneration to the contractors would amount to only about 1% on cost.

121. However, after an approximate outlay by the Department of £564,000 the conditions which brought about the establishment of this Depot ceased to exist. The success which attended the operations of the Allied forces in recent months brought about a position where the activities of the U.S. Army Air Force were so far removed from

Australia that the transport of engines to Australia for repair and overhaul would require the diversion of shipping that cannot always be made available readily. Further, the supplies of engines and accessories which are being made available from the United States of America for the South West Pacific area are now on such a scale that the demand for engine overhauls in Australia has been practically eliminated, particularly in view of the fact that ample resources are available for this work in the United States, and that it has been decided by the U.S. authorities as a matter of policy that these facilities should be used.

122. The Committee was informed that the portion of the Depot allotted to General Motors (Holden's) Ltd. was never used by that Company, and their contract with the Department of Aircraft Production was terminated as from 7th August, 1944. The Ford Motor Company did take over its portion of the Depot and, when inspected by the Committee on 6th October last, was repairing engines at the rate of from 170 to 200 per month which was less than 1/10th of the number originally planned for. Approximately 1,000 persons were employed, about 60% being female. The Committee is now informed that the Company's contract will be terminated about the end of the present year, and the buildings and equipment will be utilised for some other purpose.

123. It is apparent to the Committee from these facts that the demands of the U.S. authorities on facilities established by the Department of Aircraft Production have changed in accordance with the strategical position in the war against the Japanese, reflecting the steady pushing back of the Japanese forces, a condition of affairs that must be regarded as highly gratifying in every way. So far as the expenditure is concerned, a large sum has been unprofitably expended by way of remuneration, and a still greater sum on capital works and equipment. The Committee appreciates the unusual circumstances surrounding the case and realises that all that can be done now is to ensure that the accommodation and equipment provided is utilised to the best possible advantage. With this in view the Committee will make further inquiries into the matter at a later date.

Part III. - INSPECTION OF OTHER PROJECTS.

BRISBANE AREA.

124. The Committee arrived in Brisbane by plane at 12 noon on 5th October, where, after conferring with the Deputy Director-General of Allied Works, Queensland (Mr. J. R. Kemp), and his senior officers, an inspection of the following major Defence projects constructed in the Brisbane area was made :-

125. Eagle Farm Aircraft Erection Depot - This Depot, which was erected on the site of the old Eagle Farm civil aerodrome and which was discarded owing to the swampy nature of the ground, is used by the U.S. Army Air Corps for the assembly of planes sent out from America. The work comprised preparation and drainage of a large area, and included the provision of three sealed runways with gravelled areas adjoining, a large area of roads, taxiways and hardstandings, and the construction of hangars, workshops and barracks accommodation for personnel. The sewerage installation connecting warehouses, hangars and camping area, was linked up with the main sewerage system of the city. The following quantities will indicate the magnitude of the engineering works carried out on this project :-

Earth moved	868,000 cubic yards
Paving material (gravel)	334,000 " "
Area of surfaces paved with bitumen	554,000 square " = 115 acres
Area of earth flanks to runways and incidental areas not sealed with bitumen	790,000 " "=163 acres
Underground stormwater pipe drains laid would equal a single line of	7 2/3rd. miles
Bulk of earth filling was hauled	5 miles
Gravel was hauled from	5 to 11 miles
Screenings for bitumen were hauled	16 miles

The larger buildings comprised -

7	"iglee" type hangars
5	warehouses 400' x 100'
3	" 320' x 96'
1	" 120' x 96'

126. The camping areas were built adjacent to the warehouses and hangars for the greater convenience of the personnel, and when this project was working at its peak 3,000 men were housed there.

127. Engine Test Stands to accommodate 10 aero engines at one time, and the motor pool consisting of garage 120' x 96' and

machine shop 200' x 100' fitted to service all trucks and cars are attached to the aerodrome, and instance the self-contained nature of the project.

128. Members were informed that, on account of the urgency of this project the gravelling of runways was carried out in two an a half shifts and the bitumen put down within a week.

129. U.S. Warehousing - Brisbane General Depot - This large storage scheme for the U.S. Service started out as a much larger project, but was reduced to 29 stores, 27 of them being 400' x 100' and the remaining two 300' x 100', a total floor area of 1,143,000 square feet. Nineteen of them are located at Meeandah, nine at Banyo and one at Pinkenba.

130. This work was undertaken at the beginning of June, 1943, and substantially finished in January, 1944. As the Stores were very urgently required, each building was occupied when erection was sufficiently advanced, and finished (including electricity service) while in use.

131. Administration, camp and other ancillary buildings, electricity and water mains, were also provided as well as large open storage areas, gravelled and cement penetrated.

132. R.A.N. Boom, Defence Depot, Pinkenba: This project comprises

Boom Equipment Store 300' x 150' with concrete floor and 3 lines of railway
Boom net making slab, concrete, 350' x 100'
Workshops 50' x 120'
Officers' Quarters 80' x 24'
Petty Officers' Quarters 40' x 20'
Ratings Quarters (2 each) 60' x 24'
Kitchen and Messrooms 100' x 25'
Ablutions, latrines and laundry
Office 50' x 12'
Recreation building 50' x 30'
Fencing - 8' high, manproof fence.

133. The Depot is situated alongside existing berthages and involved the construction of a sea-wall of approximately 1,400 ft. in length and the reclamation of approximately 10 acres of mosquito infested swamp.

134. Air Frame Repair Unit, Archerfield: This work which was carried out on behalf of the Department of Aircraft Production was commenced during one of the most difficult periods of the history of the Allied Works Council and presented many difficulties in the

provision of shelter for aircraft of the largest size, and facilities for the overhaul of these aircraft and assembly of new aircraft arriving from overseas.

135. The site was chosen adjacent to the Archerfield Airfield to which it is connected by taxiway and road.

136. The unit comprises two "iglee" type hangars 353' x 170' and two 353' x 188'6", store 255' x 170', together with various ancillary buildings such as lavatory blocks, stores, administrative buildings, guard houses, etc., the whole totalling thirty-five buildings. In addition the project involved extensive drainage, preparation and formation of taxiways and paved areas, water supply and electricity services. Further, owing to the great increase in the working population of Archerfield it also became necessary to construct a sewerage treatment plant to supplement the already over-taxed existing facilities.

137. The following particulars give some indication of the extent of the project :-

Description of Work	Quantity
Preparation and consolidation of the site	21,500 sq. yards
Water main	3,400 ft. of 6" pipe
Water supply reticulation	7,750 ft. with 30 fire hydrants
Widening and strengthening of roadway	1,100 yards
Taxiway	1,935 ft. long and 50 ft. wide
Run up area	120,000 sq. ft.
Area bitumed surface and surrounding aprons	320,000 sq. ft.
Concrete foundations and floor poured	39,000 cubic yds.
Timber used	1,250,000 super feet
Roof coverings	489,626 sq. ft. of corrugated iron & 80,000 sq. ft. asbestos cement sheeting
Electric power	900 K.V.A. distributed by two sub-stations
Manproof fence	8,250 feet
Compressed air	8 compressors with 8,000 ft. of piping and 1,000 outlets

138. Construction commenced in March, 1943, and work on the first aircraft commenced in August, 1943. Since that date additional accommodation facilities have steadily increased, and although the work will not be completed until November, 1944, a large number of aircraft has already passed through it.

139. Although this project was conceived as a temporary war measure, wherever possible it has been planned to conform to the future development of the aerodrome, and some of the work will remain as a benefit to such development.

140. Rocklea Hostel and Housing projects - The Commonwealth War Workers Housing Trust issued schemes comprising two Hostels and a Cottage project in the Moorooka-Rocklea area. Originally these were intended for the accommodation of men and women who would be engaged in aircraft engine overhaul and airframe repairs, mainly in the Rocklea and Archerfield areas.

141. Each of the hostels has accommodation for 630 workers and a staff of 50. Hostel No. 1 is practically completed, and is three parts occupied. It includes water supply, sewerage, electric light and power, stormwater drainage, hot water and steam. Roads and paths will be in course of construction at an early date. The buildings in Hostel No. 2 are practically finished, and when they have been completed the area will be serviced as in the case of Hostel No. 1.

142. The two hostels comprise 28 sleeping units for personnel and staff, two separate kitchens and dining blocks and other ancillary buildings such as boiler house, petrol, laundry and bulk stores - in all approximately 40 buildings.

143. Owing to the easing off of aircraft work in the Brisbane area, arrangements are now being made to hand over Hostel No. 2 to the Army.

144. The cottage project, comprises approximately 200 cottages for the workmen and their families engaged in the aircraft industry and other wartime works. The sites have been laid out carefully and when the work has been completed the cottages will be serviced with good roads and footpaths, water supply, sewerage, stormwater drainage and electric light reticulation.

145. The cottages are of timber framed construction on concrete foundation blocks, sheeted externally with asbestos cement; and roofs are either terra cotta tiles or corrugated asbestos cement.

146. Approximately 50% of the cottages are of three bedrooms and the balance of two bedrooms, with verandah and sleep-out. The buildings are approximately 50% completed and other services will be available during the next three months, including the construction of a sewerage treatment plant which will serve both the cottages and the hostels.

147. Salisbury Civil Constructional Corps Camp: The Committee made a brief inspection of this camp which has a capacity of 600 men. It

comprises a number of dormitories each accommodating twenty men, canteen and recreation hut, two messrooms each 120' x 23', and kitchens, food storerooms and meat house.

148. The Camp is used as a Staging Camp for men en route to other centres and as quarters for men employed on projects in that area.

149. Archerfield Aerodrome: In addition to the special facilities provided for the Directorate of Aircraft Production in the vicinity of this Aerodrome, considerable improvements have been effected at the drome itself. These include -

Extension and improvement of landing ground;
Improvements to hardstanding areas, taxiways, roads and paths;
Stormwater drainage of a permanent nature;
Sewerage treatment plant to serve 5,000 persons;
Electrical supply and reticulation to serve the electrical equipment;
Mechanical services;
Radio range and radio location;
Wireless receiving and transmitting stations;
The erection of a large steel frame hangar which is complete with necessary equipment to service planes with wing spans up to 150'; and
The erection of other small hangars and Bellman hangars, as well as various ancillary buildings.

150. It was pointed out to members that wherever practicable, work carried out were so arranged and set out in accordance with a master plan evolved by the Department of Civil Aviation for permanent improvements to the area.

151. Holland Park Hospital - (United States Army): This is a 2,000 bed general hospital of the Nutment type (unlined), to U.S. Army standard, and is fully equipped for all medical and surgical cases.

152. Buildings are connected by covered ways, and certain of the buildings such as the operating theatres, are air-conditioned. Approximately two million superficial feet of timber was used on the project. The engineering services, such as water supply, sewerage, electricity, roads, paths, etc., are of an extensive character.

153. It was noted that very few patients are accommodated at the present time.

154. Australian General Hospital, Greenslopes: This project comprises a hospital in two sections, viz: a permanent section designed for 400 beds, and a temporary section to accommodate 200 men. The permanent section comprises:-

A brick and concrete administration building (started earlier, subsequently deferred, and now being completed); Nurses' and Medical Officers' Quarters in brick (2 buildings) completed; six pavilion ward blocks - 3 completed earlier, and 3 now under construction and practically complete; brick and concrete laundry under construction; boiler house completed earlier and now being extended; mortuary in brick completed; and a brick chapel now under construction.

155. The temporary section provides ward accommodation for 200 men, with temporary quarters for surgical operations and amenities. This section was completed some time ago and is in use. An occupational therapy building in timber was also completed recently.

156. The site was unimproved ground which required extensive preparation involving large quantities of earthworks. The area was landscaped to suit the site which is on elevated ground affording fine views.

157. Members were most impressed with the excellent facilities provided at this hospital.

158. Rheem Drum Manufacturing Plant: The Committee inspected this factory which was built by the Allied Works Council to a requisition sponsored by the Department of Supply and Shipping.

159. The buildings comprised steel framed, brick walled and concrete floored factory; administrative building in brick; store in brick; and cafetaria, mess and change room, timekeeper's office, and cycle shed in timber.

160. The site is on the river bank on old made-up ground which required extensive filling and consolidation. Roads and paved areas were extensive. The work included an electricity sub-station (11,00 volts) and water supply.

161. Construction of the building commenced on 16th February 1944, and was put into production one month ahead of target date. The cost was about £100,000. Production now amounts to 940 per day of 8.8 hours per day, to be increased to 1,200 per day when in full productio

162. U.S. Army Small Ships Section, Bulimba: The Committee passed through this establishment and noted the barge building activity. Construction included launching ways for barges, two wharves (concrete deck on pile foundations), marine railway, jetty and mooring dolphins. The buildings constructed consisted of workshops, four large warehouses, small administrative office, camp for Chinese workmen and cam

accommodation for 1,400 enlisted men. A sewerage system, electric lighting and water supply were also included in the project.

163. Portion of the camp area where the Chinese workmen are accommodated was swamp area and the remainder a small hill. The whole area was levelled off and the camp erected.

164. Brisbane Graving Dock, Cairncross: Following the fall of Singapore, the Navy and Merchant Services were left without facilities for docking the larger ships. The Queensland Government thereupon brought forward a large dock scheme which had been under preliminary consideration for some little time. The Commonwealth Government agreed to contribute £350,000 towards the estimated cost of £750,000. From a comparatively low priority at first, the scheme was raised to a priority second to none. Work was started on 17th August, 1942, and pushed ahead with all possible speed. The result was that at the official inauguration of the Dock on 16th September, 1944, it contained a new 10,000 ton merchant ship and a large Allied tanker which had been severely damaged on essential war supply service. Actually, repairs of smaller ships in this dock had been going on for some time prior to this date.

165. The site of the Dock is unique, in that it is of sandstone, from top to bottom, and thus did not require the expensive construction usually necessary in such work.

166. Additional requirements increased the estimated cost to about £1,100,000, and it is expected that final costs will not exceed this figure. The Commonwealth later agreed to increase its contribution to £450,000, thus leaving the State's share at approximately £650,000.

167. The Deputy Director-General of Allied Works, Mr. Kemp, accompanied the Committee on this inspection and informed the members of the principal features of design and construction. When visited, the Dock contained a 5,000 ton supply ship, a naval target and a dredge

168 In addition to the Dock structure and the pumping gear and its housing, essential services provided for include workshops equipped to carry out minor repairs; a shore galley to provide meals for crews of Naval vessels; ample sanitary accommodation for ships' officers, petty officers and ratings, and for Dock personnel. Electricity, telephone, compressed air, fresh water, salt water and steam are available to ships in dock.

169. The Dock was excavated in sandstone, the quantity of material removed approximating 350,000 cubicyards. Dredging to connect the Dock entrance with the River channel is still in progress and the quantity involved far exceeds the quantity taken out of the Dock itself.

170. The Committee observed the nature of the sandstone Dock walls which were gunited, and noted that the main pumping equipment includes two steam boilers originally in the battleship H.M.A.S. "australia", and two boilers, triple expansion engine, and pump from an old Brisbane River dredger. This plant was all reconditioned in Brisbane, is adequate for this purpose, and is in accordance with war-time conditions under which supplies of new equipment are difficult to obtain.

171. Construction of this Dock was completed sufficiently to accommodate a ship in 22 months.

172. R.A.N. Fairmile Base and Oil Tanks, Cannon Hill: After inspecting the Dock, the Committee paid a visit to this project, in active use by the Royal Australian Navy as a depot and servicing and repair station for Navy Small Ships. The project is situated on the premises of an old last war Acetate and Lime factory, and comprises camping quarters, machine shop, small wharf, and slipway and cradle.

173. The oil tanks are erected in the vicinity and serve the Abattoir's wharf, and one of the berths of the Brisbane River Naval project.

174. Naval Victualling Store, New Farm: On the way to the Drum Manufacturing Plant, the Committee called at this project which is a permanent establishment for the Royal Australian Navy, and which is situated on the bank of the Brisbane River. It consists of a two-storey structure with approximately six acres of floor area. It was noted that as there was no natural rock bottom on which to take the forward footings of the building, it was necessary to first lay down a heavy concrete bed. A rail siding is being provided in the scheme and, at the river, a wharf has been nearly completed. Mechanical conveyor, chutes, cranes, fire-fighting equipment, including sprinkler systems, are to be installed.

175. The estimated cost of this project which is at present 50%

complete is:-

Wharf	£40,000
Building and Services, plus equipment	82,000
	£122,000

176. U.S.A. S.O.S. Headquarters: This project comprises a large number of office and personnel accommodation buildings, all of which were prefabricated by the Allied Works Council in Sydney, and forwarded to the site for erection.

177. Naval Facilities, Brisbane River: This large project, not yet completed but well advanced, comprises ten berthings in the river, of which five are connected with large naval fuel oil storage installations. These five oiling berths will accommodate the largest vessel entering the port. The total oil storage provided approximates 25,000 tons. The berths are of timber construction and each comprises four very strongly constructed dolphins, and, in the case of the oiling berths, a wharf is provided with viaduct connection to shore. They are served by newly constructed roads and are provided with water supply for ships purposes and fire fighting.

178. Making these berths available for shipping involved a large amount of dredging for which all available plant has been pressed into service, including dredgers from other States.

TOWNSVILLE AREA.

179. The Committee left Archerfield on Sunday, 8th October, and arrived at Townsville at 1.30 p.m., and after a short conference with the Assistant Deputy Director-General (North Queensland), Mr. M.K.N. Johnson, and his senior officers, the following inspections were made in the Townsville area:-

180. Naval Staff Headquarters: This two-storey building, which accommodates the staff of the N.O.I.C., Townsville, is constructed of timber and asbestos cement, and contains 30 rooms. Garages and storage space and toilet and ablution facilities are provided for in an adjacent building.

181. The work was commenced on the 20th April 1943, and although not completed until November 1943, the Navy took over portion of the office building in September, 1943. The completed cost, including furnishings, was approximately £10,000.

182. Naval Depot, H.M.A.S. "Magnetic": This Depot, which provides

accommodation for 500 personnel, is comprised of approximately 50 buildings, including sleeping, kitchen, messing, ablution and toilet, recreation huts, laundry, garages, baggage and clothing stores, and sick bay. The buildings which are constructed of timber weatherboards and asbestos cement, are provided with water, electricity and fire-fighting service, and a system of connecting roads and gravel paths.

183. Work on the Depot commenced during November, 1942, and the Navy were in occupation during March, 1943, but as the number of personnel increased the buildings were enlarged and additional facilities provided. An extension of the sick bay is at present in progress.

184. Naval Victualling and Armament Stores: Situated on the banks of Ross Creek with access by road and water, this project comprises a victualling store 183' by 87' for clothing, dry goods and stores generally; a cold-storage building with four cool rooms and meat chamber, and equipped with refrigerating plant, including an ice-making machine. The scheme also includes office building, change and guard room, loading platform, road, water and electricity services.

185. Construction was fully completed in 11 months, the Navy taking possession of the stores as each section was completed. The approximate cost was £46,000.

186. Naval Repair Facilities: This scheme comprised the reconditioning and extension of an existing slipway on the south side of Ross Creek and an up-to-date workshop on the western side of the Harbour (near H.M.A.S. "Magnetic").

187. The lengthening of the slipway by 150', extension of the cradle and the provision of a new boiler and winch were the main items in the programme required by the Navy. The special nature of the work involved much submarine drilling, shooting and removal of solid granite. The work proved very difficult as specialist labour was not available, and a shortage of suitable dredging and drilling plant proved a problem which had to be solved by improvisation. The total length of the slipway is now 523', and is capable of slipping vessels up to 1,200 tons.

188. Waterside Workers' Amenities Building, etc: For the Stevedoring Industry Commission the Allied Works Council built a Waterside

Workers' Amenities Building, Office, and a Gear Locker building at the Harbour. The Amenities Building is a large timber structure housing a mess hall, canteen, well equipped kitchen, change rooms and hot showers, and staff sleeping quarters. This establishment was provided to reduce travelling time by waterside workers. At the time of the Committee's inspection, about 230 meals were being provided daily.

189. Construction was commenced at the end of January, 1944, but owing to delays in the supply of necessary equipment it was not completed and ready for operation until 1st September, 1944. The total cost, including equipment and services, was approximately £20,000, which is being met by both Commonwealth and State contributions.

190. It is understood that a similar establishment was provided recently on the Brisbane waterfront.

191. R.A.N. Dual Purpose Jetty: This jetty was built to meet urgent defence requirements for the port to enable oil tankers to discharge their cargo, and thus free the other wharves which were seriously congested. Members were informed that at times there have been over sixty vessels lying in the outer harbour waiting to discharge their cargo.

192. The jetty is 800' in length and 40' wide. It provides deep water berthage on one side for fuelling and servicing naval vessels, and shallow berthage on the other side for light craft and barges. Fuel and water-pipe lines have been provided as well as two railway tracks.

193. At the commencement of the project, the shortage of carpenters, and skilled pile-driving personnel presented difficulties, and this was overcome by training house carpenters to become bridge carpenters. Difficulty was also experienced in securing sufficient supplies of suitable timbers from the South. In addition, the piles had to be sheathed with concrete pipes as protection against toredo.

194. Naval Boom Defence: Net Boom protection of the Townsville Harbour was put in hand but owing to the improved tactical situation, was not completed. The large boom net store, office building, personnel accommodation, with water sewerage and electricity services

were completed. The Committee inspected the Boom Defence Store which is in use by the Navy for miscellaneous storage.

195. Oil Fuel Installation: The Committee had a general view of the Townsville Oil Fuel Installation, which comprises eight welded steel fuel tanks, splinterproofed, each of 500,000 gallons capacity, and two 1,250,000 gallon reinforced concrete tanks; oil fuel lines from wharf to tanks and from tanks to distribution yards, have been constructed. The work involved the removal of existing old buildings, site preparation, including paved areas, manproof fence and a railway siding.

196. It was pointed out to members that as pipe lines have to cross a tidal swamp, and as the expenditure of a causeway was not justified, means were found to drag the pipes and welding plant across the mud flats when the tide fell.

197. W.R.A.N.S.' Accommodation: These buildings were erected for the accommodation of W.R.A.N.S. personnel of H.M.A.S. "Magnetic", and are situated on The Strand, Townsville. Double storey sleeping huts provide accommodation for officers, petty officers and ratings to a total of 160. Single-floored buildings contain kitchens, messes, recreation rooms, laundry, ablutions, etc., and there is a sick bay, guard house, officers' ward room and garage. Town water and electricity supplies the needs of the building, while two septic tanks have been installed as the town's sewerage system was not accessible. A sea-wall for protection against erosion was constructed.

198. The total estimated cost was £30,000. It was pointed out that this project was commenced prior to the Christmas holidays 1943, and C.C.C. labour employed on the job included a large proportion of men due for leave in the southern States. Labour costs were therefore increased as holiday and annual leave pay is charged against the job on which the men are employed when their leave becomes due. Further, a major part of the construction was carried out during the wet season, and considerable time was lost and paid for as the result of semi-cyclonic weather at the end of January, February and early March.

199. R.A.A.F. Recreation Centre: This project, erected at an estimated cost of £8,000, includes a recreation hall, canteen and reading and writing rooms. Electricity, water supply, sewerage and

drainage have also been supplied. It is used for moving pictures, concerts and dances, and will accommodate nearly 500 personnel. Construction commenced on 25th November, 1943, and was completed in March, 1944.

200. As this project was in progress concurrently with the erection of the W.R.A.N.S. accommodation, the same conditions as to weather and costs applied.

201. Members of the Committee had the pleasure of attending a concert at this excellent recreation centre on the Sunday evening of 8th October.

202. R.A.A.F. Transient Officers' Camp: This camp, which is used as a staging camp for R.A.A.F. officers travelling to and from operational areas, is situated on the sea front and provides accommodation for about 48 officers.

203. The buildings consist of three sleeping huts, staff changing room, kitchen and mess. Construction was commenced on 2nd March, 1944, and completed about 4th May, 1944. The total estimated cost was £5,785.

204. Members of the Committee noted that the comforts of this camp have been greatly improved by the officers who have occupied it from time to time.

205. U.S. Personnel Camps, Catheringa Park: One of these camps is for the accommodation of enlisted men and the other for U.S. Army officers. They are for the housing of about 500 of the American troops stationed at Townsville, and comprise sleeping quarters, kitchens, and messes, ablutions and toilet facilities, post exchange and recreation buildings, guard house and garages.

206. The work which includes the provision of roads, motor pool area, water supply, electricity, sewerage, and drainage services, and installation of hot water system, was commenced in July 1943, and was completed in November of that year. Construction is of timber and asbestos cement to standard U.S. Army camp plans. The total estimated cost was £14,500.

207. R.A.A.F. No. 11 Stores Depot: This depot which serves the whole of the North Eastern area of Queensland with camp equipment and building construction materials, is an extension of the No. 6 Stores

Depot located at Macrossan. The depot includes four "igloo" type warhouses, each 200' by 104'; a timber storage building; a bootmaker tailor and typewriter section; branch stores; barracks store, M.T. garage and workshops; platform and ramp; bulk store and case store; office accommodation and guard house. Water supply, sewerage, fire-fighting and electricity services are provided and also an extensive sealed roadway system and several hardstandings.

208. The work was completed in five months at an approximate cost of £80,000.

209. Garbutt Airfield: In the dangerous days of 1941, and early in 1942, this airfield assumed the position as the most important on the Australian Coast, if not in the Southern Hemisphere. Probably it still carries more traffic than any other field in Australia. The field was a comparatively new civil aviation airport only lightly developed at the start of the European War, and had then just recently become an R.A.A.F. permanent station, in addition to its normal function as a civil airport. The war with Japan brought the field into immediate prominence, and development for use by operational aircraft of all types was put in hand and proceeded with in great haste. The short runways were extended and the programme of taxiways, hard-standings, preparation of sites for various buildings was commenced, and this programme continued to grow until the field now is of huge proportions.

210. Before the extensive war programme commenced, there was only one fully developed runway on the field and this was of short length; two other runways were provided and later strengthened and sealed with bitumen. Later still, the three runways were extended to 7,000' in length. Each runway is paved for a width of 150', and has on each side graded flanks 225' in width. It was pointed out to the Committee that the lengthening of runways to 7,000' involved very heavy earthworks over swamps.

211. The huge programme of hardstandings, aircraft taxiways, hangars, office accommodation, operational buildings, and general facilities, was provided to requisitions supplied both by the U.S. authorities and the R.A.A.F. Installation of water, sewerage, drainage and electricity services formed an appreciable part of the

project. Total costs are not available at the moment, but it is estimated that the total now exceeds £2,000,000.

212. U.S. 4th Air Depot, Garbutt: This air depot, the largest installation of its kind in Australia, was established and is used for aircraft assembling and repairs, and includes office accommodation and a large camp for U.S. Army Air Corps personnel. Some 35 large "igloo" type buildings, used as repair shops and stores, were built over a very large area of ground. Roads connect all the buildings and generally service the whole area. There are many hardstandings and paved areas. The project also includes a number of engine test stands and a double bore sight range.

214. The project was commenced in 1942 by U.S. Troop labour, but shortly afterwards it was taken over by the Allied Works Council.

214. The repair and assembly shops are fitted with the latest machinery, brought from the United States.

215. The total estimated final cost of the depot, including water supply and drainage, is £440,000.

216. U.S. 44th General Hospital: This hospital, situated on the bank of the Black River about 12 miles from Townsville, is a complete medical and surgical unit housed in 150 buildings, but represents only one-third of the project originally planned, the remainder having been cancelled by the Client Service as a result of the improved strategic conditions. All the buildings were prefabricated in Sydney and shipped to Townsville, transported to the site from the town, and erected on the previously prepared concrete floors. A water supply was provided by means of bores and pumps, and electricity service from a power-driven plant installed on the site. The project, including sewerage and roadworks, took seven months to complete, delays arising from the shortage of shipping space for the transportation of the prefabricated building sections.

217. Kangaroo Ammunition Depot, Kuruka: This depot, situated some miles from Townsville, occupies about 10 square miles of country, and the main works were the construction of 87 ammunition stores and 22 miles of internal roads. Due to the necessary dispersal of the buildings over a large area, the working conditions were difficult and the project took five months to complete.

219. The total cost was estimated at £69,000. Of this amount, C.C.C. messing and accommodation cost £5,200. A considerable amount of the high labour costs is attributable to overtime being worked for seven weeks in order to expedite completion. Further, as the project was in progress during the wet season, a considerable amount of time was lost as a result of adverse weather conditions.

220. Ross River, Australian Army General Hospital: This hospital was designed as a 600-bed hospital, but ward accommodation was developed for only 300 beds. The hospital is equipped with up-to-date surgical and medical facilities, including X-ray. Provision has been made for administration, canteen, recreation and store facilities, and accommodation for medical and nursing staff. The 49 buildings comprising the hospital are built of timber. Particular attention was given, in the design, to ventilation of the wards and living quarters. Floors are of concrete and roof of asbestos cement and water supply, including a reserve supply, stored in four elevated tanks of total capacity of 40,000 gallons. Hot water systems, electricity, sewerage and drainage service are included in the project which was constructed in six months.

221. Allied Works Council Workshop, Concomba: This large establishment is situated on a siding from the main railway line just to the south of Townsville. It comprises a very large engineering workshop with plant yard containing workshop, offices, spare parts and material store, smithy, welding shop and motor body shop, tractor dismantling shed, emergency power house, and a complete wood working factory for the production of furniture, fixtures, etc. This establishment is one of the three large plant repair establishments which the Allied Works Council was forced to provide in Queensland in order to ensure the carrying out of repairs and reconditioning of the Council's plant and other plant used on Allied Works Council's projects.

222. Some 200 men are on the workshop strength and the Committee noted the very large collection of plant on the premises. The workshop is very well equipped with plant necessary to handle all repair work including the manufacture of spare parts when required.

223. It was pointed out to the Committee that, with the falling off of large construction jobs, a good deal of the plant in bad repair is being disposed of as it stands, rather than repairing it beforehand. This is considered by the Allied Works Council to be the most economical way of disposing of excess plant.

224. R.A.A.F. Fighter Control Station: This installation, which is of a secret nature, consists of a specially designed and equipped reinforced concrete building built into the rocky face of a quarry, and its associated radio facilities erected on a mountain in the vicinity. The building which is ventilated by air conditioning and is splinter and blast proof, is of special construction. Rock excavation presented some difficulty owing to the shortage of plant and skilled labour at the time, and this situation was aggravated by the fact that the construction had to be carried out under camouflage conditions. All water used for mixing concrete had to be transported to the site from Townsville, and the construction of the radio facilities necessitated the provision of three miles of steeply graded road.

225. The work was completed in July, 1943, at a total cost of approximately £30,000.

226. U.S. Army Ordnance Depot, Stuart: Work on this project, which is comprised of approximately 65 buildings, was commenced during November, 1942. The more important buildings are the General Ordnance and Headquarters Buildings, 4 Quartermasters' warehouses, each 108' by 200'; 5 Ordnance warehouses and repair shops, included in which is the heavy maintenance repair shop, 608' by 108'. These warehouses and repair shops are "igloo" type buildings. Personnel accommodation, power house, and an extensive system of internal roads and hard-standings are provided, together with water supply, electricity, sewerage and fire-fighting services. The Depot was completed finally in November, 1943, but each section was occupied as it became available.

227. A.W.A.S. Accommodation, Stuart: This comprises approximately 30 buildings utilised as living quarters together with wireless transmitter hut, and technical maintenance hut. The project was constructed for the Australian Army for the accommodation of female personnel operating the signals centre. Access and internal roads, electric light and power, water supply and sewerage were also provided.

228. The total estimated cost of the project, including all services is £16,000.

229. Extensions to the camp are now proposed, and when completed it will provide accommodation for 320 personnel.

230. Oonoomba Staging Camp: This Australian Army Camp for the housing of troops in transit, is comprised of mess huts, kitchens, ablution buildings, barracks, and barracks office and equipment store: sleeping accommodation is provided by tentage. The project included the provision of roads, drainage, electricity supply and sewerage. Some additions to this camp are now in course of construction.

231. Home Hill - Townsville High Tension Line: During the Committee's inspections, it noted the Townsville terminal section of the Home Hill - Townsville High Tension Line. This 66 K.V. Overhead Transmission line is 61 miles in length and was designed to augment the Townsville City Council's electricity supply from current available from the Home Hill irrigation area electricity generating station. The line which was constructed by the Allied Works Council has been in successful operation for several months.

CAIRNS AREA.

232. The Committee having completed its inspections in the Townsvill area, left the Garbutt airfield at 1.30 p.m. on Tuesday, the 10th October, 1944, and arrived at Cairns at 2.30 p.m. Accompanied by the Allied Works Council Engineer-in-Charge, Cairns area (Mr.H.A.Lowe), inspections of the main projects in the Cairns area were then made.

233. Cairns Aerodrome: The Committee was driven around this airfield which was constructed on a mangrove swamp. Tremendous quantities of earth filling were required to bring the built-up areas to a suitable level above flood and tidal water, and a very long length of levee bank was provided to exclude tidal waters. Three runways - 5,100' long by 150' wide, 3,600' long by 150' wide, and 3,600' long by 100' wide, have been provided, the first of which has been fully paved and bitumen surfaced. The project includes the construction of taxiways, hangars, aprons and several hardstanding areas, and also the installation of underground oil tanks.

234. The work which was commenced during 1941, has been proceeding continuously since that date, bitumen surfacing of the second runway

being now in progress. It was reported that frequent interruptions have occurred during the construction of this project due to excessive wet weather.

235. Edgehill Naval Fuel Storage: This installation consists of two steel tanks each of 1,250,000 gallons capacity for the storage of diesel oil and distillate oil, and three reinforced concrete tanks ea of 1,250,000 gallons capacity for the storage of Naval furnace oil. Included in the installation are pump houses, pipe lines, electrical equipment and fire fighting services. The project was requisitioned by the Australian Navy for storage of fuel required for naval vessels, and is connected with the Naval tanker berth in Cairns Harbour by several miles of triple pipe line.

236. A maximum of 150 men were employed on the works recently completed, but during the early stages there were severe shortages of labour, particularly men experienced in the special class of work required.

237. Kenny Street Oil Tanks (Aviation Spirit): The Committee passed by this installation which comprises three 500,000 gallon steel tanks for the storage of aviation gasoline and five 70,000 gallon tanks for temporary storage of distillate.

238. Berthing and Repair Facilities: This work was originally planned to include an oil tanker berth, a destroyer berth, a slipway for 400 ton vessels, and fitting-out berth, workshop, store and personnel accommodation. Of these requirements the improved tactical situation led to the cancellation of the destroyer berth and the fitting-out berth after some work had already been carried out.

239. The tanker berth which is comprised of a timber stem 500' in length, and a timber jetty 240' in length, carries the pipe line terminals for the Edgehill fuel tanks.

240. The slipway is 600' in length, and approximately 450' of the total length is under water at low tide. The construction of this section of the slipway involved difficult work in the driving of the piles and in the under-water work of the fixing of the slipway superstructure of headstocks and girders. In order to carry out this work an air chamber was built by the Allied Works Council at its workshop in Cairns, and this air chamber, which was entirely successful in its

operation, has been retained by the Navy for future similar use. The slipway is complete with working platforms on each side above high water mark, and includes the provision of housing of the haulage gear, together with the workshop and personnel accommodation associated with the slipway.

241. The Committee noted that extensive filling of the site of this establishment was necessary.

242. U.S. Naval Depot: The Committee drove through this depot which comprises a large number of buildings most of which were pre-fabricated in the United States, shipped to Australia and assembled and erected on the site by the Allied Works Council. Off shore from the depot is a 1,000 ton American floating dock, situated in a basin, the dredging for which was also carried out by the Allied Works Council.

243. U.S. Transhipment Port: The U.S. Authorities designed this scheme to handle a large percentage of the total war material coming from the United States to Australia, but the progressive improvement of the war situation in the South West Pacific caused reductions in the scheme from time to time, until it dwindled from the original £3,000,000 project to a scheme actually costing about £800,000. The original scheme included the provision of 6,000 lineal feet of wharf, ten large wharf stores, over 40 warehouses, with office accommodation, water and electricity supply, drainage and sewerage, and personnel camp for the housing of 12,000 troops. The construction of the whole scheme entailed the dredging of about 3,000,000 cubic yards of material, to provide the required depth of 28' at law water, and included appreciable widening of the stream and the provision of a large turning basin. Also included in the scheme were many miles of roads and paths, and a considerable length of railway siding.

244. The scheme was abandoned by the U.S. Army when approximately 800 lineal feet of wharf, 7 warehouses, a section of the personnel camp and the main concrete access road had been completed. An appreciable quantity of material had been dredged. A section of the railway system had been put in and part of the water supply. In the low lying area between the warehouses and the waterfront,

considerable improvement was effected as a result of depositing thereon the material dredged to date of cancellation of the scheme.

245. The U.S. authorities rendered very appreciable assistance in wharf construction through a detachment of "See Bees" (Navy Construction Battalion).

246. R.A.N. Depot, Cairns: This project is comprised of personnel accommodation for approximately 400, administration, kitchen and mess buildings, workshops, canteen, sick bay and guard house, together with roads, drainage, water supply, fire fighting and electrical services, and hot water system. The Naval stores associated with the depot are three large store buildings constructed of timber with concrete floors, and walls and roofs of corrugated asbestos cement. These buildings provide a floor space of 55,000 square feet.

247. The Navy took possession of each section of this project as it was completed.

248. Cairns Anti-Malaria Drainage Scheme: En route to the various projects, the Committee noted several of the channels in the Cairns Anti-Malaria Drainage Scheme, which was sponsored by the Australian Army to reduce malaria-carrying mosquito breeding in areas occupied or under the control of the Australian and U.S. Armies. Of the estimated total cost of £24,000, the Queensland Government is contributing part and the Australian Army the remainder.

249. The scheme entails the construction of many channels, culverts and concrete inverts to carry surplus waters from the areas dealt with.

250. Civil and Army medical opinion is that already the drainage scheme has had a very beneficial effect, in that, after the last wet season, malaria is not nearly so prevalent as was anticipated.

251. Other Cairns Schemes: Whilst detail inspections were not made, various other schemes built by the Allied Works Council were pointed out to the Committee during its tour of Cairns city. Among these were various installations for the Royal Australian Navy, the Australian Army, the U.S. Army, and the R.A.A.F., including Naval depots and stores, cold stores, encampments and the Cairns boom defences.

ATHERTON TABLELAND.

252. Accompanied by Mr. Lewe, the Committee left Cairns by car on the morning of 11th October, for the Atherton Tableland, and returned to Cairns about 6 p.m. the same day. The following projects were inspected during the day:-

253. Cairns - Kuranda - Mareeba Road: This additional access road from the coast to the tablelands had been put in hand, but was only partially developed, by the Main Roads Commission before the war. With the adoption of the Tableland Areas by the Australian Army on a large scale, Army found it essential to have this route fully improved. Prior to the war there was some improvement between Atherton and Mareeba and for a short distance towards Kuranda. However, there was no reliable access road to Kuranda and down the range to Cairns.

254. The total length of the road dealt with under Army requisitions is about 45 miles. The improvement scheme provides for a strengthened road with a bitumen surfaced pavement 16' wide throughout, and at the date of the Committee's inspection the programme was so far advanced that the road is bitumen surfaced throughout its whole length and only a few odd sections remain to have the existing 12' wide pavement widened to 16'.

255. The State Government is contributing approximately £50,000 out of the total of approximately £150,000 involved in a scheme at present under construction and nearing completion. The State also bore a very large proportion of the cost of establishing the road prior to the commencement of the strengthening and widening now being carried out.

256. The Committee noted that the first 10 or 12 miles of this road was of mountain road construction involving very heavy earthworks and drainage.

257. U.S. 2nd Station Hospital, Mareeba: On arrival at Mareeba the Committee was joined by Mr. White, Allied Works Council Resident Architect for the Tablelands Area. Although a detailed inspection was not made, it was pointed out to the Committee that the State school premises had been developed and added to as a U.S. station

hospital. The premises are now occupied by the Australian Army as a headquarters. The majority of the new buildings are of plywood construction with concrete floors. Water supply and purification, also drainage, were provided.

258. Dome Trainer Crews, Moresby: This special building was supplied to the order of the R.A.A.F. There are also buildings for the accommodation of personnel. The dome building, of spherical construction, was specified to be accurate to a tolerance of ¼" in construction of the dome. This specialist work was actually required of men not experienced in this type of precision construction. However, the job was carried out to specifications in four months, and is reported to be very satisfactory.

259. Moresby Aerodrome: The Committee went through this airfield, seeing both runways and the main taxiway which connects them. One dispersal circuit was also traversed to note the type of work and to see the number of hardstandings involved in dispersal of aircraft on a field of this nature. This is one of the airfields which required very special efforts to have it completed in time for it to be used in operations against the Japanese. Electric installations, Ack-Ack gun emplacements, generator installations and camp buildings were included in the project on which approximately £400,000 was spent.

260. Rocky Creek Hospitals: The Committee was taken through No.1 Australian Convalescent Depot, 2/6 Australian General Hospital and 2/2 Australian General Hospital. The Convalescent Depot is of 1,000 bed capacity and the two hospitals each of 1,200 beds. The Committee made a brief inspection of the up-to-date sewerage treatment plant which serves the above institutions and was informed that this was the equivalent of a sewerage plant for a town of 6,000 to 7,000 people.

261. Work on the project, which consists of 146 buildings, was commenced during February 1943, and proceeded continuously until July 1944, when the project was completed.

262. Tolga Ordnance Depot: This project was approached by the route from the Hospitals through the Ammunition Depot, during which the Committee saw the concrete reservoirs associated with the water supply system which feeds the hospitals and the Tolga installations. On the journey the Committee saw the A.W.A.S. camp, the Stores Personnel Camp, the Ordnance Stores area, workshop area, and the Workshop Personnel camp. This Australian Army installation consists of about 170 buildings, including 18 large igloo type stores each 200 feet by 100 feet; 10 steel-framed Armco buildings and 22 steel-framed buildings of the Sidney Williams type. Stores, workshop and A.W.A.S. Personnel Camps each have separate recreation, messing, kitchens, and ablution accommodation for officers, N.C.O.'s and other ranks, in addition to administrative huts, quartermaster stores, etc. Drainage, water supply and sewerage services have been provided.

263. The work, which was commenced early in 1943, has, because of numerous additions, extended until the present date.

264. Australian Army Divisional Camp, Kairi: From Tolga to Kairi the Committee travelled over a road which had been reconstructed and bitumen surfaced as an Allied Works Council project to an Army requisition. This was part of a large programme of reconstruction and surfacing of roads by the Main Roads Commission to Army requisitions on the Atherton Tableland in connection with the Divisional Camps established there.

265. The Committee then went through the Kairi Divisional Camp noting recreation halls, etc., which have been erected. The project

actually consists of 92 buildings, including administration, quartermaster stores, latrines, meat houses, bath showers, post office buildings, and also recreation and assembly huts. Road formation, water supplies, drainage and sewerage services within the camp area have also been provided. The whole project was completed in five months.

266. It was pointed out to the Committee that this camp was typical of the other Divisional Camps erected on the Tableland at Wangabel, Wondecla and Ravenshoe.

267. Radar Station, Bones Knob: This installation consists of a personnel camp, towers of heavy timber construction, reinforced concrete plant rooms, provision of water supply and the extension of high tension electricity main. The work was carried out under some difficulty, as the site is not easily accessible, particularly during wet weather.

268. Australian Army S. & T. Stores, Atherton: Two large railway siding type stores, internal roads, railway siding, 10 bulk store buildings, bulk cold stores and personnel camp make up this project. Water and electricity services were also supplied.

269. Women's Land Army Camp: The Committee noted in passing the quarters built for over 100 members of the Women's Land Army at Atherton. This was built to the order of the Department of Commerce and Agriculture.

270. Other Atherton Projects: The Committee saw the Army Cordial Factory at Atherton; also the Australian Field Bakery which includes three bakehouses, flour stores and office accommodation. The associated personnel camp accommodates staff of the Bakery, Canteens and other details, and includes administrative buildings, messhuts, kitchen and ablution building.

271. In the Atherton Showground the Committee saw the Canteen Bulk Store, an igloo type building with internal fittings for storage of canteen services bulk supplies. Water and electricity services, roads and hard-standing areas were also provided.

272. The A.W.A.S. Barracks at Atherton consist of sleeping huts, mess huts, ablutions, water supply and drainage with sullage treatment installation. This was viewed in passing.

CHARTERS TOWERS AREA.

273. Returning to Townsville by plane on the morning of 12th October, the Committee, accompanied by Mr. Johansen then left by car for Charters Towers, when the following inspections were made:-

274. R.A.A.F. No. 8 Stores Depot, Macrossan: The principal buildings included in this project are two igloo type warehouses, three wool store type and two standard pre-fabricated type steel hangars, all utilised as stores and serviced by road and railway sidings.

275. The big igloo warehouses are the largest of their type in North Queensland, being 300' by 230', and having a floor space of almost two acres each. These stores with their associated headquarters and transport buildings are situated about half a mile from the Barracks Camp for male and female personnel which are included in the project built by the Allied Works Council.

276. The hospital attached to the Camp was inspected and all members of the Committee were impressed by the standard of efficiency and the facilities provided for the care of the sick at this R.A.A.F. station.

277. The project included water supply, sewerage facilities, sewerage and drainage services, fencing and electricity.

278. The project which has been in course of construction since April 1943, was only recently completed, and is estimated to have cost £200,000.

279. Army Staging Camp, Sellheim: The Committee passed by this camp which is used as an advance reinforcement and convalescent depot. It comprises about 44 buildings of standard Army camp type, with water, electricity and sewerage services.

280. Charters Towers Projects: The Committee did not have time to make detailed inspections, but several projects were pointed out

to the members, such as Australian Army Workshops, Australian Army Detention Barracks and the Schools ("All Souls" and "Mount Carmel") which were in use for a long period by the Australian Army as the 116th A.G.H. A good deal of work was carried out, including the erection of a number of new buildings at these school sites for hospital purposes.

281. Charters Towers Airfield: This aerodrome with its two air-strips, taxiways and hardstandings and the necessary operation and control buildings, hangars and accommodation for personnel, is the one previously mentioned as one of the most important airfields from which extensive operations were conducted early in the war against Japan.

CLONCURRY - CAMOOWEAL AREAS.

282. The Committee left the Charters Towers airfield by plane for Camooweal about 2.30 p.m. En route to Cloncurry, where the aircraft was refuelled, the Committee passed over airfields which had been constructed as a matter of urgency at Southern Cross, Torrens Creek, Warreah, Prairie, and Nonda. These projects were all required by the R.A.A.F. during 1942, but since the tactical situation has improved, have rarely been used since. The civil aerodrome at Hughenden and the emergency landing grounds at Richmond and Julia Creek were also seen from the plane. At Hughenden, 200 miles from Townsville, is an underground fuel storage installation for use by the R.A.A.F., and 20 miles to the south is the site of the Australian Field Hospital at Watten. This hospital has recently been dismantled and removed and all salvageable material re-used in the construction of the new General Hospital at Ross River, Townsville. The route also lay over Talmoi, approximately 300 miles from Townsville, where the dispersed buildings of the R.A.A.F. Chemical Warfare Depot and 19th Replenishing Depot were seen. This project is a large R.A.A.F.

Stores area and includes bomb and chemical stores, clothing store, gas decontamination buildings, administration and office buildings, living quarters for R.A.A.F. personnel, and water, electricity and sewerage services. Roads and gravelled areas were also included in the scheme.

283. Cloncurry Aerodrome: The Committee had a view of Cloncurry Aerodrome which is one of the largest and most modern in the Western districts. It comprises one 7,000 feet runway, and three of 5,000 feet each. All are sealed with bitumen. The airport is equipped with elaborate radio facilities, and runway lighting, also R.A.A.F. operational base and squadron camp to accommodate 2,000 men. Independent water supply is provided by means of well and pumping installations, water being reticulated to the aerodrome and camp buildings and also the Civil Aviation establishments which are in addition provided with septic tanks and drainage. Radio range facilities are at present under construction.

284. This airfield also was in some considerable use early in the war against Japan, large bombers being stationed there. The airfield is primarily a Civil Aviation airport on the route from the South to Darwin and most of the developments are to Civil Aviation Department's requisitions.

285. Camooweal Aerodrome: The Committee landed on the Camooweal airfield about 6.30 p.m. on 12th October. This field has been recently very greatly improved to the order of the Civil Aviation Department. Improvements comprise the extension of runways. There are now three bitumen sealed runways, 4090, 3260 and 3102 feet in length. Runway lighting and meterological and aeradio stations have been established.

286. Allied Works Council Workshops, Camooweal: Whilst in Camooweal a visit was made to the Allied Works Council workshop established in that area for the reconditioning of the very large quantity of Allied Works Council and other plant used mainly in construction of the Mt. Isa - Tennant Creek road. This workshop, the third of its type in North Queensland, is operated by personnel,

the greater percentage of whom are aliens - Italians, Germans, Albanians, etc. During the 14 months the workshop has been controlled by the Allied Works Council, approximately 2,700 jobs have been completed at a total value of about £60,000. The number of items of plant used by the Council on the construction of the Mt. Isa - Tennant Creek road approximated 650, and the workshop which is well managed and has a high standard of efficiency, provides maintenance and repair facilities for all plant in the area.

NORTHERN TERRITORY

287. Leaving Tennant Creek at 8.30 a.m. on 14th October, members of the Committee arrived at the Batchelor Aerodrome at 12 noon and were met by the Chief Engineer and senior members of the Allied Works Council, and representatives of the Army, Navy and Air Force.

288. Batchelor Aerodrome and Gould Airstrip - Before leaving Batchelor an inspection of the aerodrome was made; also of the Gould airstrip which is situated about 1½ miles away. These are used by R.A.A.F. Operational Squadrons.

The Batchelor project consists of -

(a) North-South runway 6,049 ft. long by 150 ft. wide. This runway is sealed and it is now proposed to extend it a further 851 feet in order that it may be used by the heavier types of aircraft.

(b) The East-West runway 5,150 feet long by 150 feet wide is used by the lighter types of aircraft. At present it is unsealed but it is now proposed to seal it.

(c) About ten miles of taxiways to dispersal areas. Some of these are sealed and others only gravelled and oiled. It is proposed to seal them all.

(d) About three and a half miles of road to bomb dispersal areas.

(e) Seven miles of sealed road connecting the main North-South Road with the aerodrome.

(f) Four camps accommodating about 3,600 operational personnel. Some of these are tented with hutted facilities, while others have been constructed of local timber and second-hand iron.

(g) Water supply to the aerodrome and camps from bores and old crater.

(h) Six underground petrol tanks, each of 10,000 gallons capacity. These are at present being installed at a cost of approximately £6,000.

289. The Gould airstrip is 6,000 feet long by 150 feet wide. Members were informed that great difficulty is being experienced in properly draining this area.

290. In July of this year it was proposed that £364,000 be expended on additions and improvements to these airstrips, but in August the

scheme was modified and reduced to £249,000. On the matter again being resubmitted this latter amount was reduced by a further £20,000 by the deletion of certain marshalling strips for armoured craft.

291. When the aerodrome and airstrip have been finally completed it is estimated that the total cost of construction will be in the vicinity of £600,000.

292. Darwin - Adelaide River Road - This road which is an extension of the main North-South Road covers a distance of 73 miles. Construction was commenced in February, 1941, but the sealing of the road has only recently been completed. For two years it was only a gravelled surface and during that time an average of 2,000 vehicles per day passed over it. The wear and tear under such circumstances was 9 inches per year. With this section completed a splendid surfaced road now runs through from Alice Springs to Darwin.

293. Air Strips - A number of single air strips have been constructed in the Northern Territory as the prevailing wind in that area is North-South. Between Darwin and Adelaide River there are five such strips at various points along the main North-South Road. Each are one mile in length and 100 feet wide. One is used for the taking off of planes repaired at an adjoining depot; three by operational fighters, and the fifth has not yet been completed.

294. Naval Armament Depot, Snake Creek - This Depot is situated seventy miles from the Naval wharf at Darwin and serves as a feeder to another Naval armament Depot 3½ miles from Darwin. The site was selected by the Navy from four alternatives, the main reason for its selection being that it was in close proximity to both the main road and the railway. The project consists of stores, laboratory, thirteen concrete dumps built into the hillside, 3¾ miles of railway siding and a permanent camp for Navy personnel.

295. Construction commenced during May, 1943, and the Navy took possession on 31st July, 1944. It was explained that the work, the bulk of which was rock excavation and earth moving, was delayed in the early stages through lack of equipment.

296. When inspected the internal roads of this Depot were in a very dusty condition, but it is understood that it is proposed to

seal them at the termination of the next "wet" season. The total estimated cost of the project is £316,506.

297. Manton Dam - This dam is the source of Darwin's main water supply and has been constructed on a tributory of the Adelaide River. The water from the dam is carried to the Darwin township, a distance of 42 miles, by a 12" main which has been laid above ground. Banked to a depth of six miles the dam, when full, contains sufficient water to supply the Darwin township for six years.

298. The construction of the same was commenced in June, 1939, and completed in February, 1941. The dimensions of the wall are length 450 feet, width 30 feet at base and 5 feet at top, and the height at the centre is 53 feet.

299. The pumping station contains two pumping plants which run alternately. From the dam the water is pumped through the mains to four elevated reservoirs situated in the Darwin area.

300. The total approximate cost of the dam and pumping station was £75,000.

301. As the existing main cannot fully meet the present demands of the Darwin area, it is proposed to duplicate it as soon as practicable, and £286,000 has already been authorised to meet the cost. This estimate was based on free Army labour being available to carry out the work, but as this labour is not available the project will be undertaken by Civil Constructional Corps labour which will have the effect of increasing the cost to approximately £400,000.

302. Darwin Harbour Excursion - By courtesy of the Naval Officer in Charge, Darwin, a Naval launch was made available to the Committee on Sunday afternoon, 15th October. In addition to the members enjoying a pleasure cruise over the Darwin Harbour, the opportunity was taken of viewing and having explained the many Defence installations constructed along the foreshores. These included -

(a) The repair of the main jetty, after having been bombed in February, 1942, by the insertion of a new link of 150 feet to replace the part destroyed.

(b) The construction of a new fuelling jetty on the wreck of the S.S. "Neptuna" which was sunk off the main jetty.

(c) Fairmile Slipways and adjoining workshops for the repair and overhaul of small ships up to 110 tons. Difficulties

were experienced during the construction of the slipway, which is useable on most tides, as the bulk of the work could only be carried out at low tide, suitable excavating material not being available.

(d) Shell Island where beacons for flying boats have been installed.

(e) Flying Boat Base which was later the subject of a close inspection by members.

(f) Floating Dock which can accommodate vessels up to 1,200 tons. Maintenance work is at present being carried out on this Dock by the Allied Works Council.

(g) Entrances to the five underground oil storage tunnels which were later inspected by the Committee.

(h) Refitting Jetty for the Navy.

(i) Teehead jetty for merchant shipping.

(j) Fuelling points for Catalina aircraft.

(k) R.A.N. Ground storage tanks for fuel.

(l) Darwin Harbour Boom Defence. The Boom Defence stretches across the entrance to Darwin Harbour, a distance of nearly 4½ miles. Its installation presented many difficulties as the towers at each end had to be constructed with concrete bases which could only be laid at very low tide.

(m) Battery Observation Post.

(n) De-gaussing installations.

(o) Mooring Buoys for Catalina aircraft - 21 in all.

303. Underground Oil Storage - This project was constructed for the Navy with the object of providigg underground fuel storage at Darwin.

304. The storage consists of five tunnels, horseshoe in shape and horizontally driven. They are lined with concrete and then relined with welded rolled steel plates. When completed they will provide 10,000 tons of storage.

305. Work on the tunnelling commenced in May, 1943, concreting commenced in December, 1943, and the steel lining in July, 1944.

306. Great difficulty was experienced in tunnelling operations due to wet, treacherous soil practically throughout the whole of the driving and this necessitated application for additional funds.

307. The present position is that all tunnelling is complete, concreting virtually completed, steel lining well advanced, and expected to be completed in January, 1945. The total estimated cost of the project is £632,500.

308. During the Committee's inspection the engineer-in-charge of this project praised the work of the men engaged on construction. He stated that when the concrete was being mixed the men were called upon to work in a temperature which at times reach 180°. Notwithstanding these trying conditions the men worked the full eight hour shifts.

309. Naval Jetties - These include the construction of three jetties on the main Darwin waterfront.

310. The Naval landing jetty is an extension of 180 ft. to the main civil jetty and is at present under construction. It is to be used for the servicing of small naval craft, and the estimated cost of construction is £8,000.

311. The Teehead jetty was completed last year by the Allied Works Council to accommodate one vessel. Additions have been made at each end and the approach widened and the jetty can now accommodate two vessels. The estimated cost of construction is £144,051.

312. The Re-fittint jetty, about 150 ft. long, is being constructed to provide a laying-up berth for Naval vessels undergoing repair or overhaul. The timber piles are sheathed in concrete as a protection against the marine borer and it is intended that this jetty should have a useful life extending beyond the war years. Facilities for fuelling with electric power are being provided. The jetty is located adjacent to the Naval Engineering Workshop which is equipped for all operations required for the servicing of smaller classes of naval craft. The estimated cost of the jetty is £85,000.

313. Naval Victualling Yards - This establishment originally comprised three stores each 198 ft. long and a refrigeration block, but extensive additions, to cost approximately £97,950, are now in progress. These include the erection of 11 pre-fabricated stores buildings, additions to the refrigeration block, a stand-by power house, together with all necessary engineering services.

314. Naval Oil Storage - In addition to the construction of five underground tunnels referred to in paragraphs 303-8, the erection of five 500,000 gallon tanks for the storage of 6,000 tons of distillate and 4,000 tons of diesel fuel are nearing completion. These tanks are spread over a wide area and are situated in gullies around the harbour front in strategically safe positions which, however, involved large excavations of earth approximating 2,500 cubic yards per tank. It was also necessary to camouflage the sites before any excavations were made.

315. The project also called for the provision of 15,000 feet of 8" pipeline from the tanks to the jetties and eight filling or

discharging points. On the two Naval jetties two pumphouses and necessary pumping units are to be installed.

316. Work was commenced on 1st December, 1943, and the fifth tank was completed on 31st July, 1944, one month ahead of the scheduled date.

317. With the exception of the installation of 2,000 feet of pipeline, pumps, and foam equipment, which are not yet to hand, the project is almost complete.

318. At the date of the Committee's inspection £89,093 had been expended on the project.

319. Bulk Petrol Installations for Army and R.A.A.F. - The first work in connection with these installations was the repair and test of the two existing Shell Company tanks and the 6" ships discharge line which extended from the tanks to the Town wharf. This line was badly damaged during the first air raid on Darwin, some 200 feet being blown away and the remainder on the wharf being badly bent and buckled. This repair work was commenced on 12th July, 1943, and a tanker discharged the first cargo of Motor Spirit into the tanks on 3rd October, 1943.

320. The second works were the provision of Army storage with a capacity of 3,000,000 gallons for aviation gasoline and motor spirit. This involved the erection of six 500,000 gallon tanks suitably dispersed against pattern bombing; the provision of approximately 15,000 feet of pipeline from tanks to wharves; the provision of drum and rail tank car filling facilities; and the erection of loading platform and cleaning and rumbling facilities. These works, carried out under camouflage, were commenced on 14th July, 1943, and as each tank was completed it was brought into service by the Army. All tanks were completed by 31st March, 1944, which was the original target date.

321. In April, 1944, a requisition was received for the following additional works:-

Four additional 500,000 gallon tanks:

the laying of 10,000 additional feet of pipeline from tanks to new wharf which was built of the wrecked S.S. "Neptuna" and laying of five submarine lines from the Town Jetty to the new wharf;

the extension of existing 6" pipelines from Town Jetty to new coastal tanker berth for filling of small Army tankers;

the provision of metered points for servicing of small craft with motor spirit, aviation gasoline, distillate and water; and

the provision of four Booster pumps, two to speed up drum filling and two to speed up the filling of small tankers at the wharf.

322. This new work commenced on 8th April, 1944, and the fourth tank was completed on 8th August, 1944. The construction of pipe lines and other facilities are nearing completion. Three of the tanks are now in use.

323. Approximately 15,500,000 gallons of motor spirit and aviation gasoline have passed through these installations, and been packed into either forty-four gallon drums, four gallon drums, or rail tank cars.

324. In addition to these facilities provided at Darwin, smaller bulk oil storage depots for use by the Army have been installed at Larrimah, Katherine, Adelaide River and Brock's Creek, which enables the motor spirit to be sent in bulk by rail tank cars. Similar depots for the R.A.A.F. have or are being installed at Noonamah, Batchelor, Brock's Creek, Katherine and Gorrie. In all, these Depots require the installation of fifty-nine (59) 12,000 gallon tanks for the R.A.A.F., and twenty-six similar tanks for the Army.

325. East Point 9.2 Gun Emplacements - The work involved was commenced prior to the first Japanese air raid on the 19th February, 1942, but was then deferred until instructions were received to resume construction in December, 1942.

326. The project consists of two gun emplacements which involve very heavy concrete construction of the emplacements, steel-work, aprons, magazines, engine rooms etc; an observation tower, direction gantrys and test huts; and the provision of roads and barracks accommodation. The work involved the placing of about 14,000 cubic yards of concrete.

327. One gun has been installed for some time and all work has been completed except the actual installation of the second gun which is awaiting delivery from the Army.

328. An amount of £258,330 has been authorised to cover this

project but it is estimated that the final cost will be about £255,000.

329. Power Houses - The Committee inspected Power House No. 2 which was erected in 1941 to supplement the existing supply. Four units have been installed, which, when fully utilised, should be capable of producing 2,150 K.W. units. The largest of these units have been out of commission for some time undergoing a major overhaul, and difficulty is experienced in keeping the others in good running order owing to the scarcity of spare parts and a shortage of skilled attendants and mechanics. The maximum load at present being carried is only 900 K.W.

330. Work is at present in progress on the erection of a building to house two 500 K.W. Crossley units with a view to partly overcoming the increasing demand, and a requisition has been placed for a further 700 K.W. unit of a similar type. This will be housed in an extension of the building now approaching completion. The estimated expenditure is £16,535.

331. 4th Air Depot, Darwin - This project links up with the K.40 Project, the latter comprising the camp, administration buildings, hospital, repair shops, hangars and roads, while the former included the reconstruction and extension of runways, taxiways, and dispersal areas of the aerodrome itself.

332. Three sealed runways, 10,000 ft. by 200 ft., 6,000 ft. by 150 ft., and 5,000 ft. by 150 ft., together with many miles of taxiways and dispersal areas and complete with all engineering services make this vast aerodrome one of the best bases yet constructed and from which the heaviest types of American bombers can operate.

333. It is understood that the aerodrome was the main base used in connection with the heavy bombings which culminated in the capture of Halmahera Island a few months ago.

334. No. 12 Air Repair Depot, R.A.A.F. - This depot, the construction of which was only commenced on 11th July, 1944, will comprise 4 tubular steel iglco type hangars, each 250 ft. long with 160 ft. span to house assembled aircraft; two modified Butler type

hangars for use as workshops; several other standard types of steel-framed hangars; and approximately 40 other buildings of pre-fabricated timber, together with paved areas for aircraft parking and all necessary engineering services. An amount of £357,000 has been authorised to carry out this construction.

335. Howard Springs Pipe Line - The Howard Springs are situated about 20 miles from Darwin. Water has been pumped from these springs for some years, but in order to further augment the Manton Dam supply, the scheme is being extended with a view to pumping 400,000 gallons per day.

336. A concrete dam wall has been constructed and two new pumps installed with an 8 inch pipe line connecting with the Manton line 14 miles away. In order to provide access to this line, a by-pass road two and a half miles long has been constructed. The whole of this work is being carried out by the Army.

337. Forestry Units - After a survey was made in July, 1943, it was decided that the Allied Works Council should establish sawmills to utilise local supplies of timber.

338. In the Darwin area, portable mills have been established at McMinns, Black Jungle and Koolpinyah and, since milling operations commenced in September, 1943, over 500,000 super feet of timber has been produced. Piles, lighting power poles, logging, sleepers, and other poles are produced in addition to sawn timber of all commercial sizes.

339. The number of men employed on the three mills is approximately 230.

340. Members of the Committee inspected the McMinns Mill and were impressed with the wide variety of excellent commercial timbers which are produced in this area. In addition to the usefulness of these mills, in supplementing supplies from other States required for Defence construction, the Committee believes that they will prove a most valuable asset in connection with post-war plans for the reconstruction of Darwin.

341. Army Field Supply Depot - Woomamah - This depot is the main receiving and distributing centre between Darwin and Adelaide

River and has been in operation for about 7 months. From it, supplies are issued to the Army, Navy, Air Force and Allied Works Council personnel stationed in the area.

342. The depot comprises -

4 stores, 120' x 36'
4 " 100' x 50'
2 " 120' x 58'

A number of smaller stores.
Refrigeration store of 84,000 lbs. capacity.
Ice works which will produce 5 tons of ice per day.
Cordial factory.
Bakery, producing 12,000 lbs. of bread daily.
Petrol Storage.
Power House.
Camp Accommodation.

343. When inspected it was noticed that the area was very badly drained, but it is understood that steps are now being taken to remedy the position.

344. Quarries - The stone available in the immediate vicinity of Darwin is comparatively soft and considered to be second grade only, but in order to economise in transport, considerable use has had to be made of the material and a quarry was set up about two and a half miles from Darwin. Within the last twelve months, a complete crusher has been installed capable of handling about 200 tons per day.

345. Where a first class aggregate is required crushed quartzite is used and the nearest supplies of this material to Darwin are situated 17 miles away on the Stuart Highway. There, a plant capable of crushing about 300 cubic yards had been installed. To facilitate the rapid erection of this plant a complete unit was purchased in Adelaide, transported overland and re-erected on the present site. The greater part of the labour employed is alien.

346. Having completed its inspections in the Darwin - Adelaide River area, the Committee left by car at mid-day on 18th October for the Katharine district inspecting en route projects at Brock's Creek, Fenton and Long.

347. Fuel Storage Installations, Brock's Creek - Fuel storage for both the Army and R.A.A.F. have been installed at Brock's Creek, situated on the main railway line 110 miles from Darwin.

348. The project consists of -

3 Fuel Storage Tanks for the Army, each of 12,000 gallons capacity;

8 Fuel Storage Tanks for the R.A.A.F, also of 12,000 gallons capacity each;

Messes and kitchen for Army personnel - four buildings; and

4 Stores to serve as a Field Supply Depot (Army).

349. The fuel is transported by rail from the main Darwin depots to this and other sub-depots which have been constructed at various points between Darwin and Larrimah. With regard to Army fuel, filling points have been constructed at each depot. The R.A.A.F. tanks, however, were installed to serve the Fenton and Long aerodromes and 14 miles of 3" petrol pipe line is being laid from the tanks to the Fenton aerodrome with a branch line to Long. When inspected the installation of the tanks and pipe lines had nearly reached completion.

350. Fenton and Long Aerodromes - These aerodromes were constructed by Service labour for U.S. heavy bomber operations, but with the transfer of U.S. squadrons to Darwin the Dromes have now been taken over by the R.A.A.F.

351. As the taxiways, hardstandings and roads were not sealed many planes and vehicles became bogged during the last wet season, and, in order to make the dromes suitable for all weather conditions work is nearing completion on their reconstruction and sealing. Heavy drainage is also being carried out to avoid failure of the pavement. A water supply is also being provided from Hayes Creek where the water is pumped three quarters of a jile to two 50,000 gallon tanks and from there by 6" and 3" pipe lines reticulated to both dromes.

352. The estimated cost of these works -

Reconstruction of taxiways, &c.	£458,000
Water Supply	18,335
	£476,335

353. Manbulloo Air Strip, near Katherine - This strip was formerly used by light bombers of the U.S. Force, but it is now proposed to lengthen and strengthen the strip and taxiways and reseal to enable two squadrons of heavy bombers to operate. The existing camp is also being reconstructed to house two squadrons. The total estimated cost of this work is £142,000.

354. Tindall Aerodrome - This new project is being constructed about 8 miles from Katherine and comprises a runway 7,000 ft. long by 150 ft. wide, together with taxiways and hardstandings for dispersal equivalent to about fifty miles of ordinary roadway. It was originally intended that the runway should be 10,000 ft. in length but after the formation and gravelling had been completed instructions were received that only 7,000 ft. were required. It is therefore not proposed to seal the runway beyond 7,000 ft.

355. The Engineer-in-Charge of this project explained to members that he had experienced great difficulty in obtaining suitable gravel for the construction of this drome within a reasonable distance. For the base construction the gravel was transported up to four miles, but for the final toppings it was necessary to cart it 10 miles. 300,000 cubic yards of gravel has been used and 600,000 square yards of runway and taxiways have yet to be sealed. The project when inspected was about 85% completed and is estimated to cost about £300,000.

356. The Committee left Katherine by plane at 1.45 p.m. on 19th October, and arrived at Alice Springs at 6 p.m. where the party was met by the Deputy Director-General of Allied Works for the Northern Territory, Mr. W.T. Haslam. After a short conference with Mr. Haslam and members of his executive, the Committee made an inspection of the various sections of the Allied Works Council administration - stores and plant records, pay office, internal audit and personnel movements. Members were shown examples of the class of work carried out by the staff and were given an insight

into the volume of arrears of work awaiting attention. Members were then taken on a tour of inspection of several of the major projects carried out in the area.

357. Allied Works Council Workshop and Store, Alice Springs - At this workshop all major repairs and overhauls of mechanical vehicles and equipment in use between Alice Springs and Larrimah are carried out. For the carrying out of minor repairs light aid detachments operate between these two towns.

358. The Stores Depot, in addition to maintaing supplies of normal equipment for issue to the various projects, carries stocks of spare parts for use in its workshop, also tyres.

359. The Committee also inspected a similar establishment in operation at the Allied Works Council Headquarters, Adelaide River.

360. Transport Facilities, Alice Springs - Five trains per day arrive at Alice Springs from the South with supplies for the Northern areas, the normal load being about 200 tons with a maximum of 500 tons. The goods are then transhipped by trailers and diesel trucks to Larrimah a distance of 622 miles, where they are again transported by train to Darwin. Vehicles returning from Larrimah carry mainly timber for use as firewood.

361. At the Alice Springs Railway Depot is an Ice Plant which makes about two tons of ice per day and a Refrigeration Store for Army meat.

362. Army Workshops, Alice Springs - These workshops which were constructed partly by C.C.C. labour and the balance under contract, are for the repair and overhaul of Army vehicles and equipment, and also other vehicles and equipment which cannot be repaired at the Allied Works Council Workshop. Provision has also been made for engine and battery reconditioning, testing of diesel pumps, and the making of spare parts.

363. The Army ration strength of the establishment, which has been in operation for nearly two years, is 210.

364. Allied Works Council Hostels - Alice Springs - Owing to the absence of suitable accommodation in Alice Springs it was found necessary to erect hostels to house employees of the Allied Works Council Administration. Additions to both the Men's and Women's

hostels were subsequently made. The total cost of making this accommodation available was £37,079. The buildings will accommodate 450 persons.

365. The Committee inspected the buildings, and, while they appear to be quite comfortable, they consider the construction is in no way elaborate. The women's quarters are fibro buildings with galvanised iron roofs, and comprise double and single bedrooms, kitchen, mess, recreation room and canteen. A matron is in charge of the establishment.

366. The men's quarters appear less comfortable having galvanised iron walls and roofs on rough cut timber with concrete floors, and comprise double bedrooms, kitchen, mess and recreation room.

367. It was explained to members that with a gradual diminution of the male staff and an increase in the female staff, portion of the men's quarters are being taken over to accommodate female employees.

368. Power Station, Alice Springs - Mainly for the purpose of meeting Army requirements a new Power Station has been erected and a 500 K.W. Crossley set installed, together with H.T. Transmission lines, at an estimated cost of £13,500. Members were informed that the supply is still inadequate to meet full demands as the plant at the original station is most unsatisfactory.

369. Army Hospital, Alice Springs - The Alice Springs Civil Hospital is now under Army control, although both military and civil patients are admitted.

370. By the conversion of the doctors and Nurses' quarters intl wards, the building of a native compound, and the provision of tented wards, the accommodation has been increased from 80 to 300 beds.

371. About 3,000 civilian inpatients and 5,000 outpatients are treated annually which represents approximately one-third of the total number treated. About 70 births take place there annually. Members were very impressed with this well set-up hospital which is equipped with all modern services. It was particularly pleasing to note the care and attention which is given to sick natives. Their special compound which has only been in operation for three months

provides accommodation for 44 natives.

372. R.A.A.F. Bulk Fuel Storage Depot, Alice Springs - The construction of this Depot, which has been completed except for minor details, was commenced on 10th May, 1942, and was in use when the Darwin storage of high octane could not be utilised. At the time it was considered that the Darwin facilities would not be available for a much longer period. Consequently the use of this depot has been limited to some extent.

372. Eight storage tanks, with a total capacity of 2,000,000 gallons, have been provided, together with rail siding, drum filling and washing facilities, offices, guard house, and a bitumised roadway. The total estimated cost is £95,000.

373. This completed the Committee's tour of inspection and the party left Alice Springs by plane for Melbourne, via Adelaide at 1.45 p.m. on 20th October, and arrived at Melbourne at 9.50 a.m. the following day.

Part IV. - SUMMARY OF CONCLUSIONS.

374. From its own observations, and from information supplied, the Committee is satisfied that the constructional work for Defence purposes was well carried out in Queensland and the Northern Territory under very difficult conditions.

375. While the Committee is not in a position to express any definite opinion as to whether construction costs were unnecessarily high, it has reached the conclusion that, for the reasons enumerated in this Report, costs very much in excess of pre-war standards were inevitable. It realises that, during the period when a great deal of the Defence construction was carried out, the extreme urgency of the required work was of paramount importance and over-rode all other considerations. If some confusion did exist and public money wasted as a result, it was of minor consequence when compared with the gigantic task so successfully carried out by all the constructing authorities concerned.

376. The Committee holds the view that, without the most efficient organisation, the Allied Works Council and other constructing authorities associated with it, could not have achieved such success.

In this connection it desires to pay tribute to the organising ability of the late Director-General of Allied Works, the Hon. E.G. Theodore, and also to his Deputies and Assistant Deputies. The Committee has had the opportunity of conferring with several of these gentlemen and was most impressed with their zeal and ability to carry out the important tasks allotted to them.

377. The Committee also desires to place on record the supporting opinion expressed by a very high official of the United States Army. It reads -

> "May I also take this opportunity to express my deep appreciation for the splendid work performed during the past year by the Allied Works Council, the Civilian Construction Corps and by the other Commonwealth and State agencies engaged on the important construction program in Australia, including particularly the operationally important Darwin and North Queensland areas.
>
> "The works constructed by these agencies have been of vital importance to our entire war effort. The difficulties under which they have had to be performed have not been fully appreciated by many. Shortages of personnel, plant and materials, delays and shortages in transport, and conflicting and changing stress of priorities have made the task a difficult one. In spite of these difficulties a major record of accomplishment has been made."

378. The Committee has noted that many facilities established to meet war-time needs will have a great peace-time value. It recommends, therefore, that these facilities, when no longer required for Defence purposes, be preserved and utilised for the further development of our country.

379. Pre-fabricated buildings - The Committee considers that the use of pre-fabricated material for Defence accommodation should be adopted wherever practicable. Further, that its use be employed in connection with post-war planning.

380. K.40 Project. - The Committee is satisfied that, after full investigation and taking into consideration all the difficulties that had to be encountered, the construction of the K.40 Project was efficiently carried out. There was little substance in the allegations made against the Allied Works Council by Messrs. Brown and Mew.

381. East Arm Flying Boat Base - The Committee is satisfied that the delays which occurred during the early stages of construction of this Base were unavoidable.

382. Mt. Isa - Tennant Creek Road - The Committee is impressed with the importance of this road, not only to meet Defence requirements, but as a valuable asset in the future development of the area through which it passes, and recommends that suitable action be taken to maintain it in first class condition.

383. Allied Works Council Administration in the Northern Territory - The Committee is satisfied that the allegations of over-staffing of the Allied Works Council at Alice Springs were made by Mr. Mew without knowledge of the existing conditions, and that every effort is being made by the Deputy Director-General of Allied Works in the Northern Territory to keep his staff to a minimum.

384. Army Farms in the Northern Territory - The Committee strongly recommends against any contemplated action to reduce the number of personnel employed on these farms. If at all practicable it suggests that the establishment of farms be extended in order to provide further supplies of fresh vegetables and fruit to personnel stationed in the Darwin area.

385. 3rd Australian Field Butchery - The Committee recommends that facilities be provided to utilise waste offal and blood available at this Unit. Further, that steps be taken to improve the camp accommodation, particularly the sleeping quarters.

386. Native Settlements - The Army is to be commended for the excellent service it is rendering to the Australian native at settlements under its control, and the Committee recommends that, if practicable, further settlements be established.

387. Reconstruction of Darwin - The Committee strongly recommends that the future reconstruction of Darwin be carried out in accordance with a definite pre-arranged modern town plan, and, further, that the Government's intentions regarding the future development of the town be released as early as practicable.

388. Selection of Civil Construction Corps Workers - With a view to avoiding the expense of transporting Civil Construction Corps

workers to outlying areas who are not fully capable of carrying out the works required of them, the Committee suggests that greater care be exercised by the Allied Works Council in the allocation of manpower to the various projects under its control.

389. Co-operation as between the Services and constructing authorities - In view of the improved strategical position, the Committee suggests that closer co-operation as between the Services and the Allied Works Council should now be possible. This would ensure the latter authority utilising its forces of both manpower and materials to more economical and efficient advantage.

(H.V. JOHNSON)
Chairman

Parliament House,
Canberra, 27th November, 1944.