



*Parliamentary Standing Committee on Public Works*

REPORT

relating to

DEPARTMENT OF THE SENATE  
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*Mary Evans*

DEFENCE LOGISTICS  
REDEVELOPMENT PROJECT -  
DEFENCE NATIONAL STORAGE  
AND DISTRIBUTION  
CENTRE

(Twelfth Report of 1992)

THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA  
1992

The Parliament of the Commonwealth of Australia  
Parliamentary Standing Committee on Public Works

215

Report Relating

to

Defence Logistics Redevelopment  
Project - Defence National Storage and  
Distribution Centre

(Twelfth Report of 1992)

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MEMBERS OF THE PARLIAMENTARY STANDING  
COMMITTEE ON PUBLIC WORKS

(Thirtieth Committee)

Mr Colin Hollis MP (Chairman)  
Mr William Leonard Taylor MP (Vice-Chairman)

Senate

Senator Bryant Robert Burns  
Senator Paul Henry Calvert\*  
Senator John Robert Devereux

House of Representatives

Mr Ewen Colin Cameron MP  
Mr Lloyd Reginald O'Neil MP  
Mr Russell Neville Gorman MP  
Mr Bruce Craig Scott MP

\*Appointed on 24.8.90 following the retirement of Senator  
Dr Glenister Sheil

Committee Secretary: Peter Roberts

Inquiry Secretary: Michael Fetter

Secretarial Assistance: Sophia Konti

EXTRACT FROM THE  
VOTES AND PROCEEDINGS OF  
THE HOUSE OF REPRESENTATIVES

No. 129 dated Wednesday, 27 May 1992

15 PUBLIC WORKS - PARLIAMENTARY STANDING COMMITTEE  
- REFERENCE OF WORK - DEFENCE LOGISTICS  
REDEVELOPMENT PROJECT: Mr R J Brown (Minister for  
Land Transport), for Mr Beddal (Minister representing the  
Minister for Administrative Services), pursuant to notice, moved  
- That, in accordance with the provisions of the provisions of  
the *Public Works Committee Act 1969*, the following proposed  
work be referred to the Parliamentary Standing Committee on  
Public Works for consideration and report: Defence Logistics  
Redevelopment Project - Defence National Storage and  
Distribution Centre and Air Force aspects.

Debate ensued.

Question - put and passed.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC  
WORKS

DEFENCE LOGISTICS REDEVELOPMENT PROJECT - DEFENCE  
NATIONAL STORAGE AND DISTRIBUTION CENTRE

On 27 May 1992 the House of Representatives referred to the Parliamentary Standing Committee on Public Works for consideration and report the proposed Defence National Storage and Distribution Centre which is a part of the Defence Logistics Redevelopment Project.

THE REFERENCE

1. The Defence Logistics Redevelopment Project (DLRP) involves the provision of a rationalised and centralised strategy of wholesale storage and distribution for the Australian Defence Force (ADF).
2. A central part of the strategy is the provision of a modern, tri-Service storage and distribution facility, the Defence National Storage and Distribution Centre (DNSDC), which is proposed to be established primarily at Moorebank, NSW. Additional warehousing accommodation at Leichhardt, Regents Park, Bathurst and Dubbo will also be used.
3. The DNSDC will accommodate most of the Navy's stocks, a small element of Air Force stocks and part of the Army's national stocks, in addition to Army logistics functions currently the responsibility of the Moorebank logistics group.
4. The warehouse accommodation to be provided will be a combination of new facilities and existing facilities, which will be upgraded where appropriate. This will give the ADF a modern and efficient warehousing complex which will enable current technology and systems to be best utilised.
5. The construction of the DNSDC will allow the closure of warehouses at Randwick, Zetland and Penrith and the partial closure of warehouses at Regents Park.

6. The Air Force component, which is the subject of the Committee's Seventh Report of 1992, will enable the relocation of the majority of Air Force stocks to bases. It will involve the modernisation of storage and handling systems in warehousing accommodation at seven operational bases. This strategy will allow the disposal of RAAF property at Tottenham, Toowoomba and Regents Park.

7. The estimated cost of the proposed DNSDC is \$100m at April 1992 prices. The estimated cost of the Air Force component is \$25m.

8. The Navy and Army components of the project are yet to be fully developed and separate approval for them will be sought.

#### THE COMMITTEE'S INVESTIGATION

9. The Committee received a written submission and drawings from the Department of Defence (Defence) and took evidence from representatives of the department at a public hearing, held on 3 September 1992 at Moorebank and at a private hearing on 15 October 1992 in Canberra.

10. The following individuals and organisations also presented submissions and appeared before the Committee at the public hearing:

- Combined Union Caucus, Zetland
- Commonwealth Fire Board.

11. Submissions and letters were received from the following:

- Mr Peter Retallick
- AWA Limited
- Mr Laurie Ferguson MP (Member for Reid)
- Australian Heritage Commission
- ACROD
- Municipality of Auburn
- Commonwealth Environment Protection Agency
- Mayne Nickless Ltd
- Liverpool City Council.

12. Prior to the public hearing the Committee inspected Defence warehouse facilities at Zetland, Regents Park and Moorebank. Representatives of Defence briefed the Committee in Canberra on 20 August on the DLRP.

13. A list of witnesses who gave evidence at the public hearing is at Appendix A.

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

## BACKGROUND

### Studies to Improve Defence Supply Services

15. The Committee's Seventh Report of 1992, which recommended the construction of the Air Force aspects of the DLRP, mentioned for background purposes a number of studies and initiatives which had been undertaken and commenced in recent years. For the report on this reference to be able to be read as a separate and complete entity it is worth highlighting some of the essential background upon which the DNSDC concept is based.

16. The Defence Policy Information Paper, *The Defence of Australia* recognised that priority needs to be given to the development of a Defence logistics organisation capable of supporting the development and operations of the ADF. A consultancy was undertaken in December 1988 by Arthur Young (now Ernst and Young) into means for improving the effectiveness and efficiency of Defence supply services in the midterm - that is, three to five years.

17. The consultant's report suggested that improvements could be achieved by the adoption of modern management techniques. Substantial potential savings could be achieved in three main areas:

- controlling the consumption of stores through improved fiscal accountability at the point at which stores are consumed
- rationalising the Services' responsibility for item management and procurement by encouraging increased Single Service Logistic Management, whereby one Service accepts responsibility for logistics management for the three Services

- the rationalisation of warehousing facilities and management by a tri-Service regional consolidation of existing Defence warehouses and stores.
- 18. The study also suggested that new facilities required to achieve a rationalisation of facilities could be obtained from the sale of surplus Defence assets.
- 19. The consultant's report was subsequently reviewed by Defence and a Defence Warehousing Strategy, the DLRP, was developed.

#### **The DLRP and Warehousing Strategy**

- 20. The DLRP will introduce a number of measures to improve the efficiency and effectiveness of logistic support, including the implementation of the Defence Warehousing Strategy, as follows:

- current initiatives involving the devolution of procurement responsibility are appropriate, are to be further encouraged and will reduce inventory holdings and requirements for warehousing
- current initiatives to reduce the sizes of inventories by shedding redundant stocks, reducing item duplication and lowering stock levels by reduced administrative lead times
- single-tier stockholding to avoid double handling and associated overheads
- stock to be held close to major users where possible
- individual Service control of warehousing at base and regional levels to be maintained for responsive support to operations
- tri-Service rationalisation to occur at the national level where it can be shown to be cost-effective using common facilities for receipt, inspection and storage, and avoiding duplication of national distribution infrastructure

- warehousing to be postured for effective support of contingency operations in the north
- the location of warehouses to recognise likely movement of supported training and operational units
- direct funding for logistics improvements will be difficult to achieve in the current fiscal climate.

### Implementation of the Strategy

21. Defence advised the Committee that the implementation of the strategy would require changes as follows:

- the establishment of a tri-Service DNSDC at Moorebank
- the storage of bulk and slow-moving items to be rationalised on a tri-Service basis under the control of the DNSDC
- the closure of naval supply facilities at Zetland and Randwick, and Maribyrnong, Vic. Most stocks from these facilities would be moved to the DNSDC at Moorebank or to the bulk facility and some development at *HMAS Stirling* WA, and *HMAS Albatross* NSW, would need to occur
- the integration of the Army Moorebank Logistics Group (MLG), which currently occupies the warehouse complex at Moorebank, into the DNSDC. The Army will continue rationalisation of regional logistic units and will close facilities at Banyo (Brisbane), Penrith and part of Broadmeadows (Vic). Some development will also occur at Darwin and Townsville
- the movement to forward bases or most Air Force weapon system spares. Some facilities development will be required to enable this to be done; these facilities are described in the Committee's Seventh Report of 1992. Common spares and other stores will be moved to the DNSDC. Facilities at the following RAAF stores depots will be closed:
  - No. 1 Stores Depot - Tottenham, Vic

- No. 2 Stores Depot - Regents Park, Sydney - except for Warehouse 40
- No. 7 Stores Depot - Toowoomba, Qld

The closure of these depots will also require the relocation of other units occupying the sites as well.

- the establishment of bare base staging facilities at Broome, Mount Isa (Qld) and Alice Springs (NT).

#### **Construction Required**

22. The strategy requires the construction of new facilities, and the modernisation and enhancement of others. Defence advised that the construction elements can be separated into the following elements:

- the modernisation of existing warehouse facilities at Air Force bases (Committee's Seventh Report of 1992)
- the construction of the DNSDC at Moorebank and the augmentation of existing facilities at Dubbo
- the rationalisation of regional Army logistic units
- Navy regional warehousing.

#### **Funding of Works**

23. Defence propose to offset facilities development costs from the sale of sites. These sites include:

- the Navy Supply Centre at Zetland
- a portion of Defence property at Randwick
- significant sections of Army property at Penrith
- Air Force facilities at Toowoomba, Tottenham and Regents Park.

24. Defence advised the Committee that present estimates of revenue from the disposal of DNSDC-related properties would result in a surplus of \$14.8m after deducting the DNSDC capital expenditure (\$100m) and relocation costs (\$9.6m).

## THE NEED

### Scope

25. This report covers the need for, and the extent of, the DNSDC development at Moorebank and the provision of some warehousing at Leichhardt, Regents Park, Dubbo and Bathurst for slow moving and bulky stock. In general terms the DNSDC aims to rationalise storage and distribution at the national level by using common facilities and avoiding the duplication of distribution infrastructure.

### Existing Defence Warehousing in Sydney

26. Defence advised the Committee that existing warehousing arrangements in Sydney do not provide the ADF with the most cost-effective logistic support. The current extent of stock dispersion leads to inefficiencies and diseconomies in the operation of national warehousing functions in the following areas:

- the duplication of processes involving the receipt, storage, dispatch, inspection, repackaging and preservation of stores
- the fragmentation of staff and the large number of supervisors required to service duplicated functions and the sites of the three Services' warehouse complexes
- poor utilisation of warehouse capacity because of inappropriate and dated warehousing arrangements
- the inability for the utilisation of modern materials handling equipment to be maximised because of operations, which are dispersed, and warehouse facilities, which are old and restrictive
- the poor state of repair of Army facilities at Moorebank

- the poor minimum magnetic storage area for the Navy
- the poor freight distribution facilities at Navy and Air Force sites
- the inadequate storage facilities for the national holdings of smallarms
- the substandard security control and lighting at Moorebank
- the inadequate area stormwater interceptor and drainage system at Moorebank.

#### Why Moorebank

27. Defence advised the Committee that of the options examined during the development of the warehousing strategy the only opportunity for rationalising national warehousing in a cost-effective manner was in Sydney, within the precinct of the Moorebank Logistics Group (MLG).

28. The Committee was advised that a DNSDC centred at Moorebank satisfies the following location criteria for a national-level distribution facility:

- it is well positioned to support operations in northern Australia and offshore
- it is within an existing military installation and would make use of existing, but refurbished, facilities and infrastructure
- it would occupy land that is sufficient to accommodate all interdependent activities with buffer zones to adjacent urban areas
- it will not be subject to urban encroachment or urban development for the foreseeable future, that is, 20 to 50 years
- it is in close proximity to a large commercial and industrial base and civil infrastructure, that is, supply sources, military and civilian transportation, fleet overhaul and repair and the port of entry for overseas sources.

### Moorebank - Existing Facilities

29. Warehousing and support facilities at Moorebank represent a significant capital investment by Defence. The site at Moorebank covers 160ha and is bounded by Moorebank Avenue, Anzac Road and Greenhills Avenue. Facilities were developed mainly during the Second World War when a supply installation was built on the site. In 1945 the associated supply unit and workshop evolved into two units, the 2nd Base Ordnance Depot and the 2nd Base Workshop. In 1972 the two units became the 21st Supply Battalion and 2nd Base Workshop Battalion respectively. In 1990 the two units and the Liverpool Movement and Transport Unit were amalgamated to form the Moorebank Logistics Group (MLG).

30. The MLG currently operates from buildings constructed during, or immediately after, the Second World War. The buildings are generally timber framed with asbestos cement cladding. Defence advised the Committee that the limited roof height of the buildings and closely-spaced columns within them restricts the ability for modern and efficient storage and materials handling techniques and equipment to be employed.

31. In recent years some new facilities, comprising the Warehouse 90 complex, were provided at Moorebank. This complex, estimated to cost \$17.9m was the subject of an inquiry by the Committee in 1986. (Committee's Ninth Report of 1986 - Parliamentary Paper 242/86)

### Operational Savings

32. Defence advised the Committee that the concept of a DNSDC would result in substantial savings by reductions in operating and manpower costs as well as the disposal of redundant facilities. Defence provided the following estimates of manpower and operational cost savings:

- savings of 630 personnel
- annual operating cost savings and manpower savings in the order of \$25.5m from financial year 1997-98
- net savings of \$156m over the ten years from financial year 1991-92

a revenue surplus of \$14.8m from the disposal of DNSDC-related property, taking into account capital expenditure (\$100m) and relocation costs (\$9.6m).

#### Committee's Conclusion

33. The concept of a Defence National Storage and Distribution Centre would result in manpower savings and savings in recurrent expenditure and would avoid duplication and double handling of stores items.

### THE PROPOSAL

34. The proposal is to provide facilities for a DNSDC at Moorebank and some warehousing at Leichhardt, Regents Park, Dubbo and Bathurst.

#### Alternatives Considered

35. The proposal was developed from a Project Definition Study of a centralised tri-Service warehousing and distribution centre undertaken by Australian Construction Services and Gutteridge, Haskins and Davey. The study aimed to:

- verify, consolidate and rationalise the requirements of the three Services
- evaluate requirements to develop broad options
- develop selected options, cost them, and recommend a preferred option
- develop an implementation program for the preferred option
- produce a functional design brief including cost estimates and concept sketches for the DNSDC.

36. The study developed 11 design options for transaction flows and bin and standard pallet stocks. Options examined covered a range of designs for materials handling ranging from low to high technology solutions which are employed in commercial industrial applications.

37. Each option was studied using computer simulation techniques to determine resource requirements. As well, a life-cycle costing analysis compared the cost performance of each option in terms of annualised capital and operating costs. The options were also evaluated on the basis of technical risk, flexibility, potential for expansions and ease of implementation.

38. Defence advised the Committee that at the presentation of a report on preferred options by the consultant, it became apparent that the total estimated cost of the proposed development was too high. The cost could not be justified in the light of forecast reduced revenue return from a depressed property market. As a consequence, the three Services examined their requirements to permit a reduction in the scope of the project at a significantly lower cost.

39. In April 1992 the cost of the proposed work was capped by Defence at \$100m. This cost-capped proposal is based on the project definition study warehousing solution but incorporates a significantly less sophisticated processing and distribution centre using Warehouse 90. The proposed work will also retain a number of existing warehouses at Moorebank which will be reclad to provide low-cost storage thereby reducing the number of new buildings to be constructed.

40. The Committee questioned Defence about the implications of cost-capping the proposal. Defence expressed confidence that the project can be provided for \$100m and that all capabilities required by the ADF would be provided.

#### Defence Stockholding Policy

41. The Committee's inquiry into the DNSDC partially overlapped with an inquiry being undertaken by the Defence Subcommittee of the Parliamentary Joint Committee on Foreign Affairs, Defence and Trade into Defence stockholding policy. The terms of reference of this inquiry are:

- the adequacy and suitability of ADF stockholding policies and practice in a changing strategic environment
- the effectiveness of the logistics system in meeting surge and sustainability objectives.

42. It appeared to the Committee that recommendations in the report from this inquiry, still to be presented to Parliament, may cut across the concepts and strategies reflected in the properties and facilities being examined by this Committee. It was consequently suggested to Defence that it may be prudent to await the report from the Defence Subcommittee and the Government's response to its recommendations before proceeding with a major capital investment in warehouses.

43. In response Defence advised that irrespective of the inquiry into stockholding, the requirement for wholesale warehousing, which the DNSDC will provide, will remain. Redundancies have been built into the system to cater for changed circumstances. For example, if stockholdings are changed at Moorebank, satellite facilities would be closed.

#### Force Structure and the Defence Logistics Strategic Planning Guide

44. The Committee questioned Defence about the extent to which the ramifications of the Force Structure Review and the 1987 Defence White Paper are reflected in the proposal.

45. Defence advised that guidance for the development of logistics policy, systems and facilities in the long term is derived from the Defence Logistics Strategic Planning Guide. This document defines the mission of logistics and identifies eight objectives required to accomplish the mission. It also identifies a range of enabling objectives and associated strategies for this achievement.

46. Priorities and emphases for the development of logistics, identified in the 1987 White Paper and the Army Strategic Plan 1990 are recognised in the Defence Logistics Strategic Planning Guide. These are:

- joint or shared logistics arrangements and facilities
- support capabilities to match the nature and tempo of operations in credible contingencies
- optimum use of civil and industrial resources
- automation for enhanced efficiency

- reduced uniform manpower in areas not directly related to operations.

47. Defence advised the Committee that the DLRP is in accordance with these themes in terms of:

- joint warehousing will be reflected in the DNSDC
- the siting of the DNSDC in relation to major lines of communication into the potential northern areas of operations
- commercial support plans for DNSDC operation
- replacement of outdated and inefficient warehouses with a modern more productive one
- manpower savings in support areas - specifically warehousing.

48. The Force Structure Review (May 1991) considered, accepted and incorporated the changes proposed under the DLRP. Defence advised that no other changes introduced in the Force Structure Review are such to require a change to the warehousing approach adopted under the DLRP.

#### **Zetland Employees Consultative Committee Union Caucus**

49. At the public hearing representatives of Defence employees at Zetland made strong representations to the Committee for the retention of the Zetland site. The representatives were given the opportunity to prepare a more detailed submission to the Committee justifying remaining at Zetland. In essence the proposal submitted to the Committee for consideration involves the development of a DNSDC centred at Zetland and Moorebank with slow-moving stocks being housed at Leichhardt, Regents Park, Dubbo and Bathurst. The unions also submitted that this proposal would also be cost effective.

50. The plan is basically to develop Zetland in four stages as follows:

Stage 1 - estimated cost \$27.7m

- moving block stores in the Bennett and Woods building to alternative storage

- relocating returns storage to the Bennett and Woods building
- demolition of Asset 20
- rebuilding on the site of Asset 20
- construction of Nowra air stores facility
- redevelopment of HMAS Stirling stores facility
- refurbishment and redevelopment of Asset 14 receipt and dispatch functions
- relocation of stores from Randwick and Maribyrnong to new facilities and the Dubbo bulk facility

Stages 2 and 3 - estimated cost \$5.3m

- rebuilding two extensions on Asset 18
- extending and joining Assets 14 and 15
- extensions to Asset 15
- providing an awning covering the hardstand area at Asset 13

Stage 4

- partial sale of the land at Zetland.

#### Financial and Resource Implications

51. The unions maintained that the retention of Zetland and the use of the Moorebank site would require 1294 personnel, a saving of 630 personnel and reductions in manpower costs of \$25m annually. The proposal the unions put forward, as well as retaining a significant portion of the Zetland site, would leave \$80.8m available for capital expenditure. In essence, the equation advanced by the union is as follows:

|                                                   | \$m   |
|---------------------------------------------------|-------|
| Estimated revenue for the sale of all DLRP assets | 122.8 |
| minus \$60m if Zetland not sold                   | 62.8  |
| add revenue from sale of 8ha at Zetland           | 18.0  |
| funds available                                   | 80.8  |

52. Under this scheme assets worth \$42m and \$10m at Zetland and Moorebank respectively would be retained.

#### Defence Response

53. Defence submitted in response to the union proposal that it would impose net costs rather than the net savings envisaged under the single DNSDC concept. Defence also believe the union proposal would lead to an erosion of savings in recurrent expenditure. Defence expressed doubts about the validity of the estimated manpower and recurrent expenditure savings suggested by the unions; these are the same for both the Defence and Union proposals, although the union proposal envisages the DNSDC operating from two sites which would require additional manpower. Furthermore, Defence submitted to the Committee that the union proposal underestimates construction costs at Zetland, the cost of providing materials handling equipment, providing car parking and the cost of providing facilities at Moorebank.

54. At the public hearing the Committee was advised that the Navy is now looking at providing a more effective and efficient workforce. The customer profile has changed considerably due to the following factors:

- two-ocean basing
- depot level maintenance spread around Australia
- direct unit purchasing and management of consumables
- privatisation of Williamstown and Garden Island Dockyards.

55. There is now no longer a requirement to provide overhead materiel or the same levels of support to the dockyards and, Defence believe, it will be possible to provide the required level of support to the fleet with a new streamlined organisation.

#### Consideration by the Committee

56. The Committee believes the driving force behind the need for the DNSDC is increased efficiency by avoiding duplication. A DNSDC would be the most effective way of consolidating similar activities into a single location. Significant savings in annual recurrent expenditure would result from the establishment of a single national storage and distribution centre. These savings and revenues likely to be obtained from the sale of surplus assets would fund the provision of a national centre. In terms of the best location for a DNSDC the Committee believes the Moorebank site to be the most suitable. Zetland is located in the inner city and there is little scope for expansion - vertical expansion would be possible but requires more sophisticated materials handling equipment. The Moorebank site is 180 ha, Zetland is 25 ha. Furthermore, Zetland is surrounded by civilian residential and commercial facilities which, the Committee believes, do not make it the ideal location for a warehouse complex of national importance. The Moorebank site is much larger than Zetland, it offers scope for expansion if necessary, it is within a wider Defence establishment, and it possesses good access to transport.

#### Committee's Conclusion

57. The location of the Defence National Storage and Distribution Centre at Moorebank offers the advantages of reduced costs and recurrent expenditure, increased efficiency, capacity for expansion and improved security over the Zetland alternative.

#### Manpower Savings

58. Defence advised that the new complex will be administered by approximately 1300 personnel, although this mature figure is being subjected to the Commercial Support Program process. Implementation of the proposal will achieve manpower savings of 630 personnel as shown in Table 1:

Table 1 - Defence Warehousing Strategy  
Manpower Savings Attributable to the DNSDC

|                  | 90/91 | 91/92 | 92/93 | 93/94 | 94/95 | 95/96 | 96/97 | Total |
|------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>Navy</b>      |       |       |       |       |       |       |       |       |
| Service          | -     | -     | -     | -     | -     | -     | -     | -     |
| Civilian         | -     | -     | -     | -     | 20    | 93    | 223   | 336   |
| <b>Army</b>      |       |       |       |       |       |       |       |       |
| Service          | 7     | -     | 20    | -     | 37    | 27    | -     | 91    |
| Civilian         | 7     | -     | 20    | -     | 43    | 33    | -     | 103   |
| <b>Air Force</b> |       |       |       |       |       |       |       |       |
| Service          | -     | -     | -     | 12    | 20    | 17    | -     | 49    |
| Civilian         | -     | -     | -     | 13    | 21    | 17    | -     | 51    |
| <b>Subtotal</b>  |       |       |       |       |       |       |       |       |
| Service          | 7     | -     | 20    | 12    | 57    | 44    | -     | 140   |
| Civilian         | 7     | -     | 20    | 13    | 84    | 143   | 223   | 490   |
| Total            | 14    | -     | 40    | 25    | 141   | 187   | 223   | 630   |

59. It should be noted that Table 1 is based on information provided by Defence following the hearing. The size of the workforces at Zetland and Randwick is at present about 1430 personnel, divided between 'executive' and 'physical' grades. The executive are responsible for inventory management functions and the physical grades are responsible for warehousing operations. The executive group has 670 positions which will not be subject to cuts from the warehousing element of the DLRP. In the physical grades there are about 760 positions, including some clerical positions, of which about 330 positions will not be required. The balance of around 430 positions will be transferred to the DNSDC. Table 1 shows that the Army and the RAAF will provide the balance of the manpower savings, some 294 positions.

### Committee Consideration

60. The Committee believes the question of redundancies is one of the most sensitive and emotional issues facing responsible employers and their employees. Defence stated that the cost of separation payments to staff, involving about 1415 personnel of whom 905 are civilian, have been included in the costing of the project. Natural wastage would be an ideal way of relieving any hardship and Defence acknowledged that it may be difficult to achieve the targets by this method. The Committee therefore believes that there is considerable scope for further consultations to ensure that the personnel involved are assisted in various ways including retraining, redeployment or employment in major organisations involved in the commercial support program.

### Committee's Recommendation

61. There should be continuing consultation between Defence and the workforces at all establishments at which redundancies are programmed to occur to ensure that the personnel involved are assisted in finding alternative employment. A formal mechanism to achieve this objective should be established.

### Buildings and Services to be Provided

62. The proposed works involve the construction of new facilities as well as modification, reconfiguration and recladding of existing buildings at Moorebank. The following new facilities are to be provided:

- two purpose-designed warehouses of about 9000m<sup>2</sup> each for the storage and retrieval of pallet stock; mechanical handling equipment will also be provided
- a purpose-built facility of about 3100m<sup>2</sup> to provide self contained secure storage for smallarms; it is intended that the facility will replace the existing inadequate facility and it will be located adjacent to the smallarms repair facility
- a 6600m<sup>2</sup> clear span warehouse for the storage of high density, oversized pallets

- purpose-built facilities of about 2600m<sup>2</sup> for the separate storage of flammable and hazardous goods
- a purpose-built warehouse which will provide about 5300m<sup>2</sup> of block storage accessible by a gantry crane
- construction of 7200m<sup>2</sup> of clear span warehousing and sufficient hardstanding to cater for slow moving items that will not fit into existing warehouses.

63. The following modifications, refurbishment, reconfiguration and recladding of existing facilities at Moorebank are proposed:

- extensions to the Headquarters building to accommodate about 82 staff and electronic data handling equipment
- modification of the layout of Warehouse 90 to allow better utilisation of the processing area and to provide new accommodation for the distribution function
- reconfiguration of the existing storage area in Warehouse 90 to accommodate about 150 000 line items and provide retrieval systems currently in use. The remainder of the bin stock items will be housed in two existing warehouses which will be reclad and will be provided with new and existing bins transferred from Zetland
- recladding and insulation of 13 existing buildings following the removal of asbestos sheeting.

64. It will be necessary to provide water, sewerage, gas, electricity and data cabling, as required, to the buildings. It will also be necessary to upgrade the existing stormwater system and intercept traps, the road network and hardstands.

65. Warehouse 40 at Regents Park will be used for slow-moving bin and pallet stock. After transitional use by the RAAF, the facility will be fully stocked by DNSDC.

66. Existing facilities at Bathurst will be used for the storage of slow-moving and bulky stocks.

### Committee's Conclusion

67. The scope of the concept for a Defence National Storage and Distribution Centre to be provided at Moorebank appears to be adequate. A contingency plan has been identified to cater for requirements for higher or lower storage capacity at Moorebank.

### Construction Details

68. The new warehouses will have reinforced concrete slab floors on sandstone fill. Their frames will be steel portal; walls and roofs will be pre-painted metal.

69. Extensions to the Headquarters building will be constructed using material similar to the existing building - that is, concrete slab, a steel frame, masonry walls and a tiled roof. The internal office layout will be generally open plan.

70. The refurbishment of existing timber-framed buildings will include the removal of asbestos cement walls and roofs and their replacement with pre-painted metal sheets.

### Mechanical Services

71. Airconditioning and heating will be provided to the extensions to the Headquarters building and selected areas, as required, on a comfort basis.

72. The warehouses will be ventilated by fixed roof vents or electrically powered ventilator systems to suit the height and sensitivity of storage.

### Fire Protection and Detection

73. Defence advised the Committee that due to the high proportion of warehouse fires that have resulted in the total loss of warehouses, the fire detection and protection measures will be designed to provide a high level of early warning, essential during the critical initial stages of a fire breaking out. These measures will ensure the earliest possible response. The systems will therefore be designed to give maximum possible coverage to the detection of fires within entire building areas as well as within racking systems.

74. All warehouses will be fitted with fire and smoke detection systems in accordance with Australian standards and statutory requirements. Manual control points will also be installed in appropriate locations such as offices and amenity areas.

75. Fire risk will be minimised by the provision of:

- internal fire walls between functional areas
- push button fire alarm points and fire detection systems in all areas
- automatic sprinkler systems where appropriate
- the connection of alarms to the unit duty room and the Moorebank area fire station.

76. In evidence the Commonwealth Fire Board (CFB) expressed concern about the possible consequences of the consolidation of stores of national defence importance in the one location. A major fire could cause significant losses as happened in a defence warehouse at Donington in the United Kingdom, which caused millions of dollars worth of damage. The CFB was concerned also at the limited capacity of local fire brigades to combat any major conflagration which might occur at Moorebank through the failure of inbuilt fire protection measures.

77. Defence advised the Committee that the Moorebank area is within the responsibility of the local fire brigade and that there will be discussions with the local fire brigade about the layout and design of facilities. Defence also advised that a study, which is being undertaken by a consultant, is currently examining fire risks throughout all Defence installations as part of a review of the Army Fire Service.

#### Committee's Recommendations

78. During the development of the proposal and after the work has been completed Defence should continue formal liaison, including site visits, with the NSW Fire Brigades.

79. As part of the study of fire risks throughout all Defence installations currently being undertaken, a formal risk management analysis of existing and proposed facilities be carried out by an independent professionally qualified fire safety consultant.

#### Hydraulics

80. An extension to the existing domestic and ring main water supply system will be provided along main access roads. The existing fire mains will be extended to all new facilities.

81. Stormwater will be collected into an upgraded system and interceptor traps will be fitted as appropriate to prevent the possibility of contamination from oil.

82. All new buildings will be connected to an upgraded sewerage system.

#### Electrical

83. The Committee was advised that the power requirements for the DNSDC will require the existing switching station at Moorebank to be upgraded and extended. A study currently under way will recommend that the switching station be expanded from one to three zones to supply power to Army areas at Moorebank, Holsworthy and Green Hills.

#### Lighting System

84. Lighting systems in general storage areas will comprise high bay luminaries. This will accord with Australian standards. In office areas, low brightness fluorescent luminaries suitable for use in screen-based work areas will be provided.

85. General street lighting and security system lighting will be provided in areas throughout the complex.

#### Energy Efficiency

86. The Committee questioned Defence about features to be provided to make the proposed facilities more energy efficient. Defence will require the consultants who will undertake the detailed design of the facilities to have as part of their brief a requirement to ensure that the operating

efficiency of the facilities will meet requirements on a long-term basis. In terms of more specific energy conservation measures, Defence leans towards the provision of such measures if a balance between capital cost and the provision of energy conserving features needs to be made. Energy costs remain a perpetual impost. Defence therefore leans towards additional capital expenditure to reduce the scope of this impost.

87. A value management exercise will be undertaken as part of the reconfiguration of Warehouse 90 with the designers to compare the capital cost of providing more energy efficient materials handling equipment, including the installation of controller switches, with on-going operating costs. This analysis will enable Defence to achieve the most efficient solution from the energy and capital cost points of view.

88. In terms of the new warehouse buildings, Defence plan to have 5% of the roof areas made from translucent material in order to take advantage of natural lighting. Work areas will be concentrated in small zones rather than in general open areas to reduce the requirement for heating and airconditioning.

89. The existing asbestos-clad warehouses are not insulated. The re-cladding will include insulation. In general, the insulation will reduce internal temperatures by 10 degrees C during the height of summer.

#### Communications

90. The existing switchboard and telephone cables will be upgraded and expanded as necessary.

#### Security

91. The Committee questioned Defence about the level of security that will be implemented at the Moorebank site. Defence advised that there will be standard security support at Moorebank. There will be gatekeeping staff on duty during the day and watchmen at night. There will be a higher level of surveillance in sensitive areas, such as the smallarms storage area, which will have their own discrete security systems.

92. The Committee also questioned Defence about the use of civilian security personnel. Defence believe that to use soldiers, trained for combat, to stand at gates and walk around the perimeters of properties would constitute misemployment. Defence policy at the moment is to move as many soldiers as possible into Land Command to train for war rather than have them employed on base-type tasks which could be carried out cheaper by civilians.

#### Roadworks

93. The site is bounded to the north by Anzac Road, to the west by Moorebank Road and to the east by Greenhills Road. Defence advised the Committee that about 90% of the traffic on Moorebank Road and Anzac Road is public through traffic. Defence advised that projected vehicle movement associated with the DNSDC will increase current traffic associated with the MLG by about 50%. Defence believe that this increase is not significant in relation to overall traffic movements along Moorebank Road.

94. Within the complex itself, the internal road network will be upgraded to service all new and refurbished buildings. There will be a single point of entry and exist as a security measure. Defence did advise, however, that it would be possible to provide other entrances and exits which could be used for emergency situations.

#### Supply Systems Redevelopment Project (SSRP)

95. The Committee questioned Defence about this project - if it is on course, if there are delays and if these delays would impact on the DNSDC.

96. At the public hearing Defence acknowledged that the tri-Service warehousing operation proposed for the DNSDC is dependent on the SSRP being delivered on time; it would not be possible to operate the DNSDC without the support of the SSRP. Defence was unable to give the Committee assurances at the public hearing that the SSRP is on schedule.

97. The Committee raised the current status of the SSRP project with Defence because the Joint Committee of Public Accounts (PAC) recently concluded a lengthy inquiry into the project. The Committee's report (No. 317 - *A champagne appetite but only a beer income* - Parliamentary Paper 169/92) concluded:

... the achievements of SSRP have not been encouraging. Little progress can be identified prior to 1988 [the project was re-established in 1984] and even since then, the project has lacked continuous momentum. [Report, p. xv]

98. According to the Public Accounts Committee the SSRP aims to create a common core computing system to cater for the supply needs of the ADF.

SSRP is a very large and complex project and despite having commenced in the mid 1970s, it is not scheduled to be completed until 1998. [Report, p. xiii]

99. Following the hearing Defence provided the Committee with further information on the current status of SSRP as follows:

- the SSRP will provide an inventory management system called the Standard Defence Supply System (SDSS)
- the vehicle for delivery will be a customised commercial package called MIMS which will also integrate the three Services' executive level management systems which will continue to allow individual Service ownership and control of its stock
- the effective operation of the DNSDC is dependent on the implementation of the SDSS and the integration of the Services' executive management systems within the MIMS package
- SDSS provide one inventory management package for all three Services as distinct from the current situation where the three Services use different systems

attempts to operate the DNSDC concept with more than one inventory management system would be cost-prohibitive and physically unworkable.

100. Defence advised that current key dates for delivery of the system are:

- July 1993 - SDSS provided to Moorebank Logistics Group and Army Executive Level
- February 1994 - SDSS provided to No. 2 Stores Depot, Dubbo
- April 1994 - SDSS provided to Navy Executive Level
- mid-1996 - SDSS provided to the DNSDC, Regents Park
- mid-1996 - SDSS provided to Air Force Executive Level.

101. Defence also advised the Committee that:

Current advice is that these timings are expected to be met and this will allow the DNSDC to begin operations in January 1994. There is an interim need for an interface with SDSS and the Navy Executive Level until integration is achieved in April 1994 and this is currently being developed. An interim interface between the Air Force Executive Level and SDSS is also being developed and is planned for implementation in mid-1993.

It should be noted that any significant slippage in the above dates will have an adverse impact on the DNSDC and will delay the stock relocation program. Close consultation within the Department [of Defence] has been developed to monitor implementation.

102. In the absence of a Government response to the findings of the PAC report it may be premature at this stage to comment further on the circumstances and events upon which the PAC reached its conclusions. It is clear to the Committee that the SSRP is an essential component of the

DLRP and DNSDC concepts; Defence have acknowledged that. For the DNSDC to be successfully implemented it now remains for the commitment by Defence of the necessary funds and resources to enable the milestones to be met.

#### Committee's Conclusion

103. For the Defence National Storage and Distribution Centre to be successfully implemented it will be necessary for the Supply Systems Redevelopment Project to be completed on time.

#### Committee's Recommendation

104. Defence should provide the funds and resources for the successful completion of the Supply Systems Redevelopment Project.

#### Parking of Vehicles

105. During the inspection of the Moorebank site the Committee saw a great number of Army vehicles parked in the open. Defence assured the Committee that the condition of the vehicles would not deteriorate unduly by being left in the open. The Committee believes, nevertheless, there is an urgent need for Defence to provide undercover parking for its large fleet of vehicles.

#### Committee's Recommendation

106. There is an urgent need for the provision of undercover parking for Army vehicles parked at Moorebank.

#### ENVIRONMENTAL IMPACT

107. Defence advised that the proposal was assessed in accordance with the Administrative Procedures of the *Environment Protection (Impact of Proposals) Act 1974*. A certificate of compliance was issued with the following conditions:

- should the DNSDC proposal involve in the Bathurst area the disposal or demolition of a building which is listed on the Register of the National Estate, then the matter must be referred to the Australian Heritage Commission

the concerns of local councils are taken account of after formal consultation

the recommendations contained in an environmental report on the wetlands adjacent to the site, prepared by a consultant, are adopted and pursued rigorously.

108. Defence acknowledged the requirement to prevent surface drainage to the south and west of the Moorebank site. It can be accommodated by the provision of cut-off drains and siltation ponds prior to discharge into the Georges River. Defence also pointed out that the wetlands area forms a convenient buffer between Defence Housing Authority development at the nearby Wattle Grove Estate and the Moorebank property. It will not be possible for the housing to encroach into the buffer area, nor will Defence have a requirement for it.

109. The Commonwealth Environment Protection Agency supports the conditions contained in the certificate of compliance and the incorporation of the buffer zone in the site development to preserve the wetlands system.

## CONSULTATIONS

110. Defence advised that formal consultations with relevant unions occurred following the announcement of the DLRP in June 1990. Defence is represented on the Defence Consultative Council. Defence has provided briefings at Regional Consultative Council meetings in Sydney, Brisbane and Melbourne.

111. The ACTU appointed the National Union of Works (NUW) as the lead union on all matters relating to the DLRP and Defence consults with the union in Melbourne on a bi-monthly basis. Additionally, Defence briefings were held at the local level.

112. The following organisations were also consulted during the development of the proposal:

• Liverpool City Council

• NSW Road and Traffic Authority

• Prospect Electricity

Australian Gas Light Company

Water Board.

## COST AND TIMETABLE

113. The project has been cost capped by Defence at \$100m at April 1992 prices. It is planned to commence work during 1992 and for construction to be completed by June 1995, with the facility becoming fully operational in March 1996.

### Committee's Recommendation

114. On the assumption that the Supply Systems Redevelopment Project is completed on schedule, the Committee recommends the construction of facilities required for the Defence National Storage and Distribution Centre at an estimated cost of \$100m.

## CONCLUSIONS AND RECOMMENDATIONS

115. The conclusions and recommendations of the Committee and the paragraph in the report to which each refers are set out below:

|    | Paragraph                                                                                                                                                                                                                                                                                                   |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | The concept of a Defence National Storage and Distribution Centre would result in manpower savings and savings in recurrent expenditure and would avoid duplication and double handling of stores items. 33                                                                                                 |
| 2. | The location of the Defence National Storage and Distribution Centre at Moorebank offers the advantages of reduced costs and recurrent expenditure, increased efficiency, capacity for expansion and improved security over the Zetland alternative. 57                                                     |
| 3. | There should be continuing consultation between Defence and the workforces at all establishments at which redundancies are programmed to occur to ensure that the personnel involved are assisted in finding alternative employment. A formal mechanism to achieve this objective should be established. 61 |
| 4. | The scope of the concept for a Defence National Storage and Distribution Centre to be provided at Moorebank appears to be adequate. A contingency plan has been identified to cater for requirements for higher or lower storage capacity at Moorebank. 68                                                  |
| 5. | During the development of the proposal and after the work has been completed Defence should continue formal liaison, including site visits, with the NSW fire brigades. 79                                                                                                                                  |

|     |                                                                                                                                                                                                                                                             |     |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| 6.  | As part of the study of fire risks throughout all Defence installations currently being undertaken, a formal risk management analysis of existing and proposed facilities be carried out by an independent professionally qualified fire safety consultant. | 80  |
| 7.  | For the Defence National Storage and Distribution Centre to be successfully implemented it will be necessary for the Supply Systems Redevelopment Project to be completed on time.                                                                          | 104 |
| 8.  | Defence should provide the funds and resources for the successful completion of the Supply Systems Redevelopment Project.                                                                                                                                   | 105 |
| 9.  | There is an urgent need for the provision of undercover parking for Army vehicles parked at Moorebank.                                                                                                                                                      | 107 |
| 10. | On the assumption that the Supply Systems Redevelopment Project is completed on schedule, the Committee recommends the construction of facilities required for the Defence National Storage and Distribution Centre at an estimated cost of \$100m.         | 115 |



Colin Hollis  
Chairman  
3 November 1992

## APPENDIX A

### WITNESSES

BRENNAN, Mr Frank, Senior Delegate, National Union of Workers, Distribution Branch, C/- Asset 31, Navy Supply Centre, Joynton Avenue, Waterloo, NSW

CANNING, Mr Alan, Secretary (NSW) National Union of Workers, Foremen and Supervisors Branch, C/- Asset 31, Navy Supply Centre, Joynton Avenue, Waterloo, NSW

DEARDEN, Mr Leslie Arthur, Project Manager, National Storage and Distribution Centre, Department of Defence, Building K, Ground Floor, Room 02, Russell Offices, Canberra, ACT

FERRARI, Mr Robert Kevin, Superintendent, Logistics Plans Development and Coordination, Naval Support Command, PO Box 706, Darlinghurst, NSW

GRUBB, Mr David Arthur, Chairman, Commonwealth Fire Board, GPO Box 250B, Melbourne, Vic

HADDAD, Colonel Peter Francis, Project Director, Defence Logistics Redevelopment Project, Department of Defence, Room CP4-4-21, Campbell Park Offices, Canberra, ACT

HELLYER, Brigadier Grahame Leslie, Director-General, Accommodation and Works, Army, Department of Defence, Building K, 2nd Floor, Room 43, Russel Offices, Canberra, ACT

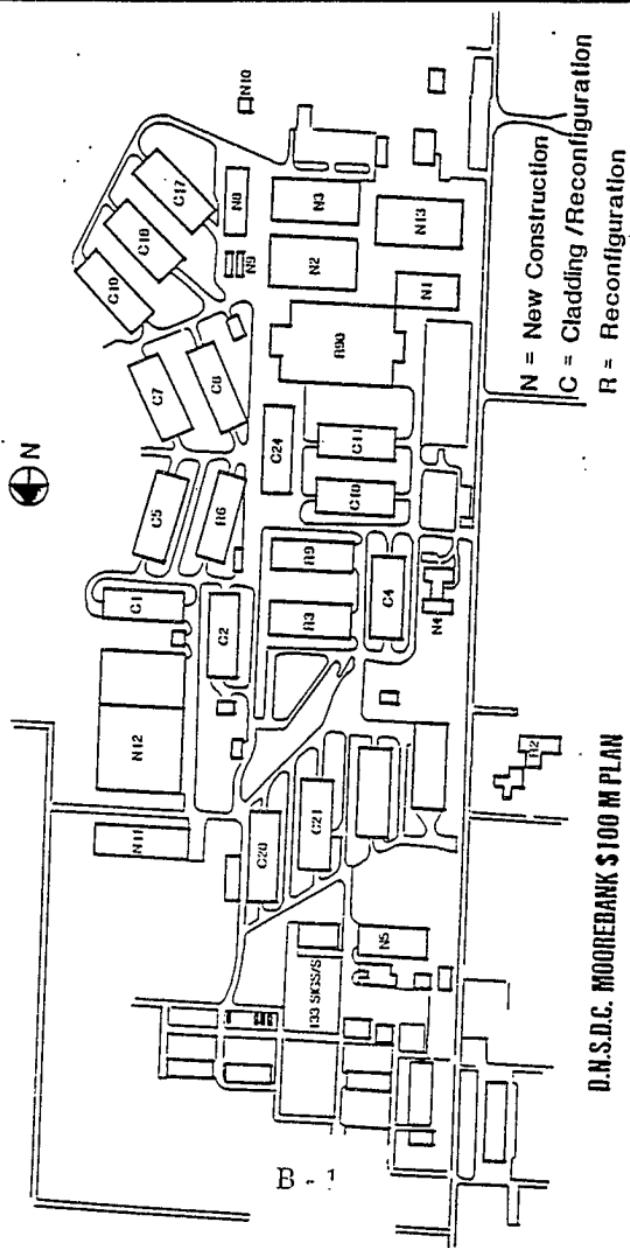
JACKSON, Mr Ronald Bruce, National Union of Workers, Grade 1 Foreman, Navy Supply Centre, Zetland, NSW

MITCHELL, Mr Benjamin Charles, Project Consultant - Defence National Storage and Distribution Centre, Suite 128, 100 Harris Street, Pyrmont, NSW

## APPENDIX B

### CONCEPT DRAWINGS

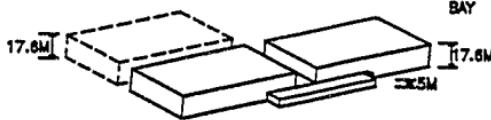
|                                    | Page   |
|------------------------------------|--------|
| DNSDC Moorebank \$100m plan        | B - 1  |
| N2 and N3 Pallet Store Nos 1 and 2 | B - 2  |
| Administration building extension  | B - 3  |
| Smallarms store                    | B - 4  |
| Dangerous goods store              | B - 5  |
| Gas store                          | B - 6  |
| Covered hardstand with gantry      | B - 7  |
| Special racking stores             | B - 8  |
| Oversized pallet store             | B - 9  |
| New bulk storage block stack       | B - 10 |
| Covered hardstand without gantry   | B - 11 |
| DNSDC - main processing area       | B - 12 |



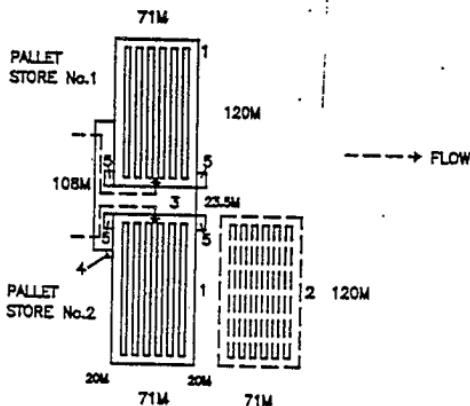
**D.N.S.D.C. MOOREBANK \$100 M PLAN**

N2 & N3 PALLET STORE No. 1 & 2  
FUNCTIONAL SPACE DIAGRAM

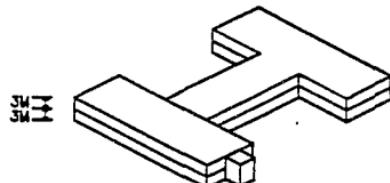
| LEGEND               |            |
|----------------------|------------|
| 1. PALLET STORAGE    | SQM. 17040 |
| 2. FUTURE PALLET     | 8520       |
| STORAGE              |            |
| 3. AGV CORRIDOR      | 3630       |
| EMPTY PALLET         | 108        |
| STORAGE AREA         |            |
| 4. OFFICE            | 38         |
| 5. CRANE MAINTENANCE | 200        |
| BAY                  |            |



AERIAL VIEW



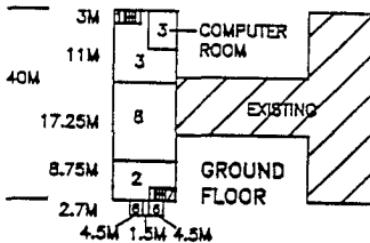
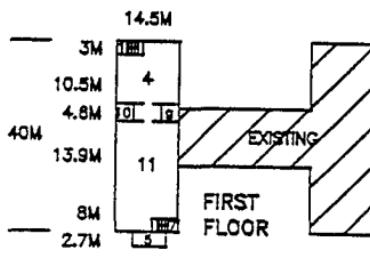
PLAN

ADMINISTRATION BUILDING EXTENSION  
FUNCTIONAL SPACE DIAGRAM

AERIAL VIEW

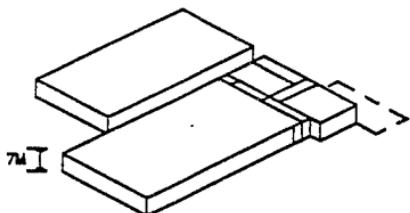
| LEGEND                         |     |
|--------------------------------|-----|
| 1. STAIRS/INTERNAL CIRCULATION | SQM |
| 2. C1 = ADMIN CONFERENCE ROOM  | 40  |
| SAFTY/HEALTH/SURGERY           | 54  |
| 3. B2 = EDP                    | 162 |
| 4. B3 = OA                     | 156 |
| 5. TOILETS                     | 38  |
| 6. TOILETS                     | 24  |
| 7. STAIRS/INTERNAL CIRCULATION |     |
| 8. B2 = LOG/OPS                | 204 |
| 9. D1 = HOLEM                  | 30  |
| 10. B1 = CORP/SERV             | 30  |
| 11. B5 = COM/LGCE              | 256 |

NOTE: STAIRS & CIRCULATION AREA NOT INCLUDED



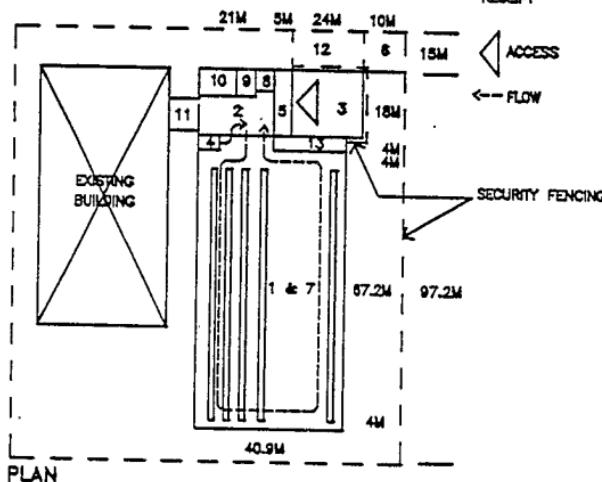
PLAN

N 5      SMALL ARMS STORE  
FUNCTIONAL SPACE DIAGRAM

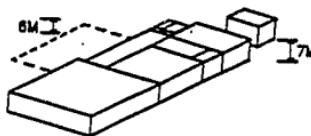


AERIAL VIEW

| LEGEND                      | SQM  |
|-----------------------------|------|
| 1. STANDARD PALLET STOCK    | 3145 |
| 2. STOCK ACCUMULATION       | 276  |
| 3. COVERED HARDSTAND        | 432  |
| 4. HIGH SECURITY VAULTS     | 15   |
| 5. LOADING DOCK             | 90   |
| 6. PARKING SPACE            | 150  |
| 7. SECURED PALLET STOCK     |      |
| 8. OFFICE (SUPERVISOR)      | 12   |
| 9. OFFICE (GENERAL)         | 20   |
| 10. AMENITIES LUNCH/RM      | 70   |
| 11. LINK                    |      |
| 12. ACCESS                  |      |
| EXTERNAL HARDSTAND          |      |
| 13. PALLETS ISSUE & RECEIPT | 80   |

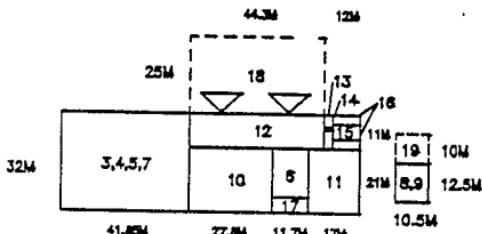


N8 & N10 DANGEROUS GOODS STORE  
FUNCTIONAL SPACE DIAGRAM



AERIAL VIEW

| LEGEND                                  | SQ.M. |
|-----------------------------------------|-------|
| 1. NOT USED                             |       |
| 2. REFER GAS STORE                      |       |
| 3,4,5. FLAM. GOODS                      | 1333  |
| 6. OXIDISING                            | 185   |
| 7. POISONOUS GOODS                      |       |
| 8,9. RADIO ACTIVE                       | 131   |
| 10. CORROSIVE                           | 580   |
| 11. MISC. PALLETS                       | 357   |
| 12. INT. WORK SPACE                     | 487   |
| 13. OFFICE                              | 12    |
| 14. GEN. OFFICE                         | 18    |
| 15. LUNCH RM & CIRC.                    | 47    |
| 16. AMENITIES                           | 54    |
| 17. PLANT ROOM                          | 81    |
| 18. LOADING AREA/<br>EXTERNAL HARDSTAND |       |
| 19. LOADING AREA<br>EXT. HARDSTAND      |       |



NOTES

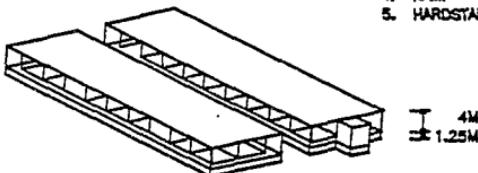
- 7. AREA INCLUDED IN 3,4,5
- 1 SHOWER FOR EMERGENCY

PLAN

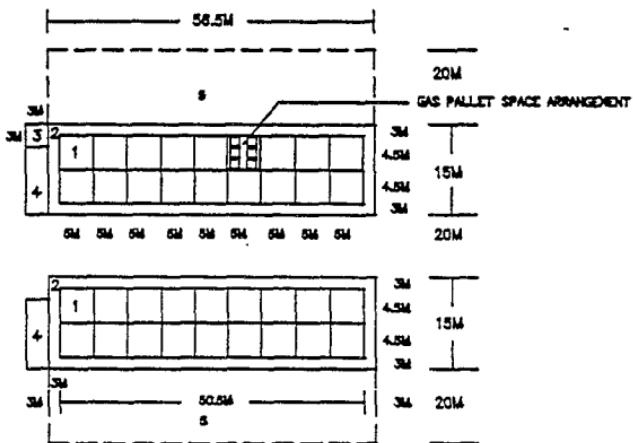
N 9

**GAS STORE  
FUNCTIONAL SPACE DIAGRAM**

| LEGEND         | SQ.M. |
|----------------|-------|
| 1. GAS STORAGE | 909   |
| 2. ACCESS      | 788   |
| 3. OFFICES     | 9     |
| 4. RAMP        | 72    |
| 5. HARDSTAND   | 1785  |

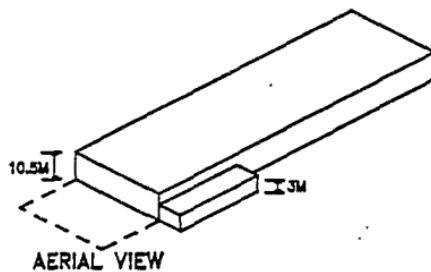


**AERIAL VIEW**

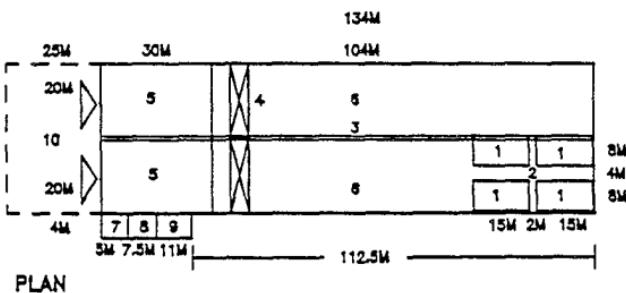


**PLAN**

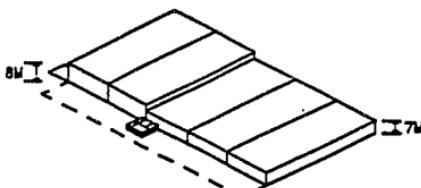
N 11 COVERED HARDSTAND WITH GANTRY  
FUNCTIONAL SPACE DIAGRAM



| LEGEND |                                    |
|--------|------------------------------------|
| 1.     | STOCK                              |
| 2.     | ACCESS                             |
| 3.     | CRANE RAIL                         |
| 4.     | 10 TONNES<br>E.O.T.C.              |
| 5.     | WORK AREA 1200                     |
| 6.     | STORAGE 4160                       |
| 7.     | OFFICE 12                          |
| 8.     | REST ROOM 30                       |
| 9.     | LUNCH                              |
| 10.    | AMENITIES 44<br>TOILETS            |
|        | 10. LOADING AREA<br>EXT. HARDSTAND |

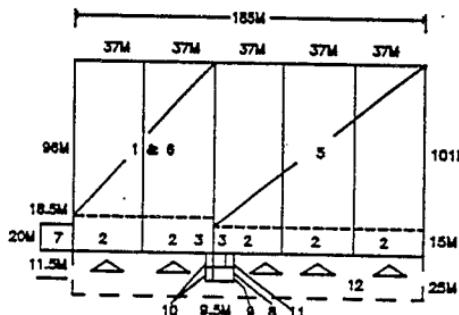


N 12

SPECIAL RACKING STORES  
FUNCTIONAL SPACE DIAGRAM

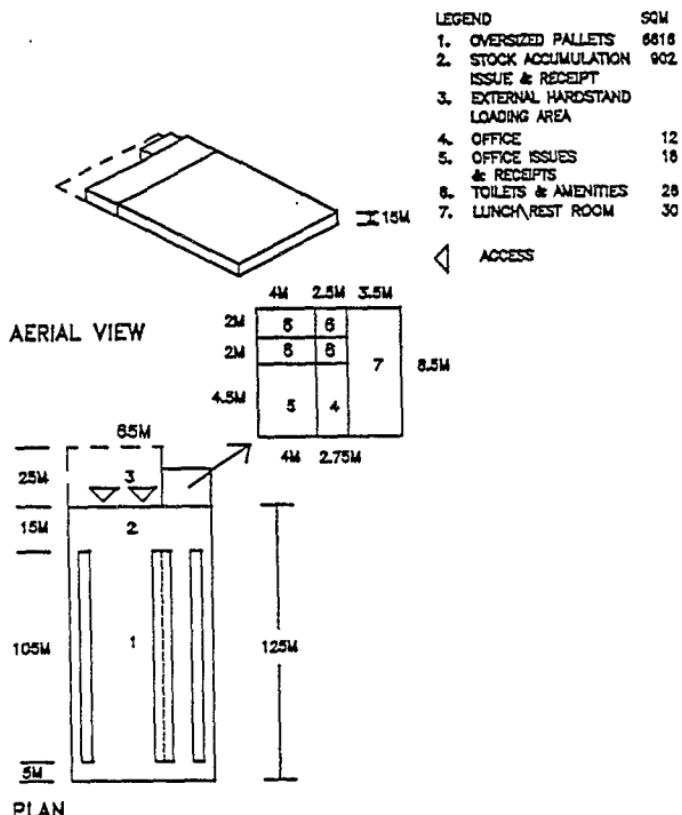
AERIAL VIEW

| LEGEND                             |       |
|------------------------------------|-------|
| 1. CANTILEVER RACKING              | 7104  |
| 2. STOCK ACCUM<br>RECEIPT & ISSUE  | 3145  |
| 3. MHE PARKING                     |       |
| 4. DELETED                         |       |
| 5. OVERSIZE PALLET<br>STORAGE      | 11211 |
| 6. CLOTH STORAGE                   |       |
| 7. FUEL HOSE TEST                  | 277   |
| 8. RECEIPT & ISSUE                 |       |
| GENERAL OFFICE                     | 20    |
| 9. LUNCH/REST RM                   | 33    |
| & CIRCULATION                      |       |
| 10. TOILETS/AMENITIES              | 38    |
| 11. SUPERVISORS OFF.               | 12    |
| 12. LOADING AREA<br>EXT. HAROSTAND |       |
| ▲ ACCESS                           |       |



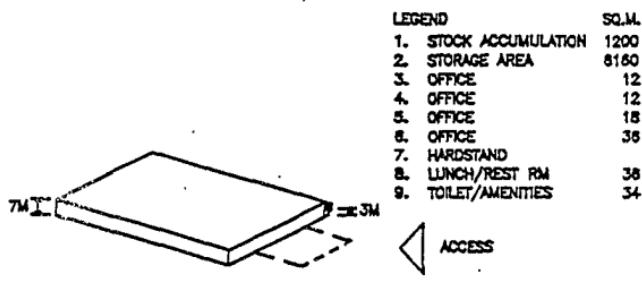
PLAN

N 13

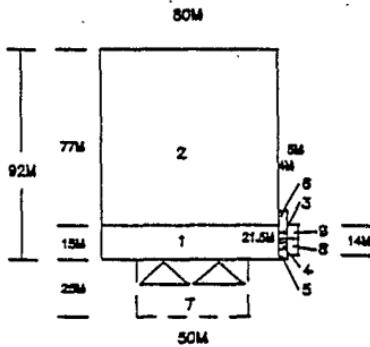
OVERSIZED PALLET STORE  
FUNCTIONAL SPACE DIAGRAM

N 14

NEW BULK STORAGE BLOCK STACK  
FUNCTIONAL SPACE DIAGRAM



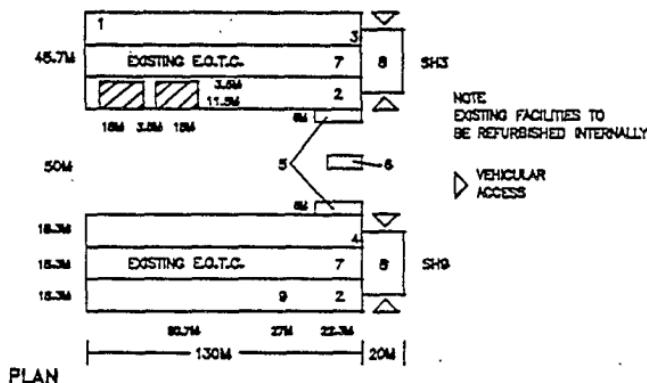
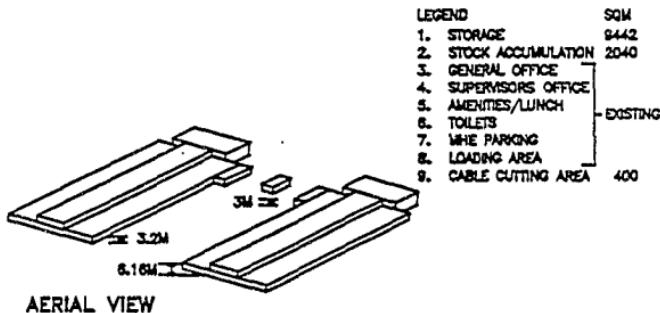
AERIAL VIEW

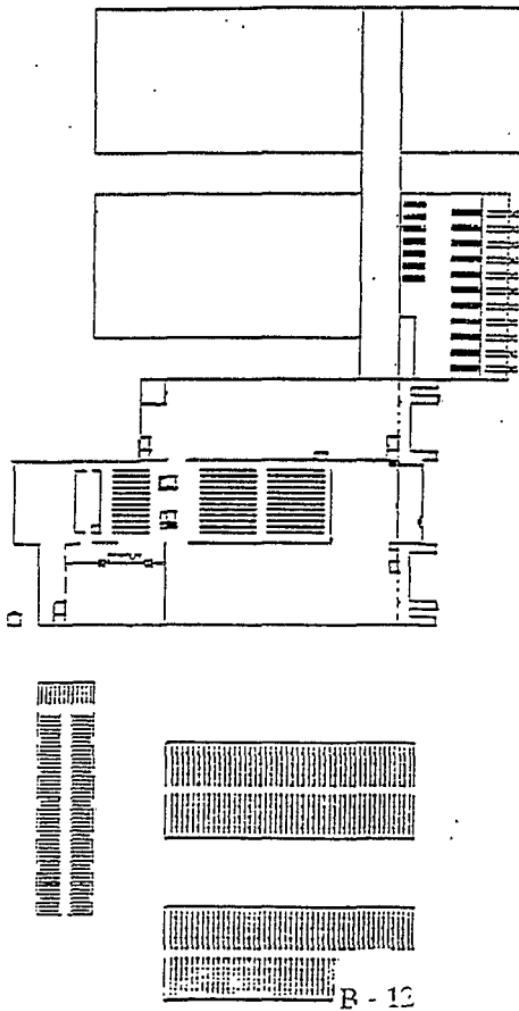


PLAN

R3 & R4 COVERED HARDSTAND WITHOUT GANTRY  
FUNCTIONAL SPACE DIAGRAM

REFURBISH EXISTING FACILITY





DNSDC MAIN PROCESSING AREA