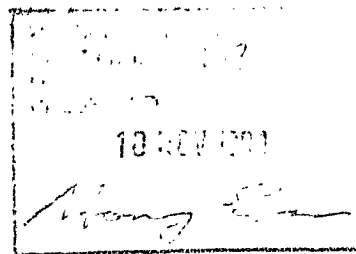


*Parliamentary Standing Committee on Public Works*

## REPORT

relating to the proposed



# STAGE 2 REDEVELOPMENT OF THE ROYAL MILITARY COLLEGE, DUNTROON, ACT.

(Tenth Report of 1994)

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

Report relating

to the proposed

**Stage 2 redevelopment of  
the Royal Military College,  
Duntroon, ACT.**

(Tenth Report of 1994)

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**MEMBERS OF THE PARLIAMENTARY STANDING COMMITTEE  
ON PUBLIC WORKS**

(Thirty-First Committee)

Mr Colin Hollis MP (Chairman)  
Senator Paul Henry Calvert (Vice-Chairman)

**Senate**

Senator Bryant Robert Burns  
Senator John Robert Devereux

**House of Representatives**

Mr John Neil Andrew MP  
Mr Raymond Allen Braithwaite MP  
Mr Russell Neville Gorman MP  
Mr Robert George Halverson OBE MP  
Hon. Benjamin Charles Humphreys MP

**Sectional Committee on the proposed Stage 2 redevelopment of the Royal  
Military College, Duntroon, ACT.**

Mr Colin Hollis MP (Chairman)  
Mr R J Halverson OBE MP (Vice-Chairman)  
Hon. Benjamin Charles Humphreys MP  
Senator Bryant Robert Burns

Committee Secretary: Peter Roberts

Inquiry Secretary: Michael Fetter

Secretarial Support: Trish Grice  
Mahesh Wijeratne

**EXTRACT FROM THE  
VOTES AND PROCEEDINGS OF  
THE HOUSE OF REPRESENTATIVES**

No. 82 dated Wednesday, 29 June 1994

9 **PUBLIC WORKS – PARLIAMENTARY STANDING  
COMMITTEE – REFERENCE OF WORK – STAGE 2  
REDEVELOPMENT OF ROYAL MILITARY COLLEGE,  
DUNTROON, ACT**

Mr Walker (Minister for Administrative Services), pursuant to notice, moved – That, in accordance with 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: Stage 2 redevelopment of the Royal Military College, Duntroon, ACT.

Question – put and passed.

## **PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS**

### **STAGE 2 REDEVELOPMENT OF ROYAL MILITARY COLLEGE, DUNTROON, ACT.**

On 29 June 1994 the House of Representatives referred to the Parliamentary Standing Committee on Public Works for consideration and report to Parliament the proposed stage 2 redevelopment of the Royal Military College, Duntroon, ACT.

#### **THE REFERENCE**

1. The Royal Military College is the premier institution for the training of officers for the Australian Army. It trains men and women in the skills of leadership tactics, military law and administrative procedures.
2. The proposal referred to the Committee involves the provision of modern and functional facilities to support the training objectives of the College:
  - a new logistics complex and headquarters building
  - extensions to the gymnasium, officers' mess, military instruction block and medical centre
  - the upgrading of playing fields and ovals along with adjustments to the existing road network to provide safer and more efficient traffic circulation.
3. The estimated outturn cost of the project is \$28.7 million.

#### **THE COMMITTEE'S INVESTIGATION**

4. The Committee received a submission and drawings from the Department of Defence (Defence) and took evidence from representatives of Defence at a public hearing held at Parliament House, Canberra, on 14 October 1994.
5. Prior to the public hearing the Committee inspected a number of existing facilities at Duntroon as well as the sites proposed for the new headquarters building, clothing store and the new entrance.



6. Written submissions about the proposed work were also received from:

- The Hon. Rosemary Follett MLA, Australian Capital Territory Chief Minister
- Commonwealth Environment Protection Agency
- Commonwealth Department of Primary Industries and Energy
- Commonwealth Fire Board
- Australian Heritage Commission
- National Capital Planning Authority (NCPA)
- National Trust of Australia
- ACT Heritage Council
- Ms Kate Carnell MLA - Leader of the Opposition, ACT Legislative Assembly
- Mr Peter Jones
- Energy Conservation Systems.

7. A list of witnesses who appeared before the Committee at the public hearing is at Appendix A. The Committee's proceedings will be printed as Minutes of Evidence.

## BACKGROUND

### Location

8. Duntroon is the location of the Australian Army's premier officer training institution. It is located 3 km north-east of Parliament House and 3.5 km east of Civic Centre. The site, 125 ha in area, overlooks the Molonglo plain, is situated on the eastern slopes of Mount Pleasant and is bounded by Morshead Drive, Fairbairn Avenue and General Bridges Drive.

### Zoning

9. The site is divided into a number of functional zones. The cadet precinct is in the north of the site, surrounding and immediately behind the parade ground. Various messes and accommodation for officers, sergeants and soldiers are located in the central section. Residential accommodation is around the perimeter. Support and logistics elements are located near the southern boundary. Playing fields are in the south east corner.

### Development requirements

10. A master planning study was commissioned in 1988 to provide a guide for future development, taking into account constraints imposed by the site, its facilities and infrastructure. The study revised previous planning work undertaken in 1982 and now provides an agreed formal plan for the future physical development of Duntroon. The Master Plan has been ratified by the College, Defence and the NCPA.

11. The RMC Conservation Area, which comprises 15 ha of the central area of the College, is listed on the Register of the National Estate. The main components of this area are Duntroon House, the gardens, the parade ground and associated cadet precinct.

### Existing facilities

12. Existing facilities at Duntroon range from the very old, to recently constructed buildings. Amongst the latter are works examined by the Committee in 1984 which comprised the construction of:

- a new 36 bed hospital
- a new physical fitness centre.

13. These works were recommended for construction in the Committee's Third Report of 1984 - *Redevelopment of the Royal Military College, Duntroon, Canberra, ACT - Parliamentary Paper 66/1984*.

14. Some buildings date from before 1910 when the property was acquired by the Commonwealth. The remainder were constructed either as temporary or permanent facilities at various times since then.

## Role of Duntroon

15. All Australian Regular Army General Service Officer (GSO) pre-commissioning training is carried out at Duntroon. The RMC is also responsible for conducting General reserve, Ready reserve, Specialist Service Pilot and Direct Entry officer courses. The Officer Training Wing was established early in 1994 to conduct these courses.

## Organisation

16. The College is organised into four functional sub-units:

- headquarters - which is responsible for the overall administration and coordination of training
- Corps of Staff Cadets (CSC) - responsible for the administration and training of cadets undergoing the ARA pre-commissioning course
- Officer Training Wing (OTW) - responsible for the administration and training of personnel undertaking General reserve, Ready reserve, Specialist Service Pilot and Direct Entry officer courses
- Administrative Support Wing (ASW) - responsible for providing support services to the College
- general support services.

17. There are also five other organisations, located at Duntroon which provide services to the College and other Defence elements in the Canberra area. These are:

- Duntroon medical centre
- Chief Engineer
- ACT detachment Sydney logistic company
- RMC band

- Duntroon dental unit.

18. The Committee questioned Defence about the need for the Chief Engineer to be located at Duntroon. Defence advised the Committee that in addition to providing Defence with advice in the development of capital works, the Chief Engineer is involved with core functions of programming, budgeting and the management of contractors. The Chief Engineer, based at Duntroon, is also responsible for other Army properties in Canberra and surrounding districts such as Army Reserve depots and the Joint Services Staff College.

## Corps of staff cadets

19. The CSC is divided equally into four companies. The GSO course takes 18 months, each with three terms of six months. The terms constitute 3rd, 2nd and 1st Classes. The companies contain cadets from the three classes in a self-contained hierarchical, functional and residential grouping.

20. Cadets not seeking tertiary education at the adjacent Australian Defence Force Academy (ADFA) complete the 18 month training course.

21. Cadets who transfer from ADFA attend only the last 12 months of the course, in 2nd and 1st classes.

22. Courses overlap and commence in January and July each year, with graduation occurring in December.

23. Officer Training Wing (OTW) courses are programmed throughout the year with the numbers remaining constant; the combined strength should not exceed 100.

## Requirement for officers

24. Defence advised the Committee that current planning figures indicate an annual requirement for 205 GSO graduates. This output requires a cadet population of 429, taking into account the overlap in intakes, attrition and overseas students.

## THE NEED

### General scope

25. Defence believes there is a need to undertake major reinvestment in facilities which will rectify functional and operational deficiencies. The reinvestment would not alter general capabilities and roles, being confined to replace or upgrade existing buildings.

26. The following paragraphs describe deficiencies and inefficiencies inherent in various essential functional areas.

### Logistics complex

27. The existing Quartermaster (Q) store holds general, field and training stores. They are located in eight buildings in the logistic area at the south east corner of the site. These buildings, which the Committee inspected, date from the early 1930s. They comprise Lysaght huts, garages and a hangar. The Committee was able to see that they are in very poor condition. Apart from the very poor condition of the buildings Defence believes existing Q store arrangements are unsatisfactory because they:

- cause inefficiencies due to the dispersed nature of the buildings
- are overcrowded
- are dysfunctional
- pose a serious occupational health and safety hazard.

28. The Royal Australian Electrical and Mechanical Engineers (RAEME) workshop is located in dispersed and dysfunctional buildings in the logistics area. The workshop facilities date back to the 1930s, are in a poor condition and a maintenance liability. A further serious problem is noise intrusion to living accommodation for other ranks which is adjacent to the workshops.

29. The transport compound is located in the logistics area and comprises a variety of buildings in poor condition. There is limited covered parking and no facilities for servicing vehicles. The RMC maintains 60 vehicles, including coaches. Artillery pieces for use on ceremonial occasions are also housed in the compound. A further problem is the limitation of the pavement; it is

limited to 10 tonnes. In summary, Defence believes the overall layout is dysfunctional, contributing to congestion and creates a potential for accidents. As with the RAEME workshop, the compound is located adjacent to living accommodation for other ranks. This creates considerable noise intrusion.

30. Ground maintenance staff and equipment are located in a facility to the west of the logistics area. Facilities are dispersed, security is inadequate and storage for fuel, poisons and sprays are unsatisfactory.

### Committee's Conclusion

31. The logistics complex at Duntroon is housed in inadequate and deficient accommodation which are dysfunctional. Noise from motor transport activities intrudes on adjacent accommodation blocks. There is a need to replace the complex.

### Duntroon medical centre

32. The Duntroon medical centre was completed in 1991. Defence advised the Committee that the original design was subjected to budget limitations which resulted in the deletion of the kitchen, store, physiotherapy area, two four-bed wards and some car parking.

33. As an interim measure, meals are prepared and transported to the centre from the other ranks mess. Physiotherapy is conducted in a demountable building. Some ward space is being used to provide a recreation area for patients and for interviews, counselling and examinations. Defence believes this is a misuse of valuable space.

34. The centre provides a service to Duntroon, ADFA and the broader Defence population of the ACT - although to a lesser extent. Services provided by the centre range from post-operative care and rehabilitation to low dependency care. The centre also supplements community medical facilities in the ACT. In the case of low dependency care, it provides bedspaces which might not be available. Low dependency care is a special requirement of the defence force which caters for single living-in personnel.

35. In 1993 the medical centre treated 1511 inpatients. The average stay was three days. Defence advised that the demand for beds exceeded supply

on seven occasions. Overflow patients are placed in Canberra hospitals which generally do not accept low dependency patients.

36. The centre's casualty department also treated 1749 patients after hours during 1993. Some of these patients required hospitalisation.

37. The Army's rigorous physical training regime results in a requirement for considerable physiotherapy. The number of physiotherapy patients treated at the centre, 8857 in 1993, is a consequence of the high intensity physical training and sports programs at RMC and ADFA.

38. In summary, Defence believes current arrangements at the medical centre are unsatisfactory when considered on the basis of functionality, health and security.

#### **Committee's Conclusion**

39. The Duntroon medical centre suffers from overcrowding and does not have the capacity to meet demands for inpatient and physiotherapy care. The building should be extended to provide the scale and scope of care intended in the original design.

#### **Headquarters RMC**

40. The headquarters is located in the military instruction block which has resulted in instructional staff being located in accommodation some distance away from the building. Duty staff are also located some distance from the headquarters staff. Defence believes the dispersed nature of headquarters staff and the utilisation by headquarters elements of a building designed for teaching and instruction to be inefficient and dysfunctional. Defence believes there is therefore a need for a new headquarters building to house all administrative and technical facilities associated with the functions undertaken by headquarters staff. This includes the duty room and detention cells.

#### **Military instruction block**

41. If a new headquarters is provided, the military instruction block will become available for use by instructors and command elements of the CSC. Instructors and other elements of the CSC are located in the old physics building, some distance from the military instruction block. Existing working

conditions are cramped and do not meet occupational health and safety standards, and the Building Code of Australia (BCA).

#### **Administrative support wing**

42. The administrative support wing for the logistics complex is located in buildings dispersed around the College.

#### **Committee's Conclusion**

43. The RMC headquarters is housed in a building more suited for teaching and instruction. If vacated by the headquarters, space could be made available to the Corps of Staff Cadets, which is housed in accommodation which needs to be refurbished to make it more functional. The Administrative Support Wing should be located with the RMC headquarters for functional reasons. A new RMC headquarters building would enable a much needed rationalisation of teaching and administrative facilities to occur.

#### **Officers' living-in accommodation**

44. Officers' living-in accommodation is provided in Duntroon House and in an annex, Nimmo House, remote from the Mess. Accommodation in Nimmo House comprises five bedrooms and a converted recreation room; Duntroon House has 12 bedrooms of which five are serviceable and the balance is unoccupied due to white ant infestation and rising damp.

45. Defence believes the accommodation in both instances is well below standards; the Committee confirmed this during the inspection.

46. RMC has 81 officers of whom 21 are entitled to living-in accommodation. Only eight live-in at present. The remainder do not live on base, of their own volition or receive living-out allowances. Apart from the shortfall in living accommodation for officers on the staff of RMC, there is a constant requirement for transit accommodation to be provided at Duntroon.

47. The mess dining room has seating capacity for 40. It is not possible to hold formal regimental dining in nights for the 81 officers on strength. Defence advised the Committee that dining in nights are important in a training institution. An added requirement for additional dining space stems

from direct entry officers' courses which impose a requirement for an extra 40 students and staff on the mess. This requires the introduction of staggered or extended meal times.

#### **Committee's Conclusion**

**48. There is a need to provide living-in accommodation at RMC for officers at scales and standards commensurate with entitlements. The dining room of the Mess needs to be extended to increase its capacity to a level in keeping with requirements.**

#### **Playing fields and sports pavilion**

49. Sport is a key element of the RMC curriculum and sporting facilities are used extensively for training and competition. Training occurs on Tuesdays and Thursdays and competition games take place on Saturdays and Sundays. Teams fielded by RMC cover Australian Rules, rugby, soccer, hockey, netball and cricket.

50. The inventory of playing fields comprises:

- Australian rules - two
- rugby - two
- cricket/rugby - one
- athletics track and oval - one
- soccer - one
- hockey/touch football.

51. On training nights all playing fields are used and on weekends concurrent matches are frequent. The playing fields are also used for inter-company and inter-service competitions, physical training and basic tactics training.

52. Defence advised the Committee that the playing fields are deficient in the following respects:

- most playing fields are poorly formed and require resurfacing and remedial drainage work. The ADFA development and roadworks have overloaded the stormwater drainage system, increasing run-off resulting in degradation of playing surfaces
- the existing watering system does not meet normal irrigation requirements; the current supply is 5 litres/second, while the calculated requirement is 38 litres/second
- the current cinder-based athletics track is in very poor condition
- the realignment of Morshead Drive by the ACT Government will bisect the area occupied by playing fields - this will limit the use of No 1 oval
- changing facilities are basic and pose a health hazard.

#### **Committee's Conclusion**

**53. Existing playing fields at RMC are deficient and require resurfacing and drainage and irrigation to be rectified. There is a need for changing facilities to be provided in the playing fields area.**

#### **Cadets' mess**

54. Apart from being the dining area for the cadet population, the cadets' mess plays a significant role on ceremonial occasions. Defence believes the formal entrance to the mess and ante room are run-down and in need of refurbishment. In addition, existing entry arrangements from the parade ground have inadequate circulation space which leads to congestion and significant delays, especially on ceremonial occasions. Defence believes these problems could be overcome through minor internal rearrangements. The Committee agrees with this assessment.

#### **Gymnasium**

55. The gymnasium was constructed in 1985 and comprises a hall with two basketball courts, an equipment store (now being used for weight training) a maintenance store and one toilet/shower.

56. The facility is used for formal and recreational physical training, by Defence personnel based in Canberra and for inter-service sporting fixtures. The gymnasium is the only venue at RMC with a capacity for 500 people and is used for indoor ceremonial activities such as prize givings and graduation ceremonies.

57. Defence believes the facility lacks:

- provision for spectators
- male and female ablutions
- space to accommodate more than one training class at a time
- car parking.

58. The Committee agrees with this assessment.

#### Roads

59. Defence believes the current road hierarchy is ill-defined and tortuous, is without focus and therefore imparts no sense of arrival. Access to and from the perimeter main roads is difficult and hazardous, especially during peak periods.

60. A new main entrance road to Duntroon was foreshadowed to the Committee during the Stage 1 redevelopment proposal. The Committee agreed with the requirement and directed that it be considered as part of the Master Plan for Duntroon. A key component of the Master Plan is the provision of a new entrance, compatible with any further development, which addresses traffic flow in and outside RMC. This element of the Master Plan was examined by the Joint Committee on the ACT as part of the ACT Government's proposal to duplicate Morshead Drive (*Joint Parliamentary Committee on the Australian Capital Territory - Report on proposals for variations of the plan of layout of the City of Canberra and its environs - Variations 1989/1 (Item 1) - Relating to the re-development of Morshead Drive, 19 February 1991, Parliamentary Paper 169/1991*).

#### Shared facilities

61. In establishing a need for redevelopment works to be undertaken at RMC, the Committee sought to establish the extent to which facilities are shared between RMC and ADFA. Defence advised that the health centre, some playing fields, the library and chapel are shared by the Army and ADFA. In addition, Army personnel conduct training for Army ADFA cadets in military subjects for up to eight weeks annually.

62. During the inspection of Duntroon the Committee saw the extent of playing fields available. Defence advised that from time to time the training programs permits playing fields to be shared. However, it was pointed out that the Army makes extensive use of the playing fields not only for sport. Other activities undertaken include infantry minor tactics and outdoors instruction. The College's intensive training timetable makes it imperative for flexibility in the use of playing fields for various activities. Time constraints and the booking capacities of both establishments preclude playing fields being shared on an ongoing basis.

#### Committee's Conclusion

**63. If the duplication of Morshead Drive proceeds, there will be a requirement for a new entrance to RMC at a location consistent with the Master Plan.**

#### THE PROPOSAL

64. Defence and the Committee believe that to maintain or improve the operational efficiency of RMC requires mainly the refurbishment, or extensions of existing buildings. It is clear that a new logistics complex is required - with a smaller workshop but with the Q store, transport compound and ground maintenance area to be at the scale of existing facilities. It should be possible, however, to save space through the use of modern storage systems and the rationalisation of services.

#### Scope

65. The scope of the proposed work designed to rectify deficiencies is described in the following paragraphs.

## Logistics complex

66. It is proposed to demolish the existing complex and replace it with the following elements:

- Q store - comprising offices, a bulk warehouse, an armoury, outdoor field equipment storage, a ration store and carparking
- cadet clothing store - a new building to be located centrally, away from the logistics area, to a site closer to the cadet precinct. The store will support RMC and Army personnel stationed in the Canberra region. The office, ceremonial uniforms store and tailoring areas will be airconditioned. The building fabric will be insulated. A combination of low temperature radiant heating and mechanical ventilation will be employed to maintain acceptable conditions. A total of six fitting rooms are in the preliminary design, servicing the ceremonial uniforms store, main store and tailoring areas
- RAEME workshop - new buildings comprising an equipment workshop, welding bay, stores, machine shop operations office, maintenance cell and ablutions. A separate building will contain a service bay and vehicle wash down areas
- transport compound - a new building and hardstand areas comprising storage areas and accommodation and ablutions
- ground maintenance buildings - new buildings for storage areas, glasshouse, shade house and grow on areas, fuel store, office and lunch room and ablutions.

67. During the site inspection Defence pointed out to the Committee that some of the buildings to be demolished date from 1910. The Australian Heritage Commission (AHC) confirmed this and suggested that archival records be made of them before demolition. The AHC advised that other elements of the logistics complex - the Q Store, RAEME workshop, transport compound and ground maintenance buildings are unlikely to affect the national estate.

68. Defence indicated that an archival record of buildings of significance within the logistics complex due to be demolished will be made. In addition,

archaeological surveys will be conducted of sites of possible significance prior to commencement of works and the services of an archaeologist will be obtained to provide advice during construction.

## Committee's Conclusion

69. The scope of the proposed logistics complex, whilst extensive, can be justified on the basis of the storage, transport and ground maintenance activities required to support the College.

## Medical centre

70. The medical centre will be extended, in accordance with the original plan. The extensions will include a kitchen, wards, physiotherapy department and carparking. The new kitchen will be on the ground floor; the two extra wards, with a lounge and terrace areas will be on the first level on the eastern end of the building. The physiotherapy department will be located on the south-west corner of the building. Space to be provided will include a hydrotherapy pool, treatment areas, exercise area, offices store and change rooms.

71. The Committee questioned Defence about a number of aspects of the proposed extensions. The need for the extensions arose from a ministerial decision to place a cost cap on the proposal examined by the Committee in 1984. This cost cap effectively reduced funding from \$5m to \$4m. Defence therefore deleted elements from the approved design, now part of the proposal, because they could be reinstated economically later.

72. In response to questioning about the size of the population which the centre, when extended, will need to serve, and if the extensions will be adequate, Defence advised the Committee:

- in peak periods RMC could have a uniformed population of 1000 and ADFA 980 cadets and 250 uniformed staff
- the number of uniformed Defence personnel in Canberra, including RMC and ADFA, is 6500
- the proposed extensions will result in the medical centre being provided with eight additional bedspaces, giving a total of 36

bedspaces; Defence believes this capacity will meet immediate and longer term requirements

- the 11 new physiotherapy beds will be required to handle 8000 - 9000 treatments per annum.

73. The Committee also questioned Defence about the cost of patient treatment, and how this would compare with charges by public hospitals. Defence was unable to provide detailed costings but pointed out that one of the driving forces behind the establishment of a medical centre at RMC is to minimise the time cadets are absent from duty. There is a considerable requirement for physiotherapy attendance and Defence is confident of receiving good value for money from the facility. Low dependency care is a unique service requirement, stemming from a need to provide personnel living in barracks, with hospitalisation when ill or injured.

#### **Committee's Conclusion**

74. **The proposed extensions to the medical centre are required and should result in improved functionality.**

#### **Headquarters building and new main entrance**

75. The provision of a new headquarters building would enable a number of deficiencies to be rectified. These are:

- CSC staff relocated from the old physics building to the military instruction block
- the release of working accommodation in the physics building for use by staff required to support OTW courses on a temporary basis
- the administrative support wing amalgamating with the headquarters
- it removes the first point of contact with RMC away from the cadet precinct.

76. The building will have two levels - the first level will house orderly rooms, the pay office, movements, the duty room cells, reception and waiting

area, and the commanding officer. The second level will provide offices for the Commandant, Chief of Staff conference facilities, library, training and ceremonial areas. The AHC advised the Committee that the proposed site occupies an area thought to have been used during the ownership of the property by Robert Campbell and suggested that care be exercised when undertaking new works. Defence assured the Committee that this will be done.

77. The new headquarters building will be located at the top of the proposed new entrance to the College. A substantial proportion of the budget proposed for the redevelopment is attributed to roadworks and the Committee therefore sought to establish the basis of the requirement for a new entrance. Defence advised the Committee that the proposed new entrance has arisen from plans by the ACT Government to duplicate Morshead Drive. With this duplication the ACT Government will permit a single entry to be provided at the location shown on the Master Plan. Furthermore, from a safety point of view, Defence believes the existing arrangements to Duntroon off Morshead Drive are hazardous and do not allow for the free flow of traffic. The duplication will require Defence to relinquish some land to the ACT and has received parliamentary approval.

78. The Chief Minister of the ACT advised the Committee that the relevant section of Morshead Drive is currently under consideration for inclusion in the 1995-96 capital works program, but funding is tight. The ACT Government believes, therefore, that close liaison will need to be maintained with Defence to ensure redundant work is minimised and redevelopment areas within Duntroon are protected from traffic noise from Morshead Drive. Alternative arrangements should be considered if the Morshead duplication is not achieved in 1995-96.

79. The Committee believes that the success of a major part of the redevelopment is dependent on the construction of a new headquarters building which will release space in other buildings for refurbishment and the rearrangement of functional areas. If delays occur to the duplication of Morshead Drive, the objective of a new and safer entrance may be compromised for some time.



### **Committee's Conclusion**

80. The location and design of the proposed new headquarters building are consistent with the Master Plan and should be compatible with adjacent buildings.

### **Committee's Recommendation**

81. The Department of Defence and the ACT Government should discuss coordination of road construction with a view to the work being undertaken concurrently as soon as possible.

### **Military instruction block**

82. This building will be refurbished for CSC command and instructional staff to be relocated from the old physics building. The ground floor and three floors of the eastern wing will be refurbished to provide offices and training facilities.

### **Physics building**

83. The old physics building, which will be vacated by the CSC personnel will be refurbished for CSC stores and future offices.

### **Training support platoon**

84. The training support platoon will be housed in a refurbished building currently occupied by the ASW.

85. The Committee believes the extent of refurbishment to the military instruction block and the old physics building will provide modern functional working space for the Corps of Staff Cadets.

### **Duntroon House**

86. It is proposed to demolish an existing accommodation annex and build extensions to the building which will provide:

- living-in accommodation for two senior and 12 junior officers
- a dining room to accommodate 100.

87. The new accommodation will be located on the north-east corner of the building; some senior officers accommodation will be on the upper level. Extensions to the dining room will be on the north-west corner. The kitchen and food preparation area will be between the accommodation and the dining room.

88. The AHC advised the Committee that demolition of the annex to allow the extensions is unlikely to result adversely on the national estate, but an archival record should be made. The AHC also advised that the proposed design of the extensions is sympathetic to the character of the Georgian style architecture of the original section of Duntroon House.

### **Cadets' mess**

89. The scope of work proposed for the cadets' mess is relatively minor, comprising the upgrading of entry arrangements and the provision of foyers to provide a new stairway from the ground floor to the upper ante-room.

90. The Committee agrees with the requirement and the scope of the proposed extensions to Duntroon House and the provision of improved access from the parade ground to the cadets' mess.

### **Gymnasium**

91. The three elements which comprise extensions and internal rearrangements to the gymnasium are:

- changing and ablution areas
- additional covered area equivalent to a basketball court, an outdoor paved area equivalent to netball size, a weight training area and seating for spectators
- carparking for staff and visitors.

92. The Committee asked Defence if site constraints will enable the scale of the extensions to the gymnasium to be achieved. Defence acknowledged that site constraints exist, but during further detailed design development the precise size of the extension will be examined in greater detail. It is not intended to intrude onto adjacent roads. Further detailed design development will also involve consideration of geotechnical conditions on

the site. The Committee believes the proposed extensions to the gymnasium will increase the capacity for indoor sports and overcome a shortage of ablution facilities.

#### Upgrading of playing fields

93. Upgrading of the playing fields will involve the following:

- resurfacing and rearranging
- upgrading of drainage and irrigation
- landscaping of zones between fields to provide shade and reduced wind velocities.

94. The Committee questioned Defence about the extent to which grey water will be used to irrigate the playing fields. The Committee was most impressed by the prospects offered by a pilot scheme under way. This scheme involves the pumping of grey water from the Fyshwick sewerage treatment works to the playing fields and generates annual savings of \$8500. Defence believes potentially the pilot scheme could be extended to cover 40 ha at RMC and ADFA, with annual savings of \$170 000. At this stage the grey water is provided at no charge. Apart from additional services which may be required to extend irrigation coverage over the 40 ha site, it will be necessary to monitor the quality of the water, especially salt concentrations.

#### Sports pavilion and changing facilities

95. A new pavilion is proposed for the north-western side of the playing fields complex, adjacent to the new main rugby field. The pavilion will have changing facilities with capacity for one match. A new changing facility, with ablutions and showers will be provided on the site of an existing facility which, the Committee saw, is old and needs to be replaced. The new pavilion will have seating capacity for 250. Defence believes this will be adequate.

96. The Committee believes the scope of the proposed upgrading of the playing fields can be justified on the basis of their intended uses as playing fields and training areas for RMC cadets. The scope and location of the pavilion and changing facilities will provide a level of amenity consistent with sporting and training activities undertaken at the playing fields complex.

#### Committee's Recommendation

97. The pilot study of the use of grey water for watering should be monitored carefully and, if no salinity problems emerge, should be extended to encompass all playing fields at RMC and ADFA as well as other Defence establishments where practical.

#### Defence White Paper

98. The Committee questioned Defence about the relevance of the Defence White Paper, which is shortly to be presented to Parliament, on the proposal, bearing in mind that policy changes have in the past radically altered the requirements for a number of proposals examined by the Committee.

99. Defence advised the Committee that the thrust of the White Paper will not significantly change activities undertaken at Duntroon. RMC has a long term future as the Army's premier training institution - the training role has increased over recent years with general reserve and specialist service officer training being concentrated there.

#### MATERIALS AND FINISHES

##### Materials

100. Building materials proposed for the redevelopment will reflect those used in existing buildings located in the central, older, section of Duntroon. The range of materials proposed will allow the use of economical construction methods while at the same time achieving a consistent appearance across the varied building types. Where necessary, buildings will be of masonry construction, rendered in appearance with accents of exposed brickwork.

101. More economical concrete masonry, interposed with metal panels and doors, will be used for the larger logistic support structures. Glazing will be small panes, consistent with existing adjacent buildings. Trim will be timber and will be painted with colours consistent with historic contexts.

## **Finishes**

102. Internal finishes will be predominantly painted masonry or plasterboard partitions. Specific areas requiring a higher quality finish will be limited to the main entrance to the headquarters buildings and to the cadets' mess from the parade ground.

## **ENGINEERING SERVICES**

### **Engineering investigations**

103. During the preliminary investigation phase the following investigations were carried out:

- topographical survey
- geotechnical survey
- services reticulation.

### **Mechanical services**

104. Mechanical services required for the redevelopment are varied and include airconditioning, ventilation, heating and workshop process equipment.

105. Occupational health and safety issues to be addressed include storage of flammable liquids, particularly petroleum products, the handling of poisons and insecticides for grounds maintenance purposes and workshop activities such as welding, vehicle maintenance and materials handling.

106. The proposed buildings will be low rise and will not require extensive precautions for smoke control; nevertheless smoke venting will be required in the larger buildings in accordance with the BCA. In addition, the military instruction block does not comply with current requirements for smoke control - this will be addressed during refurbishment.

107. Airconditioning should be provided in offices and in extensions to the hospital. The BCA also requires airconditioning in stores areas for rooms which are located apart from each other for functional needs. It is proposed

to provide each room, or group of adjacent rooms with a dedicated split reverse cycle airconditioning unit.

### **Electrical services**

108. The electrical power reticulation within Duntroon is owned and operated by ACT Electricity and Water (ACTEW). Defence advised the Committee that discussions have taken place with ACTEW to assess a proposal involving Defence purchasing electrical substations and high voltage reticulation cables. This could provide the opportunity for Duntroon to purchase power at high voltage low tariff rates.

109. Planning of the redevelopment is based on the expectation that all existing substations remain in their current locations. Upgrading to meet increased load demand will be addressed at each location by replacing transformers or adding a new unit to the high voltage ring main at an appropriate location.

### **Hydraulic services**

110. Existing stormwater drainage, sewer and water services are sound and have the capacity to cater for the redevelopment.

### **Civil works**

111. Two major packages are included in the redevelopment. These are:

- the provision of a new entrance road to RMC 200m south-east of the existing Badge Gates on Jubilee Avenue and the rationalisation and reconfiguration of internal roads with the new entrance
- the reconfiguration, grading, irrigation and resurfacing of 11 hectares of playing fields.

112. In addition, smaller scale civil works, such as hardstands and carparking, will be included in some of the building works packages.

## ENERGY CONSERVATION

113. Defence advised the Committee that energy conservation aspects of each design will address the balance between energy consumption and capital cost. Passive measures will be used to produce cost effective solutions in elements involving new construction. These passive measures include orientation, glazing, solar control, thermal insulation and spatial relationships. The latter will reduce losses between airconditioned or heated spaces and transient or externally ventilated areas.

## FIRE PROTECTION

114. Defence believes that compliance with the BCA will be sufficient to provide a cost effective level of fire protection for the headquarters, instruction and administration buildings.

115. The workshops, transport and ground maintenance facilities will have a requirement for the storage and use of flammable liquids to be addressed. Defence believes that the risk of fire will not be great given that normal storage and handling of these materials is expected. Defence pointed out that the physical separation between buildings will assist to limit the potential spread of fire. In addition, fire compartmentation, the isolation of potential fire fuel sources and the segregation of services will be addressed in the detailed design of each building element.

116. The Commonwealth Fire Board (CFB) commended the intention to comply with the BCA and recommended the proposed work should wherever possible comply with the ACT Annex to the BCA. The CFB indicated that compliance with the BCA should provide an adequate and cost effective level of fire protection both in terms of safety and asset protection. CFB also recommended that relevant Australian Standards concerning the storage of flammable liquids be considered. The CFB also suggested that Defence consult with the ACT Fire Brigade during and on completion of construction to ensure the brigade's ongoing familiarity with Duntroon. Defence advised the Committee that consultations with the brigade will take place during the design and commissioning of each element of the works.

## CONSULTATION

117. A number of Government agencies were consulted about the development of the proposal. These are:

- Australian Heritage Commission
- National Capital Planning Authority (NCPA)
- ACT Electricity and Water
- ACT Public Works.

118. During the further development of detailed designs and during construction, on-going consultations will need to continue with all agencies.

119. The NCPA advised the Committee that a number of matters relating to the headquarters building and the logistics complex need to be addressed further and reviews will need to be undertaken to ensure the Master Plan requirements of National Capital Plan are satisfactorily met. This will need to take account of final detail of adjacent roadworks. Final sketch plans will need to be submitted to NCPA. On the basis of an agreed approach the NCPA advised the Committee of its agreement in principle to the proposal. Defence advised the Committee that all development will be undertaken in close consultation with NCPA and approval will be sought prior to proceeding with construction.

120. Defence also advised the Committee that the National Trust and the ACT Heritage Council were briefed about the project. The Committee sees no reason why consultation with these organisations should not continue throughout the redevelopment.

## PROJECT DEVELOPMENT

### Cost and timetable

121. The outturn cost of the project is \$28.7m. Defence plans for construction to commence in December 1994/January 1995 and conclude in July/August 1997.

122. The Committee questioned Defence about the justification of the relatively high cost of the proposed redevelopment. Defence indicated that the scope of the proposed work encompasses refurbishment of facilities in a poor condition. Much of the cost is driven by master planning considerations and the requirement to improve the operational and training efficiency of the College. There are also external influences relating to ACT Government works associated with the roads system. The works are essentially of a reinvestment nature.

123. The Committee also questioned Defence if the proposed redevelopment had been subjected to analysis using value management techniques. Defence indicated that two value management exercises were undertaken. The first defined the scope of works and the second, undertaken some time later, looked at works elementally and examined in more detail engineering considerations and individual elements included in each building.

#### **Fees**

124. Defence advised that fees for design and supervision amount to 11%. Overall, contingency provisions are just over 7% of the value of the work. Contingency provisions are 5% of the estimated cost of civil works and 8% of the cost of building components. The latter is slightly higher because a considerable amount of heritage and refurbishment work is included in the project.

#### **Delivery**

125. Project management will be undertaken by Australian Construction Services (ACS). ACS was the successful tenderer following Defence calling for registrations of interest.

126. The Committee sought to establish why a project as prestigious as the Duntroon redevelopment is not to be supervised by Army engineers, as construction supervisors. Defence advised that Army engineers have been and will continue to be involved in the progression of the proposal. Army engineers were heavily involved in the development of the proposal, in the preparation of the design brief and the engagement of consultants and contractors. Defence believes these facets of planning and progression impose a heavy workload. Furthermore, it is Defence policy for major projects to be delivered by commercial means.

127. The Army's uniformed manpower resources are becoming very tight and the first priority is the maintenance of the Army's force structure. Army engineers do, however, have the opportunity to fill the role of project manager or undertake construction tasks. For example, Army engineers manage provincial works organisations in two provinces in Papua New Guinea and undertake defence cooperation tasks throughout the south-west Pacific. Army engineers are involved in work at the Proof and Experimental Establishment at Port Wakefield and in the construction of RAAF Base Scherger.

#### **Committee's Recommendation**

128. The Committee recommends the construction of the stage 2 redevelopment of the Royal Military College Duntroon at an estimated outturn cost of \$28.7 million.

## CONCLUSIONS AND RECOMMENDATIONS

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

	Paragraph		
1.	The logistics complex at Duntroon is housed in inadequate and deficient accommodation which are dysfunctional. Noise from motor transport activities intrudes on adjacent accommodation blocks. There is a need to replace the complex.	31	
2.	The Duntroon medical centre suffers from overcrowding and does not have the capacity to meet demands for inpatient and physiotherapy care. The building should be extended to provide the scale and scope of care intended in the original design.	39	
3.	The RMC headquarters is housed in a building more suited for teaching and instruction. If vacated by the headquarters, space could be made available to the Corps of Staff Cadets, which is housed in accommodation which needs to be refurbished to make it more functional. The Administrative Support Wing should be located with the RMC headquarters for functional reasons. A new RMC headquarters building would enable a much needed rationalisation of teaching and administrative facilities to occur.	43	
4.	There is a need to provide living-in accommodation at RMC for officers at scales and standards commensurate with entitlements. The dining room of the Mess needs to be extended to increase its capacity to a level in keeping with requirements.	48	
5.	Existing playing fields at RMC are deficient and require resurfacing and drainage and irrigation to be rectified. There is a need for changing facilities to be provided in the playing fields area.		53
6.	If the duplication of Morshead Drive proceeds, there will be a requirement for a new entrance to RMC at a location consistent with the Master Plan.		63
7.	The scope of the proposed logistics complex, whilst extensive, can be justified on the basis of the storage, transport and ground maintenance activities required to support the College.		69
8.	The proposed extensions to the medical centre are required and should result in improved functionality.		74
9.	The location and design of the proposed new headquarters building are consistent with the Master Plan and should be compatible with adjacent buildings.		80
10.	The Department of Defence and the ACT Government should discuss coordination of road construction with a view to the work being undertaken concurrently as soon as possible.		81
11.	The pilot study of the use of grey water for watering should be monitored carefully and, if no salinity problems emerge, should be extended to encompass all playing fields at RMC and ADFA as well as other Defence establishments where practical.		97

12. **The Committee recommends the construction of the stage 2 redevelopment of the Royal Military College Duntroon at an estimated outturn cost of \$28.7 million.**

128

APPENDIX A



Colin Hollis MP  
Chair

7 November 1994

**WITNESSES**

**ALLEN**, Mr Anthony William, Consultant Architect, Woods Bagot Architects, 20 Allara Street, Canberra, ACT

**GREGG**, Lieutenant Colonel Ian Russell, Chief of Staff, Royal Military College, Duntroon, ACT

**McCANN**, Brigadier Raymond Leslie, Director-General Accommodation and Works - Army, Department of Defence, Campbell Park Offices, Canberra, ACT

**SOWRY**, Lieutenant Colonel Brendan John Bolton, Project Director, Directorate of Accommodation and Works - Army, Department of Defence, Campbell Park Offices, Canberra, ACT

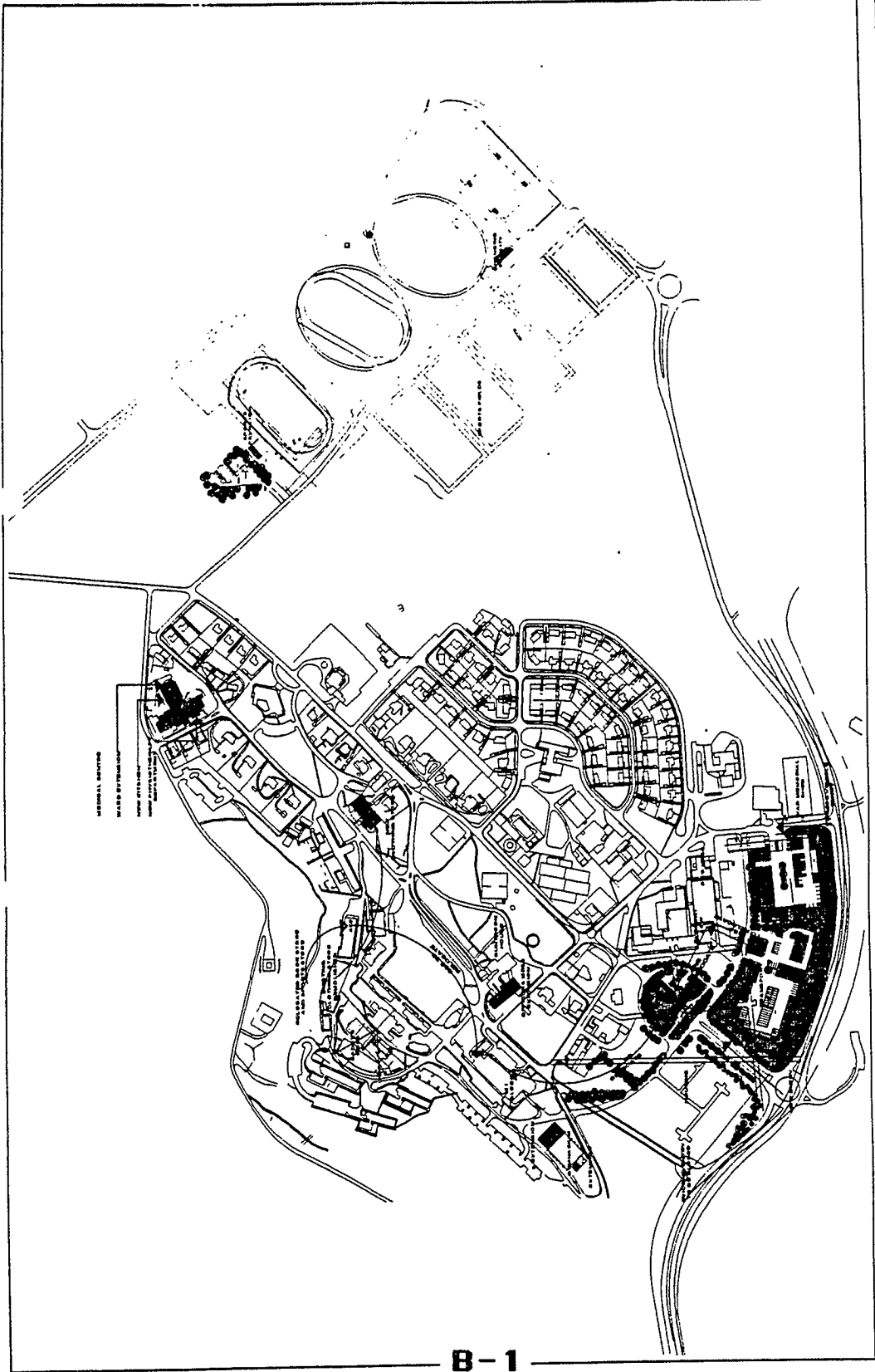
**WILLIS**, Brigadier Simon Vincent Laidley, Commandant, Royal Military College, Duntroon, ACT

## APPENDIX B

### PLANS AND ELEVATIONS

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Logistics complex . . . . .	B - 2
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Transport compound buildings . . . . .	B - 6
Ground maintenance buildings . . . . .	B - 7
Headquarters building - elevations . . . . .	B - 8
Headquarters building - ground floor . . . . .	B - 9
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Medical centre - ground floor . . . . .	B - 11
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Changing facility . . . . .	B - 18
Sports pavilion . . . . .	B - 19

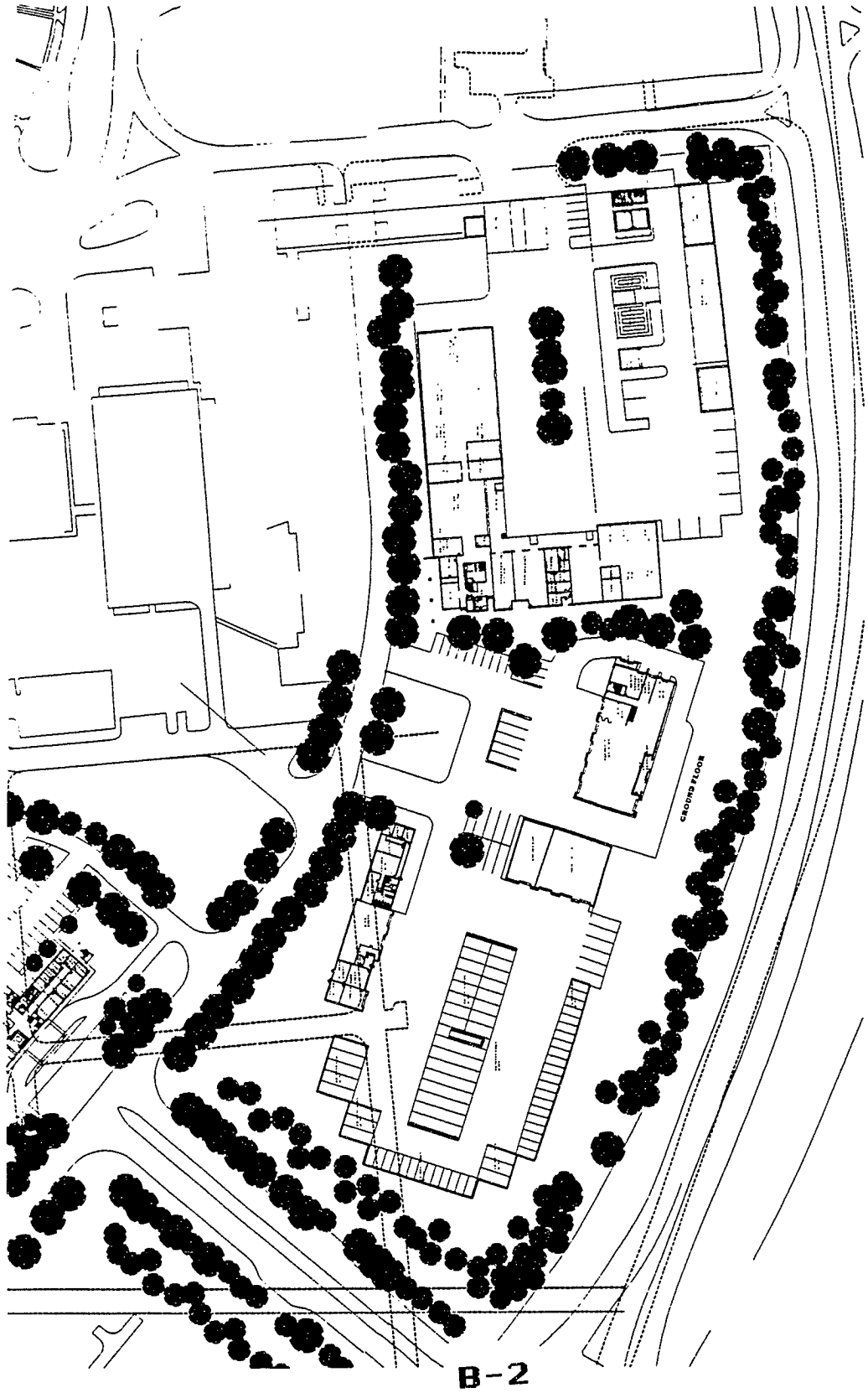




# SCOPE of WORKS

RMC DUINTROON STAGE 2 DEVELOPMENT

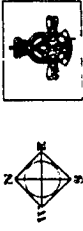




B-2

WOODS  
BAGOT

**LOGISTICS CENTRE**  
RMC DUNTRON STAGE 2 DEVELOPMENT



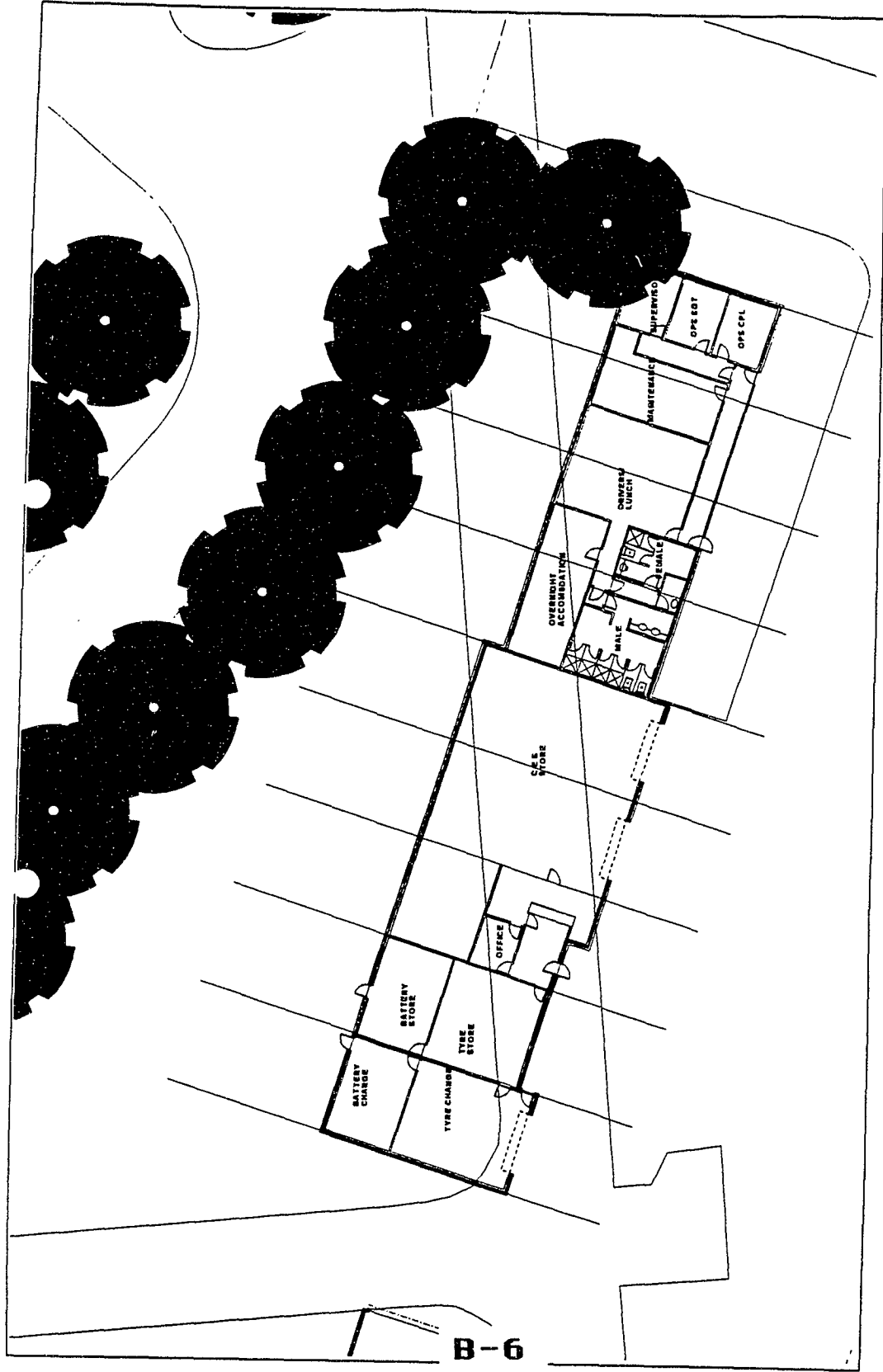
B-3

WOODS  
BAGOT

**Q M STORES**  
RMC DUNTRON STAGE 2 DEVELOPMENT





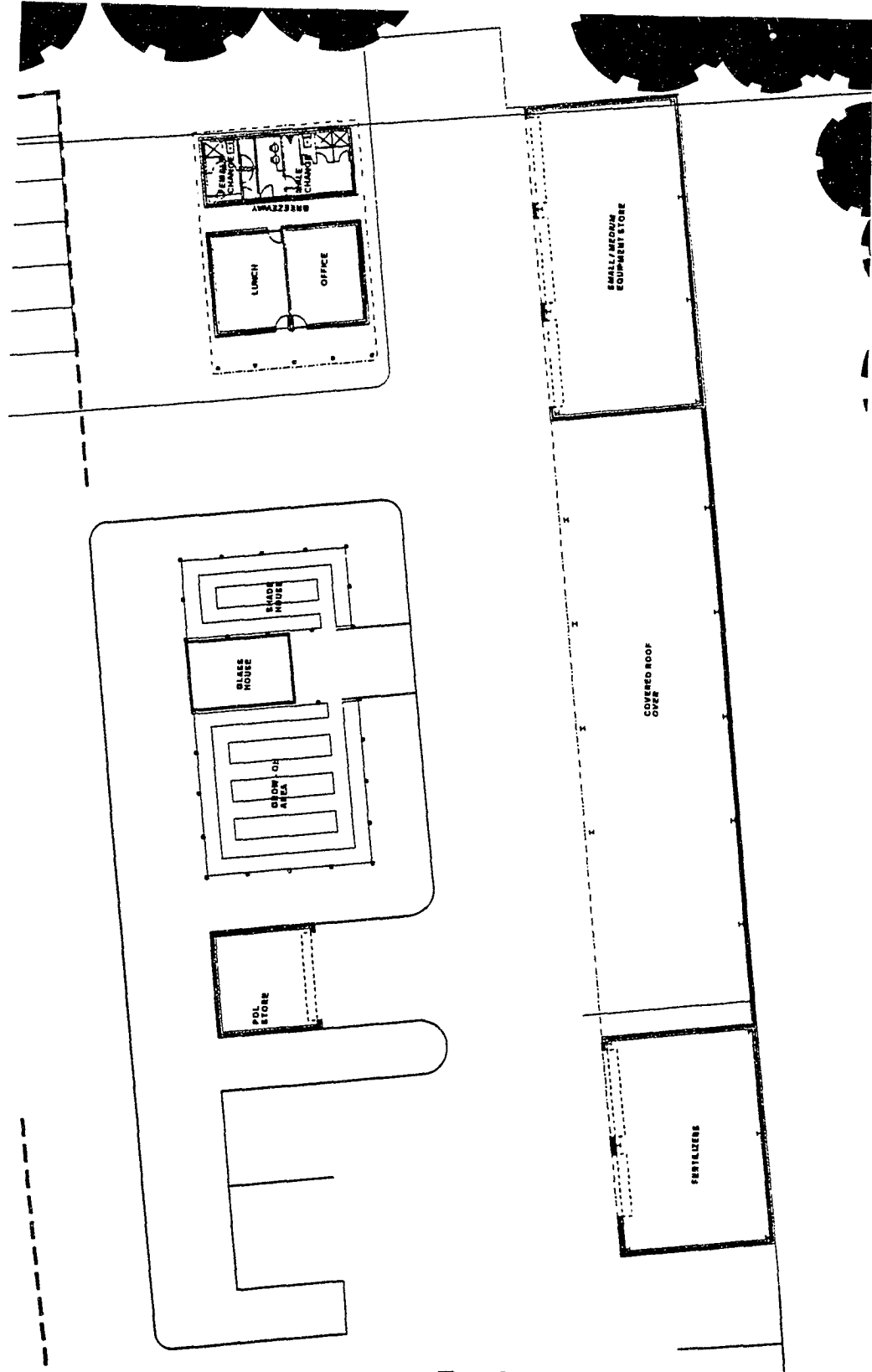
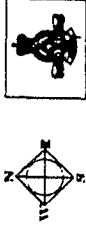


B-6



# TRANSPORT

RMC DUNTROON STAGE 2 DEVELOPMENT



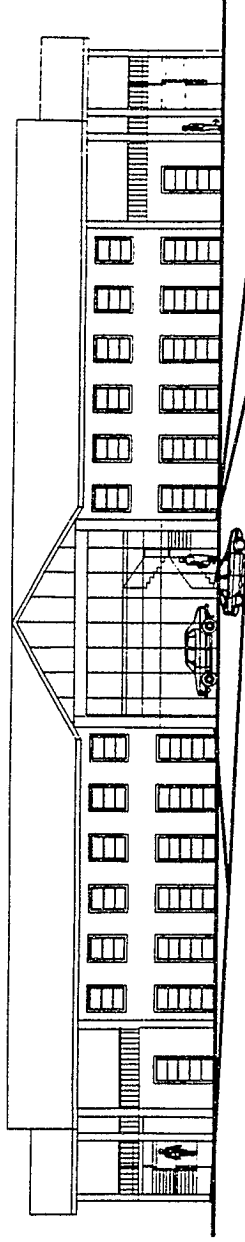
B-7



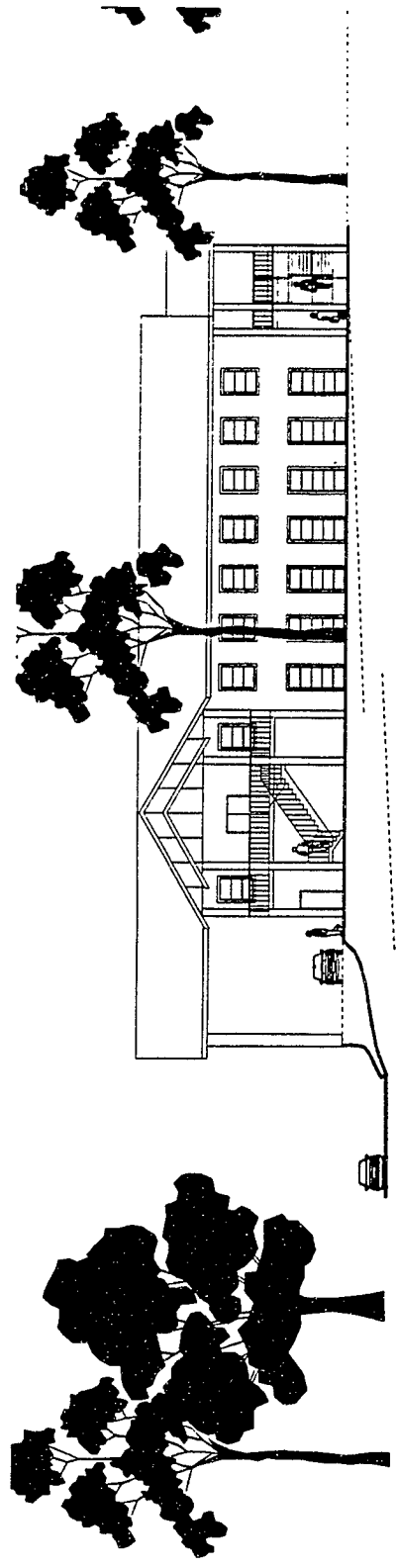
# GROUND MAINTENANCE BUILDINGS

RMC DUNTROON STAGE 2 DEVELOPMENT





**SOUTH ELEVATION**



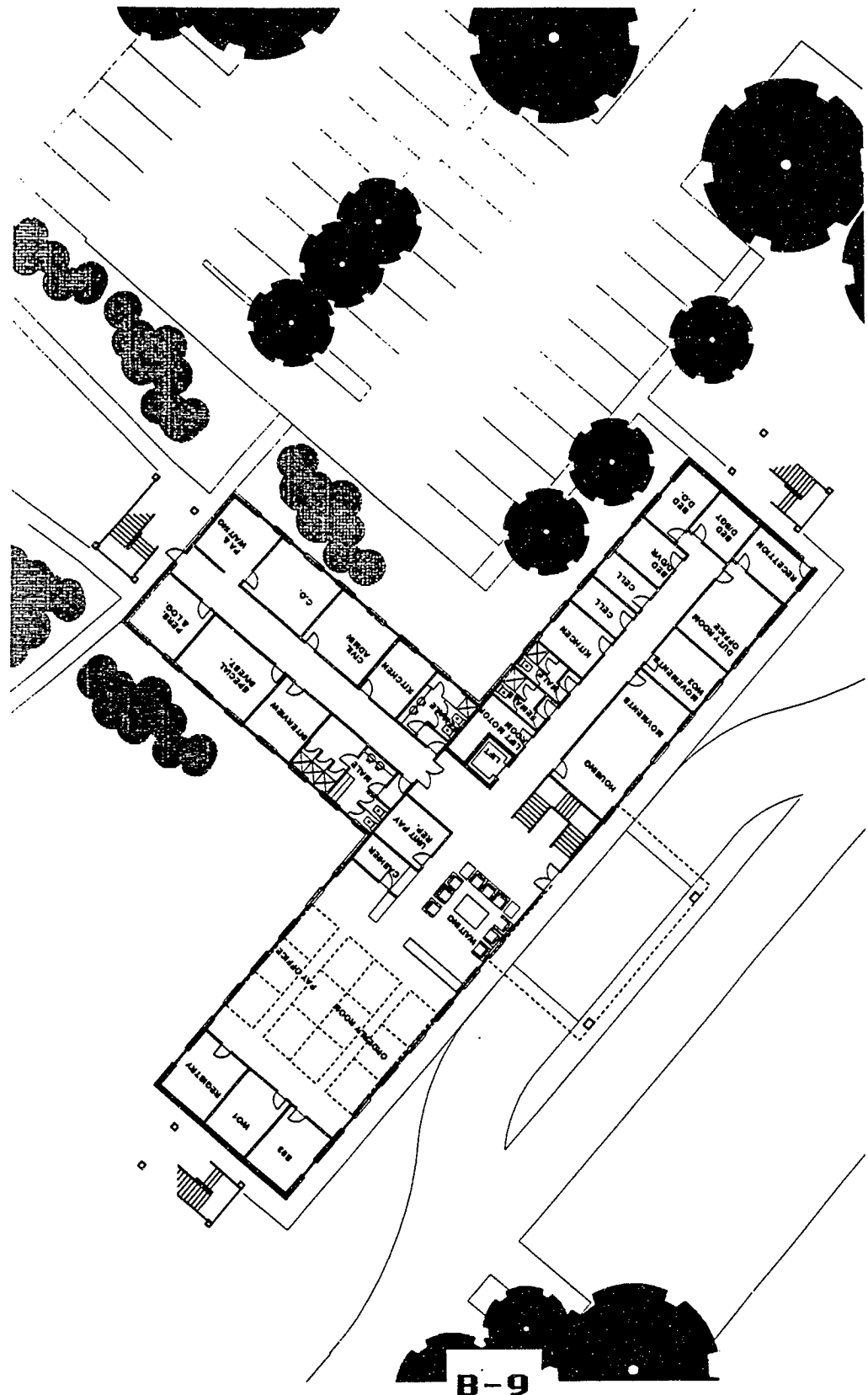
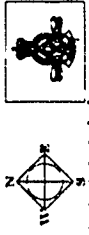
**EAST ELEVATION**

**B-8**



**H Q BUILDING ELEVATIONS**

RMC DUNTRON STAGE 2 DEVELOPMENT

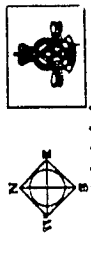


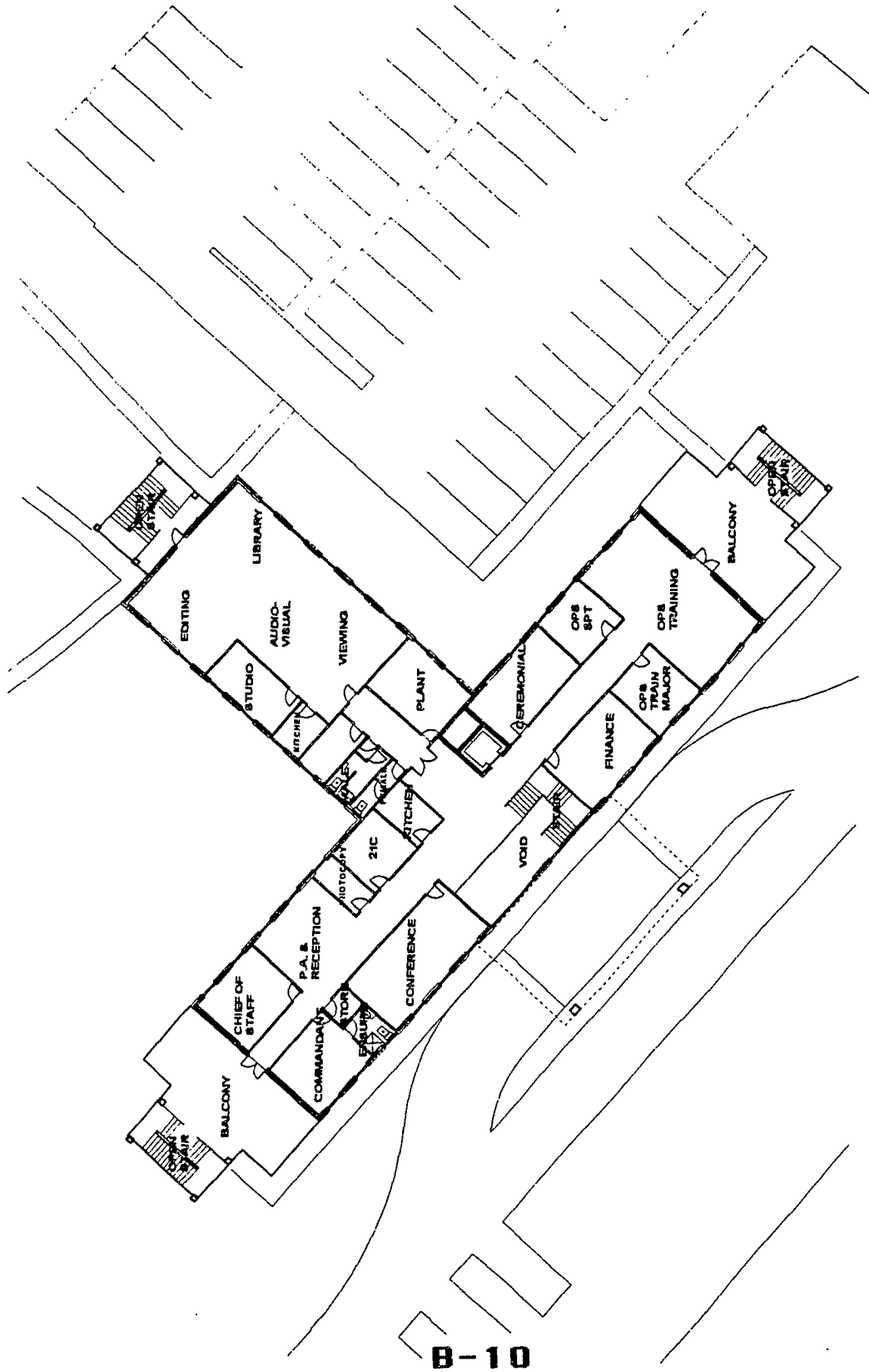
**B-9**



**H Q BUILDING GROUND FLOOR**

RMC DUNTRON STAGE 2 DEVELOPMENT

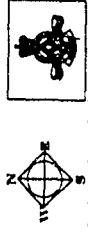




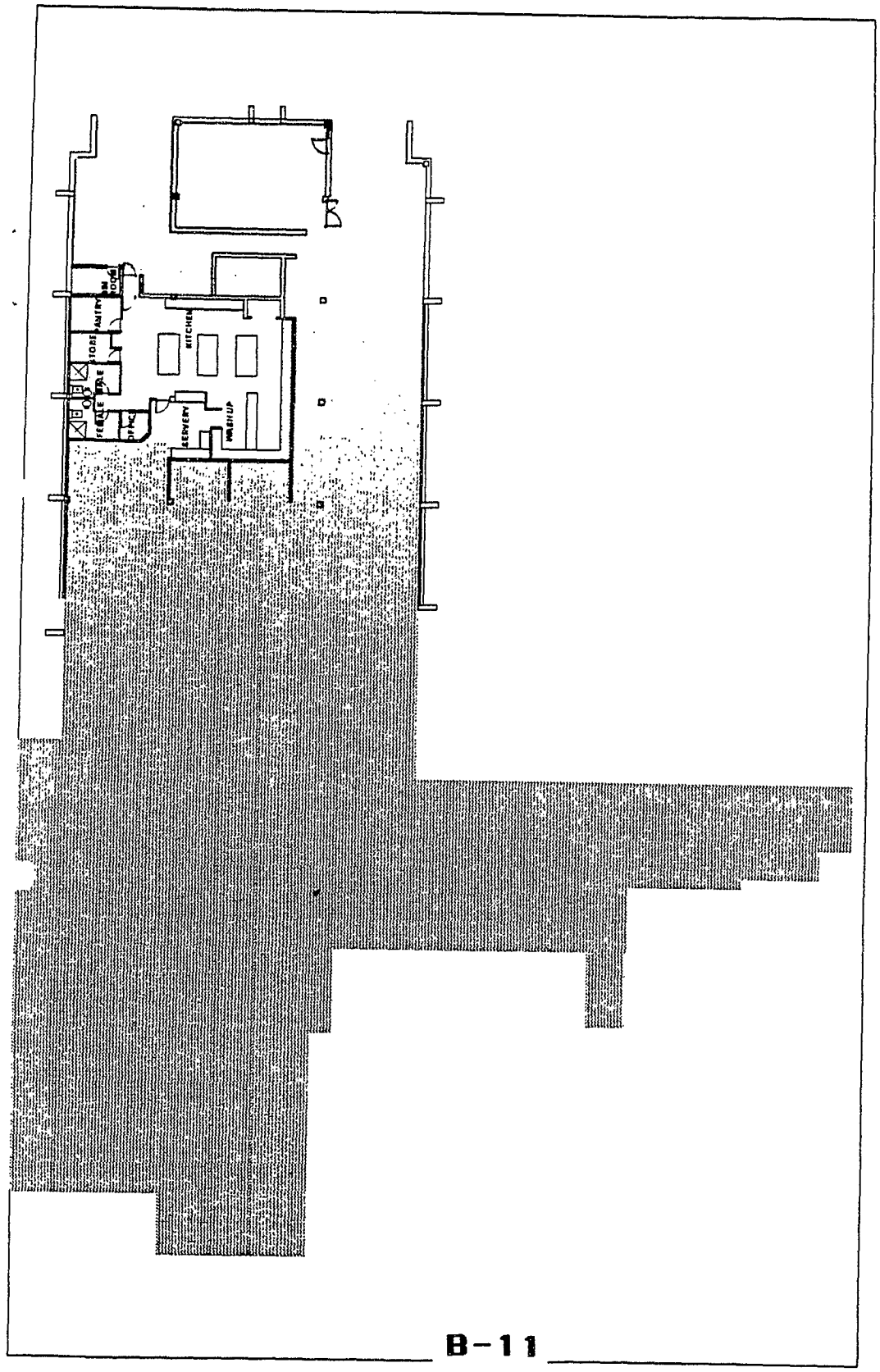
**WOODS  
BAGOT**

**H Q BUILDING LEVEL 1**

RMC DUNTRON STAGE 2 DEVELOPMENT



**B-10**



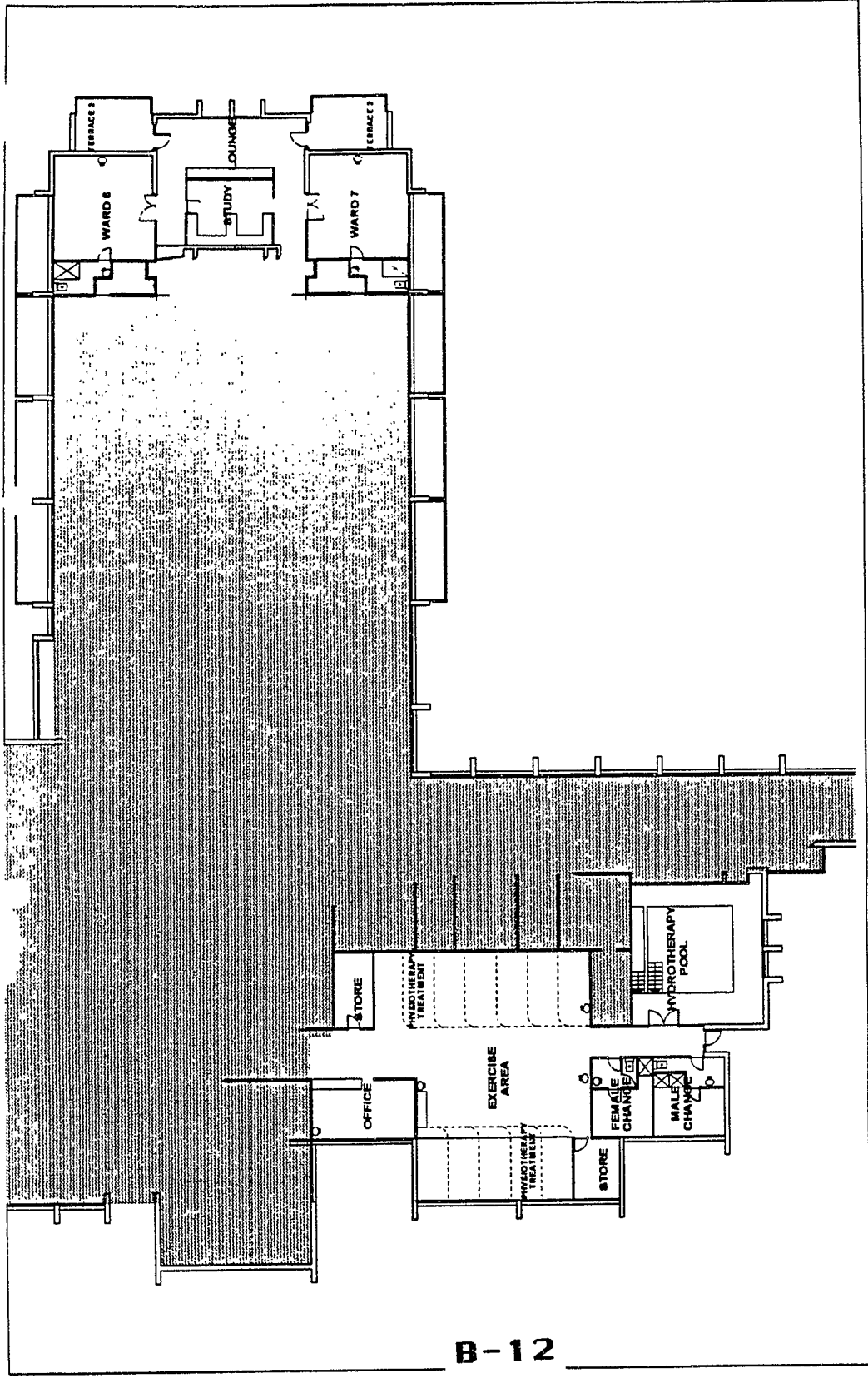
**WOODS  
BAGOT**

**MEDICAL CENTRE GROUND FLOOR**

RMC DUNTRON STAGE 2 DEVELOPMENT



**B-11**

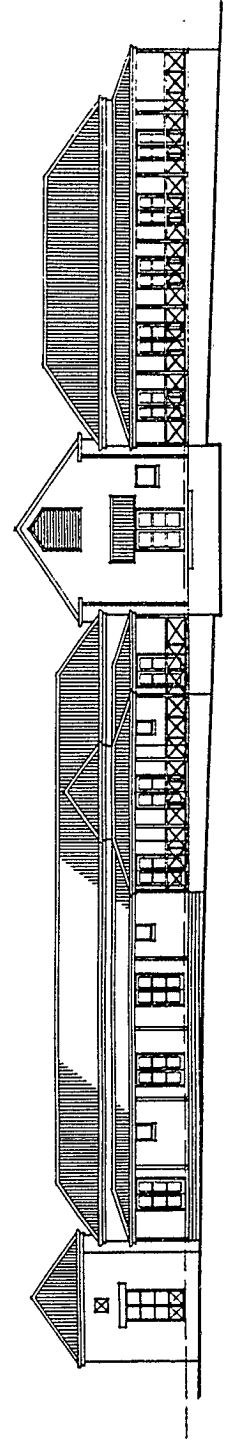
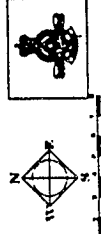


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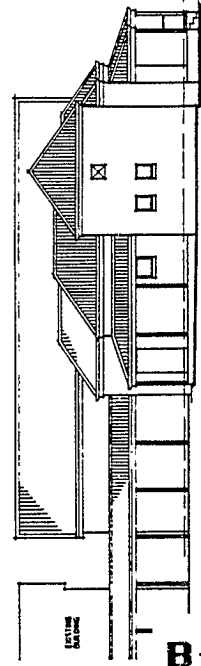
**MEDICAL CENTRE LEVEL 1**

RMC DUNTRON STAGE 2 DEVELOPMENT



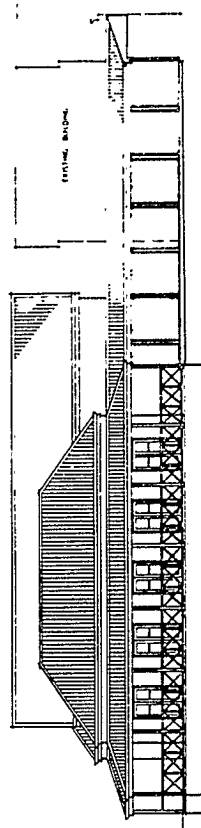
SOUTH - WEST ELEVATION

JAMB OFFICE ACCOMMODATION



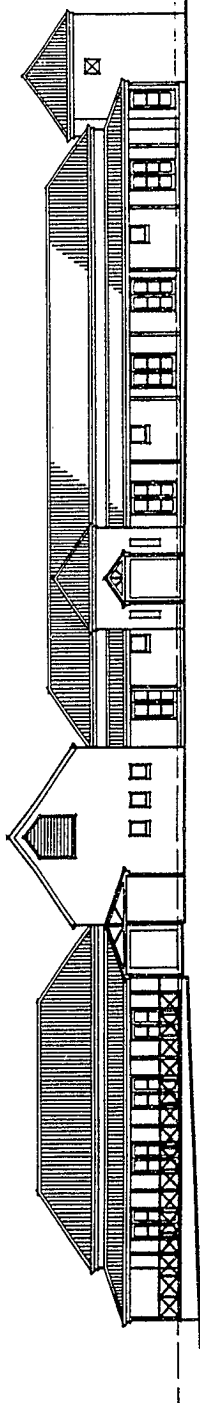
SOUTH - WEST ELEVATION

JAMB OFFICE ACCOMMODATION



SOUTH - EAST ELEVATION

DORMER ROOF



NORTH - EAST ELEVATION

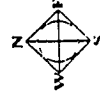
BRIDGE / TRILITE

COVERED WALK (SPY)

JAMB OFFICE ACCOMMODATION

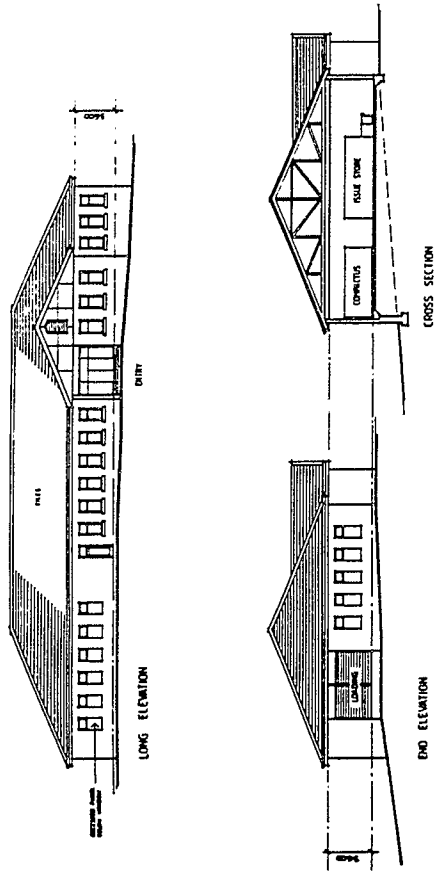


**DUNTRON HOUSE**  
OFFICER ACCOMMODATION  
RMC DUNTRON STAGE 2 DEVELOPMENT

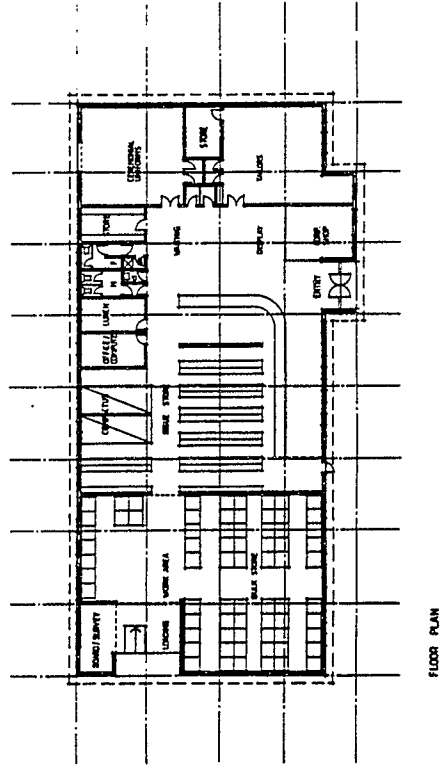






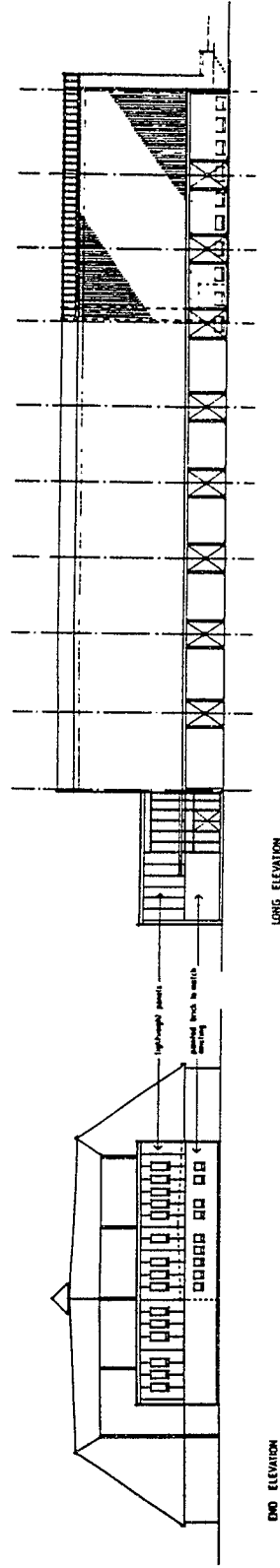
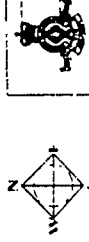


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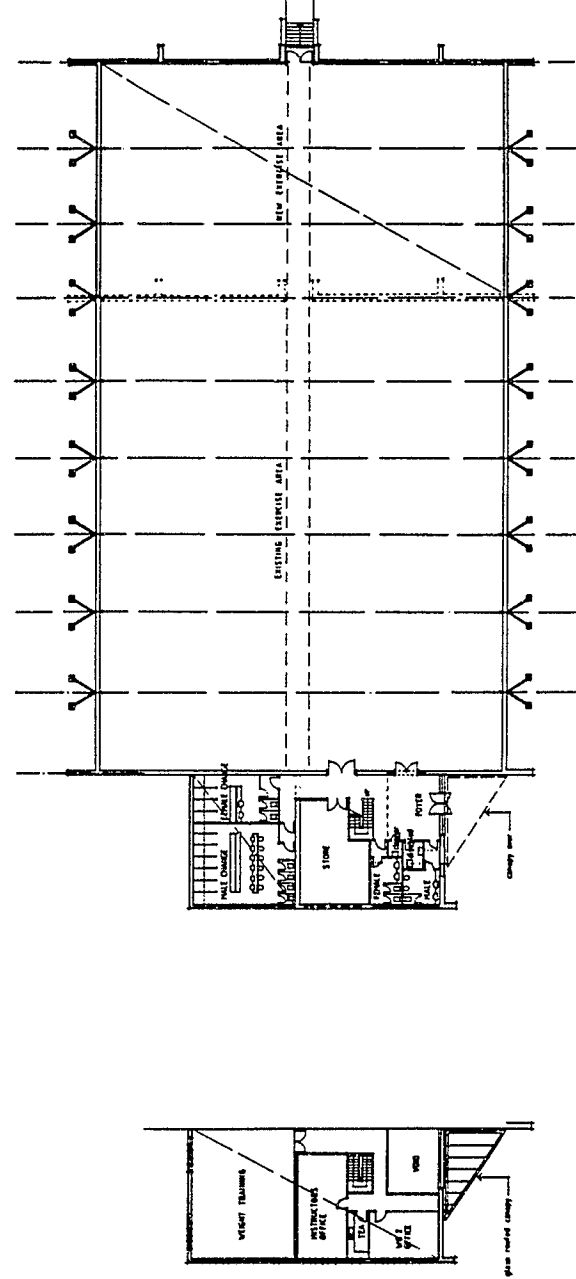


## CADET CLOTHING STORE

RMC DUNTRON STAGE 2 DEVELOPMENT



**B-17**

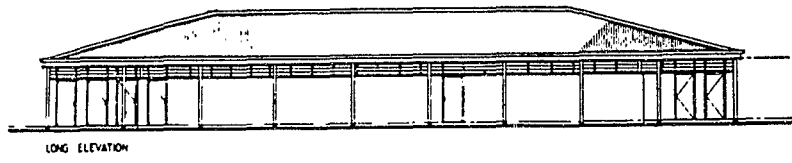


UPPER FLOOR PLAN

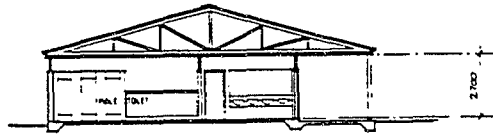
FLOOR PLAN

## GYMNASIUM

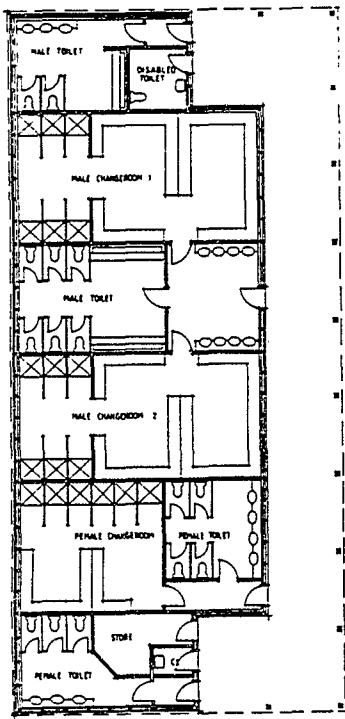




LONG ELEVATION



CROSS SECTION

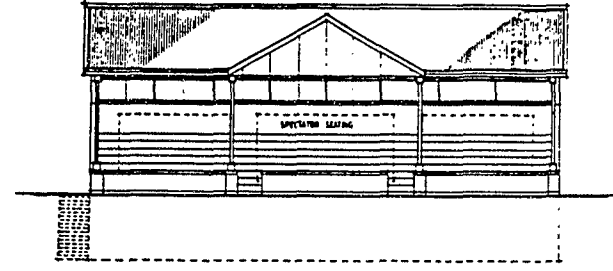


FLOOR PLAN  
CHANGING FACILITY

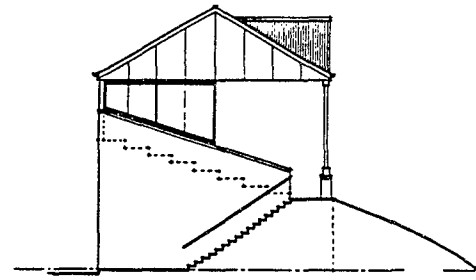


# CHANGING FACILITY

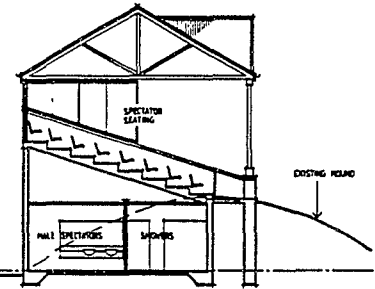
RMC DUNTROON STAGE 2 DEVELOPMENT



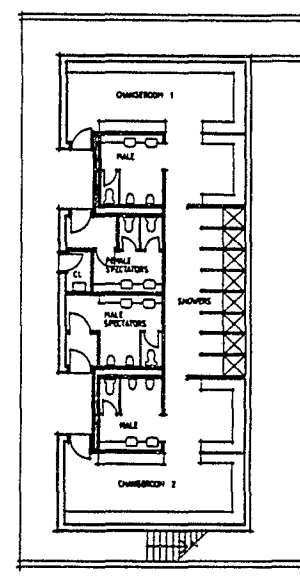
LONG ELEVATION



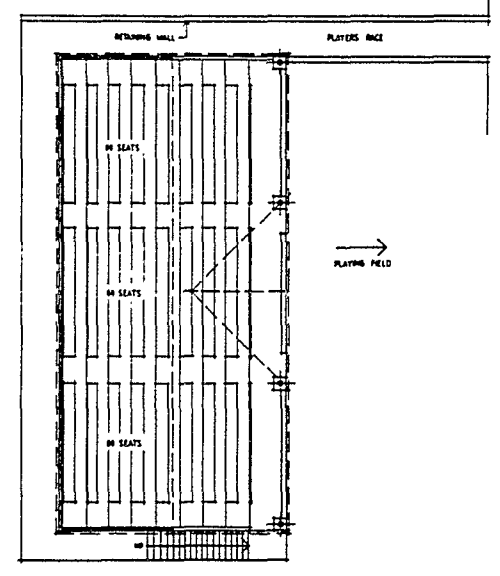
END ELEVATION



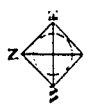
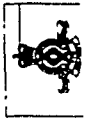
CROSS SECTION



CHANGEROOM PLAN - LOWER LEVEL  
SPORTS PAVILLION



SEATING PLAN - UPPER LEVEL



# SPORTS PAVILLION

RMC DUNTROON STAGE 2 DEVELOPMENT

