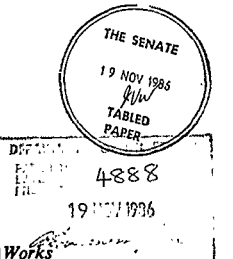

Parliamentary Standing Committee on Public Works

REPORT

relating to the

DEVELOPMENT OF HMAS ALBATROSS, NOWRA, N.S.W., STAGE 1

(Twelfth Report of 1986)

THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA
1986

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(Twelfth Report of 1986)

Canberra 1986

MEMBERS OF THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS
(Twenty-Eighth Committee)

Senator Dominic John Foreman (Chairman)
Percival Clarence Millar, M.P. (Vice-Chairman)

Senate	House of Representatives
Senator Gerry Norman Jones	John Neil Andrew, M.P.
Senator Dr ~~Glenister Sheil~~	Robert George Halverson, O.B.E., M.P.
	Colin Hollis, M.P.
	Leonard Joseph Keogh, M.P.
	Keith Webb Wright, M.P.(1)
	John Saunderson, M.P.(2)

(1) Resigned 13 February 1986
(2) Appointed 18 February 1986

EXTRACT FROM THE
VOTES AND PROCEEDINGS OF THE HOUSE OF REPRESENTATIVES
NO. 118 DATED MONDAY, 22 SEPTEMBER 1986

7 PUBLIC WORKS COMMITTEE - REFERENCE OF WORK - HMAS ALBATROSS, NOWRA, N.S.W. - DEVELOPMENT - STAGE 1: Mr West (Minister for Housing and Construction), 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: Development of HMAS Albatross, Nowra, N.S.W., Stage 1.

Mr West presented plans in connection with the proposed work.

Debate ensued.

Question - put and passed.

C O N T E N T S

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

DEVELOPMENT OF HMAS ALBATROSS, NOWRA, N.S.W., STAGE 1

R E P O R T

By resolution on 22 September 1986 the House of Representatives referred to the Parliamentary Standing Committee on Public Works for consideration and report the proposal for the development of HMAS Albatross, Nowra, N.S.W., Stage 1.

The Committee is pleased to report as follows:

THE REFERENCE

1. The works proposed under this reference involve the provision of facilities to service and maintain a squadron of Seahawk helicopters and the development of new facilities and upgrading of existing facilities for the effective and efficient operation of the base.

2. The project comprises:

- a new building to house a flight simulator and aircraft weapons system support centre (AWSSC) for Seahawk helicopters;
- a maintenance facility for Seahawk helicopters;
- extensions to the avionics workshops building;
- a new supply complex building;

- a new building to house the Royal Australian Navy tactical electronic warfare support section;
- upgrading of the fire protection at hangars A, B and J; and
- upgrading of base services.

3. The estimated cost of the proposed work when referred to the Committee in September 1986 was $19.20 million at August 1986 prices. However, at the public hearing the Department of Housing and Construction advised that the estimated cost had increased to $19.27 million at August 1986 prices. This was due to increased building area and services required for the proposed computer facilities.

THE COMMITTEE'S INVESTIGATION

4. The Committee received written submissions and plans from the Department of Defence (Defence) and the Department of Housing and Construction (DHC), and took evidence from their representatives at a public hearing held at HMAS Albatross on 24 October 1986.

5. Written submissions were received from the Shoalhaven City Council, the Shoalhaven Conservation Society and Mr John Murray. Evidence was given by a representative of the Shoalhaven City Council.

6. Prior to the hearing the Committee inspected the existing facilities on the base as well as the sites for the proposed works. A list of witnesses who appeared at the public hearing is at Appendix A.

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

BACKGROUND

8. HMAS Albatross is located approximately eight kilometres south west of Nowra and approximately 176 kilometres south of Sydney.

9. The base provides operational, maintenance, logistic and administrative support for the aircraft, equipment and personnel of resident squadrons and RAN ships' helicopter flights when disembarked. In addition, the base provides support for RAAF, Army and civilian aircraft operating in the area in support of the Fleet or on other tasks. It supports the National Task, operations in the Jervis Bay and East Australia Exercise Areas and hosts the Australian joint maritime warfare centre, Australian joint acoustic analysis centre, aircraft maintenance and flight trials unit, RAN tactical electronic warfare support section (RANTEWSS), RAN aircraft maintenance examination board and the Army parachute training school. The current established strength is approximately 1000 Service personnel and 200 civilians.

THE NEED

10. Seahawk Helicopter Facilities In 1983 the Government announced as a matter of high priority the acquisition of Anti Submarine Warfare helicopters for the FFG destroyers. On 6 May 1985 it approved the acquisition of eight Sikorsky S70B Seahawk helicopters. The acquisition of a further eight was approved on 29 April 1986. In support of these helicopters the Government approved the acquisition of a flight simulator.

11. The first of the aircraft is due to be delivered in March 1988, the second in May 1988 and then one per month from August 1988. Computer equipment for the development and support of weapons system software will be delivered in September 1987.

12. In addition to the deployment of aircraft on-board FFGs, there will be a Seahawk squadron at HMAS Albatross. This squadron will conduct training of both aircrew and maintenance personnel, headquarters parenting of embarked aircraft, and provide a base for ship's flight aircraft when disembarked at HMAS Albatross for approximately 3-4 months per year.

13. Whilst major facilities such as runways, taxiways, hangars, workshops, administration offices, messes and accommodation buildings exist at HMAS Albatross the arrival of the sophisticated and complex Seahawk will necessitate the construction of some additional facilities and upgrading of others.

14. Weapons System Support The computerised avionics and weapons sensor system installed in the Seahawk is a new concept not previously supported at HMAS Albatross. The weapons system is based on a central tactical computer and digital data-base which will accept inputs from various sensors, manage the entire mission data, and present the processed information as required by the aircrew. Previous experience with such systems in other services has indicated the need for a dedicated unit to manage and support the complex software and provide developmental capability through the life of the aircraft. Computer equipment associated with the task has been ordered. To house this equipment and the personnel engaged in operating the unit a new building is required.

15. Avionics Facilities required to support avionic systems fitted in Navy's present aircraft types are housed in the avionics workshop at HMAS Albatross. This area is currently congested with equipment being stored in toilet and access areas. The introduction of the Seahawk will require more work and storage space. The workforce is expected to increase from 54 to 70. There is also a need for female change and toilet facilities due to the employment of female technicians.

16. Maintenance For aircraft to be maintained in an operational state of readiness, close maintenance support is required for the activities carried out on the flight line and in the hangar. Apart from the three large hangars, A, B and J, the remainder are relatively small and will be eventually removed as they are too close to the taxiway and the flight line. Hangar A presently accommodates the Sea King helicopter squadron while hangar B is the main maintenance hangar for higher levels of maintenance.

17. Maintenance support for the Seahawks will be required in the following areas:

- workshops are required to check equipment and diagnose faults, perform non-destructive testing, prepare equipment to be fitted to aircraft and repair equipment to the operating maintenance level;

- storage areas are required to provide undercover protection of ground servicing equipment, aircraft role equipment and spares support including confidential spares;

- squadron technical administrators are responsible for repair of aircraft to the operating maintenance level within the limits of the personnel and skills available. Office accommodation and documentation rooms are required for these personnel.

18. Activities carried out in the workshops include paint stripping, components pre-assembly/disassembly, composite material repairs, minor sheet metal repairs, spray painting and component cleaning all of which can be hazardous to personnel or potential causes of fire and could pose a danger to aircraft undergoing maintenance in the hangar.

19. The existing maintenance areas inside hangar J do not provide an acceptable environment for the activities to be undertaken and are functionally unsuited to the maintenance of sophisticated aircraft.

20. Flight Line Building During aircraft operations there is a requirement for maintenance personnel to remain close to the flight line to refuel, re-arm, and to conduct minor maintenance and aircraft pre-flight preparations. A building is required to provide secure storage for test equipment, ground support equipment and other frequently used items, a briefing area for documentation and discussion on aircraft unservicabilities and shelter and amenities for flight line crews.

21. Aircraft Washdown The primary mission of the Seahawk helicopters is performed at low and medium altitude over water and most of the operational flight training will also be conducted in the same environment. Hence when ashore, an active anti-corrosion program must be carried out. This requires high quality hardstandings with a fresh water wash system, capable of cleaning the salt out of all deposit areas and flushing it away to drains which take it clear of all aircraft operating and parking areas. The existing aircraft wash area at HMAS Albatross is located near A hangar and remote from the proposed Seahawk operating area. A new facility is required close to the Seahawk area.

22. Simulator A new flight simulator/weapon system trainer is being purchased to ensure proficient training for the Seahawks. The new simulator will be larger than the existing Sea King simulator which will continue to be used while the Sea King remains in service. To cater for the additional workload the staffing of the simulator complex will be increased by 12. As well as a structure to house the new simulator equipment it will be necessary to provide extra offices, classrooms, storage areas and amenities.

23. Supply Complex At present HMAS Albatross stores are housed in a collection of 12 separate structures in locations spread over an area of approximately 1.5 hectares. The stores buildings maintain some 80,000 line items conservatively valued at $20 million. Most of the buildings are about 40 years old and have reached the end of their useful life. They are no longer suitable for efficient performance of stores functions due to their dispersal, poor quality, lack of environmental control and unsatisfactory working conditions.

24. The environmental conditions within the existing stores buildings are unsatisfactory. The poorly sealed and uninsulated buildings permit extremes of temperature with the ingress of water and dust creating sub-standard working conditions for personnel and resulting in the reduced shelf life of stock. Loss due to deterioration of shelf-life is approximately $53,000 per annum. As no dedicated bulk storage facility exists within HMAS Albatross, a hangar has been used for this purpose.

25. It is anticipated that the inventory will increase to about 100,000 line items following the introduction of the Seahawk. The total value of these stocks will be approximately $30 million. A new supply complex will therefore be needed to house these items.

26. RANTEWSS Building Since its formation in 1981 RANTEWSS has occupied several 40-year old buildings. The nature of work carried out by RANTEWSS - the storage of sensitive classified equipment - requires special facilities to National Security standards. The current buildings do not comply with and cannot be upgraded to those standards and also lack adequate space for personnel and equipment. The cramped conditions have an adverse effect on staff morale and efficiency. The existing facilities do not provide an acceptable environment for the activities, and lack temperature/humidity control.

27. Upgrading of Fire Protection at Hangars A, B and J There are eight aircraft hangars at HMAS Albatross and these hangars will, post 1988, be utilised as follows:

(a) A hangar: Sea King and HS 748 fixed wing aircraft operating level maintenance.

(b) B hangar: aircraft support unit (ASU). ASU provides up to depot level maintenance on all Naval aircraft types.

(c) C hangar: air technical sailor training workshops and storage of aircraft training aids.

(d) D hangar: maintenance of aircraft used for training of air technical sailors.

(e) E hangar: storage of ground support equipment and aircraft awaiting disposal or restoration.

(f) F hangar: civil charter jet aircraft maintenance, overflow Squirrel helicopter maintenance and maintenance of Wessex helicopters until expiry of life of type.

(g) G hangar: airfield fire and salvage vehicle garaging and maintenance of civil target towing aircraft.

(h) J hangar: Seahawk and Squirrel operating level maintenance.

28. A, B and J hangars are the largest hangars on the air station and are the main centres for operational maintenance. Hangars C, D, E, F and G are too close to taxiways and are master-planned for replacement if an increase in aircraft numbers

dictate the need for additional hangarage. They are only used for utility role aircraft.

29. Fire detection in hangars, outside normal working hours, is currently afforded by the bursting of quartzoid bulbs located in the sprinkler heads. By the time a quartzoid bulb has burst, the fire is likely to have reached large proportions. This system does not satisfy the very early detection requirements regarded as essential when taking into consideration the value of the contents of hangars A, B and J.

30. Control of a fuel spill fire is currently afforded by conventional water sprinkler systems, external fire hydrants and first attack fire-fighting appliances. The sprinkler system has several deficiencies including:

- the water supply (i.e., that boosted supply capable of providing adequate pressure and flow) is totally reliant on electrical power;

- there is an inadequate second source of water supply in case the sprinkler main is out of service or fails during a fire; and

- a conventional water sprinkler system is unlikely to successfully control a fuel spill fire before major damage is inflicted on very expensive aircraft.

31. Other existing fixed arrangements to help control a fuel spill fire are external hydrants and first attack appliances.

32. Deficiencies with current fixed fire protection arrangements consist of:

- lack of an early warning fire detection system;

- lack of reliably boosted water supply for sprinklers;

- inability of the water sprinkler systems to successfully control a fuel spill fire in the required timescale;

- lack of ancillary features such as heat/smoke vents, small bore reels, etc., which assist in the control of fire;

33. Committee's Conclusion There is a need for the construction of additional facilities as well as the upgrading of existing facilities to support the Seahawk helicopters which will be deployed at HMAS Albatross from March 1988.

THE PROPOSAL

34. The proposal is for:

- the construction of a new building to house a flight simulator and aircraft weapons system support centre for Seahawk helicopters;
- a maintenance facility for Seahawk helicopters;
- extensions to the avionics workshops building;
- a new supply complex building;
- a new building to house RANTEWSS;
- upgrading of the fire protection at hangars A, B and J; and
- upgrading of base services.

FLIGHT SIMULATOR AND AWSSC BUILDING

35. It is proposed to locate the new simulator facility adjacent to and linked with the existing simulator building. The Sea King simulator and the Seahawk simulator will both

operate simultaneously. The Committee was advised that the building will also house the software centre. The AWSSC facility will be combined with the new simulator building and will share services and amenities.

36. It is proposed that the simulator facility of the building is planned with the motion room located in a central position, with plant, workshops, computers and stores arranged on three sides on the ground floor; offices and training facilities arranged on three sides on the first floor; with air handling plant for the motion room on the second floor. This arrangement will provide a compact circulation pattern and will allow clear external access to the motion room.

37. The weapons facility will be housed on two floors with reception and managerial offices having direct access from the main entrance. The computer and its associated rooms will be located on the ground floor. General offices and training facilities will be located on the first floor along with the main plant room for the whole building.

38. Screened rooms will be organised in a compact format to simplify construction.

39. The facade will be designed to provide security, reduce heat gain and provide sound attenuation. The building has been planned to form part of a precinct of new buildings merging with existing adjacent buildings.

40. Structure and Construction The ground floor of the building will be reinforced concrete slab suspended on piers and beams. The drilled piers will be founded on weathered sandstone at a depth of approximately three metres. The first and second floors will be of reinforced concrete supported on reinforced concrete columns. The roof structure will be steel framed.

41. Materials and Finishes External walls will be face brick from the local brick range, to complement the existing simulator building, and metal cladding. Windows will be double glazed in anodised aluminium frames. The removal panels will be pre-finished metal construction. Internal walls will be painted plasterboard on stud framing and plastered and painted blockwork. All floor areas will be carpeted except in wet areas where ceramic tiles will be used, and store rooms and workshops which will be steel trowel finished concrete. The Committee was informed that carpeting in the flight simulator facility and the AWSSC building is necessary for noise attenuation. Carpet would also help reduce the costs and manpower required for cleaning the facility, compared to lino or tiles.

42. Electrical Services The substation in the existing simulator building is inadequate to service the new building. That substation is to be abandoned and a 11kV supply cable is to be run to a substation to be established in the new building. The existing simulator building will be fed from this substation.

43. The main switchboard for the new building will be established adjacent to the substation. The distribution system within the building will be arranged to allow isolation of individual areas for maintenance with minimal disruption to other areas. General lighting will be tubular fluorescent lamps. Exit, emergency and external security lighting will be provided. Lightning protection will be installed to the building.

44. Mechanical Services All occupied areas of the building will be air conditioned. Comfort air conditioning will be provided for most sections of the simulator and AWSSC sections of the building from air handling systems located in a plant room on the first floor. Special air conditioning systems will be provided to the motion, computer and data/monitor rooms, and the AWSSC computer room and test rig. Toilets, change rooms and brew rooms will be mechanically exhausted. An exhaust system will be

provided to those areas protected by Halon gas flooding systems. A 600kg overhead travelling crane will be provided to service the motion room. The hydraulic room will be naturally ventilated.

45. Fire Protection Smoke detectors and Halon gas flooding will be provided to the simulator computer and the data/monitor rooms. Smoke beam detectors will be provided to the motion room. All other areas of the building will be protected by thermal detectors. Internal fire hose reels and external fire hydrants will be provided. The automatic fire alarm system will include manual call points.

46. Hydraulic Services The existing sewer passing under the proposed building site, will be relocated. All water supply, sewerage and stormwater systems will be connected into existing service mains.

47. Trade Wastes A collection tank will be fitted to drainage lines from the hydraulic plant room to collect any oil spillage. The collection pit will be pumped out by a tanker service.

48. Roads and Carparks Carparking for 10 cars will be provided in front of the supply complex. An access road will be constructed to allow for servicing the new building and the existing simulator. Access will be provided from the existing alignment of Swordfish Road to the simulator.

49. Landscaping Minor landscaping works will be developed with the new building. A new pedestrian link will be provided from Swordfish Road to access the new simulator/AWSSC building and the new supply complex which is to be developed to the north. This access way will also serve the future administration building.

EXTENSIONS TO THE AVIONICS WORKSHOP

50. The existing avionics workshops building is 15 years old and is located on level ground between Skua and Fulmar Roads in the centre of the technical and administrative support zone of the base. It is in good condition and is suitable for continued usage. The proposed extensions to the workshops are to be located on the open area at the south-western end of the existing building.

51. The proposed extensions are to be joined to the existing workshops using the same form of construction, which features a walk-through ceiling space housing services. The layout of the extensions and changes to existing areas have been organised to utilise existing facilities where possible, and the extensions are designed to be carried out in two stages to maintain operation of the existing facilities. The building facade will be designed to provide security, reduce heat gain and provide sound attenuation.

52. Structure and Construction The floor slab will be suspended on pier and beam foundations. The piers will be founded on rock approximately five metres below ground level. As this system is identical to the existing building, differential movements should not occur between the two sections of the building. The extension will be single storey. The roof framing will be a direct extention of the existing system of steel trusses clear spanning internal areas with supporting perimeter columns.

53. Materials and Finishes The extensions will have brick external walls with double glazed windows and metal deck roof and deep fascias to match the existing building. Internal walls will be rendered masonry. Ceilings will be plasterboard. The accessible roof space will have a timber floor at the bottom

chord level of the roof truss. Workshop floors will be covered with sheet vinyl. The stores area will have a steel trowelled concrete finish. Ceramic tiles will be used in wet areas.

54. Electrical Services The existing 11kV supply mains are of adequate capacity to supply the extended building. The two transformers in the existing substation will be replaced by larger units to accommodate the increased electrical loading. Power converters will be located in the roof space. General lighting will be tubular fluorescent lamps. Exit, emergency and external security lighting will be provided as well as an electronic equipment earthing system. Lightning protection will be provided to the whole building.

55. Mechanical Services All work areas in the building extension will be air conditioned. The new avionics stores and test equipment store; the avionics workshop extension and common rooms, will be serviced by package unit air conditioners supplying air via ceiling diffusers similar to the existing system. The air conditioning system serving the existing building will be modified and the whole air system rebalanced.

56. New exhaust systems will be provided in the micro-miniature repair cell and the ablutions areas. The compressed air reticulation system will be extended to the new benches and stores area. The existing vacuum system for housekeeping will be extended to serve the new workshops and stores areas.

57. Fire Protection The existing system of thermal and smoke detectors will be renewed within the existing building and extended into the new building extensions. New hydrants and hose reels will be provided.

58. Hydraulic Services Existing stormwater, sewerage and water supply services will be relocated from the area of the extensions of the building, and these services will be extended to service the new section of the building. The water supply for fire fighting services will be augmented.

59. Roads and Carparks Parking will be provided for three service vehicles off Skua Road.

60. Landscaping Existing landscaped areas around the building will be protected and reconstituted following construction works. Landscaped beds will be provided around the perimeter of the extensions, to match those around the existing building.

61. Security Electrical systems for intruder detection will be installed.

MAINTENANCE FACILITIES FOR SEAHAWK HELICOPTERS

62. It is proposed that the facilities consist of three components:

- a squadron maintenance support building;
- a flight line operation facility building; and
- an aircraft washdown facility.

63. Squadron Maintenance Support Building It is proposed that the building be located on the hardstanding area on the western (or flight line) side of hangar J, on the southern side of the base. This will avoid disturbing existing service mains.

64. The building will consist of a two-storey office and personnel facilities section and a single-storey workshop and stores area. The office areas will be separated from the workshops by the main entry lobby to minimise sound transfer.

The building is connected to hangar J by a covered link. The extent of the building form is restricted by a requirement for 45 metres clearance from the centreline of the taxiway; by the location of underground services running on the western side of hangar J; and by fire separation requirements associated with buildings adjacent to a fire source such as hangar J. Because of its location, sound attenuation measures have been incorporated into the design of this building. The facades have been designed to reduce heat gain whilst commanding vision over the flight line.

65. Structure and Construction The ground floor of the building will be a reinforced concrete suspended floor slab supported on bored piers founded on rock.

66. The first floor and roof of the two-storey section of the building will consist of reinforced concrete flat slabs supported on reinforced concrete columns.

67. The single-storey section of the building will be a portal framed steel structure.

68. Materials and Finishes External walls will consist of precast concrete panels with exposed aggregate external face and painted internal face in all areas except the workshops. Windows will be double-glazed. Windows on the northern and western faces will have sunshading consisting of tinted polycarbonate panels. These panels will reduce heat and glare without interrupting vision to the flight line.

69. The Committee was advised that windows would not normally be located on the western side of the building. However, this is necessary due to the need for the operators within the maintenance facility to have observation of the apron areas.

70. Internal walls to the offices area will be steel stud partitions lined with painted plasterboard. Internal walls to the stores and workshops will be masonry. A suspended acoustic tile ceiling will be provided in the offices area. The ceiling of the workshops and stores area will be an insulated board construction. The whole building will be covered by a metal deck roof. Floors to the office areas will be sheet vinyl with ceramic tiles in wet amenity areas, and steel trowelled concrete in plant, workshops and stores areas.

71. Electrical Services The new building will be supplied with power from the existing substation in hangar J. The building will have a wall mounted steel cubicle switchboard. Conversion facilities will be centred in the southern end of the building remote from the working areas. General lighting will be by tubular fluorescent lamps. Exit, emergency and external security lighting will be provided. Lightning protection will be installed.

72. Mechanical Services The building will be air conditioned throughout, except for amenity areas which will be mechanically ventilated. Two package air conditioning units will serve the two-storey section of the building whilst the stores and workshops area will be served by a separate package unit. The spray paint and fibreglass repair areas in the workshops will be provided with exhaust hoods. A small receiver mounted air compressor will supply compressed air to four outlets in the workshops.

73. Fire Protection All areas of the building will be protected by a wet pipe sprinkler system. Hydrant and hose reel facilities will be provided.

74. Hydraulic Services Water supply, sewerage and stormwater drainage will be connected into the existing base services. Trade wastes from the workshops will drain via a flame trap to an external sump from where it will be pumped out to a tanker for disposal.

75. Security Electrical systems for intruder detection will be installed.

76. Flight Line Operation Facility The present building is located on the grass verge to the west of the flight line. It is proposed to replace this temporary building with a lightweight transportable structure.

77. Structure and Construction The building will be a transportable steel frame which will be tied to concrete pad footings.

78. Materials and Finishes The building will consist of steel stud walls and partitions lined externally with metal cladding and internally with plasterboard. External walls will have insulation installed between studs.

79. Services The building will be air conditioned and serviced by electricity and water and will have a septic tank sewerage system.

80. Aircraft Washdown Facility A section of the existing concrete apron north of hangar J will be utilised for the wash area with a new perimeter drain constructed to collect wash waters. Slab joints will be cleaned out and resealed to prevent water penetration into the subgrade. A kerb will be provided to prevent stormwater drainage from adjacent pavement entering the waste water system.

81. DHC advised the Committee that it was more efficient to have the washdown facility close to the area where the Seahawks are operating and where they will also be maintained and housed overnight.

82. Services A water service will be provided for two hoses adjacent to the washdown area. Waste waters will be collected by means of grated drains discharging to a trade waste collection pit. These waters will be pumped to a plate separator and the effluent will gravitate to a sewer. Sludge from the separator will be collected in drums for removal by the trade waste disposal contractor. An overflow pipe collecting from near the base of the trade waste collection pit will deliver stormwater flows to the stormwater system. Compressed air will be supplied to two outlets at the washdown area from an air compressor located in the equipment storage shed. An earthing system will be installed at the facility.

SUPPLY COMPLEX

83. The proposed building is to be sited on land bounded by Gladiator, Seafox and Swordfish Roads. The site is partly occupied by disused tennis courts and four old buildings. Adjacent to the site are the ditching pool, the motor transport compound, and the pumping station and storage tank associated with the fire protection sprinkler system for the base. Most of the site area is open land gently sloping to the west from Gladiator Road. Areas of the site are being used as a temporary carpark.

84. The Committee queried the possible disadvantages of concentrating the supply of stores in one building particularly from the point of view of fire. DHC advised that fire and security measures being designed into the new supply complex will result in the general structure of the building being more fire resistant than the present buildings. Defence also advised that

highly flammable stores such as paints, chemicals and oils will be stored elsewhere in an existing flammable store. Defence believes that there is greater management and control if all stores are accommodated in the one building. Other savings in using a single building include the lower cost as well as savings in manpower. The single building would also provide a more efficient energy management approach and reduce maintenance costs in the long term. The Committee was advised that the design of the stores building allows for additional bays to be added in the future thus increasing the building area by approximately 10 per cent, although there are presently no plans to do so.

85. The proposed building will be located to form a planned precinct development together with the flight simulator and AWSSC facility, which is also part of this Stage 1 development and a future administration building which is proposed for Stage 2 of the Albatross development. Existing constraints on the siting of the building are the ditching pool which is to remain, and the water tank and pump station which are to remain until the upgrading of the water supply (as part of the hangars A, B and J fire protection upgrading) has been completed. The building will be related to the realigned form of Swordfish Road, and this roadway will form the major vehicular access for the receipt and despatch area of the warehouse. The vehicular entrance door will be aligned to afford protection from the prevailing westerly winds, for the stores receipt and despatch area. The building form will consist of a main warehouse, with associated stores facilities, offices and amenities as annexes on the south-western and south-eastern faces of the warehouse. In this arrangement, the offices face a landscaped forecourt. A vehicular access will be provided off Fulmar Road to a carpark serving the personnel stores issue section. The layout of the warehouse will allow for possible future extension of the bulk store. The building will be designed to relate in scale and finish to the existing ASU workshops building to the north-east. A sheltered landscaped courtyard will be developed between the stores complex and

Gladiator Road, linking with the outdoor recreation area across Gladiator Road.

86. Structure and Construction The warehouse portion of the building will be of clear span steel portal frame construction. The single-storey offices/stores/amenities annexes will be of steel framed construction. The structure will be supported on reinforced concrete pier and beam foundations, with piers founded on rock. The floor of the warehouse will be supported on stablished material formed by the removal of the reactive clay strata and replacement of that excavated material with compacted granular material. The officers/stores/amenities annexes will be supported on pier and beam foundations.

87. Materials and Finishes The warehouse section of the building will be clad in stressed cast concrete panels with a finish to match the colour and texture of the nearby ASU workshops. The roofing will be coloured metal sheeting with insulation, with transparent roof sheets and diffusers to provide natural lighting. Roof vents will be provided. The offices/stores/amenities annexes will be of brick external walls with windows to relate to the proposed adjacent simulator building. The roof system of these annexes will consist of coloured metal roof sheeting with insulation. Acoustic panels will be provided to reduce noise levels in these occupied areas. Internal walls will be painted plasterboard, rendered masonry and lightweight glazed partitions. Ceilings in the offices will be painted plasterboard. Floor coverings in the office area will be carpet with ceramic tiles in the wet amenities areas.

88. Electrical Services The existing 11kV distribution supply mains will be extended and a new substation established for this building. A main switchboard with submains cabling will supply distribution boards and main items of plant. General lighting in the offices/stores/amenities annexes will be tubular fluorescent lamps. Lighting to the main store will be by high bay luminaires

fitted with high pressure sodium lamps. Exit, emergency and external security lighting will be provided. An uninterrupted power supply system will be provided for the computer installation. The building will be equipped with a diesel alternator set. Lightning protection will be provided.

89. Mechanical Services The receipt and despatch area will be heated by direct LP gas fired radiant tubes. The office areas, flying clothing, loan clothing, repayment clothing and bedding stores will be provided with comfort air conditioning. The print and computer rooms will be air conditioned. The flying clothing store, cool room and secure store will be provided with forced draft coolers. The tool control, defective equipment and RAAF store will be heated and ventilated. Exhaust ventilation will be provided to the amenities areas. Heat and smoke vents will be provided in the warehouse area.

90. Fire Protection A sprinkler system will be installed throughout the building. Operation of the sprinklers will activate an alarm in the guardhouse. Manually operated alarms also will be connected to the guardhouse. Halon gas flooding will be provided to the underfloor area of the computer room. The fire mains in Swordfish Road are to be augmented and the reliability of the water supply is to be upgraded as part of the Stage 1 development project. On completion of that water supply upgrading, the existing storage tank and pumping station between the building and Swordfish Road, will be removed.

91. Hydraulic Services An existing unused sewer main under the building site will be demolished. The building will be connected to an existing main downstream of the building. The existing stormwater drainage system will be augmented to take flows from the new building. A concrete path is proposed around the perimeter of the building to shed water away from the building to control soil movements. A grated drain will be located at the

outer edge of the path to intercept overland flow and convey it to the stormwater system.

92. Roads and Carparks The marshalling area on the western side of the building will be concrete pavement. A section of the realigned Swordfish Road will be built to service the warehouse section of the building. A new road and carpark will be constructed on the eastern side of the building to service the personnel stores area of the building. Road surfaces will be two coat flush seal. Carparks will be provided with flush seal and kerbs.

RAN TACTICAL ELECTRONIC WARFARE SUPPORT SECTION FACILITY (RANTEWSS)

93. The proposed facility is to be located on land between Fulmar Road and the fuel farm, south-east of the avionics workshops building. Part of the site is currently occupied by huts which will be relocated. The building will consist of three major areas:

- administration and training;
- screened secure areas;
- secure stores and workshops.

94. The central facilities to RANTEWSS are the screened areas, which have been located as the core of the building with other main areas radiating from it. The main entry is into the administration area whilst truck access is provided into the workshop area. Both entrances are to be covered and face north, away from prevailing winds. The facades will be designed to provide security, reduce heat gain and to provide sound attenuation. Plant rooms and an aerial tower will be located to the rear of the building.

95. Structure and Construction The two-storey office section will consist of a reinforced ground floor slab system suspended on pier and beam foundations. The first floor will be a reinforced concrete slab system supported on reinforced concrete columns. The roof in this area will be steel trusses supported on steel columns providing clear spans over internal areas. The single-storey section of the building will be of steel framed columns and trusses providing clear spans over internal areas. Columns will be supported on a bored pier foundation system. The floor system in this area will consist of a stiffened concrete raft slab.

96. Materials and Finishes External walls will be face brick with the concrete building frame exposed. These walls will be rendered and painted on the inside face. Internal walls will be of plasterboard on steel studs. Floors of office areas will be carpetted. Amenities areas will be finished with ceramic tiles. Stores areas will have steel trowel concrete finish while the workshops and computer floor areas will have an anti-static vinyl finish. Ceilings generally will be suspended tile. The roofing system will be pre-finished metal decking over a built up panel system which will provide sound attenuation. Acoustic doors will be provided externally.

97. Electrical Services Electrical power will be supplied from a nearby substation. A switch room will be provided within the new building. A separate electrical equipment plant room will accommodate conversion machinery and a DC generator. General lighting will be by tubular fluorescent lamps. Emergency escape lighting and external security lighting will be provided. Lightning protection will be provided to the building.

98. Mechanical Services All work areas within the building will be air conditioned. Non-working areas such as toilets and locker rooms will be mechanically ventilated. An air compressor and receiver will provide compressed air to the workshops.

A 2-tonne hoist and monorail system will be provided to transfer equipment between the stores reception area and the store and workshops.

99. Fire Protection A thermal detection system with manual call points will be provided throughout the unscreened areas of the building. The screened areas will be protected by a gas flooding system. Fire alarm signals will be transmitted to the existing alarm panel in the guardhouse.

100. Hydraulic Services The existing sewer main is to be relocated clear of the building. Water, sewerage and stormwater systems for the building are to be connected into existing mains.

101. Roads and Carparks Administrative access to the building will be via Fulmar Road. Carparking facilities will be provided in this area. Access to stores and workshops area will be via a new road off Seafire Crescent. Hardstanding areas will be provided adjacent to the building for four caravans, and further carparking areas will be provided to the south-east of the site. A total of 25 parking spaces will be provided.

102. Landscaping Earth mounding and landscaping will be used to improve the aspect from the office section of the building.

FIRE PROTECTION OF HANGARS A, B AND J

103. Hangars A and B are located at the northern end of the operational area of the base and hangar J is located at the southern end. Each of the hangars is protected by an existing water sprinkler installation which is inadequate to meet current standards for protection of strategic aircraft. The intent of the fire protection to these hangars is to protect strategically important aircraft in the event of a fuel spill fire. The proposed system is capable of rapidly controlling and extinguising such a fire whilst presenting minimal risk of

inadvertent damage to stored aircraft. Both the existing water and high voltage supplies and reticulation systems on the base require upgrading to meet the increased loads created by the proposed new hangar fire protection system and other base development elements of this project.

104. It is proposed to upgrade the fire protection of each of the three hangars by the provision of a new four zone overhead foam/water deluge system. The foam/water deluge system will be designed to be manually operated during the daytime when personnel will be in the hangar maintaining aircraft. This will be switched to automatic operation in times of low level manning. Defence advised that over long weekends or periods of leave, the aircraft would be spread out into groups thus reducing the likelihood of spread of fire. The fire-fighting training school is also located at HMAS Albatross and the personnel involved therefore have a very high level of knowledge and experience in dealing with fires.

105. Manual operation will be arranged via a secured fire indicator board and deluge control panel. Automatic operation will be arranged via a dual circuit fire detection system. Automatic operation initially could be in a plain water discharge mode with a manual switch at the fire indicator board to provide for the introduction of foam, or the system could be set to operate automatically in the foam/water discharge mode. The fire detection systems in each hangar will consist of an optical beam detection system and an infra-red flame detection system, arranged for dual circuit operation. Alarm signals will be relayed to the guard house and to the fire station. The existing water fire sprinkler installation serving each hangar will be upgraded, and the role of this system will be to cool the hangar structure in the event of fire. Each hangar will be serviced by foam/water hose reels.

106. Defence assured the Committee that since a major fire occurred on the base in 1976, security measures have been tightened. The hangars are monitored 24 hours a day from a security and fire warning panel on a computer system.

107. Trade Wastes The existing waste water drainage system from the hangar floors will be upgraded to allow for the collection of contaminated water for removal by road tanker.

108. The proposed system will provide for:

- intercepting the existing hangar waste drains downstream of the existing flame traps with a new trade waste gravity pipeline discharging to a collection sump;

- the extension of facilities at hangar A to incorporate the aircraft wash area to the north of that building;

- new grated drains will be provided inside the hangar doors at the Swordfish Road entrances to hangars A and B and inside the main hangar doors for hangar J. These drains will discharge via flame traps to collection sumps. These sumps will be equipped with overflows drawing from near the bottom of the sumps to discharge overflow to stormwater drains.

109. This system will be designed to be extended at a later stage, when pumps will discharge the waste waters via a waste pre-treatment plant to an upgraded sewage treatment works.

110. Building Works Building works associated with the upgrading of fire protection to the three hangers will include:

- the provision of heat and smoke vents to hangars A, B and J;
- the provision of heat and smoke baffles to the roof of hangar J;
- the provision of kerbing and handrails between the main hangar floor and annexe rooms to hangars A and B;
- the provision of additional personnel access doors to hangars A and B;
- the demolition of existing annexes on the western side of hangar J;
- the provision of weatherproof housings for all foam tanks and pumps and system controls.

111. Electrical Services The existing substation serving hangars A and B will be replaced. Minor maintenance works will be carried out on the associated HV supply main. Supply cables will be provided to all new fire-fighting equipment. Exit and emergency lighting will be provided to each hangar. The existing system of fire alarm/control cables will be upgraded where necessary to allow monitoring of the Nowra Hill pumps and to monitor the fire status.

112. Security Electrical systems for intruder detection will be extended in each of the three hangars. Defence assured the Committee that the hangars will be monitored 24 hours a day. Security is also provided by dog patrols.

UPGRADING OF SERVICES

113. Hydraulic Services Significant upgrading of the existing water supply system is required to provide the quantities and pressures of water necessary to serve the foam/water deluge system, the secondary sprinkler system, and the base hydrant system.

114. The extent of upgrading of the water supply is:

- the construction of a new pump station on Nowra Hill to replace the existing pump station. The pump station will contain four new pumps. One electrical and one diesel pair will be dedicated to boosting a fire main to serve deluge valves and sprinklers only, and one electrical and one diesel pair to boost the existing domestic/hydrant system.

- the construction of a new dedicated fire main from the existing Nowra Hill storage tanks to serve the deluge control valves and sprinklers. This main will run parallel to the existing fire main and will be capable of being interconnected with it through a system of branch mains and valves, approximately 300 metres apart.

- the segregation of the dedicated fire mains from the existing base mains system to prevent foam contamination.

- the upgrading of hydrants near the three hangars.

- the provision of new outlets to the Nowra Hill storage tanks to allow for improved base mains gravity supply and to increase dedicated fire storage.

115. Electrical Services The existing 11kV supply mains and substation servicing Nowra Hill will be upgraded to service the new water pumps. The high voltage distribution will be altered to form a ring main system to improve the reliability of the supply.

116. New Pump House and Substation The proposed new pump house and substation will be located to the west of the existing pump house on Nowra Hill. The building will be a steel portal framed structure supported on bored concrete piers and reinforced concrete beams. External walls will be cavity brickwork. The ground floor slab will be floated on compacted sub-base, independent of the building structure. The roof will be pre-finished metal decking. Windows and ventilators will be colour anodised aluminium. A 5-tonne capacity monorail will be supported off the portal framed roof structure. The existing Nowra Hill pump station will be demolished.

117. Security Electrical systems for intruder detection will be installed in the new pump house and substation building.

118. Construction Most of the building work will take place during normal working hours. Access to the construction site will be via the golf course and workers will be restricted from certain areas of the base. The construction sites will be fenced and persons entering these areas will be issued with passes.

119. Committee's Conclusion The Committee agrees that the works proposed in this reference will be adequate to support the deployment of Seahawk helicopters at HMAS Albatross and will also improve the overall efficiency of the base.

LONGER TERM PLANNING

120. A second stage in the development program for HMAS Albatross is planned in the Defence Five Year Program in accordance with a Master Plan developed by DHC. It comprises:

- an operations, communications and administration building;
- liquid waste disposal facilities;
- upgrading of emergency power supplies and high voltage reticulation;
- a survival equipment maintenance building; and
- a new hospital.

121. In 1987/88 it is also planned to construct a permanent aircraft fire fighting training area at an estimated cost of $0.9 million and an acoustic analysis area at an estimated cost of $1.1 million. The fire fighting training area is required to alleviate the more urgent liquid waste disposal requirements and the acoustic analysis centre to relieve overcrowding and security problems associated with the existing centre.

ENVIRONMENTAL CONSIDERATIONS

122. Noise The Committee was assured by Defence that noise pollution would not be a problem to nearby residents. A survey carried out in 1984 found that none of the aircraft operating at the base was a cause for concern.

123. Drainage Discharge The Committee queried whether the drainage discharge from the whole area met the requirements of the Shoalhaven City Council. Defence advised that drainage from the base when finally upgraded will be designed to meet the requirements of the State Pollution Control Commission. However, there are ongoing discussions between various authorities and a nearby landowner about run-off of rainwater from the base.

In 1984 a complaint was received from the South Coast Conservation Society concerning the presence of oil in Calymea Creek. A subsequent inspection by DHC failed to find any traces of oil as rain had washed out the creek. Due to general concern regarding the level of adequacy of all services within the base, DHC have conducted over the years a number of investigations into water supply, high voltage reticulation, pollution control and emergency power supply with a view to developing and upgrading these services for future developments. A report on the pollution and waste treatment aspects on HMAS Albatross has just been completed.

124. Waste Disposal The Committee queried the various waste disposal systems proposed for the base.

125. Wastes are presently taken into collection tanks through plant separators. These holding tanks are then taken by road tanker to Unanderra where the waste is treated by the contractor in accordance with State Pollution Control Commission requirements.

126. It is planned to upgrade the sewerage treatment plant in the Navy's 1987/88 works program. DHC believe that once those works are generated waste will be adequately catered for.

127. Use of Roads Concern was expressed by the Shoalhaven City Council at the safety of cyclists and joggers who use the roads between Nowra and the base. It was suggested that a cycleway would result in greater safety for the hundred or so who ride or jog daily. The Shoalhaven City Council tabled a report prepared in 1983 which recommended the construction of cycleways between HMAS Albatross and Nowra and this has been incorporated in the Minutes of Evidence. The cost of this cycleway would be approximately $300,000 subject to revision following detailed design works being carried out.

128. The Committee acknowledges that a cycleway would help to lower accidents involving cyclists and joggers and suggests that the Department of Defence should hold discussions with the Shoalhaven City Council and community groups regarding the possible provision of a cycleway to the base.

129. Urban Development The Committee queried the likelihood of urban development in the vicinity of the base. Although Defence considered this unlikely, the Committee believes that continuing discussions should take place between Defence and the Shoalhaven City Council to ensure that possible future urban development does not hinder the operations of the base.

CONSULTATIONS

130. The proposal was assessed by the Department of Defence in accordance with the administrative procedures under the Environment Protection (Impact of Proposals) Act 1974 and its impact had been determined to be minimal.

131. Consultations have taken place with the Illawarra County Council and the Shoalhaven City Council. The Illawarra County Council had expressed concern regarding the power supply and the power used by the base. The base is operating at a low power factor and as a result the Council has to generate additional electricity to supply the base. DHC advised that a project in this year's works program will result in the reduction of electricity needed to supply HMAS Albatross.

132. The Committee expressed concern that consultions had not taken place with various State authorities responsible for environment pollution. DHC confirmed that consultations had not taken place with the State Pollution Control Commission (SPCC) on pollution aspects of the project. This was due to pollution being contained in holding tanks which is taken away from the base via

cartage contractors. The DHC stressed that it would adhere to the requirements of the SPCC.

133. The Shoalhaven City Council expressed concern that while a presentation regarding the proposed project was made to the Council, there had been no prior consultations with Council officers.

134. Committee's Recommendation The Committee recommends that consultations take place with relevant state and local government bodies prior to its consideration of a proposal.

LIMIT OF COST

135. The limit of cost estimate is $19.27 million at August 1986 prices. This figure has been arrived at as follows:

Seahawk helicopter flight simulator facility and aircraft weapons system support centre building	$3.52m
Seahawk helicopter maintenance facility	$1.60m
extensions to avionics workshop	$1.60m
supply complex	$4.10m
RAN tactical electronic warfare support section facility	$3.10m
upgrading of fire protection to hangars A, B and J	$2.85m
upgrading of base services to meet the demands of the new and existing facilities	$2.50m
TOTAL	$19.27m

136. Committee's Recommendation The Committee recommends construction of the work in this reference.

RECOMMENDATIONS AND CONCLUSIONS

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

	Paragraph
1. THERE IS A NEED FOR THE CONSTRUCTION OF ADDITIONAL FACILITIES AS WELL AS THE UPGRADING OF EXISTING FACILITIES TO SUPPORT THE SEAHAWK HELICOPTERS WHICH WILL BE DEPLOYED AT HMAS ALBATROSS FROM MARCH 1988.	33
2. THE COMMITTEE AGREES THAT THE WORKS PROPOSED IN THIS REFERENCE WILL BE ADEQUATE TO SUPPORT THE DEPLOYMENT OF SEAHAWK HELICOPTERS AT HMAS ALBATROSS AND WILL ALSO IMPROVE THE OVERALL EFFICIENCY OF THE BASE.	119
3. THE COMMITTEE RECOMMENDS THAT CONSULTATIONS TAKE PLACE WITH RELEVANT STATE AND LOCAL GOVERNMENT BODIES PRIOR TO ITS CONSIDERATION OF A PROPOSAL.	134
4. THE LIMIT OF COST ESTIMATE IS $19.27 MILLION AT AUGUST 1986 PRICES.	135
5. THE COMMITTEE RECOMMENDS CONSTRUCTION OF THE WORK IN THIS REFERENCE.	136

D.J. Foreman

(D.J. FOREMAN)
Chairman

Parliamentary Standing Committee
on Public Works
Parliament House
CANBERRA

14 November 1986

LIST OF WITNESSES

Berger, H.P. Commodore - RAN, Naval Air Station, Nowra, New South Wales

Durant, Mr J.R., City Engineer, Shoalhaven City Council, City Administration Centre, Nowra, New South Wales

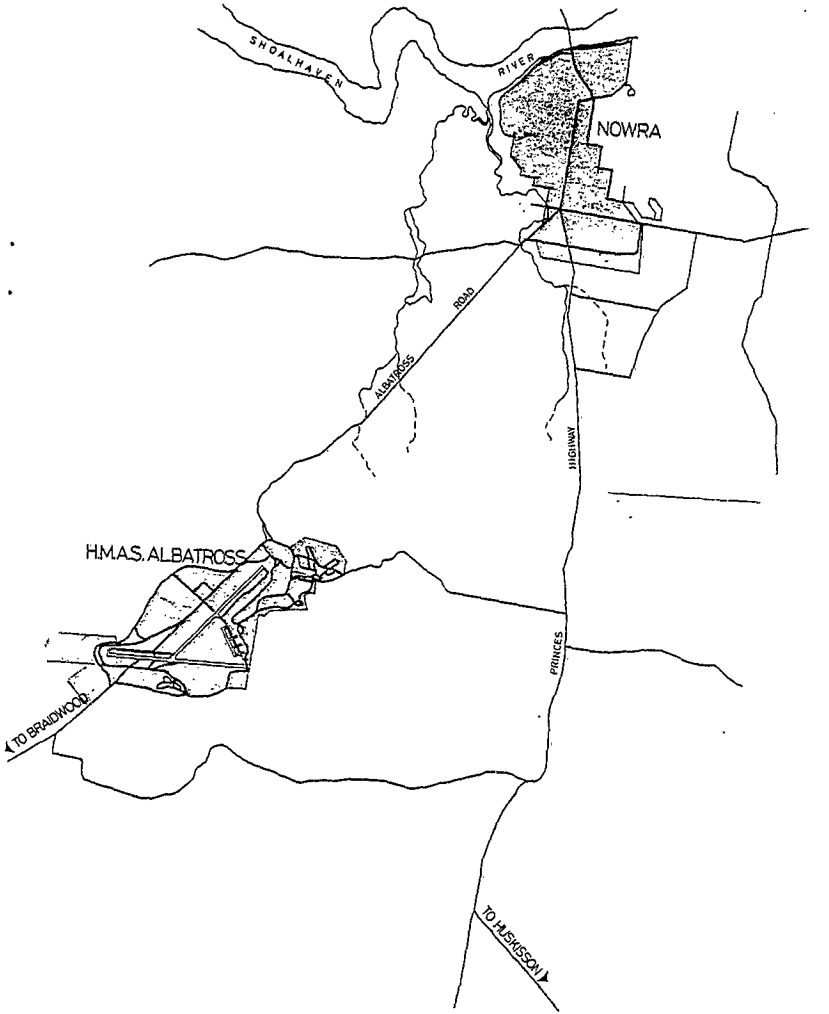
Fraser, Mr J.W., Acting Director, Facilities - Navy, Russell Offices, Canberra, Australian Capital Territory

Moore, M.J. Captain - RAN, Acting Director-General, Facilities - Navy, Russell Offices, Canberra, Australian Capital Territory

Silva, Mr M.E., Project Manager, New South Wales Region, Department of Housing and Construction, Sydney, New South Wales

Williams, Mr M.B., Chief Architect (Defence), Department of Housing and Construction, Canberra, Australian Capital Territory

ILLUSTRATIONS



(B-1)

LOCALITY PLAN

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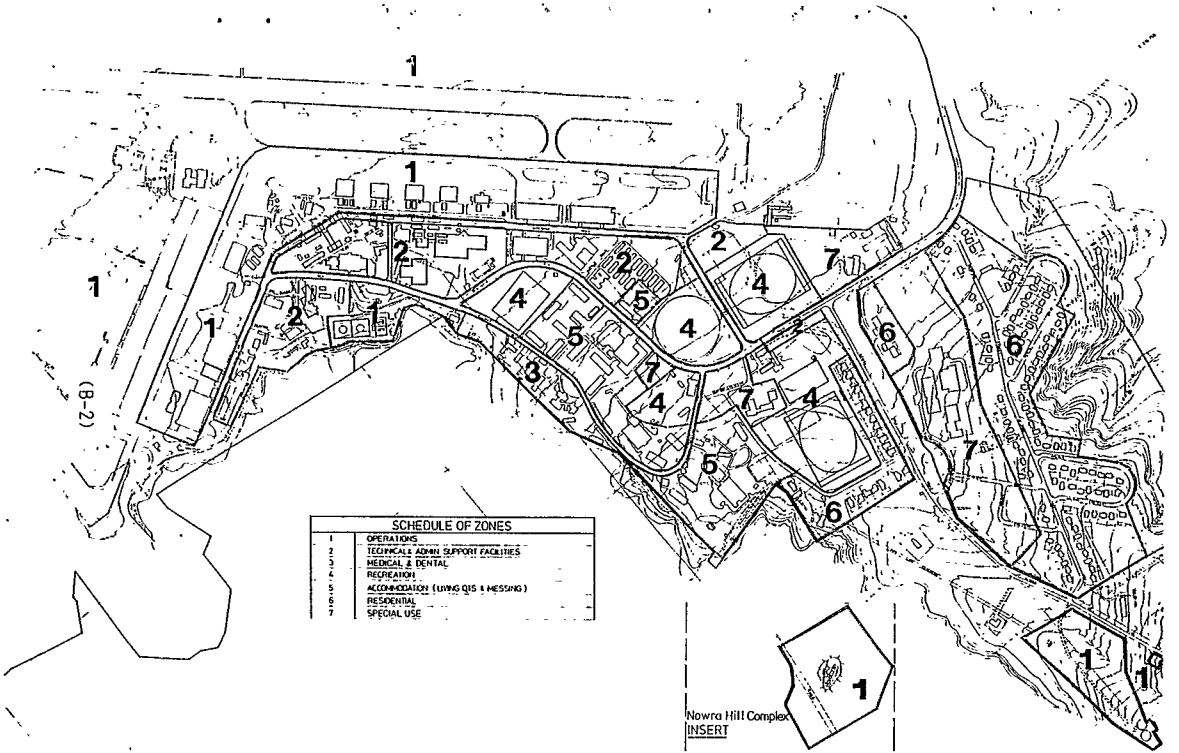
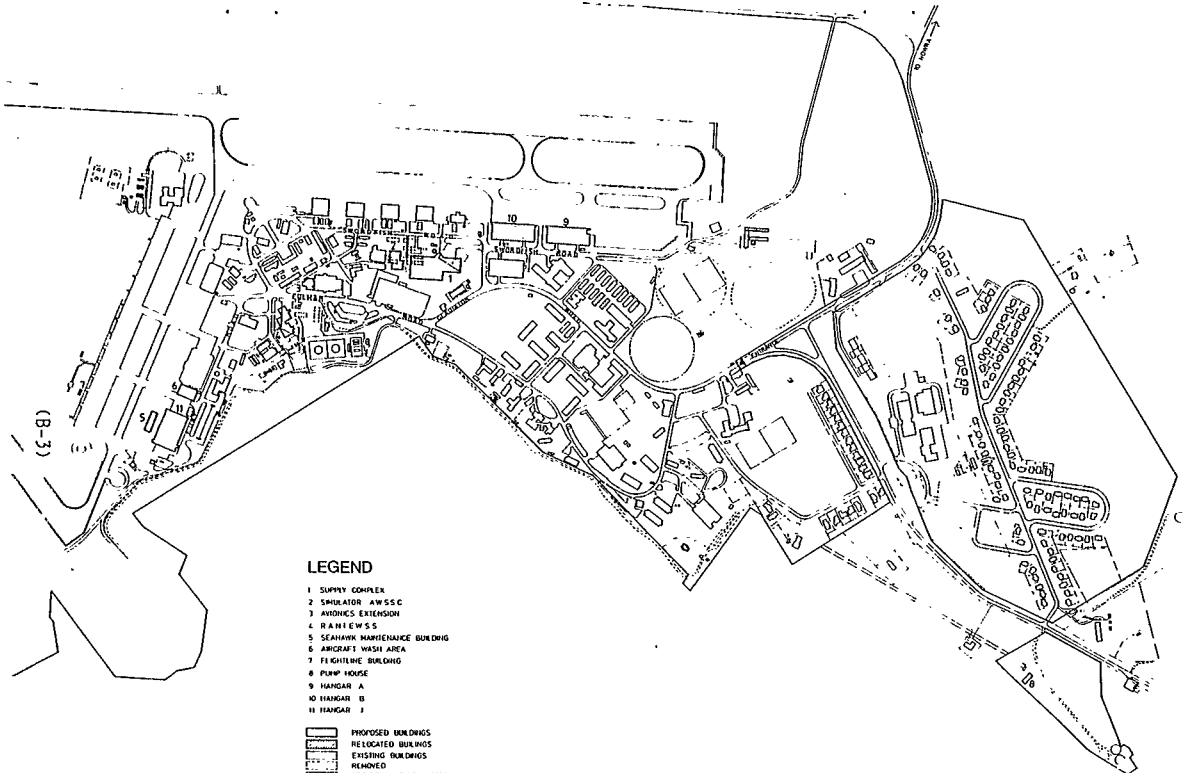
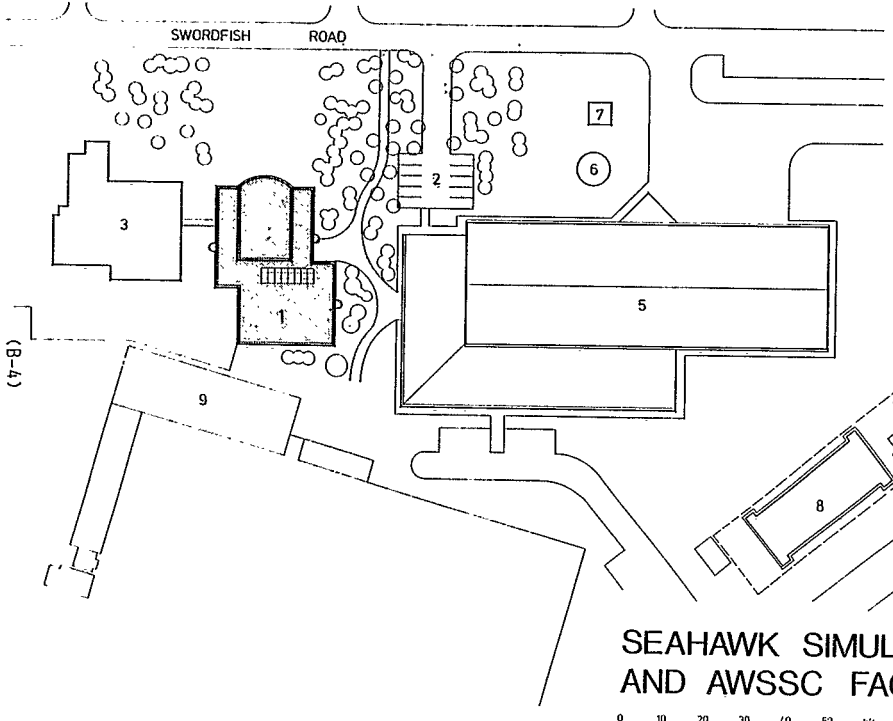


H.M.A.S. ALBATROSS ZONE PLAN

2


LEGEND
1 SUPPLY COMPLEX
2 SIMULATOR AWSSC
3 AVIONICS EXTENSION
4 RANEWSS
5 SEAHAWK MAINTENANCE BUILDING
6 AIRCRAFT WASH AREA
7 FLIGHTLINE BUILDING
8 PUMP HOUSE
9 HANGAR A
10 HANGAR B
11 HANGAR J
PROPOSED BUILDINGS
RELOCATED BUILDINGS
EXISTING BUILDINGS
REMOVED
ADDITIONAL FIRE PROTECTION
(B-3)
H.M.A.S. ALBATROSS SITE PLAN



LEGEND

1 SEAHAWK SIMULATOR AND A.W.S.S.C FACILITY.
2 CARPARK
3 EXISTING SIMULATOR BUILDING
4 CARPARK
5 SUPPLY COMPLEX
6 WATER TANK (EXISTING)
7 PUMPHOUSE (EXISTING)
8 DITCHING POOL
9 EXISTING TRANSPORT COMPLEX

SEAHAWK SIMULATOR AND AWSSC FACILITY

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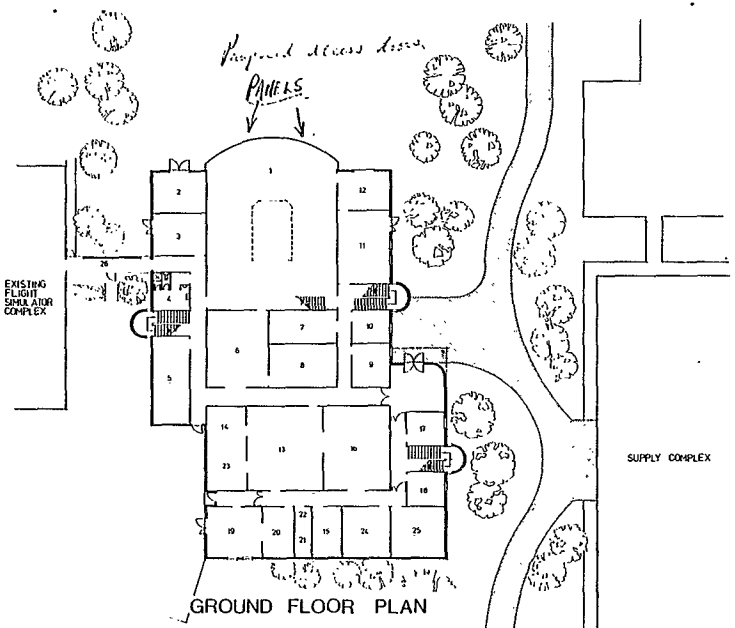

LEGEND

1 SIMULATOR MOTION ROOM
2 SUB-STATION
3 ELECTRICAL PLANT
4 TOILET/CHANGE/SHOWER (MALE)
5 DOCUMENTS
6 SIMULATOR COMPUTER
7 EQUIPMENT STORE
8 DATA MONITOR
9 BREW
10 ENGINEER'S OFFICE
11 WORKSHOP
12 SIMULATOR HYDRAULICS
13 SYSTEM TEST RIG
14 MEDIA COPY
15 SYSTEM STORE
16 AWSSC COMPUTER
17 MANAGER'S OFFICE
18 SUPERVISOR'S OFFICE
19 WORKSHOP
20 WORKSHOP STORE
21 TOILET
22 BREW
23 DATA PREPARATION
24 PRINTING
25 TERMINALS
26 LINK

SEAHAWK SIMULATOR AND AWSSC FACILITY

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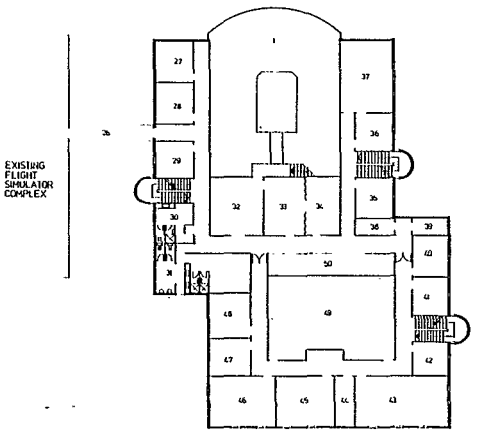

FIRST FLOOR PLAN

LEGEND

1	UPPER SIMULATOR MOTION ROOM
26	LINK
27	INSTRUCTOR'S OFFICE
28	SENIOR SAILOR'S OFFICE
29	JUNIOR SAILOR'S OFFICE
30	FEMALE TOILET/CHANGE/SHOWER
31	MALE TOILET/CHANGE/SHOWER
32	INSTRUCTOR'S CONSOLE
33	DEBRIEF
34	CLASSROOM
35	BREW
36	INSTRUCTOR'S OFFICE
37	INSTRUCTORS' OFFICE
38	CLEANER
39	STORE
40	PROGRAMMER'S OFFICE
41	STAFF OFFICE
42	STAFF OFFICE
43	GENERAL OFFICE
44	PROJECTION
45	CONFERENCE
46	MISSION DEBRIEF
47	STAFF OFFICE
48	LIBRARY
49	PLANT ROOM
50	LIGHTWELL

SEAHAWK SIMULATOR AND AWSSC FACILITY

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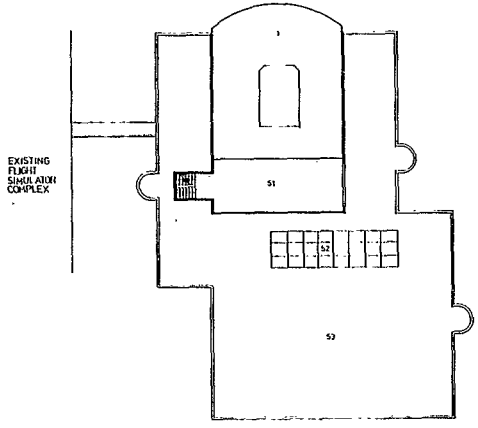
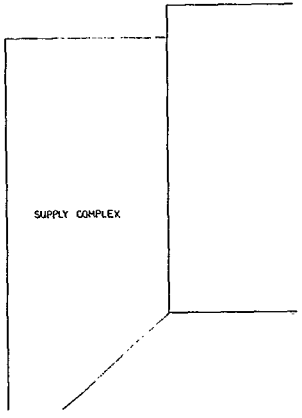


ROOF PLAN

LEGEND

1 UPPER SIMULATOR MOTION ROOM
51 PLANT ROOM
52 SKYLIGHTING
53 METAL ROOF DECK



SEAHAWK SIMULATOR AND AWSSC FACILITY

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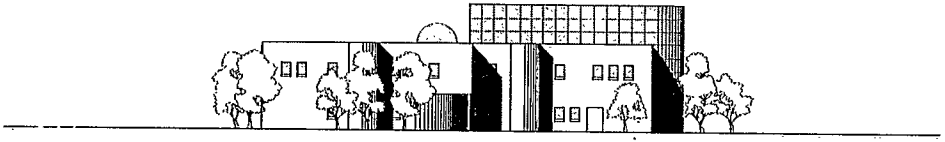
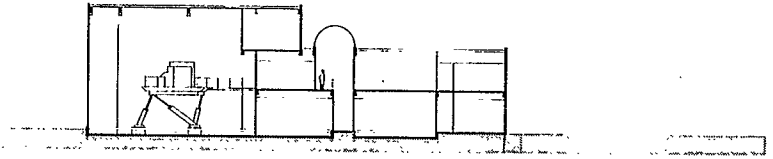


NORTH EAST ELEVATION



SECTION A-A

SEAHAWK SIMULATOR AND AWSSC FACILITY

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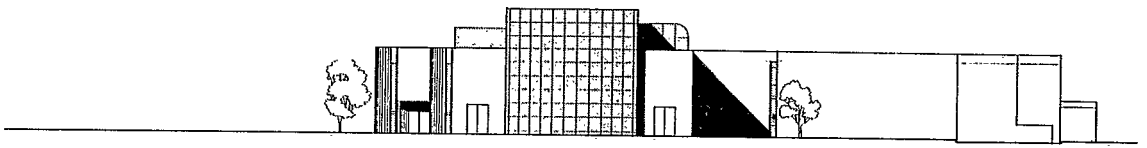
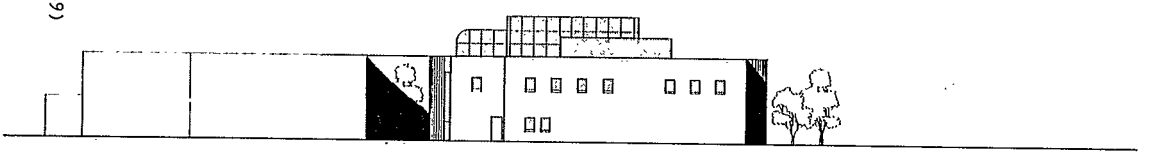


NORTH WEST ELEVATION

(B-9)



SOUTH EAST ELEVATION

SEAHAWK SIMULATOR AND AWSSC FACILITY

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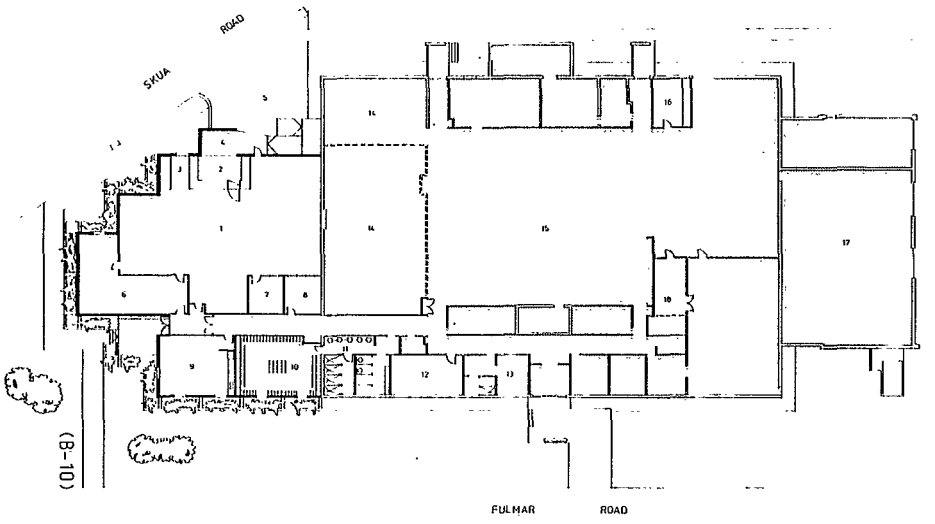


GROUND FLOOR PLAN

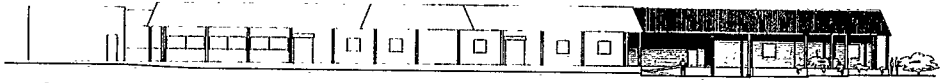
LEGEND

1 NEW AVIONICS STORE
2 RECEIPT & DISPATCH
3 DSRMS TERMINAL
4 LOADING DOCK
5 SERVICE VEHICLES
6 TEST EQUIPMENT STORE
7 STORE SUPERVISOR
8 PRODUCTION CONTROL
9 COMMON ROOM
10 MALE CHANGE ROOM
11 EXTENDED WASH ROOM & SHRS
12 RELOCATED CLASSROOM
13 ALTERED FEMALE CHANGE RM.
14 EXTENDED AVIONICS WORKSHOP
15 EXISTING AVIONICS WORKSHOP
16 NEW MICRO-MIN REPAIR CELL
17 EXISTING PLANT ROOM
18 NEW MANUAL LIBRARY

EXISTING AREAS UNALTERED

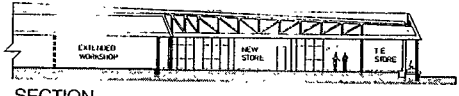
NEW & ALTERED AREAS

AVIONICS WORKSHOP EXTENSION



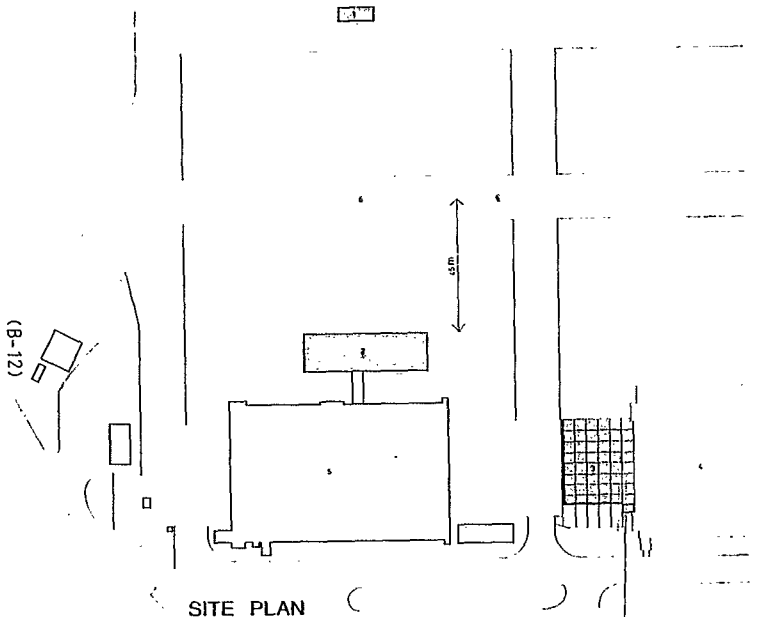
NORTH-WEST ELEVATION

SOUTH-WEST ELEVATION



SECTION

AVIONICS WORKSHOP EXTENSION



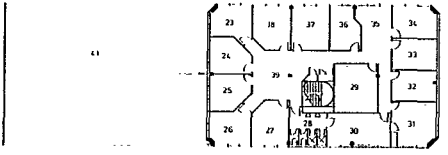
LEGEND

1. FLIGHT LINE BUILDING
2. MAINTENANCE BUILDING
3. HELICOPTER WASH DOWN FACILITY
4. DEMOLISHED HANGAR "H"
5. EXISTING HANGAR "J"
6. TAXIWAY

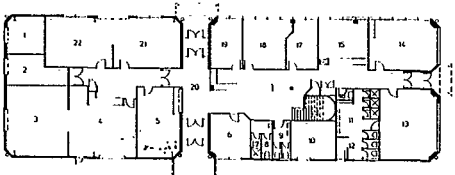
PROPOSED FACILITIES

SEAHAWK FACILITIES

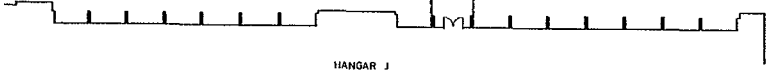
0 10 20 30 40 50 60 m



FIRST FLOOR PLAN



GROUND FLOOR PLAN

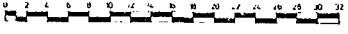


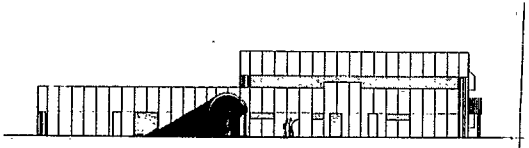
(B-13)

LEGEND

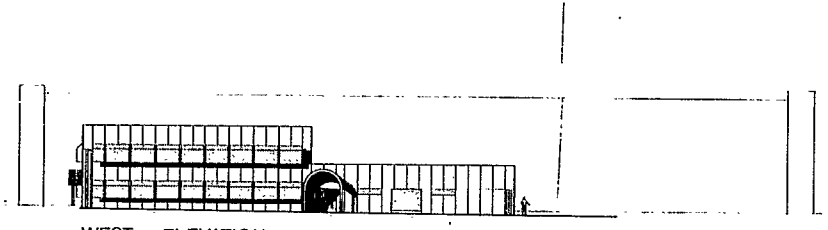
1 A/C PLANT
2 ELECT PLANT
3. QUARANTINE STORE
4 STORE ISSUE CENTRE
5 TOOL CONTROL
6 FEMALE CHANGE
7 SHOWER
8 HEAD
9 HEADS
10 PLANT (AIR CON)
11 HEADS/SHOWERS
12 HEADS
13 J/S CHANGE
14 J/S CREWROOM
15 A P LIBRARY
16 BOSUNS STORE
17 SEN MAINT CHIEF
18 TRADES CHIEF
19 AMCO (AIRCRAFT MAINT OFFICE)
20 VESTIBULE
21. ATA WORKSHOP
22 ATWL / ATC WORKSHOP
23 FFG (FLIGHT OFFICER)
24. FFG (FLIGHT OFFICER)
25 FFG (FLIGHT OFFICER)
26 FSRCP (FIELD SERVICE REP. OFFICE)
27 FSRCP (FIELD SERVICE REP. OFFICE)
28 S/S HEADS/SHR.
29. CLASSROOM
30. S/S CHANGE
31. S/S CREWROOM
32 PERSONNEL OFFICE
33 AEO (AIR ENGINEERS OFFICE)
34 SAEO (SENIOR AIR ENGINEERS OFFICE)
35 TECH OFFICER
36. PAEO (PARENTING UNIT AIR ENGINEERS OFFICE)
37 QUALITY CONT TRAINING
38 FFG (FLIGHT OFFICER)
39 COMMON ROOM
40 COVERED WAY
41 ROOF OVER WORKSHOP

SEAHAWK FACILITIES MAINTENANCE BUILDING





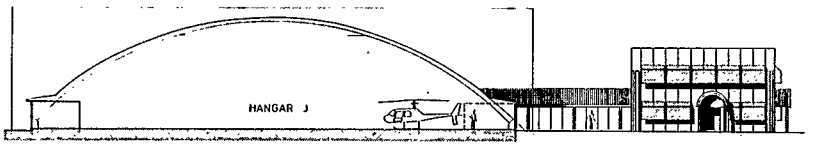
EAST ELEVATION



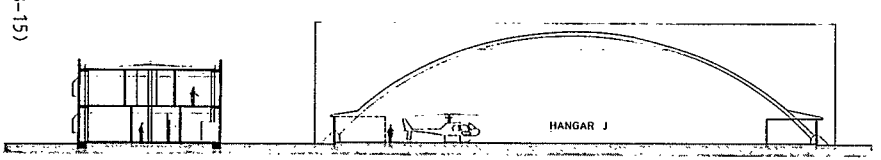
WEST ELEVATION

(B-14)

SEAHAWK FACILITIES
MAINTENANCE BUILDING



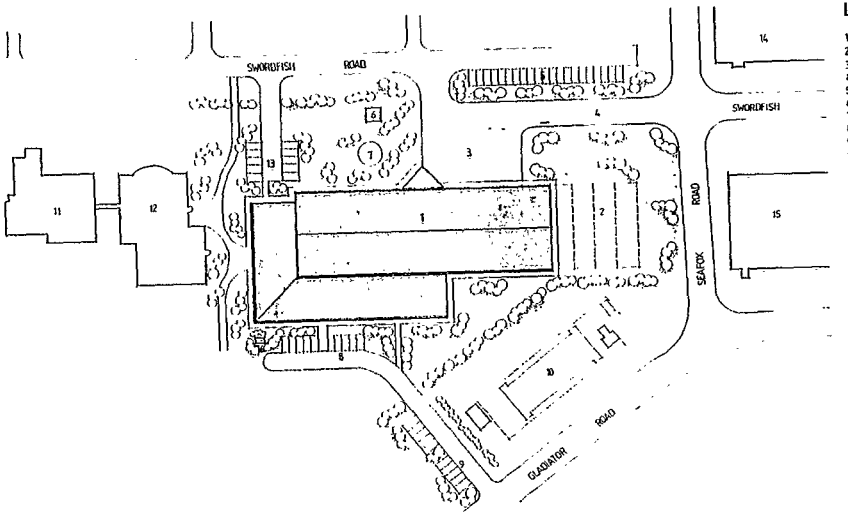
NORTH ELEVATION



SECTION

(B-15)

SEAHAWK FACILITIES MAINTENANCE BUILDING

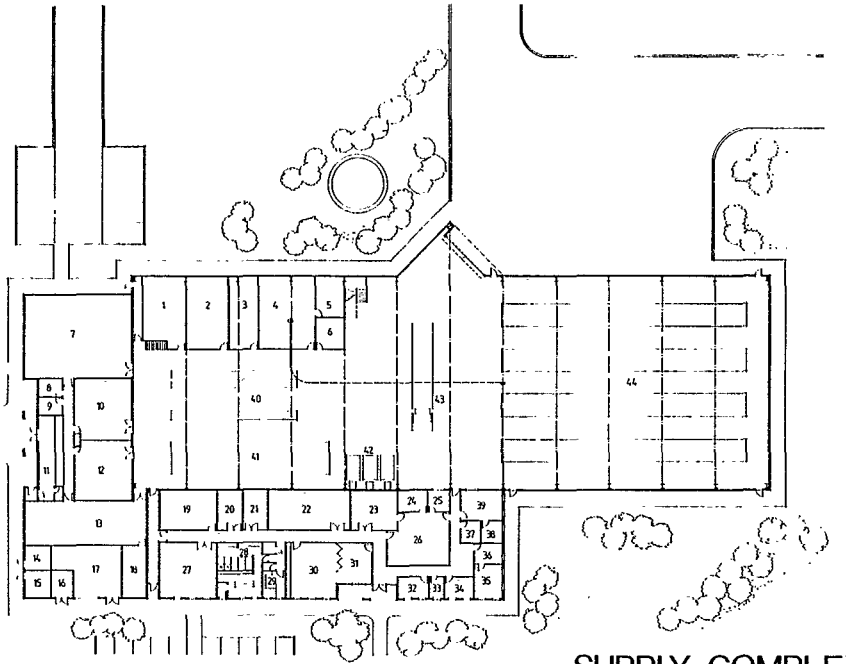


(8-16)

SITE PLAN

SUPPLY COMPLEX

16



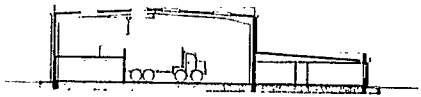
(B-17)

LEGEND

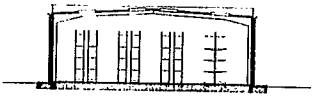
1 R.A.A.F. EQUIPMENT STORE
2 DEFECTIVE EQUIPMENT SORTING
3 TOOL CONTROL
4 SECURE STORE
5 VAULT
6 RECEIPT AND DESPATCH OFFICE
7 REPAYMENT CLOTHING STORE
8 TAILOR
9 REPAYMENT CLOTHING OFFICE
10 LOAN CLOTHING STORE
11 COUNTER AND CHANGE CUBICLE
12 BEDDING STORE
13 FLYING CLOTHING STORE
14 415 VOLT SWITCH
15 H.V. SWITCH
16 GENERATOR
17 PLANT ROOM
18 COOL ROOM
19 FILING OFFICE (ARCHIVES)
20 U.P.S. POWER SWITCH
21 U.P.S. CONTROLLER
22 COMPUTER ROOM
23 E.D.P. TERMINALS
24 PRINT ROOM
25 STORES SUPPLY OFFICER
26 MAIN STORE OFFICE
27 AIR STORES USAGE CONTROL OFFICE
28 MALE TOILETS AND LOCKERS
29 FEMALE TOILETS AND LOCKERS
30 AMENITIES
31 CONFERENCE / TRAINING ROOM
32 PERSONNEL ADMINISTRATION
33 STORE
34 STOCKTAKING OFFICE
35 SUPPLY OFFICER
36 TYPIST OFFICE
37 WAREHOUSE OFFICER
38 WAREHOUSE C.P.O.S.N
39 FORWARD SUPPLY OFFICE
40 HT TYRES
41 SMALL ITEMS AREA
42 RECHARGING BAY
43 RECEIPT AND DESPATCH AREA
44 MAIN BULK STORAGE

SUPPLY COMPLEX

FLOOR PLAN



SECTION



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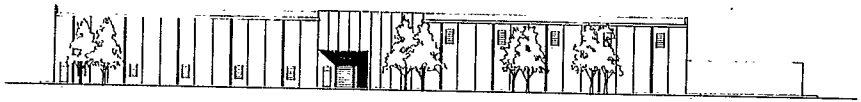
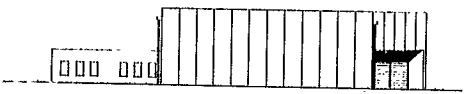
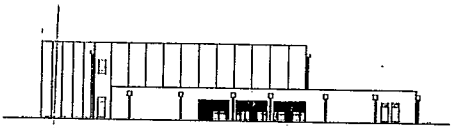


NORTH-WEST ELEVATION



NORTH-EAST ELEVATION

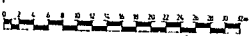


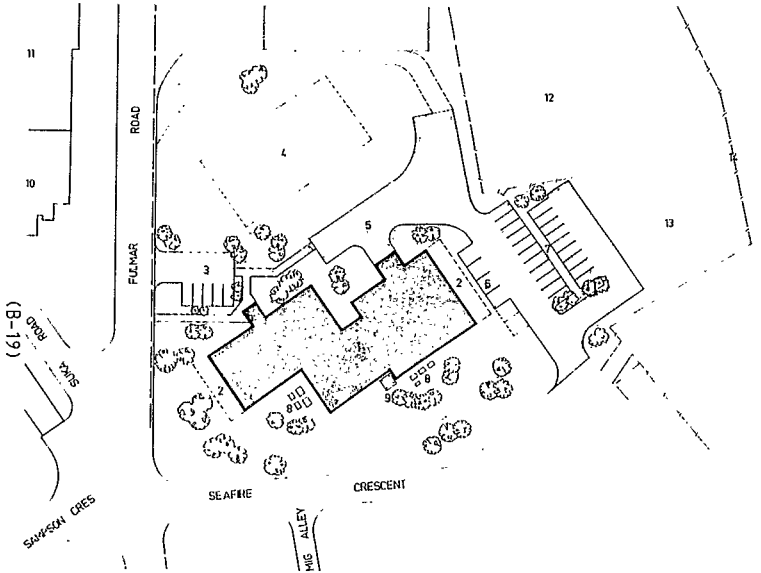
SOUTH-WEST ELEVATION

SOUTH-EAST ELEVATION

(B-18)

SUPPLY COMPLEX



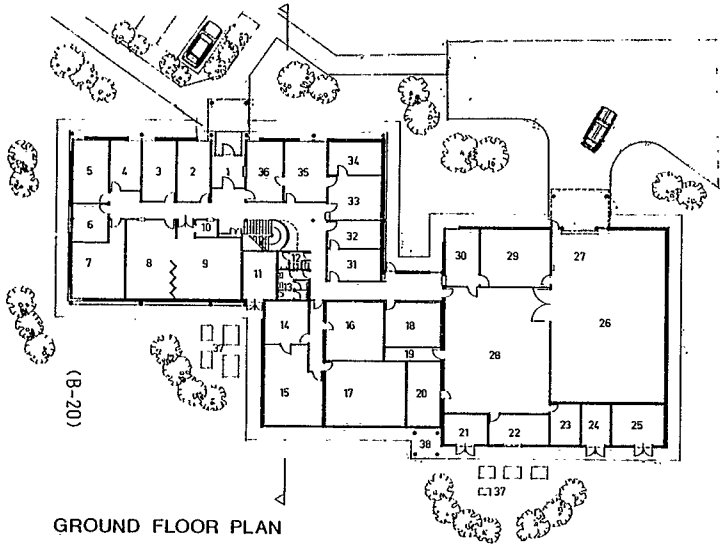


LEGEND

1. R.A.N.E.W.S.S.
2. FUTURE EXTENSION
3. SERVICE VEHICLES
4. FUTURE BUILDING
5. TRUCK ACCESS
6. CARAVANS & TRAILERS
7. PRIVATE PARKING VEHICLES
8. A.C. UNITS
9. 20M. TOWER
10. AVIONICS EXTENSION
11. AVIONICS WORKSHOP
12. EXISTING FUEL TANKS
13. DOG TRAINING COMPOUND
14. SITE BOUNDARY

SITE PLAN

R.A.N. TACTICAL ELECTRONIC WARFARE SUPPORT SECTION

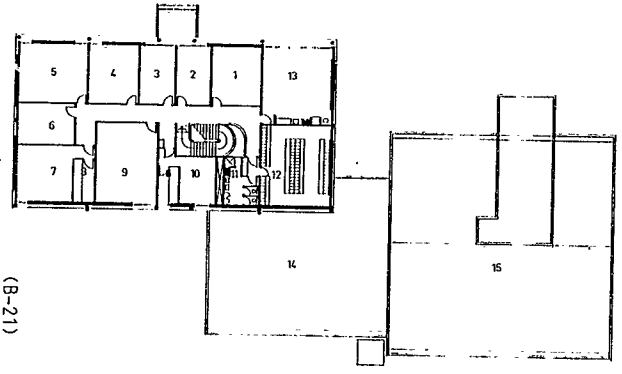


GROUND FLOOR PLAN

LEGEND

1	ENTRANCE	20	SCREENED ROOM
2	OPERATIONS ELEMENT OFFICE	21	SCREENED AREA PLANT ROOM
3	SUPPORT ELEMENT OFFICE	22	MAINTENANCE CONTROL OFFICE
4	COMSEC ELEMENT OFFICE	23	SWITCH ROOM
5	MISSION & SUPPORT ANALYSIS	24	ELEC. PLANT
6	SUPERVISOR OFFICE	25	WORKSHOP-STORE PLANT ROOM
7	OPERATIONS WORKSPACE	26	BULK STORE
8	LANGUAGE LABORATORY	27	DOCK
9	CONFERENCE - OPERATIONAL BRIEFING ROOM	28	WORKSHOP
10	PROJECTION	29	SMALL GOODS STORE
11	OFFICE PLANT ROOM	30	STORE OFFICE
12	FEMALE TOILET	31	SOFTWARE SUPPORT
13	MALE TOILET	32	LIBRARY
14	OPERATIONS OFFICE	33	REGISTRY
15	OPERATIONS SUPPORT ROOM	34	VAULT
16	COMMUNICATIONS ROOM	35	O.I.C. OFFICE
17	TRANSCRIPT ROOM	36	ADMIN.
18	COMPUTER ROOM	37	OUTDOOR A/C UNITS
19	SERVICE DUCT	38	20M. TOWER

R.A.N. TACTICAL ELECTRONIC WARFARE SUPPORT SECTION



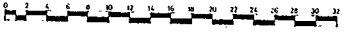
(B-21)

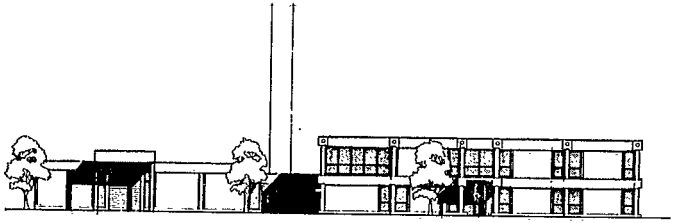
LEGEND

1 OPERATIONS ELEMENT INSTRUCTION
2 OPERATIONS ELEMENT TRAINING
3 COMSEC TRAINING
4 COMSEC SUPERVISOR
5 COMSEC TEAMS WORKSHOP
6 EQUIP TRAINING LABORATORY
7 MORSE RECEIPT TRAINER
8 CONTROL ROOM
9 CLASSROOM
10 E.W. TACTICAL TRAINER
11 TOILETS
12 MALE LOCKERS ROOM
13 RECREATION
14 ROOF OVER SCREENED AREA
15 ROOF OVER WORKSHOP AREA

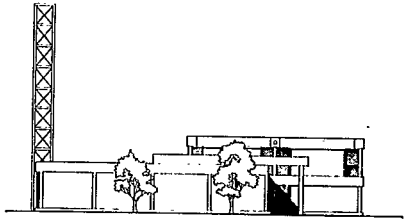
FIRST FLOOR PLAN

R.A.N. TACTICAL ELECTRONIC WARFARE SUPPORT SECTION

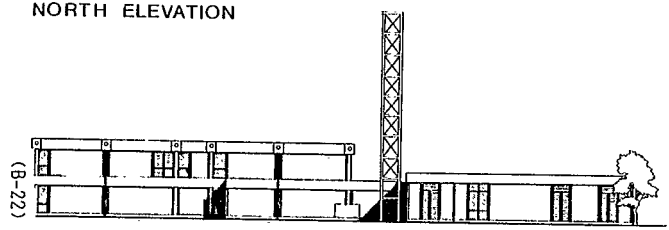




NORTH ELEVATION

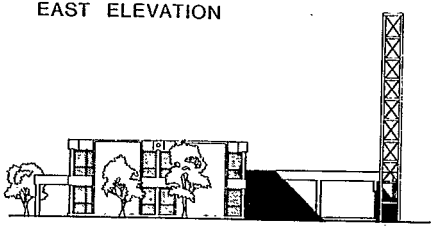


EAST ELEVATION

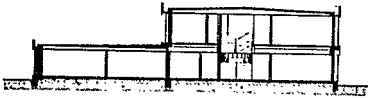


(B-22)

SOUTH ELEVATION

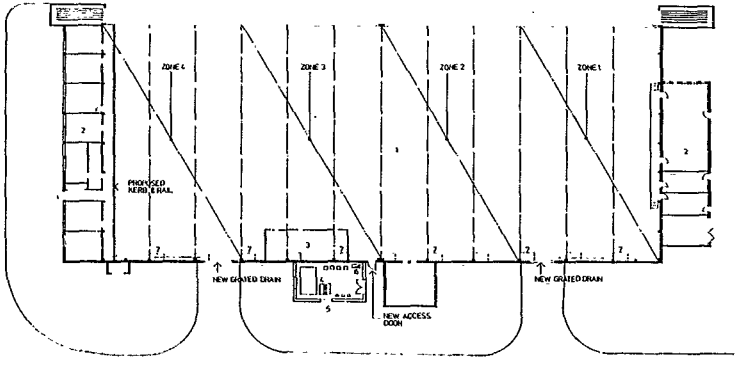


WEST ELEVATION



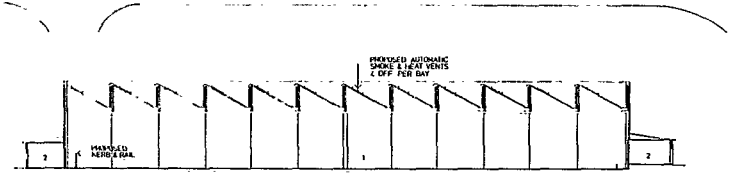
SECTION

R.A.N. TACTICAL ELECTRONIC WARFARE SUPPORT SECTION



FLOOR PLAN

SWORDFISH ROAD

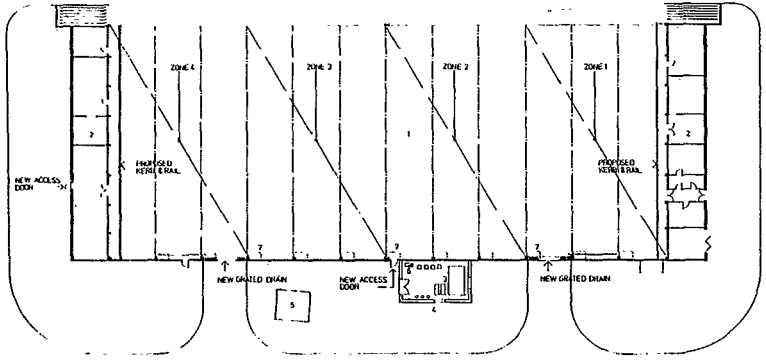


SECTION

LEGEND

1. AIRCRAFT AREA
2. ANNEX ENCLOSURE
3. TOOL STORE
4. FOAM CONCENTRATE TANK & PUMPS
5. NEW FIRE CONTROL ROOM
6. FOAM SYSTEM CONTROL PANEL
7. EXTENDED CATWALK

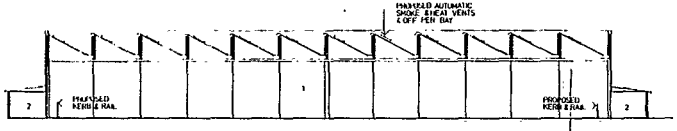
HANGAR A



FLOOR PLAN

SWORDFISH ROAD

(B-24)

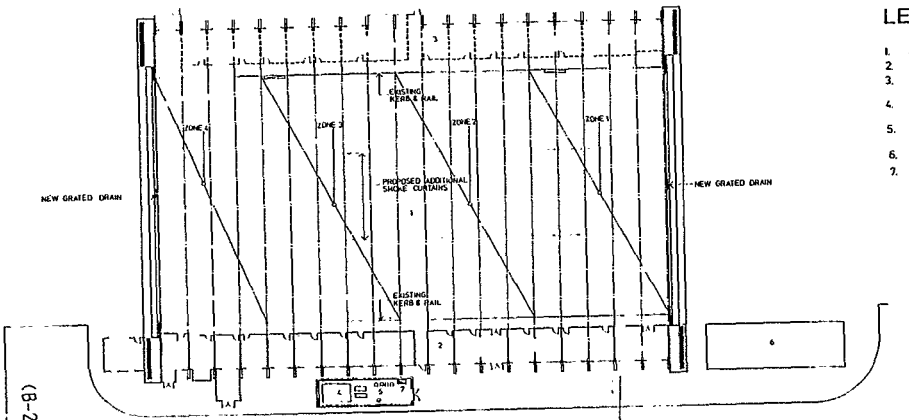


SECTION

HANGAR B

LEGEND

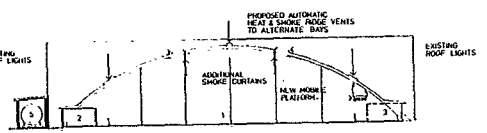
1. AIRCRAFT AREA
2. ANNEX ENCLOSURE
3. FOAM CONCENTRATE TANK & PUMPS
4. NEW FIRE CONTROL ROOM
5. FLAMMABLE LIQUIDS STORE
6. FOAM SYSTEM CONTROL PANEL
7. EXTENDED CATWALK



FLOOR PLAN

LEGEND

1. AIRCRAFT AREA
2. ANNEX ENCLOSURE
3. ANNEX ENCLOSURE TO BE DEMOLISHED
4. FOAM CONCENTRATE TANK & PUMPS
5. NEW FIRE CONTROL ROOM.
6. WORKSHOP
7. FOAM SYSTEM CONTROL PANEL

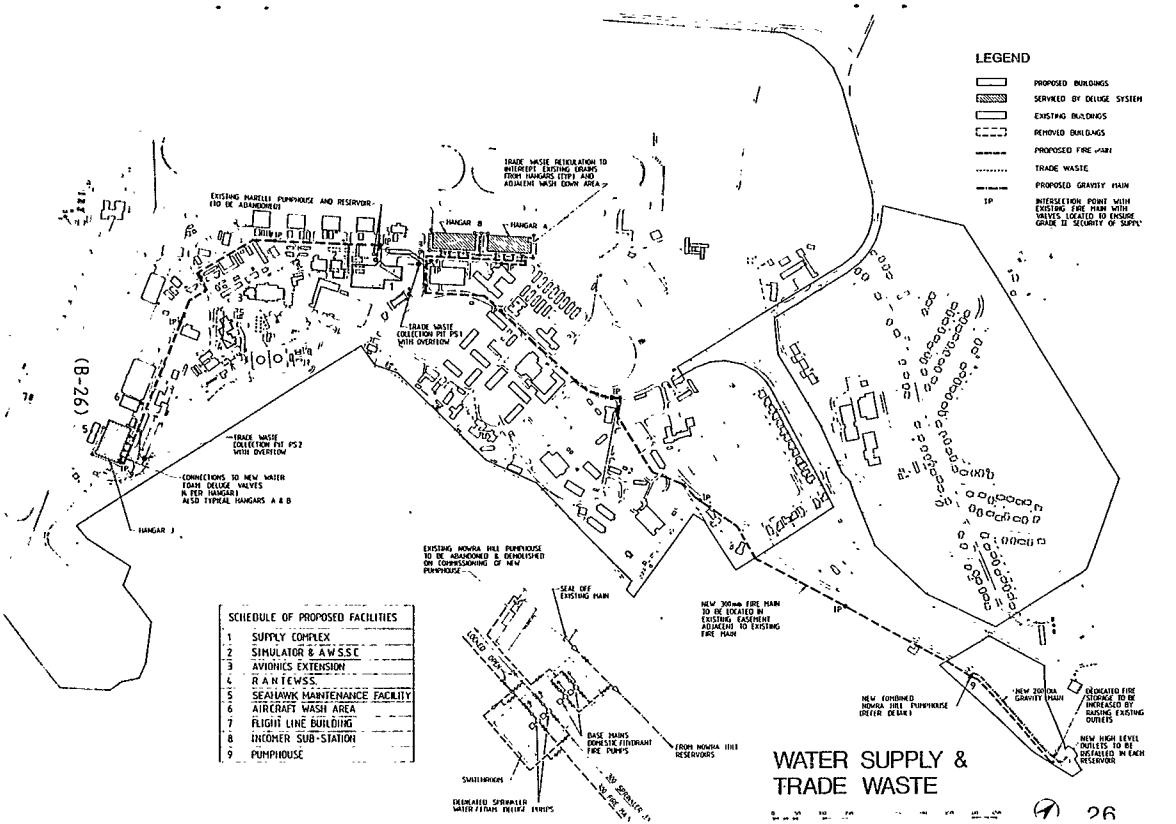


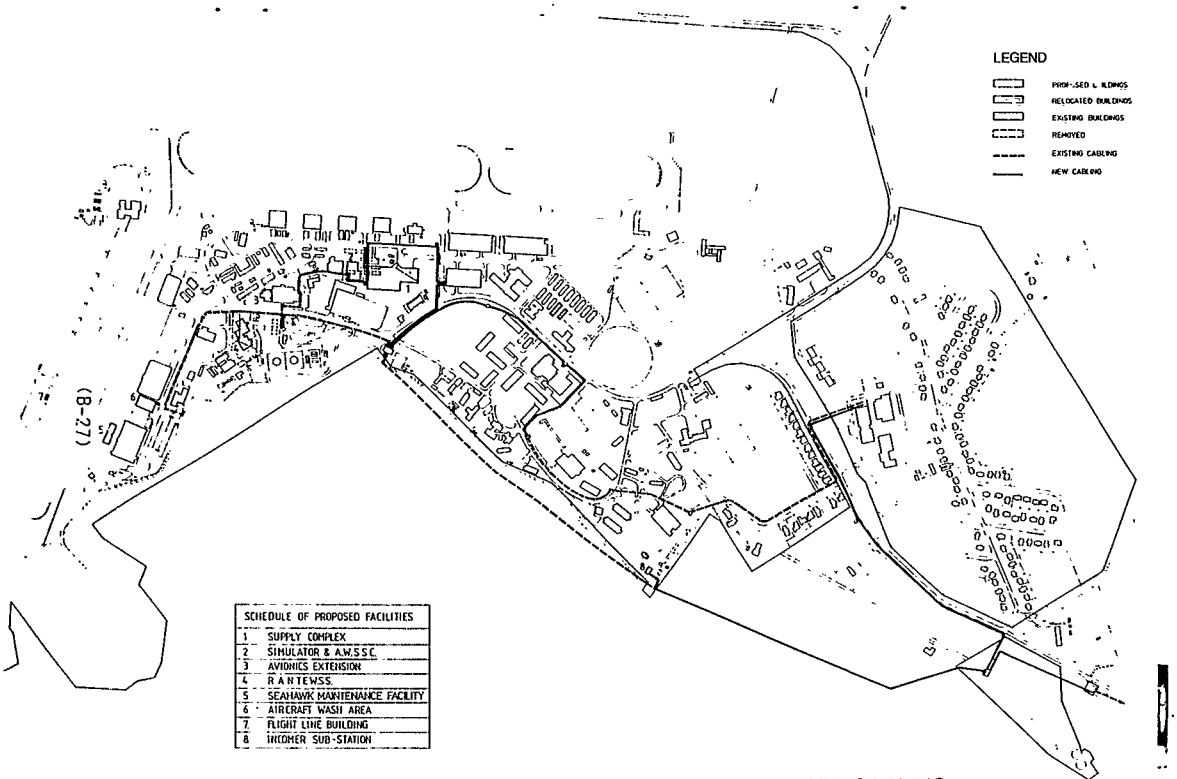
SECTION

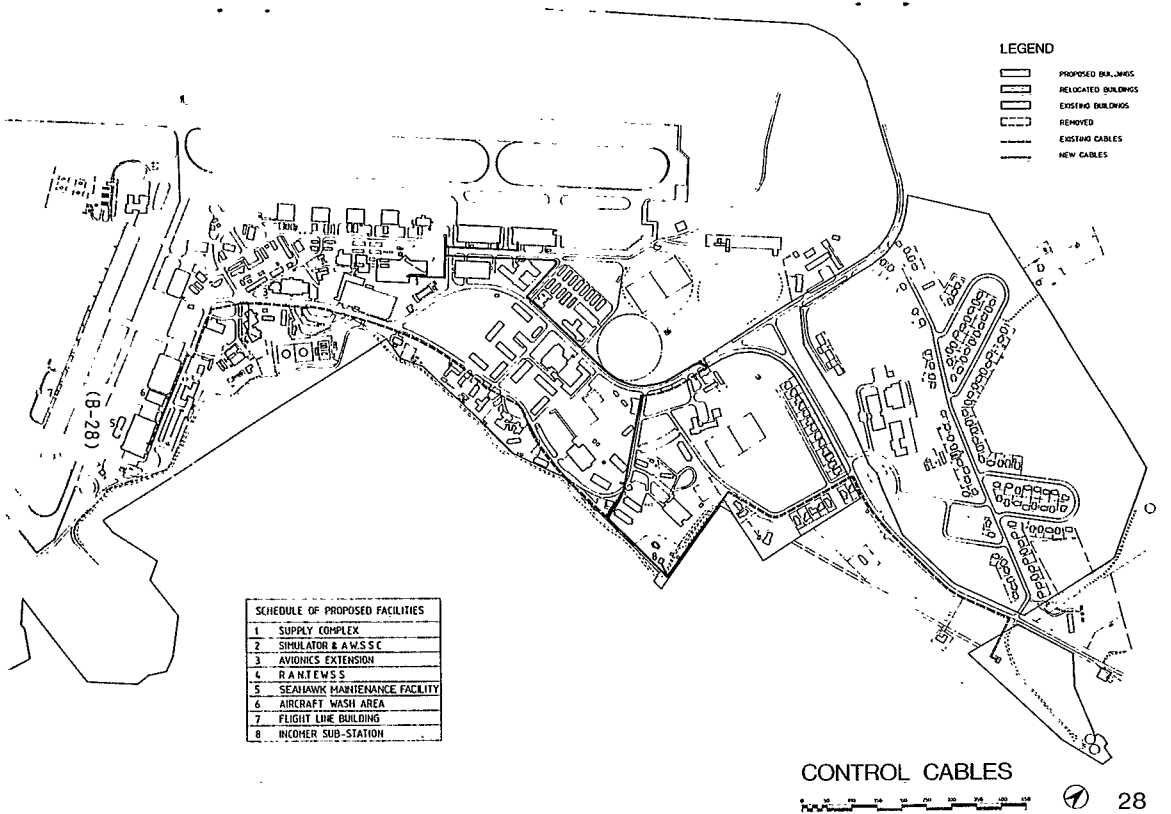
HANGAR J

0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32m

25


LEGEND
PROPOSED BUILDINGS
SERVICED BY DELUGE SYSTEM
EXISTING BUILDINGS
REMOVED BUILDINGS
PROPOSED FIRE MAIN
TRADE WASTE
PROPOSED GRAVITY MAIN
IP
INTERSECTION POINT WITH EXISTING FIRE MAIN WITH VALVES LOCATED TO ENSURE GRADE II SECURITY OF SUPPLY
EXISTING MARELLI PUMPHOUSE AND RESERVOIR (TO BE ABANDONED)
TRADE WASTE RETICULATION TO INTERCEPT EXISTING DRAINS FROM HANGARS (TYP) AND ADJACENT WASH DOWN AREA
HANGAR B
HANGAR A
TRADE WASTE COLLECTION PIT PS1 WITH OVERFLOW
TRADE WASTE COLLECTION PIT PS2 WITH OVERFLOW
CONNECTIONS TO NEW WATER FOAM DELUGE VALVES IN RED HANGAR AND TYPICAL HANGARS A & B
HANGAR J
EXISTING NOWRA HILL PUMPHOUSE TO BE ABANDONED & DEMOLISHED ON COMMISSIONING OF NEW PUMPHOUSE
SEAL OFF EXISTING MAIN
NEW 300mm FIRE MAIN TO BE LOCATED IN EXISTING EASEMENT ADJACENT TO EXISTING FIRE MAIN
IP
NEW FOREBAY NOWRA HILL PUMPHOUSE (DEEP BORE)
NEW 200DIA GRAVITY MAIN
DEDICATED FIRE STORAGE TO BE INCREASED BY RAISING EXISTING OUTLETS
NEW HIGH LEVEL OUTLETS TO BE DEFEATED IN EACH RESERVOIR
BASE MAINS DOMESTIC FIREWATER FIRE PUMPS
FROM NOWRA HILL RESERVOIRS
SWITCHROOM
DEDICATED SPRINKLER WATER/FOAM DELUGE PUMPS
SCHEDULE OF PROPOSED FACILITIES
1 SUPPLY COMPLEX
2 SIMULATOR & AWSSC
3 AVIONICS EXTENSION
4 RANTEWSS
5 SEAHAWK MAINTENANCE FACILITY
6 AIRCRAFT WASH AREA
7 FLIGHT LINE BUILDING
8 INCOMER SUB-STATION
9 PUMPHOUSE
(8-26)
WATER SUPPLY & TRADE WASTE
26


LEGEND
PROPOSED BUILDINGS
RELOCATED BUILDINGS
EXISTING BUILDINGS
REMOVED
EXISTING CABLING
NEW CABLING
(8-27)
SCHEDULE OF PROPOSED FACILITIES
1 SUPPLY COMPLEX
2 SIMULATOR & A.W.S.S.C.
3 AVIONICS EXTENSION
4 R.A.N.T.E.W.S.S.
5 SEAHAWK MAINTENANCE FACILITY
6 AIRCRAFT WASH AREA
7 FLIGHT LINE BUILDING
8 INCOMER SUB-STATION
11KV CABLING
27


LEGEND
PROPOSED BUILDINGS
RELOCATED BUILDINGS
EXISTING BUILDINGS
REMOVED
EXISTING CABLES
NEW CABLES
(B-28)
SCHEDULE OF PROPOSED FACILITIES
1 SUPPLY COMPLEX
2 SIMULATOR & A.W.S.S.C
3 AVIONICS EXTENSION
4 R.A.N.T.E.W.S.S
5 SEAHAWK MAINTENANCE FACILITY
6 AIRCRAFT WASH AREA
7 FLIGHT LINE BUILDING
8 INCOMER SUB-STATION
CONTROL CABLES