



**Australian Government**  

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**Department of Defence**

**AIR 5428 PHASE 1 PILOT TRAINING  
SYSTEM FACILITIES**

**RAAF Base East Sale, Victoria  
RAAF Bases Pearce and Gin Gin, Western Australia  
RAAF Base Edinburgh, South Australia  
RAAF Base Williamtown, New South Wales**

**STATEMENT OF EVIDENCE  
TO THE  
PARLIAMENTARY STANDING COMMITTEE  
ON PUBLIC WORKS**

Canberra, Australian Capital Territory

March 2016

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# AIR5428 PHASE 1

## PILOT TRAINING SYSTEM FACILITIES

### IDENTIFICATION OF THE NEED

1. To support Australia's future Defence requirements, the Government is acquiring new airborne fixed and rotary wing platforms. These are advanced, new generation aircraft and helicopters in the Air Mobility, Strike and Intelligence, Surveillance and Reconnaissance roles. Consequently, an upgrade to the Australian Defence Force's (ADF) Pilot Training System is required to ensure aircrew are adequately trained to operate these new capabilities. Further, the current advanced fixed wing training platform, the Pilatus PC-9/A, has reached the end of its purposeful life and is due for replacement.

### BACKGROUND

2. The Defence Capability Project, AIR5428 Phase 1 (AIR5428-1) Pilot Training System (PTS) was approved by Government in August 2015 to replace the existing Air Force, Navy and Army pilot training systems currently based on the Pacific Aerospace CT-4 and Pilatus PC-9/A platforms, with a new PTS to provide a training system based on the Pilatus PC-21 platform and incorporates both live and synthetic training elements.

3. The new PTS, including aircraft, flight training simulators and learning environments will be acquired from a single capability contractor, 'Team 21'. Team 21 consists of Lockheed Martin Australia as the Prime Contractor partnering with Pilatus and Hawker Pacific to provide the new capability for the Basic Flying Training School (BFTS), Pilot Selection Agency (PSA) and Central Flying School (CFS) at RAAF Base East Sale in Victoria and at the No. 2 Flying Training School (2FTS) at RAAF Bases Pearce and Gin Gin in Western Australia. Additionally, the PC-21 will also be utilised by the Air Warfare Centre (AWC) at RAAF Base Edinburgh in South Australia and the No. 4 Squadron at RAAF Base Williamstown in New South Wales.

4. The new PTS capability will prepare Air Force, Navy and Army pilots for conversion to advanced, new generation operational aircraft types, including the F-35A Lightning II, C-17A Globemaster III, KC-30A MRTT, C-27J Spartan, F/A-18F Super Hornet, EA-18G Growler, E-7A Wedgetail, P-8A Poseidon, MH-60R Seahawk, MRH-90 Multi Role Helicopter, S-70A-9 Blackhawk, CH-47D and F Chinook and EC655 Tiger Armed Reconnaissance Helicopter.

5. The new PTS will use a combination of commercial-off-the-shelf and military-off-the-shelf technologies to deliver a complete training system, which will be supported by airfield hangar, flight line maintenance, training, administration, storage and logistics facilities and supporting infrastructure.

6. The facilities that are needed to support the new PTS are as follows:

a. **Unit Facilities.** Facilities are required to support command, administrative and training functions for BFTS, PSA and CFS at RAAF Base East Sale, 2FTS at RAAF Bases Pearce and Gin Gin. The AWC at RAAF Base Edinburgh is to conduct a range of flight trials and

experimentation activities in support of ADF aviation capabilities and hence needs to be adapted to the new PC21 aircraft. No. 4 Squadron will also support the new PTS and hence some minor works are also required at RAAF Base Williamtown.

- b. **Simulator and Training Devices.** The Flight Training Devices (FTD) and Cockpit Procedural Trainers (CPT) will support the training of pilots for the new PC-21 aircraft platform. Five FTD rooms at RAAF Base East Sale and two FTD rooms at RAAF Base Pearce will provide the synthetic training to support the new PTS and reduce the reliance on, and cost of, aircraft hours. The CPT will provide the means for students to practice repetitive procedural tasks in a 'non-live' environment under the instruction of Qualified Flying Instructors (QFI).
- c. **Information System.** A stand alone Information, Communications and Technology (ICT) system to house a PTS learning environment will be administered and maintained by the Capability Contractor in accordance with the AIR5428-1 Capability Contract requirements. This PTS learning environment will house the key learning software programs that students and instructors will use on a day to day basis. This will be independent from and in addition to existing Defence Networks, which will be provided for Defence use only.
- d. **Logistics and Maintenance Systems.** These facilities are required to enable the Capability Contractor to maintain and service the new PTS aircraft in accordance with the contractual requirements under the AIR5428-1 Capability Contract.
- e. **Aerodrome Requirements.** Due to the relocation of BFTS and PSA from Tamworth, New South Wales to RAAF Base East Sale, RAAF Base East Sale will experience a net increase in aircraft movements. To ensure that the aerodrome can operate effectively at a higher rate of effort, a specific Aerodrome Capacity Study has been conducted by a specialist contractor to assess the suitability of the runway and its associated taxiways and hardstands. The outcome of this study indicated that the aerodrome has the capacity to absorb this expected rate of effort for the net increase in student numbers that the new PTS will deliver, with a small amount of contingency still available to account for delayed flights and unexpected events. The net increase in students at the beginning of pilot training will also mean that taxiing times for ab-initio pilots will likely be longer than those taken for experienced pilots. In order to manage aircraft surface movement flow efficiency, whilst complying with Aerodrome Design Manual of Standards, aircraft run-up bays and a new taxiway will be required.
- f. **Aircraft Shelters.** Aircraft shelters provide shelter for flightline maintenance and limited protection from the elements. Shelters permit pilots to enter and exit from the cockpit during rain, which would otherwise enter the cockpit and potentially compromise the avionics. Shelters therefore increase the movement efficiency of the new PTS and assist in asset preservation. At RAAF Base East Sale, 28 new shelters are proposed to accommodate the new PTS aircraft. At RAAF Bases Pearce and Gin Gin, a total of 26 aircraft shelters (with six at RAAF Base Gin Gin) are required to house the new PTS aircraft. However, at these bases the current aircraft shelters have been deemed suitable for refurbishment, and will be reused, with only a small number of additional new shelters to be delivered.

- g. **Satellite Aerodrome.** RAAF Base Gin Gin has traditionally been used by 2FTS at RAAF Base Pearce as a satellite training aerodrome, which is used by students who are undertaking repetitive circuit or 'touch and go' training. This satellite aerodrome provides a safe and uninterrupted air space and runway for the training of inexperienced student pilots. Using this aerodrome significantly reduces the traffic congestion that 2FTS training would otherwise place on the RAAF Base Pearce aerodrome, which is one of the highest rate of effort-aerodromes for the Air Force nationally. The new PTS will utilise RAAF Base Gin Gin in a similar manner, with an expected increase in its usage in the future.
- h. **Living in Accommodation.** The increase in pilot student numbers at RAAF Base East Sale introduces a requirement to provide 105 additional Living in Accommodation (LIA) single occupancy units on base. The new PTS training courses have durations of up to six months. The project is required to provide Training Level 1 accommodation in accordance with Defence's People Policy and Employment Conditions to meet PTS training requirements. A study undertaken by the project reviewed all LIA facilities currently on Base. The study identified with the increase in pilot student numbers, there is insufficient Training Level 1 accommodation to meet the new PTS requirement at RAAF Base East Sale. A similar study at RAAF Base Pearce identified that there was no requirement for additional LIA to be built on base as the current facilities were adequate.
- i. **Security Requirements.** Although the new PTS is an 'Unclassified' system, all new PTS facilities are to be located on RAAF Bases, accommodate ADF capability assets and resources, and therefore must be appropriately protected in accordance with Defence's security requirements.

## Description of the Proposal

7. The aim of the AIR5428-1 PTS Facilities Project is to deliver fit-for-purpose facilities to support the modern joint training system being delivered by the AIR5428-1 Capability Project, in a timeframe that enables the new PTS Capability Contractor to install and commission the required training devices in order to meet the Government endorsed In-Service-Date (ISD) and Initial Operating Capability (IOC) milestones. The facilities to support AIR5428-1 are proposed to be delivered through this facilities project, as both Government Furnished Facilities (GFF) to the new PTS Capability Contractor and Defence only facilities.

8. Facilities works proposed at RAAF Bases East Sale, Pearce, Gin Gin, Edinburgh and Williamstown include facilities and infrastructure to support the operation and maintenance of the new aircraft, simulators and learning environments to raise, train and sustain military pilots. The project also proposes to deliver additional facilities at RAAF Base East Sale, including LIA and an extension to the existing medical facilities, so as to accommodate the increase in base population due to the relocation of BFTS and PSA from Tamworth to RAAF Base East Sale.

9. The facilities design response to the AIR5428-1 functional requirements, which provides the most efficient and value for money solution to deliver the new PTS, is achieved through the provision of consolidated airside and non-airside precincts around the airside aprons from which the aircraft will operate.

10. The objectives of this project are to:
  - a. provide facilities that are functionally suitable and enable appropriate consistency in service delivery, operations and related support to the new PTS capability;
  - b. provide a safe, modern, efficient and ecologically sustainable work environment supporting related initiatives to improve operational efficiency in aircraft maintenance, operations and personnel training;
  - c. minimise ongoing facilities maintenance, garrison support, ICT support and utilities costs;
  - d. provide flexibility and adaptability to allow for future expansion or enhancement; and
  - e. contribute to and leverage opportunities arising from other Defence infrastructure projects at each site.

### **Project Locations**

11. The proposed works will be undertaken at the following Commonwealth owned and Defence controlled establishments:
  - a. RAAF Base East Sale, which is located 220km South East of Melbourne, in Victoria's Gippsland Region;
  - b. RAAF Base Pearce, which is located in Bullsbrook, 35km North West of Perth in Western Australia;
  - c. RAAF Base Gin Gin, which is located 40km North West of RAAF Base Pearce;
  - d. RAAF Base Edinburgh, which is located 25km North of Adelaide in South Australia; and
  - e. RAAF Base Williamtown, which is located 30km North of Newcastle in New South Wales.
12. A plan showing the location of each Defence establishment is at Attachment 1.

### **Options Considered to Fulfil the Identified Need**

13. To meet the identified facility needs, Defence considered the viability of adaptively re-using or refurbishing existing facilities so as to reduce the requirement for new construction. In most cases, the option to re-use existing facilities was not cost effective because of the extent of dilapidation, structural inadequacy, dysfunctional layout or inappropriate siting of the available facilities. Consequently, the majority of facilities solutions developed for this project are proposed to be new construction in order to both meet the functional needs of the new PTS and building life expectancy. The exception to this is the 2FTS unit facilities component, which will be delivered as a combination of new build and adaptive reuse. The current 2FTS training rooms were assessed as cost effective for refurbishment and adaptive reuse as they were assessed to currently fulfil similar functions proposed for the new PTS.



14. To ensure that the facilities design achieves value for money for the Commonwealth and meets the functional requirements of the PTS capability, the project considered a total of 14 planning options in the Master Planning and Feasibility Review Report, which was developed in the early planning phase of this project. These 14 options addressed adaptive re-use and new build solutions for meeting the project's functional requirements and examined the potential costs to determine the most cost-effective solution for meeting the operational and support infrastructure requirements of AIR5428-1 at RAAF Bases East Sale, Pearce and Gin Gin.

15. Through a process of elimination during multiple design reviews, value management reviews and siting option workshops, each project scope element option was assessed for its suitability to meet the new PTS requirements. Viable options were then carried forward and the option, which was assessed as providing the best value for money solution was identified as the preferred option.

16. In summary, the reasons for adopting the preferred design solutions for the PTS facilities at each site are that each facility:

- a. provides value for money solutions that address the current facilities deficiencies to fully support the new PTS;
- b. creates effective and streamlined interaction between like functions, which will improve the efficiency of a new training curriculum;
- c. meets current compliance legislation and other statutory requirements;
- d. maximises opportunities to achieve optimised ecologically sustainable design and green building outcomes;
- e. maximises opportunities to integrate similar functions to achieve construction economies of scale and facility performance efficiencies post construction;
- f. minimises the requirement for temporary facilities and decanting, which in turn minimises disruption to ongoing training and operations; and
- g. minimises whole of life costs.

### **Details of the Proposed Options at RAAF Base East Sale**

17. A total of five options were developed for required facilities and infrastructure at RAAF Base East Sale, which included various combinations of new build and adaptive reuse. The preferred option is to construct a new combined facility to house BFTS, CFS, PSA, Training Aircraft Systems Project Office (TASPO), including Team 21, FTDs and aircraft storage areas as that is the most cost effective option and offers the following advantages:

- a. efficient construction will be achieved by minimising the total number of buildings and the consolidation of functional spaces, therefore achieving a significant reduction in the total building area;

- b. the proposed facilities are located on 'brownfield' and 'greenfield' sites, minimising disruption to existing operations and offering cost and timeline benefits;
- c. there is good circulation for aircraft from the proposed hangar and flightline apron via the new Code A taxiway links to the runway;
- d. the proposed facilities are easily accessible for pedestrian and vehicles via an extension of Beaufort Avenue;
- e. operational efficiencies and optimal workflow will be possible in the consolidated buildings;
- f. the proposed facilities will be in one cohesive location, thereby enabling enhanced functional relationships;
- g. the proposed hangar is centrally located to shelters and has good visibility;
- h. there is potential for expansion north of the School's learning environment building and south of side of Beaufort Avenue; and
- i. the proposed facilities are adjacent to existing facilities for access to services infrastructure.

18. For the LIA, the option that is available is to build new due to lack of any suitable facilities that can be adaptively reused. The miscellaneous facilities like aircraft wash, engine run and paint shop facilities considered combinations of new build and adaptive reuse. Detailed site plans and layout drawings of the preferred facility solution for the new PTS at RAAF Base East Sale can be found at Attachments 2 to 9.

### **Details of the Proposed Option at RAAF Base Pearce**

19. Five options were initially assessed as viable design responses to the new PTS functional requirements at RAAF Base Pearce. These options included a range of adaptive re-use and new build options, and considered the viability of multiple placements of the new PTS facilities around the Base's flight-line. The preferred option was chosen as it offers the following advantages:

- a. the location is consistent with the existing zone plan usage;
- b. minimal impact on buildings with heritage significance;
- c. vehicle and pedestrian access from Macchi Piazza;
- d. the set out and alignment of buildings is cognisant of heritage precinct planning;
- e. the new purpose built facility is not constrained by the confines of an existing building, and the new design will be based on current best practice design;

- f. the required building design life can be better achieved with a new facility;
  - g. efficient construction by minimising the total number of buildings;
  - h. siting the hangar on a 'brownfield' site minimises disruption to existing operations – with cost and timeline benefits;
  - i. ease of access for aircraft by siting the proposed hangar at the edge of the flightline apron;
  - j. the operational efficiencies and optimal workflow possible in the consolidated buildings;
  - k. the accommodation is in one cohesive location, thereby enabling enhanced functional relationships;
  - l. the proposed hangar is centrally located to the shelters to optimise visibility of the buildings;
  - m. the opportunities for expansion on north side of Macchi Piazza; and
  - n. the proximity to existing facilities for access to services infrastructure.
20. Detailed site plans and layout drawings of the preferred facility solution for the PTS at RAAF Base Pearce can be found at Attachments 10 to 17.

### **Details of the Proposed Option at RAAF Base Gin Gin**

21. Four initial options were assessed as viable design responses to the new PTS functional requirements at RAAF Base Gin Gin. These options included a range of adaptive re-use and new build options, and considered the viability of multiple placements of the new PTS facilities around the Base's flight-line. The preferred option was chosen as it offers the following advantages:
- a. the new purpose built facility will not be constrained by the confines of an existing building;
  - b. the efficient construction minimises façade area in a single building footprint;
  - c. siting on a 'greenfield' site minimises disruption to existing operations and avoids requiring temporary facilities, offering cost and timeline benefits;
  - d. the ease of access both airside for aircraft and landside for pedestrian and vehicles;
  - e. the operational efficiencies and optimal workflow possible in a single facility;
  - f. the accommodation is in one cohesive location, thereby enabling enhanced functional relationships;
  - g. the central location to shelters provides good visibility;

- h. allows for future expansion if required; and
  - i. the proximity to existing facilities for access to services infrastructure.
22. Detailed site plans and layout drawings of the preferred facility solution for the PTS at RAAF Base Gin Gin can be found at Attachments 18 to 21.

### **Details of the Proposed Options at RAAF Bases Edinburgh and Williamtown**

23. **RAAF Base Edinburgh.** The proposed solution at RAAF Base Edinburgh is to adaptively re-use the existing AWC hangar. Detailed site plans and layout drawings of the preferred facility solution for the PTS at RAAF Base Edinburgh can be found at Attachments 22 to 23.
24. **RAAF Base Williamtown.** As a significant portion of the identified facility requirements for No. 4 Squadron to operate the new PTS aircraft are to be addressed through the approved RAAF Base Williamtown Redevelopment Stage 2 Project, the proposed scope at RAAF Base Williamtown has been significantly reduced and the PTS Facilities Project now only proposes some minor additional ICT works. Detailed site plans and layout drawings of the preferred facility solution for the PTS at RAAF Base Williamtown can be found at Attachments 24 to 25.

## **ENVIRONMENTAL AND HERITAGE ASSESSMENT**

### **Overview of the Assessment Process**

25. Defence proactively manages each of the selected PTS bases through the Defence Environmental Policy, Defence Environmental Strategy and the Defence Environmental Plan. These documents provide overarching guidance to the environmental and heritage management of each base. Further to this, Defence has undertaken site assessments and investigations for this project in accordance with the National Environment Protection (Assessment of Site Contamination) Measure 1999 to ensure consistency with industry best practice standards.
26. A number of environmental considerations have been identified during the development of this proposal. An Environmental Report has been completed for the PTS Facilities Project, with the key focus areas of the Report being land contamination, fire management, unexploded ordnance (UXO), fauna and flora, air quality, noise, and water quality.
27. The Report reviewed the nine areas of the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)* and determined that the project did not warrant a referral under the Act. The environmental and heritage issues identified are minor and will be managed through the internal Defence Environmental Compliance Certificate (ECC) process.

### **Heritage Considerations**

28. **Archaeological Heritage.** The Environmental Report found limited potential for indigenous heritage at the selected PTS sites, and it indicated that there is also further limited potential to find artefacts of indigenous value where the land has been impacted by earlier development, which is the case with a majority of the proposed PTS sites. However, mitigation measures will be developed prior to commencing any construction and will include consultation

with the any local indigenous groups in line with the *Commonwealth's Ask First: A Guide to Respecting Indigenous Heritage Places and Values*. Also, Site Induction Training will be provided prior to any ground disturbance works to ensure that if there are any unexpected finds, works will cease immediately and appropriate actions will be undertaken by the Commonwealth in order to manage any possible artefacts and the site as appropriate.

29. **Built Heritage.** Where applicable, design, refurbishment and or demolition works have / will take such heritage aspects into consideration and where possible will avoid or limit impacts to any known heritage values. At RAAF Base East Sale, the project plans to demolish a number of Bellman Hangars that will become redundant once the replacement facilities are completed. These hangars are assessed as having moderate heritage significance and any impact from demolition is assessed as low in accordance with the Base Heritage Management Plan. For RAAF Base Pearce, the project proposes to adaptively reuse 'Hanger 95', which has high heritage significance. The proposed works for this hangar will have minimal impact as the proposed design will take into consideration its heritage values and will be in accordance with the Base Heritage Management Plan. The project has assessed the heritage risk associated with proposed works at RAAF Bases Gin Gin, Edinburgh and Williamtown as low.

### **Environmental Considerations**

30. The project will be managed in accordance with the Defence Environmental Management Framework, which includes the requirement for the Facilities Contractor to prepare a Construction Environmental Management Plan (CEMP) and obtain a Defence Environmental Clearance Certificate (ECC) prior to the commencement of any construction.

31. **Flora and Fauna.** The proposed works are primarily located within existing built up base areas. At RAAF Base East Sale, the Environmental Report identified one listed threatened ecological tree community as potentially relevant to the development area. There however does not appear to be any native vegetation within the proposed site and therefore the likelihood of the listed threatened ecological community occurring within the project area is assessed as low. Previous field surveys have not recorded any threatened fauna species on the Base. The assessment also determined that the presence of the threatened species assessed was unlikely to occur. There is however limited potential for listed migratory species or their habitat to be present in the project area. At RAAF Base Pearce, there is no native vegetation identified within the project footprint, with the nearest remnant patches within the Base boundary occurring to the south and west of the proposed project area. The project has assessed the environmental risk associated with proposed works at RAAF Bases Gin Gin, Edinburgh and Williamtown as low as they are either internal works or within existing built up areas.

32. **Australian Noise Exposure Forecast (ANEF).** Aircraft noise exposure on surrounding civilian communities is being carefully considered at RAAF Base East Sale due to the increased rate of effort as a result of BFTS relocating to the Base. At RAAF Bases Pearce, Gin Gin, Williamtown and Edinburgh, the rate of effort will not change and the incoming PC-21 will produce similar noise outputs to the outgoing PC-9, resulting in no requirement to update respective ANEFs.

33. The current RAAF Base East Sale ANEF was a forecast of aerodrome movement from 2002 to 2012. Due to the increase in rate of effort that the new PTS will bring to the Base, an

updated ANEF Study, which captures planned aircraft movements at the aerodrome between 2015 and 2035 is being developed.

34. The '2035 ANEF Study' has been developed in consultation with the relevant base stakeholders and the local council. Defence also plans to conduct a public consultation session in Sale in the second quarter of 2016 to finalise the ANEF Study.

35. **Water Quality Issues.** The Environmental Report assessed that it is unlikely that where proposed buildings are being constructed, refurbished or rebuilt for the project, that there will be a significant change to water quality as a result of the project. However, water quality will be protected through appropriate surface water management measures and through no discharges of wastewater to the environment. The soil within the project areas shall be characterised prior to any construction works where disturbance is required so as to determine any potential risks to surface water and / or groundwater quality through the disturbance and dispersal of potential contamination.

36. **Ground Conditions.** The Environmental Report identified existing soil contamination as a potential issue. Investigations have identified the presence of perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) components of Aqueous Film Forming Foam (AFFF) in underlying soil within the vicinity of the proposed works at RAAF Base East Sale. The proposed new PTS works will therefore result in the generation of potentially contaminated spoil material. A plan for managing any contaminated spoil will be established, and maintained and will form part of the CEMP. Defence is now conducting further detailed investigations that inform this plan, which will include:

- a. additional testing to further assess the contamination and assist with managing the risk associated with the potentially contaminated spoil material during construction;
- b. sampling of potentially contaminated soil prior to construction to characterise the material for land fill or disposal; and
- c. balancing cut and fill across the sites by reusing material that is below the Defence Residential Use Screening Guidelines.

37. The design of the proposed works has specifically considered the outcomes and recommendations of the Environmental Report and has incorporated features to mitigate environmental impacts. This includes siting facilities to maximise passive solar design, the appropriate use of insulation and the use of energy efficient equipment to minimise energy consumption.

38. The proposed works are primarily located within the existing built up base areas. Key environmental impacts potentially arising as a result of this proposal include:

- a. disturbance of contaminated soils;
- b. handling and disposal of asbestos present in buildings to be demolished or refurbished; and
- c. possible refurbishment and demolition of buildings with heritage value.

39. These impacts shall be addressed through the implementation of avoidance, mitigation and management measures during the final design stage and then into construction.

40. **UXO.** An UXO Study has been undertaken for the project, which concluded that it is unlikely there will be any significant presence of UXO in the proposed construction areas. To mitigate the impact of potential discoveries, the project areas will be issued clearance certificates and personnel will be briefed on reporting procedures prior to any earthwork construction activities.

41. **Flood Events.** The project facilities design has considered engineered design solutions, which include storm water and drainage management, as well as prevention of ground water contamination in the case of a flood event. Mitigation measures include the introduction of triple interceptor pits for excess catchment, and bunding to fuel and chemical handling and areas for containment of substances in the event of spillage. At RAAF Base East Sale, previous hydrogeological investigations inferred that groundwater flow from RAAF Base East Sale is in a south to southeast direction towards Lake Morass and Lake Wellington. Given the distance of RAAF Base East Sale from the Ramsar listed Gippsland Lakes as well as the integration of existing site drainage management, it is considered unlikely that the proposed works would lead to a significant impact on these lakes. At RAAF Bases Pearce, Gin Gin and Edinburgh, previous investigations have identified that the proposed works are not considered to be impacted by flood events due to hydrological profiles of the Bases. At RAAF Base Williamtown, the Port Stephens Council Flood Map indicates that parts of the RAAF Base Williamtown are flood prone, namely the south-eastern end of the runway and adjacent areas. However, the proposed works are limited to a communication room to be constructed adjacent to the current No. 4 Squadron hanger, and as such there are no additional hydrological impacts associated with this project area.

### **Key Legislation**

42. The following key legislation is relevant to this project:

- a. Defence Act 1903 (Cth);
- b. Native Title Act 1993 (Cth);
- c. Environment Protection and Biodiversity Conservation (EPBC) Act 1999 (Cth);
- d. Fair Work (Building Industry) Act 2012 (Cth);
- e. Work Health and Safety Act (WH&S) 2011 (Cth); and
- f. Disability Discrimination Act 1992 (Cth).

43. The design of the proposed works will comply with all relevant and current Defence standards, Australian standards, codes and guidelines including the following:

- a. National Construction Code - Building Code of Australia (NCC-BCA);
- b. Defence Manual of Fire Protection Engineering (MFPE);

- c. Defence Manual of Electrical Engineering (MIEE);
- d. Defence Security Manual (eDSM);
- e. Defence Estate Quality Management System (DEQMS); and
- f. Civil Aviation Safety Authority's Airfield Manual of Standards Part 139 (MOS139)

### **Consultation with Key Stakeholders**

44. Defence recognises the importance of providing local residents, statutory authorities and other interested stakeholders with an opportunity to provide input into, or raise concerns relating to, major projects such as the facilities for the new PTS.

45. Consultation has occurred with key Defence stakeholders as follows:

- a. Air Force Headquarters - Advice on project scope and operational requirements;
- b. Capability Acquisition and Sustainment Group – Advice on project scope and operational requirements;
- c. Headquarters Air Training Wing - Advice on operational requirements and user requirements;
- d. BFTS, CFS, TASPO and PSA - Advice on operational requirements;
- e. 2FTS, RAAF Bases Pearce and Gin Gin - Advice on operational requirements;
- f. Base City Squadrons - Advice on operational requirements;
- g. Estate and Infrastructure Group, Infrastructure Division – Advice on zone and precinct planning requirements, site selection, and environment, heritage and engineering policy / compliance requirements;
- h. Defence Support – Consideration of regional issues and concerns;
- i. Defence Security and Vetting Services - Advice on physical security policy;
- j. Chief Information Officer Group – Advice on ICT policy and costing; and
- k. Estate Maintenance and Operating Services – Consideration of design from a base services perspective.

46. Defence will also develop a community consultation plan and communication strategy that recognises the importance of providing local residents, statutory authorities and other interested stakeholders an opportunity to provide input to, or raise concerns relating to the proposal. Community consultation is planned to be conducted during the period March / April 2016.



47. Defence will also engage with a variety of internal and external stakeholders in the local communities including the following key stakeholders:

- a. Hon Darren Chester MP, Federal Member for Gippsland (RAAF Base East Sale);
- b. Hon Christian Porter MP, Federal Member for Pearce (RAAF Bases Pearce and Gin Gin);
- c. Frank Alban, State Member for Swan Hill (RAAF Bases Pearce and Gin Gin);
- d. Danny O'Brien, State Member for Gippsland South (RAAF Base East Sale);
- e. Wellington Shire City Council (RAAF Base East Sale);
- f. City of Swan Local Council (RAAF Bases Pearce and Gin Gin);
- g. Local indigenous groups at each of the PTS sites; and
- h. Local communities at each of the PTS sites, including industry groups.

48. Defence will also convene formal public consultation sessions for the proposed works at RAAF Bases East Sale and Pearce prior to the Parliamentary Standing Committee on Public Works Hearing for the AIR5428-1 PTS Facilities Project.

## **PURPOSE OF WORKS**

### **Project Objectives**

49. The aim of the AIR5428-1 PTS Facilities Project is to deliver fit-for-purpose facilities to support the modern joint training system being delivered by the AIR5428-1 Capability Project, in a timeframe that enables the new PTS Capability Contractor to install and commission the required training devices to meet the Government endorsed PTS ISD and IOC milestones.

### **Details and Reasons for Site Selection**

50. The selection of sites for the proposed new works at RAAF Bases East Sale, Pearce and Gin Gin were conducted in accordance with Defence's Infrastructure Division's planning policy requirements as set out in DEQMS. Site Selection Boards (SSBs) were completed to assess the appropriateness of siting with regard to Base Zone Plans, the future use of the Defence estate and compliance with applicable Defence policies, and Base Environmental and Heritage Management Plans.

51. The recommendations of the SSBs have been approved by the Defence delegate and chosen sites are shown in the attached site plans. There is no requirement to conduct a SSB at RAAF Base Edinburgh as the proposal will only deliver internal upgrade works within existing facilities. There will however be a requirement to conduct a desktop Site Selection Assessment for the proposed communications room adjacent to the existing No. 4 Squadron building at RAAF Base Williamstown.

## Detailed Description of the Proposed Scope of Works

52. All proposed new PTS facilities and infrastructure solutions have been developed in response to the AIR5428-1 functional requirements, such as working and training accommodation, maintenance and storage, through life support, engineering, infrastructure works, LIA and base amenities.

53. Due to time imperatives to support the introduction of the new PTS, the proposed works will be phased as follows:

a. **ISD works**, which are works to support the Capability Provider's initial learning environment Operational Test and Evaluation (OT&E) activities in both the classroom and FTD environments, and to allow Defence QFIs conversion onto the new PC-21 platform prior to the first AIR5428-1 Pilot Course. These works will be required at RAAF Base East Sale by April 2017. To achieve this, Defence proposes the following interim solutions:

- (1) minor works in Hangar 373 for interim aircraft maintenance;
- (2) install deployable hangars to act as interim aircraft storage;
- (3) interim use of the B300 flightline for Aviation Life Support Equipment (ALSE);
- (4) minor works in Building 106 to act as an interim learning environment;
- (5) interim / partial use of existing PC/9 Shelters for new PC21 aircraft; and
- (6) partial construction of the combined PTS facility to house the first two FTDs.

b. **IOC works**, which are all remaining works to support AIR5428-1 at RAAF Bases East Sale, Pearce and Gin Gin, which are programmed to be delivered by July 2018.

54. A number of project deliverables will be defined as stages in the Delivery Phase so as to ensure the 'ramp up' of facilities required between the ISD and IOC deliverables align with the capability programme requirements.

55. **RAAF Base East Sale.** In addition to the ISD works, the main works proposed at RAAF Base East Sale are shown at Attachments 2 to 9 and include:

- a. new flight line shelters for 28 PC-21 aircraft;
- b. new aprons and taxiway to service PC-21 aircraft;
- c. new aircraft storage hangar;
- d. new maintenance facilities for five aircraft, flightline office, aviation life support equipment;
- e. refurbished paint shop to meet compliance and PC-21 aircraft requirements;

- f. new classrooms, working accommodation and briefing rooms for BFTS, CFS and PSA;
- g. new FTD facilities;
- h. TASPO facilities, working accommodation and briefing rooms;
- i. LIA for 105 students;
- j. new aircraft wash facility;
- k. new engine run-up facility;
- l. minor extension to the existing medical facility;
- m. trunk infrastructure works to service the proposed new facilities;
- n. associated demolitions, landscaping and car parking; and
- o. works required for decanting existing functions if they are currently operating in any facilities considered for adaptive reuse.

56. **RAAF Base Pearce.** The works proposed for RAAF Base Pearce are shown at Attachment 10 to 17 and include:

- a. new flight line shelters for 20 aircraft;
- b. new aprons and taxiway to service PC-21 aircraft;
- c. new maintenance facilities for five aircraft, flightline office, ALSE and aircraft storage;
- d. 2FTS classrooms, FTD facilities, working accommodation and briefing rooms;
- e. new aircraft wash facility;
- f. new engine run-up facility;
- g. trunk infrastructure upgrades works to service the proposed new facilities;
- h. associated demolitions, landscaping and car parking; and
- i. works required for decanting existing functions if they are currently operating in any facilities considered for adaptive reuse.

57. **RAAF Base Gin Gin.** The proposed works for the RAAF Base Gin Gin satellite aerodrome are shown in attachments 18 to 21 and it includes:

- a. new flight line shelters for 6 aircraft;

- b. new aprons and taxiway to service PC-21 aircraft; and
- c. 2FTS working accommodation and operations, flight line office and ALSE, storage and car parking.

58. **RAAF Base Edinburgh.** The scope of works for at RAAF Base Edinburgh is shown at Attachments 22 and 23, and includes internal works to adaptively re-use the existing flight line maintenance facility and working accommodation to support AWC operations. These works are required to provide a fit-for-purpose environment to conduct maintenance and operational activities for the PC-21.

59. **RAAF Base Williamtown.** The scope of works at RAAF Base Williamtown is shown at Attachments 24 and 25, and includes minor additional ICT works to support No.4 Squadron operations.

60. In summary, the proposed facilities requirements for the new PTS will provide new and upgraded facilities and infrastructure to support the introduction, operation and sustainment of the Pilatus PC-21 aircraft, simulator, learning environments and associated support systems.

### **Public Transport, Local Roads and Traffic Concerns**

61. A traffic analysis has been completed on the internal road network at RAAF Bases East Sale and Pearce, which has shown no adverse effects on the road networks around the Bases. RAAF Bases Gin Gin, Edinburgh and Williamtown will have no increase in the Base population.

62. During construction there will be an increase to the number of large vehicles that enter the Bases to deliver material to the construction sites. Construction management controls will be implemented to mitigate the effects of this increased traffic on the local road networks during construction. These measures, where possible, will include the use of a dedicated construction access gates to prevent delays to traffic using the main entrance to the Bases.

63. Construction traffic will be also be managed through the development of Traffic Management Plans for each site.

### **Zoning and Local Approvals**

64. Compliance with the RAAF Base East Sale Zone Plan is achieved by locating the proposed LIA site within the Domestic Zone of the Base Zone Plan. The car parking associated with the LIA is located within a Base Support Zone. The proposed new PTS training facilities are all located within the Operational Zone.

65. The proposed works at RAAF Bases Pearce, Gin Gin, Edinburgh and Williamtown are all located with the Zones that are appropriate to their function as identified in the applicable Base Zone Plans.

66. No land acquisition will be required to deliver the proposed works.

### **Childcare and Medical Provisions**

67. There are no requirements for additional childcare facilities as a result of this project as the existing facilities meet the current and known future needs of the Bases.

68. Due to the forecast base population increase at RAAF Base East Sale there will be a requirement to slightly increase provisions for base medical services and staff, which has been accounted in the capability project providing additional medical staff, and the PTS Facilities Project proposal to adapt the existing medical facility to account for the increased level of services and staff required,

### **Impacts on Local Community**

69. The project will generate short-term local employment predominantly in the building, construction and unskilled labour markets.

70. Under the selected Managing Contractor form of delivery, Defence anticipates that local building sub-contractors will be employed on a large proportion of the construction works. The Managing Contractor will engage with local industry groups to maximise opportunities for local businesses, providing a positive economic impact to small and medium enterprises in the various regions. Where the local market has insufficient capacity to manage the volume of the work, Defence anticipates the employment major sub-contractors from city based markets, which in turn will provide wider economic benefits to the Public.

71. Construction traffic will be managed through the development of Traffic Management Plans for each site. Only minimal disruption to local communities is anticipated at RAAF Bases East Sale and Pearce as these bases are not accessed by roads which serve as trunk routes for local residents.

### **PLANNING AND DESIGN CONCEPTS**

72. The PTS Facilities Project will provide safe, functional, cost effective, energy efficient facilities designed to be suitable for local climates and of a style consistent with the character of the sites and other comparable Defence facilities.

73. Infrastructure services planning and structural design has been developed taking into account the requirement for future flexibility. The design is based on projected demand and Defence policies for redundancy and reliability.

74. Where security requirements permit, buildings have been planned in such a manner so as to allow for ease of adaptability of internal spaces over time by utilising a structural frame with lightweight partition walls that can be modified should requirements change. Office spaces are in accordance with the latest Defence accommodation standards. A high ratio of open plan workstations to enclosed offices will enable greater flexibility in planning for surges in facility operations. Per person spatial allowances are in accordance with Defence standards and comparable to other contemporary Defence facilities.

75. The design has adopted techniques and materials that are sustainable, robust, have low or no maintenance requirements and overall reduce whole of life costs. They are consistent with the capacity and capability of local construction industries to reduce risk on each site with respect to both program and quality.

### **Structural Design**

76. The PTS structural design philosophy is based on providing an efficient and cost effective structural system for each building. The size and layout of the buildings vary significantly, however every attempt has been made to replicate materials and techniques through the buildings to enable the implementation of consistent construction practices.

77. The key considerations taken into account in the structural design were:

- a. maintaining and enhancing the operational effectiveness of each facility;
- b. ensuring the design for each building is fit for purpose;
- c. cost-effectiveness over the whole of life of the buildings;
- d. minimisation of in-service maintenance requirements;
- e. minimisation of risks inherent in the design (both safety and economic risks); and
- f. maintaining flexibility of the use of internal spaces where appropriate.

78. The designs of the proposed apron, hardstands, access roads and the building structures have also taken into account local geotechnical conditions and will meet all relevant Australian Standards and Codes. Appropriately qualified and experienced geotechnical and structural engineers have been engaged in the design of the proposed facilities.

### **Mechanical Services**

79. The mechanical services for each new building have been designed according to the function and needs of each building. The purpose of the mechanical services systems is to provide mandatory ventilation, thermal comfort and air quality facilities in accordance with specific user needs and the requirements of the Building Code of Australia.

### **Hydraulic Services**

80. The required hydraulic services will conform to the requirements of all applicable legislation, regulations, codes of practice and guidance publications (including regulations) relevant to specific State and / or Australian standards. Where Australian Standards are not available, recognised international or overseas national standards will be used where they are relevant to the type of installation or equipment and to the installation conditions in Australia.

81. Existing natural gas, sewerage and storm water services are proposed to be extended to each facility to suit design requirements. Potable water will be connected to the existing supply via

sub-metering to each new building. The selected hydraulic equipment will be readily available and adequately serviced in Australia with spare parts and technical support.

82. Hydraulic installations will allow for suitable and easy access for the purpose of operation, maintenance, repair and replacement. Allowance for plant layouts and equipment space will address associated Building Code of Australia and Work Health and Safety legislation requirements. Safe means of access to hydraulic equipment, including items mounted in roof voids and ceiling voids, in high spaces or above operational equipment, have been addressed in design.

### **Electrical Services**

83. The electrical supply to the proposed facilities will be from existing base electrical networks. Investigations have confirmed that there is adequate capacity on these networks for the proposed new facilities.

84. Lighting, power and lightning protection will be provided in accordance with Australian Standards and Defence MIEE requirements.

85. Electrical infrastructure and switchboards will have spare capacity to allow for future growth. Sub-metering will be included to each re-used and new building. The meters will be monitored through either existing or new Building Management Systems, which will support an active energy management program on each of the sites.

86. The electrical design has been undertaken in accordance with all relevant Australian Standards, all applicable Legislation, Regulations, Codes of Practice and Guidance Publications relevant in each State and within Defence.

### **Communication Services**

87. A standalone ICT system to house a PTS learning environment will be administered and maintained by the Capability Contractor in accordance with the AIR5428-1 Capability Contract requirements. This will be independent from and in addition to the Defence networks, which will be provided for Defence use only.

88. Each PTS site is serviced by a well-developed communications infrastructure network. The proposed works will include the works summarised below to support the PTS communications infrastructure network:

- a. infrastructure cabling between existing network and communications nodes;
- b. independent communications rooms in each of the new PTS facilities;
- c. new Defence Voice Network, Defence Protected Network, Defence Secret Network;
- d. Defence Engineering Services Network, and PTS Learning Environment Network;
- e. fibre and copper horizontal cabling and containment to network outlets;

- f. master antenna television systems;
- g. public address system;
- h. intercom systems; and
- i. audio visual cabling and systems.

### **Fire Protection**

89. The respective responding Fire Brigades at RAAF Bases East Sale and Pearce have been, or are in the process of being, consulted on the proposed works at these sites. The proposed fire detection systems, indication panels, emergency and exit lighting and Aqueous Film-Forming Foam (AFFF) fire protection systems are suitable for the existing base systems. All construction and fire protection will comply with the National Construction Code – Building Code of Australia, the Defence MFPE and all other applicable codes and Australian standards.

90. All proposed facility designs include the installation of automatic fire alarm and detection systems as required by the Defence MFPE. The fire indicator panel in each of the buildings will be centrally monitored on base.

### **Acoustics**

91. The principal standard governing acoustic treatment for this project is the Australian Standard AS 2021–2000 Acoustics – Aircraft noise intrusion – Building Siting and Construction. While building orientation and the design of building envelopes have been designed to provide an acceptable level of noise attenuation, due to the functional requirements for the many elements of the project design, such as direct access to the flightline, sightlines along the aircraft apron, and the desire for natural light, it will not be possible to meet all of the requirements of AS 2021-2000. The proposed acoustic design therefore strikes a balance between adherence to AS2021 and functional requirements. An example of this is the noise criteria for ‘maintenance areas’ to permit direct external access to flightlines.

92. Within the proposed buildings, acoustic privacy of partitioning is provided in accordance with AS/NZS ISO 717.1 - Acoustics—Rating of Sound Insulation in Buildings and of Building Elements. Acoustic privacy has been determined based on the function within each of the spaces and the level of privacy required.

### **Security**

93. Security protection will be provided in accordance with the Defence Security Manual and the facilities will be secured as appropriate to the classification level required for the activities conducted in the facility. Engagement with the Defence Security and Vetting Service has been conducted throughout the development phase of the project to ensure compliance with all required security related standards.

94. All construction sites will be secured appropriately to prevent public access or access by unapproved Defence personnel during the construction period.



## **ENVIRONMENTAL SUSTAINABILITY OF THE PROJECT**

95. The Commonwealth is committed to ecologically sustainable development and the reduction of greenhouse gas emissions. Defence reports annually to Parliament on its energy management performance and on its progress in meeting the energy efficiency targets established by the Government as part of its commitment to improve ecologically sustainable development. Defence also implements policies and strategies in energy, water and waste to improve natural resource efficiency and to support its commitment to the reduction of energy consumption, potable water consumption and waste diversion to landfill.

96. This proposal addresses Commonwealth policy by adopting cost-effective and ecologically sustainable development practices as a key objective in the design of the new facilities. To achieve this objective, the proposed buildings will comply with:

- a. Section J of Volume One of the Building Code of Australia, National Construction Code 2015 Energy Efficiency.
- b. Part 3.12 of Volume Two of the Building Code of Australia, National Construction Code 2015; Energy Efficiency.
- c. Energy Efficiency in Government Operations policy;
- d. Smart Infrastructure Manual: Design and Construction v1.0 (April 2015), Department of Defence; and
- e. Smart Infrastructure Manual: Design and Construction.

97. The ecologically sustainable measures proposed for the project will be balanced with other requirements for Defence buildings, including security and work health and safety considerations, to ensure that Defence's operational capability is not compromised. The goal of these measures will be to maximise return on capital investment, while also aiming to minimise the ongoing maintenance and operational requirements. Whole of life costing has also been considered and incorporated as part of the design process.

98. The following are examples of some initiatives identified for this project:

- a. energy and water metering for ongoing monitoring and management purposes;
- b. zoning and control methodology for efficient operation of air-conditioning systems;
- c. centralised air-conditioning plant, where feasible, in combination with high-efficiency equipment and variable speed drives to ensure output matches demand;
- d. energy-efficient artificial light sources in conjunction with zoning and control methodology such as motion sensing;

- e. solar thermal water heating with gas or electric boosting, according to site conditions, for domestic hot water services for amenities;
  - f. energy-efficient building fabric construction to achieve thermal and acoustic insulation requirements;
  - g. use of mechanically-assisted or natural ventilation and natural lighting wherever practical;
  - h. specification of sustainable internal and external finishes such as plantation timber and low-volatile organic compound paints;
  - i. specification of high star-rated appliances (energy and/or water efficiency) and sanitary fixtures and fittings (water efficiency);
  - j. connecting into the existing Base Management System network, which allows for centralised monitoring and control of building systems;
  - k. at least 70% of construction and demolition waste to be diverted from landfill (excluding hazardous waste and contaminated soil);
  - l. refrigerant and insulation materials with zero ozone-depletion potential (ODP);
  - m. reduction of Portland Cement content of cement by up to 15% by use of substitute materials; and
  - n. use of best-practice steel from responsible suppliers and fabricators.
99. All energy sources supplying the buildings will be individually metered and linked to a control and monitoring system allowing Defence to better manage and monitor environmental performance. Sub-metering will be provided in accordance with the Defence Energy Management Strategy, and the requirements of the Commonwealth Energy Policy.

### **Landscaping**

100. Landscaping design has been included in all new building elements where appropriate and functional. Landscaping works will also be completed to restore areas disturbed during construction and provide general improvements to the built environment.

101. Proposed new landscape works will complement and enhance the character of each site whether on foot, bicycle or vehicle. The landscape design will focus on a functional, low maintenance approach with the use of indigenous plants. Precautions will be taken to avoid compromising environmental sensitivities by adopting landscaping practices in accordance with the local environmental conditions and Construction Environmental Management Plans.

### **Energy Targets**

102. Defence has adopted the principles of the Energy Efficiency in Government Operations policy in relation to office accommodation. As the new PTS facilities at RAAF Bases East Sale and

Pearce have a floor area of greater than 2000m<sup>2</sup> and an office area comprising greater than 50 per cent of the total building area, the whole building will target 4.5 stars under the National Australian Built Environment Rating System. An energy management plan will be developed for each building for implementation by Defence.

103. For all other mixed-use buildings that have office floor area of less than 2000m<sup>2</sup> or where the office area does not comprise 50% of the total building area, separate digital energy monitoring devices will be installed and office lighting will not exceed 10W/m<sup>2</sup>.

### **Work Health and Safety Measures**

104. The proposed facilities design and construction will be managed in accordance with the requirements of the Work Health and Safety Act 2011 (Cth), the Department of Defence Work Health and Safety Manual, and operate in accordance with an approved Work Health and Safety Plan.

105. The Australian Government is committed to improving work health and safety outcomes in the building and construction industry. In accordance with section 35(4) of the Building and Construction Industry Improvement Act 2005 (Cth), the Managing Contractor will be required to hold full occupational health and safety accreditation from the Office of the Federal Safety Commissioner under the Australian Government Building and Construction Occupational Health and Safety Accreditation Scheme.

106. Safety in design management workshops have been undertaken as part of the design process, and will continue throughout the development and delivery of the project. The Safety in Design Risk Register identifies risks and hazards and then records mitigation treatments (elimination or control measures) necessary to reduce any construction or operational risks and hazards.

### **Provisions for People with Disabilities**

107. Access and facilities for people with disabilities will be provided to all project elements in accordance with the Disability Discrimination Act (DDA) 1992 (Cth), National Construction Code – Building Code of Australia, Australian Standard AS1428 - 2009 Design for Access and Mobility – New Building Work, and Defence’s policy ‘Disabled Access and Other Facilities for Disabled Persons’. Where possible, the use of existing facilities access has been reused in the facilities design.

108. The new PTS facilities will be fully compliant with legislation and will include accessible kitchens, toilets and shower facilities. DDA compliant passenger elevators will be provided in the proposed PTS training facilities at RAAF Bases East Sale and Pearce. Disabled access to, and any connections between buildings and facilities at all PTS sites, including car-parking, will also be designed in accordance with the relevant access standards as listed above.

### **Provisions for Facilities Suitable for Minors**

109. The PSA, which falls under the remit of the BFTS is planned to be relocated from Tamworth to RAAF Base East Sale as part of Capability Project. As the PSA runs a two week

course to screen potential BFTS candidates who can be under the age of 18, there is a requirement to deliver facilities in alignment with Defence Instruction (General) Personnel 33–4 Management and Administration for Defence Force Members Under the Age of 18. In particular, specific LIA has been designed to ensure all of Defence’s ‘duty of care’ obligations in relation to minors can be achieved in accordance with this policy.

## **COST-EFFECTIVENESS AND PUBLIC VALUE**

### **Outline of Project Costs**

110. The total estimated out-turned cost of this facilities project is \$329.8 million, excluding Goods and Services Tax, and includes all construction costs, management and design fees, ICT delivery costs, furniture, fittings and equipment, contingencies and escalation.

111. The Net Personnel and Operating Costs for the completed PTS facilities are estimated at \$7.4 million per annum at mature state.

### **Details of Project Delivery System**

112. Following a tender process through the Defence Infrastructure Panel, Defence appointed a Project Manager / Contract Administrator to manage the project works and undertake the associated administration of the project contracts in the development phase. Subject to Parliamentary approval of the project, satisfactory development phase performance, and satisfactory outcomes from delivery phase negotiations, the current Project Manager / Contract Administrator may be appointed for the delivery phase.

113. A two stage publically advertised tender procurement strategy was used to engage a Managing Contractor, using Defence’s Managing Contractor Contract.

114. The Managing Contractor will be responsible for ensuring the facilities design meets the needs of Defence, and ensures that significant construction knowledge is transferred into the design phase to mitigate delivery phase program risks. Under this form of contract the Managing Contractor does not itself undertake construction, with construction work let to subcontractors on a competitive basis to maximise value for money. The Managing Contractor is also contractually required to deliver all works in accordance with, but not limited to, Building Code 2013 Guidelines, Commonwealth Procurement Rules, National Construction Code – Building Code of Australia, relevant Australian Standards, relevant Defence Policies, and Workplace Health and Safety Legislation.

115. Subject to Parliamentary approval of the project, satisfactory performance of the Managing Contractor in the development phase, and reaching agreement on the delivery phase costs and program, the current Managing Contractor may be engaged for the delivery phase for RAAF Base East Sale, Pearce and Gin Gin works.

116. As the proposed works at RAAF Base Edinburgh are planned to be delivered in 2019, a separate Head Contract (Construct Only) package will be developed and procured through a two stage open tender process.

117. The proposed works at RAAF Base Williamtown are planned as a variation to Defence's Managing Contractor Contract for the approved RAAF Base Williamtown Redevelopment Stage 2 Project, as this is the most cost effective approach given the small value of the works.

### **Construction Program**

118. Subject to Parliamentary approval of the project, construction is expected to commence in mid 2016 for ISD works at RAAF Base East Sale and are planned to finish in mid 2017.

119. The IOC works are planned to commence in mid to late 2016 at RAAF Bases East Sale, Pearce and Gin Gin, and are planned to finish in mid 2018. The construction program has been developed to ensure ISD and IOC milestones are met, which include a range of concurrent activities and establishment of multiple work fronts at RAAF Bases East Sale, Pearce and Gin Gin.

120. The proposed works at RAAF Bases Edinburgh and Williamtown are not time critical and will be delivered in 2019.

### **Public Value**

121. The proposed works will enhance ADF (Air Force, Army and Navy) pilot training capability outputs, which has an inherent public value.

122. Where practical and cost effective, existing facilities and 'brownfield' sites have been re-purposed to meet the new PTS facilities requirements in order to minimise both operating costs and any potential environmental impacts.

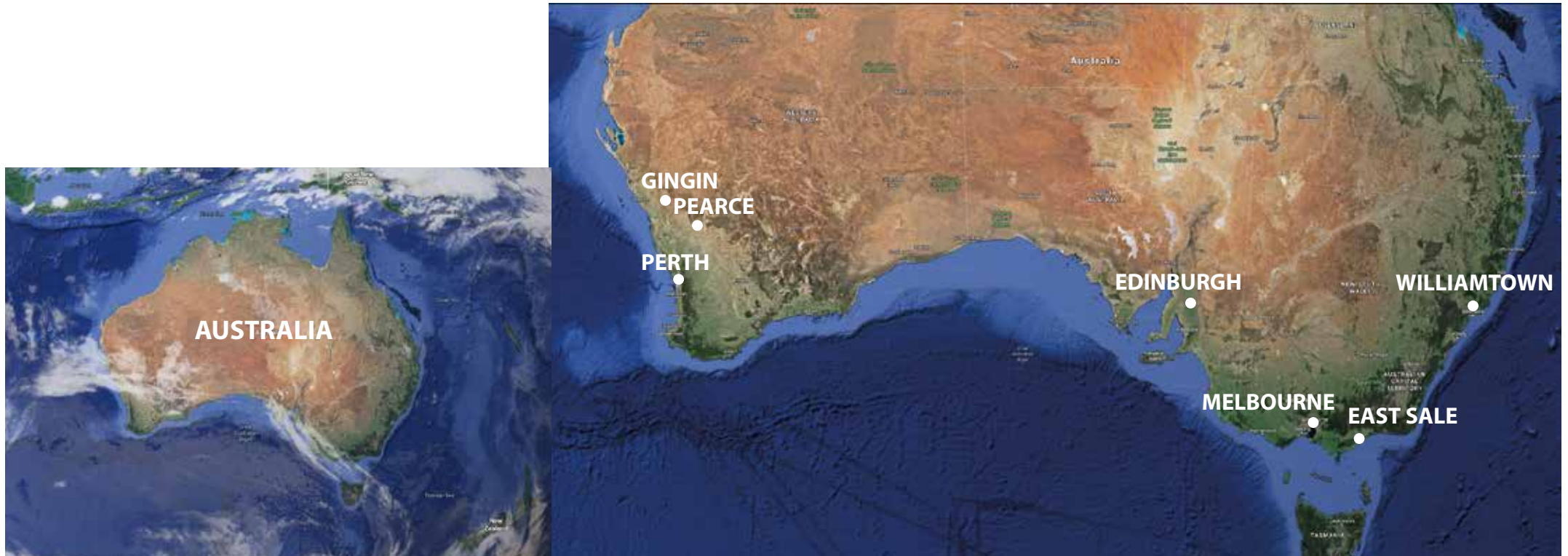
123. The proposed works will also provide a workplace that is safe, fit for purpose and allows personnel to undertake their duties, roles and responsibilities in an environment that meets their specific tasks. The works will also improve personnel morale, impacting on recruitment and retention, which will have a flow-on impact to capability support levels.

### **Revenue**

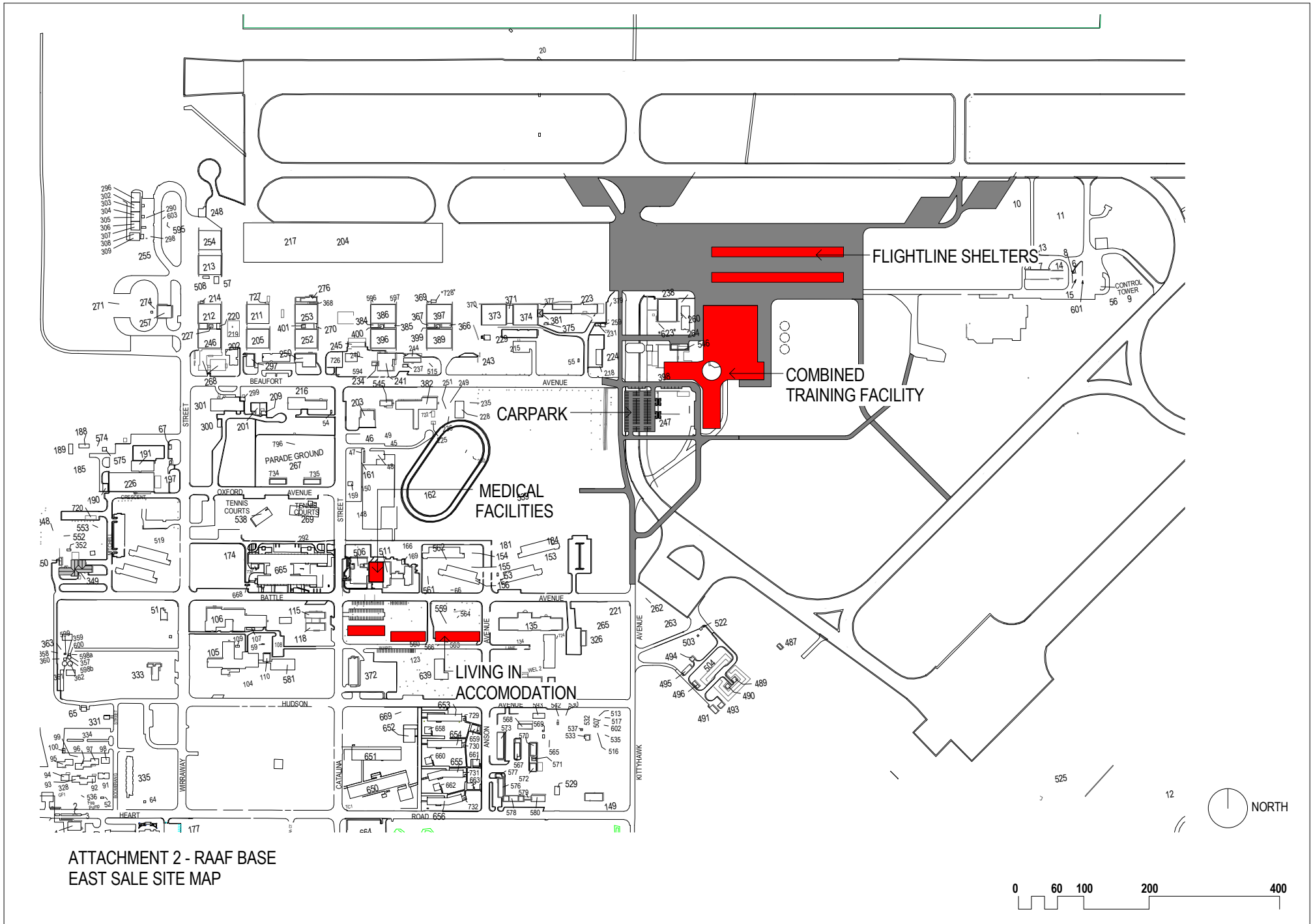
124. No revenue is to be generated by this project.

## ATTACHMENTS

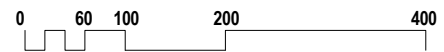
125. PTS Base Location Plan
126. RAAF Base East Sale Site Map
127. RAAF Base East Sale Combined Training Facility Ground Floor Plan
128. RAAF Base East Sale Combined Training Facility First Floor Plan
129. RAAF Base East Sale Combined Training Facility Elevation
130. RAAF Base East Sale Living in Accommodation Ground Floor and First Floor Plan
131. RAAF Base East Sale Living in Accommodation Elevation
132. RAAF Base East Sale Medical Facility Floor Plan
133. RAAF Base East Sale Apron and Taxiway Plan
134. RAAF Base Pearce Site Map
135. RAAF Base Pearce 2FTS Training Facility Ground Floor Plan
136. RAAF Base Pearce 2FTS Training Facility First Floor Plan
137. RAAF Base Pearce 2FTS Training Facility Elevation
138. RAAF Base Pearce 2FTS Maintenance Facility Floor Plan
139. RAAF Base Pearce 2FTS Maintenance Facility Elevation
140. RAAF Base Pearce 2FTS Storage Facility Floor Plan
141. RAAF Base Pearce Apron and Taxiway Plan
142. RAAF Base Gin Gin Site Map
143. RAAF Base Gin Gin PTS Facility Ground Floor Plan
144. RAAF Base Gin Gin PTS Facility Elevation
145. RAAF Base Gin Gin Apron and Taxiway Plan
146. RAAF Base Edinburgh Site Map
147. RAAF Base Edinburgh PTS Facility Floor Plan
148. RAAF Base Williamtown Site Map
149. RAAF Base Williamtown Floor Plan



ATTACHMENT 1 -  
PTS BASE LOCATION PLAN



ATTACHMENT 2 - RAAF BASE  
EAST SALE SITE MAP

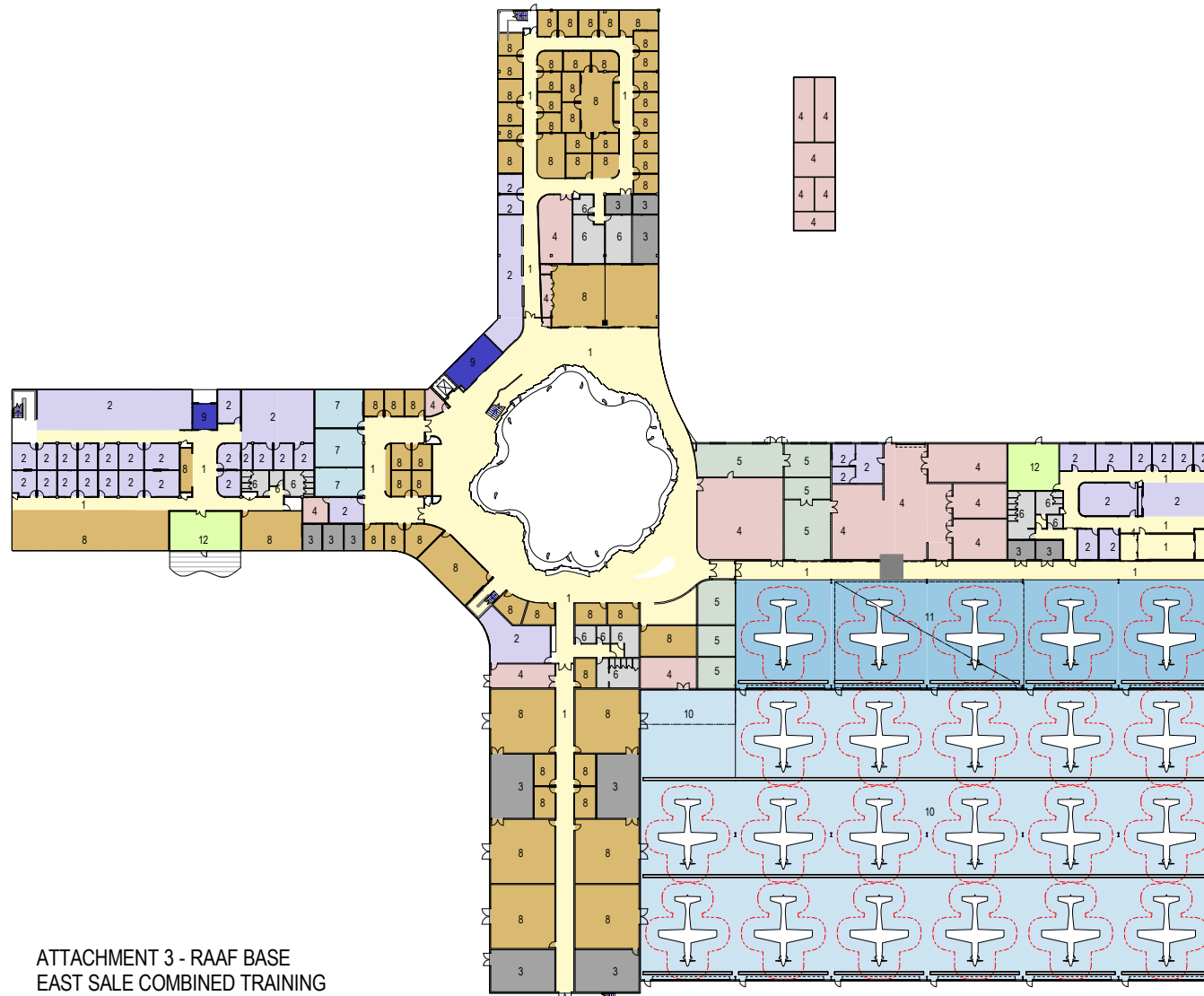




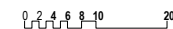
BUILDING WORKS LEGEND

- CIRCULATION
- OFFICE
- PLANT
- STORE
- WORKSHOP
- AMENITIES
- ENTRY
- COMMON AREAS
- FLIGHT STORAGE
- MAINTENANCE
- TRAINING
- CLASSROOM

1. CIRCULATION
2. OFFICE
3. PLANT
4. STORE
5. WORKSHOP
6. AMENITIES
7. CLASSROOM
8. TRAINING
9. ENTRY
10. FLIGHT STORAGE
11. MAINTENANCE
12. COMMON AREAS



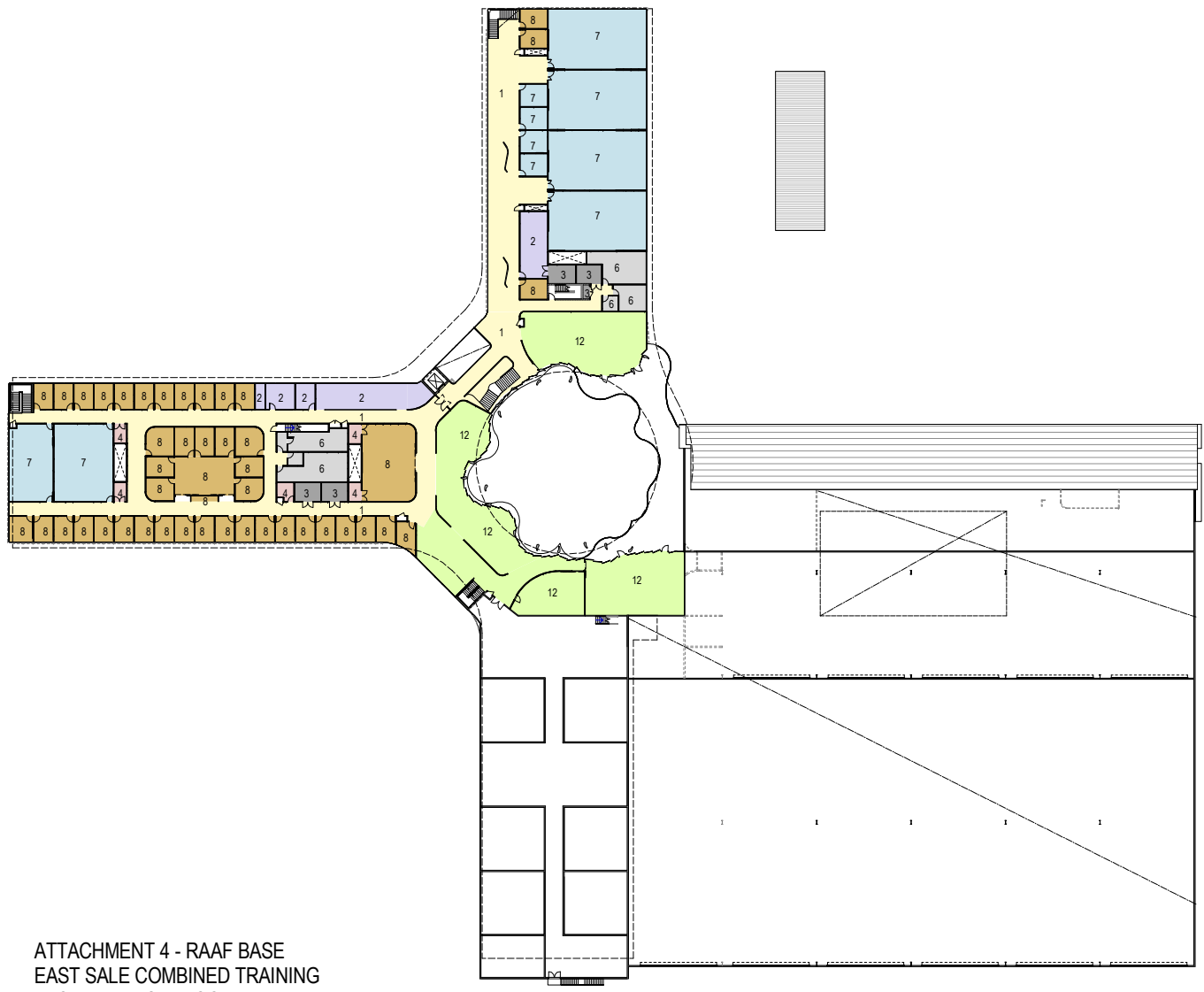
ATTACHMENT 3 - RAAF BASE  
EAST SALE COMBINED TRAINING  
FACILITY GROUND FLOOR PLAN



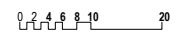
BUILDING WORKS LEGEND

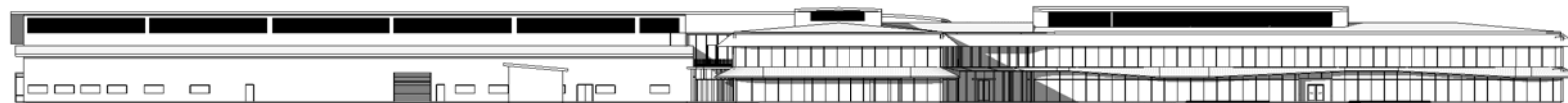
- CIRCULATION
- OFFICE
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- STORE
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1. CIRCULATION
2. OFFICE
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4. STORE
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8. TRAINING
9. ENTRY
10. FLIGHT STORAGE
11. MAINTENANCE
12. COMMON AREAS

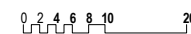


ATTACHMENT 4 - RAAF BASE  
EAST SALE COMBINED TRAINING  
FACILITY FIRST FLOOR PLAN





ATTACHMENT 5 - RAAF BASE  
EAST SALE COMBINED TRAINING  
FACILITY ELEVATION

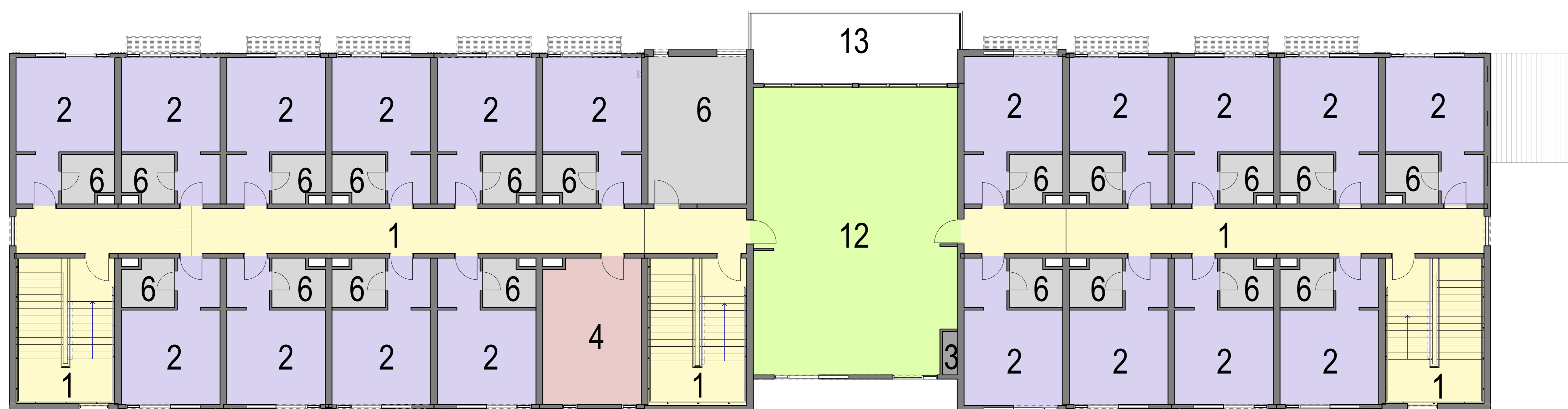




GROUND FLOOR PLAN

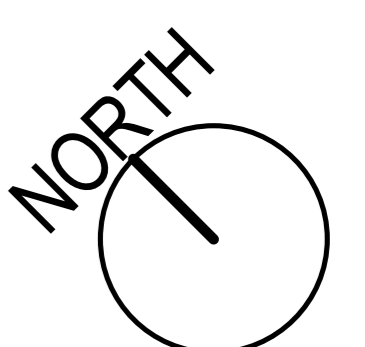
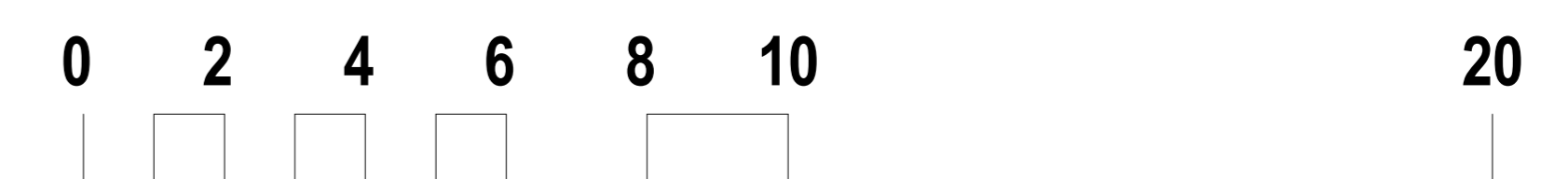
BUILDING WORKS LEGEND

- CIRCULATION
  - PLANT
  - STORE
  - AMENITIES
  - ACCOMMODATION
  - COMMON AREAS
- 1 CIRCULATION
  - 2 ACCOMMODATION
  - 3 PLANT
  - 4 STORE
  - 6 AMENITIES
  - 9 ENTRY
  - 12 COMMON AREA
  - 13 TERRACE



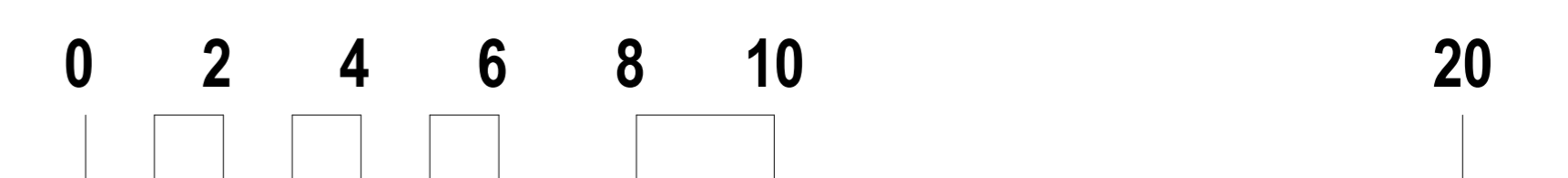
FIRST FLOOR PLAN

ATTACHMENT 6 - FLOOR PLANS  
RAAF BASE EAST SALE LIVING IN ACCOMODATION



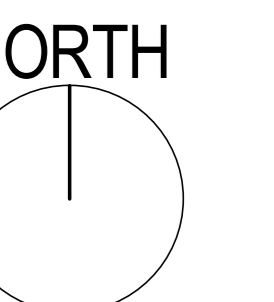


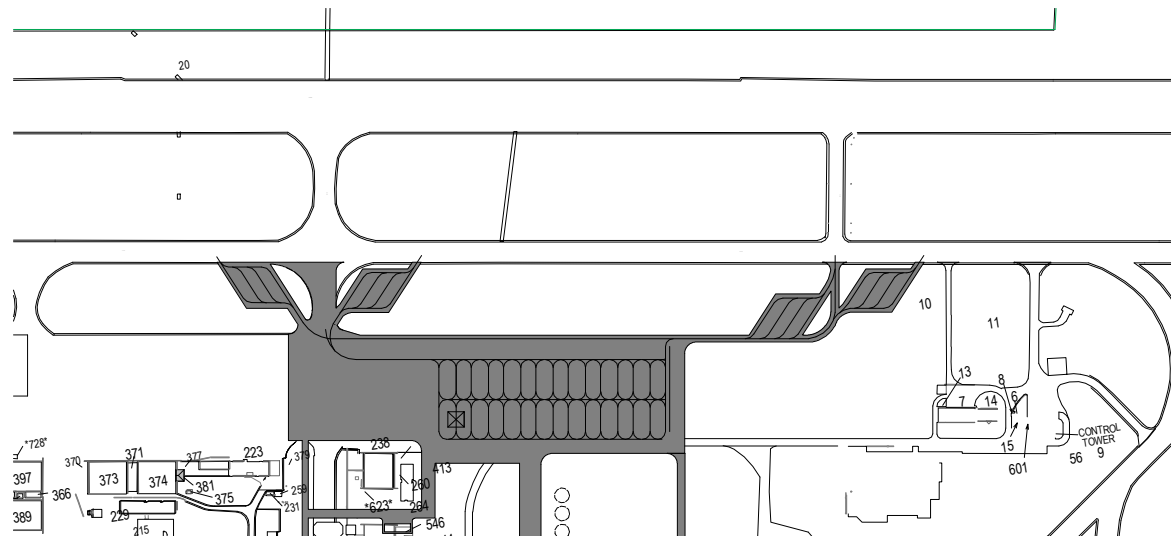
ATTACHMENT 7 - NORTH ELEVATION  
RAAF BASE EAST SALE LIVING IN ACCOMODATION



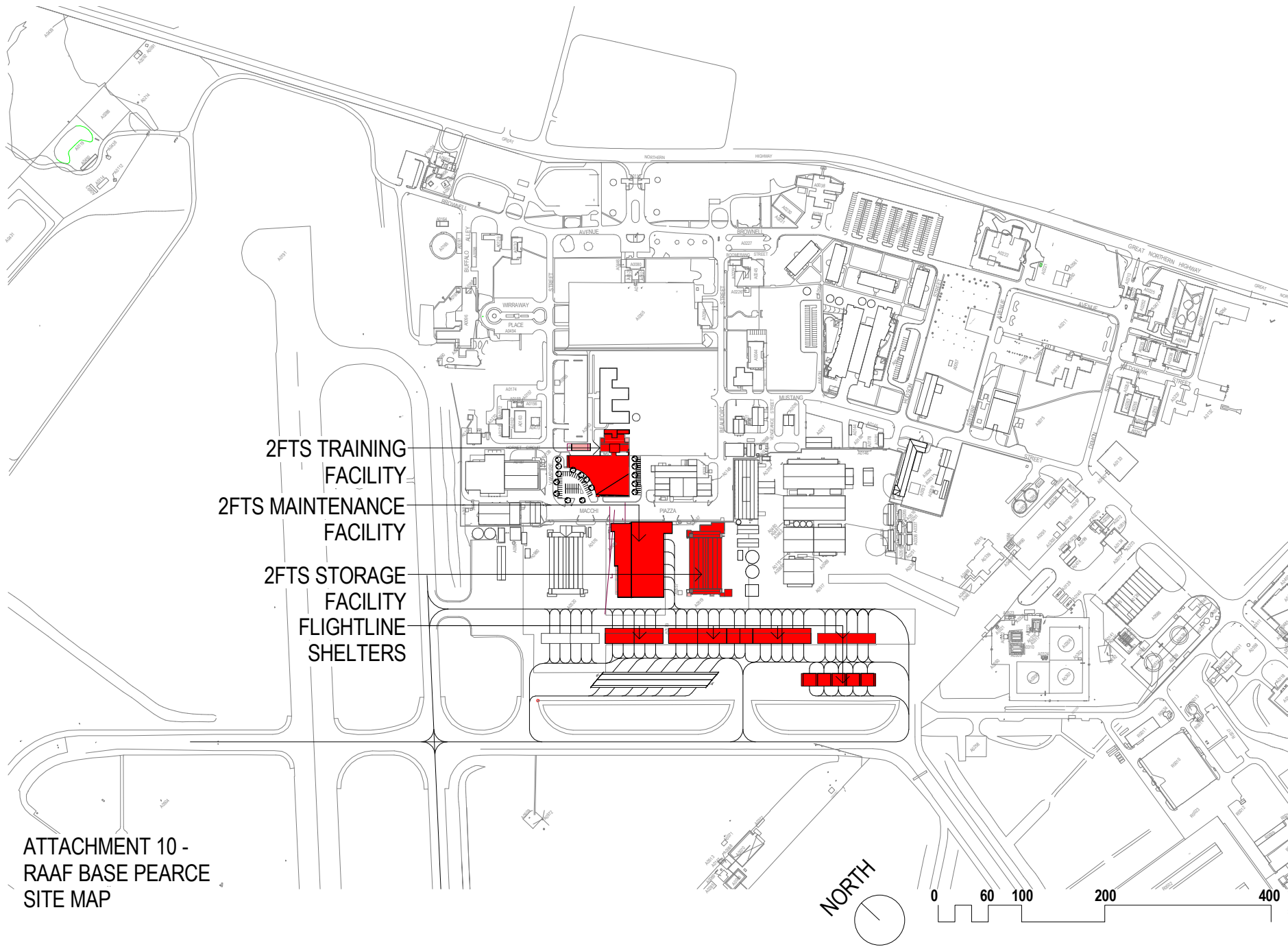


ATTACHMENT 8 - GROUND FLOOR PLAN  
RAAF BASE EAST SALE EXTENSION TO MEDICAL FACILITY





ATTACHMENT 9 - RAAF BASE  
EAST SALE APRON AND TAXIWAY PLAN





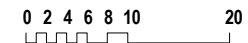


**BUILDING WORKS LEGEND**

- CIRCULATION
- OFFICE
- PLANT
- STORE
- AMENITIES
- ENTRY
- COMMON AREAS
- TRAINING
- CLASSROOM

1. CIRCULATION
2. OFFICE
3. PLANT
4. STORE
5. WORKSHOP
6. AMENITIES
7. CLASSROOM
8. TRAINING
9. ENTRY
10. FLIGHT STORAGE
11. MAINTENANCE
12. COMMON AREAS

ATTACHMENT 11 -  
RAAF BASE PEARCE 2FTS  
TRAINING FACILITY GROUND FLOOR PLAN

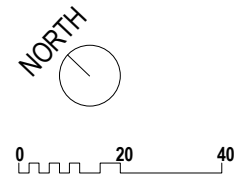


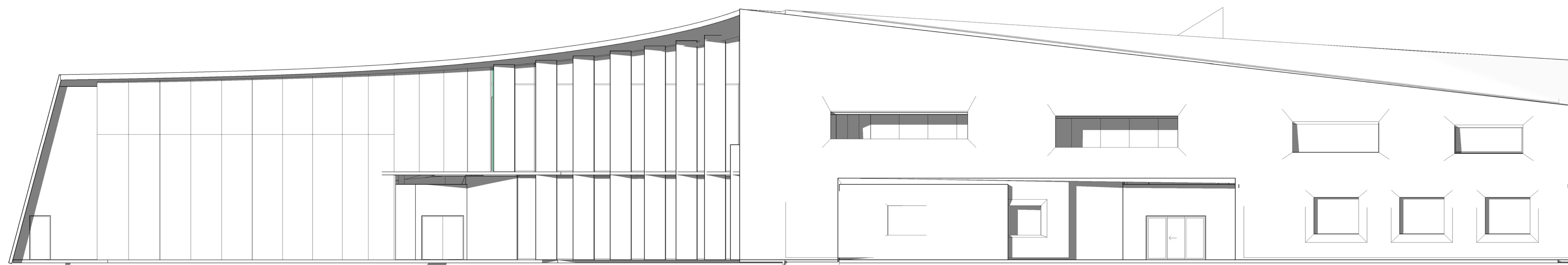


**BUILDING WORKS LEGEND**

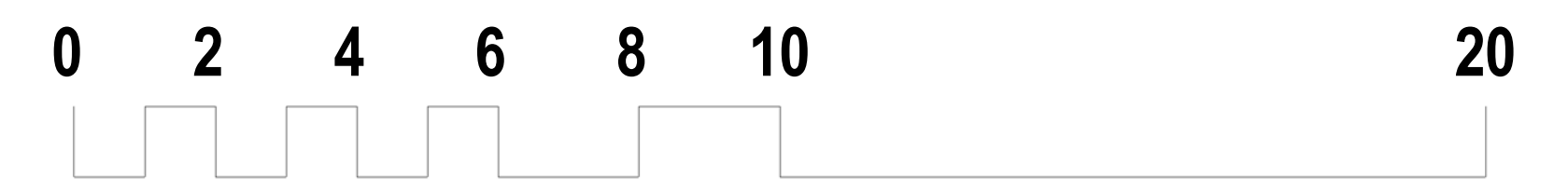
- CIRCULATION
  - OFFICE
  - PLANT
  - AMENITIES
  - COMMON AREAS
  - TRAINING
  - CLASSROOM
1. CIRCULATION
  2. OFFICE
  3. PLANT
  4. STORE
  5. WORKSHOP
  6. AMENITIES
  7. CLASSROOM
  8. TRAINING
  9. ENTRY
  10. FLIGHT STORAGE
  11. MAINTENANCE
  12. COMMON AREAS

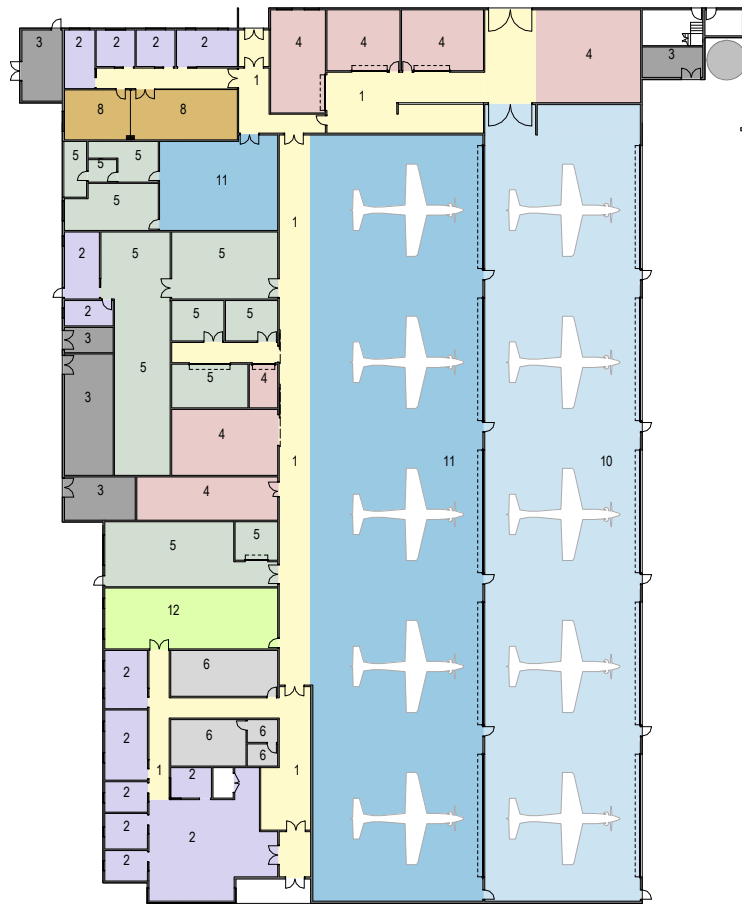
ATTACHMENT 12 -  
RAAF BASE PEARCE 2FTS  
TRAINING FACILITY FIRST FLOOR PLAN





ATTACHMENT 13 -  
RAAF BASE PEARCE 2FTS  
TRAINING FACILITY ELEVATION



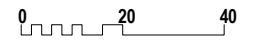
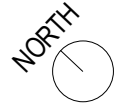


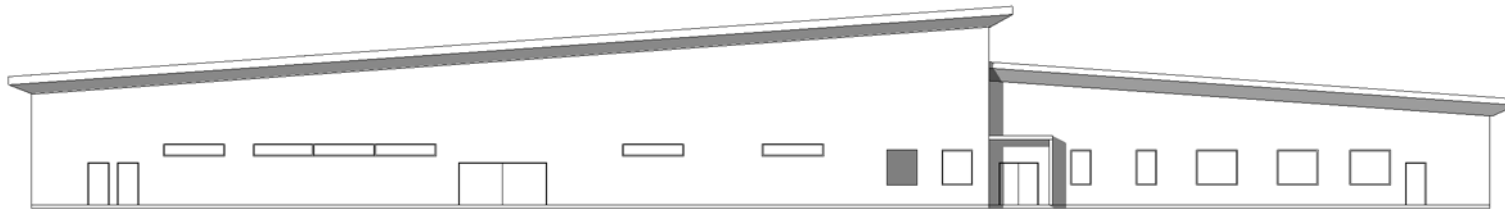
**BUILDING WORKS LEGEND**

- 1. CIRCULATION
- 2. OFFICE
- 3. PLANT
- 4. STORE
- 5. WORKSHOP
- 6. AMENITIES
- 7. CLASSROOM
- 8. TRAINING
- 9. ENTRY
- 10. FLIGHT STORAGE
- 11. MAINTENANCE
- 12. COMMON AREAS

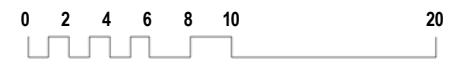
- 1. CIRCULATION
- 2. OFFICE
- 3. PLANT
- 4. STORE
- 5. WORKSHOP
- 6. AMENITIES
- 7. CLASSROOM
- 8. TRAINING
- 9. ENTRY
- 10. FLIGHT STORAGE
- 11. MAINTENANCE
- 12. COMMON AREAS

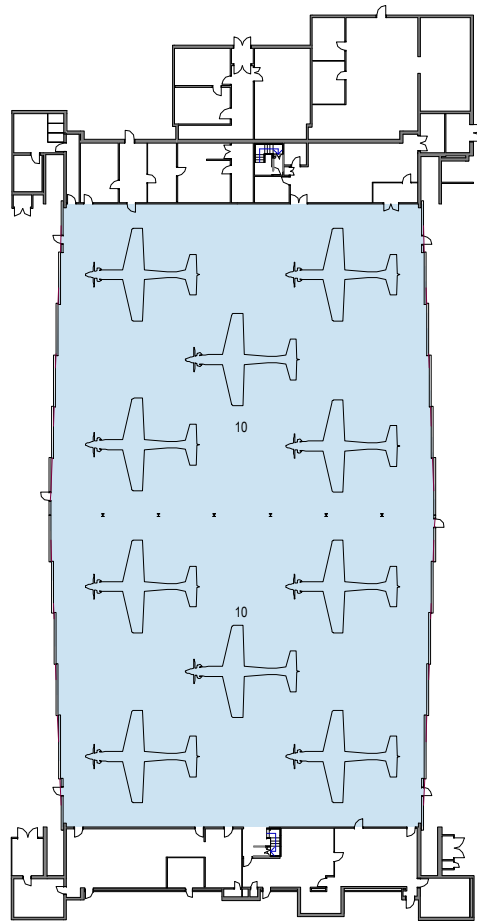
ATTACHMENT 14 -  
RAAF BASE PEARCE 2FTS  
MAINTENANCE FACILITY FLOOR PLAN





ATTACHMENT 15 -  
RAAF BASE PEARCE 2FTS  
MAINTENANCE FACILITY ELEVATION



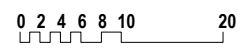


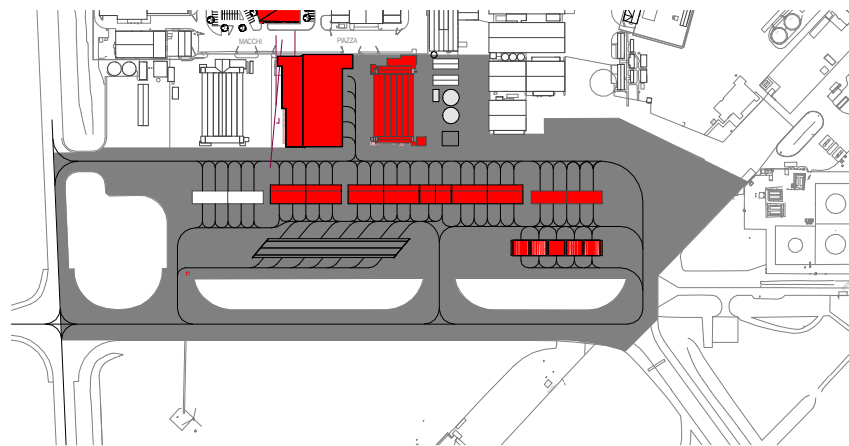
BUILDING WORKS LEGEND

■ FLIGHT STORAGE

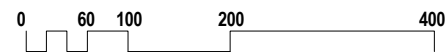
10. FLIGHT STORAGE

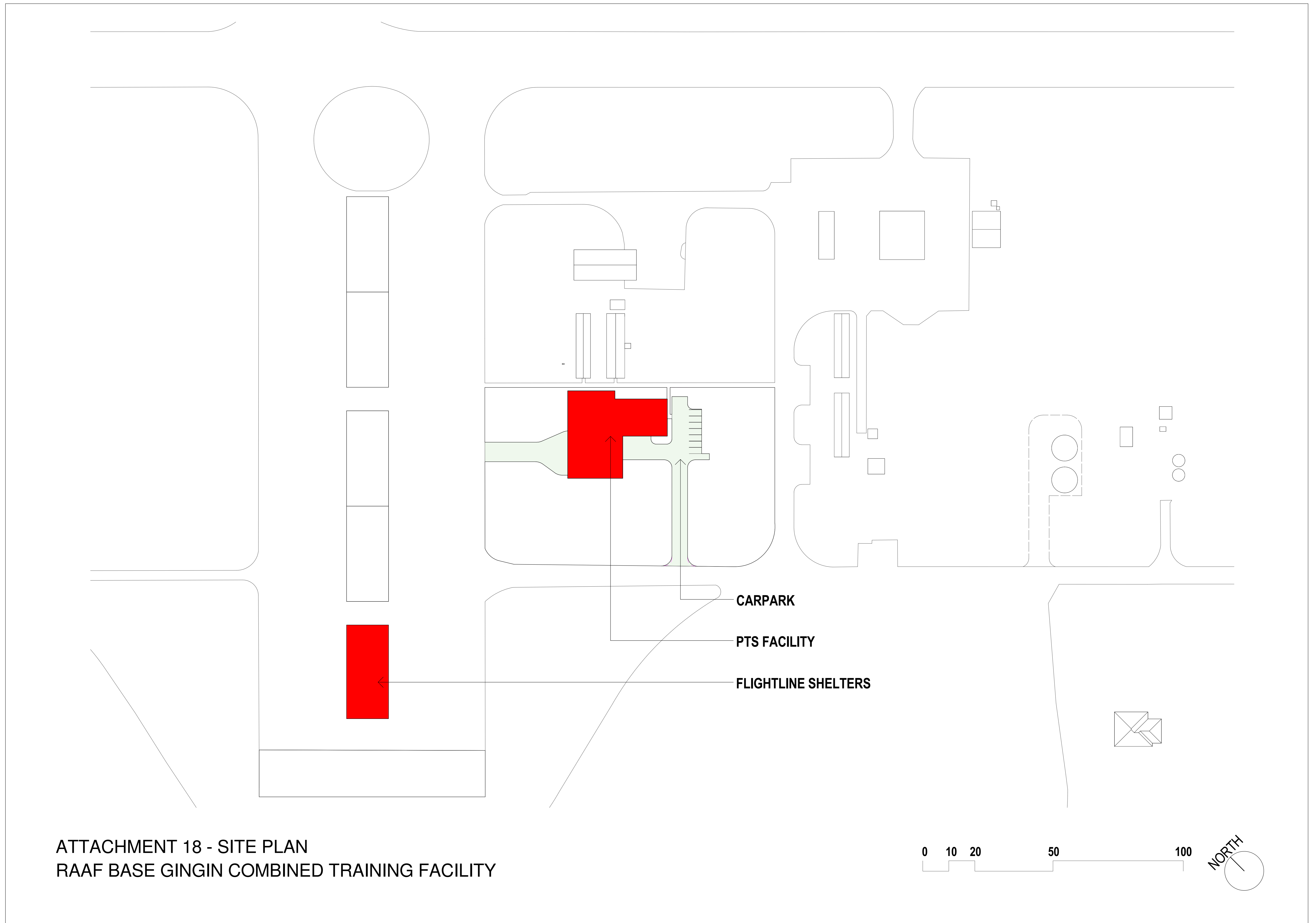
ATTACHMENT 16 -  
RAAF BASE PEARCE  
2FTS STORAGE FACILITY FLOOR PLAN





ATTACHMENT 17 - RAAF BASE  
PEARCE APRON AND TAXIWAY PLAN

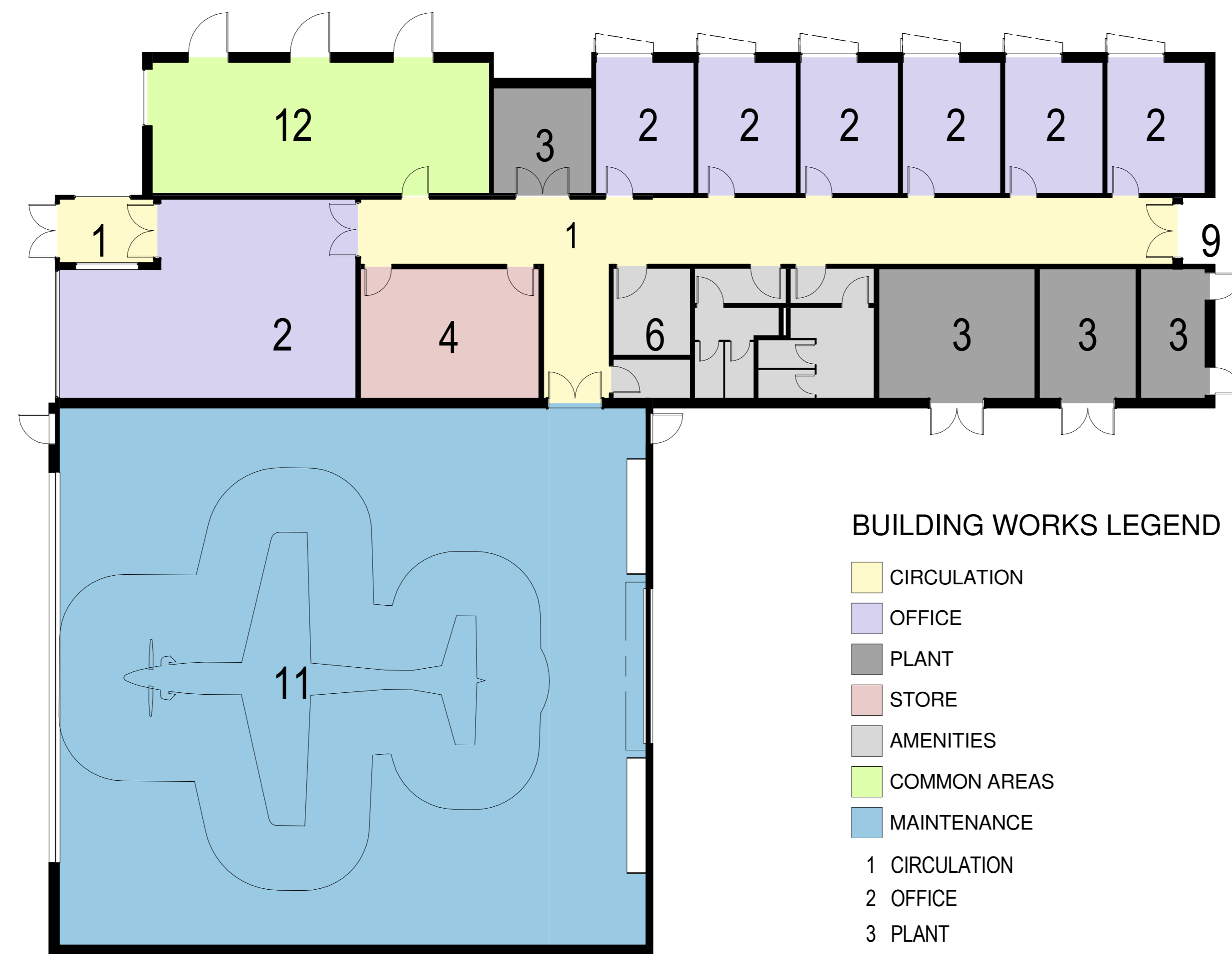




ATTACHMENT 18 - SITE PLAN  
RAAF BASE GINGIN COMBINED TRAINING FACILITY





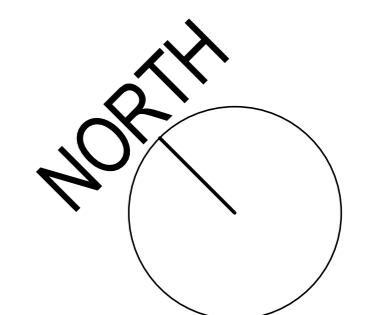
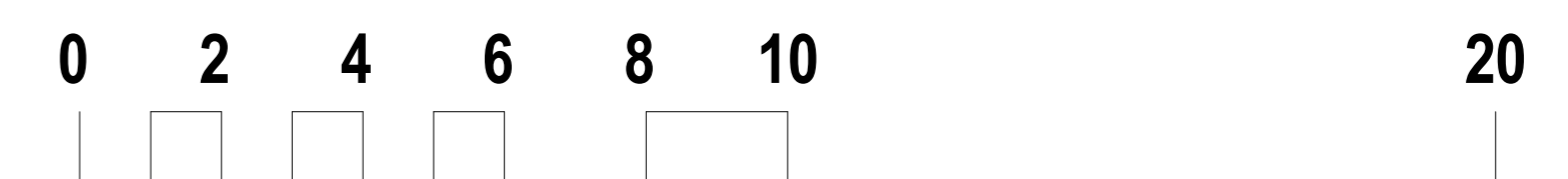


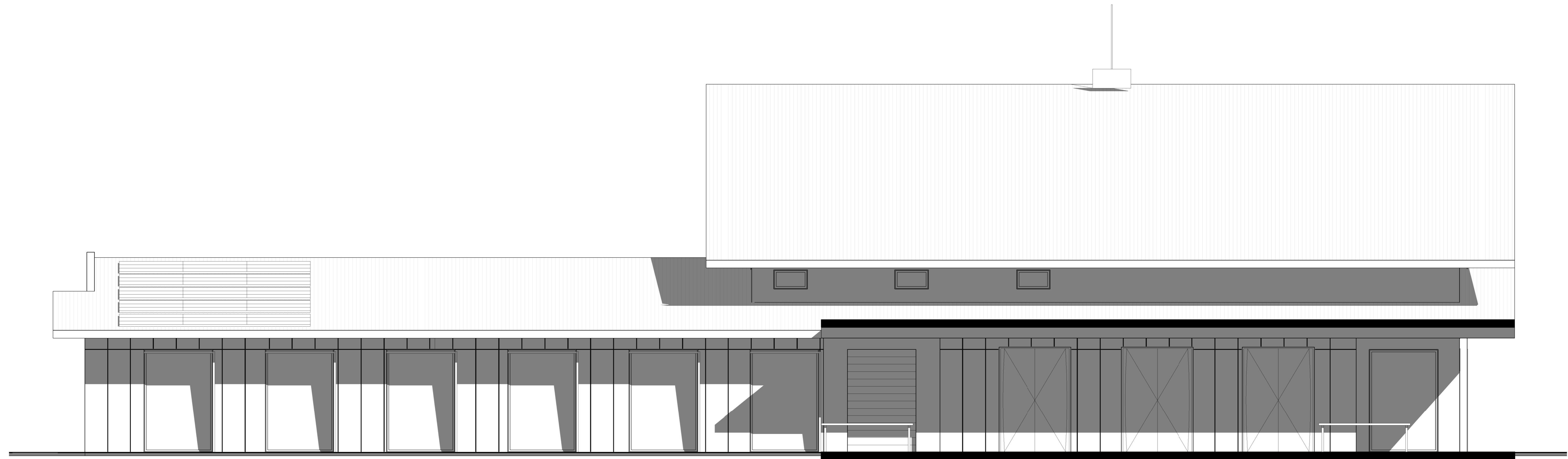
BUILDING WORKS LEGEND

-  CIRCULATION
-  OFFICE
-  PLANT
-  STORE
-  AMENITIES
-  COMMON AREAS
-  MAINTENANCE

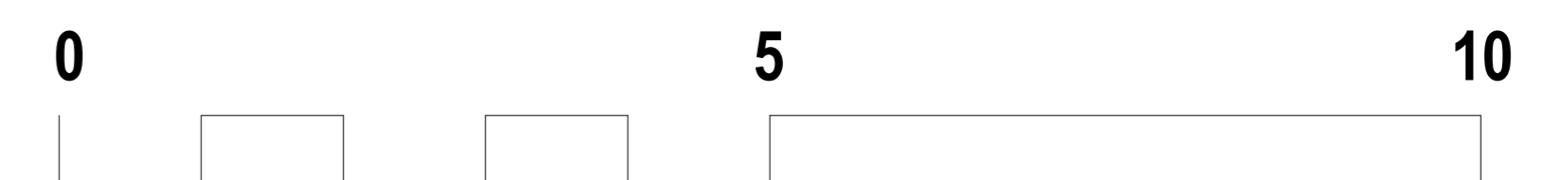
- 1 CIRCULATION
- 2 OFFICE
- 3 PLANT
- 4 STORE
- 6 AMENITIES
- 9 ENTRY
- 11 MAINTENANCE
- 12 COMMON AREAS

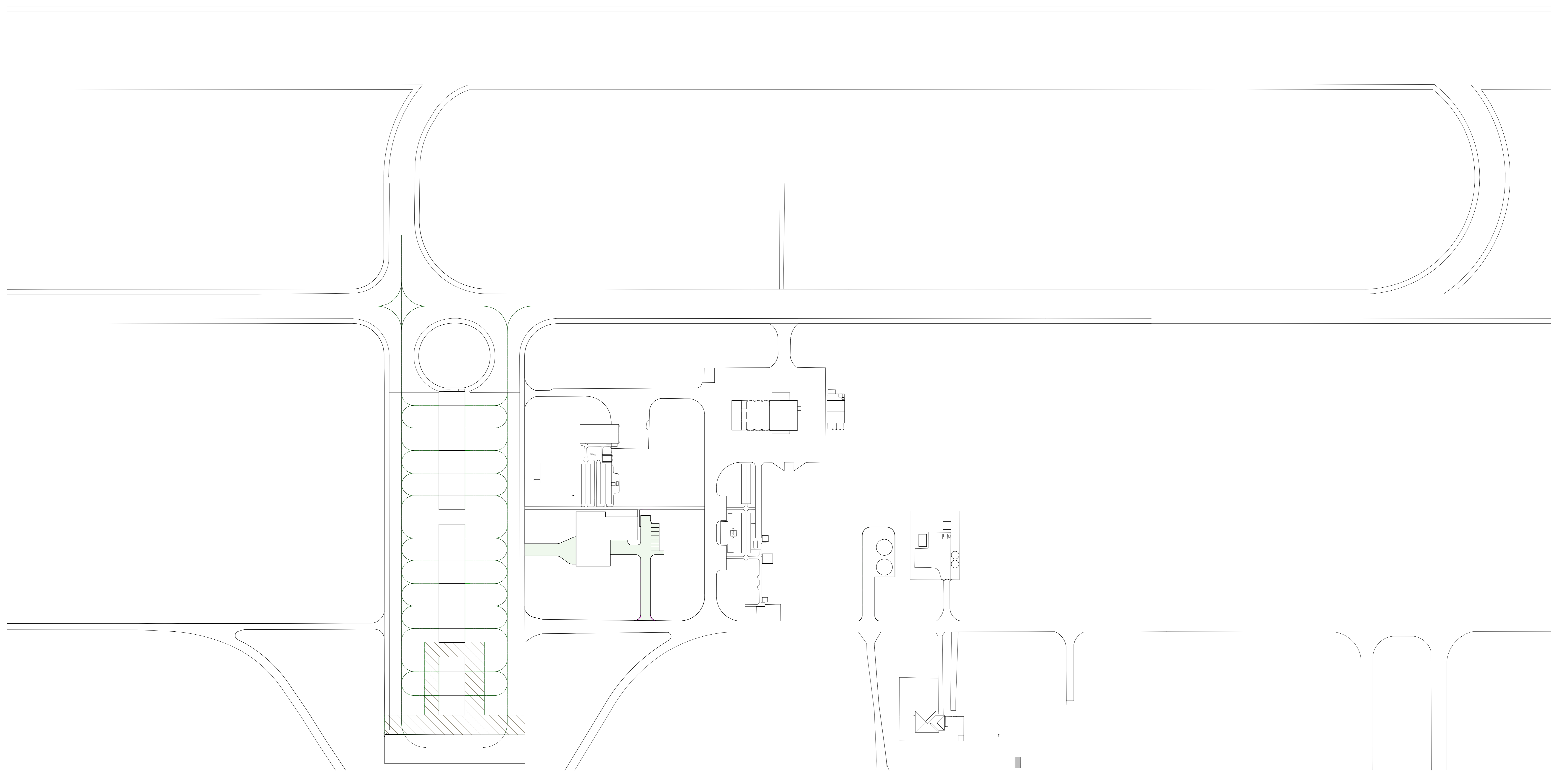
ATTACHMENT 19 - GROUND FLOOR PLAN  
RAAF BASE GINGIN COMBINED TRAINING FACILITY



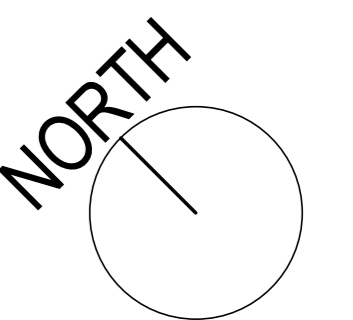
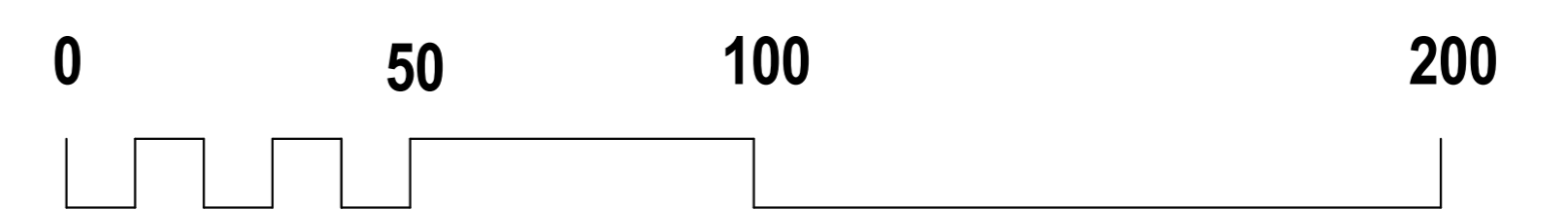


ATTACHEMENT 20 - NORTH ELEVATION  
RAAF BASE GINGIN COMBINED TRAINING FACILITY





ATTACHMENT 21- TAXIWAY PLAN  
RAAF BASE GINGIN COMBINED TRAINING FACILITY





ATTACHMENT 22 - SITE PLAN  
RAAF BASE EDINBURGH PTS MAINTENANCE FACILITY



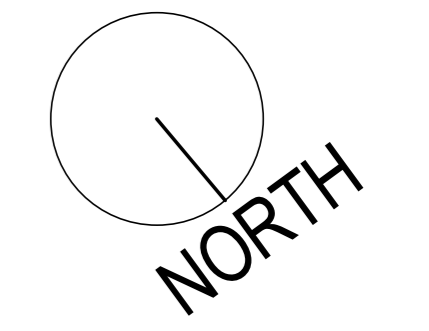
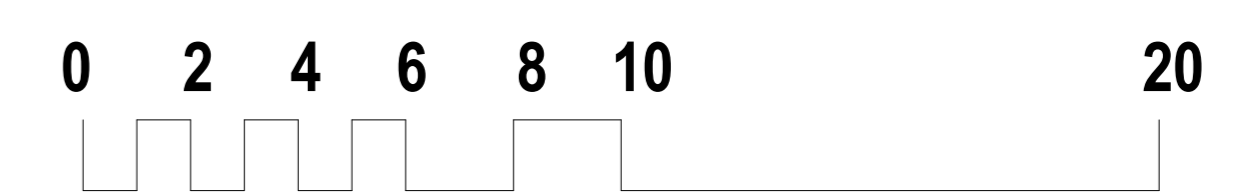


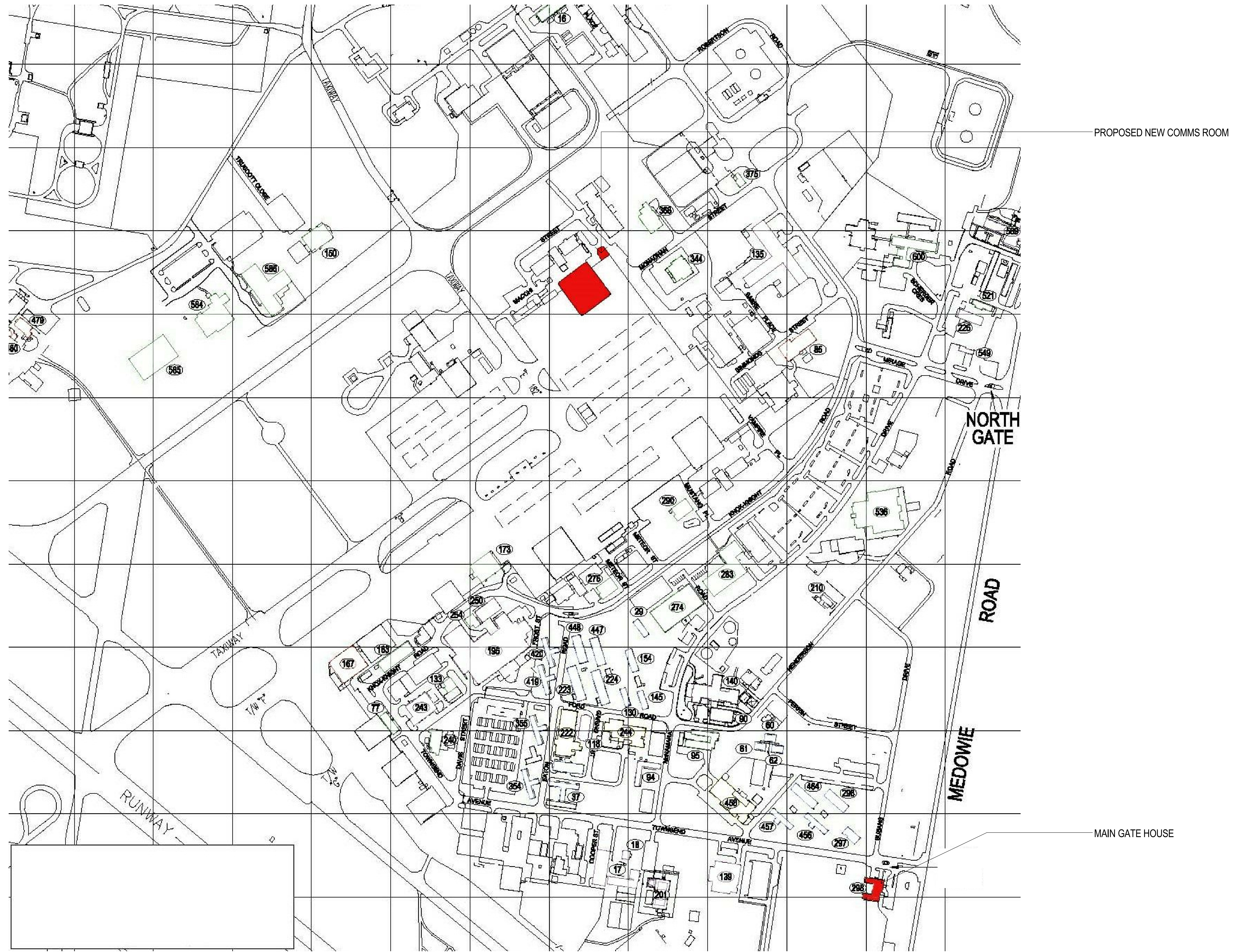
**BUILDING WORKS LEGEND**

- CIRCULATION
- OFFICE
- PLANT
- STORE
- WORKSHOP
- AMENITIES
- COMMON AREAS
- FLIGHT STORAGE
- MAINTENANCE

- 1 CIRCULATION
- 2 OFFICE
- 3 PLANT
- 4 STORE
- 5 WORKSHOP
- 6 AMENITIES
- 9 ENTRY
- 11 MAINTENANCE
- 12 COMMON AREA

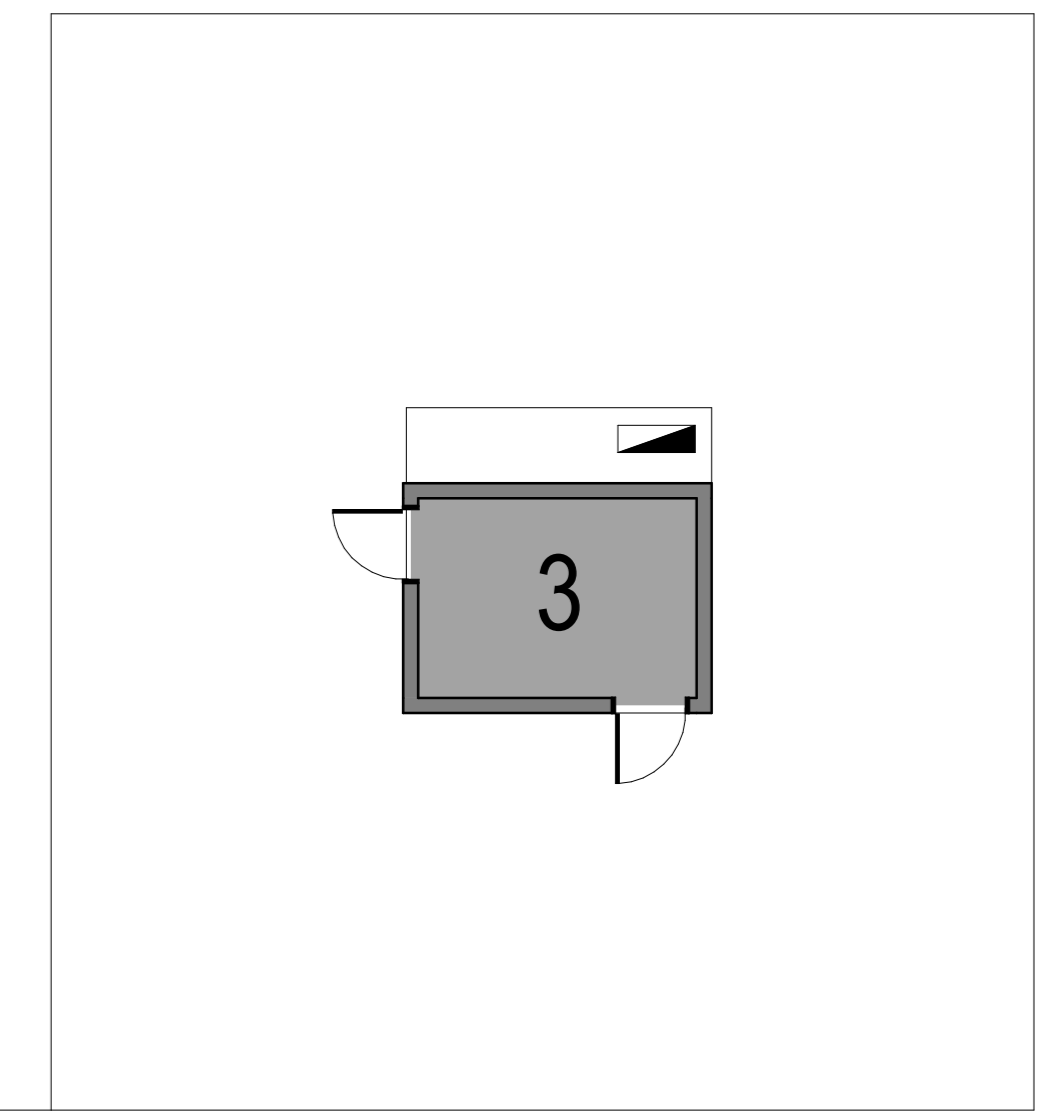
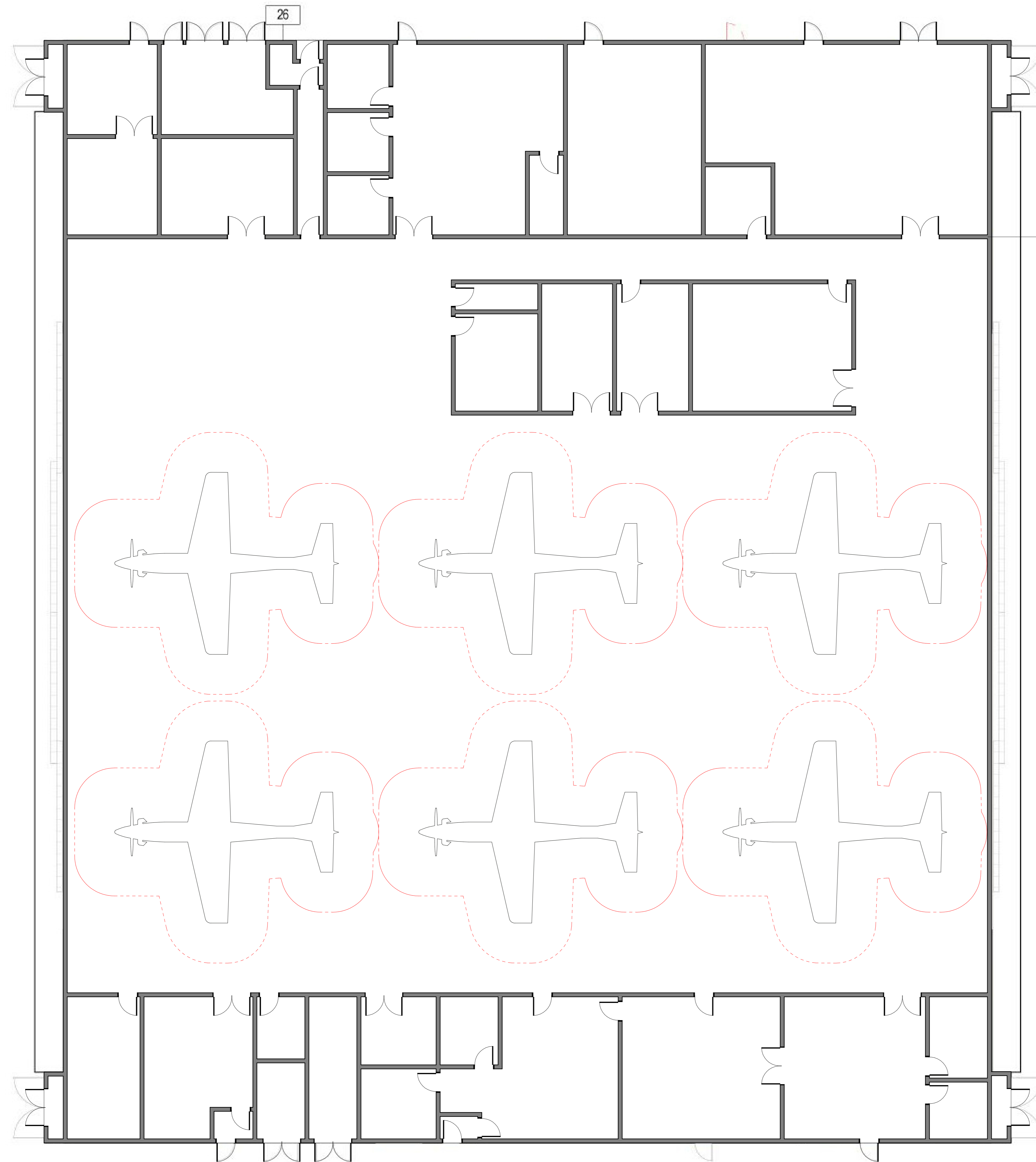
**ATTACHMENT 23 - GROUND FLOOR PLAN**  
**RAAF BASE EDINBURGH PTS MAINTENANCE FACILITY**





ATTACHMENT 24 - SITE PLAN  
RAAF BASE WILLIAMTOWN PTS MAINTENANCE FACILITY





BUILDING WORKS LEGEND

- PLANT
- 3 PLANT

ATTACHMENT 25 - GROUND FLOOR PLAN  
RAAF BASE WILLIAMTOWN PTS MAINTENANCE FACILITY

