CMATS SUPPORT FACILITIES – BRISBANE AIR TRAFFIC SERVICES CENTRE AND CONTROL TOWER COMPLEX REFURBISHMENT

PUBLIC SUBMISSION 1.0

STATEMENT OF EVIDENCE
TO THE
PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

AIRSERVICES AUSTRALIA
CANBERRA ACT
DECEMBER 2020

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EXECUTIVE SUMMARY

1. The purpose of the proposed works is to refurbish the existing Air Traffic Services Centre (ATSC) and Control Tower Complex (CTC) within the Brisbane Air Traffic Services Centre compound. This will deliver support facilities for the new Civil Military Air Traffic Management System (CMATS).
2. These works are an integral milestone in the OneSKY Australia Program, which is a partnership between Airservices Australia and the Department of Defence to replace the current independent civil and defence air traffic management systems with an advanced integrated system known as CMATS.
3. The repurposed facilities will be used for the initial and ongoing training of operational users and to provide technical support throughout the life of CMATS.
4. The facilities will also provide space to accommodate the relocation and integration of Defence air traffic control approach services from Darwin and Townsville Air Force bases into the Brisbane ATSC. A separate secure zone within the existing CTC will be constructed to be used by Defence to support exercises and operations, which require secure voice communications and the Defence Secret Network (DSN).
5. A separate new ATSC building is currently under construction at Brisbane Airport to house CMATS and the associated operations rooms.[1] This will enable CMATS to operate in parallel with the existing air traffic control system, The Australian Advanced Air Traffic System (TAAATS), for a time to ensure a safe and seamless transition and avoid any disruption to operations.
6. The focus of this submission is the refurbishing and repurposing of the older, existing Brisbane ATSC and CTC buildings. The scope of work for the refurbishment of the CTC at Brisbane includes:
    - providing a secure operational facility for the integration of Darwin and Townsville Defence Air Traffic Approach Services
    - creating a joint Defence and civil airspace management office (the National Airspace Management Office)
    - upgrading building services and accessibility to meet contemporary building code compliance.

[1] The *Melbourne and Brisbane Air Traffic Service Centre – Extension Works* received parliamentary approval in December 2015. The Brisbane extension (that is, the new ATSC) is scheduled to undergo commissioning in November 2020.

7. The scope of work for the refurbishment of the ATSC at Brisbane includes:

    - upgrading the existing Technical Operations Centre
    - constructing the Operational Simulator and Training Systems
    - upgrading building services and accessibility to meet contemporary building code compliance.

8. This scope also includes design and fit out of office space for residual non-operational Airservices staff areas, for a number of staff who are currently accommodated in a separate leased building, within the ATSC and the CTC.

9. The overall cost of the proposed Brisbane ATSC and CTC refurbishment project is estimated to be $35.7 million excluding GST, which comprises the following:

    - Planning:
        - Design consultants
        - Project management consultants
        - Authority costs/fees
    - Execution
        - Demolition
        - Buildings
        - Land
        - Fit out Works (including phasing of work)
        - External Works
        - Base Building Services Upgrades
        - Base Building Roof Refurbishment
        - Base Building Structural Strengthening
        - Contractor Preliminaries
        - Escalation
        - Internal Costs
        - Risk and Contingency

    This estimated total project cost is within the overall OneSKY Program budget.

10. The expected design life of these facilities is 25 years. The estimated whole of life cost (excluding construction and design costs) for this refurbishment work is $2,201,900 per annum.

11. The refurbishment works will take place on the existing Airservices compound within existing buildings. As such, there are minimal geographical considerations, and the impact on geology, soils, topography, surface water, ground water, ecology, air quality, air traffic, and cultural heritage are negligible.

Project title

12. Civil Military Air Traffic Management System (CMATS) Support Facilities – Brisbane Air Traffic Services Centre (ATSC) and Control Tower Complex (CTC) refurbishment.

Airservices Australia

13. Airservices is a Government-owned organisation established under the Air Services Act 1995 for the provision of air traffic management, air navigation support (communications infrastructure, radar and navigation aids) and Aviation Rescue Fire Fighting Services (ARFFS) to the aviation industry.

14. Airservices derives its revenue from the provision of Air Traffic Control (ATC) and ARFF services, which fund its operating expenses and investment in capital works.

15. Airservices operates commercially on a fee-for-service basis and generally receives no appropriations from the Government. However, in 2020 Airservices has received Commonwealth assistance following the impact of the Coronavirus (COVID-19) pandemic on the aviation industry.

Purpose of works

16. The purpose of this project is to provide fit for purpose facilities in Brisbane to support the initial and ongoing training of operational users of CMATS and to provide technical support throughout the life of CMATS. This project will also provide space to accommodate the relocation and integration of Defence air traffic control approach services from Darwin and Townsville Air Force bases into the Brisbane ATSC. A separate secure zone within the existing CTC will be used by Defence to support exercises and operations, which require secure voice communications and the Defence Secret Network (DSN).

Need for works

17. The OneSKY Program is providing critical air traffic infrastructure, facilities and services to enhance the safety, efficiency and capacity of the Australian air traffic network.

18. Under OneSKY, Airservices is delivering a number of technology initiatives (including CMATS) as well as the infrastructure works required to house and support the implementation and operation of the new system.

19. In order to seamlessly transfer operations to CMATS and avoid disruption, the current civil air traffic management system will be maintained until CMATS is fully operational. A separate new ATSC building is currently under construction at Brisbane Airport to house and support CMATS and the associated operations rooms.[2]

20. This project will refurbish the existing Brisbane ATSC and CTC to deliver CMATS support facilities to be used for the initial and ongoing training of operational users, and to provide technical support throughout the life of CMATS.

21. This project will also provide space to accommodate the relocation and integration of Defence air traffic control approach services from Darwin and Townsville Air Force bases into the Brisbane ATSC. A separate secure zone within the existing CTC will be used by Defence to support exercises and operations, which require secure voice communications and the Defence Secret Network (DSN).

Options considered

Options for the demolition or refurbishment ATSC and CTC

Option 1 – Demolition of existing ATSC and CTC and construction of new facilities

22. This option was examined and was not considered viable due to operational constraints, excessive cost and the potential to disrupt operations, which could impact the travelling public and the airline community. The ATSC needs to maintain existing air traffic services and could not be demolished because existing services will still remain to be operated within the building. In addition, the CTC has significant operational services running through it, which would require expensive service diversions; the CTC also connects to the Brisbane Tower, which cannot be disrupted.

[2] The *Melbourne and Brisbane Air Traffic Service Centre – Extension Works* received parliamentary approval in December 2015. The Brisbane extension (that is, the new ATSC) is scheduled to undergo commissioning in November 2020.

Option 2 – Refurbishment of existing ATSC and CTC facilities

23. Consideration of the condition of the existing buildings, spatial planning, operational requirements, cost assessments and value for money identified the refurbishment of the existing facilities as the preferred option.

Options for integration of Darwin and Townsville Defence operations

Option 1 – Integration of Defence spaces within the CTC building

24. The integration of the Defence secure operations room within level 1 of the CTC building is the preferred option due to its proximity to the newly built ATSC and the ability to meet the Defence design requirements without impacting current Airservices operations.

Option 2 – Integration of Defence spaces within the older existing ATSC

25. The placement of the Defence operations in the existing ATSC was not considered viable as:

    - the works required to strengthen the building and comply with an Importance level 4 structural requirement would cause unavoidable disruptions to existing Defence operations
    - there is insufficient space to house Defence staff within one area, and distributing Defence across floors would cause security zone issues
    - training facilities required for CMATS would have to be located in the CTC building, resulting in the duplicated facilities being difficult to access.

Option 3 – Integration of Defence spaces to the OneSKY Equipment Room building

26. Housing the Defence space in the OneSKY Equipment Room building (also located in Airservices' Brisbane Airport compound) was assessed. This option was not supported as the OneSKY Equipment Room is a stand-alone building and would need to be interconnected via a level spanned enclosed bridge to link into the existing ATSC. This would introduce a potential risk in having an operational function directly above the CMATS equipment room.

Option 4 – Construction of a new stand-alone building in the compound

27. The construction of a new building within the area leased by Airservices at the airport was assessed as not viable due to the lack of available space. A high level estimate of $30 million was costed to demolish and rebuild on the CTC site, however this option would be high risk, with the potential to impact operations through damage to the services gantry which runs across the roof of the existing CTC facility and serves the ATSC from the Building Services Centre.

Scope of works

28. The existing ATSC and CTC buildings in Brisbane were constructed in 1989 and 1996 respectively. Both buildings require refurbishment prior to the installation of CMATS in order to support operationally dependent functions such as training, system support and administration. Managing these changes as a single project will drive an overall efficiency by coordinating all changes associated with the introduction of CMATS through the one sequence of events (minimising the need for multiple transitions).

29. This approach aims to deliver an optimal building function outcome while minimising the impacts to staff.

30. The scope of works for refurbishment of the existing CTC entails:

    - providing a secure operational facility for the integration of Darwin and Townsville Defence Air Traffic Approach Services
    - creating a joint Defence and civil airspace management office (National Airspace Management Office)
    - upgrading of building services and accessibility to meet contemporary code compliance
    - design and fit out of office space for residual non-operational Airservices staff areas (who are currently accommodated in a leased building) within the existing ATSC and CTC.

31. The scope of works for refurbishment of the existing ATSC entails:

    - refurbishing the Technical Operations Centre
    - refurbishing the Operational Simulator and Training Systems
    - upgrading building services and accessibility to meet contemporary code compliance
    - This scope also includes design and fit out of office space for residual non-operational Airservices staff areas (who are currently accommodated in a leased building) within the existing ATSC and CTC.

Darwin and Townsville Defence integration works

32. The current Darwin and Townsville Defence approach services will be integrated into the Airservices Brisbane CTC. 'Routine' Defence services will be operated within the civil CMATS ATSC operations room, with 'Secure' Defence operations to be provided from a separate secure operational zone within level 1 of the existing CTC. The primary elements required to accommodate Defence (these are all to be installed in the refurbished building) and the secure operations are:

    - routine operations room (CMATS ATSC)
    - secure operations room
    - operational support facilities
    - network equipment room
    - meeting room
    - secure briefing room
    - spares storage
    - ancillary facilities
    - secure equipment room.

National Airspace Management Office

33. The National Airspace Management Office (NAMO), which will be constructed within the CTC building, will be utilised by both Defence and Airservices and will house consoles, secure network terminals and a shared crisis room. The primary function of the NAMO is to facilitate collaboration between Airservices and Defence to implement a Flexible Use Airspace concept that is beneficial to all airspace users.

Control Tower Complex (CTC) remaining works

34. The scope of works entails refurbishment of the remaining areas of the CTC, including developing and finalising the accommodation schedule to suit Airservices staffing requirements, re-purposing of the existing compound as well as construction works to meet the approved design layouts.

Technical Operations Centre (TOC) within the ATSC

35. The Technical Operations Centre will accommodate essential technical support for the CMATS operations and will require the installation of new workstations/consoles. The Technical Operations Centre will be temporarily relocated within the ATSC to allow refurbishment of the existing TOC space.

Operational Simulator and Training Systems (OSTS)

36. The OSTS is a training facility for the new CMATS Operations Centre, which will be housed in the existing ATSC. It will serve as a backup operation centre for both Brisbane and Melbourne operations and will be located within the refurbished existing operations room.

Remainder of older existing Air Traffic Services Centre (ATSC)

37. The scope of works includes the refurbishment of the remaining areas of the existing ATSC. Once the operational requirements to support CMATS have been accommodated, the remaining areas of the ATSC will be used to accommodate Airservices staff who are currently located in leased accommodation in the Airport environs.

Site selection

38. All construction activities will be conducted within the existing, secured Airservices compounds within the Brisbane Airport precinct as shown in Figure 1 below.

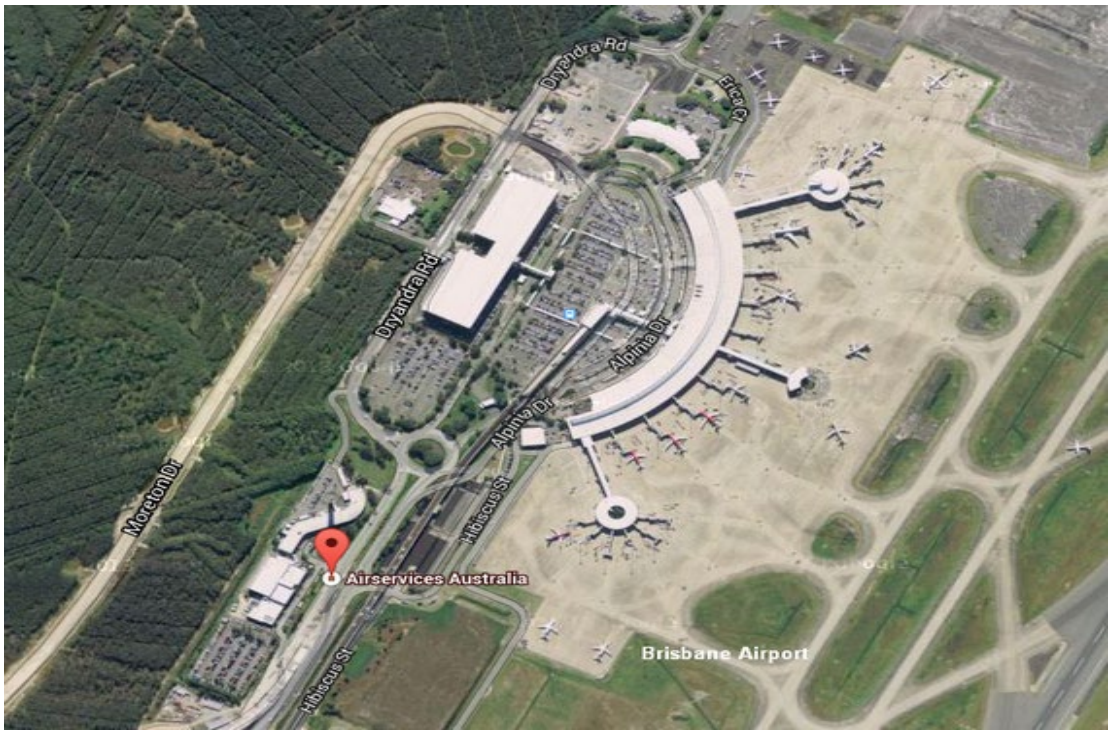

Figure 1: Brisbane Airservices compound

Planning and Design Considerations

39. The planning and design considerations for the project include:

    - design life of 25 years for operational areas
    - meeting of all applicable government legislation, regulations, building codes and standards in relation to energy use and management; stormwater management, water conservation and water recycling; and environmental sustainability
    - compliance with the Building Code of Australia importance level 4 (with regards to earthquake and wind loads) for new operational areas
    - accommodation layouts that meet work health and safety standards, Airservices office accommodation guidelines, COVID-19 safe working environment, inclusive workplace standards and air traffic control operational requirements
    - CMATS equipment and security requirements
    - whole-of-life cycle cost and resource requirements.

Mechanical and electrical services

40. The mechanical and electrical services will meet the requirements of the space and building occupants. The services systems will be flexible, accessible for maintenance and provide adequate spare capacity for future additions and modifications. Services will be upgraded, where required, to meet code compliance and, to minimise impact on Air Traffic Control, where they are servicing operational areas.

Fire protection and security measures

41. The refurbishment of buildings will include the installation of fire detection, fire suppression and portable firefighting equipment and extinguishing systems to comply with the provisions of the Building Code of Australia.

42. The facilities are required to align with the Australian Government Protective Security Policy Framework (PSPF) and the Australian Government Information Security Manuals (ISM) security standards and well as requirements under the Aviation Security Act 2004.

Acoustics

43. An appropriate level of acoustic treatment will also be provided for the open office space, operational rooms, equipment and plant rooms consistent with the provision of a suitable working environment for air traffic controllers and buildings on an operational airfield. The exact treatment will be confirmed during the detailed design phase.

Landscaping

44. No landscaping works are proposed for this project. Only minor external works are proposed with the majority of works being internal to existing buildings. As a result, the large scale removal, relocation or storage of Per- and poly-fluoroalkyl (PFAS) impacted soil will not be required. Construction methodology will be managed through the generation of a Construction Management Plan.

Water and energy conservation measures

45. The refurbished buildings will meet all applicable government legislation, regulations, building codes and standards in relation to water and energy use and management including:

    - design options that aim to reduce the operational costs of energy and water consumption over the life of the asset
    - digital sub-metering, linked back to the building management system, to enable measurement of energy and water consumption
    - Construction Management Plan (CMP) to manage the site works, including a waste management plan
    - disposal of redundant electrical equipment in accordance with the standard for collection, storage, transport and treatment of end-of-life electrical and electronic equipment
    - procurement of products and services in accordance with the Australian Government's Sustainable Procurement Guide (2018).

Provisions for people with disabilities

46. The design will be completed in accordance with AS1428.1 Design for Access and Mobility and the National Construction Code (NCC). A Building Surveyor will be engaged to assess compliance with the *Disability Discrimination Act 1992* requirements during the design development process.

Childcare provisions

47. The facility is a restricted area and as such there is no provision for childcare facilities.

Security measures

48. The refurbished facilities will align with the Australian Government's Protective Security Policy Framework and Information Security Manuals security standards as well as requirements under the Aviation Transport Security Act 2004.

49. The physical security measures in scope for this project include upgrades and replacement of the following:

    - CCTV system
    - electronic access control system
    - security alarm system
    - key management system
    - security lighting
    - security intercom.

Work, health and safety measures

50. The facilities will comply with Airservices safety management system and workplace health and safety policies and procedures as well as the *Work Health and Safety Act 2011* and National Codes of Practice.

51. Project safety and work health and safety specialists within Airservices will be engaged to undertake work health and safety, and project safety assessments to ensure all impacts are identified and correctly managed.

52. In accordance with the Building and Construction Industry (Improving Productivity) Act 2016, building contractors 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.

53. The construction site will be within a restricted area and will be appropriately secured to prevent unauthorised access during the refurbishment period. No special or unusual public safety risks have been identified.

Zoning and local approvals

54. The proposed refurbishment works will take place in an area of land leased by Airservices from Brisbane Airport in accordance with the approved Airport Master Plan.

55. The areas are zoned as ‘Special Purpose Airport’ which includes usage for aviation activity, aviation support activity and navigational aids. The refurbishment of the existing ATSC and CTC facilities aligns with the zoning intent.

56. The works will not impact the terms of Airservices’ lease at Brisbane Airport.

57. Brisbane Airport Corporation has advised that a Major Development Plan (MDP) is not required for this project.

Other issues

Key legislation

58. The following key legislation is applicable to this project:

    - Air Services Act 1995
    - Environment Protection and Biodiversity Conservation Act 1999
    - Airports (Building Control) Regulations 1997
    - Airports (Environment Protection) Regulations 1997
    - Aviation Security Act 2004
    - Fair Work (Building Industry) Act 2012
    - Building and Construction Industry (Productivity Improvement) Act 2016
    - Work Health and Safety Act 2011
    - Fair Work Act 2009
    - Queensland State Planning Policy
    - Disability Discrimination Act 1992
    - Major Airport Development of the Airports Act 1996
    - Environment Protection (Prescribed Waste) Regulations 1998

59. The project will be consistent with the Brisbane Airport Master Plan, airport environmental policies and landscaping/planting plans.

Heritage and geographical considerations

60. The refurbishment works will take place on the existing Airservices compound within existing buildings. As such, there are minimal geographical considerations and the impact to cultural heritage has been assessed as negligible.

Environmental Impact Assessments

61. As the works involved with this project are limited to refurbishment works, the likely impact on geology, soils, topography, surface, groundwater, ecology, air quality and traffic is considered to be low to negligible.

62. Any increase in waste during construction will be managed in accordance with the Airservices waste management hierarchy framework and the Environment Protection (Prescribed Waste) Regulations 1998.

63. The main impact during construction will be noise, primarily for Airservices staff, and works plans will be subject to approval from management and safety specialists. Mitigation strategies will be put in place for any works that are deemed noisy or disruptive, such as scheduling work outside maximum use hours.

64. The construction activities will comply with the airport's environmental management procedures. The construction contractor will prepare a Construction Environmental Management Plan (CEMP) for endorsement by the airport's environment team and approval by the Airport Environment Officer (AEO).

65. The proposed works are expected to have a positive environmental impact through the installation and implementation of energy and water efficient equipment and features, thus minimising energy usage.

Impact on local community

66. The construction activities will be conducted within the existing Airservices compound at Brisbane Airport. As such, there are no expected disturbances to the local community or the travelling public.

67. The proposed works are expected to have a positive impact on the local community through the generation of temporary local employment opportunities for construction and building contractors to support the project.

68. Establishing a Defence presence in Brisbane Airservices complex also provides a capital city posting opportunity for Defence workers.

Stakeholder consultation

69. Airservices has consulted extensively with Brisbane Airport Corporation, Defence personnel and Airservices operational staff, as well as with engineering, project safety and work health and safety specialists.

Cost effectiveness and public value

Applicable codes and standards

70. The design of the proposed refurbishments will comply with all relevant sections of the National Construction Code (NCC), Building Code of Australia (BCA), and Airservices Environment Strategy and accommodation standards.

Project cost and budget

71. The estimated cost of the proposed works is $35.7 million (excluding GST). The estimate incorporates all construction and consultant costs, internal labour, equipment, travel and a risk and contingency provision. A detailed breakdown of the cost elements is provided in the confidential cost estimate submitted separately (Submission 1.1).

Project delivery method

72. All Airservices projects are managed in accordance with Airservices' Project, Program and Portfolio Management (P3M) Framework, which is based on four project life-cycle phases – Start up, Define, Execute and Close. An independent 'gate' review is conducted at the end of each phase to ensure readiness to proceed to the next phase.

73. Airservices Project Managers and a project support team have been appointed for this project. In order to meet specific legislative and internal requirements, Airservices has developed a number of management systems that comprises policies, procedures and accountabilities in areas such as safety management, systems engineering management, environmental management, operational management, risk management and financial management. All projects must comply with these management systems, which includes engaging resources from each specialist area to develop management plans, document, validate and sign-off requirements, and approve final designs, work plans and other deliverables. Specific engineering roles within Airservices are delegated power under the Air Services Act and associated legislation to approve engineering requirements, designs and commissioning readiness.

74. External resources include consultants during the planning phase for cost and design planning and specialised assessments. For the design and executing phase, a head contractor will be appointed under an early contractor involvement contract via a tender process. Independent consultants, including a quantity surveyor and principal design consultant, have been engaged via a tender process through the Airservices preferred supplier panel. Their services include the schematic design, detailed design, assistance with the head contractor tender and award, and construction and defects liability phase services.

75. The works will be delivered by external contractors managed by Airservices Project Managers. The major contractor activities are:

    - Concept Design – preparation of a concept design to document an initial layout of facilities within the site
    - Detail Design – development of detailed design documents to support the construction of the facilities, the detailed design phase will include a building contractor's input under an Early Contractor Involvement procurement method which uses the building contractor's expertise in program, design and construct methodologies to ensure the project requirements can be met in the most efficient manner possible. It is anticipated that a contractor to primarily undertake the initial Early Contractor Involvement design phase will be engaged for design related services in parallel with the Public Works Committee and parliamentary approval process
    - Construction – Building contractors will be engaged to refurbish the existing facilities, including the demolition of the existing office layout.

Construction program and schedule

76. Subject to parliamentary approval, the construction work is scheduled to commence in Quarter 3 2021 and be completed in Quarter 2 2022.

Public value

77. The project will provide fit-for-purpose facilities from which essential air traffic control services will be performed. The project is a key enabler for the OneSKY Program which has positive operational and financial impacts on the aviation industry and the community.

78. OneSKY will provide the capabilities required to accommodate growth in air traffic and the acceleration of technological advancements in the aviation industry, and will allow uninterrupted service provision for the Australian airspace, improving resilience for unplanned events and optimising use of resources. This will help reduce passenger delays.

79. The project will generate short-term employment during the construction phase and will provide ancillary local employment opportunities in a number of areas. These employment opportunities will be managed under the relevant Airservices procurement processes (Professional Panels of vacancies advertised on the Airservices website).

Acronyms

Term	Description
AEO	Airport Environment Officer
ARFFS	Aviation Rescue Fire Fighting Service
ATC	Air Traffic Control
ATM	Air Traffic Management
ATSC	Air Traffic Services Centre
BAC	Brisbane Airport Corporation
BCA	Building Code of Australia
CEMP	Construction Environmental Management Plan
CMATS	Civil Military Air Traffic Management System
CMP	Construction Management Plan
COVID	Coronavirus (COVID-19)
CTC	Control Tower Complex
DSN	Defence Secret Network
ISM	Information Security Manual (Australian Government)
MDP	Major Development Plan
NAMO	National Airspace Management Office
NCC	National Construction Code
OSTS	Operational Simulator and Training Systems
PFAS	Per and poly-fluoroalkyl Substances
TAAATS	The Australian Advanced Air Traffic System
TOC	Technical Operations Centre

Associated attachments

- Appendix A. Current Precinct Layout
- Appendix B. Proposed ATSC Refurbishment Works
- Appendix C. Proposed CTC Refurbishment Works

Appendix A Current Precinct Layout

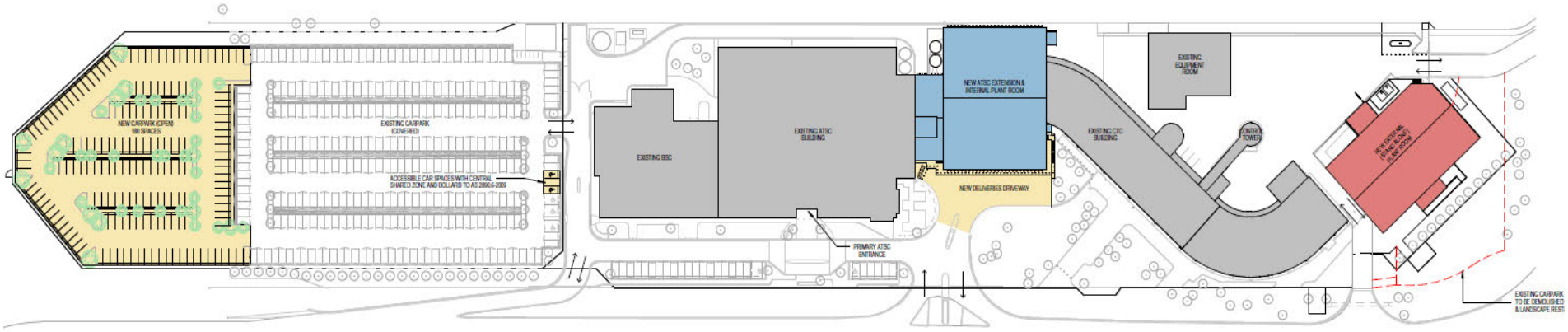

Figure 2 Current Brisbane precinct layout

Appendix B Proposed Concept ATSC Refurbishment Works

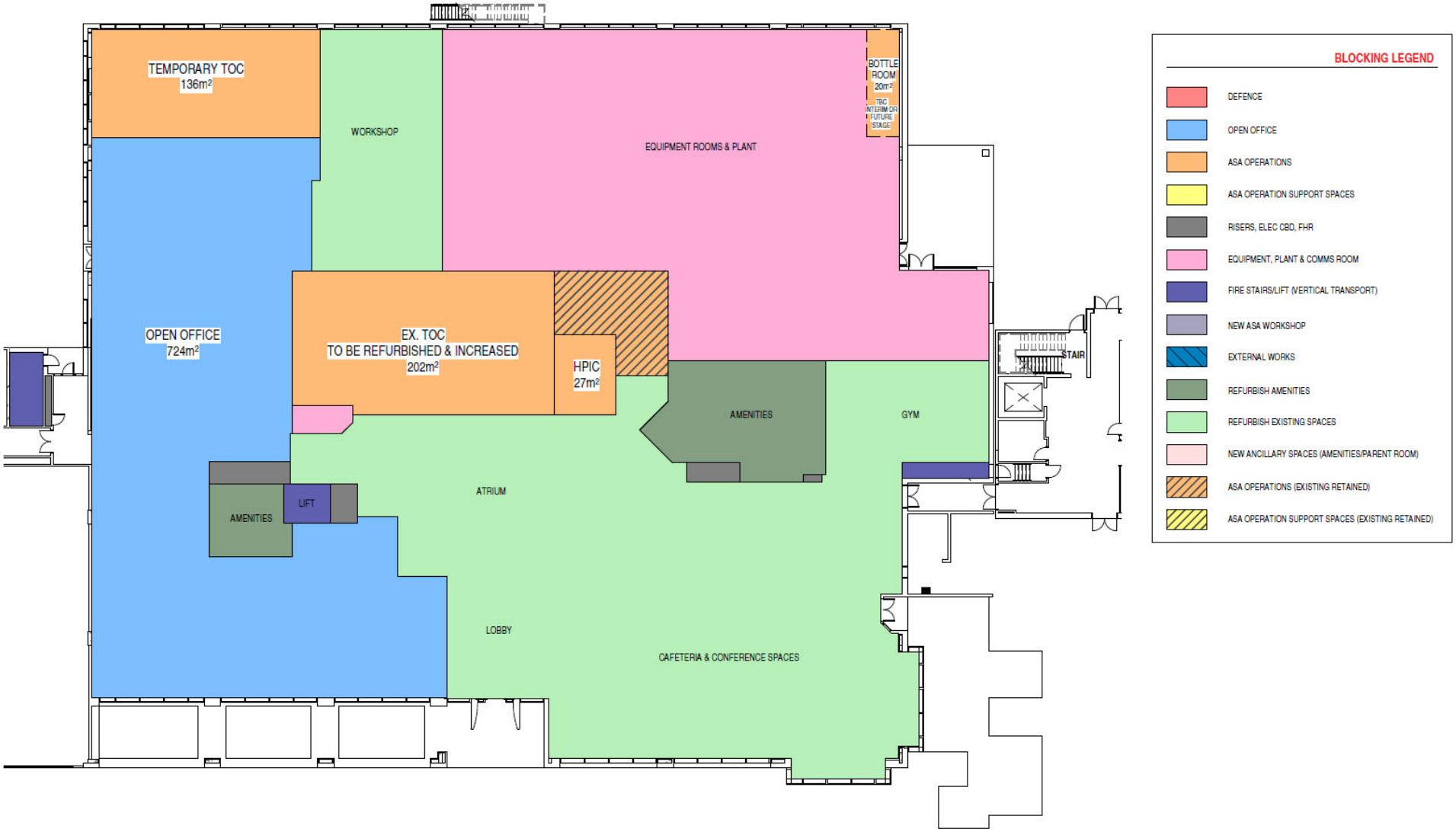

Figure 3 Brisbane CMATS support facilities
Blocking diagram - old ATSC (51) - Ground (interim stage 2022/2023) - Stage 1

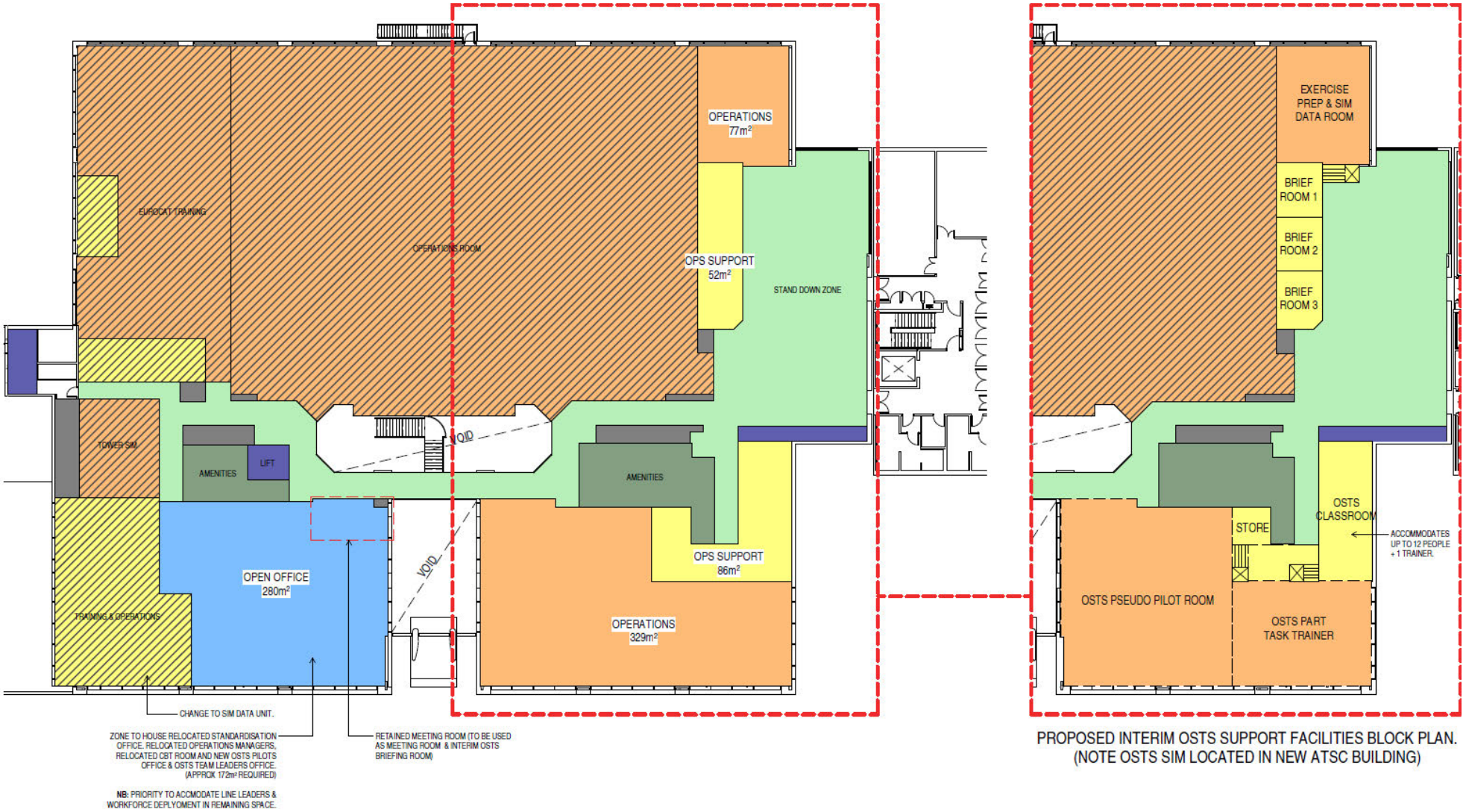

Figure 4 Brisbane CMATS support facilities
Blocking diagram – old ATSC (51) – Level 1 (interim Stage 2022/2023)

Appendix C Proposed Concept CTC Refurbishment Works

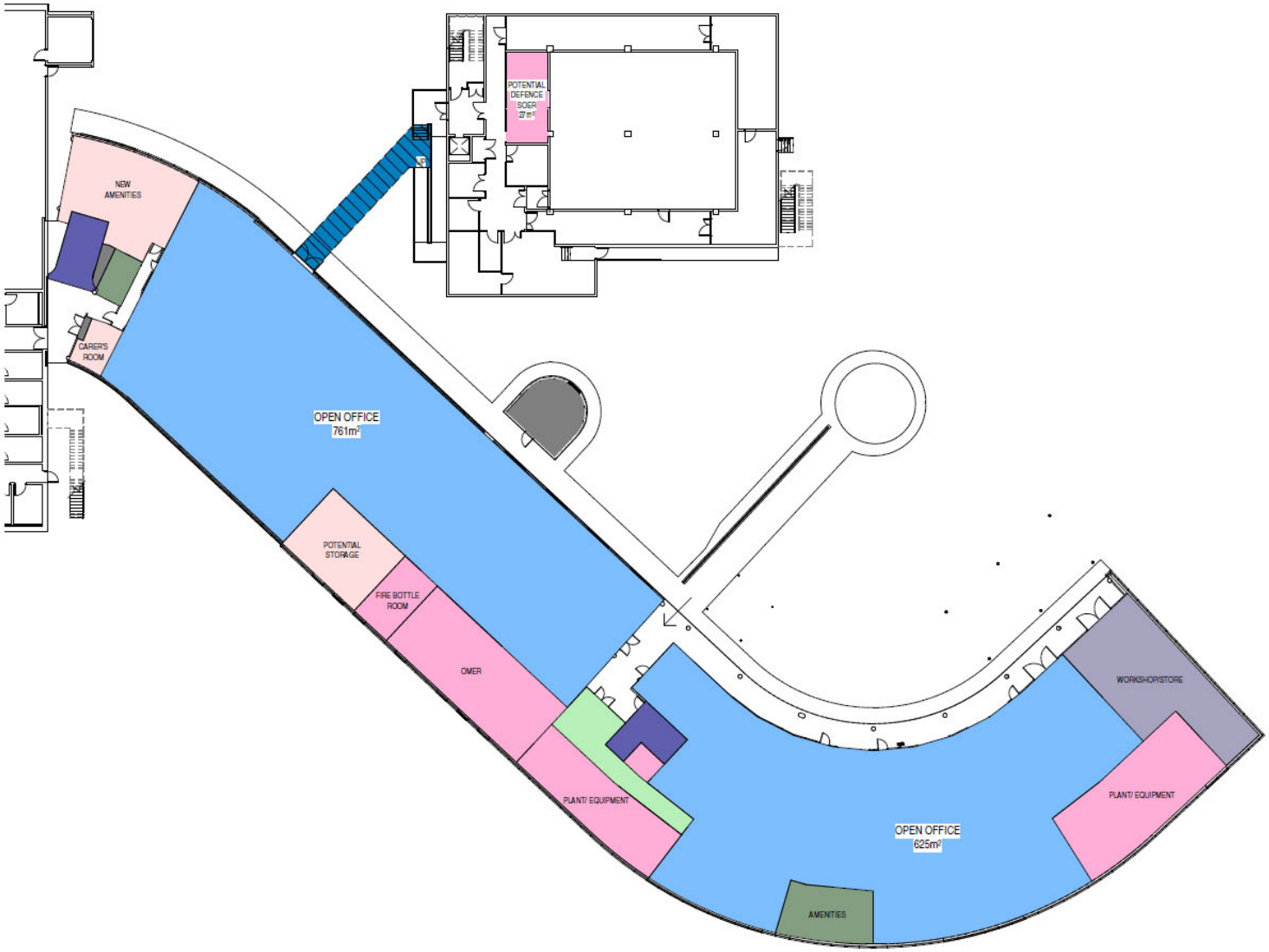

Figure 5 Brisbane CMATS support facilities
Blocking diagram - CTC (51a) & OER (350) - Ground

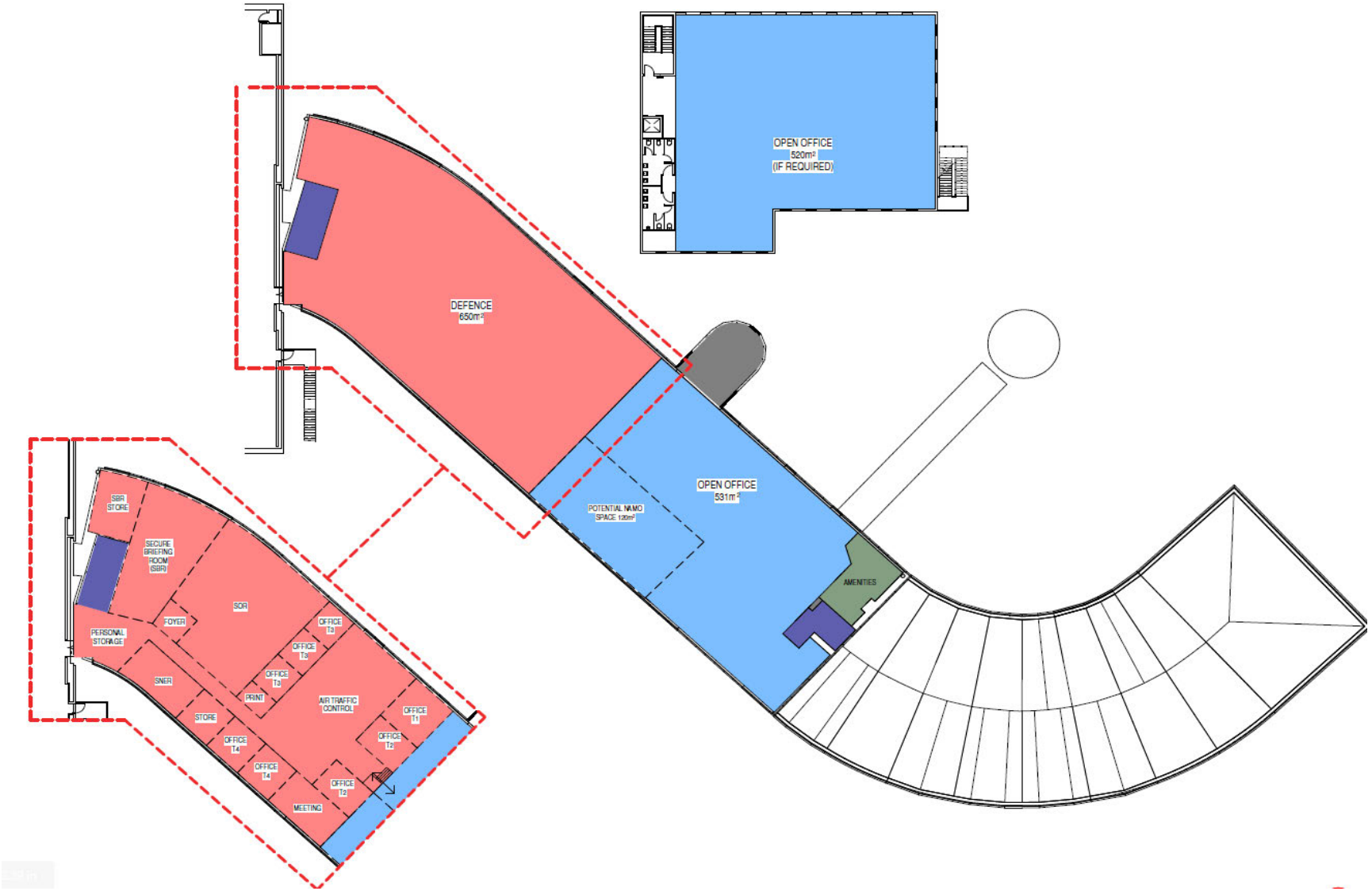

Figure 6 Brisbane CMATS support facilities
Blocking diagram – CTC (51a) & OER (350) – Level 1