

Submission No. 01

(DSTO Fishermans Bend)

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Australian Government

Department of Defence

**DEFENCE SCIENCE AND  
TECHNOLOGY ORGANISATION  
HUMAN PROTECTION AND  
PERFORMANCE DIVISION  
SECURITY AND FACILITIES  
UPGRADE**

Fishermans Bend, Melbourne, Victoria

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

Canberra, Australian Capital Territory

March 2013

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1. DSTO Fishermans Bend - Location Plan
2. DSTO Fishermans Bend - Site Plan
3. Stakeholder List
4. DSTO Fishermans Bend - Location of Proposed Work Elements
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# DEFENCE SCIENCE AND TECHNOLOGY ORGANISATION

## HUMAN PROTECTION AND PERFORMANCE DIVISION

### SECURITY AND FACILITIES UPGRADE

#### Need for the Works

##### Identified Need

1. The Defence Science and Technology Organisation (DSTO) is the lead Defence organisation charged with applying science and technology to protect and defend Australia and its national interests.
2. In addition to the specialist and impartial advice, and innovative solutions DSTO provides to the Australian Defence Force (ADF), the expertise that resides in DSTO also delivers unique capabilities to support the Australian Government's broader national security requirements.
3. In particular, the DSTO National Security Program leverages critical and unique defence science and technology capabilities to benefit civilian organisations and agencies, and as identified in the 2009 Defence White Paper<sup>1</sup>, this includes defending against chemical, biological and radiological (CBR) threats.
4. The DSTO Human Protection and Performance Division (HPPD) is located at the DSTO – Melbourne site, Victoria (VIC), which is also known as DSTO Fishermans Bend. The HPPD mission is the application of innovative science to improve the protection and performance of personnel in CBR and other physically challenging environments, and for Australian national security.

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<sup>1</sup> Commonwealth of Australia, *'Defending Australia in the Asia Pacific Century – Force 2030'*, 2009

5. HPPD's capabilities and work programs are subsequently focussed on scientific and technological research for the ADF that directly aids in the development of defences against CBR and other threats. Within the Whole of Australian Government (WoAG) framework and in addition to the ADF, the HPPD also provides support to other organisations and agencies, which can include direct and rapid response to potential and actual incidents involving these threats. As a consequence of the emergence of new national security priorities in the post 'September 11' and 'Bali Bombing' environment, there has been a growing demand for such support from the HPPD.
6. The existing facilities at DSTO Fishermans Bend, in addition to providing working accommodation for the HPPD, also house sensitive capability elements and equipment, facilities which are required to comply with specific Defence security policies. Although DSTO Fishermans Bend is currently fully fenced and incorporated with other site security systems, a 2006 Security Risk Assessment concluded that enhancements to site security were necessary in order to meet the required levels of security, including upgrades to intrusion and detection systems, access control and on-site crisis management. The current DSTO Fishermans Bend site layout and storage facilities also do not allow for the secure receipt and handling of incoming inventories, with delivery services having to be granted extended site access.
7. Additionally, a number of the existing HPPD facilities at DSTO Fishermans Bend are inadequate with respect to the necessary levels of capacity and functionality that are required to meet current and evolving operational demands. This situation has resulted in levels of ineffectiveness and inefficiencies with specialist personnel and capabilities having to be housed in multiple disparate locations, including temporary working accommodation.
8. Accordingly, the HPPD Security and Facilities Upgrade project proposes to enhance site security and rectify inadequacies in existing facilities at DSTO Fishermans Bend in order to improve the HPPD's ability to generate capability in support of ADF and WoAG operations in the protection and defence of Australia and its national interests.

## Options Considered for Fulfilling the Need

9. **Siting options.** Consistent with Defence planning policy, Defence has considered various siting options (in addition to DSTO Fishermans Bend) for the location of the proposed works

required to improve the HPPD's ability to generate capability in support of ADF and WoAG operations.

10. Following an assessment of siting options, which included both 'off-site' Australian and overseas locations, it was concluded that maintaining the HPPD and the conduct of its scientific and technological research activities at DSTO Fishermans Bend was the preferred option. A location plan and site plan for DSTO Fishermans Bend are included at Attachments 1 and 2 respectively.
11. In making this decision, it was assessed that off-site solutions:
  - a. did not provide value for money, particularly given the previous investments the Australian Government has made at DSTO Fishermans Bend through projects such as the DSTO Rationalisation Project - Stages 1 and 2;<sup>2</sup>
  - b. did not provide an adequate level of capability assurance with respect to scientific and technological research activities, including the protection of intellectual property;
  - c. did not provide an adequate level of compliance assurance, particularly with respect to security; and
  - d. did not adequately meet the transportation and handling requirements for some types and / or classifications of materials being investigated by the HPPD.
12. In selecting DSTO Fishermans Bend for the location of the proposed works, Defence will also be able to maximise the use of existing infrastructure, create synergies with respect to the various site functions, provide better access to Defence personnel, other Government organisations and agencies, and industry, and minimise any potential environmental, heritage or community impacts.
13. Within the DSTO Fishermans Bend site, various site layout options have also been considered to ensure that the site layouts as proposed are both functional and cost effective. These options are discussed in more detail for each project scope element under the 'Project Scope of Works' section of this Statement of Evidence.
14. **Procurement options.** To deliver the identified need, Defence considered multiple project delivery options. A Public Private Partnership for delivery was quickly rejected as a viable option due to the relative low cost of the proposed project and DSTO's requirement to retain

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<sup>2</sup> The total project value for Stage 1 of the DSTO Rationalisation Project was approximately \$56 million. Stage 2 of the project had a total project value of approximately \$50 million.

full control of the technical and operational outputs of the HPPD facilities. As such, the proposed project broadly considered two delivery options—Head Contractor and Managing Contractor.

15. The Managing Contractor form of delivery is best suited to large dollar-value projects with multiple geographically-spread elements, particularly where the project scope requirements are likely to change as a result of project unknowns during development and possibly delivery. These criteria do not characterise this proposed project and therefore the Managing Contractor contract methodology was not adopted
16. The Head Contractor form of delivery allows Defence to retain maximum control over the design, enables design-to-cost procedures to be put in place and allows early user input into the design. Due to the highly technical nature of the HPPD project scope elements associated with the proposed project it was assessed that a detailed level of design was required to be completed prior to delivery in order to reduce risks of scope creep and fit for purpose issues. Accordingly, the Head Contractor delivery method was selected as the preferred delivery method.
17. **Adaptive reuse / refurbishment options.** To meet the identified need, Defence has considered the viability of adaptively re-using or refurbishing existing facilities to reduce the need for new construction. In most cases, the option to re-use facilities was found not to be cost effective due to dilapidation, structural inadequacy, dysfunctional layout and / or inappropriate siting of the available facilities. These options are also discussed in more detail for each project scope element under the 'Project Scope of Works' section of this Statement of Evidence.

## Historical Background

18. Cecil Hake, Australia's first Defence Scientist, established the first Defence Laboratory at Victoria Barracks on St Kilda Road in Melbourne in 1910. Initially called the Chemical Adviser's Laboratory, it later became known as the Australian Arsenal Branch. The Branch was later relocated to the then outer Melbourne suburb of Maribyrnong and became known as the Munitions Supply Laboratories.
19. While the DSTO–Maribyrnong site grew out of the munitions industry, the DSTO–Melbourne site at Fishermans Bend was born out of the need for a domestic aeronautical research facility. Construction of the Fishermans Bend site started in mid 1939 with the first staff to work at the



site arriving in mid 1940. During World War 2, the staff at Fishermans Bend were preoccupied with finding solutions to operational, manufacturing and design problems. After World War 2, long-term aeronautical research became the focus, particularly in relation to aircraft structures.

20. The main focus of work conducted at the Fishermans Bend site remained on aircraft and aircraft systems until 1994 when aeronautical and maritime research activities were amalgamated and located at both the Maribyrnong and Fishermans Bend sites.
21. In 2000, the decision was made to consolidate all DSTO activities in Melbourne onto the Fishermans Bend site, which became known as DSTO–Melbourne and then DSTO Fishermans Bend. Over the next five years, the site underwent extensive development to accommodate the additional research areas and to enhance some of the existing facilities on the site. In 2007, the last of DSTO’s Maribyrnong staff and operations were relocated to DSTO Fishermans Bend.
22. DSTO Fishermans Bend currently supports approximately 650 staff and a number of other DSTO capabilities in addition to the HPPD. These other capabilities include a structural test laboratory that is capable of full-scale testing of both maritime and air structures, an advanced composites fabrication facility that enables research and development into advanced composite materials for both maritime and aeronautical applications, and an underwater test facility that assists research into Australia’s next generation submarines.

## Environment and Heritage Assessment Process

### Environmental Impact

23. An Environmental Site Assessment Report for DSTO Fishermans Bend was prepared in November 2005. The report did not identify any significant site contamination risks and concluded that the site was suitable for ongoing use as an industrial commercial facility without the need for any contamination remediation works.
24. The proposed works will be managed in accordance with the Defence Environmental Management framework. Environmental procedures for all proposed construction activities will be required to comply with an approved Construction Environmental Management Plan, from which a Defence Environmental Clearance Certificate will be issued prior to the commencement of any construction activities.

25. Given the proposed works, the overall impact on existing vegetation is currently being assessed and a Vegetation Management Plan will be formulated. This plan will include arborist and ecologist advice regarding the provision of any required compensatory planting arising from vegetation removal. The Vegetation Management Plan will form part of the approved Construction Environmental Management Plan.

## Heritage Impact

26. The proposed works have been designed to comply with the Fishermans Bend Conservation and Management Plan dated March 2005.
27. DSTO Fishermans Bend is listed on the Register of the National Estate (RNE) as an Indicative Place. This means that the property has not formally been listed, but is likely to have Commonwealth heritage values. Defence treats all Defence owned places on the RNE as if they have heritage values and as if they are formally listed, and acts in accordance with Commonwealth heritage management principles. As the site is Commonwealth property, it is not listed on the Victoria Heritage Register. These heritage considerations have no impact on the proposed project as all of the buildings impacted by the proposed works have been identified as having no heritage significance in the Fishermans Bend Conservation and Management Plan.
28. Defence's Directorate of Environmental Protection and Assessments has considered the proposed works in relation to both the *Environment Protection and Biodiversity Conservation Act* (EPBC Act) 1999 (Cth) and the Fishermans Bend Conservation and Management Plan, and has advised that a referral will not be required under the EPBC Act for the proposed works.

## Key Legislation

29. The following key legislation is relevant to this project:
  - a. *Environment Protection and Biodiversity Conservation Act 1999* (Cth);
  - b. *Building and Construction Industry Improvement Act 2005* (Cth);
  - c. *Work Health and Safety Act (WH&S) 2011* (Cth);
  - d. *Disability Discrimination Act 1992* (Cth);
  - e. *Fair Work Act 2009* (Cth);

- f. *Native Title Act 1993* (Cth); and
  - g. *Defence Act 1903* (Cth).
30. The proposed works will comply with all relevant Defence and Australian Standards, Codes and Guidelines including, but not limited to, the following:
- a. National Construction Code, 2012;
  - b. AS 2982:2010 ‘Laboratory Design and Construction’;
  - c. AS 2243.3:2010 ‘Safety in Laboratories’;
  - d. Office of the Gene Technology Regulator (OGTR), Physical Containment Level 3 (PC3) - Requirements for Certification;
  - e. Defence Manual of Fire Protection Engineering (MFPE);
  - f. Defence Manual of Infrastructure Engineering Electrical (MIEE); and
  - g. Defence Estate Quality Management System (DEQMS)

### Impacts on Local Communities

31. Defence has remained cognisant of potential impacts on local communities in developing the designs for the proposed works. Considerations have included impacts on residents and traffic adjacent to DSTO Fishermans Bend. Further details with respect to the impacts on residents and traffic, and where required the mitigation measures, are discussed under the ‘Local Road and Traffic Concerns’ section of this Statement of Evidence.
32. Consultation with local communities will also be conducted in accordance with a Defence approved Consultation Plan. The key outcomes of the community consultation process undertaken will be submitted separately to the Parliamentary Standing Committee on Public Works for consideration.
33. Details with respect to the positive economic impacts within the Melbourne region are discussed under the ‘Public Value’ section of this Statement of Evidence.

### Consultation with Stakeholders

34. Consultation has occurred, or is planned to occur, with the list of stakeholders as detailed at Attachment 3.

## Purpose of Works

### Project Objectives

35. The purpose of the project is to enhance site security and rectify inadequacies in existing facilities at DSTO Fishermans Bend in order to improve the HPPD's ability to generate capability in support of ADF and WoAG operations. Key objectives are to:
- a. provide site specific security enhancements in order to improve deterrence, protection, detection and response capacities; and
  - b. address site specific capability gaps in working accommodation and laboratory facilities in order to improve the HPPD's effectiveness and efficiency in meeting current and evolving operational requirements.

### Site Selection

36. The site selection for each project scope element has been undertaken in accordance with Infrastructure Division's planning policy requirements as set out in the DEQMS. However, as only two of the eight proposed project scope elements are being undertaken on 'vacant' sites, there was no requirement to conduct a formal Site Selection Board.
37. In lieu, Regional reviews of the proposed siting options were undertaken in March 2010 and January 2012. During the conduct of these reviews consideration was given where applicable, to Defence policies regarding environment, heritage and operational requirements, and where available, to all existing planning guidance under the relevant Zone and / or Master Plans for DSTO Fishermans Bend.

### Project Locations

38. The proposed works will be undertaken at DSTO Fishermans Bend, which is a Commonwealth owned and Defence controlled site located on the corner of Todd Rd and Lorimer St within the suburb of Port Melbourne —approximately five kilometres west of the Melbourne Central Business District.
39. A site plan detailing the location of the proposed works at DSTO Fishermans Bend is at Attachment 4.

## Project Scope of Works

40. To meet the project objectives of addressing site specific security deficiencies and capability gaps in working accommodation and laboratory facilities at DSTO Fishermans Bend, there are eight proposed project scope elements, as described below.

### Project Scope Element 1 – Integrated Detection and Security Lighting System

41. The existing DSTO Fishermans Bend site perimeter and associated site security systems require enhancements with respect to intruder detection and identification in order to meet the required levels of site security.
42. During project development, two options were initially considered. These options were a site wide upgrade to existing security lighting to enable the detection and identification of intruders, or the provision of a site wide lighting system that would enable intruder detection but not identification. Subsequent to these initial options, a third option was developed where a low level lighting solution was augmented with the installation of low light cameras. This third option would enable both intruder detection and identification but at a lower capital and ongoing operating cost. Accordingly, this option was found to be the most cost effective solution to meet the required enhancements to intruder detection and identification.
43. The proposed Integrated Detection and Security Lighting System will augment the existing site wide security lighting system with new low level lighting. Integrated into the proposed augmented security lighting system will be new ‘motion activated’ and ‘low light’ close circuit televisions (CCTVs), which will be further integrated into the existing DSTO Fishermans Bend monitoring and detection system.
44. The proposed works for the new Integrated Detection and Security Lighting System will also require the removal of a number of trees and other vegetation internal to DSTO Fishermans Bend in order to ensure the proposed new CCTVs have unrestricted ‘lines of sight’. The process for the removal of these trees and any subsequent requirements for compensatory planting will be detailed in the aforementioned Vegetation Management Plan, which forms part of the approved Construction Environmental Management Plan.

### Project Scope Element 2 – Science and Technology Store

45. The current DSTO Fishermans Bend site layout and storage facilities do not allow for the secure receipt and handling of incoming inventories, with delivery services having to be

granted access to the site. This arrangement is both inefficient and creates a level of security risk that requires mitigation.

46. During project development seven options were considered for a Science and Technology Store. These options ranged from the use of off-site screening of deliveries, maintaining the current entry / exit arrangements and a minor upgrade to the existing store, to the construction of a new entry / exit point and the construction of new store with a much extended floor area capable of accommodating future expansion. The other five options considered were combinations on these themes with increasing levels of function and cost.
47. The options at the lower end of the range of combinations developed, that had as their basis a continued use of existing entry / exit arrangements and only upgrading the existing store were not selected as the current store is located well within the DSTO Fishermans Bend perimeter and would still require delivery personnel and their vehicles to be granted access through the site. It is also noted that although off-site screening would reduce the likelihood of a threat entering the site, this management process would not remove the possibility of the threat. Also, the current store was only designed as a temporary structure that was to be removed, thereby limiting what could be practically achieved through an upgrade.
48. The options at the upper end of the range of combinations developed were also not selected as the increased costs did not provide value for money despite the increased levels of functionality.
49. The option that was chosen for the proposed Science and Technology Store provides a new purpose built store (Building 114) with a floor area of approximately 390 square metres with the possibility for future expansion. The existing store is also proposed to be retained to provide an immediately available and cost effective overflow storage capacity if required. The proposed new store will also form part of the existing DSTO Fishermans Bend site perimeter and will incorporate a new entry / exit point through the construction of a slip lane off Todd Road, in the south-west corner of site. Plans of the proposed works are shown at Attachments 5 to 7.
50. This option was selected as it provides a cost effective solution that also improves both the efficiency of goods receipt, storage and distribution by constructing a purpose built facility and minimising the need for civilians to be escorted / monitored when making deliveries, and

the effectiveness of site security by reducing the risks associated with allowing unverified stores and equipment to enter into the inner areas of DSTO Fishermans Bend.

### Project Scope Element 3 – Security and Crisis Management Centre

51. DSTO Fishermans Bend requires an alternate security control centre that can provide accommodation for the Emergency Coordination Organisation, when activated, to manage on-site and / or support off-site emergencies.
52. During project development twelve options were considered for the Security and Crisis Management Centre (SCMC). These options included a ‘do nothing’ option, off-site and on-site ‘green field’ developments, the adaptive reuse of three existing DSTO Fishermans Bend buildings (Buildings 12, 22 and 36), which included the use of multiple buildings and the collocation and separation of the security and crisis management functions.
53. The option that was chosen for the proposed SCMC is to adaptively reuse the existing Building 36, inclusive of a horizontal extension to the building of approximately 240 square metres to incorporate the SCMC. The new SCMC will have, a planning room, a guard room, a security room and communications equipment rooms. Plans of the proposed works are shown at Attachments 8 and 9.
54. This option was chosen, as when compared with the other options investigated, it provided both a superior value for money solution and a highly functional solution for the management of on and off-site security and crisis emergencies.
55. The proposed works for the SCMC includes the replacement of an existing bicycle shelter that falls within the footprint of the proposed SCMC. An existing liquid nitrogen tank that is also currently within the footprint of the proposed SCMC will be relocated as part of a separate approved project.<sup>3</sup>

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<sup>3</sup> The DSTO-Melbourne New Test Facilities project is to be delivered from mid 2013 on the site of the existing Building 43 and as part of these works will undertake the relocation of the liquid nitrogen tank. This project has no direct relationship to this proposal other than its close proximity to the proposed Building 36 SCMC. The project is required to support research programs being conducted by DSTO’s Air Vehicles and Maritime Platforms Divisions, and is being delivered as a Medium Works, as approved separately by the Parliamentary Standing Committee on Public Works (PWC).

#### Project Scope Element 4 – Chemical Laboratory Facility

56. The HPPD has an existing chemical laboratory facility at DSTO Fishermans Bend that is currently housed within a single story annex to Building 94. The Building 94 Annex was constructed in 2008 as part of a separate project to provide a facility to support the operations of the then Incident Response Regiment, now known as the Special Operations Engineer Regiment.<sup>4</sup>
57. The capacity and functionality of the existing facilities provided within the Building 94 Annex cannot meet the HPPD's current and evolving operational requirements, and as a result has required specialist personnel and capabilities to be housed in four disparate locations, including two temporary buildings with inadequate services and amenities. In particular, the existing HPPD chemical laboratory requires improved capacity to receive, store, analyse and treat hazardous substances within a physical containment environment.
58. During project development, initial options considered sought to upgrade the existing chemical laboratory by extending the Building 94 Annex in either a horizontal or vertical direction. However, due to horizontal space limitations, the in-situ ground conditions and significant structural limitations of the existing annex, all options to expand the Building 94 Annex in either direction were deemed unfeasible.
59. Given there were no feasible options to extend the Building 94 Annex, options to demolish the existing annex and construct an in-situ new multi-story building were also considered. In consideration of these new multi-story build options it was subsequently assessed that there was also the opportunity to provide cost effective solutions for two further proposed project scope elements—a new Operational Support Facility (Project Scope Element 5) and a new Secure Communications Facility (Project Scope Element 6).
60. The resultant 'multi-scope' option provides a cost effective solution for Project Scope Elements 4, 5 and 6, and addresses associated capability gaps in laboratory facilities and working accommodation. This multi-scope option involves the demolition of the existing single storey Building 94 Annex and its replacement with an in-situ new build four storey complex and plant room. Plans of the proposed new four story Building 94 Annex are shown

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4 The Special Operations Working Accommodation project was considered by the PWC on 10 June 2005 and was subsequently approved by Parliament on 18 August 2005.



at Attachments 10 to 15. In summary, the proposed new four story Building 94 Annex will be able to provide dedicated accommodation to approximately 90 HPPD staff and will include:

- a. a ground floor level with a floor area of approximately 520 square metres that would house all physical containment laboratory facilities;
  - b. a first floor level linked to Building 94 with a floor area of approximately 520 square metres that would provide working accommodation and a breakout area;
  - c. a second floor level also linked to Building 94 with a floor area of approximately 520 square metres that would accommodate a shared use secure communications facility;
  - d. a third floor level with a floor area of approximately 520 square metres that would provide additional working accommodation and an additional breakout area; and
  - e. a plant room level with a floor area of approximately 470 square metres that would be dedicated to housing mechanical plant, building hot water services, a physical containment water treatment plant and providing access to roof top plant, including the physical containment laboratory fume cupboard exhausts.
61. The proposed new Chemical Laboratory Facility will be located on the ground floor of a proposed new four story Building 94 Annex and will include a proposed new physical containment laboratory, collocated with two additional proposed new physical containment laboratories as associated with Project Scope Element 5. The proposed new Chemical Laboratory Facility also includes new charcoal filtration systems, filter support platforms, an emergency alarm system, bubble tight dampers, deluge showers, chemical storage facilities and a shared entrance and stores receiving area. A plan of the proposed works is shown at Attachment 11.

#### Project Scope Element 5 – Operational Support Facility

62. The HPPD has an operational requirement at DSTO Fishermans Bend for the provision of secure support and laboratory facilities in which to safely conduct the forensic handling and analysis of CBR materials.
63. During project development, options were again considered that sought to either extend a number of existing DSTO Fishermans Bend buildings or to construct a new facility / facilities on various ‘green-field’ sites. However, as a consequence of the decision to develop the option involving the demolition of the existing single storey Building 94 Annex and replace it

with an in-situ new build four storey complex to holistically meet the needs of Project Scope Elements 4, 5 and 6, these options were discounted from further development.

64. The proposed new Operational Support Facility is the major functional component within the proposed new Building 94 Annex and will be located across various floors within a rebuilt Building 94 Annex. Details are as follows:
  - a. The proposed Operational Support Facilities located on the ground floor (and collocated with a physical containment laboratory as associated with Project Scope Element 4) includes a proposed physical containment laboratory for the forensic handling of CBR materials and a proposed compartmentalised physical containment laboratory for the forensic analysis of CBR materials. The proposed new forensic handling and analysis laboratories also include new charcoal filtration systems, filter support platforms, an emergency alarm system, bubble tight dampers, deluge showers, chemical storage facilities and a shared entrance and stores receiving area. A plan of the proposed works is shown at Attachment 11.
  - b. The proposed Operational Support Facilities located on the first floor includes working accommodation for 32 workstations, three offices and a breakout area. A plan of the proposed works is shown at Attachment 12.
  - c. The proposed Operational Support Facilities located on the third floor includes working accommodation for 33 workstations, three offices and an additional breakout area. A plan of the proposed works is shown at Attachment 14.

#### Project Scope Element 6 – Secure Communications Facility

65. The HPPD at DSTO Fishermans Bend has an operational requirement for secure communications to directly support off-site Defence units and other Government agencies in a seamless and secure manner, and the integration of such secure communications with other sites at DSTO Fishermans Bend. The provision of a Secure Communications Facility at DSTO Fishermans Bend would also enable other DSTO Divisions to provide direct support off-site and to integrate similar secure communications.
66. During project development, options were considered that sought to either extend an existing DSTO Fishermans Bend building or to construct a new communications facility with various security ratings on a 'green-field' site. However, as a consequence of the decision to develop the option involving the demolition of the existing single storey Building 94 Annex and

replace it with an in-situ new build four storey complex to holistically meet the needs of Project Scope Elements 4, 5 and 6, these options were discounted from further development.

67. The proposed new Secure Communications Facility will be located on the second floor of a rebuilt Building 94 Annex and includes three information, communications and technology rooms, two sixteen person meeting rooms, 21 work stations in two open plan areas, a replacement computer modelling laboratory and three offices. A plan of the proposed works is shown at Attachment 13.

#### Project Scope Element 7 – Protective Security Upgrade to Building 94

68. There is a requirement to enhance the intruder protection and access control systems within the existing Building 94 at DSTO Fishermans Bend in order to meet the required levels of building security.
69. During project development three options were considered for the proposed protective security upgrade to Building 94. These options included increasing the level and frequency of manned security patrols at DSTO Fishermans Bend, augmenting the existing intruder protection and access control systems within Building 94, and in addition to augmenting the existing intruder protection and access control systems, providing single person entry points to Building 94 with biometric control.
70. The first option of increased security patrols was assessed as neither cost nor functionally effective. As Building 94 also houses a number of physical containment laboratories, which have explicit and heightened physical protection and control requirements, the option of only augmenting the existing protective security systems although cost effective, was assessed as not being functionally effective.
71. The proposed protective security upgrade to Building 94 includes, in addition to proposed augmentations to the existing intruder protection and access control systems, proposed single person entry points with biometric control. The proposed augmentation works also include additional surveillance systems and detection systems, security hardware upgrades to the building doors, fence and gate, and a physical hardening of the building fabric.

#### Project Scope Element 8 – Site Shared Services

72. To enable DSTO Fishermans Bend site operations before, during and after construction, there is a requirement to undertake a package of shared service works across the site.

73. It is proposed that site shared services will include staff and equipment decanting, demolition and fencing works, civil and external works inclusive of drainage, stormwater, water supply and fire service upgrades, vehicle crossovers and kerbing, and temporary and changed car parking arrangements.

## Public Transport

74. DSTO Fishermans Bend is serviced by Melbourne Metropolitan Bus Routes 235, 237 and 606. These routes provide a continual bus service to the site throughout the day.

## Local Road and Traffic Concerns

75. Access roads and parking are well established on-site in a permanently constructed grid pattern. There is no requirement to upgrade the existing access provisions to the proposed new Building 94 Annex or to the refurbished and extended Building 36 SCMC.
76. The proposed new Science and Technology Store will require new driveway access connections to Todd Road and the internal DSTO Fishermans Bend road network capable of receiving a standard prime mover and semi-trailer combination (with a standard length of approximately 19 metres). The proposed works will greatly limit the need for delivery vehicles to cross the site security perimeter to access diverse delivery locations via the internal road network.
77. The design of the proposed access driveway off Todd Road to the new proposed Science and Technology Store will be limited to a 'left turn into' and 'left turn out of' DSTO Fishermans Bend to avoid turning across traffic flows, and has been 'agreed in principle' by VicRoads. Final approval of the proposed design and construction methodology will be sought prior to engaging a contractor to construct the proposed works.
78. Existing car park arrangements will be impacted by the proposed new Science and Technology Store with the permanent loss of 38 car spaces leaving a total of 295 car spaces available on the site. Although reduced, these spaces are expected to be adequate for staff given historical parking demands as experienced at DSTO Fishermans Bend. To help ease parking stress during the construction period, it is proposed to construct 40 temporary car parking spaces.
79. Heavy machinery used during construction is also expected to have minimal impact on the local road network as such machinery is expected to remain on site for prolonged periods of

time. To alleviate any residual impacts of traffic at DSTO Fishermans Bend, a Construction Traffic Management Plan will be prepared and implemented.

## Zoning, Local Approvals and Land Acquisition

80. The proposed works are wholly contained within a Commonwealth owned and Defence controlled site.
81. The area surrounding DSTO Fishermans Bend is primarily zoned for industrial purposes and the adjacent sites and businesses are mostly of an industrial nature. The nature of the proposed works within this project is therefore considered complementary with the existing nature of the site.
82. During initial project development, the 1997 Master Plan for Fishermans Bend acted as a master control document identifying areas suitable for future development, landscape zones, services zones and areas suitable for future development. This plan has since been superseded by a Draft DSTO Fishermans Bend 2012 Master Plan, which is currently subject to final approval. The Draft Master Plan has subsequently informed the final selection of the proposed sites for the various proposed project scope elements and as such the proposed works will conform with the new Master Plan once approved.
83. The proposed works do not require acquisition of additional land or involve land disposal aspects. There will be no change to existing land use conditions at the site.

## Planning and Design Concepts

84. The general philosophy adopted for the design of the proposed facilities incorporates the following considerations:
  - a. provision of cost effective and functional facilities of energy efficient design suitable for the climate of the site and of a style compatible with the existing base aesthetics;
  - b. adoption where possible of conventional construction techniques and materials, in particular those commonly used by the construction industry and consistent with those already utilised on the site;
  - c. maximum use of existing infrastructure and facilities to minimise capital costs;
  - d. utilisation of readily available and durable materials that combine long-life while minimising maintenance;

- e. recognition of site constraints, security requirements, the established zone plans, functional relationships to existing facilities and operational determinants; and
- f. planning services and structure design to accommodate flexibility.

## Structural Design

85. The proposed new Building 94 Annex will be founded on driven precast piles, similar to those used in the original building scheme. The location of the proposed pile foundations has been coordinated to ensure they are clear of the existing building piles. The building form is essentially wrapped around the functional floor plate layout and takes into consideration the requirement to eliminate direct light from the working planes of laboratory spaces, and requirements to maintain the security of building working spaces and staff amenity.

## Materials and Furnishings

86. Building materials for the proposed new Science and Technology Store and upgraded SCMC have been selected to blend with the existing and surrounding buildings.
87. The building envelope for the proposed new Science and Technology Store is proposed to be painted precast concrete with prefinished metal cladding. Internal partitions and ceiling construction, materials and finishes in office areas will be provided to meet the Defence Accommodation guidelines. The proposed building has also been designed to enable expansion to the south to provide additional storage capacity when demand requires that this occur.
88. The proposed extension to Building 36 and development of the SCMC is proposed to be face brickwork to match the existing with factory finished metal deck roof. The external fabric will be designed to meet the physical and acoustic security requirements. The existing building walls and roof will have insulation retrofitted to comply with the current requirements of National Construction Code Section J. The roof eave extends to the south and to the ground plane to form a replacement bike shelter.
89. The materials for the proposed new Building 94 Annex have been selected to break up the massing effect of a tall facility and to ground the building on the site. This uses insulated precast concrete to the Ground floor. The upper levels and plant will utilise lightweight facade systems, thermally efficient double glazing, and a steel roof.

90. Internal partitions and ceiling construction, materials and finishes for the proposed new physical containment laboratories will be in accordance with applicable physical containment level requirements for all laboratory and laboratory support areas. It is proposed to use a proprietary insulated sandwich panel partition system designed specifically for physical containment environments. The sandwich panel provides the benefit of a standardised system designed to withstand pressure differentials with surfaces that are easy to clean.
91. Internal wall construction, materials and finishes in all 'secure areas' will be in accordance with the requirements of the Defence Security Authority.

## Mechanical Services

92. The mechanical services for each building have been designed according to the function and needs of each building. The purpose of the mechanical service systems is to provide mandatory ventilation, thermal comfort and air quality facilities in accordance with specific user needs and the requirements of the National Construction Code.
93. In addition to providing ventilation and thermal comfort, the mechanical systems in the new laboratories will include:
  - a. fume cupboards complete with associated exhaust systems, filters, and services;
  - b. reticulated laboratory gases;
  - c. a reticulated compressed air system; and
  - d. temperature and humidity controllers to specific areas of the building.
94. The mechanical services have been designed to meet the requirement of Physical Containment Level 2 and 3 laboratories as specified by OGTR and the Australian Quarantine Inspection Service.

## Hydraulic Services

95. The proposed Physical Containment Level 3 laboratory in the proposed new Building 94 Annex will be connected to an independent drainage system and a new dedicated waste treatment plant specifically suited to the waste produced by this type of laboratory. All pipe work between fittings and the treatment plant is in double contained pipe work formed of Poly Ethylene. The waste treatment plant will comprise a below ground collection tank and pumps, cook tank and steam generator.

96. New hot water units will be provided to service the proposed physical containment laboratories, along with a new domestic cold water service. It is also proposed that the Physical Containment Level 3 laboratory will be provided with a local continuous flow electric hot water unit, while the Physical Containment Level 2 laboratories and domestic hot water will be serviced by a gas mains pressure hot water unit located in the plant room of the proposed new Building 94 Annex. Backflow prevention devices will also be provided as per the proposed cold water service.
97. Fire hose reels are required to be installed to the requirements of the National Construction Code, MFPE and AS 2419:2005 'Fire Hydrant Installations'. Hose reels are to be positioned within 4 metres of an escape. The water supply to the hose reels is to be extended from the next adjacent fire hydrant.
98. The proposed new Building 94 Annex is to be fully sprinkler protected in accordance with the MFPE risk assessment requirements of AS 2118 'Automatic Fire Sprinkler Systems' Part 1: 1999 General Requirements, Part 6:1995 Combined Sprinkler and Hydrant to Ordinary Hazard Group 1 Requirements. The proposed new Building 114 is classified as a 'support asset' and as such fire detection and suppression requirements will be in accordance the National Construction Code. The proposed new extended Building 36 is classified as an 'important asset' and as such fire detection and suppression is to be provided. A new set of sprinkler control valves are also to be provided to provide a dedicated sprinkler system to Building 94 with physical containment compliant sprinklers to be used within any Physical Containment Level 3 area.
99. The design of the stormwater will take into account external catchments which may contribute flows into the site and accommodate for any potential expansion of the development in the future. All new stormwater drainage pipelines carrying surface water will be designed to accommodate flows for the 1:20 year stormwater event. Site levels are graded to discharge surface water runoff for all additional flows up to a 1:100 year storm event to minimise the impact of flooding on the site and adjacent areas.

## Electrical Services and Fire Protection

100. Lighting, power and fire detection will be provided in accordance with Australian Standards, and Defence's engineering requirements.



101. A new site wide fire indicator panel system is also proposed to be delivered under the project. Electrical infrastructure and switchboards will have a minimum 25 per cent spare capacity for future growth complying with Defence engineering requirements. Sub-metering will be included to each refurbished and new building. The meters will be monitored through a new Building Management System (BMS), which will support a management program on the site.
102. Fire detection systems, indication panels, and emergency and exit lighting will be provided to the new and refurbished facilities in accordance with Australian Standards. All construction and fire protection requirements will be in accordance with the National Construction Code, MFPE and all other applicable Codes and Standards.
103. A new main fire detection and alarm system control and indicating equipment (MCIE) panel for the whole site is proposed to be provided and installed within the new SCMC along with an additional peer to peer networked panel that would have all the same functionality as the MCIE within the existing DSTO Fishermans Bend Guard House (Building 17).
104. New fire detection, alarm and occupant warning systems are to be installed within the proposed new Science and Technology Store, the proposed new Building 94 Annex and the proposed new SCMC.

## Acoustics

105. The new and refurbished facilities will comply with the National Construction Code and Australian Standards for noise and acoustics. Acoustic separation has been considered between rooms, and walls are being designed to meet user requirements and building functions. Speech privacy requirements for the proposed secure facilities will also comply with applicable audio security specifications for those facilities.

## Landscaping

106. Significant pruning, and small tree and shrub removal is proposed to provide clear lines of sight for the enhanced perimeter security systems and to provide street access for the new proposed Science and Technology Store. Arborist and Ecologist services have been engaged to develop a Vegetation Management Plan as part of the Construction Environmental Management Plan. Compensatory planting is envisaged for early in the construction phase to allow for local-to-area flora habitat establishment in identified areas prior to the removal of other vegetation around the site.

## Water and Energy Conservation Measures

107. 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. This project has addressed this policy by adopting cost-effective and ecologically sustainable development as a key objective in the design development and delivery of new facilities.
108. The ecologically sustainable measures for the project are balanced with other requirements for Defence buildings, including security and occupation health and safety considerations, to ensure that operational capability is not compromised.
109. The proposed building energy targets will meet National Construction Code, 2012 requirements.
110. The design will be subject to both the Ecological Sustainable Design (ESD) brief and the energy efficiency criteria applied in Section J of the National Construction Code, 2012 (which has been significantly increased above previous versions). In achieving compliance with the ESD brief and the National Construction Code, the balance between capital costs versus operating costs has been reasonably optimised and a favourable Whole of Life outcome has been achieved.
111. The project contains design features which help minimise operational energy consumption and greenhouse gas emissions. The project will aim to achieve best practice by introducing energy efficient features not only for mechanical heating, ventilation and air conditioning services, but also for electrical and hydraulic services.
112. The following conservation design considerations have been incorporated into the project:
  - a. low light cameras that allow low energy LED external lighting to be installed to support the surveillance capability;
  - b. electric sub-metering for all substantive energy usages within the building (greater than 100k VA) that will centralise monitoring;

- c. lighting power density of the lighting solution within office areas has been designed to not exceed 2.5 W/m<sup>2</sup> per 100 lux;
- d. individually switched lighting zones have been designed to not exceed 100m<sup>2</sup>;
- e. water efficient fixtures and fittings to contribute to Defence's 30% water reduction target, including water efficient ablutions; and
- f. water sub meters for all major water uses in the buildings and surrounds linked to a Building Management System and a leak detection system.

## Demolition and Disposal of Existing Structures

113. The existing Building 94 Annex is proposed to be demolished. The demolition will be managed to facilitate the staged construction of new works and refurbishment works. Demolition materials will be separated and recycled where possible.
114. The consolidation of DSTO Fishermans Bend HPPD staff into permanent facilities will also allow the removal from site of two temporary buildings either for re-use by Defence or as 'builder's spoils'.
115. Following an analysis of the Defence Asbestos Register and the conduct of an Environmental Site Assessment Report for DSTO Fishermans Bend, an assessment has been made of the type, location and extent of hazardous materials present at the proposed demolition sites. The assessment has indicated that a low risk is posed to Defence employees, contractors, adjoining residents and the environment given the known extent of hazardous materials at each proposed demolition site.
116. To further mitigate this risk, the following actions will be taken prior to the proposed demolition and disposal of the existing structures:
- a. Procedures for the safe removal, management and disposal of hazardous materials (including an unexpected finds protocol) will be developed in accordance with all applicable Codes of Practice and Guidance Notes and then documented within the Construction Environmental Management Plan.
  - b. The removal, management and disposal of hazardous materials will only be conducted by appropriately qualified and certified contractors.

## Provisions for People with Disabilities

117. Access and facilities for the disabled will be provided where necessary and in accordance with the National Construction Code, AS 1428 and Defence's policy 'Disabled Access and Other Facilities for Disabled Persons'. Passenger elevators will be provided in the proposed new Building 94 Annex.

## Childcare Provisions

118. There are currently no childcare provisions at DSTO Fishermans Bend and there is no requirement for child care facilities to be provided as part of this project, as the project does not increase the site population.

## Work Health and Safety Measures

119. The facilities to be provided under this project will comply with Department of Defence Work Health and Safety policy, the *Work Health and Safety Act (WHS) 2011* (Cth), Work Health and Safety (Commonwealth Employment - National Standards) Regulations and the Defence Work Health and Safety manual.

120. In accordance with section 35(4) of the *Building and Construction Industry Improvement Act 2005* (Cth), 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.

121. All construction sites will be secured appropriately to prevent public access during the construction period. No special or unusual public safety risks have been identified.

## Cost-Effectiveness and Public Value

### Outline of Project Costs

122. The estimated out-turned cost of this project is \$41.1 million, excluding Goods and Services Tax. This cost estimate includes construction costs, management and design fees, furniture, fittings and equipment, passive Information and Communication Technology (ICT), contingencies and an escalation allowance.

123. There is an estimated net increase in the operating costs expected due to the construction of new and upgraded facilities that contain more technical and environmentally compliant equipment.

### Details of Project Delivery System

124. A Project Manager / Contract Administrator (PM / CA) has been appointed by the Commonwealth to manage the development phase of the project. Subject to satisfactory performance, a value for money assessment and Parliamentary approval of the proposed project, it is intended that the current PM / CA will be further engaged for the delivery phase of the project. The PM / CA will have responsibility to manage delivery and certification of the works by a Design Services Consultant (DSC) and Head Contractor, and administer all applicable contracts.
125. A DSC has been appointed to fully design and document the proposed facilities. Subject to satisfactory performance, a value for money assessment and Parliamentary approval of the proposed project, it is intended that the current DSC will be further engaged for the delivery phase of the project. The DSC has the responsibility to approve any changes to the design proposed by the Head Contractor and certify that the works have been constructed and perform in accordance with the 'for construction' designs.
126. Subject to Parliamentary approval of the proposed project, Defence will appoint a Head Contractor to undertake the works, following an open market tender process using the Defence form of Head Contractor Contract.

### Construction Schedule

127. Subject to Parliamentary approval of the proposed project, construction is expected to start in mid 2013 with completion anticipated by early 2016.

### Public Value

128. The project will support HPPD capability and DSTO Fishermans Bend more generally with improved site security, improved storage and handling of incoming inventories, improved intrusion detection capabilities and an upgraded on-site security and crisis management capability.
129. The project will also address identified shortfalls within on-site HPPD facilities. It will improve the capacity and capability of Building 94, which currently houses the HPPD and is

presently unable to meet the operational demands of its specialist services in an appropriately secured facility. By enhancing these capabilities the project will contribute to ADF and WoAG capability to respond to CBR threats by enabling safe forensic handling and processing of materials in direct and rapid support to Defence units and other Government agencies.

130. The project is expected to generate employment for approximately 150 skilled construction workers from the Melbourne region for varying periods of time over the construction period. This is anticipated to have a positive economic impact on small and medium enterprises in Melbourne.

## Revenue

131. No revenue will be derived from this proposal.

# Attachment 1

Victoria



Port Melbourne



Fishermans Bend

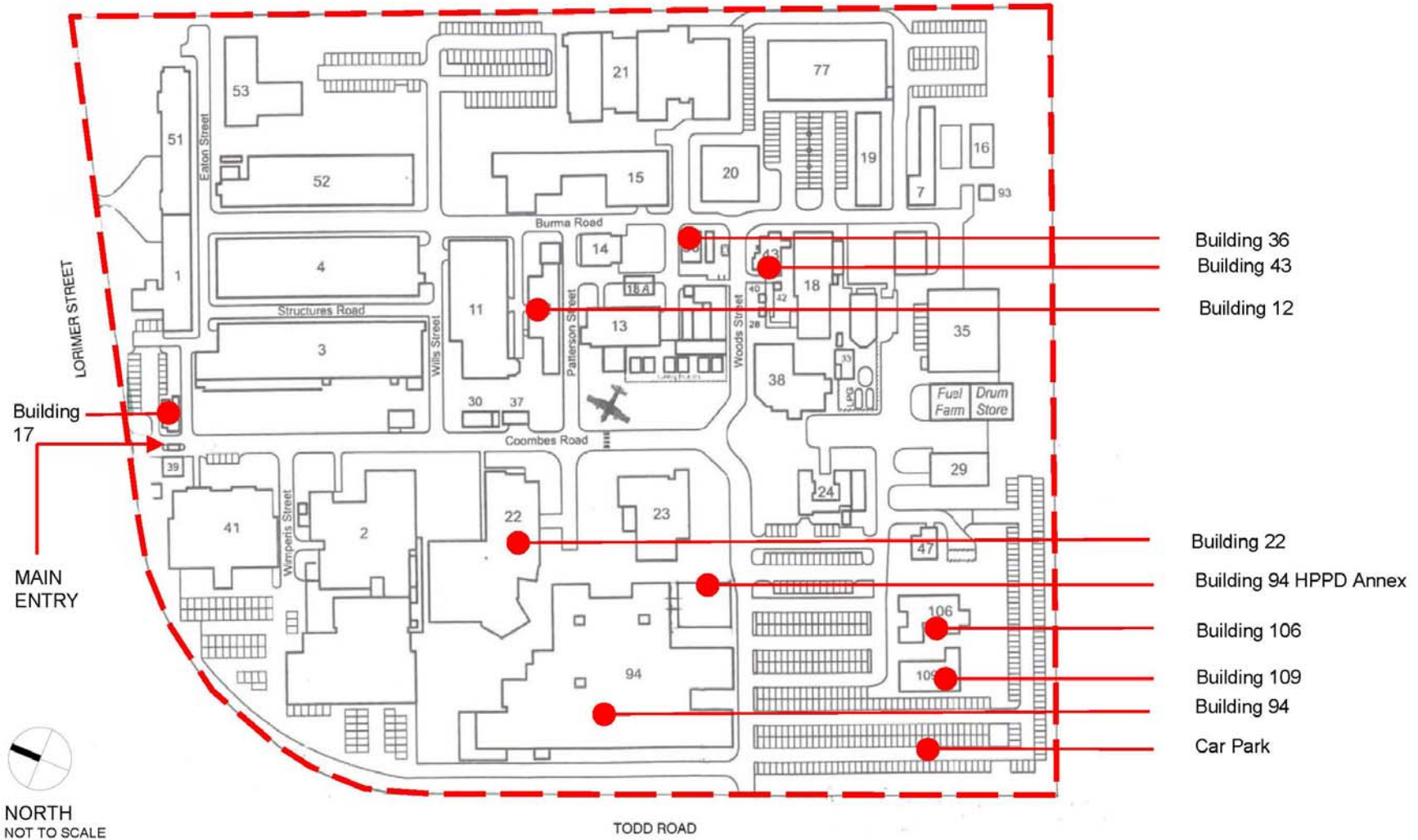


DSTO Melbourne Site, Lorimer St, Fishermans Bend



NORTH  
NOT TO SCALE

Attachment 2



**ATTACHMENT 2**  
DSTO-M EXISTING CONDITIONS – SITE PLAN



## Attachment 3 – Stakeholder List

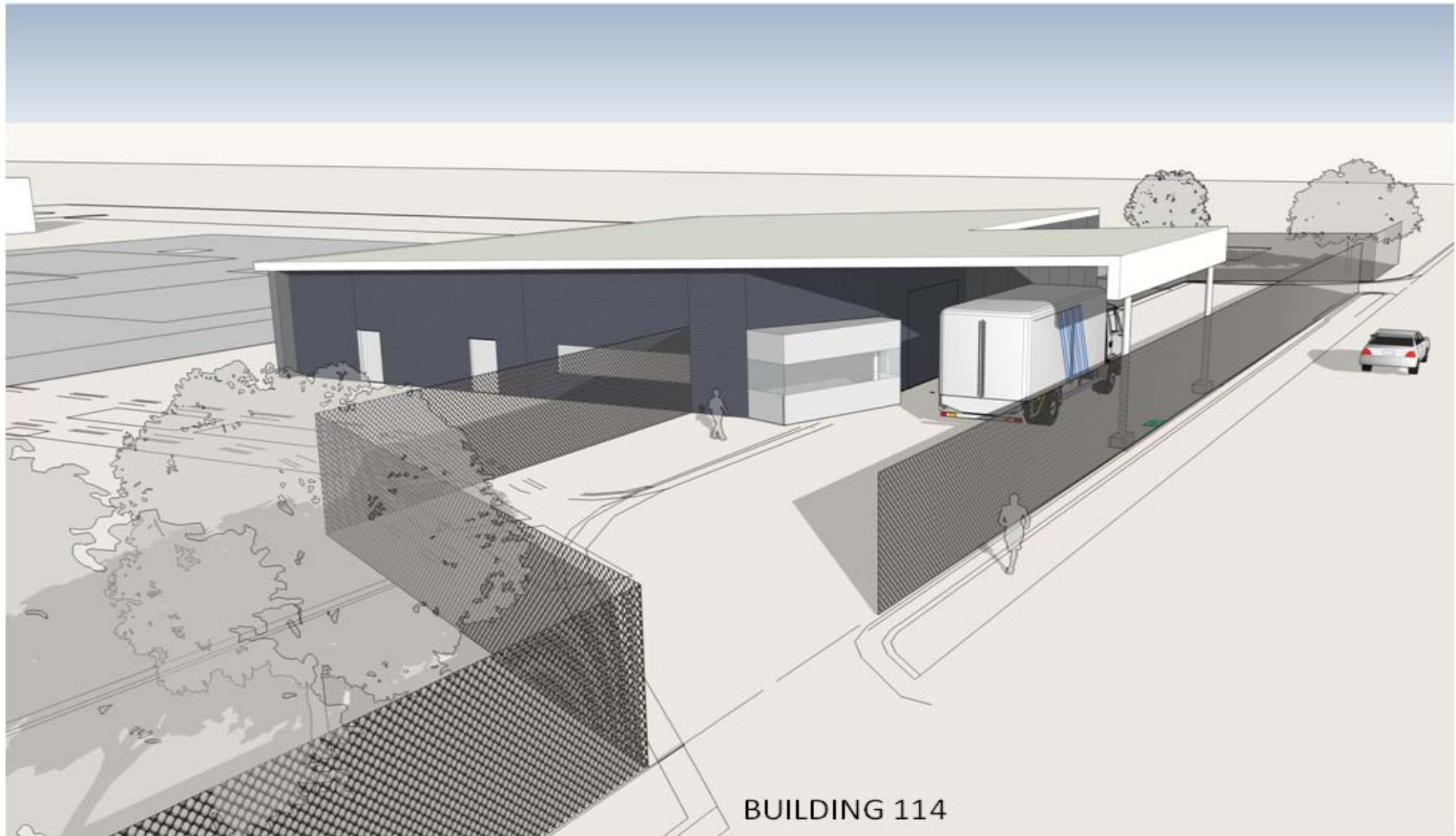
1. Consultation has occurred or will occur with:
  - a. The Honourable Michael Danby MP, Federal Member for Melbourne Ports.
  - b. Martin Foley MP, Victorian State Member for Albert Park.
  - c. Melbourne City Council.
  - d. General Motors Holden–Fishermans Bend
  - e. Citipower.
  - f. VicRoads.
  - g. Melbourne Fire and Emergency Services Board.
  - h. Office of the Gene Technology Regulator.
  - i. Australia Quarantine and Inspection Service.
  - j. Department of Agriculture, Fisheries and Forestry.
  - k. Security Sensitive Biological Agents Regulatory Scheme, Department of Health and Aging.

Attachment 4



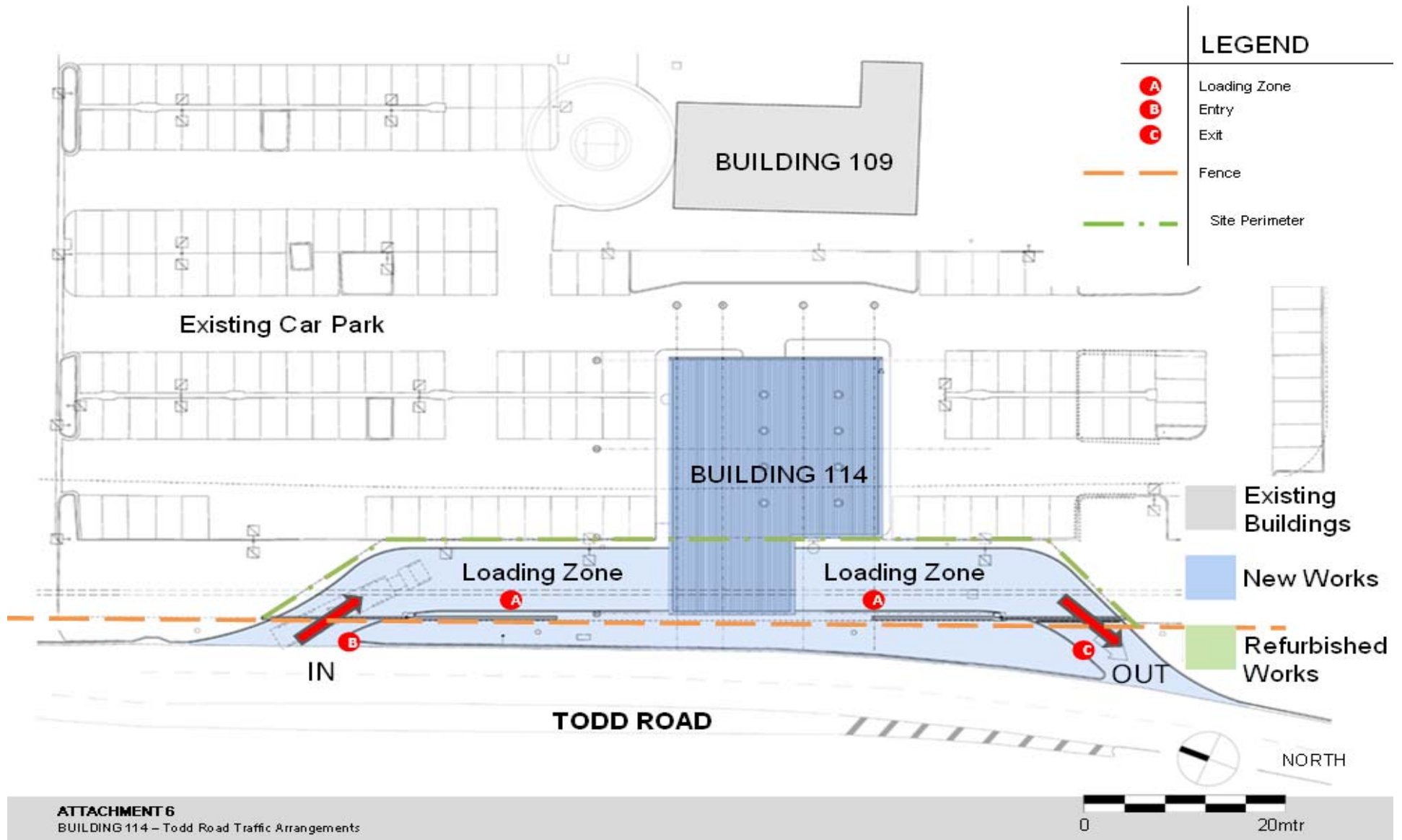
**ATTACHMENT 4**  
LOCATION OF WORK ELEMENTS

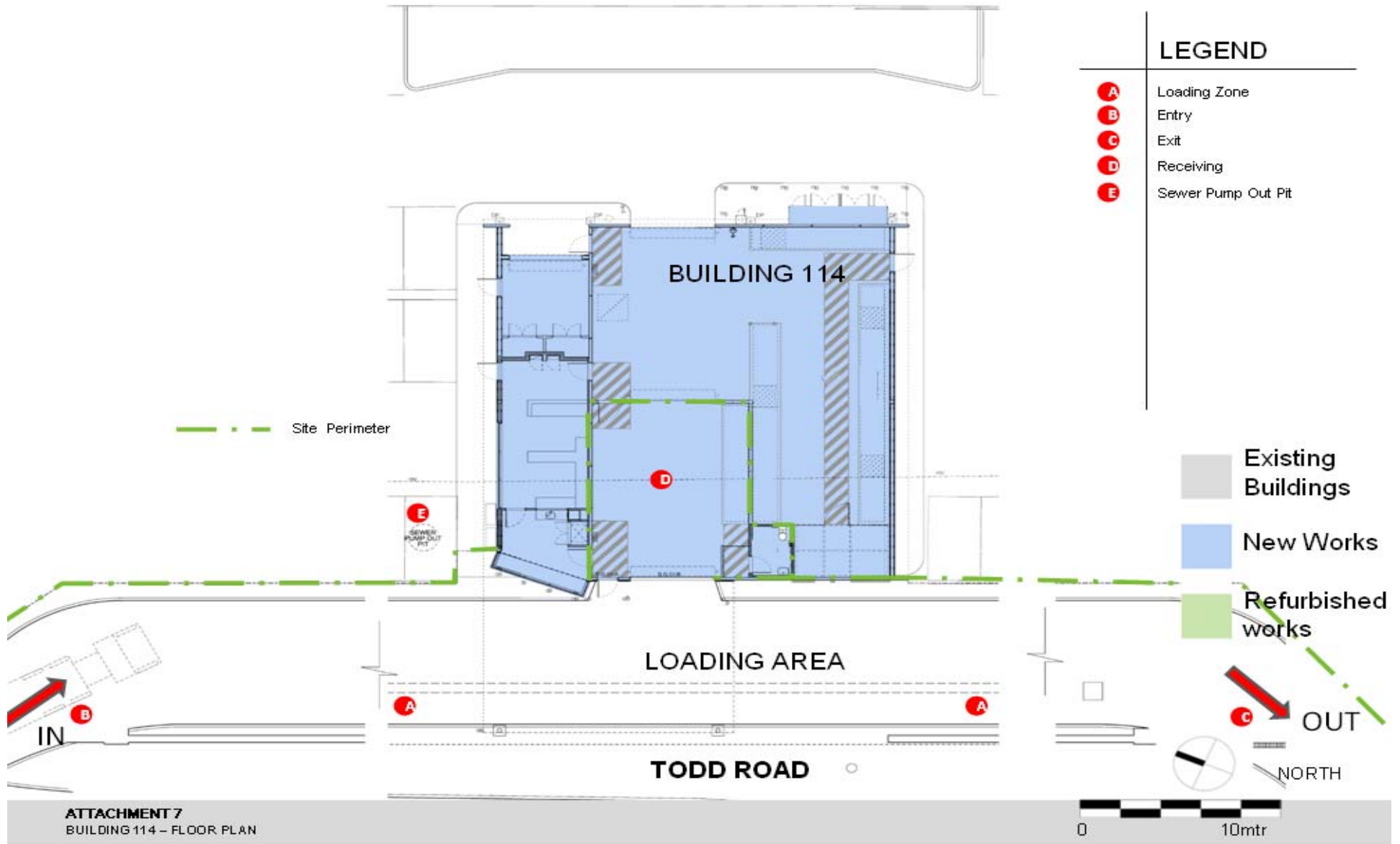
Attachment 5

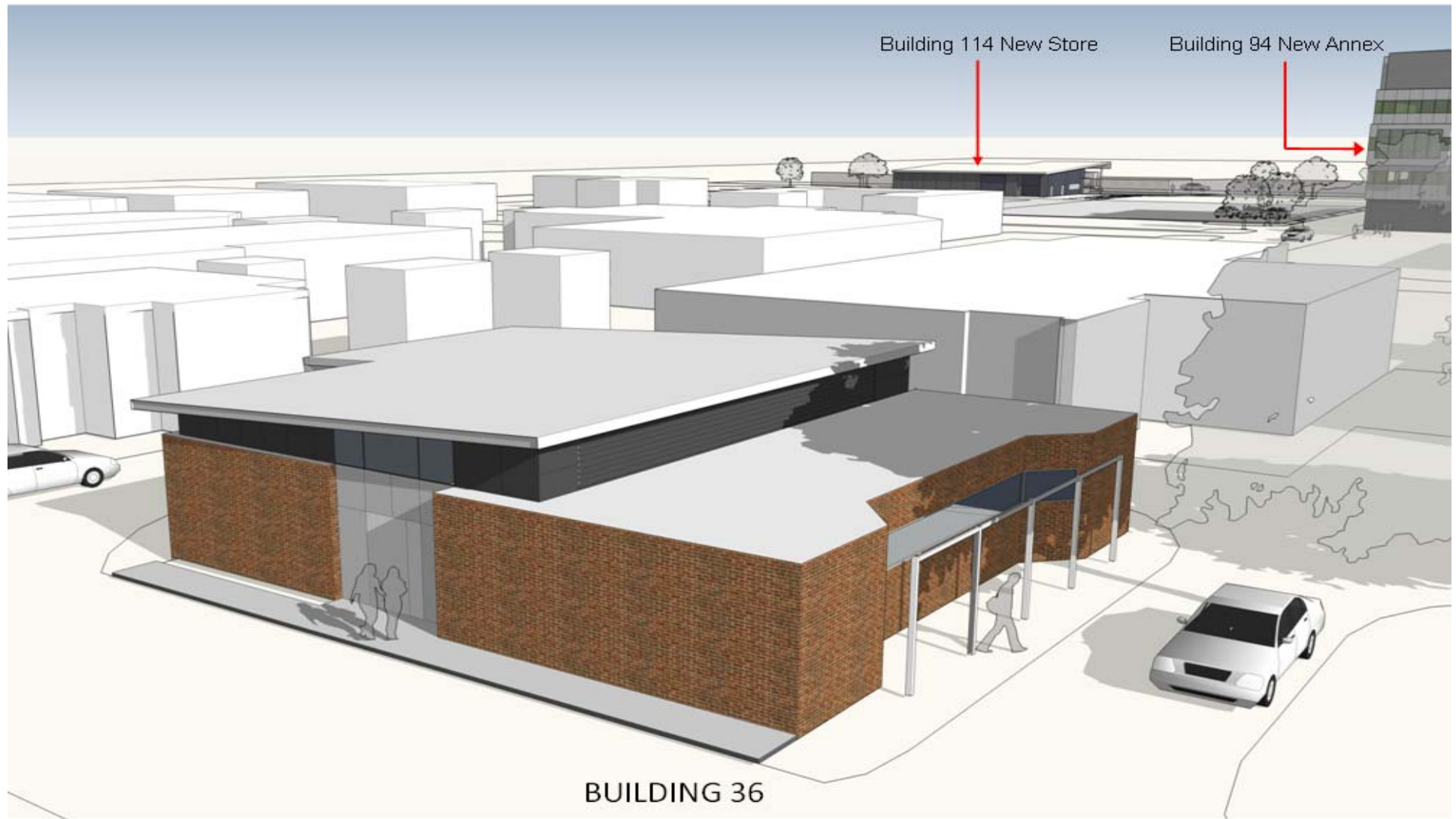


**ATTACHMENT 5**

BUILDING 114 – Science & Technology Store – Architectural Impression









**ATTACHMENT 9**  
BUILDING 36 - FLOOR PLAN



**ATTACHMENT 10**

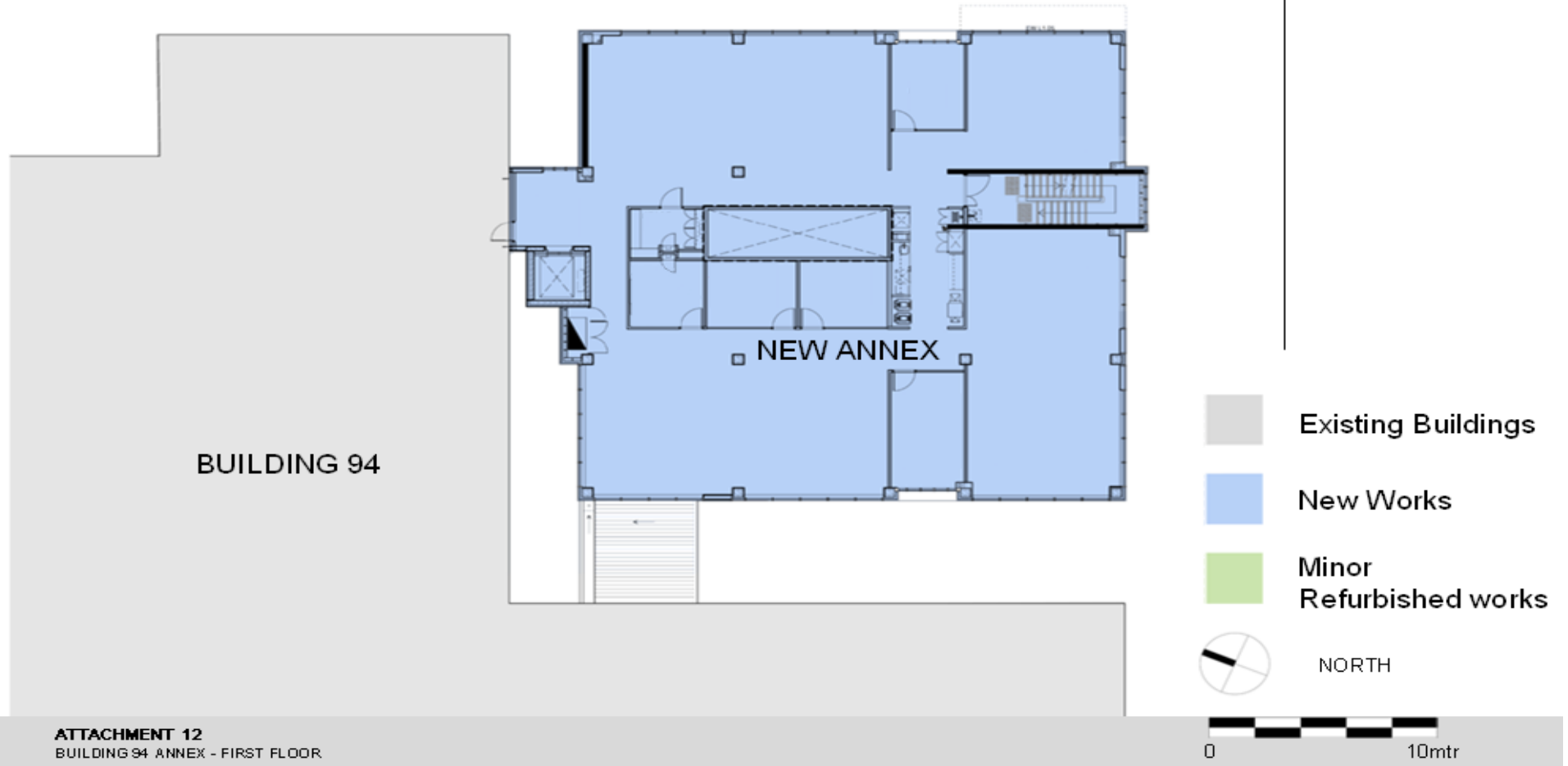
BUILDING 94 ANNEX – Counter Terrorism and Operational Support Facility – Architectural Impression





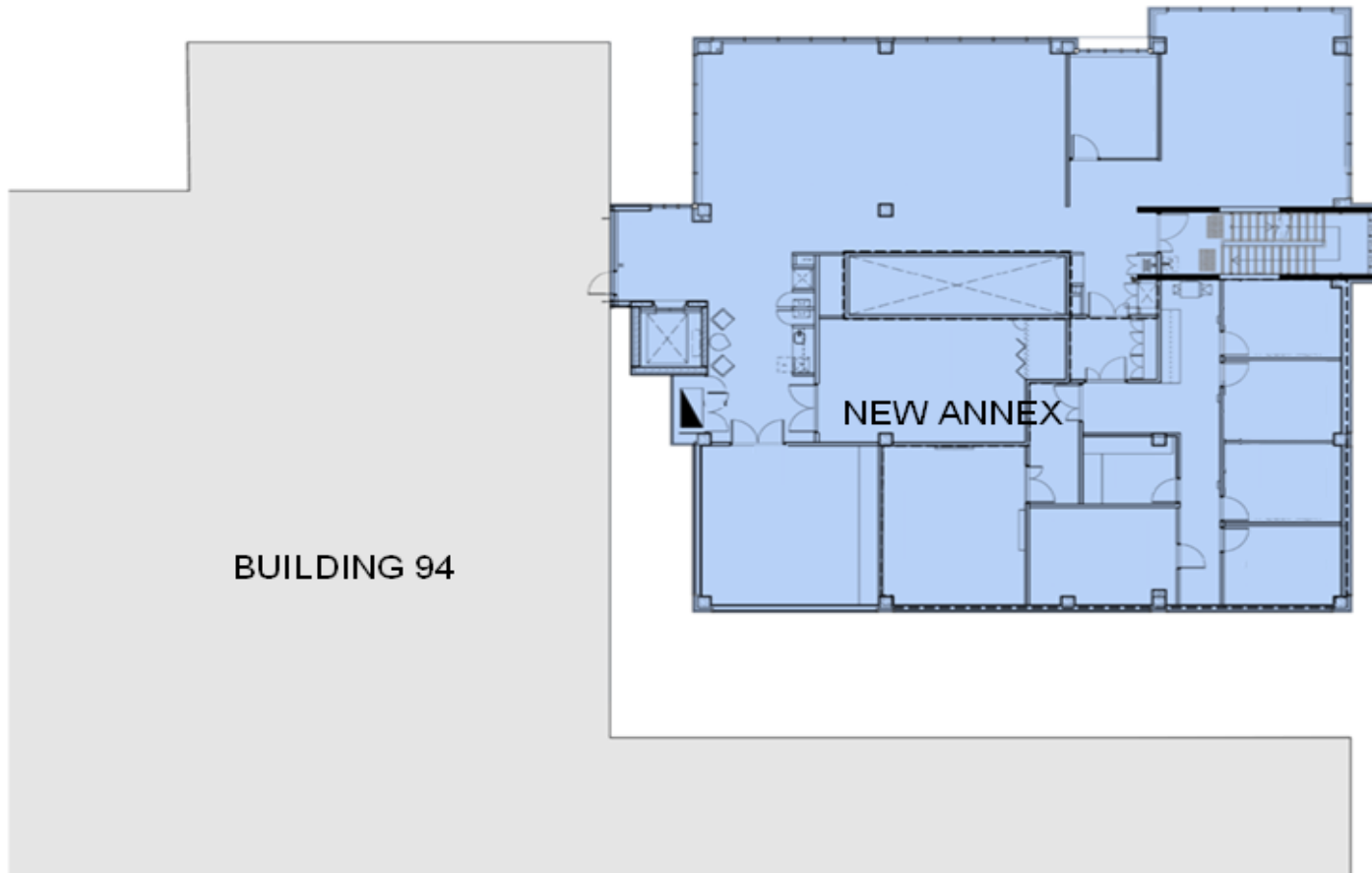
BUILDING 23

LEGEND







BUILDING 23

LEGEND



BUILDING 94

NEW ANNEX

-  Existing Buildings
-  New Works
-  Minor Refurbished works
-  NORTH



