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Statement of Evidence to The Parliamentary Standing Committee on Public Works

Submission 1.1

CSIRO Sydney Consolidation Project

New South Wales

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Introduction

1. The Commonwealth Scientific and Industrial Research Organisation (CSIRO) is Australia's national science agency and one of the largest and most diverse research agencies in the world. It has a staff of approximately 5,500 in nine national research business units and various service groups located at over 55 sites throughout Australia and overseas.

2. Since its inception in 1926, CSIRO has played a vital role in shaping Australia and generating wealth for the nation. The organisation and its scientists have established an international reputation for excellence and achievement in basic and applied research. Its work contributes to the ongoing prosperity of Australia's primary and secondary industries and to the creation of new technologies, products and techniques for the continuing development of Australia's manufacturing and service-based industries.

3. CSIRO requires property to undertake its specialised science capabilities. As such, the organisation needs to ensure that all its facilities are fit-for-purpose, support science and have facilities that will attract leading researchers and scientists to CSIRO.

4. CSIRO's Sydney Property Portfolio comprises seven sites located at North Ryde, Marsfield, Lindfield, Eveleigh [sometimes referred to as Australian Technology Park (ATP)], Mayfield (Newcastle), Lucas Heights and the University of New South Wales. The locations of these sites are depicted in Annexure B. These sites accommodate approximately 880 CSIRO full time staff and approximately 300 part time or occasional staff and students and comprise a total of over 126,000m² of laboratories, technical and specialist support facilities and commercial office space. These sites also accommodate 2583m2 of tenanted space, typically let to small research organisations. In addition to this, the National Measurement Institute (NMI) currently occupies 54% of the gross floor area at Lindfield.

5. In December 2012 CSIRO's Board endorsed CSIRO's Property Strategy to consolidate CSIRO's current national footprint, aligning infrastructure, science directions and partnerships. The strategy's key objectives are:

a. Stabilise the operating expenses and costs of repairs and maintenance for CSIRO's ageing properties to mitigate the need for cuts to science to support these otherwise growing property costs;

b. Reduce the size of CSIRO's now inefficient and under-utilised property portfolio which has evolved in piecemeal fashion over CSIRO's history, while remaining compliant with workplace health and safety requirements and other regulatory standards;

c. Co-locate sites and buildings (including through lease arrangements where appropriate) with other participants in the Australian innovation system to stimulate and encourage partnership in the delivery of science, consistent with CSIRO's focus on the transfer of science and innovation; and

d. Deliver fit-for-purpose and flexible ('future proofed') scientific facilities that enable CSIRO to continue to deliver its science contribution for national benefit.

6. In late 2017 CSIRO submitted a New Policy Proposal (NPP) to the Federal Government in support of the Sydney Consolidation Project. In May 2018, CSIRO received Federal Government approval to proceed with the proposal.

Purpose of the Works

7. The Sydney Consolidation Project aims to consolidate and redevelop CSIRO's property portfolio in the greater Sydney area, to reduce surplus accommodation capacity, provide relief in managing currently escalating property, operating, repair and maintenance costs, and advance current and future science capabilities. This outcome will be delivered through the divestment of Marsfield, the expiration of the North Ryde lease and consolidation of staff and capability to Lindfield (NSW) and other fit-for-purpose CSIRO facilities, including Eveleigh (NSW), Mayfield (Newcastle, NSW), Kensington (NSW) and Lucas Heights (NSW).

8. The project's key objectives are to:

a. Consolidate and provide critical mass of CSIRO's Sydney based research capability;

b. Gain cost efficiencies through reduced duplication of support facilities and amenities;

c. Enhance research capability by consolidating research into centres of excellence and innovation in various areas of science research including Data and Information Communications Technology (ICT), High Tech Manufacturing and Astronomy and Space Science;

d. Align post 2021 property requirements with long term research requirements;

e. Improve inter-divisional engagement and maximise the efficiencies and research opportunities associated with co-location;

f. Improve staff morale by providing more modern and attractive research facilities;

g. Provide fit for purpose facilities that will assist in better managing CSIRO's property operating costs within the Sydney area;

h. Rationalise and improve CSIRO's ability to address ever more complex Health and Safety and Environmental (HSE) compliance frameworks by locating research facilities with similar regulatory requirements on the one site; and

i. Provide best practice, fit for purpose facilities that address CSIRO's Accommodation Principles as well as the National Construction Code – 2016 Building Code of Australia (NCC 2016)[1] and *Disability Discrimination Act 1992 (Cth)* (DDA) requirements.

9. At its completion, the Sydney Consolidation Project will reduce CSIRO's footprint in the greater Sydney area by approximately 50 percent.

[1] The Sydney Consolidation Project will comply with relevant requirements of the 2019 update to the National Construction Code (NCC) following release by Australian Building Code Board.

Current Situation

10. CSIRO's Sydney sites and one Newcastle site (Mayfield) accommodate approximately 880 full time CSIRO staff and approximately 300 part time or occasional staff and students working across the various science areas and corporate business units. These sites service a wide range of CSIRO's science activities:

    a. The CSIRO-owned site at Lindfield in Sydney's north is primarily focused on material and manufacturing science research and is also the National Measurement Institute's (NMI) primary site;

    b. The CSIRO-owned site at Marsfield in north west Sydney is the primary site of CSIRO's Astronomy and Space Science (CASS) Business Unit;

    c. CSIRO owns and also leases facilities at Lucas Heights. These are co-located with the Australian Nuclear Science Technology Organisation (ANSTO). These facilities house staff from CSIRO's Land and Water, Mineral Resources and Ocean and Atmosphere Business Units;

    d. Leased premises at North Ryde comprise significant corporate support activities and a variety of science disciplines and facilities; [2] and

    e. Leased premises at Eveleigh are currently occupied by Data61 and some Education Business Unit staff.

11. Further details of these sites are provided in the following paragraphs. The location plan at Annexure B shows the location of these sites with respect to the Sydney central business district. Table 1 summarises the current disposition of CSIRO Business Units and staff with respect to the CSIRO Sydney and Newcastle sites

[2] CSIRO still owns the existing Retail and Community facilities site at North Ryde. A divestment strategy for this 7192sqm site is currently being developed.

Table 1: Current Property Footprint and Disposition of CSIRO Business Units and Staff

Site	Business Units	Approximate Built Area[3] (m²)	Full time Staff Nos
North Ryde NSW	Agriculture and Food Health and Biosecurity[4] Energy Land and Water Mineral resources CSIRO Services: Education and Futures CSIRO Services: Infratech Corporate Support	53,300	227
Marsfield NSW	CSIRO Astronomy and Space Science Data61 Health and Biosecurity Corporate Support	12,500	196
Lindfield NSW	Advanced Manufacturing Corporate Support	38,500 Note 3	57
Eveleigh NSW	Data61 Corporate Support Executive	6,000	186
Mayfield NSW	Energy Corporate Support	10,000	142
Lucas Heights NSW	Land and Water Oceans and Atmospheres Mineral Resources Corporate Support	6,000	46
UNSW (Kensington) NSW	Data61	600	30
Total		**126,900**	**884[5]**

[3] The areas in this column are rounded and are defined as the gross floor area (built workspace) available. Lindfield built areas include specialist spaces allocated to NMI and other non CSIRO uses as well as the central plant building.

[4] Relocation of Health and Biosecurity (H+B) Business Unit is not part to this project. H+B are currently progressing relocation to a Health Precinct in Western Sydney as such a co-location better suits the requirements of this Business Unit. CSIRO will advise the PWC once details of the relocation are finalised.

[5] Staff numbers noted are Full Time Equivalent (FTE) staff, together with an agreed allowance for Students, Affiliates and Fellows (SAF's). While there are 1089 SAFs on CSIRO's records many of these are inactive or infrequent visitors to the sites. Recent consultation with each Business Unit has confirmed that following completion of Sydney Consolidation Project, work space for 284 SAF staff will be provided for at the listed sites.

North Ryde

12. The North Ryde site is leased by CSIRO. This site is 16km north of the Sydney's Central Business District (CBD), in a predominantly commercially zoned area, within the City of Ryde Local Government area. The site currently houses approximately 230 full time staff and is the hub for the multiple Business Units in Sydney as Table 1. The site also houses CSIRO Enterprise Support Services (ESS) and Corporate Support staff.

13. The North Ryde site comprises 30 buildings and sheds totalling approximately 53,300m^2 in built area. Buildings vary from 12 years to 65 years in age with the largest building on site (Building 53) being 16 years old. The next largest research building on site (Building 12) is 46 years old and is in poor condition. Many of the other buildings on the site are underutilised or unoccupied. Several of the larger buildings require significant investment in upgrading of essential building services, including replacing air conditioning as well as works to address existing hazardous materials contamination. Continued occupation of these buildings could pose a workplace health and safety risk to staff. The lease for the North Ryde property expires in December 2021.

14. The North Ryde site has specialist bespoke capability in the form of a fire and materials testing facility that can validate the performance of various building structures and components in a fire event. The North Ryde site also contains food testing facilities, a smog analysis facility and a small animal research facility (now disused).

Marsfield

15. The Marsfield site is located 20km north of the Sydney's CBD in a predominantly residential area, within the City of Ryde. The primary focus of staff at Marsfield is astronomy and information technology research. The site is the headquarters of CSIRO Astronomy and Space Science (CASS) and provides facilities for the operations centre for the Australian Telescope National Facility, astrophysics and engineering research and development and Data 61 technical areas.

16. The Marsfield site comprises 7.3 hectares of land. There are two main interconnected buildings on the site and approximately 30 smaller buildings and sheds, totalling

approximately 12,500m^2 in area. The larger buildings on the Marsfield site are approximately 50 years old and do not meet current NCC or DDA requirements and are no longer fit for purpose. These buildings by their nature would require a major reconfiguration and upgrade of services and structure to meet current building and CSIRO research requirements.

Lindfield

17. The Lindfield site is located 17km north of the Sydney's CBD in a predominantly residential area within the Ku-ring-gai Local Government area. The Lindfield facility was constructed by the Commonwealth from 1977-1979 to an extremely high standard of the time.

18. The site comprises approximately 20 hectares. Refer Annexures C1 and C2 for site aerial photos and plans. There is one main building on the site divided into 'blocks' (Blocks A to N) providing a mix of administrative and scientific workspaces. There are also three standalone support buildings and several out-buildings. The buildings despite their age, are in reasonable condition and provide a total building area of approximately 38,500m^2. This area includes NMI's specialist facilities and also includes approximately 1050sqm of space allocated to a number of small technology 'start-ups' companies.

19. The Lindfield site is home to the physics-based capabilities of the Manufacturing Business Unit. The science conducted at this site is focused on:

    a. Designing energy-efficient electric motors;

    b. Developing hard-wearing coatings for tools, machinery and medical implants;

    c. Developing applications for superconductivity, such as instruments for minerals exploration and food safety;

    d. Building networks of sensors that can think for themselves to monitor corrosion damage in metallic aeroplane structures; and

    e. Developing highly sensitive sensors that can detect, for example, trace amounts of organic pollutants in seawater.

20. The Lindfield facility was specifically designed as a bespoke physics laboratory for physics-based experiments and measurement as envisaged in the 1970's and includes special features such as:

    a. Rock foundations design to provide high geo-stability ensuring there is very little vibration to disturb delicate measurements;

    b. Full electromagnetic frequency shielding, inclusive of special "metallic coated" glazing to effectively make the entire building a 'Faraday cage' thus reduce interference to measuring instruments from radio, television broadcasts, mobile phone signals; and

    c. Placement of laboratories in the middle of each section of the building combined with a heating, ventilation and air-conditioning (HVAC) system that is able to hold temperatures to +/-0.5 degrees, thus ensuring consistent temperature conditions can be maintained for the duration of any scientific experiment.

21. The Lindfield facility whilst robust is now underutilised due to changes in areas of research undertaken by both CSIRO and NMI. Despite being approximately 40 years old, the Lindfield facility is fairly well maintained and can be upgraded without major structural works to meet current NCC and DDA requirements. The facility provides sufficient flexibility for the co-location of a range of current CSIRO research capabilities.

22. The Lindfield site has also housed NMI site since 1978. NMI currently occupy approximately 54% of this site. Consolidation of NMI's space and sharing technical facilities with CSIRO would improve the overall efficiency of the site's layout. NMI through the Department of Industry Innovation and Science have agreed in principle to consolidate its existing space at Lindfield to support CSIRO's consolidation into the Lindfield facility.

Eveleigh

23. The Eveleigh site (ATP), is situated 5km south of the Sydney's CBD in a predominantly commercial precinct within the City of Sydney Council area. This site is home to a variety of technology, education and IT-based companies.

24. CSIRO leases approximately 6,000m^2 of office space in a good quality, well maintained 12-year-old commercial office building. In February 2016, CSIRO entered into a new 10 year leasehold agreement with the building owners. In July 2016, the National Information and Communication Technology Research Centre of Excellence merged with CSIRO to form Data61, CSIRO's digital and data innovation group, consolidating CSIRO's presence at Eveleigh.

25. There is no opportunity for expansion beyond the current leased area at Eveleigh. Additionally, as a "stand alone" commercial office building within a commercially zoned precinct there is no opportunity for relocation of laboratories or other highly technical facilities to these premises.

Mayfield (Newcastle)

26. The Mayfield site is located approximately 10km north of the Newcastle Central Business District and has a site area of approximately five hectares. This site accommodates some sections of the Energy Business Unit and includes a small Corporate Support presence.

27. There are two main buildings on the site. Building 001 is four storey and comprises a mix of open plan workstation areas, offices, administrative and staff amenity areas as well as extensive wet and dry laboratories. Building 002 provides technical and laboratory spaces, with one half comprising wet and dry laboratories with conventional ceiling heights, while the other half comprises high bay industrial "process bays" suitable for Large-scale technical experiments. Both buildings are approximately 15 years old and are in very good condition. There are also several smaller solar experimentation and storage buildings. The total building area is approximately 10,000sqm.

28. The Mayfield facility has areas that are underutilised due to changes in research undertaken by CSIRO. These underutilised areas have been identified as suitable for relocating research activities from other sites without the requirement for major upgrades.

Other CSIRO Sites in the Greater Sydney Area

29. Lucas Heights refers to the large site owned by ANSTO at Lucas Heights, NSW. The site is home to CSIRO research and support staff involved with contamination and radiation sources. These

staff are from Land and Water, Oceans and Atmosphere and Minerals Business Units. CSIRO currently has eight buildings on the site including offices, laboratories, store, and process bays. Some of these buildings are owned by CSIRO on land leased from ANSTO whilst other Business Units are housed in buildings leased from ANSTO. The various CSIRO occupied buildings vary significantly in terms of age (15 to 43 years), condition and construction type.

30. CSIRO facilities also leases some 600sqm of office space from the University of NSW (UNSW) at its Kensington (NSW) campus. Approximately 30 Data61 full time staff are located on this site in an existing multi-level university building.

Need for the Works

Reducing Overheads and Operating Costs

31. Based on existing budget allocations, CSIRO has identified potential future shortfalls in operational and maintenance funding to support the current Sydney portfolio. The Sydney Consolidation Project will yield significant reductions in CSIRO's operating and maintenance costs. Key to these savings, is the discontinuation of the lease at North Ryde resulting in a saving of $102.9m over the 10-year period. These savings, will in turn, ensure that available budget allocations can more closely align with operational and maintenance costs. The divestment of the Marsfield site will also result in a large reduction in operational and maintenance costs.

Mitigating Health, Safety and Environment Risks

32. CSIRO has an important responsibility to manage Health and Safety and the Environment (HSE) risks associated with operating its various sites in the Sydney area. This project needs to mitigate the following key HSE risks:

    a. The potential exposure to friable asbestos products in currently occupied buildings;

    b. The potential exposure to asbestos bonded external wall and roof sheeting in currently occupied buildings;

c. The potential exposure to other products containing asbestos in occupied buildings at Lindfield, North Ryde and Marsfield;

d. The potential exposure to bonded asbestos fragments identified in the subsoil at Lindfield and which may occur at Marsfield and North Ryde;

e. Undocumented chemical contamination of building components at Lindfield, Marsfield and North Ryde;

f. Identified non-compliant storage and handling methods for dangerous goods and gases[6]; and

g. Identified non-compliant fire safety systems, building services and emergency egress[7].

Fit-for-purpose, Equitable Access and Staff Amenity

33. Many of the existing buildings at North Ryde, Marsfield and Lindfield are no longer fit-for-purpose, both from a functional perspective and from the perspective of complying with modern regulations pertaining to safely undertaking scientific functions.

34. The provision of quality science and office accommodation is also an important factor in the recruitment and retention of quality staff, as CSIRO competes for staff with other research institutions that can provide modern science facilities. The project needs to ensure CSIRO can provide best practice research, technical and office accommodation that is fit-for-purpose, while meeting contemporary safety, compliance, building and energy standards.

35. CSIRO needs to provide safe, dignified and equitable access for staff, visitors and the public alike. The facilities at Marsfield, North Ryde and Lindfield have many areas of non-conformance with current DDA requirements for equitable access and facilities.

36. CSIRO also needs to provide facilities that support science and attract leading researchers and scientists. Extensive user group consultation has identified a significant accommodation requirement for existing Students, Affiliates and Fellows (SAFs) in addition to the existing requirements for Full Time Equivalent (FTE) employees.

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6 Non-compliance refers to relevant Australian Standards for the storage and handling of dangerous goods and gases.

7 Non-compliance with NCC.

Consultation with Stakeholders

37. CSIRO has conducted regular information and consultation sessions during the planning and concept design phases with CSIRO Business Unit leaders, staff and their representatives. As part of this consultation, the following communication methods have been or will be adopted:

    a. Regular meetings and information gathering sessions with each Business Unit leader;

    b. Creation of a project-specific website with project specific enquiry email address;

    c. Staff information sessions; and

    d. Regular newsletters to staff.

38. CSIRO has extensively consulted with NMI with respect to its property requirements. This has informed the progression of the Lindfield planning and concept design.

39. CSIRO has also developed a comprehensive consultation and communications strategy that recognises the importance of providing local residents, community groups, statutory authorities, and other interested stakeholders with the opportunity to provide input into, or raise concerns relating to the proposed works. As part of this strategy, the following communication methods have been or will be adopted:

    a. Letterbox drops to neighbouring residential areas;

    b. Project-specific website with project specific email and public enquiries hotline;

    c. Local newspaper advertisements; and

    d. Community information sessions are planned prior to PWC.

40. In addition to the foregoing, CSIRO has conducted or plans to offer verbal briefings through to the following external stakeholders:

    - The Hon. Karen Andrews (Minister for Industry, Science and Technology).
    - Member for Bradfield, the Hon. Paul Fletcher.

- Premier and Member for Willoughby, the Hon. Gladys Berejiklian.
- Deputy Premier, the Hon. John Barilaro.
- Member for Ku-ring-gai, Mr Alistair Henskins.
- Member for Davidson, Mr Jonathan O'Dea.

- Department of Industry, Innovation and Science.
- Department of the Environment and Energy.
- Department of Finance.
- Department of the Prime Minister and Cabinet.
- The Treasury.
- National Measurement Institute.

- NSW Fire and Rescue.
- Ku-ring-gai Council - Mayor Jennifer Anderson and relevant council officers.
- Ryde Council - Mayor Jerome Laxale and relevant council officers.
- NSW Road and Maritime Services.
- Transport for NSW (Transdev as local bus services provider).
- Sydney Water.
- Ausgrid.

- Community Public Sector Union (CSIRO Division).
- Lindfield Collaborative Hub tenants.
- University of New South Wales.
- KU Bradfield Park Children's Centre.
- Lindfield Community Centre.
- West Lindfield Community Centre Local Residents.

Options Considered to Fulfil the Need

41. In 2015, CSIRO engaged specialist design consultants to identify potential options for the consolidation of CSIRO's Sydney operations. The study assessed the capacity of Lindfield to accommodate the relocation of staff and capability from Marsfield, Lucas Heights and North Ryde. Test fits confirmed that Lindfield has sufficient capacity to house staff and equipment from North Ryde and Marsfield. The study also highlighted the ageing site infrastructure at Lindfield and the need to upgrade the facilities prior to relocating any functions there

42. The study confirmed that locating the Large-scale fire test facility at Lindfield would present air quality and emission treatment challenges with respect to the close proximity to existing residential areas.

43. The study also confirmed that CSIRO's technical needs and operations at Lucas Heights are best suited to remain there.

44. Initially four options were considered in detail during 2015 and 2016. These were:

    a. **Option A - Do Nothing:** this was not a viable option as the:

        i. The annual rent for the North Ryde site is very high;

        ii. Several of the facilities at North Ryde site have major non-compliances with respect to HSE, NCC and DDA requirements;

        iii. Many of the existing buildings at North Ryde and Marsfield have major functional, NCC and DDA compliance issues; and

        iv. Large-scale fire testing at North Ryde is becoming problematic due to the recent completion of several nearby high rise apartment buildings. Other nearby high rise residential developments due for completion in 2019 will increase community opposition to the long term operation of the fire testing activities at North Ryde.

b. **Option B - A new purpose-built science facility at Eveleigh:** this was not a viable option. Prior to and during 2015, CSIRO held discussions with a third-party developer seeking to provide additional built accommodation at Eveleigh. The developer's proposal to develop vacant sites at Eveleigh, was not accepted by the NSW State Government and consequently, there is no capacity to provide additional accommodation for CSIRO at Eveleigh.

c. **Option C - Relocate to other CSIRO sites to create multiple Centres of Excellence:** this option involved relocating staff to create Centres of Excellence in existing CSIRO facilities in Victoria, South Australia and Western Australia. This option was discounted due to the loss of research capability from the high staff attrition anticipated where staff are required to relocate interstate. In addition this option presents minimal cost savings when compared to the preferred option.

d. **Option D - Closure of the Lindfield site and relocation to CSIRO's other sites in the greater Sydney Region:** this option was not progressed in detail due to the very high cost to relocate specialised facilities currently at Lindfield to another site. Other disadvantages of this option included:

   i. The unsuitability of the Eveleigh office tenancy to accommodate any of the technical science-based requirements of the Lindfield-based Business Units. These requirements would therefore need to be relocated to new facilities located either at Marsfield, Lucas Heights or Mayfield (Newcastle);

   ii. Lucas Heights while having sufficient available site area would require a land lease from ANSTO prior to the construction of any purpose built CSIRO buildings. This option was further discounted due to the limited public transport access to the site and the loss of research capability from the high staff attrition anticipated from any such relocation;

   iii. The Marsfield facility is in poor condition and would require a substantial rebuilding program to accommodate all the Lindfield-based Business Units. The

Marsfield site in an established residential area would be problematic as a location for the fire testing facilities;

iv. The lease at North Ryde expires at the end of 2021, imposing an ongoing operational cost for CSIRO;

v. Closure of the Lindfield site would impose an additional liability on the Commonwealth through the high cost to relocate highly specialised science based NMI facilities to another site; and

vi. Selling the Lindfield site would not provide sufficient financial return to CSIRO to fund the cost of relocations away from Lindfield.

45. Following a detailed review process in late 2016 and early 2017 the above four options were discounted and a fifth option developed and selected. This option involves consolidation of CSIRO operations at Lindfield, Eveleigh, Lucas Heights and Mayfield (Newcastle). Additional to the consolidation works would be the construction of new Large-scale fire test facilities at a site other than Lindfield, more suited to the nature of Large-scale fire testing activities.

46. This fifth option was selected based on:

i. This Option supporting CSIRO's desire to reduce its property footprint and achieve cost savings through avoiding maintaining excessive infrastructure and equipment;

ii. The ability of the Lindfield facility to accommodate most of the requirements of CSIRO's Sydney based activities including science and workshop activities with a reasonable capital expenditure;

iii. The inability of any other existing CSIRO Sydney sites to accommodate the full requirements of CSIRO's Sydney activities without significant capital expenditure;

iv. The Lucas Heights site requiring a land lease from ANSTO prior to the construction of any CSIRO buildings. The Lucas Heights site was also discounted for Large-scale development due to the limited public transport access to the site;

v. Selling the Marsfield site would provide a larger financial return to CSIRO than the selling of Lindfield due to nature and location and development potential of each site; and

vi. Closure of the Lindfield site would impose an additional liability on the Commonwealth through the high cost to relocate highly specialised science based NMI facilities to another site.

Key Legislation

47. Key legislation, relevant to this project includes:

a. *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*;

b. *Building and Construction Industry (Improving Productivity) Act 2016 (Cth);*

c. *Work Health and Safety Act 2011 (Cth)*;

d. *Disability Discrimination Act 1992 (Cth)*; and

e. *Fair Work Act 2009 (Cth)*.

Proposed Scope of Works

Overview

48. In broad terms, the proposed scope of the project involves:

a. Refurbishing and reconfiguration of existing buildings with some new build works at Lindfield and Mayfield (Newcastle) and associated site works to meet the science needs of staff relocated from the North Ryde and Marsfield sites;

b. Refurbishing of existing premises at Mayfield (Newcastle) with some minor new build works to meet the science needs of staff relocated from the North Ryde site;

c. Fit-out works to the existing leased premises at Eveleigh to better meet the needs of the staff from Marsfield, North Ryde and Lindfield relocating to Eveleigh; and

d. Relocating staff and specialist science equipment to their new facilities at these locations.

49. Concurrent with the project, CSIRO are currently in negotiation with NSW Government to co-locate its Large-scale fire test facility to a site in Western Sydney. Such a co-location better suits the environmental requirements of Large-scale fire test activities. CSIRO will advise the PWC once details of the relocation are finalised.

50. Also concurrent with the project, minor staff relocations are also proposed at Lucas Heights (NSW). No works are proposed to this site as staff will be relocated into suitable currently vacant office space.

51. Excluded from the proposed scope of this project are the works required to remediate the existing North Ryde facilities as required in the lease. These works have commenced with the aim of enabling CSIRO to meet its lease obligations prior to December 2021. The project scope also excludes works required to remediate the Marsfield site. These remediation works are currently being planned and will enable disposal of this property after December 2021.

52. Also excluded from the proposed scope of this project are the works required to relocate the Health and Biosecurity Business Unit currently at North Ryde into leased premises within an existing Health precinct. Such a co-location better suits the requirements of this Business Unit. CSIRO will advise the PWC once details of the relocation are finalised.

53. At the conclusion of the project, CSIRO's footprint in the greater Sydney area will be reduced by approximately 50 percent. Table 2 is a summary of the proposed disposition of Business Units on completion of the project. Further details of the proposed property consolidation for Lindfield are included at Annexure E.

Table 2: Proposed Property Footprint and Disposition of CSIRO Business Units and Staff following completion of the project (post 2021).

Site	CSIRO Business Units	Approximate Built Area[8] (m²)	CSIRO Staff Nos[9]
North Ryde	Nil	Nil[10]	Nil
Marsfield	Nil	Nil[11]	Nil
Lindfield	Advanced Manufacturing Agriculture and Food Astronomy and Space Science CSIRO Services: Infratech Corporate Support Data61 Energy Executive IM & T Land and Water Minerals	40,100[12]	465
Eveleigh	Data61 CSIRO Services: Education and Futures Corporate Support Executive IM & T	6,000	245
Mayfield (Newcastle)	Energy Corporate Support	10,000	151
Lucas Heights	Land and Water Oceans and Atmospheres Mineral Resources Corporate Support	6,000	46
UNSW	Data61	600	30
Western Sydney[13]	CSIRO Services: Infratech	1,586	11
Total		**64,286**	**948**

8 The areas in this column are after completion of the Sydney Consolidation Project. Figure are rounded and are defined as gross floor area (built workspace) available to CSIRO.

9 Staff numbers are CSIRO Staff post 2021 after completion of the Sydney Consolidation Project and are expressed as FTE plus an agreed allowance for SAFs.

10 Post 2021 following expiry of lease.

11 Post 2021 following disposal of site.

12 Areas include NMI tenancy. For Lindfield spatial requirements refer Annexure E: Lindfield Spatial Schedule.

13 Infratech are currently in negotiation with NSW Government to co-locate to a site in Western Sydney. Such a co-location better suits the requirements of this Business Unit. CSIRO will advise the PWC once details of the relocation are finalised.

Lindfield

54. The scope of works at Lindfield includes the upgrading of the principal buildings (Blocks A to D, and Blocks K, J and N) to meet the science needs of the existing Business Units and those proposed for relocation to Lindfield together with the construction of a new standalone materials and Small-scale fire test facility and the completion of various site works improvements.

Project Element 1 - Upgrade Buildings (Blocks A to D, and Blocks K, J, and N)

55. This project element is the primary focus of the project. The scope of proposed works includes:

    a. Constructing purpose-designed specialist laboratory facilities in Blocks B to D, J and K where required to meet Physical Containment Level 2 (PC2) requirements;

    b. Constructing purpose-designed specialist technical facilities in Blocks B to D and K, including clean rooms, Faraday rooms, anechoic chambers, and temperature-controlled facilities;

    c. Converting part of the existing workshop facilities (in Block N) for specialist science-based activities such as anechoic chambers and rock saw rooms where these cannot be physically be accommodated in Blocks B to D;

    d. Reconfiguring and refurbishing the existing workshop facilities (in Block N) for use as a consolidated multi-user workshop and stores area;

    e. Upgrading the existing office accommodation in Block A as well as perimeter spaces to Blocks B to D, J and K to accommodate existing and incoming Business Unit staff in an open plan office format that is consistent with CSIRO's Accommodation Principles[14];

14 CSIRO's Accommodation Principles meet the targets set out in Commonwealth Property Management Framework Review prepared by the Department of Finance (referred to as PRODAC).

f. Upgrading the existing staff amenities, including the canteen, quiet rooms, tea rooms and some toilets;

g. Some relocation and consolidation of NMI office and technical space to better suit CSIRO's spatial requirements within Blocks B, C and D;

h. Upgrading the existing staff amenities in Block N to form "end of ride facilities" including toilets, showers and new bicycle storage enclosures;

i. Providing additional facilities for Persons with Disabilities (PWD), including lifts, toilets and height adjustable workstations;

j. Providing additional staff amenities, including parents' rooms, meditation and prayer rooms; and

k. Upgrading the existing building services, including improvements to the heating, ventilation and air-conditioning system, the electrical, hydraulic and information and communications technology services.

56. Annexure D provides conceptual interior perspective views of common functional spaces. Annexures F1 and F2 provide schematic 'Block and Stack' Floor Plans for Levels 2 and 3, identifying the proposed locations of CSIRO Business Units, the NMI and common and service areas. Annexures G1 to G5 provide typical schematic floor plans for laboratories, offices, meeting rooms and toilet modules.

Project Element 2 - Upgrade of Dangerous Goods and Gas Storage

57. The proposed upgrading of the existing dangerous goods and gas storage will provide compliant decentralised storage space for dangerous goods and gases. The proposed works will provide a series of small dispersed facilities in the form of proprietary standalone lockable cabinets and enclosures which will meet current standards for the storage of dangerous and flammable goods. The proposed works will also provide new decentralised gas storage facilities for flammable and hazardous gases as required by the various Business Units.

Project Element 3 - Construct a new Materials and Small-scale fire test facility

58. This proposed facility is purpose-designed for the testing of building materials and for the Small-scale fire testing of building materials. A plan of the proposed facility is at Annexure H. The design of this facility, while industrial in form, will blend in with the existing buildings at Lindfield. The height of the facility will be similar to the existing buildings on site. The external walls are designed as masonry over a structural steel frame. Roofing will be pre-finished steel sheet, similar to existing roofing.

59. In addition to open office space and amenities for the staff, this facility will provide specialist workspaces for various support functions, including:

    a. Materials conditioning rooms;

    b. Small-scale fire test rooms;

    c. Wind and rain test facilities;

    d. A facades test facility (with a 9m high clearance);

    e. Floor slip test facilities; and

    f. Hydraulics testing.

60. The Materials and Small-scale fire test facility will be sited immediately adjacent to the proposed new carpark south of Block D. The carpark will be designed to enable truck deliveries to be made using the internal road network. This location and the internal layouts will minimise the overshadowing of an adjacent densely vegetated area of regrowth bushland.

Project Element 4 - Improve Site Infrastructure

61. The proposed site works improvements will complement the development works and will include:

a. Providing a minimum additional 163 on-grade car spaces (including 12 spaces suitable for people with disabilities) and 24 motorbike parking spaces;

b. Minor exterior works to improve access around the site including improvements to external pathways for persons with disabilities; and

c. Enhancing the landscaped areas adjacent to canteen and upgrading the landscaping in internal courtyards of the main building (Blocks B to D).

Eveleigh

Project Element 5 - Refurbish and Reconfigure Existing Offices (Eveleigh)

62. The proposed scope of works at Eveleigh includes reconfiguration of office workstations and the fit-out of disused or under-utilised office spaces to meet the requirements of existing staff and those proposed for relocation to Eveleigh. Refer Annexure J for proposed extent of works.

63. The proposed scope of works at Eveleigh is limited to:

a. Reconfiguring workstations, including replacing some existing oversize workstations with new workstations that better meet CSIRO Accommodation Principles;

b. Demolishing the disused Level 3 “Living Lab” space plus reconfiguring some existing workstations to provide up to 54 additional workstations and 40 collaboration points;

c. Installing power and data services to new and reconfigured workstations;

d. Modifying electrical, mechanical and fire detection services required in the former Level 3 “Living Lab” space to service the new office configuration; and

e. Upgrading tenancy tactile and braille signage as required to meet DDA requirements.

Mayfield (Newcastle)

Project Element 6 - Refurbishing and Reconfiguring Laboratories and Office Space in Buildings 001 and 002

64. The proposed scope of works in Building 001 includes:

    a. Minor refurbishment of portions of Building 001 Levels 3 and 4 to enable re-use of existing under-utilised laboratory spaces;

    b. Minor reconfiguration of the existing workstations in Building 001 Level 3 to enable better use of the existing underutilised office spaces whilst meeting CSIRO Accommodation Principles; and

    c. Buildings services modifications as required to service the reconfigured work areas.

65. Where required, minor upgrading works include for compliance upgrades associated with NCC and DDA requirements.

66. The proposed scope of works in Building 002 Level 1 will enable the Large-scale battery test bay to be re-purposed as technical laboratory space of approximately 100m^2 plus approximately 88m^2 of adjoining technical support space i.e.: write up space, set up and plant room space. The proposed works will include modifying the roof, northern and west façade to suit the spatial requirements of the proposed Energy Business Unit's "Smog Chamber". Existing electrical and hydraulic works and air-conditioning services will also be reconfigured and upgraded to meet the relevant codes and standards.

67. Refer Annexure K for plan details of proposed works at CSIRO Mayfield (Newcastle).

Western Sydney

Project Element 7 - Construct a Large-scale fire test facility

68. This facility is intended to be located in an industrial zoned area in the western suburbs of Sydney.

69. The Large-scale fire test facility is a purpose-designed industrial style building for the Large-scale fire testing of building materials. Refer Annexure I for plan details of proposed facility.

70. The proposed Large-scale fire test facility will include:

    a. Various high bay furnace rooms with 10m ceiling heights;

    b. Sprinkler and fire evaluation building, with 16m ceiling height for Large-scale materials testing;

    c. Store rooms;

    d. Plant rooms;

    e. Open plan offices/ write up space for approximately 11 staff; and

    f. Staff amenities and toilets.

    Spatial details of this part of proposed facility are at Annexure I.

71. The proposed facility will be industrial in form with wall cladding and roofing in prefinished steel sheet over a structural steel frame. The facility will comply with NCC requirements, including those relating to the provision of egress, and fire detection and fire suppression systems. Additional design features will include:

    a. Providing fire drenchers to Large-scale fire test areas;

    b. Providing fire compartmentalisation;

    c. Providing road access for fire brigade vehicles and heavy delivery vehicles;

    d. Providing carparking for staff and visitors; and

    e. Maintaining minimum separation distances and fire ratings between other buildings on site and to buildings on adjacent sites.

Project Element 8 to 14 - Below the Line Project Elements

72. Project elements that are currently unable to be incorporated under the approved project budget will be considered for later inclusion should there be financial efficiencies gained in the delivery of the higher priority elements. The following project elements are considered

to be 'below the line' and are proposed for delivery if sufficient savings become available. These are not listed in order of priority and will be considered for inclusion on an affordability and value for money basis.

a. **Project Element 8 – Lindfield Corridor Upgrades**. Corridors at Lindfield are 8500sqm in floor area. The current project scope is limited to:

   i. Replacement of lighting with new energy efficient fittings;

   ii. Replacement of approximately 50 percent of floor finishes to remove existing vinyl flooring containing asbestos; and

   iii. Replacement of timber doors and sidelights with glazed doors and sidelights.

   Subject to budget availability it is proposed that a proportion of intermediate brick piers to corridor walls be removed with structural lintels added. The intention of this is to open up the office and corridor areas to form a more contiguous space. Such "opening up" would increase workstation numbers to office perimeters by approximately 15 percent without any increase in overall building footprint.

b. **Project Element 9 – Additional Lindfield toilet upgrades.** The current project scope includes for toilet upgrades to Block A (levels 2 and 3) and Block N (end of ride facilities).

   Subject to budget availability it is proposed that upto 20 additional existing toilet blocks be refurbished. This proposed scope addresses existing facilities that are in an aged condition and to bring them up to modern standards which meet DDA requirements. This proposed scope will improve equity in terms of the provision of female facilities.

c. **Project Element 10 – Eveleigh conversion of existing Level 3 120 person seminar room into open plan workstation space**. The current project scope addresses conversion of the existing disused Level 3 former "Living Lab" into open plan workstation space.

   Subject to budget availability it is proposed that an existing underutilised 120 person seminar room immediately adjacent to the "Living Lab" be converted to provide

approximately 22 extra workstations along with 3 ancillary meeting rooms, 2 quiet rooms and other collaborative space.[15]

d. **Project Element 11 – Additional works to Canteen to Lindfield.** The current scope includes for basic finishes and fitments upgrade of the canteen eating area as well as basic refurbishment to the canteen and servery.

Subject to budget availability it is proposed that additional funding be allocated to improve the finishes and fitments to the eating area and the existing canteen and servery. This will provide a contemporary, more efficient food service experience which more closely matches the food service offer of modern research facilities.

e. **Project Element 12 – Additional landscape works to Lindfield**. The current project scope includes provision of basic landscape upgrades to the existing 5 internal courtyards and canteen courtyards.

Subject to budget availability it is proposed that additional landscape works to all internal courtyards and to the outdoor area adjacent to the canteen be undertaken in accordance with the Lindfield Masterplan. This would entail additional shade planting and additional outdoor seating which would assist in providing a better quality outdoor environment for staff break out, passive recreation and collaboration.

f. **Project Element 13 – Additional works to Tiered Theatrette to Lindfield.** The current scope includes for basic upgrade works comprising lighting and DDA access upgrades via provision of a new wheelchair lift for persons with disabilities.

Subject to budget availability it is proposed that additional funding be allocated to replace carpet and seating and provide improved audio visual facilities. This would provide a contemporary lecture theatre experience which more closely matches similar facilities found in modern tertiary facilities.

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[15] This proposal involves retaining the current 30 person Board Room and 90 person teleconference rooms to ensure appropriate functional spaces remain for large meetings at Eveleigh.

g. **Project Element 14 – Additional works to Block N to Lindfield.** This current scope includes for basic compliance upgrade of Block N workshop areas.

Subject to budget availability it is proposed that additional funding be allocated to refurbish existing portions of Block N including new lighting, painting, replacement of ceilings and floor finish upgrades. This will provide a workshop experience which more closely matches multi user facilities in similar modern research facilities.

Site Infrastructure

73. Detailed reviews of site infrastructure at Lindfield were undertaken in 2016. The investigations undertaken at this time confirmed capacities of utilities (power/ water/ drainage/ gas) as being sufficient to provide for expected additional demand arising from this proposal. The infrastructure at Eveleigh and Mayfield is also appropriate to meet the minor additional demand to these sites.

74. Western Sydney Infratech site: Further site infrastructure investigations will be required with respect to the Large-scale fire test facility requirements when the site is confirmed.

Site Development and Planning

Lindfield

75. CSIRO's Lindfield campus is a Commonwealth property and is not under the planning control of the Ku-ring-gai Council. A Master Plan for the campus, is currently being finalised and will be submitted to CSIRO's Board for endorsement. The Master Plan's vision for the Lindfield campus seeks to provide an environmentally sensitive design strategy and includes development guidelines for improvements to site services infrastructure, including car parking, pedestrian networks and landscaping which enhance staff amenity and internal movement. As part of this process, a medium-term Development Plan was also developed to guide the planning for this project.

76. The draft Lindfield Master Plan has also allocated sufficient land on the existing site to enable other government agencies and collaborators to provide purpose-designed facilities with the

aim of broadening science opportunities to the benefit CSIRO and the broader research industry. These future collaboration opportunities will allow greater access to CSIRO's specialist technical facilities including Faraday rooms, anechoic chambers, clean rooms, laboratories and the like. Such access allows for existing synergies to be leveraged by increased collaboration and deeper research.

Large-scale fire test facility

77. The proposed Large-scale fire test facility development proposed for Western Sydney will require local council and NSW State Government [including from the NSW Environment Protection Authority (EPA)] approvals. A Review of Environmental Factors Report in addition to visual impact and air quality studies of this facility will be undertaken as part of the local council approval process once siting for this facility is confirmed. Landscaping will be in accordance with relevant local council requirements.

Other sites

78. Eveleigh and Mayfield (Newcastle) are the other sites where a reasonable number of staff will be relocated as part of the Sydney Consolidation Project. Works proposed to these sites as part of the Sydney Consolidation Project are substantially internal in nature with no foreseeable impact outside of the site boundaries. As such it was considered that there would be no significant Site Development and Planning issues associated with these works.

79. Eveleigh and Mayfield (Newcastle) are in addition owned or leased Commonwealth premises. As such local council and NSW State Government approvals are not required.

80. No building works are proposed to Lucas Heights and UNSW (Kensington) as part of this project.

Technical Considerations

Acoustic Design

81. It is noted that CSIRO's activities at the Lindfield site do not emit any industrial or machine noise sources which would be audible at nearby residences. An assessment of potential noise impacts associated with the project was undertaken by specialist acoustic consultants. Background noise sources, as measured during long term acoustic monitoring, were predominantly from road traffic from Lady Game Drive and the M2 Motorway with no discernible noise emission from CSIRO activities.

82. During the detailed design phase of the project further assessment of potential noise sources, such as external plant, will be undertaken by specialist acoustic consultants to ensure noise emissions are in line with NSW Government Noise Policy for Industry 2017. Acoustic design will also include an acoustic assessment that will model noise levels from outside the building, the impact of building vibrations (plant rooms, lifts, wind loads etc), internal noise from science activities and the transmission of these sounds through the building fabric. Acoustic requirements will be addressed for work and support areas, including ensuring open plan offices, enclosed offices, meeting rooms, quiet rooms, staff amenities and plant rooms comply with appropriate statutory and best practice requirements.

Geotechnical Considerations

83. The north-eastern side of the Lindfield site is underlain by medium to coarse grained quartz sandstone with very minor shale and laminate lenses. The remainder of the site is underlain by Ashfield Shale. Research undertaken to date rates the probability of occurrence of Acid Sulphate soil as extremely low.

84. A preliminary structural study undertaken for the existing buildings and has not identified any concerns regarding existing foundations and therefore minimal below ground structural work is proposed as part of the refurbishment works.

85. A detailed geotechnical investigation will be undertaken prior to construction of any proposed new building to confirm conditions and appropriate engineering solutions. It is expected some form of piling will be required for most of the new buildings.

Maintenance and Servicing

86. Maintenance and serviceability strategies will be considered during the detailed design phase, with the focus on minimising long-term maintenance requirements including:

a. Building finishes and material selections:

i. Finishes and materials selected that are hard-wearing and do not require regular maintenance;

ii. The use of pre-finished materials rather than using high maintenance painted finishes on facades will be prioritised; and

iii. Guttering and downpipes to be fabricated from long life products such as stainless steel.

b. Maintenance access and cleanability:

i. Internal finishes will be selected for ease of cleaning and longevity; and

ii. The works will be designed to ensure safe and easy access for maintenance and cleaning.

c. Building services:

i. New plant where practicable will be selected to minimise running and maintenance costs and to minimise down time; and

ii. Plant to refurbished parts of the project will mainly involve upgrades to existing base building services subject to meeting functional and statutory requirements.

Bushfire Protection

87. According to the Ku-ring-gai Council Local Environmental Plan 2015, the Lindfield site is located within a Bushfire Vegetation Buffer and Category 1 Bushfire Prone Vegetation Zone.

88. A Preliminary Bushfire Constraints Assessment was undertaken in 2016 in accordance with the NSW Rural Fire Services "Planning for Bushfire Protection 2006" (PBP 2006) to assess the potential bushfire hazard on the Lindfield site. The report considered bushfire risk and associated potential threats and outlines minimum mitigative measures required to suitably reduce bushfire hazard for the site. An on-site assessment of the vegetation was also undertaken. This assessment identified and recommended an appropriate Asset Protection Zone and a Bushfire Attack Level zone (BAL-29 as set out in AS3959-2009).

89. The project will meet the recommendations set out in the Bushfire Constraints Assessment for existing buildings on the Lindfield site. New construction will be required to meet recommended BAL ratings.

90. The remaining recommendations of the report relating to emergency evacuation arrangements and hazard management would be addressed by CSIRO prior to undertaking staff relocations.

91. For the Large-scale fire test facility, a Bushfire Constraints Assessment would be undertaken as required to gain local council planning approval for the relevant site.

Landscaping

92. This proposal includes the upgrading of existing outdoor spaces at Lindfield. Specific landscaping treatment include:

    a. Upgrading the large enclosed courtyards including new turf, outdoor seating, pathways and deciduous native planting to create a more conducive environment for outdoor break out, passive recreation and collaboration activities;

    b. Upgrading the outdoor areas adjacent to the Canteen, by providing additional shade trees and new outdoor furniture and replacing the turf. This will provide improved areas suitable for outdoor eating and recreation;

    c. Minor improvements to the landscape areas adjacent to the main entry to the building (Block A) with new native planting; and

    d. Making good landscaping immediately adjacent to any new carpark works.

Site Security

93. CSIRO commissioned a Security Risk Assessment Report which identified areas within the existing building at Lindfield where additional security would be required. These security requirements will be addressed as part of the Sydney Consolidation Project including the general provision of card access to laboratories and workshop areas. The report also identified areas requiring improvements, including introducing CCTV monitoring and new more secure card access systems. These works are being undertaken as part of CSIRO's programmed maintenance works.

Car Parking

94. Currently the Lindfield site has approximately 280 car parking spaces for employees, visitors and delivery vehicles. A strategic traffic and transport impact assessment was commissioned in 2016 found that approximately 75% of staff access the site by car during peak periods. Based on surveys undertaken and assessment recommendations, a minimum additional 163 car spaces will be provided as part of this proposal, bringing the total of car parking spaces on site to 443 car parking spaces. An allowance for 12 fleet vehicles and 12 spaces for persons with disabilities is included in this figure. These new car spaces will be well dispersed around the site in a manner augmenting the existing parking layout. In addition, several new dedicated motorbike parking areas will be dispersed around the site.

95. No additional car parking is proposed at Eveleigh and Mayfield.

96. Carparking for the proposed Large-scale fire test facility will take into account relevant local Council requirements and staff numbers proposed for that facility.

Local Impact

97. As demonstrated in Annexure C1 the CSIRO Lindfield site is located in an established residential area. The Consolidation works proposed for Lindfield are expected to continue and enhance the current good relationship of CSIRO with the local community. Local interaction includes open days and occasional use of the Main Entry Foyer by local community groups.

Following completion of the Consolidation Project and improvements in site accessibility it is expected that CSIRO "front of house" facilities (i.e. Block A meeting rooms, canteen) would have a greater availability for community use.

98. CSIRO Lindfield is approximately 850 m from the existing Moore Avenue neighbourhood shopping centre. This shopping centre comprises a variety of local shops and service providers. It is expected the increase in Lindfield based CSIRO staff by approximately 385 would have a positive effect on these local businesses through an expected increase in patronage.

99. The proposed works at Eveleigh would result in a relocation of approximately 71 staff to this site. It is envisaged this change would have a negligible local impact given the Large-scale major office developments currently underway immediately adjacent to the site.

100. The proposed works at Mayfield (Newcastle) would result in a relocation of approximately 15 staff to this site. It is envisaged this change would have a negligible local impact.

101. It is expected there would be no local impact from the relocation of 1 staff person to Lucas Heights.

102. The Large-scale fire test facility is expected to locate in an industrial area in western Sydney. Approximately 11 staff would be relocated to this site. It is envisaged this change would have a minimal local impact.

Furniture, Fixtures and Fittings

103. The proposed works includes the provision of new workstations, loose and fixed furniture conducive to open plan office environments as well as the furniture, fixtures and fittings required for laboratories and other technical spaces. Furniture selection will be based on meeting appropriate occupational ergonomic standards and minimising volatile organic compound (VOC) emissions.

Ecological Sustainable Design

104. As CSIRO is committed to reducing energy use through the adoption of better and more efficient energy management practices in the design and operation of its facilities, energy conservation and sustainable design are primary considerations for the project. Compliance with minimum energy performance standards set out in Energy Efficiency in Government Operations policy is also required.

105. The project will adapt and re-use existing buildings and integrate existing services, where practical and possible. The only new buildings will be the new Materials and Small-scale fire test facilities and the Large-scale fire test facility.

106. The detailed design phase will ensure ecologically sustainable design (ESD) goals are met for the project by:

a. Using whole of life cost benefit calculations for selecting renewable energy systems;

b. Selecting building materials to maximise thermal mass, while minimising impact to the environment through its production;

c. Adopting high efficiency HVAC systems where new plant is provided. These systems to have localised temperature controls to minimise energy consumption when space is not occupied;

d. Linking lighting and HVAC to the site building management system to provide automatic after-hours control, with a manual override provided to each work location;

e. Utilising highly efficient LED lighting, including retrofitting of existing installations to work areas, corridors etc;

f. Integrating existing services with a Large-scale roof photo voltaic system to be installed as part of a concurrent CSIRO national rollout;

g. Providing a high proportion of meeting rooms with audio visual systems to minimise staff travel requirements;

h. Selecting water efficient tapware and sanitary ware;

i. Selecting low volatile organic content materials, such as paint and furnishings; and

j. Maximising natural light in all major functional spaces.

Health and Safety Considerations

107. CSIRO, as the owner or manager of the various Sydney sites, is required to manage HSE risks. One of the key aims of the project is to rationalise and improve CSIRO's ability to address the complex HSE compliance frameworks that apply to its activities. CSIRO aims to improve HSE compliance by locating research facilities with similar regulatory requirements on the one campus.

108. The key HSE risks and issues identified for the project include:

a. Non-compliance with relevant dangerous goods standards in relation to storage and handling of dangerous goods and gases;

b. Non-compliance with the NCC in relation to existing building fire safety systems, building services and emergency egress;

c. Potential exposure to asbestos and other hazardous materials already existing on site; and

d. Non-compliance with the DDA in relation to equitable access and amenities.

109. To address these risks, the project will meet the Federal Safety Commissioner (FSC) requirements, with Safety in Design reviews being undertaken during the design process to ensure that the building can be safely constructed, operated and serviced. During construction, only FSC certified construction contractors will be engaged and the project may be audited for compliance during the contract by the FSC.

Environment and Heritage Considerations

110. A Review of Environmental Factors (REF) report was completed in 2018 for this proposal. Given the substantially internal and less intensive nature of the proposed works at the Mayfield (Newcastle) and Eveleigh sites, the report reviewed the potential impact of the development at Lindfield.

111. In addition to considering the requirements of the *Environment Protection and Biodiversity Conservation Act, 1999 (Cth)* and although not applicable to the assessment of environmental impact of this project, State legislation has been considered in the REF and including:

a. *Environmental Planning and Assessment Act 1979;*

b. *Biodiversity Conservation Act 2016;*

c. *Contaminated Land Management Act 1977;*

d. *Heritage Act 1977; and*

e. *National Parkes and Wildlife Act 1974.*

112. The REF report's key findings are addressed in the following paragraphs.

Biodiversity

113. The REF report addressed the details of the investigations undertaken to identify ecological values of the site area. These investigations used the relevant guidelines as set out by NSW Environment Protection Authority, including the Threatened Biodiversity Survey and Assessment Guidelines (NSW Dept of Environment and Climate Change 2004). The REF report concluded that:

a. The proposal is not likely to significantly impact threatened species, populations or ecological communities or their habitats, within the meaning of the *Threatened Species Conservation Act 1995* or *Fisheries Management Act 1994* and therefore a Species Impact Statement was not required; and

b. The proposal is not likely to significantly impact threatened species, populations, ecological communities or migratory species, within the meaning of the *Environment Protection and Biodiversity Conservation Act 1999*.

Heritage

114. CSIRO's Lindfield site also known as the 'National Measurement Institute, Bradfield Road Lindfield' is not listed on the Commonwealth Heritage register. A prior application for entry was concluded with the following entry: "The place is not worthy of entry in the Register of the National Estate."

115. Targeted field surveys to identify Aboriginal Heritage values of the Lindfield site area were completed in 2018. No Aboriginal objects or areas of potential were found during various site investigations.

116. The REF report concluded that:

    a. In areas that were surveyed, no Aboriginal objects or areas of potential were found and as such, no mitigation and management measures besides those which govern unexpected finds are required;

    b. The proposal area has been highly disturbed and modified, and no Aboriginal objects nor areas of archaeological potential were identified during archaeological survey; and

    c. The proposed redevelopment of the vacant areas would not impact existing Historic (non-Aboriginal) heritage values[16].

Contamination

117. The key construction phase HSE issues identified for the Lindfield site include:

    a. Potential exposure to products containing asbestos in occupied buildings;

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[16] The REF also noted that:

a. "The Office of Fair Trading (now NMI) weights and measures collection [Currently in the Lindfield site] is a significant movable heritage collection with historical significance at a State level, ….. It is likely that some of the items in the collection belongs to a set of imperial weights and measures that were copied from the original British standards and sent to NSW in 1832."
b. "Should it arise that the building containing the movable heritage item would be impacted by the development proposal, suitable arrangements should be made with the owner of the item (Office of Fair Trading) for its safe removal and storage until works are completed."

b. Bonded asbestos fragments in subsoil from historical uses of Lindfield prior to CSIRO's occupation; and

c. Undocumented chemical contamination of building components.

118. The REF report recommends undertaking detailed site assessments for contamination and hazardous materials. Mitigation measures to be undertaken during the construction phase would include removing any asbestos products found in occupied buildings undertaking associated site specific testing and monitoring. During construction, the contractor will be required to either contain or remove such materials (for example bonded asbestos fragments discovered in the subsoil) in accordance with relevant State environmental management regulations.

119. The risk of chemical contamination is being addressed by a comprehensive program of remediation and clean-up which is currently being undertaken by CSIRO.

Managing Environmental Risks during Construction

120. The construction contractor will be required to implement a Construction Environmental Management Plan (CEMP). This plan will set out procedures of managing construction waste (including recycling strategies), dust, erosion, stormwater controls and protecting biodiversity values during the construction phase.

121. The CEMP will also include a Noise and Vibration Management Plan (NVMP) setting out how the contractor intends to manage Noise and Vibration during construction to ensure minimal disruption to neighbours and building occupants during the works. This plan will meet the requirements of NSW EPA's Interim Construction Noise Guideline (ICNG, 2009) and will identify:

a. All potential significant noise and vibration generating activities associated with construction;

b. The feasible and reasonable mitigation measures to be implemented;

c. A monitoring program to assess performance against relevant noise and vibration criteria;

d. The consultation arrangements, including notification and complaint handling procedures; and

e. Contingency measures to be implemented in the event of non-compliance with noise and vibration criteria.

122. An Environmental Management Plan consistent with AS/NZS ISO 14001:1996 will be developed by CSIRO for the post-occupancy management of the new facilities.

Impact on the Local Community - Lindfield

123. Detailed reviews of acoustics, traffic and transport, were undertaken on behalf of CSIRO as part of the development of the 2016 Lindfield Campus Master Plan. These reviews confirmed that the development proposed at Lindfield would have minimal impact on the local community.

124. The REF Report prepared in 2018 considered the potential impacts of the development on the Lindfield community. This report found the impact on neighbouring communities at Lindfield will be negligible.

Traffic Management Considerations

125. The current access and egress point of Bradfield Road, with the associated Moore Avenue access to Lady Game Drive will continue to be the primary access point to major arterial routes.

126. A strategic traffic and transport impact assessment and associated traffic modelling commissioned by CSIRO in 2016 and updated in 2018[17] for the Lindfield site did not identify any adverse impacts to the local road network from this proposal.

127. Key findings of the strategic traffic and transport impact assessment and associated traffic modelling for the Lindfield site included:

    a. During the construction phase:

        i. There will be an increased number of light and heavy vehicles accessing the site during the construction phase. These movements are expected to be outside peak hours as construction personnel would access the site as required to suit normal construction industry working hours (7:00 am–4:00pm Monday–Friday and 8:00am – 1:00pm Saturday) and will not significantly impact on the operation of the adjacent road network; and

        ii. Parking for construction staff should be provided on site to avoid the impact of on-street car parking overflowing onto residential streets. Parking for construction staff would be sited to minimise early morning noise intrusion for neighbouring residents.

    b. Post-project:

        i. The traffic modelling results for the morning and evening peak periods indicate that the local intersections will continue to perform similarly to existing conditions. The traffic modelling anticipates that the changes proposed to site will not significantly impact the operational performance of local intersections; and

        ii. The project will increase on-site parking provided for both employees and visitors, in accordance with the estimated increase in parking demand. This is addressed

17 Strategic Transport and Traffic Study to CSIRO Lindfield Masterplan Report prepared by Jacobs - June 2018.

by the increase in on site carparking, commensurate with the traffic modelling recommendations.

Visual Impact

128. The majority of the works proposed for the Sydney Consolidation Project are internal in nature and are not visible from adjacent neighbouring premises. Proposed external works comprise:

a. The Materials and Small-scale fire test facility: Lindfield proposed to be located on existing carpark spaces and vacant area south of Block D. The overall height of this proposed facility is similar to the existing buildings on site. The visual impact for the surrounding community is expected to be negligible as the dense vegetation to the east, southeast, south and south west of the site will effectively conceal the proposed facility from the view of residents;

b. Additional bicycle shelters adjacent to Block N: these are located within an existing courtyard and are not visible from neighbouring premises;

c. Canteen shade structures: these are minor in nature and are situated such that the existing dense vegetation to the east, southeast, south and south west of the site conceals them from view; and

d. External ductwork and plant adjacent to Block K (south elevation). The proposed Materials and Small-scale fire test facility and existing dense vegetation to the south and south west of the site will conceal these items from the view of residents.

Air Quality

129. A specialist air quality assessment has been undertaken for chemicals currently in use or proposed to be used at Lindfield. This assessment confirmed that the small amount of emissions proposed from the Lindfield facility are significantly lower than recommended maximum levels as set by NSW EPA and/or relevant international safety guidelines.

130. The Large-scale fire test facility is proposed to be relocated to an industrially zoned area in western Sydney away from any residential areas. Such a site is better suited as a location of an emissions source. When the location for the Large-scale fire test facility is confirmed a specialist air quality assessment will be undertaken to ensure that emissions from this facility satisfy NSW EPA and/or relevant international safety guidelines.

Facilities for Persons with Disabilities

131. This proposal includes a number of DDA-related improvements which address the findings of a specialist consultant. Of significance, is the proposed installation of two new accessible lifts at Lindfield: one in Block A, adjacent to the main reception area, to provide access to the upper level and the other to provide equitable access to the existing Theatrette. Additional accessible toilets will also be provided.

132. The proposed Materials and Small-scale fire test facility will include a lift to upper office levels as well as accessible toilets. The proposed Large-scale fire test facility will also include accessible facilities.

National Construction Code Compliance

133. The proposed new works will comply with the requirements of the NCC, with specific upgrades to improve occupant safety at Lindfield, including:

a. Upgrading the fire hydrant system, including replacing the ring main and fire pump systems and re-working the hydrants and hose reels, as required to refurbished and reconfigured areas, to ensure compliance with Australian Standards;

b. Providing new fire extinguishers to comply with Australian Standards;

c. New internally illuminated exit signage and emergency lighting to refurbished areas;

d. Upgrading the smoke detection systems to comply with Australian Standards;

e. Upgrading the Emergency Warning and Intercom systems to comply with Australian Standards;

f. Providing new smoke doors, at the end of corridors, to improve building compartmentalisation;

g. Providing new very early smoke detection apparatus (VESDA) within main east-west services shafts to Blocks B, C and D;

h. Upgrading some toilets and shower rooms to provide greater equity in terms of distribution of female amenities; and

i. Upgrading stair balustrades to address balustrade height non-compliances.

Transport and Access

Public Transport

134. The Lindfield site is adequately serviced by Bus Route 565, providing direct connections to the Chatswood, Lindfield, and Macquarie Park train stations, with between 21 and 25 services per day. Bus stops are located less than 20 metres from the site's entrance on Bradfield Road.[18]

135. Eveleigh is approximately a 6-minute walk to the busy Redfern train station, while Mayfield (Newcastle) is a 15 minute walk to a bus stop serviced by various bus routes.

Bicycle Facilities

136. A strong focus on pedestrian and cyclist centric design will provide pathways that encourage walking and cycling throughout the Lindfield campus. The proposed scope of works includes new dedicated 'end of ride' facilities comprising male and female shower and locker rooms and secured undercover storage for 44 bicycles.

137. Eveleigh has secured undercover bicycle parking and end of ride facilities including showers and change rooms.

138. Mayfield has appropriate secure bicycle parking and suitable end of ride facilities.

[18] It is proposed to engage with the local Lindfield bus service provider with the aim of improving frequency of bus services during morning and afternoon peak periods. An "on demand" bus service is currently being trialled in the area. It is intended to lobby Transport NSW to maintain and augment this service.

Pedestrian Access

139. Pedestrian access to the Lindfield site is limited, with footpaths along Bradfield Road but no footpaths to Lady Game Drive. There are also limited safe crossing points to Lady Game Drive. This proposal includes improving pedestrian access to the Lindfield premises by upgrading the front entry, together with a new pathway leading around the site to the main visitor entry in Block A. There is adequate access to the various buildings via the extensive network of corridors and enclosed walkways.

140. Eveleigh and Mayfield are both well served in terms of pedestrian access. Eveleigh is an easy walk to Redfern train station via footpaths and dedicated pedestrian routes. Mayfield has access to the neighbourhood street and pedestrian footpath network.

Childcare Provisions

141. The Lindfield site is appropriately served for childcare facilities with a facility located immediately opposite the site and at least five other facilities within a 5-minute drive. Many of these facilities offer out-of-hours childcare for the very young to pre-school children. In addition to these facilities there are other out-of-hours school care facilities at nearby schools which also offer care for school aged children attending these schools.

142. There are no child care facilities on the premises at Eveleigh and there is no opportunity for provision of childcare facilities on these leased premises. There are however a wide variety of child care facilities in nearby suburbs and the City of Sydney runs a child care facility immediately adjacent to ATP. ATP is currently undergoing a major redevelopment which would be expected to generate sufficient demand for additional on-site child care facilities.

143. Mayfield is situated immediately opposite an early childcare centre. Mayfield is well served with numerous child care and out-of-hours school care facilities situated within a 5 minute drive of the CSIRO site.

Cost Effectiveness and Public Value

Outline of Project Costs and Public Value

144. The estimated out-turn cost of this project is $113.7 million, excluding Goods and Services Tax. This cost estimate includes the construction costs, consultant fees, furniture and fittings, escalation and risk provisions.

145. The Sydney Consolidation Project will yield significant reductions in CSIRO's operational and maintenance costs through the expiration of the North Ryde Lease and the divestment of the Marsfield site. Key to these savings, is the discontinuation of the lease at North Ryde resulting in a saving of $102.9m over the 10 year period.

Impact on Employment

146. This proposal will provide significant employment opportunities for local construction industry businesses and support services. It is anticipated that at least 10 separate professional and consulting firms will be engaged to provide services during the project, involving at least 30 employees. During the construction phase, up to 40 trade companies will be required, involving up to 200 personnel, with a peak trades workforce estimated to be approximately 85 during the construction phase. Local businesses, including service industry providers, will also benefit from the construction works and the long term increase in staff on site.

147. It is envisaged that a significant proportion of building materials and components used in the project will be Australian manufactured including concrete, steel, roof sheeting, plasterboard, doors and door hardware, electrical fittings and distribution boards, HVAC ductwork, hydraulic fittings and fittings, specialist joinery, workstations and associated fixtures.

Contracting and Procurement

148. All consultant agreements and construction contracts will be compliant with the Australian Government Code for the Tendering and Performance of Building Work 2016 (the Building Code). All construction contractors will be accredited in accordance with the Australian

Government Work Health and Safety Accreditation Scheme - Federal Safety Commission (FSC) Accreditation.

149. CSIRO is currently reviewing procurement and contracting arrangements. Procurement will be undertaken in accordance with the Commonwealth Procurement rules. This review will assess risk and the achievement of value for money.

150. CSIRO has proposed the adoption of a Head Contract methodology for this project and to date has appointed a Project Manager/ Contract Administrator, a Design Services Consultant and a Cost Planning Consultant to respectively manage the project development and to develop the design and cost plan for the project during the Planning Phase.

151. A Lump Sum Head Contract is proposed for the majority of Lindfield works. Separate lump sum contracts more suited to smaller contractors will be considered for Eveleigh, Mayfield and for the Large-scale fire test facility. CSIRO will approach the market using a two stage tender process to select contractors for execution of the majority works, based on best value for money and most appropriate response to shortlisting criteria.

152. The contractors selected for the project are expected to have experience in the type of work required at each site. The Eveleigh works would be better suited to a specialist interior fit-out contractor, whereas the Large-scale fire test facility would be more suited to a contractor with experience in constructing industrial buildings. Similarly, the Mayfield would be more suited to a contractor with local Newcastle experience.

Project Schedule

153. Subject to Parliamentary approval of the project, construction is expected to commence by end-2019 with building works substantially completed in mid-2022. Key dates are depicted in the following table:

Table 3: Indicative Key Milestones for the Project

Milestone	Commence	Complete
Construction of early works at Lindfield	End 2019	Mid 2020
Construction works at Eveleigh	End 2019	Mid 2020
Construction at Mayfield (Newcastle)	Early 2020	End 2020
Construction of Large-scale fire test facility	Mid 2020	Mid 2021
Construction of main works at Lindfield	Mid 2020	Mid 2022
Completion, commissioning and accreditation of main works at Lindfield.	Mid 2021	Late 2022

154. The critical activity is the vacating of North Ryde prior to expiry of the lease on 31 December 2021. Staff and functions will progressively relocate out of North Ryde from mid 2020 through to mid to end 2022.

155. While some Marsfield staff may be able to relocate from the mid 2020, it is expected the majority of Marsfield staff would relocate to Lindfield in stages during mid 2021 through to mid to end 2022.

156. Further development of project schedule and procurement methodology will be undertaken during 2019 and 2020. This will follow detailed discussions with Business Units with respect to their research commitments and requirements and impact of any major works or relocation.

Revenue

There are existing leases at Lindfield, and North Ryde which generates over $900,000[19] in rental income per annum. It is expected most of these leases will not be renewed with a consequent reduction in income. There will be no additional revenue raised as a result of this project.

[19] Excludes NMI rent as NMI will continue occupancy at Lindfield post project completion.

Annexure A

List of Acronyms

Acronym	Meaning
ANSTO	Australian Nuclear Science Technology Organisation
ATP	Australia Technology Park Eveleigh NSW
BAL	Bushfire Attack Level
Building Code	Building Code 2016: Code for the Tendering and Performance of Building Works 2016 as issued by the Australian Building and Construction Commission
CASS	CSIRO Astronomy and Space Science
CEMP	Construction Environmental Management Plan
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DDA	Commonwealth Disability Discrimination Act
DG	Dangerous Goods
EOI	Expression of Interest
EPA	NSW Environmental Planning Authority
ESS	Enterprise Support Services
FSC	Federal Safety Commission
FTE	Full time equivalent (employee)
H+B	CSIRO Health and Biosecurity Group
HSE	Health Safety and Environment
HVAC	Heating, Ventilation, Air Conditioning
GFA	Gross Floor Area
GST	Goods and Services Tax
ICNG	NSW Interim Construction Noise Guide
NCC	National Construction Code (as issued by the Australian Building Code Board)
NMI	National Measurement Institute
NPP	New Policy Proposal
PBP	NSW Rural Fire Services "Planning for Bushfire Protection 2006"
PC2	Physical Containment Level 2 as defined by Commonwealth Dept. of Health and Ageing

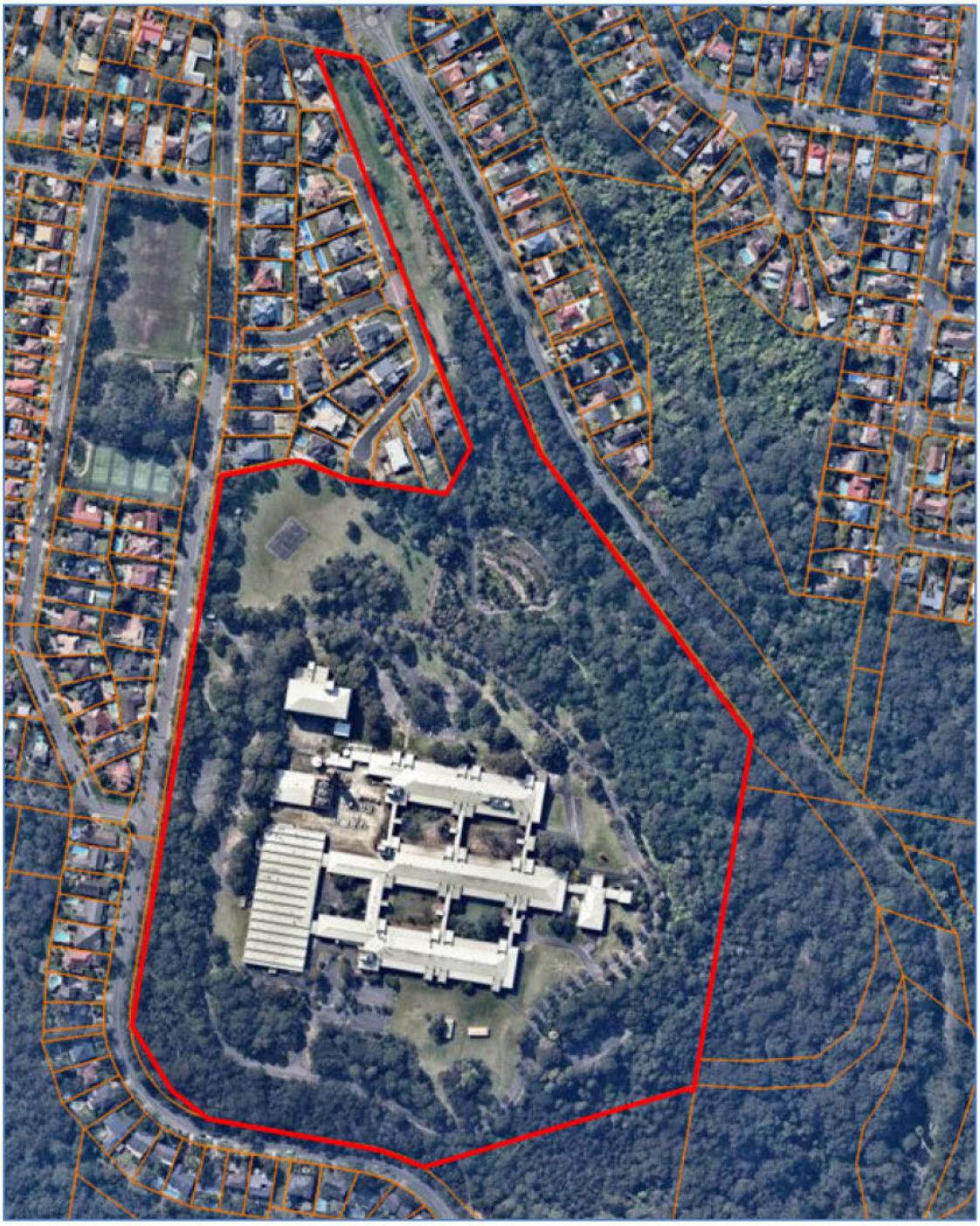
Acronym	Meaning
PRODAC	Commonwealth Property Management Framework Review
PWC	Joint Parliamentary Standing Committee on Public Works (Public Works Committee)
REF	Review of Environmental Factors
RFT	Request for Tender
SAF	Student Affiliate and Fellow
SQM	Square Metres
UNSW	University of New South Wales

Annexure B

Site Locations

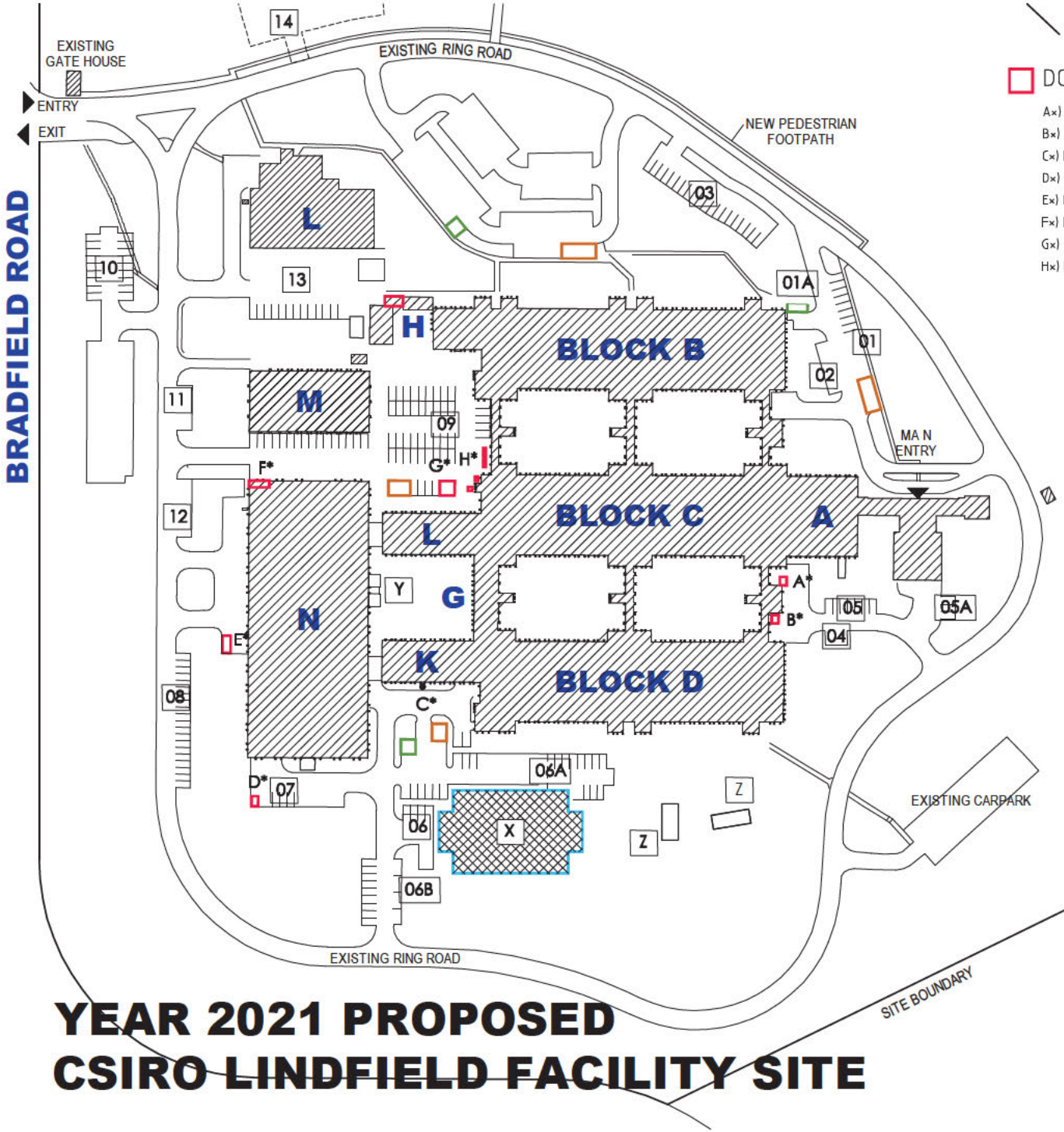
Annexure C1

Lindfield: Aerial Photo



Annexure C2

Lindfield: Site Plan



YEAR 2021 PROPOSED
CSIRO LINDFIELD FACILITY SITE

DG STORES

- Ax) NEW DG CHEMICAL STORE
- Bx) NEW DG GAS STORE (MINOR)
- Cx) EX LIQUID NITROGEN TANK
- Dx) NEW DG CHEMICAL STORE
- Ex) EX CENTRAL DG GAS STORE (MINOR)
- Fx) EX DG FLAMMABLES STORE
- Gx) EX COMPRESSED HE GAS TANKS
- Hx) NEW DG GAS STORE (MINOR)

LEGEND

1) NEW CAR PARK – 8 CAR SPACES
1A) NEW MOTORBIKE PARK
2) NEW CAR PARK – 7 CAR SPACES
3) NEW CAR PARK – 21 CAR SPACES
4) NEW CAR PARK – 3 CAR SPACES
5) NEW CAR PARK – 7 CAR SPACES
5A) NEW CAR PARK – 3 CAR SPACES
6) NEW CAR PARK – 4 CAR SPACES
6A) NEW CAR PARK – 23 CAR SPACES
6B) NEW CAR PARK – 13 CAR SPACES
7) NEW CAR PARK – 3 CAR SPACES
8) NEW CAR PARK – 20 CAR SPACES
9) NEW CAR PARK – 48 CAR SPACES
10) NEW CAR PARK – 18 CAR SPACES
11) NEW CAR PARK – 6 CAR SPACES
12) NEW CAR PARK – 8 CAR SPACES
13) NEW CAR PARK – 8 CAR SPACES
14) POSSIBLE OVERFLOW CAR PARK

EXISTING CAR PARKING SPACES, INC' 12x PWD SPACES	= 280
CAR PARKS LOST TO ENABLE SYDNEY CONSOLIDATION PROJECT WORKS	= 37
NEW CAR PARKING SPACES CREATED DURING PROJECT WORKS	= 200
SUB-TOTAL	= 443
NEW OVERFLOW CAR PARKING (ON GRAVEL)	= 38
TOTAL No. CAR PARKING SPACES	= 481

NEW MOTORBIKE PARK ON CONCRETE SLAB OCCUPYING 2 CAR SPACES

NEW DISABLED ACCESS PARKING (PWD)

X - NEW INFRATECH SMALL SCALE FIRE & MATERIALS TESTING BUILDING

Y - NEW BIKE ENCLOSURE

Z - DEMOLISH SHEDS

0 10 20 30 40 50 60 70 80 90 100
M

N

Drawing: IA185100_PWC-SoE_Arch-01 - Rev B

Scale 1:2000 @ A4

12 OCTOBER 2018

CSIRO - BUS NESS & NFRASTRUCTURE SERVICES

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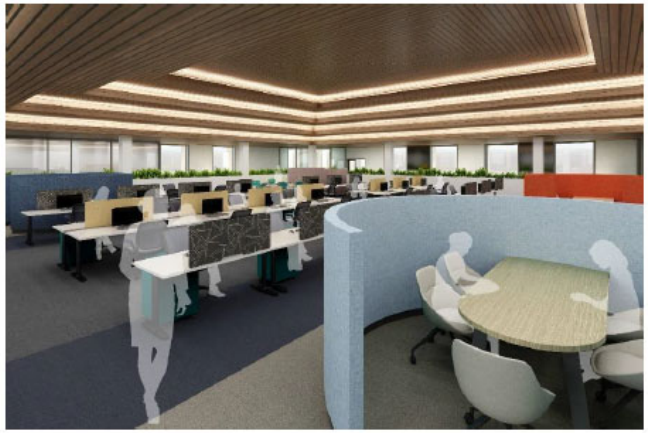
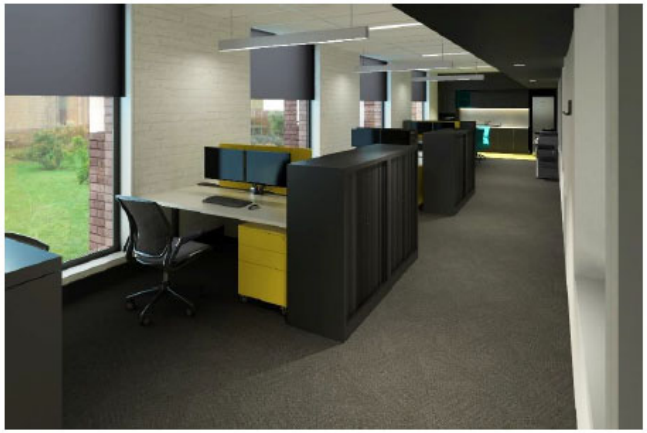
Annexure D

Lindfield: Conceptual Perspective Images



Block A, L3 Open Plan Office Space



Office Space

Wet Laboratory

Dry Laboratory

Annexure D

Lindfield: Conceptual Perspective Images (Continued)

Bathroom

Meeting Room

Cafeteria Courtyard

Internal Courtyard

Annexure E

Lindfield: Spatial Schedule

Lindfield Spatial Schedule (areas briefed as required by each Business Unit).						
Business Unit or Functional Zone	**Wet Laboratory sqm**	**Dry Laboratory sqm**	**Bespoke Spaces Sqm Note 1**	**Office Space Note 2**	**Total Area sqm**	**Staff located at Lindfield Post 2021 Notes 3 & 4**
Agriculture and Food	60	44	502	240	846	23
CSIRO Astronomy and Space Science	0	0	220	1276	1496	115
Data61	0	77	82	959	1118	72
Energy	0	11	400	267	678	22
Enterprise Support Services (ESS)	0	0	0	1232	1232	88
Information Management and Technology (IM+T)	0	0	134	556	690	47
Land and Water	0	0	6	14	20	1
Manufacturing (notes 1, 5 & 7)	73	1308	473	1120	2974	80
Mineral Resources	0	33	74	129	236	12
Services: Infratech (Lindfield requirements only)	0	0	1036	40	1076	5
TOTAL (Notes 6 &7)	133	1473	2927	5833	**10366** Note 1	**465** Note 6
Notes	1 Areas noted exclude requirements located in Block N which entails refurbishment of workshops, stores and end of ride facilities. Area of Block N =4200sqm. Refurbishment of Block N is included in project scope. 2 Office Space also includes associated meeting rooms and tea rooms. 3 This table excludes CSIRO staff relocating to sites other than Lindfield. 4 Staff numbers include Full Time and Students, Affiliates and Fellows relocating to Lindfield. 5 Manufacturing staff are already at Lindfield and spaces noted generally refer to refurbished areas 6 Excludes NMI staff, NMI labs, bespoke spaces and offices, corridors and similar common areas. 7 Excludes workshops and laboratories located in Level 1 which are out of project scope.					

Annexure F1

Lindfield: Block and Stack Plans: Existing

EXISTING: LEVEL 2
CSIRO LINDFIELD FACILITY

Drawing: IA185100_PWC-SoE_Arch-02 - Rev B

Scale 1:1000 @ A4

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EXISTING: LEVEL 3
CSIRO LINDFIELD FACILITY

Drawing: IA185100_PWC-SoE_Arch-03 - Rev B

Scale 1:1000 @ A4

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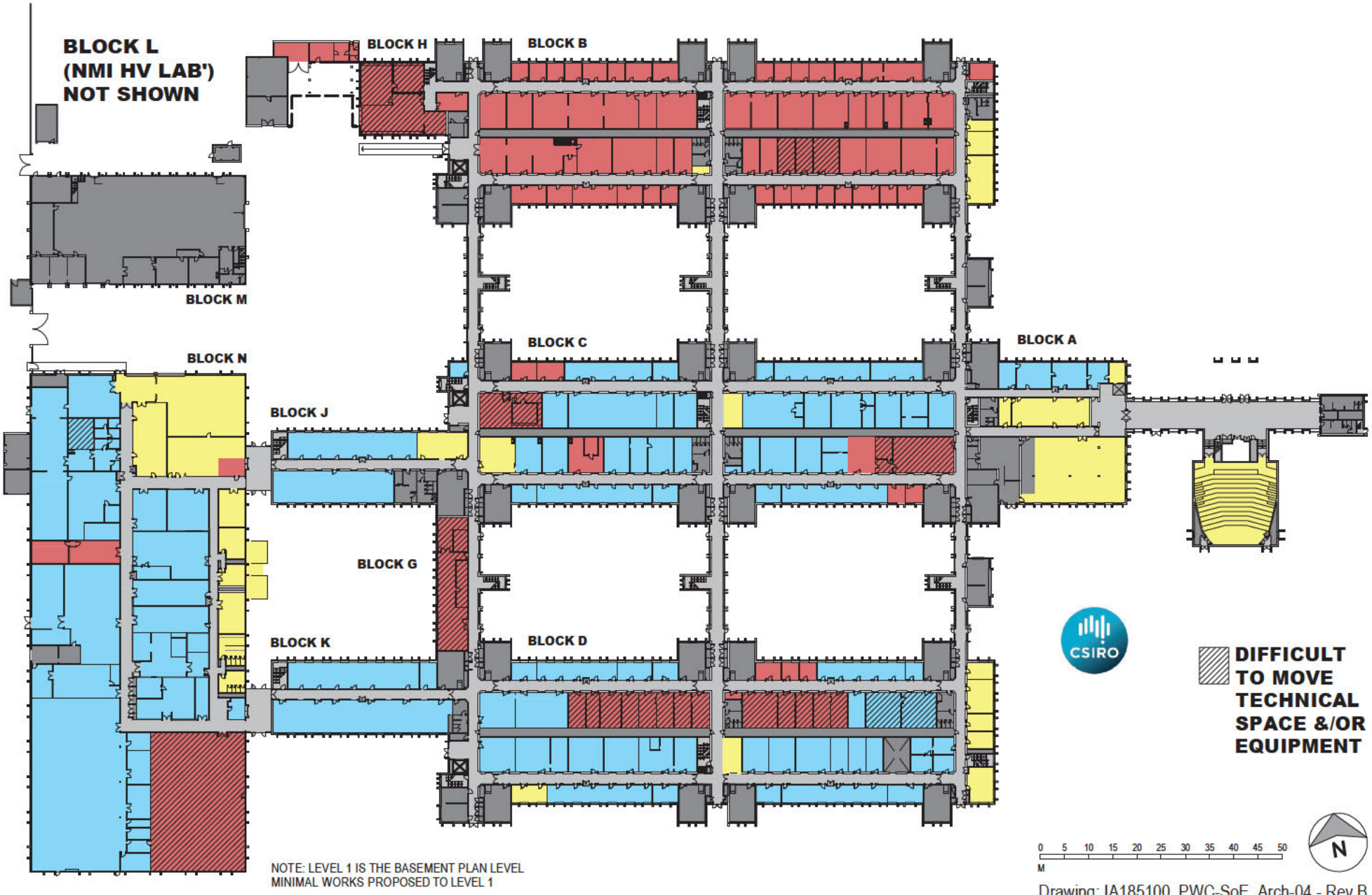
CSIRO - BUS NESS & NFRASTRUCTURE SERVICES

Annexure F2

Lindfield: Block and Stack Plans: Proposed



2021 PROPOSED: LEVEL 2
CSIRO LINDFIELD FACILITY

CSIRO
NMI
SHARED
CIRCULATION
PLANT & AMENITIES

Drawing: IA185100_PWC-SoE_Arch-04 - Rev B

Scale 1:1000 @ A4
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CSIRO - BUS NESS & NFRASTRUCTURE SERVICES

JACOBS

2021 PROPOSED: LEVEL 3
CSIRO LINDFIELD FACILITY

CSIRO
NMI
SHARED
CIRCULATION
PLANT & AMENITIES

Drawing: IA185100_PWC-SoE_Arch-05 - Rev B

Scale 1:1000 @ A4
12 OCTOBER 2018
CSIRO - BUS NESS & NFRASTRUCTURE SERVICES

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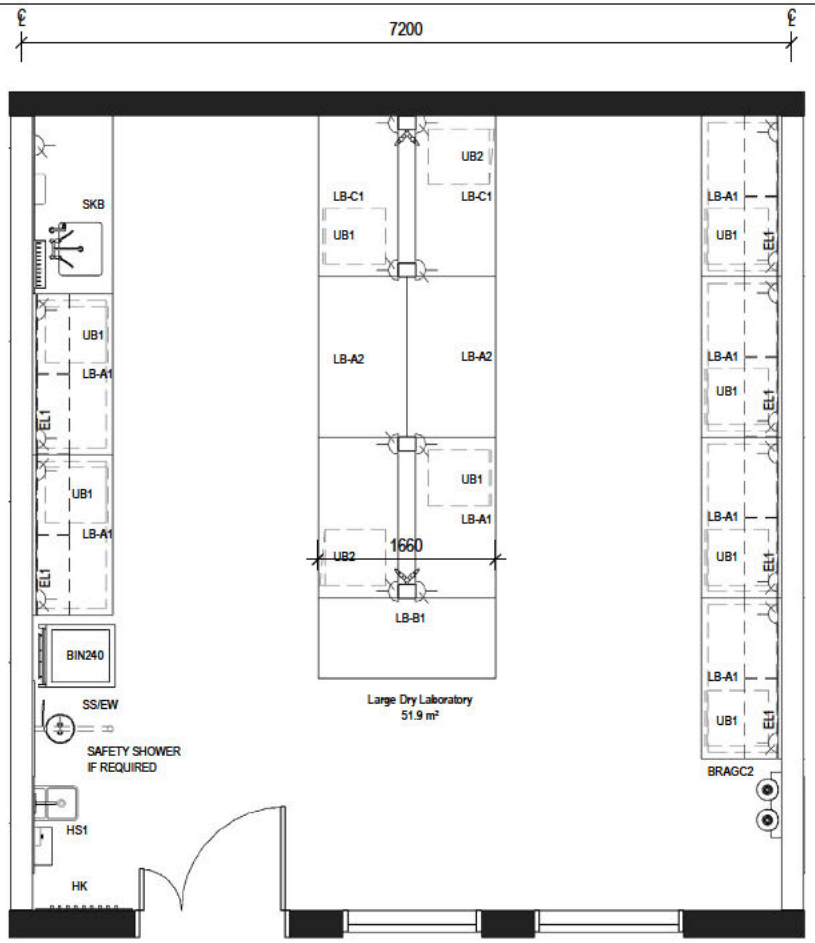
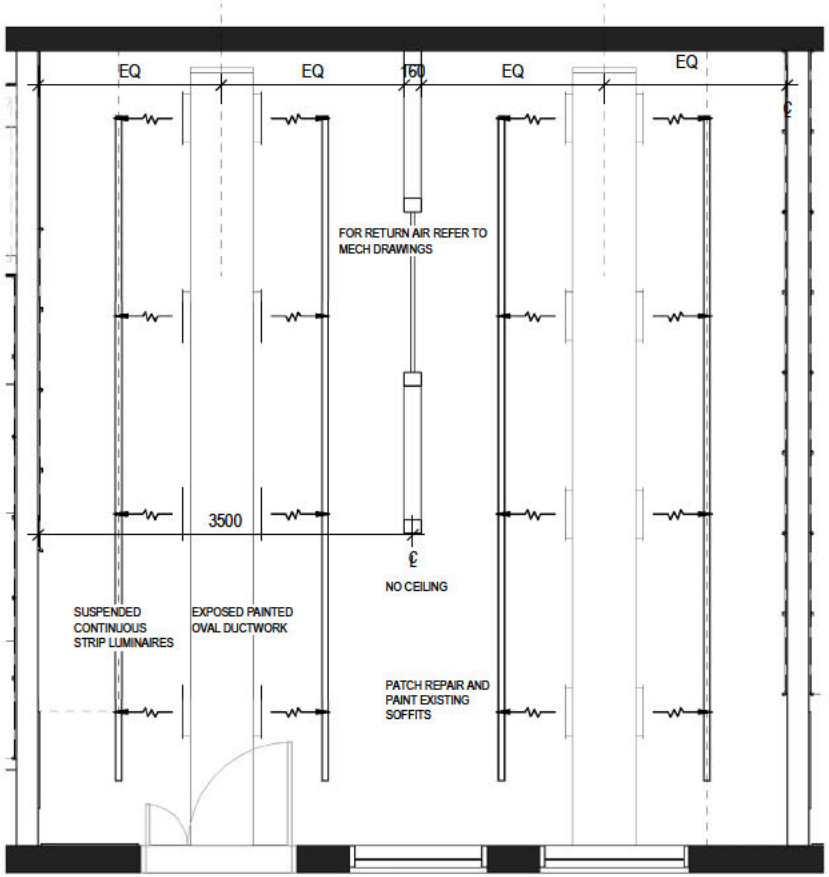
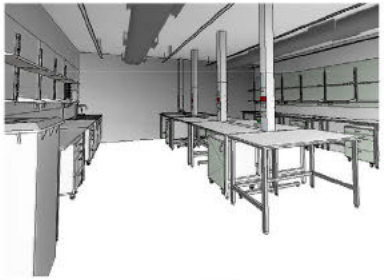
Annexure G1

Lindfield: Floor Plans for Typical Room Types: Large Dry Lab Module Lindfield



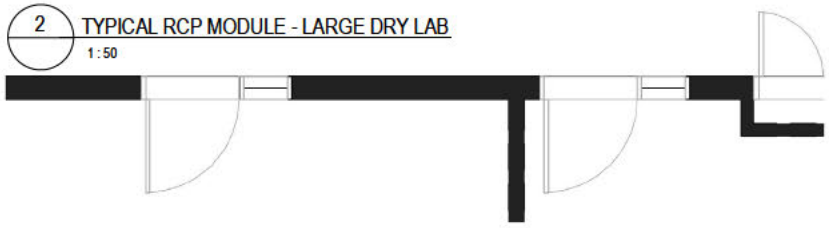


FITOUT - LARGE DRY LABORATORY	
Code	Description
BI	Bin: Surface Mounted Receptacle
BIN240	Bin: 240 litre
BRAGC2	Bracket: Gas cylinder, 2 cylinders
CYOXL	Oxygen Cylinder: Large
DISPPT	Dispenser: Paper Towel
EL1	Stainless Steel Services Conduit
HK	Coathooks
HS1	Handwash station - refer Kit of Parts
LB-A1	1500X750X930H Loose Bench. Refer to joinery details
LB-A2	1500x930x825 Height Adjustable Loose Bench. Refer joinery deta ls
LB-B1	1240Lx930Hx825D Height Adjustable Loose Bench. Refer joinery deta ls
LB-C1	1500X750X930H Loose Bench. Refer to joinery details
LTSTPS	Light: Strip Suspended
RW-TP	RO Tap
SBVR	Splashback: Variable Height
SH/AD	Shelving Adjustable
SKB	Sink bench
SS/EW	Safety Shower and Eye Wash
TMV	Thermostatic Mixing Valve
UB1	Underbench Drawer Unit on Castor Wheels
UB2	Underbench Cupboard Unit on Castor Wheels
VAC-WA	Reagent Shelving Gas Tap for Vaccum (double outlet)



1 LARGE DRY LAB - PLAN
1 : 50

2 TYPICAL RCP MODULE - LARGE DRY LAB
1 : 50



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REV.	DATE	AMENDMENT		
3	22.06.18	ISSUE TO COST PLANNER	DRAWN	JS
2	12.06.18	ISSUE TO COST PLANNER	REVIEWED	GS
1	01.06.2018	ISSUE FOR INFORMATION	APPROVED	

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Web JACOBS.com

CLIENT: CSIRO

PROJECT MANAGER: RPS

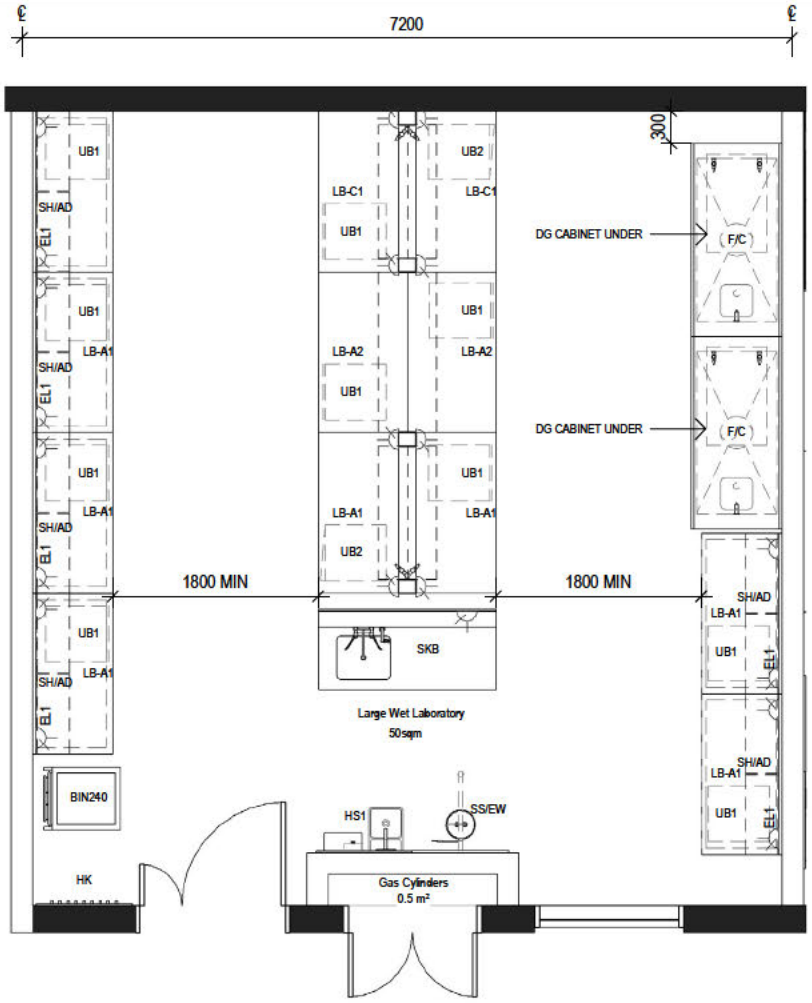
PROJECT: CSIRO SYDNEY CONSOL DATION PROJECT

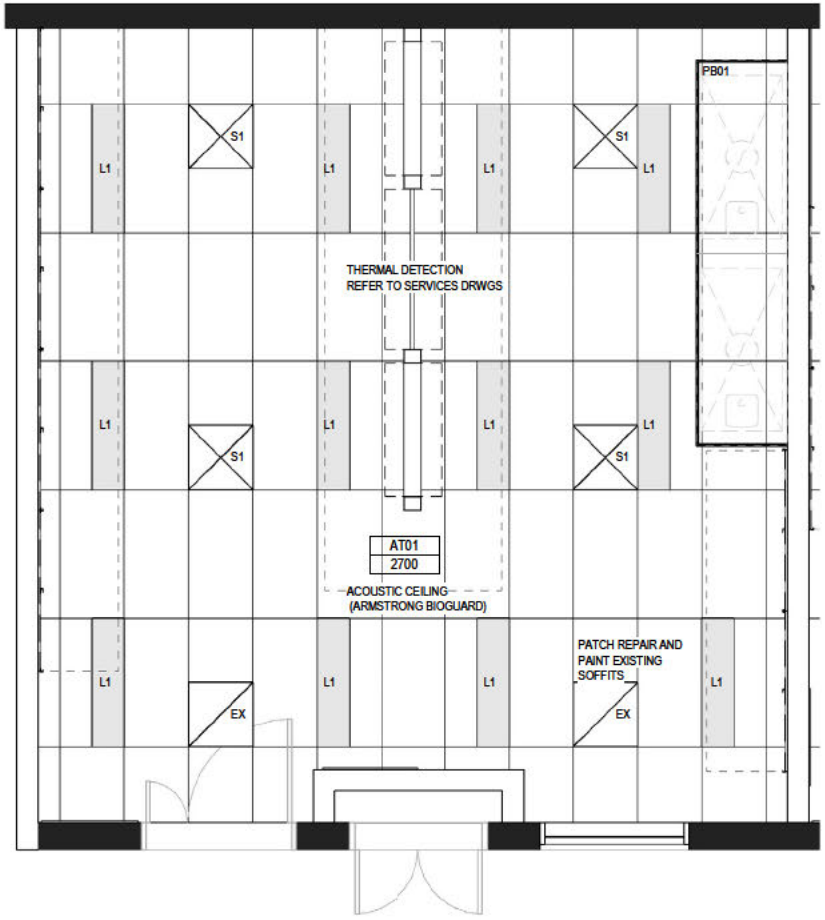
ARCHITECTURAL
DRAWING TITLE: LARGE DRY LAB

SCALE (@A3) 1 : 50
PROJECT No. IA185100
DRAWING No. SCPL-RB-DRG-8008-1
REVISION 3

Annexure G2

Lindfield: Floor Plans for Typical Room Types: Large Wet Lab Module Lindfield





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HS1	Handwash station - refer Kit of Parts
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LB-A2	1500x930x825 Height Adjustable Loose Bench. Refer joinery deta ls
LB-C1	1500X750X930H Loose Bench. Refer to joinery details
N2-FC	Fume Cupboard Nitrogen remote mounted valve set
PB01	Bulkhead - Plasterboard: Site Measured
RW-TP	RO Tap
SBVR	Splashback: Variable Height
SH/AD	Shelving Adjustable
SKB	Sink Bench
SS/EW	Safety Shower and Eye Wash
TAPCW	Tap: Cold Water, Wall Mounted
TMV	Thermostatic Mixing Valve
UB1	Underbench Drawer Unit on Castor Wheels
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VAC-FC	Fume Cupboard Vacuum remote mounted vale set
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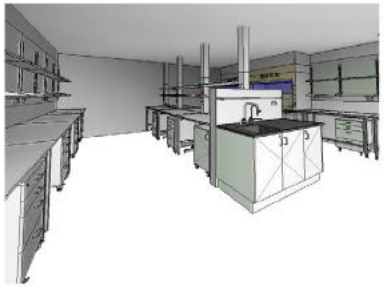

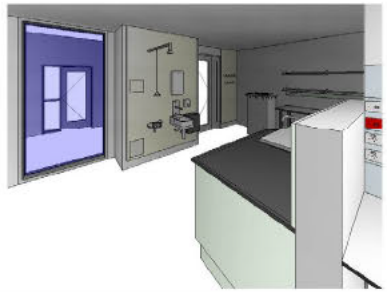

1 LARGE WET LAB - PLAN
1 : 50

2 TYPICAL RCP MODULE - LARGE WET LAB
1 : 50

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CLIENT: CSIRO

PROJECT MANAGER: RPS

PROJECT: CSIRO SYDNEY CONSOL DATION PROJECT

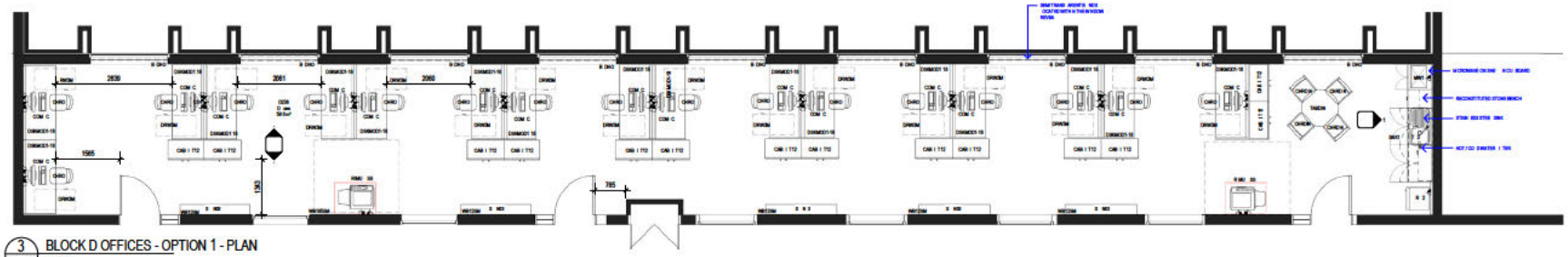
ARCHITECTURAL

DRAWING TITLE: LARGE WET LAB

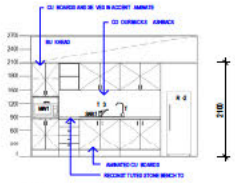
SCALE (@A3) 1 : 50
PROJECT No. IA185100
DRAWING No. SCPL-RB-DRG-8006-1
REVISION 3

Annexure G3

Lindfield: Floor Plans for Typical Room Types: Open Plan Office Option Lindfield



3 BLOCK D OFFICES - OPTION 1 - PLAN
1 50



1 8000-3 OFFICE SPACE KITCHEN - OPTION 1 - ELEVATION 1
1 50

2 BLOCK D OFFICES - OPTION 1 - PERSPECTIVE

NOTES

REV	DATE	DRAWN	REVD	A	D	AMENDMENT
1	2 08.2016	ACOBS	GSH			ISSUE OR IN ORIGINATION

RPS

CSIRO

JACOBS

CSIRO SYDNEY CONSOLIDATION PROJECT

BLOCK D OFFICES - OPTION 1 PROTOTYPE

PRELIMINARY ISSUE

SW	AC
Designer	Approver

1 50

IA185100-SCPL-RB-DRG-8000-3 | 1

27/06/2016 6:39:56 PM

Annexure G4

Lindfield: Floor Plans for Typical Room Types: Small Meeting Room Module Lindfield

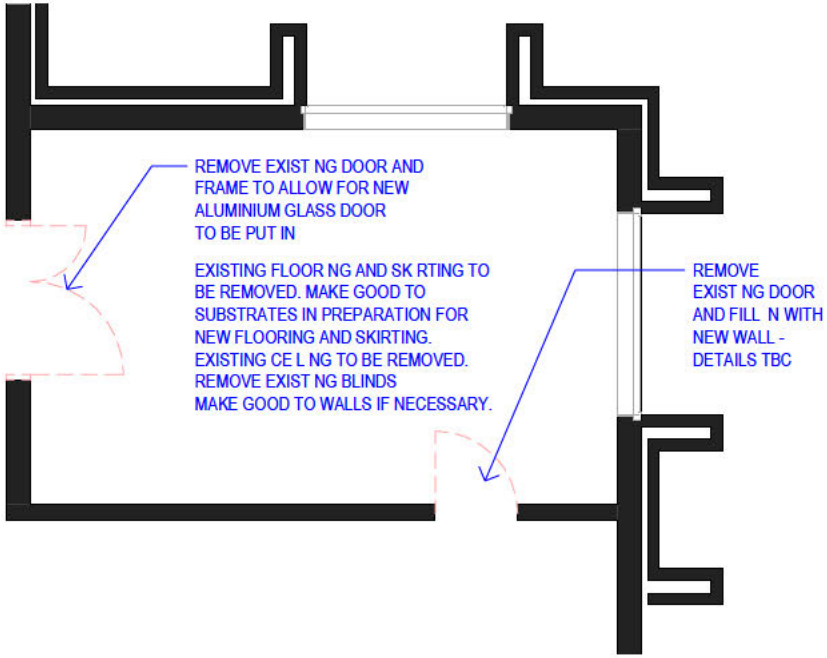
FITOUT - D30E - SMALL MEETING ROOM	
Descriptor_TX	Description_TX
CHRMET1	Chair: Meeting with sled legs
MONCONW-65	Monitor: Video Conference System

FITOUT - D30E - SMALL MEETING ROOM	
Descriptor_TX	Description_TX
BLKD-J	Bulkhead - Joinery: Site Measured

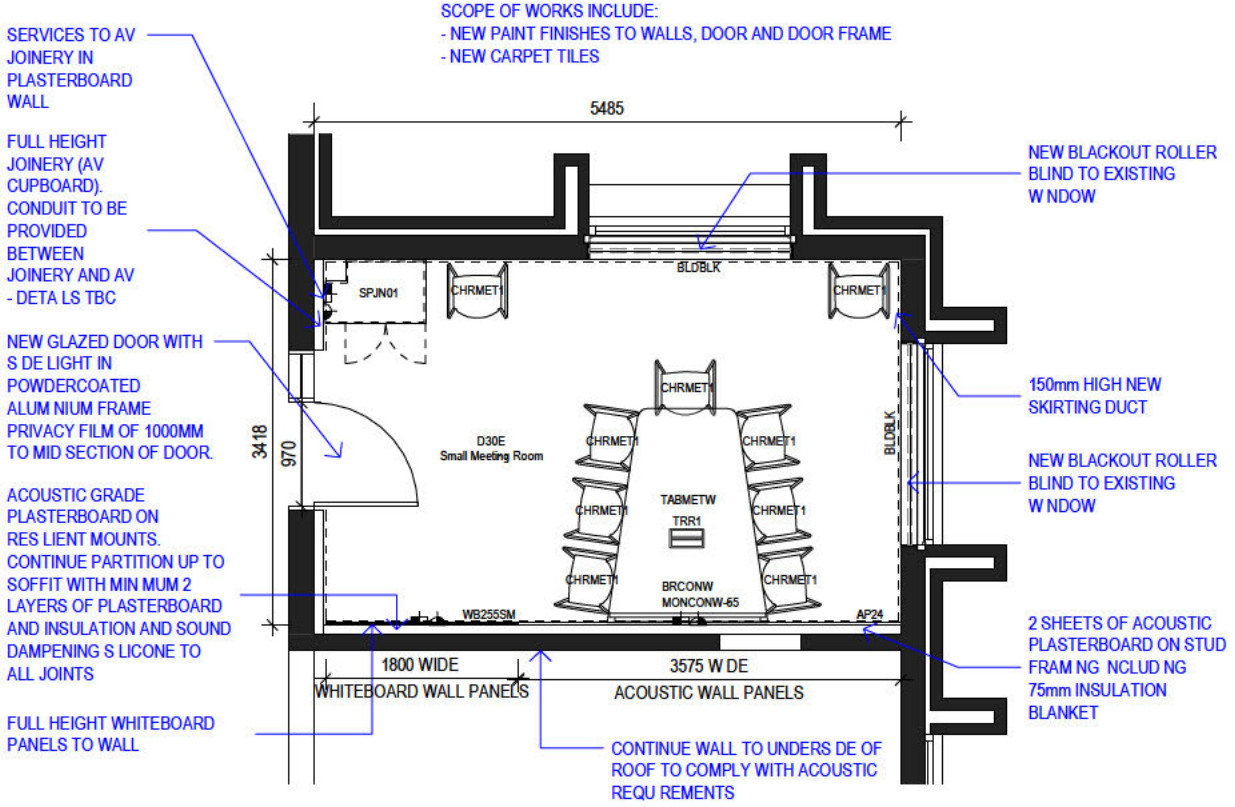
FITOUT - D30E - SMALL MEETING ROOM	
Descriptor_TX	Description_TX
BRCONW	Bracket: Conference Monitor, Wall Mounted
COM1	Data Outlet: Double
GPO2	GPO: Double

FITOUT - D30E - SMALL MEETING ROOM	
Descriptor_TX	Description_TX
TABMETW	Meeting Table Type 3
TRR1	Table Rack Recessed
WB255SM	White Board: Site Measured

ELECTRICAL, MECHANICAL AND FIRE SERVICES TO BE COORDINATED



1 D30E - SMALL MEETING ROOM - DEMOLITION PLAN
1 : 50



2 D30E - SMALL MEETING ROOM - PLAN
1 : 50

NOTES:
1. DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS GOVERN.
2. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
3. ALL DIMENSIONS SHALL BE VERIFIED ON SITE BEFORE PROCEEDING WITH THE WORK. JACOBS SHALL BE NOTIFIED IN WRITING OF ANY DISCREPANCIES.
4. THIS DRAWING MUST BE READ IN CONJUNCTION WITH ALL RELEVANT CONTRACTS SPECIFICATIONS, REPORTS AND DRAWINGS.
5. ALL DRAWINGS TO BE PRINTED IN COLOUR. DO NOT PHOTOCOPY - PRINT ORIGINAL FROM ELECTRONIC FILE FOR HARD COPY.
6. VARIATIONS TO WORK SHOWN MUST BE BROUGHT TO THE PRINCIPALS ATTENTION AND APPROVED IN WRITING BEFORE PROCEEDING.
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REV.	DATE	AMENDMENT
4	12.06.18	ISSUE TO COST PLANNER
3	04.06.2018	ISSUE FOR INFORMATION
2	31.05.2018	ISSUE FOR INFORMATION
1	18.05.2018	ISSUE FOR REVIEW

DRAWN	SW
REVIEWED	AC
APPROVED	

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PROJECT MANAGER
RPS

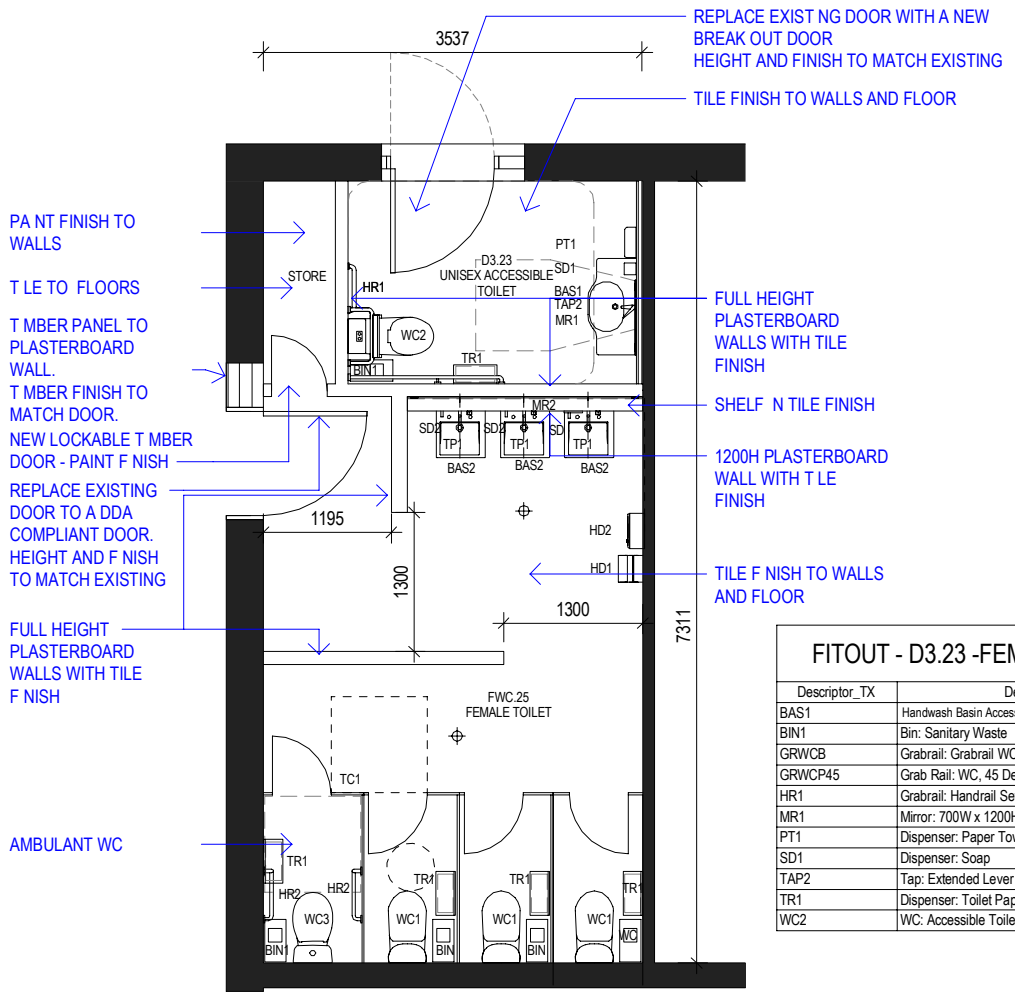
PROJECT
CSIRO SYDNEY CONSOL DATION PROJECT

ARCHITECTURAL
DRAWING TITLE
D30E - SMALL MEET NG ROOM - SHEET 1 PROTOTYPE

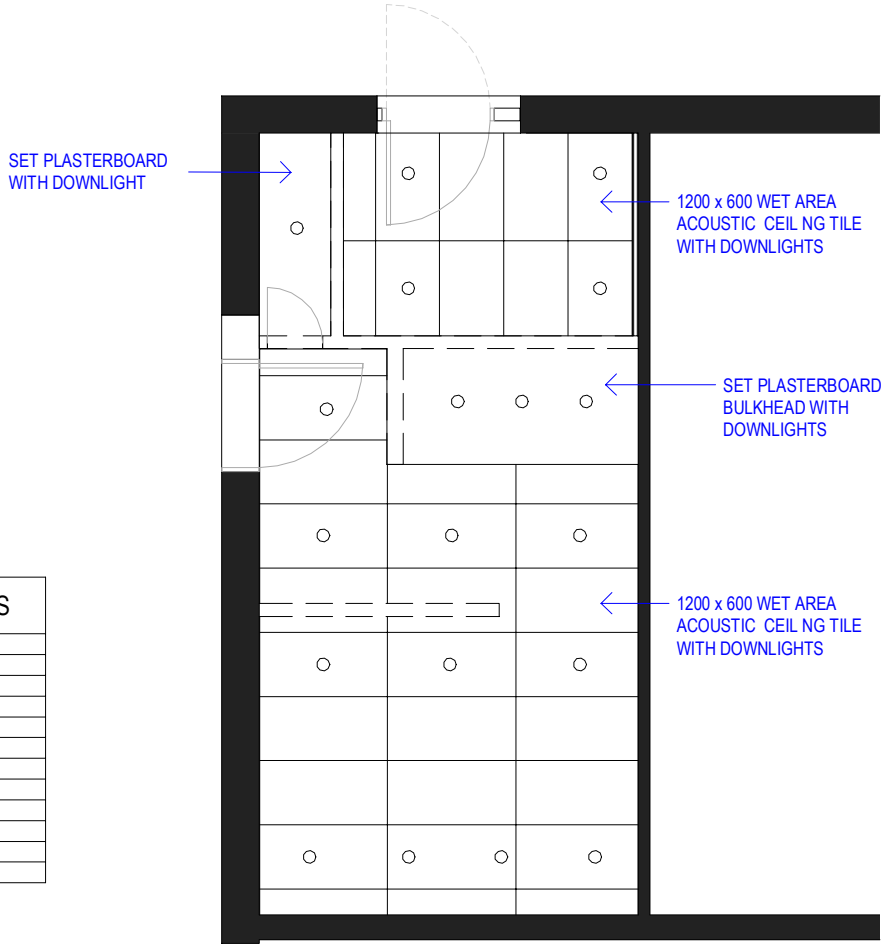
SCALE (@A3)	1 : 50
PROJECT No.	IA185100
DRAWING No.	SCPL-RB-DRG-8002-1
REVISION	4

Annexure G5

Lindfield: Floor Plans for Typical Room Types: Toilet Upgrade Module Lindfield



FITOUT - D3.23 -FEMALE TOILETS	
Descriptor_TX	Description_TX
BAS1	Handwash Basin Accessible
BIN1	Bin: Sanitary Waste
GRWCB	Grabrail: Grabrail WC Backrest
GRWCP45	Grab Rail: WC, 45 Degree
HR1	Grabrail: Handrail Set, DDA Compliant - Right
MR1	Mirror: 700W x 1200H
PT1	Dispenser: Paper Towel
SD1	Dispenser: Soap
TAP2	Tap: Extended Lever Mixer, Basin Mounted
TR1	Dispenser: Toilet Paper, DDA Compliant
WC2	WC: Accessible Toilet DDA Compliant



1 D3.23, FWC.25 - TOILETS - PLAN
1 : 50

2 D3.23 - TOILETS - RCP
1 : 50

NOTES:
1 DO NOT SCALE DRAWINGS WRITTEN DIMENSIONS GOVERN
2 ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE
3 ALL DIMENSIONS SHALL BE VERIFIED ON SITE BEFORE PROCEEDING WITH THE WORK JACOBS SHALL BE NOTIFIED IN WRITING OF ANY DISCREPANCIES
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REV.	DATE	AMENDMENT
2	01.06.2018	ISSUE FOR INFORMATION
1	18.05.2018	ISSUE FOR REVIEW

DRAWN	GA
REVIEWED	AC
APPROVED	

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RPS

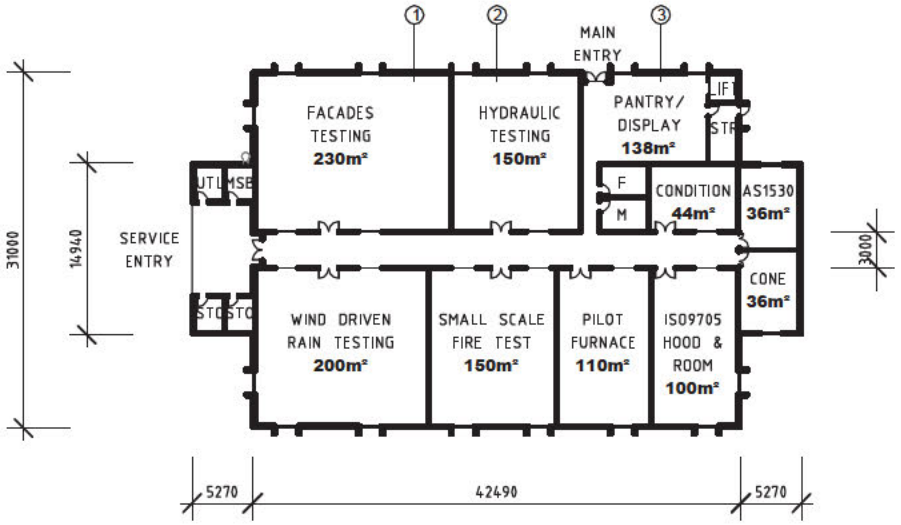
PROJECT
CSIRO SYDNEY CONSOLIDATION PROJECT

ARCHITECTURAL
DRAWING TITLE
D3.23 - TOILETS - SHEET 1

SCALE (@A3) 1 : 50
PROJECT No. IA185100
DRAWING No. SCPL-RB-DRG-8001-1
REVISION 2

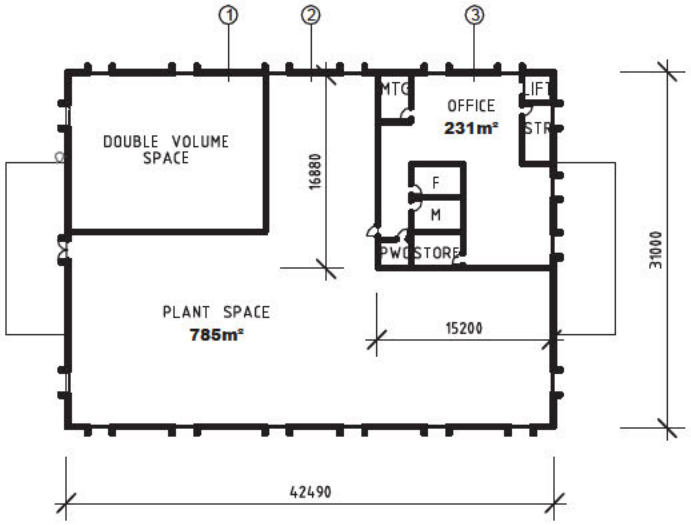
Annexure H

Lindfield: Materials and Small-Scale Fire Test Facility



GROUND FLOOR PLAN

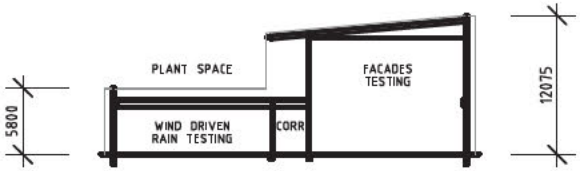
GROSS FLOOR AREA
1,739m²



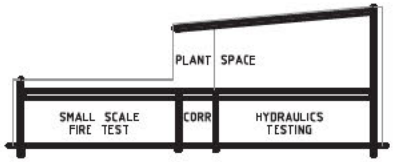
FIRST FLOOR PLAN

CONSTRUCTION

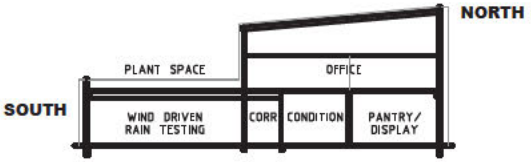
EXTERNAL WALLS = CAVITY FACE BRICK
INTERNAL WALLS = CEMENT RENDERED BRICK, PAINT FINISH
GROUND FLOOR = CONCRETE SLAB
FIRST FLOOR = CONCRETE SLAB
MAIN PITCHED ROOF = STRUCTURAL STEEL FRAMED
LOWER LEVEL FLAT ROOF = CONCRETE SLAB WITH LIQUID APPLIED MEMBRANE WATERPROOFING
EXTERNAL WINDOWS = POWDER COATED ALUMINIUM
EXTERNAL GLAZING = DOUBLE GLAZED SOLAR TINTED
INTERNAL GLAZING = SINGLE GLAZED TOUGHENED CLEAR
EXTERNAL DOORS PREDOMINANTLY = PAINTED STEEL DOORS
EXTERNAL DOORS MAIN ENTRY = POWDER COATED ALUM & GLASS
INTERNAL DOORS PREDOMINANTLY = POWDER COATED ALUM & GLASS
INTERNAL DOORS WC, STORES, STAIR = PAINTED SOLID CORE TIMBER
FLOOR FINISH PREDOMINANTLY = EPOXY
FLOOR FINISH WC, STORE, PANTRY = SHEET VINYL
FLOOR FINISH OFFICE, MEETING ROOM = CARPET
ROOF CLADDING = COLORBOND COATED LONGRUN STEEL
CEILING PREDOMINANTLY = SUSPENDED POWDER COATED METAL TILE
CEILING MEETING ROOM, OFFICE PANTRY, STORE = SUSPENDED ACOUSTIC TILE
CEILING STAIRS = SUSPENDED PLASTERBOARD



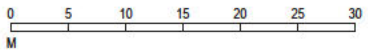
SECTION 1



SECTION 2



SECTION 3



PROPOSED: INFRATECH
SMALL SCALE FIRE & MATERIALS TESTING FACILITY

Drawing: IA185100_PWC-SoE_Arch-06 - Rev B

Scale 1:600 @ A4
12 OCTOBER 2018
CSIRO - BUS NESS & NFRASTRUCTURE SERVICES

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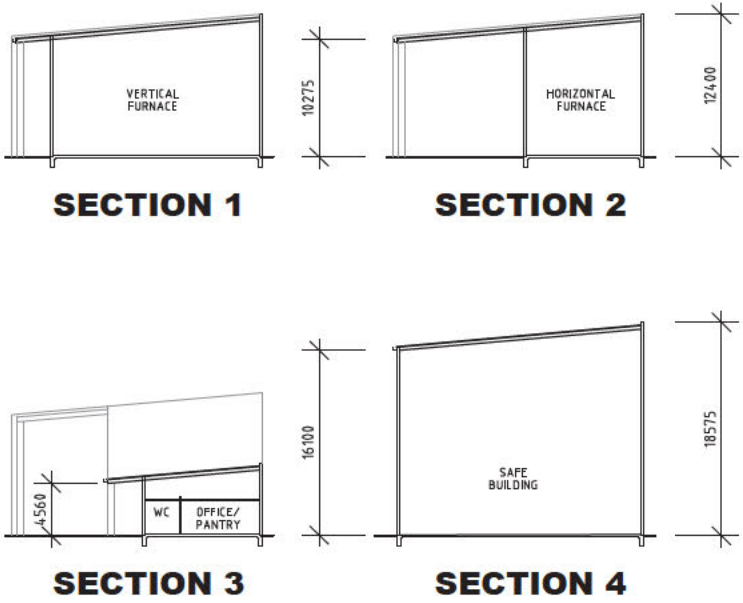
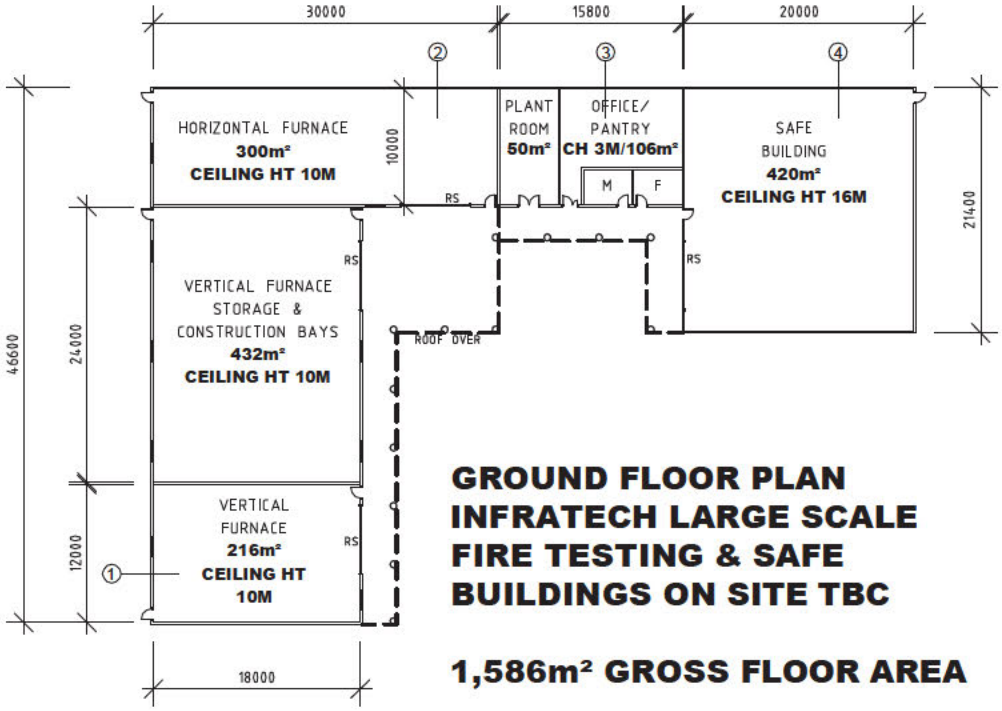
Annexure I

Western Sydney: Large-Scale Fire Test Facility (Location To be Confirmed)

CONSTRUCTION

EXTERNAL WALLS = PRE-CAST TILT UP CONCRETE SLABS WITH AGGREGATE FINISH
INTERNAL WALLS = PRE-CAST TILT UP CONCRETE SLABS
GROUND FLOOR = CONCRETE SLAB
5 DEGREES PITCHED ROOF = STRUCTURAL STEEL FRAMED
ROOF CLADDING = COLORBOND STEEL SANDWICH PANEL
EXTERNAL WINDOWS = POWDER COATED ALUMINIUM
EXTERNAL GLAZING = SINGLE GLAZED SOLAR TINTED
EXTERNAL ROLLER SHUTTER (RS) DOORS = PAINTED STEEL DOORS
EXTERNAL SWING DOORS PREDOMINANTLY = PAINTED STEEL DOORS
EXTERNAL DOORS MAIN ENTRY = POWDER COATED ALUM & GLASS
INTERNAL DOORS WC = PAINTED SOLID CORE TIMBER
FLOOR FINISH PREDOMINANTLY = CLEAR FINISH CONCRETE SEALER
FLOOR FINISH WC, PANTRY = SHEET VINYL
FLOOR FINISH OFFICE = SHEET VINYL
CEILING OFFICE, PANTRY = SUSPENDED ACOUSTIC TILE
CEILING TOILETS = SUSPENDED METAL TILE
RS = ROLLER SHUTTER





GROUND FLOOR PLAN
INFRATECH LARGE SCALE FIRE TESTING & SAFE BUILDINGS ON SITE TBC

1,586m² GROSS FLOOR AREA

PROPOSED: INFRATECH LARGE SCALE FIRE TEST FACILITY

0 5 10 15 20 25 30
M

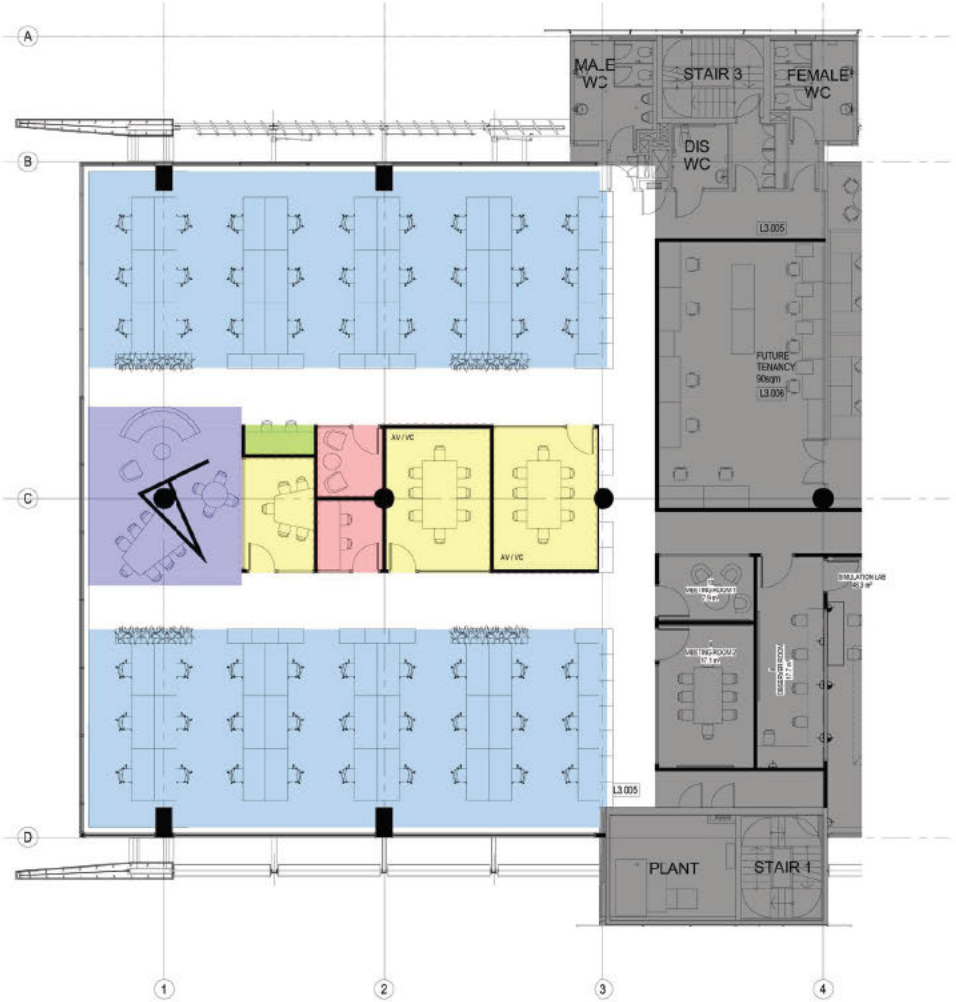
Drawing: IA185100_PWC-SoE_Arch-10 - Rev B

Scale 1:600 @ A4
12 OCTOBER 2018
CSIRO - BUS NESS & NFRASTRUCTURE SERVICES

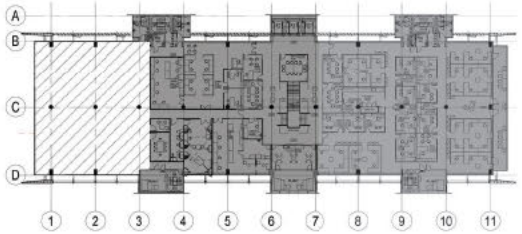
JACOBS

Annexure J

Eveleigh: Interior Layouts



1 GENERAL ARRANGEMENT PLAN LEVEL 3



2 GA PLAN L3 - KEY PLAN

LEGEND:

- MEETING ROOMS
- QUIET ROOMS
- HOTDESKS
- COLLABORATIVE SPACES
- WORK ZONES / NEW WS
- NOT IN SCOPE

PROPOSED WORKS PROVIDE:
54 WORKSTATIONS
40 COLLABORATION / MEETING SEATS

PROPOSED: LEVEL 3
EVELEIGH (ATP)
REFURBISHMENT

0 1 2 3 4 5 6 7 8 9 10
M

N

Drawing: IA185100_PWC-SoE_Arch-09 - Rev B

Main Plan at Scale 1 250 @ A4
12 OCTOBER 2018
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Annexure K

Mayfield (Newcastle): Energy Business Unit Relocation Works

AERIAL VIEW

IMAGE: GOOGLE EARTH

 Drawing: IA185100_PWC-SoE_Arch-11 - Rev B

CSIRO MAYFIELD (NEWCASTLE) FACILITY

Not to Scale
12 OCTOBER 2018
CSIRO - BUSINESS & INFRASTRUCTURE SERVICES

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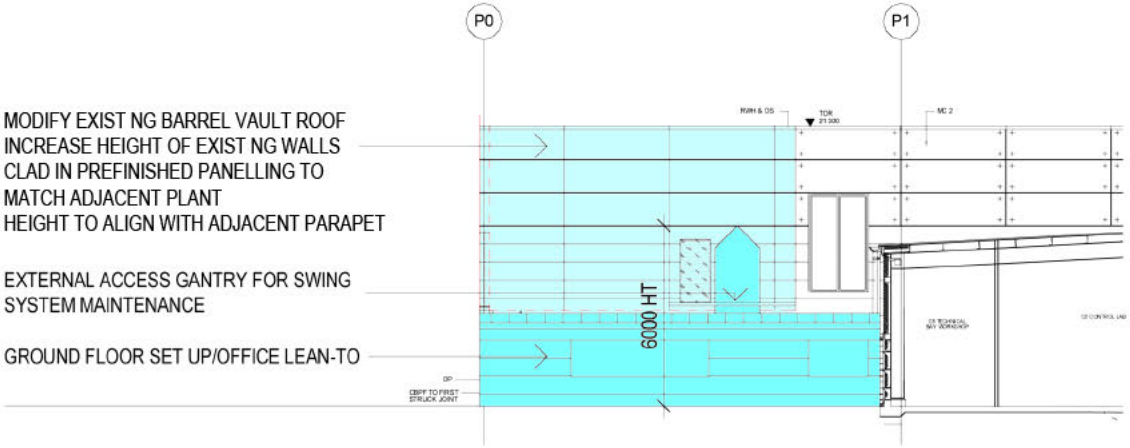
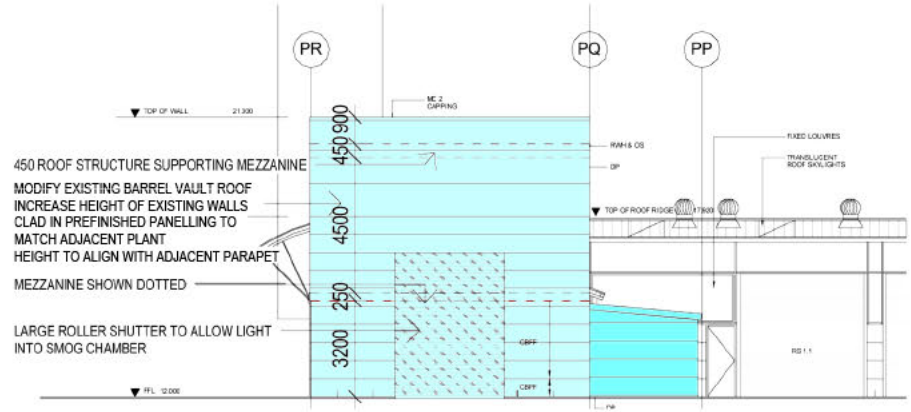
PHOTO OF EXISTING BATTERY ROOM & SURROUNDS
PROPOSED REFURBISHMENT FOR SMOG CHAMBER



WEST ELEVATION

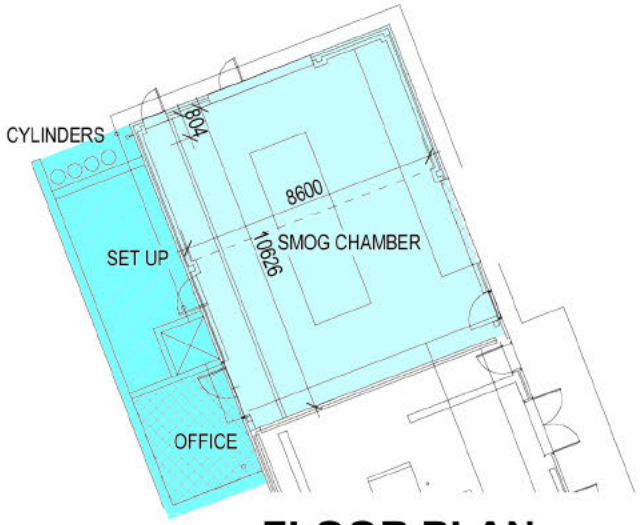


LEGEND:

REFURBISH

NEW

NORTH ELEVATION



FLOOR PLAN

0 1 2 3 4 5 6 7 8 9 10
M

N

 Drawing: IA185100_PWC-SoE_Arch-12 - Rev B

PROPOSED SMOG CHAMBER
CSIRO MAYFIELD (NEWCASTLE) FACILITY

Scale 1:250 @ A4
12 OCTOBER 2018
CS RO - BUSINESS & NFRASTRUCTURE SERVICES

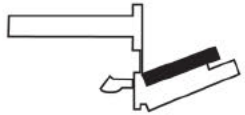
JACOBS

Building B001 - Level 2

LEGEND - CURRENT CONDITIONS

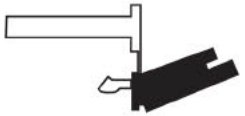
Vacant

Underutilised



KEY MAP

Building B001 - Level 3



KEY MAP

N

REFURBISHMENT AREAS
CSIRO MAYFIELD (NEWCASTLE) FACILITY

 Drawing: IA185100_PWC-SoE_Arch-13 - Rev B

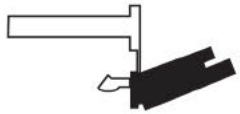
JACOBS

12 OCTOBER 2018
CS RO - BUSINESS & NFRASTRUCTURE SERVICES

LEGEND - CURRENT CONDITIONS

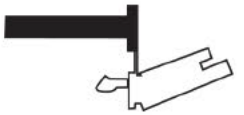
Vacant

Underutilised



KEY MAP

Building B001 - Level 4



KEY MAP

Building B002 - Level 1

REFURBISHMENT AREAS
CSIRO MAYFIELD (NEWCASTLE) FACILITY

 Drawing: IA185100_PWC-SoE_Arch-14 - Rev B

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12 OCTOBER 2018
CS RO - BUSINESS & NFRASTRUCTURE SERVICES

Annexure L

Marsfield: Existing Site to be Divested

DIAGRAMMATIC SITE PLAN **AERIAL VIEW**

IMAGE: NEARMAP

EXISTING
CSIRO MARSFIELD FACILITY SITE

0 10 20 30 40 50 60 70 80 90 100 150
M

N

Drawing: IA185100_PWC-SoE_Arch-07 - Rev B

Scale 1:3000 @ A4

12 OCTOBER 2018

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CSIRO - BUS NESS & NFRASTRUCTURE SERVICES

Annexure M

North Ryde: Existing Site to be Vacated

DIAGRAMMATIC SITE PLAN

AERIAL VIEW

IMAGE: NEARMAP

EXISTING
CSIRO NORTH RYDE FACILITY SITE

0 10 20 30 40 50 60 70 80 90 100 150
M

N

Drawing: IA185100_PWC-SoE_Arch-08 - Rev B

Scale 1:3000 @ A4

12 OCTOBER 2018

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CSIRO - BUS NESS & NFRASTRUCTURE SERVICES