Australia's National
Science Agency

CSIRO Black Mountain Greenhouse Redevelopment

Black Mountain Science and Innovation Park ACT

Statement of Evidence and Supporting Material to the Parliamentary Standing Committee on Public Works

Submission 1

Date:	07 August 2025
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Contents

Executive Summary

This Statement of Evidence provides overview and key considerations of the Commonwealth Scientific and Industrial Research Organisation (CSIRO) Greenhouse redevelopment project.

The primary objective of the project is to replace of critical greenhouse infrastructure damaged during the January 2020 hailstorm. The replacement aims to fully meet CSIRO's research requirements and support the CSIRO Black Mountain Greenhouse Strategy established in February 2021.

The design has been developed with a focus on resilience, incorporating considerations for potential future weather events and whole-of-life sustainability. This approach ensures a long-term solution that will bolster scientific agricultural and biosecurity research at both national and international levels. Furthermore, the design has been rigorously reviewed to comply with the national building code and all relevant Australian standards.

The project has also registered for a Green Star Building V1 rating, reflecting its commitment to sustainability. Importantly, the project will have no heritage or environmental impacts on the Black Mountain site.

Currently, the project has completed 50% schematic design and is underway with the 90% design and community consultations.

Finally, the project is critical to delivering a new greenhouse solution with a holistic approach for all CSIRO Research Units, offering an opportunity to use greenhouse space more efficiently.

Introduction

1. The project presented in this submission to the Parliamentary Standing Committee on Public Works ("PWC") is for the redevelopment of the Greenhouse infrastructure on the CSIRO Black Mountain site, Canberra, ACT.

2. The project will provide new and refurbished greenhouses with supporting facilities to replace the greenhouses infrastructure and capability damaged during the 20 January 2020 hailstorm.

3. The Northern precinct will comprise of multiple greenhouses and facilities with a total area of 2,716m2, while the Southern precinct will comprise of a single 280m2 shade house.

Background

4. CSIRO is one of Australia's leading multidisciplinary research organisations, with more than 5,200 people working in more than 46 sites in Australia and internationally.

5. 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. CSIRO's work contributes to the ongoing prosperity of Australia's primary and secondary industries and to the creation of new technologies, products, and techniques.

6. The Black Mountain Science and Innovation Park is CSIRO's longest serving site and is central to CSIRO's research objectives and the organisation's national and international identity. The Black Mountain Science and Innovation Park occupies 37.3 hectares. The site includes laboratory buildings, office buildings and greenhouses.

7. In January 2020 the Black Mountain site was severely impacted by a hailstorm weather event which significantly damaged approximately 78% of the site's greenhouse capability. The greenhouses at CSIRO's Black Mountain site are a critical capability supporting scientific agricultural and biosecurity research at the national and international level.

Purpose of the works

Project objective

8. The project objective is to deliver the replacement of essential greenhouse infrastructure damaged during the 20 January 2020 hailstorm to meet CSIRO's research requirements.

Main benefits

9. The main benefits expected to be realised by CSIRO through delivery of this project include:

    a. Deliver a new greenhouse solution with a holistic approach for all CSIRO Research Units in the provision and management of all plant growth facilities, ensuring research needs are met and resources are allocated and utilised efficiently.
    b. Undertaking research and development for government and industry across agriculture, biodiversity, environment and biosecurity.
    c. Opportunity to provide a solution that provides a more efficient use of greenhouse space.

Project outcomes

10. The outcome of the project is to restore critical research infrastructure that underpins CSIRO's contribution to addressing national and global challenges. The greenhouses will

enable research that supports societal and industry goals across agriculture and managing Australia's biodiversity and environment.

11. In February 2021, CSIRO developed the CSIRO Black Mountain Greenhouse Strategy to determine the current and future greenhouse requirements for research on Black Mountain. The project will support the delivery of the CSIRO Black Mountain Greenhouse Strategy by achieving these priorities:

a. A range of different greenhouse sizes and types to be utilised by the various research units to support their research activities balanced with the intent to retain flexibility for futureproofing by limiting operational redundancies within the lifespan of the facilities.
b. An improved space and resource utilisation efficiency will allow an overall reduction in the footprint occupied by the proposed greenhouses.
c. Implementation of improved technology and management processes.
d. Deliver a new functionality which will have consideration for environmental sustainability design principles and upgrade services to take advantage of renewable energy sources.

Need for the works

Strategic alignment

12. The CSIRO Black Mountain Greenhouse Strategy is further supported by the CSIRO National Greenhouse Strategic Principles, Strategic Overview and Capability Guidelines, developed in February 2021, to contribute to the realisation of improved resource planning, space and resource utilisation and operational efficiencies.

13. The 2019 Black Mountain Framework Plan documents the vision for the CSIRO Black Mountain Campus. The project aligns with the development framework for:

a. Future CSIRO development opportunities for key capital works projects and site infrastructure improvements;
b. Commercial opportunities for the site through collaborations with external government agencies and industry partners;
c. The long -term realisation of current aged and redundant facilities to divest of inappropriate building stock and reduce current expensive site costs of maintenance and services; and

d. An efficient site layout and environmentally sensitive design strategy, including development controls and guidelines.

14. The project supports the 2020 CSIRO Agriculture and Food Research Unit Strategy by providing appropriate infrastructure to achieve the strategy. The strategy outlines:

a. Development and initial testing of key crop traits (e.g. quality, disease resistance, novel products) based on GM (Genetically Modified) technology in major crops such as cotton, wheat, canola, requiring Physical Containment Level 2 (PC2) containment;
b. Implementation of gene editing in key crops, across a range of production traits, with the need for PC2 alignment;
c. Development of new breeding technologies requiring large scale growing of thousands of distinct crop genotypes under controlled conditions for subsequent analysis;
d. Germplasm development, including but not limited to, screening of plants for resistance to pests and disease, plant genotyping, and development of phenotypic tools to assess various aspects of plant performance; and
e. Various biosecurity purposes, particularly to importation, discovery and characterisation of new germplasm.

15. In further support of the project, the 2021 Health and Biosecurity (H&B) Strategy details the activities central to delivering H&B's strategy include undertaking research and development for government and industry that leads to improved preparedness and responsiveness to plant (as well as animal) biothreats.

16. The project supports CSIRO's biodiversity research, aligned with the National Research Collections Australia's purpose to discover and characterise Australia's unique biodiversity so that it can be conserved, managed and used for the benefit of people, industry and environment in a changing world.

Current deficiencies

17. Before the January 2020 hailstorm damage, facilities on Black Mountain included 6,319m2 of greenhouses plus other facilities including polytunnels, nurseries, shade-houses and open plot areas. The users of the greenhouse are CSIRO Agriculture and Food, H&B, National Collections and Marine Infrastructure and Environment. The loss of significant greenhouse

capability, resulting from the 20 January 2020 hailstorm, has impacted upon CSIRO's ability to undertake critical research activities and deliver on project targets and commitments, subsequently informing the 2021 CSIRO Black Mountain Greenhouse Strategy. CSIRO had previously identified that many of the greenhouse facilities on the Black Mountain site were at the end of their service life and, due to poor design and performance, were due for upgrading and replacement.

18. Of the original 85 greenhouses with a footprint of 6,319m2 of space, 4,952m2 was damaged by the hailstorm. To date 1,349m2 of research or compliance critical greenhouses have been repaired and are now functional. 3,603m2 of predominately older greenhouses located in the Northern Greenhouse Precinct of the Black Mountain site were damaged beyond repair and have since been demolished.

19. Greenhouses (and other plant growth facilities) are key enabling infrastructure for agricultural research. Following the hailstorm, funding of crop science was affected by the impact of widespread drought conditions, leading to the temporary reduce in demand for greenhouse usage. With the end of the Millenium Drought, external research funding has now rebounded with the concomitant increase in demand for use of the greenhouse facilities.

20. The CSIRO Polyfilm Remediation Project provided a temporary solution for non-PC2 greenhouse research. These greenhouses effectively function as non-PC2 polytunnels and are suitable for growing non-GM Plants and for some disease screening work. The cladding materials used in these greenhouses have a short lifespan, and either future recladding or replacement needs to be planned for. Other repaired and undamaged greenhouses are used for growing and initial characterisation of a range of both GM and non-GM crops and model plants (e.g. tobacco), and for biosecurity purposes. This includes work on trait development (native, gene edited, and GM), germplasm importation and development, and pest and disease screening of germplasm. Other work includes the development of new breeding technologies including phenotyping tools

21. The greenhouses currently support a number of external projects on multiple crops, with a range of external partners, from philanthropic organisations, to RDCs and government departments, to private sector organisations. New breeding technologies including a range of gene editing technologies, e.g CRISPR, are a developing area of agricultural research that is expected to increase demand for PC2 greenhouses.

Options considered

22. The 2021 CSIRO National Greenhouse Strategic Principles informed the BM strategy which outlines the following three stage delivery programme:

    a. Stage 1 provides 1,480m^2 of new greenhouses which will significantly assist in re-establishing critical capability that was lost after the 2020 hailstorm. Stage 1 is to address the immediate needs, primarily through a rebuild and replacement of both the redundant and damaged growth areas. This will regain and support the pressing scientific needs and provide capacity for new capabilities such as speed-breeding.
    b. Stage 2 is a consolidation phase that will realise the construction of additional greenhouses that may be required to address any gaps that may persist and cannot be accommodated within the Stage 1 developments. Stage 2 is to address the intermediate needs through the consolidation of the growth areas across the site and seeks to address gaps in the greenhouse requirements which were not met in the Stage 1 works.
    c. Stage 3 provides the basis for a longer-term strategic vision that addresses the need to replace other ageing, but critical, research infrastructure on the Black Mountain site that is at the end of useful life. Stage 3 is to address the long-term need, of which elements are considered requirements by the CSIRO Research Units albeit not critical to be included in Stage 1 or 2. These elements could be considered as a whole or individually as one-off pieces of work or as staged modules depending on need and funding available at the relevant time.

Options Summary

23. The project team developed a range of options to meet the business need and project objectives. These options include:

    1. **Stages 1 and 2 only** – design and delivery of project Stage 1 and 2 only.
    2. **All Stages** – design and delivery of project Stages 1, 2 and 3.
    3. **Stage 1 (Partial)** – partial design and delivery of project Stage 1.
    4. **Do nothing** – not recommended due to CSIRO's greenhouse requirement being imperative for continuing research.

24. Table 1 details a summary of the proposed options.

Table 1: Options Summary

Recommended Option	CSIRO Executive Team Priority	Estimated Duration
Option 1 – Stages 1 and 2 only (Preferred)	Delivery of immediate critical project scope in an efficient timeframe	6 years
Option 2 – All stages	Delivery of the entire project scope	9.5 years
Option 3 – Partial Stage 1	Delivery of partial scope in the quickest timeframe	4.2 years
Option 4 – Do Nothing	Project does not align with organisations strategic direction	-

Comparison of options

Option 1 – Stages 1 and 2 only

Description

25. Option 1 is for the delivery of the design and construction of Stages 1 and 2 only. This option meets the immediate research requirements and allows for the most effective delivery timeframe to construction.

26. CSIRO funding Stages 1 and 2 in its entirety shortens the approval timeframe allowing for construction and end use to be reached in a faster timeframe.

27. Proceeding with Option 1 would require Stage 3 works to address the ageing greenhouse infrastructure to be submitted for approval separately in the future once the full scope of these additional works is known.

Other Benefits

28. Proceeding with Stages 1 and 2 only will have the following benefits:

    a. An earlier construction commencement date will result in less escalation applied to project costs.
    b. Capitalisation on the insurance indemnity payout funding available.
    c. Concurrent procurement and delivery activities can occur.
    d. Stage 3 can benefit from the learnings of Stages 1 and 2 delivery if given approval to proceed at a later date.
    e. Delivery of the project in two stages allows for Stage 3 to reviewed and fined closer to second approval date.

Solution Risk

29. Stages 1 and 2 only option has the following solution risks.

    a. Opportunity cost of internal funding
    b. Stage 3 is not included in the project and would be subject to a separate approval.
    c. Unavailability of future funding for Stage 3 works.

Option 2 – All Stages

Description

30. Design and delivery of all proposed project stages with funded sources from both CSIRO and NPP. Given the significantly larger project value of delivering all three stages, it is expected that funding will be more difficult to secure.

Other Benefits

31. The All Stages option will have the following benefits:

    a. Entire project scope is approved at once and funding is secured.
    b. Capitalises on the indemnity payout funding available.

Solution Risk

32. The All Stages option has the following solution risks:

    a. Project scope and requirements for Stage 3 may change by the time approval is received, ultimately leaving the deliverables not fit-for-purpose.
    b. The extended delivery time increases the total expected project cost due to escalation.
    c. NPP approval extends the project duration, increasing the amount of time to construction completion and end use.

Option 3 – Partial Stage 1

Description

33. Partial delivery of the design and construction of Stage 1 would allow for the quickest construction delivery option. However, this option would only deliver a small portion of the scope and would not provide a satisfactory outcome to meet the research need.

Other Benefits

34. Partial delivery of Stage 1 option will have the following additional benefits:

    a. Remainder of Stages 1, 2 and 3 can benefit from the learnings of partial Stage 1 delivery if given approval to proceed at a later date.

Solution Risk

35. Partial delivery of Stage 1 option has the following solution risks:

    a. Research need is not met.
    b. Remainder of Stage 1, Stage 2 and Stage 3 are not included in the project and would be subject to separate approvals.
    c. Project scope and requirements for the remaining works in Stages 2 and 3 may change by the time approval is received, ultimately leaving the deliverables not fit-for-purpose.

Option 4 – Do Nothing

Description

36. Option 4 to do nothing is not recommended as CSIRO's greenhouse requirement on Black Mountain is imperative for continuing agricultural research and delivery on CSIRO's Corporate Plans and objective to conduct and encourage the uptake of world-class scientific research.

Preferred option

37. The CSIRO Research Units and CSIRO Business and Infrastructure Services (CBIS) preferred option documented in the Business Case, is Option 1 for the design and delivery of Stage 1 and Stage 2 of the Greenhouse Project. This is due to the accelerated delivery timeframe which enables the prioritised delivery of critical greenhouses to meet the immediate research need, while allowing future stages to be refined and submitted for separate approvals based on long term strategic vision.

38. The risks identified for the option can be mitigated. Mitigations have been costed for consideration as part of the budget.

Scope of works

39. The scope of the project under the preferred option is to construct new greenhouses to meet the agricultural research requirements:

    a. Stage 1 provides new greenhouses which will significantly assist in re-establishing critical capability that was lost after the 2020 hailstorm; and
    b. Stage 2 will realise the construction of additional greenhouses that may be required to address any gaps that may persist and cannot be accommodated within the Stage 1 developments.

Site selection

40. The greenhouse redevelopment consists of a Northern and Southern Precinct located within the CSIRO Black Mountain site at Block 3 Section 2 Canberra Central Acton, accessible from Clunies Ross Street Acton. The greenhouse redevelopment is proposed on the existing greenhouse sites.

Zoning and approvals

41. All design documentation are complied with the applicable occupational health and safety and environmental legislation and the requirements of the National Capital Authority (NCA), as well as specific CSIRO requirements.

    a. The environment consultant confirmed that a referral under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) is not required, as the area does not contain habitat of any significant species.

    b. The proposed project was reviewed by the heritage consultant against the CSIRO Black Mountain Heritage Management Plan, and it was confirmed that two Commonwealth Heritage listed sites within the CSIRO Black Mountain site are located outside of the boundary of the project area. The project team has implemented all reasonable measures to mitigate the potential impact of the project.

42. Works Approval was obtained from the NCA in May 2025. A suitably qualified design contractor has been appointed to carry out inspections during the construction phase to

confirm the building work is being undertaken in accordance with the NCA's Works Approval.

43. A suitably qualified design contractor has been appointed to carry out inspections during the construction phase to confirm the building work is being undertaken in accordance with the NCA's Works Approval.

Details of applicable codes and standards

44. The project will comply with all relevant statutory requirements including the National Construction Code (NCC) and relevant Australian Standards. In addition, CSIRO has several standards and guidelines that must be met. These include:

    a. CSIRO National Greenhouse Strategic Principles, Strategic Overview and Capability Guidelines
    b. CSIRO Black Mountain Greenhouse Strategy
    c. CSIRO Environmentally Sustainable Design (ESD) Principles
    d. CSIRO Structured Cabling Specification

45. A building certifier will be appointed for the project and will provide a certificate confirming the design documents meet the National Construction Code 2022 (NCC) and relevant Australian standards prior to occupation.

Details of land acquisition

46. This project does not involve the acquisition or sale of land by the Commonwealth.

Planning and design concepts

47. The general design philosophy for the proposed facilities incorporates the following principles outlined in the 2021 CSIRO Black Mountain Greenhouse Strategy:

    a. Joint Use
    b. Utilisation
    c. Functionality
    d. Shading
    e. Safety and Fit-For-Purpose
    f. Compliance Performance

g. Enclosure Material Types and Durability

48. Concept design plans are provided at Annexure 3 of this submission.

Functional Spaces

Northern Precinct

49. The Northern precinct comprises of the 2,716m2 of facilities as follows:

a. Central mechanical plant area consisting of 3 heat pumps in a dedicated plant enclosure, two thermal storage water tanks, water circulation pumps, and a new padmount electrical substation.
b. PC2 Greenhouses
c. Speed breeding facility
d. New nursery cage, and
e. Re-cladding of existing polycarbonate PC2 greenhouses.

Southern Precinct

50. The Southern precinct is comprised of a single shade house building. The Southern Precinct has an area of 280m2. Refer to annexures for the locality and site plans.

Materials and Finishes

51. Materials and finishes have been selected for quality, durability, functionality, ease of maintenance and cleaning, availability of local support, supply and replacement.

52. The large greenhouses have a material and finishes palette that includes plexiglass cladding for the growth rooms and solid cladding for the ancillary spaces over lightweight steel structures. Shade cloth, plastic (polyethylene) sheet and chain wire mesh over the lightweight steel structure are used for the various shade house, poly tunnel and nursery cage structures.

Electrical and Communications Services

53. The project has undertaken a review of the existing required demand. Each greenhouse will be provided with a dedicated distribution board. Submain cabling to these distribution boards will be reticulated from the Site Main Switchboard.

54. The Principal Design Consultant (PDC) have engaged with Evo energy (utility provider) and submitted appropriate applications to make adjustment to the high voltage and low voltage cabling through the site. This has included a site visit by EVO energy with the consultant Electrical Engineer, and review of the asset infrastructure by EVO energy post-visit. The PDC have also confirmed acceptance by EVO energy of the HV supply and HV and LV relocation as proposed in the design. The associated cost is included in the overall project budget.

55. The new fully electric mechanical plant will significantly increase the maximum demand of the site. If the new electrical load cannot be accommodated within existing infrastructure, a new padmount substation will be constructed to cater for the increased load.

Mechanical Services

56. The central chilled water and heating hot water plant will consist of an all-electric reverse cycle 4-pipe heat pumps, that is capable of simultaneously supplying chilled water and heating hot water.

57. Each greenhouse module will have a single air handling unit providing totally independent temperature and humidity control in line with the capability of the selected plant. These units will either be dedicated chilled water (CHW) / heating hot water (HHW) air handling system or an evaporative cooling only air handling system depending on the internal conditions required.

58. Each polytunnel will have a simplified evaporative cooling and heating system.

59. The Speed Breeding Facility will be served by a single air handling unit per growth room. These units will be smaller in capacity than the greenhouse air handling units due to the reduced solar loads in the speed breeding rooms.

Fire Protection

60. The site is currently protected with the existing fire hydrant system and current fire hydrant locations within the project site are sufficient. Portable fire extinguishers will be applied in line with the National Construction Code.

Hydraulic Services

61. Hydraulic services will include roof water drainage, sewerage ejector pumping station, and hot and cold water systems.

Security

62. The physical and electronic security systems will comply with the Australian Government Protective Security Policy Framework (PSPF).

63. The existing Gallagher access control security systems will be expanded to integrate with the facility. Electronic access control will be installed in the larger greenhouses.

Provisions for people with disabilities

64. The Black Mountain Greenhouse project will be designed to comply with the latest edition of AS1428.1 Design for access and mobility and the NCC.

Other issues

Work health and safety

65. Safety in design workshops have been convened with stakeholder engagement to identify, mitigate, and assign risk management responsibilities as appropriate throughout the design, construction, operation, and end of life demolition processes.

Sustainable Design

66. The CSIRO Black Mountain Greenhouse Strategy proposed sustainability be investigated and allowed for in the project. The following ESD principles have been incorporated into the design:

    a. Climate Change Resilience
    b. Energy
    c. Innovation to Building
    d. Thermal Storage
    e. Water
    f. Waste
    g. Materials

h. Landscape

67. The project emphasises sustainable design and advanced engineering solutions. It includes the construction of innovative greenhouses equipped with modern climate control systems and energy-efficient technologies. These enhancements will not only improve research capabilities but also safeguard the longevity and sustainability of the facilities. This redevelopment underscores CSIRO's commitment to advancing agricultural science while prioritising environmental sustainability and resilience against future climatic challenges.

68. In response to the Australian Government's Environmentally Sustainable Procurement (ESP) policy reporting framework, published July 2024, the project will aim to achieve a 4-star Green Star – Buildings rating through the 'Climate Positive Pathway'.

Environment

69. Three threatened terrestrial bird species listed under the EPBC Act may occasionally occur within the proposed action area, however the area does not contain habitat of any importance for these species. No flora species or ecological communities listed under the EPBC act are likely to occur within the action area, given the build and landscaped nature of the site.1 The project is unlikely to impact upon any threatened species or communities.

Heritage

70. There are two Commonwealth Heritage listed sites- within the CSIRO Black Mountain site, however they are located outside of the boundary of the project area. They are:

a. CSIRO Main Entomology Building Clunies Ross St; and
b. Phytotron Julius St.

71. The impact area is located within a totally disturbed, constructed and landscaped built precinct.

72. The proposed action has been reviewed against the CSIRO Black Mountain Heritage Management Plan, and assessment undertaken to confirm impact against the policies within. CSIRO has implemented all measures that can reasonably be taken to mitigate the impact of the action.

[1] Biosis Pty Ltd, 'Ecological Assessment for CSIRO Masterplan, Canberra. Project no 16768,' 2014

Australian Industry Participation

73. The project will implement an Australian Industry Participation (AIP) Plan. The AIP Plan ensures the project will:

    a. provide information to Australian industry;
    b. provide full, fair and reasonable opportunities to Australian industry; and
    c. assist longer-term participation by Australian industry.

Public Transport

74. The site is serviced by numerous bus routes along Barry Drive, arriving at least every five minutes during peak times, providing direct connections to Canberra City and Belconnen Town Centre.

75. The ACT Government is currently considering options for Clunies Ross Street and Barry Drive, which may be impacted by future extensions to the Canberra Light Rail network. These extensions are expected to be beneficial to staff access

Staff Impact

76. CSIRO staff are not required to be relocated as a result of the project.

77. There is no change to CSIRO staff operations that requires a change management strategy.

External Consultation

78. The external consultation activities have commenced. Letters outlining the project impact, expected benefits, and timeframes as outlined in this Statement of Evidence are currently being prepared and will be sent to the following identified external stakeholders by the end of July 2025:

    a. Federal Government
        i. Minister for Industry, Innovation and Science Hon Tim Ayres
        ii. Mrs Katy Gallagher MP – Senator for Australian Capital Territory
        iii. Ms Alicia Payne – member for Canberra
        iv. Mr David Pocock MP– Senator for Australian Capital Territory
    b. Local Government Representative (Kurrajong)
        i. Chief Minister Mr Andrew Barr

ii. Ms Elizabeth Lee MLA
iii. Mr Shane Rattenbury MLA
iv. Mr Thomas Emerson MLA
v. Ms Rachel Stephen-Smith MLA

c. Office of the Federal Safety Commissioner (OFSC)
    i. Branch Manager and Federal Safety Commissioner Ms. Jane Heffernan
d. Local Government Departments
    i. Environment, Planning and Land Services
e. Other Organisations
    i. National Capital Authority (NCA)
    ii. Australian National University
    iii. Australian National Botanical Gardens
    iv. United Ngunnawal Elders Council
f. Residents local to the site.

Afterhours Noise and Vibration

79. Construction activities, including afterhours work, may be required to meet project deadlines. However, efforts will be made to minimise noise and vibration impacts during these periods. All afterhours activities will be carefully planned and managed to reduce disruptions to the surrounding community.

Heavy Vehicles and Contractor Parking

80. CSIRO will ensure the project:

    a. Appropriately provides Contractor parking and access, and
    b. Heavy vehicles do not 'wait' on public roads.

81. CSIRO will endeavour to achieve these objectives by managing parking and vehicle access entirely within the CSIRO site.

Internal Consultation

82. An ongoing information and consultation process with CSIRO staff has continued from project inception. CSIRO staff have been consulted via questionnaires, workshops and

meetings as part of each design phase milestone with their feedback documented as part of each design milestone deliverables.

83. The following CSIRO Research Units have been consulted throughout the design process:

    a. Agriculture and Food
    b. Health and Biosecurity
    c. Environment
    d. National Collections & Marine Infrastructure

84. The following CSIRO Business Support units have been consulted throughout the design process:

    a. Facilities and Management
    b. Health Safety and Environment (HSE)
    c. Information Management and Technology (IM&T)
    d. Sustainability

Cost effectiveness and public value

Outline of Total Project Costs

85. The P80 cost estimate for the project confirms the project is within the project budget of $37.9 million (excluding GST) and includes internal staffing costs, contingency, project management, design, documentation and escalation to August 2027.

86. The P80 cost estimate is based on the preferred option (Option 1) and has been prepared by the CSIRO's quantity surveyor.

Funding

87. As a Commonwealth entity, CSIRO participates in the Comcover Fund, which is the Australian government's (Commonwealth) self-managed insurance fund (Comcover), which provides Fund Members with cover for all general insurable risks and is subject to the terms, conditions, and exclusions of the Comcover Statement of Cover, with the exception of workers' compensation (which is provided by Comcare). As a result of the 2021 Hail Damage event and due to the nature of the greenhouse damage, CSIRO was able to seek an indemnity payout for greenhouses that aren't being rebuilt or replaced.

88. The two primary sources of internal funding for major capital projects are through either CBIS capital works or CSIRO cash reserves. The project will be funded through CSIRO cash reserves only.

89. The project will be funded through

    a. Insurance Indemnity Settlement ($6.7 million), and
    b. CSIRO internal cash reserves ($31.2 million).

90. The budget allocation is sufficient to cover the anticipated cost of the project.

Delivery Methodology

91. To deliver the construction works, CSIRO will procure a contractor via an open request for tender process advertised on the AusTender procurement website. The construction contractor will be engaged under a head contract for delivery of the construction works.

92. CSIRO has engaged a suitable qualified design contractor to design, document and ensure the project is delivered to CSIRO's quality, and budget expectations.

93. CSIRO has engaged a suitably quantity surveyor, who has prepared the P80 cost estimate, and the project cost plan based on the schematic design documentation.

94. CSIRO has engaged a client-side project manager, to ensure project objectives are achieved, main benefits are realised, and the cost, quality and time risks are mitigated.

Delivery Program

95. Subject to Parliamentary approval, the key milestones for the project are:

    a. National Capital Authority Works Approval — May 2025
    b. 90% Detailed Design — August 2025
    c. Construction Commence — January 2026
    d. Construction Complete — June 2028

Public Value

96. The public value associated with the project includes:

a. Undertaking research and development for government and industry that leads to improved preparedness and responsiveness to plant (as well as animal) biothreats.
b. There is a 56% gap between the amount of food the world produces today and the food the world will need by 2050[2]. Australia aims to exceed AUD$100 billion in farm gate output by 2030[3] but current farming practices are reaching production limits, requiring new approaches to maintain viability in many Australian regions. CSIRO is addressing this gap by growing a sustainable future for Australia's agri-food and fibre sectors through by future-proofing farming systems to proactively manage risk and be resilient to biotic threats, adapt to changing climates and use resources efficiently.
c. Enable food and nutritional security through a whole of food system approach that is environmentally sustainable, socially just and economically viable.
d. Deliver crops that are fit for future climates and markets through gene-editing, genetic modification and conventional breeding.
e. Enhance biosecurity resilience by prioritising high-consequence threats that affect plant and environmental health.
f. Provision of fit-for-purpose and sustainable research infrastructure that stimulates collaborative networks in Australia's innovation ecosystem to deliver long-term national benefit.

Value for Money

97. In assessing the options available, CSIRO undertook a whole-of-life cost assessment and determined that the proposed project provides a good value for money property solution.

Revenue

98. There is no expected revenue from the project.

[2] World Resources Institute, 2018, 'How to sustainably feed 10 billion people by 2050'

[3] National Farmers' Federation, 2021, '2030 Roadmap'

Annexures

Annexure 1 – Damaged greenhouse infrastructure

Figure 1 - Damaged Greenhouses

Figure 2 - Damaged Greenhouses – Northern Precinct

Annexure 2 – Site location plan

Figure 3 - Site Location

Annexure 3 – Concept designs

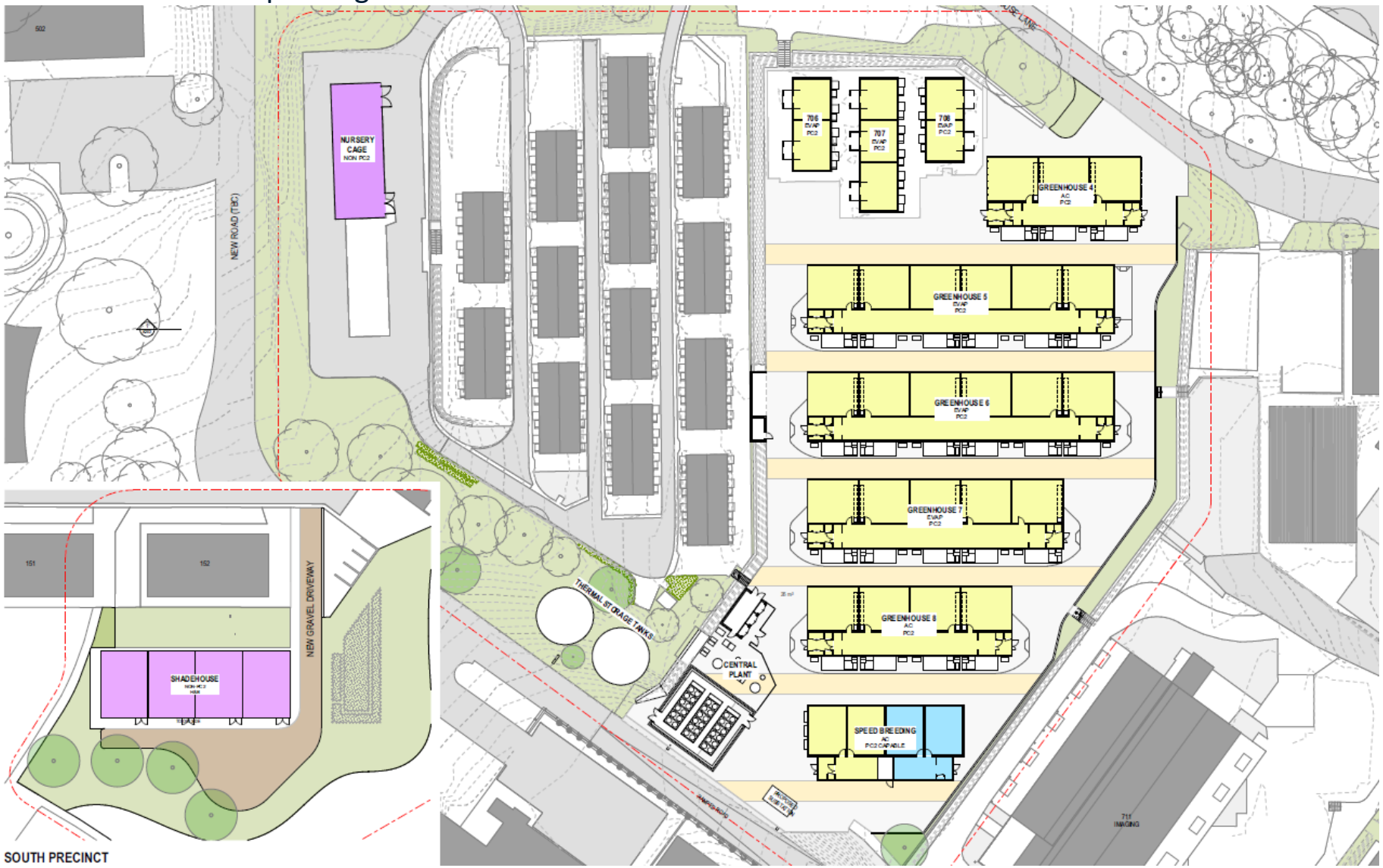

Figure 4 – Site Plan – Northern and Southern Precincts

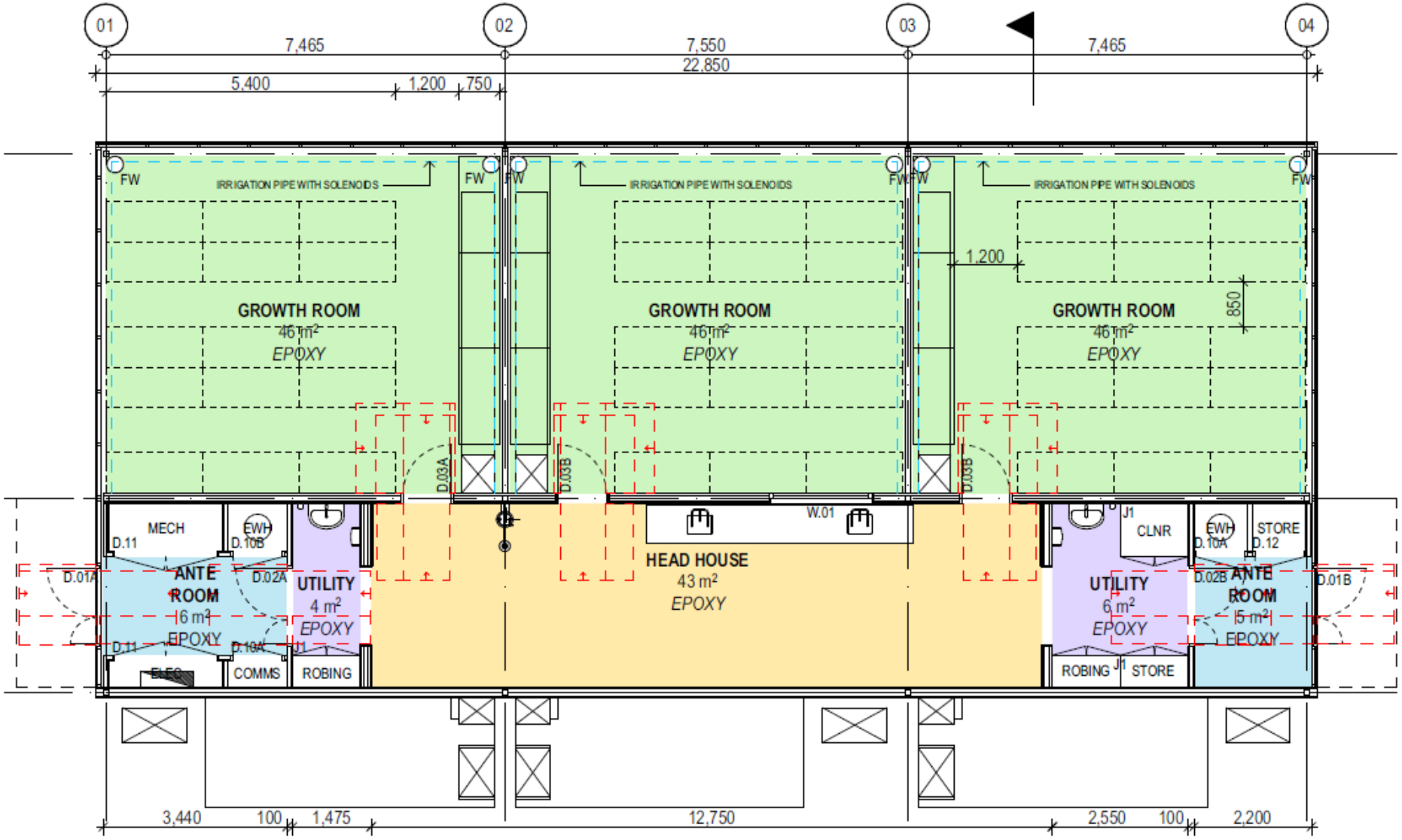

Figure 5 - PC2 Greenhouse floor plan layout

Figure 6 – Facing Northwest toward Back Mountain

Figure 7 – PC2 Greenhouses