

Biodiversity Garden
Australian Museum

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CONSULTANTS
Architects
HAMES SHARLEY
NEESON MURCUTT ARCHITECTS

Date
13.09.18
Issue
for development application
Revision
A

Australian Museum
Biodiversity Garden - context plan • scale 1:1000 @ A3 • September 2018
for the Australian Museum

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Biodiversity Garden

Australian Museum

the proposal

The floating crystalline form of the new entry to the Australian Museum frames a protected open-air space for gathering below. The expansion of the Crystal Hall entry to the Australian Museum is proposed in conjunction with a new and separate group entry on the lower ground floor. The new entry is configured as a biodiversity garden and immersive landscape address. This garden acts as a collective space for outdoor teaching, storytelling, performance and lunching. Suited to visitor groups comprised of up to 3 classes, or sixty children.

The principal work centres on the realignment of stairs to this lower ground group entry. Presently the stairs directly address William Street and are often confused as a secondary entrance to the Museum. In this proposal the stairs are realigned and accessed from within the Biodiversity Garden, giving prominence and increased legibility to the Crystal Hall Entrance from College Street- the main public entry to the Museum.

The work for approval includes the design of the Biodiversity Garden and amendments to the public domain that incorporate a dedicated bus drop off and pick up bay for schools and other group visitors, as well as a new planted embankment along the William Street frontage north of the garden.

access from the street

The steep gradient of the footpath on William Street makes equal access via College Street to the west and Yurong Street to the east impossible. The colocation of a bus stop on grade with the group entry, while not achieving compliant cross falls of <1:40, makes it possible for visitors in wheelchairs and with ambulatory concerns to be more easily assisted to the group entry. This arrangement offers an operational rather than a fully compliant solution for group access.

The provision of the bus stop on grade with the group entry to the Museum will result in the removal of four vehicular parking bays along with the pavement extension and bike parking racks in this location. Five bike racks have been proposed as part of the new works. Localised kerb and services adjustments will be required not only to reconfigure the bus parking bay but also to adjust the location of two replacement street trees. The proposed street trees are arranged to provide as much continuous canopy cover to the pavement as possible but vary from the symmetrical arrangement east of the Museum. Trees will be supplied and installed in accordance with the City's guidelines. Footpath levels remain unaffected.

access within the biodiversity garden

The requirement for an 8 metre fire egress path from the basement and lower ground levels of the Museum defines a wide threshold to the Biodiversity Garden. This path connects to a kiosk located under the new stair and close to passers-by on William Street. Entry gradients are generally compliant, enabling access into the forecourt and along the main path of travel to the stairs and lower ground entrance above. As well as the basement level entry and internal lift for those visitors unable to use the stairs.

One section of entry pavement is however, not strictly compliant. Folding to a 1:10.8 gradient to meet the existing footpath levels alongside the entry garden at its lower extent. While this grade is deemed accessible for fire egress, the extent of the 1:20 accessible pathway will be highlighted through stone selection, colour and finish to increase legibility and safety.

garden threshold

The entry to the garden adjoins an expanded landscape frontage that immediately transports the visitor from the urban environs of William Street into an archetypal landscape. The ground plane features a tessellated pavement, which abstracts the crystalline façade above and acts as a dark geometric foundation playing off the reflective zinc soffit. Like sacred rock foundations, the hexagonal paving shifts across the floor making a flexible gathering space edged by a stone lined pond and frog habitat.

seating

As a gathering place, the garden contains a variety of seating types allowing for multiple teaching practices and methods of engagement with pupils. Along the building, angled seating amplifies the zig-zag of the paving, mirroring the public seating at the entry to Crystal Hall. The 'V' formation creates spaces for smaller groups with back and arm rests offering comfort. Elsewhere stone seats appear extruded from the pavement like large crystals and arranged in an informal 'yarning circles', making places to perch, do classwork, and lunch.

□

materials

The material palette is selected to respond to the historic context of the museum, and to compliment the architecture of the Crystal Hall. The tessellated pavement and geometric, extruded stone seats, in Wee Jasper bluestone, reflect the crystalline form of the hall above. In their tones of blue-greys and golden browns, the paving forms a visual link between the materiality of the adjacent city paving and the sandstone character of the museum. The intriguing textures and colours of the selected paving is intended to spark curiosity and conversations about geology and mineralogy.

The angled seating in metal along the building forms a contrast to the solidity of the paving and extruded seats, with a light, floating appearance that relates to the hall above. The re-aligned stairs utilize the existing pink granite to provide continuity and visual connection to the warm sandstone façade.

planting

The surrounding garden encourages curiosity and displays two unique biotopes. On the sunny, north facing street frontage, the garden contains species derived from Hawkesbury Sandstone based ecological communities, including xanthorrhoea species, while deep inside this space the garden is populated with Hawkesbury Sandstone based rainforest species and ancient plants. Mosses and liverworts, ferns and cycads or primitive angiosperms like the Bolwarra, *Eupomatia laurina*, showcase diverse forms of nature and stratagems for survival. Edible indigenous plants are woven into the garden, providing educational opportunities on site, with a hive of native stingless bees hidden amongst the foliage. Like a scientific garden, the planting could continue the cellular grid established with the stones, framing geometrically defined classification gardens with monocultures of low-growing bryophytes and pteridophytes, misting jets controlling the atmosphere.

The garden is not a space for harvesting or a vessel of threatened species but a curated urban habitat. The garden contends with overlapping concerns of biodiversity, sustainability and cultural connection, creating a resonant and elemental space for museum visitors and students.

CONSULTANTS	Architects	Date 13.09.18	Issue for development application	Revision A	Australian Museum Biodiversity Garden - landscape statement • NTS • September 2018 for the Australian Museum sue barnsley design landscape architecture studio 102 120 Bourke Street Woolloomooloo 2011 email: sue@suebarnsleydesign.com	
	HAMES SHARLEY					
	NEESON MURCUTT ARCHITECTS					

KEY

ex + 20.00 existing RL

+ 20.00 proposed RL

T1: existing *Platanus x hybrida* retained & protected

existing trees to be retained & protected

T2: 1 x *Eucalyptus* sp.

T3-5: 3 x *Angophora costata*

- SRZ shown dashed blue
- TPZ shown dashed black
- remedial pruning as required
- refer arborist report

proposed *Platanus x acerifolia* 200Lt

existing tree to be removed

- T7 *Corymbia ficifolia*
- refer arborist report

demolition

existing paving

existing street lights

existing public telephone

1 views to cathedral remain unimpeded

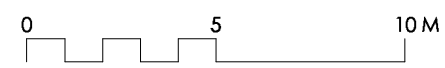
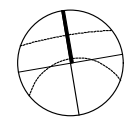
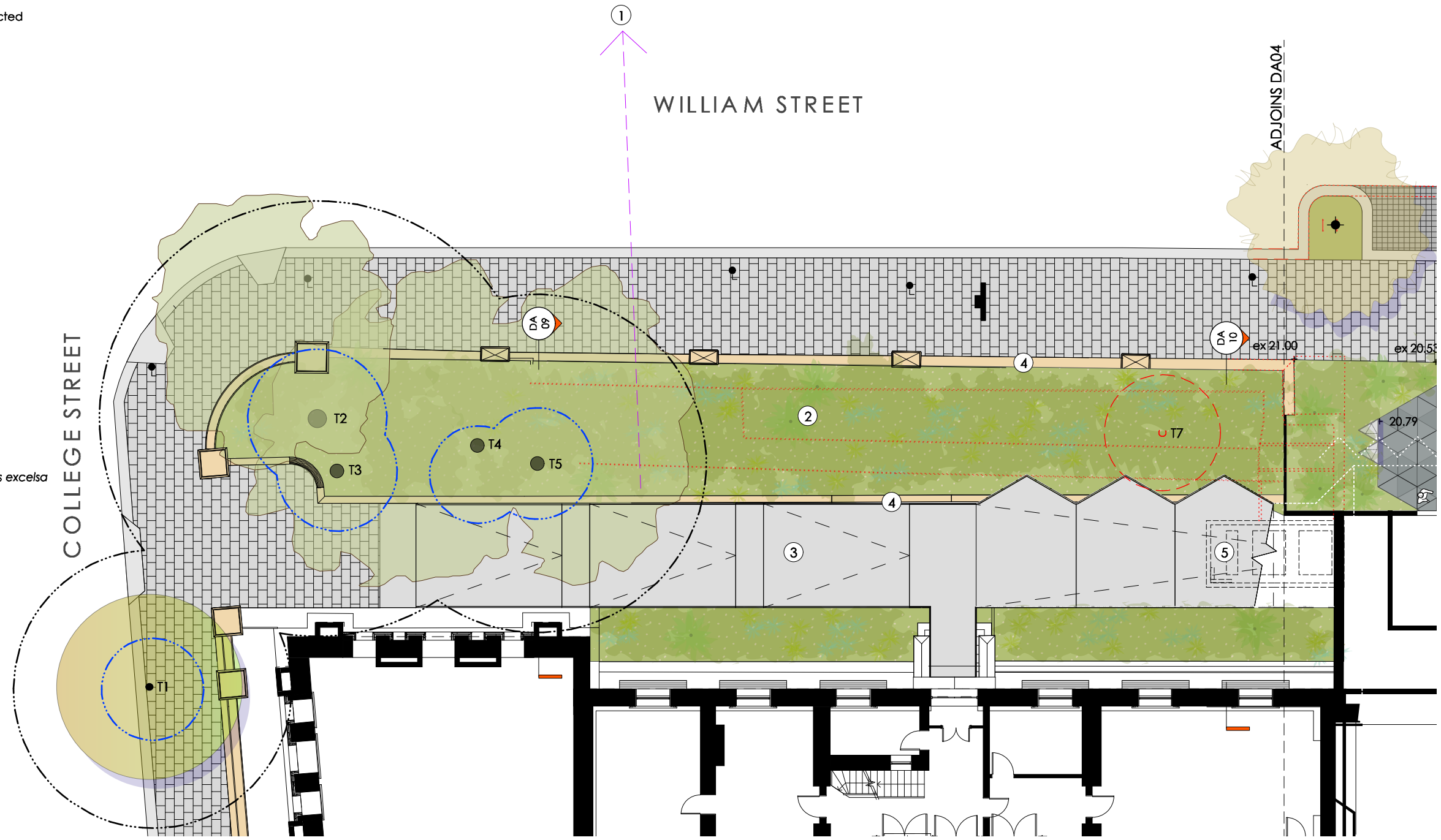
2 existing timber retaining walls to be removed

- all planting to be replaced except *Doryanthes excelsa*
- embankment regraded and replanted

3 existing Crystal Hall entry ramp

4 existing sandstone walls to be retained

5 existing services under ramp



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Issue for development application

Revision A

Australian Museum

Crystal hall entry - landscape concept plan • scale 1:200 @ A3 • September 2018

for the Australian Museum

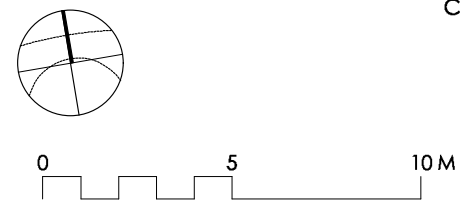
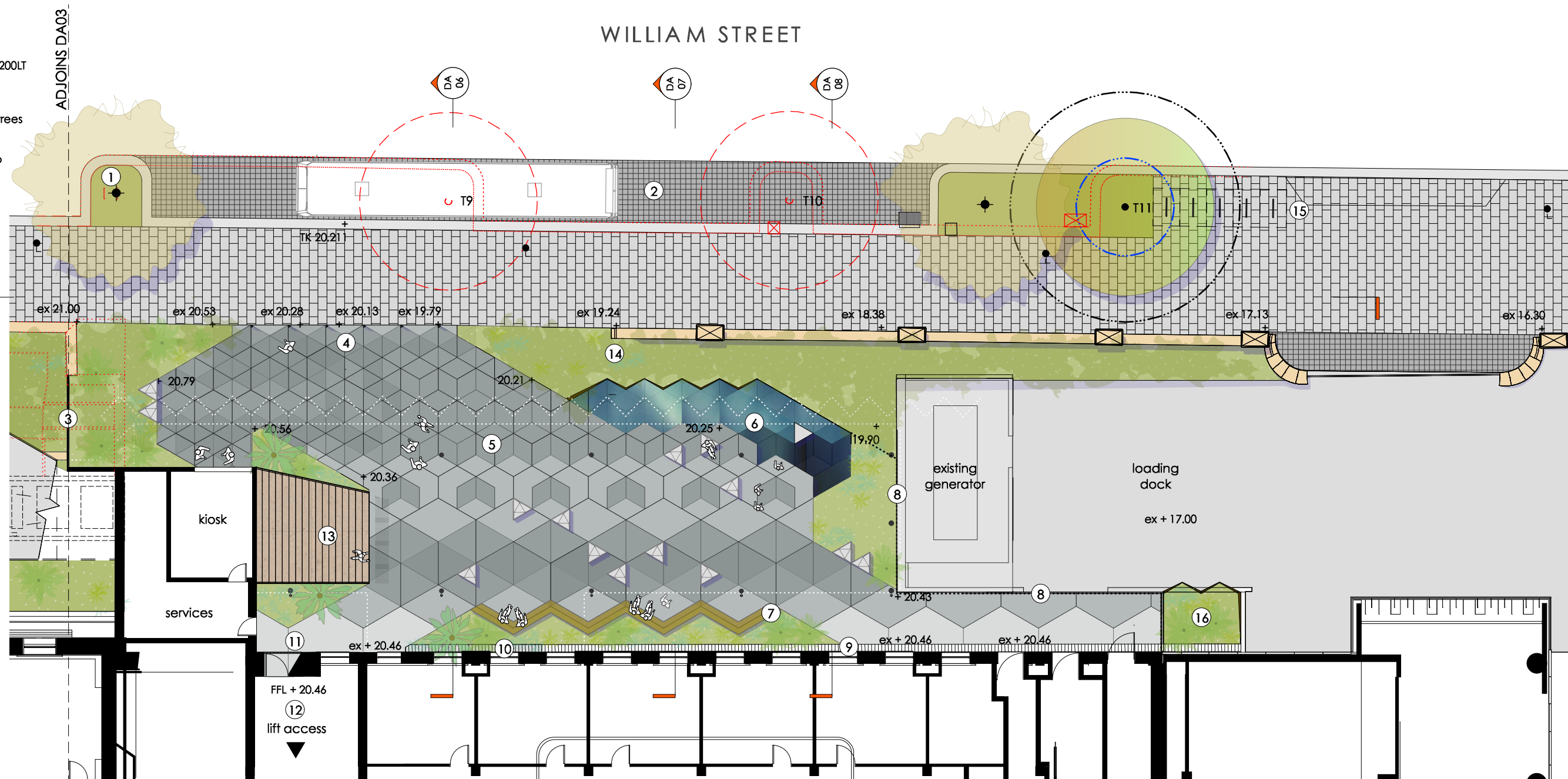
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DA
03

- KEY
- ex + 20.00 existing RL
- + 20.00 proposed RL
- T11: existing *Platanus x hybrida* retained & protected
- SRZ shown dashed blue
- TPZ shown dashed black
- proposed *Platanus x acerifolia* (2) 200LT
- in kerbside planter to cos standard details
- T9-T10: existing *Platanus x hybrida* trees removed
- existing services to be relocated to eastern planter
- relocated services
- existing stormwater relocated
- relocated stormwater
- existing wall/kerb removed
- existing paving
- existing street lights
- extruded stone seats (14)
- Wee Jasper bluestone
- 1 existing bicycle racks removed (2)
- 2 proposed bus drop off
- 14.5m rigid bus
- granite cobbles to CoS standard details
- existing parking bays removed (4)
- 3 new wall to architects detail
- 4 8m egress with security bollards
- chain security fence at closure times
- 5 Wee Jasper bluestone
- chevron cut paving
- 6 frog pond
<300mm depth
- 7 custom seating bench with metal arm rests
- 8 metal balustrade to replace glazing
- 9 existing grated drain
- 10 proposed grated drain type 1 to match existing
- 11 grated drain type 2 at entry door
- 12 basement group entry
- 13 stairs to group entry at lower ground level
- 14 chamfer cut to end of heritage wall
- 15 bicycle parking bay (5)
- 16 planter on structure



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DA
04



planter on structure

proposed steel
balustrade

proposed
Platanus x hybrida

frog pond

proposed chamfer
to sandstone wall

8m egress with
security bollards

proposed kiosk

○ northern elevation crystal hall & biodiversity garden
Scale: 1:150

Date	Issue	Revision
13.09.18	for development application	A

Australian Museum
Northern elevation 01 Crystal hall & Biodiversity garden • scale 1:150 @ A3 • September 2018
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DA
05



proposed drain grate planter edge stairs to lower ground planted seating area in front of kiosk William Street

○ group entry to lower ground & basement
Scale: 1:50

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DA
06



Date
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○ frog pond east
Scale: 1:50

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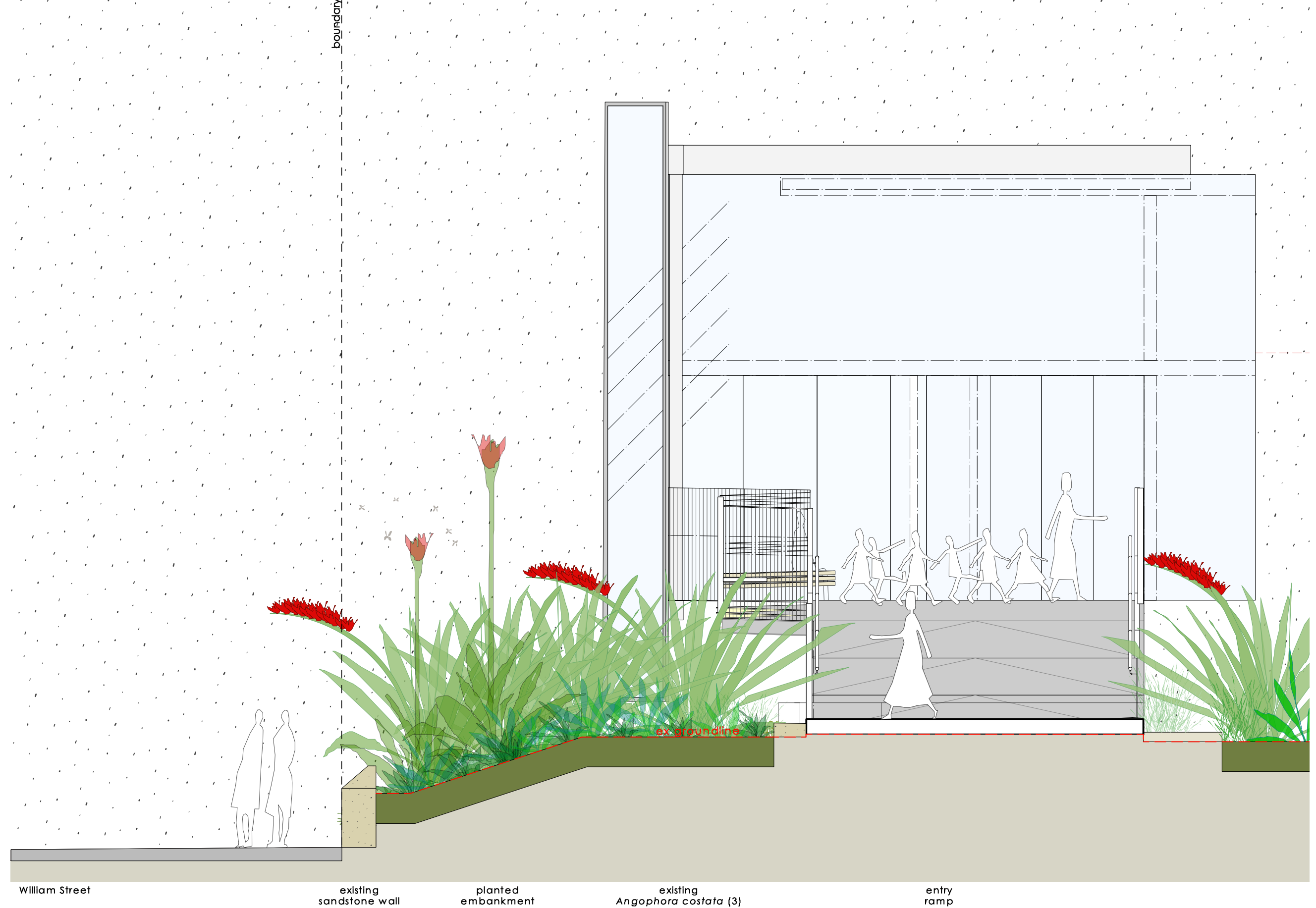
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Biodiversity Garden - section 03 • scale 1:50 @ A3 • September 2018
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DA
08



Date
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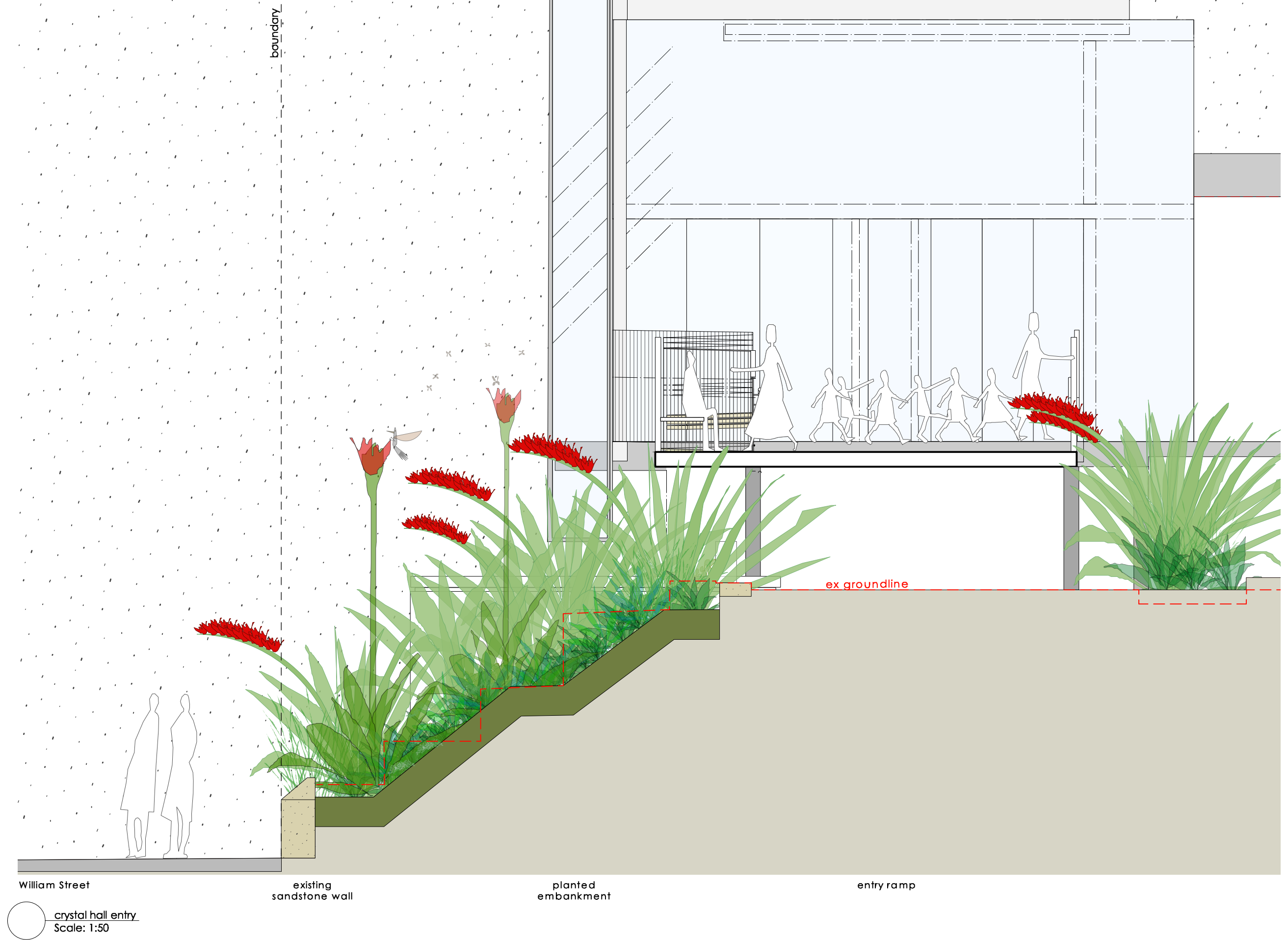
Australian Museum

Crystal hall entry - section 04 • scale 1:50 @ A3 • September 2018
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DA
09



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Australian Museum

Crystal hall entry - section 05 • scale 1:50 @ A3 • September 2018
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DA
10

CRYSTAL HALL ENTRY



Doryanthes palmeri - Giant Spear Lily - 3m leaves - 5m flower spike flowers irregularly



Kennedia rubicunda - Dusky Coral Pea - 4m stems - flower dark red to purple winter/spring



*Dianella caerulea** - Blue Flax Lily - 0.75m - flowers dark blue/spring/summer

BIODIVERSITY GARDEN



Platanus x hybrida - Plane Tree - 15m - 30m - flowers pale green buds



Cyathea cooperi - Tree Fern - 5m



*Macrozamia communis** - Burrawang - 1m - 2m



Pteris vittata - Chinese Brake - 0.30 - 0.80m



Asplenium australasicum - Birds Nest Fern - 0.60 - 0.80m



Synoum glandulosum - Scentless Rosewood - 7m - flowers pinkish white spring



*Pteridium esculentum** - Bracken Fern - 0.6 - 1.5m



Doodia aspera - Prickly Rasp Fern - 0.20 - 0.40m



*Blechnum indicum** - Swamp Water Fern - 0.30 - 0.70m



Blechnum patersonii - Strap Water Fern - 0.20 - 0.50m

*edible/educational

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*Xanthorrhoea arborea** - Grass Tree - trunk 1m - 2m flower 1.6m in late summer



*Banksia robur** - Swamp Banksia - 1m - 2m - flowers cream to pale green turning rusty brown



*Dendrobium speciosum** - Sydney Rock Orchid - 0.45m - flowers creamy yellow winter to spring



*Arthropodium milleflorum** - Pale Vanilla Lily - 0.6 - 0.8m - flowers white to pale blue or pink in summer



*Mentha saturojoides** - Native Mint - 0.20m - flowers white throughout the year



Schizaea bifida - Forked Comb Fern - 0.25 - 0.35m



Schizaea dichotoma - Branched Comb Fern - 0.20 - 0.40m



Schizaea rupestris - 0.5 - 0.12m



*Geitonoplesium cymosom** - Scrambling Lily - stems to 8 m - flowers mauve to white spring/summer



Selaginella uliginosa - Swamp Selaginella - 0.40m



Gleichenia dicarpa - Pouched Coral Fern - 2m



Pyrosia confuens - Horseshoe Felt Fern - 0.30 - 0.70m
Pyrosia rupestris - Rock Felt Fern - 0.40 - 0.10m



Dichondra repens - Kidney Weed - 0.15m - flowers green/yellow - year round

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BIODIVERSITY GARDEN - PRELIMINARY PLANT SCHEDULE

Latin name	Common name	Nominal spacing mm	Schedule size	Minimum height	Mature height	Calliper
Trees						
<i>Platunus x hybrida</i>	Plane Tree	as shown	200L	4m	15 - 30m	60mm
Shrubs						
<i>Banksia robur</i>	Swamp Banksia	2000	25L	1.4m	1.0 - 2m	25mm
<i>Doryanthes excelsa</i>	Gymea Lily	2000	200mm	0.45m	2.5m	-
<i>Doryanthes palmeri</i>	Giant Spear Lily	2000	200mm	0.45m	3.0 - 5m	-
<i>Cyathea cooperi</i>	Tree Fern	2000	45L	0.7m	5.0m	-
<i>Synoum glandulosum</i>	Scentless Rosewood	2000	45L	1.7m	7.0m	40mm
<i>Macrozamia communis</i>	Burrawang	600	45L	0.7m	1.0 - 2.0m	-
<i>Xanthorrhoea arborea</i>	Grass Tree	600	45L	0.75m	2.0m	-
Ferns + Groundcovers + Orchids						
<i>Asplenium australacium</i>	Birds Nest Fern	600	200mm	0.45m	0.80m	-
<i>Arthropodium milleflorum</i>	Pale Vanilla Lily	600	140mm	0.3m	0.60 - 0.80m	-
<i>Blechnum indicum</i>	Swamp Water Fern	600	140mm	0.25m	0.20 - 0.50m	-
<i>Blechnum patersonii</i>	Strap Water Fern	600	140mm	0.25m	0.30 - 0.70m	-
<i>Calochlaena dubia</i>	Rainbow Fern	600	140mm	0.25m	1.5m	-
<i>Dianella caerulea</i>	Blue Flax Lily	600	140mm	0.3m	0.75m	-
<i>Dendrobium speciosum</i>	Sydney Rock Orchid	600	20L	0.45m	0.45m	-
<i>Dichondra repens</i>	Kidney Weed	600	140mm	0.15m	0.15m	-
<i>Doodia aspera</i>	Prickly Rasp Fern	600	140mm	0.25m	0.20 - 0.40m	-
<i>Geitonoplesium cymosum</i>	Scrambling Lily	600	140mm	0.25m	stems to 8.0m	-
<i>Gleichenia dicarpa</i>	Pouched Coral Fern	600	140mm	0.25m	2.0m	-
<i>Kennedia rubicunda</i>	Dusky Coral Pea	600	140mm	0.25m	stems to 4.0m	-
<i>Mentha satureioides</i>	Native Mint	300	140mm	0.20m	0.20m	-
<i>Pteris vittata</i>	Chinese Brake	600	tube	0.25m	0.30 - 0.80m	-
<i>Pyrosia confluens</i>	Horseshoe Felt Fern	600	tube	0.20m	0.30 - 0.70m	-
<i>Pyrosia rupestris</i>	Rock Felt Fern	600	tube	0.20m	0.10 - 0.40m	-
<i>Schizaea bifida</i>	Forked Comb Fern	600	tube	0.25m	0.25 - 0.35m	-
<i>Schizaea dichotoma</i>	Branched Comb Fern	600	tube	0.25m	0.20 - 0.40m	-
<i>Schizaea rupestris</i>	Comb Fern	600	tube	0.25m	0.1.2m	-
<i>Selaginella uliginosa</i>	Swamp Selaginella	600	tube	0.25m	0.40m	-