

Archipelago

5 Hercules Street, Hamilton

Landscape statement of design intent

The Cullen

HERCULES STREET · HAMILTON

AMENDED IN RED

By: Jennifer Sneesby

Date: 29 January 2025


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Approval no: DEV2024/1579

Date: 05 February 2025


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—DOCUMENT ISSUE RECORD

Client:	Limitless	
Report:	5 Hercules Street Hamilton	
	Statement of Landscape intent	
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06/07/22	Issued for DA_A	DP
19/12/23	Issued for DA_B	DP
10/05/24	Issued for DA_C	DP
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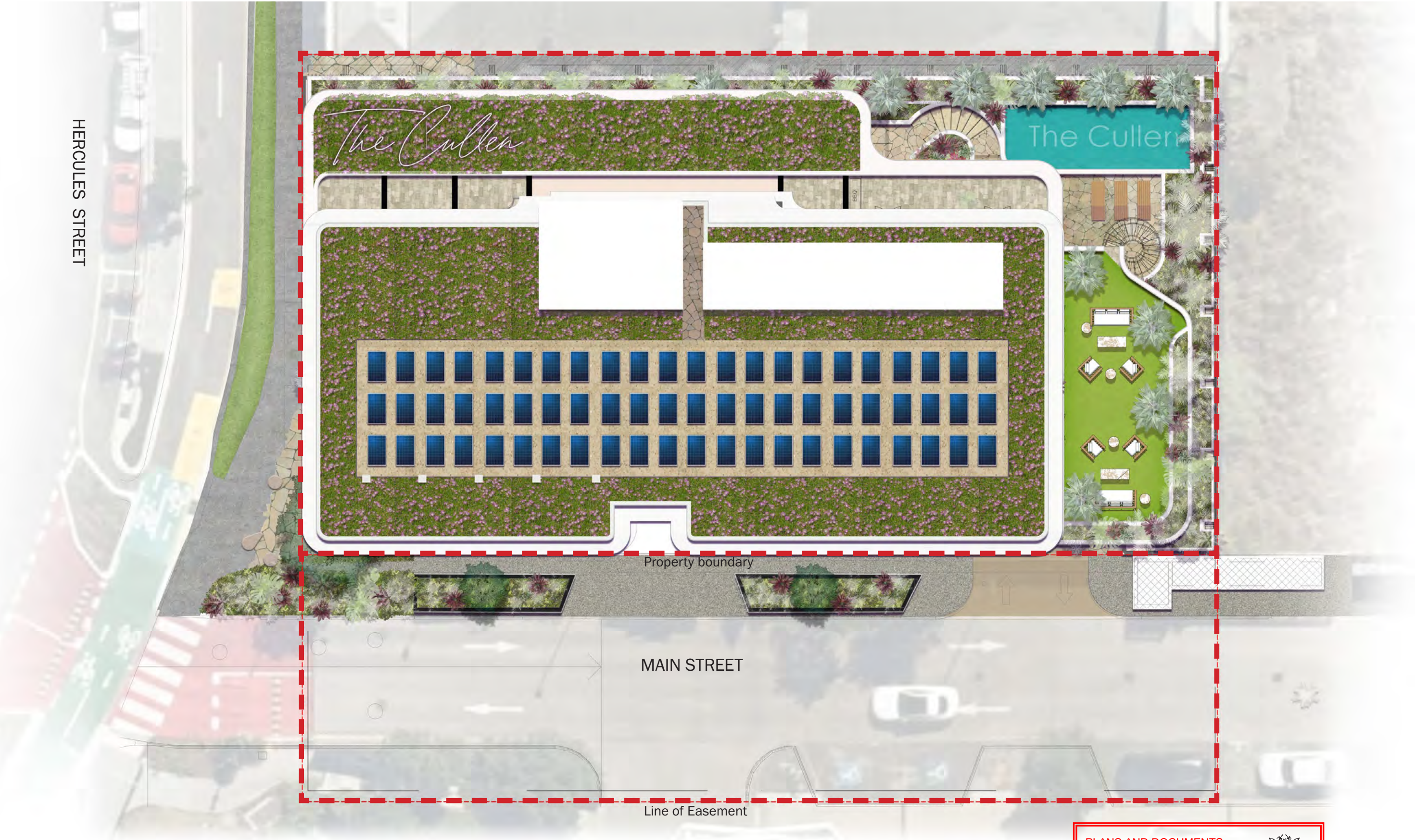
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Landscape Design - Master Plan



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Design Approach

The landscape design for “The Cullen” will deliver a lush subtropical haven for residents and their guests whilst concurrently contributing significantly to the local streetscape through character amenity and visual engagement.

For the Hercules Street frontage a richly textured public realm composition that embraces the sites heritage through the integration of historic wharf timber in a bespoke arbor structure engaging with the local neighbourhood to draw people in and energise their walking and cycling journeys.

Complementing the architectural facade along the lower levels a contemporary yet timeless palette of brown porphyry, olive trees and lush leafy subtropical and sculptural under-story planting in conjunction with the re-purposed historic timber features will realise a unique and visually activated frontage.

Cascading down from both the precast concrete facades at the upper level a diverse mix of attractive trailing plants within a sequence of planters will add an organic texture whilst simultaneously visually elevating the green of the ground-plane to contribute to the wider neighbourhood character.

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Landscape Design - Ground Level

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Legend

- | | | | |
|---|--|---------------------------------|----------------------------------|
| 1. Pavement type 1 - Feature paving | 5. Subtropical mass planting | 8. Security gate | 13. Heritage wharf timber totems |
| 2. Pavement type 2 - Natural broom finish | 6. Entry statement with feature planting, sculptural garden and integrated art | 9. Shade planting | 14. Large Subtropical Tree |
| 3. Raised Planter | 7. Sculptural furniture | 11. Visitor parking | |
| 4. Planting on natural ground | | 12. Heritage wharf timber arbor | |



Ground Level

The public realm at ground level has been curated to celebrate both the sites unique location and its visual and physical role as an entry moment marker into the Portside precinct by creating a vibrant and engaging entry experience.

Hardscape treatments, and landscape embellishments have been designed to integrate with the built form, reference the sites history through material choices, reinforce the existing local landscape character, and contribute to the public streetscape.

In partnership with the buildings articulated and contemporary yet timeless architectural presence, the public realm deliberately blends the public realm in a seamless subtropical manner with an eclectic planting palette featuring richly textured sculptural ground-covers in partnership with the refined elegance of semi-mature olives tree resting resplendently within an elegant natural porphyry stone pavement.

A bespoke heritage wharf timber arbor featuring climbing species and cultural heritage signage will be a distinctive feature of the ground level frontage creating the possibility for a true local place to evolve through community engagement with the activated building ground floor.

Landscape palette

- | | |
|----|--|
| 1. | Exemplar entry statement landscape |
| 2. | Mixed agave species and creeping ground covers to create textural interest |
| 3. | Planted arbor adopting heritage wharf timbers |
| 4. | Feature pavement - Crazy Pave |
| 5. | Ficus pumila - Creeping fig |
| 6. | Subtropical shade planting mixed species |
| 7. | Heritage wharf timber totems |
| 8. | Feature seating - Pico Pebble seat |



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Ground Level - Sections

The ground level landscape is designed to celebrate the sites unique location as the secondary entry moment into the Portside precinct by creating a vibrant and engaging entry statement.

Hardscape treatments, and landscape embellishments have been designed to integrate with the built form and existing landscape character, contribute to the local streetscape and enhance the sub-tropical qualities of the site.

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Section A - Main Street streetscape - Entry



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Landscape Design - Level 1

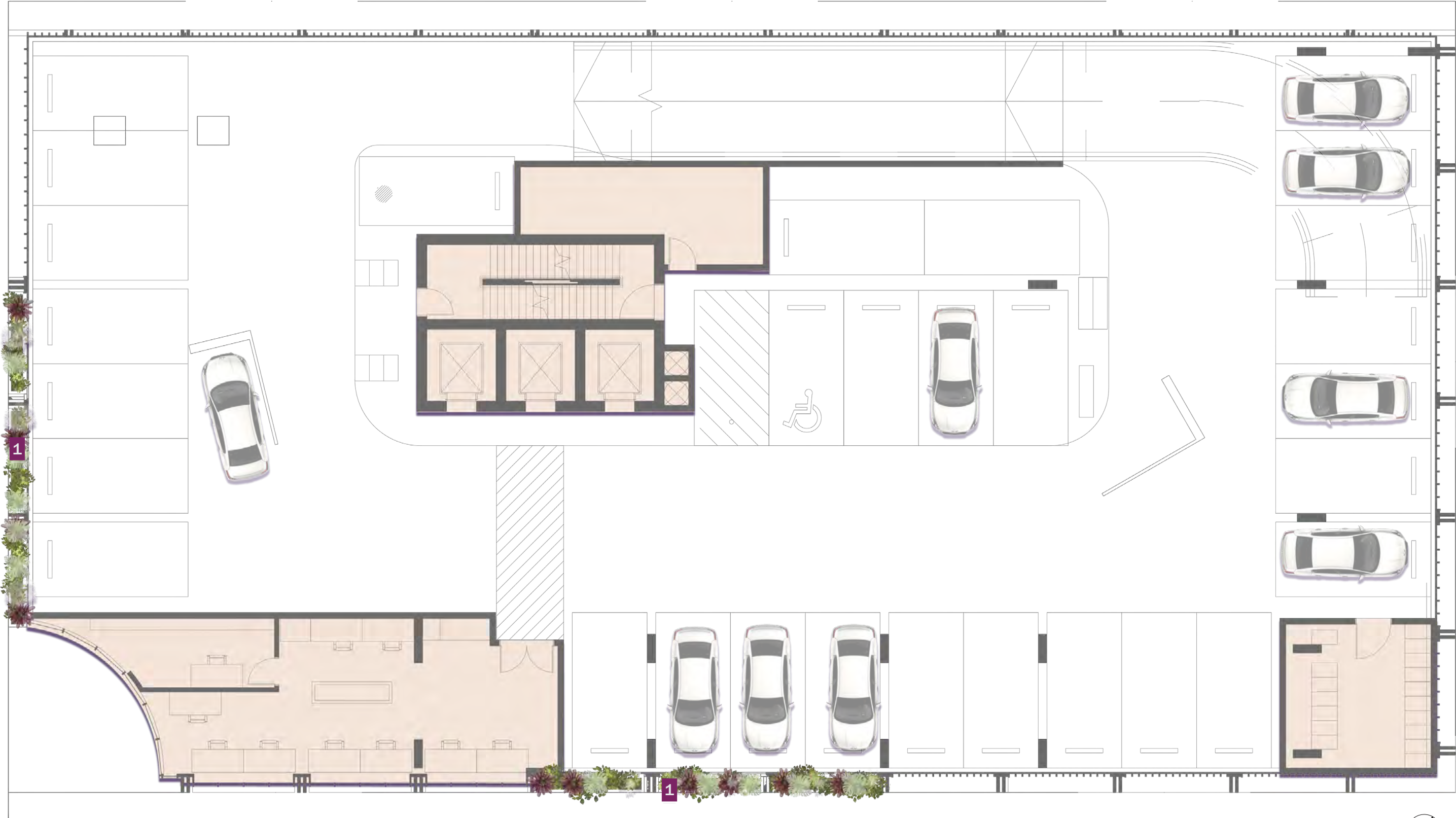
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Legend

- 1. Subtropical feature podium planting
400mm internal planter width.
875mm depth



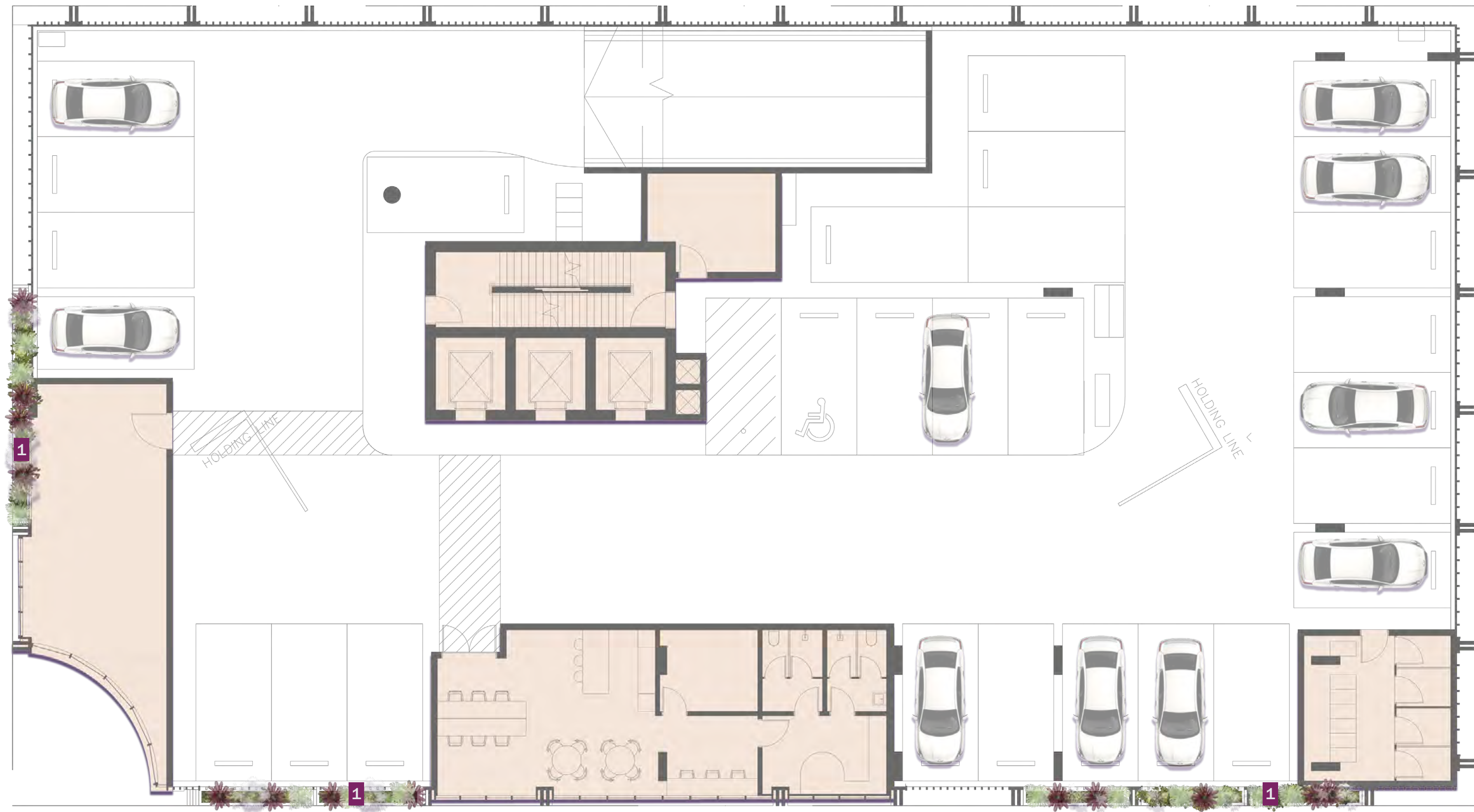
Landscape Design - Level 2 Podium carparking

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Legend

- 1. Subtropical feature podium planting
400mm internal planter width.
875mm depth

Level 3 Outdoor Terrace

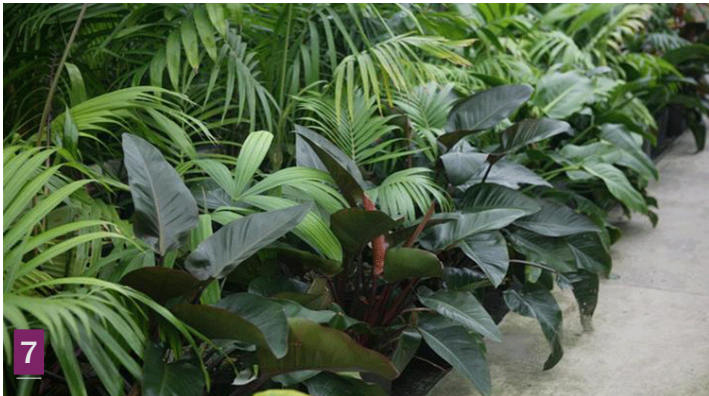
The recreation deck has been inspired by it’s industrial location and brings together a combination of boutique industrial design and luxury to create a recreational space that users will want to be in.

A shaded oasis, the Level 4 amenities include a resort-style pool, cooking facilities, casual eating areas and a gym and fitness space for yoga and Pilates for residents to enjoy at their leisure.

Planting palette

Exposed to the elements with a constrained soil profile, the species chosen are tested in these conditions to complement the luxurious setting. A sample of proposed plant species is listed below.

Planting (Indicative)		
1.	Alocasia macrorrhizos	Giant Taro
2.	Alcantarea Imerialis ‘Rubra’	Imperial Bromeliad
3.	Zamia furfuracea	Cardboard Palm
4.	Mesembryanthemum cordifolia	Baby sun rose
5.	Casuarina glauca	Casuarina Cousin It
6.	Dichondra argentea	Silver Falls
7.	Philodendron congo	Rojo
8.	Rhapis excelsa	Lady Palm



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Landscape Design - Level 3 Recreation

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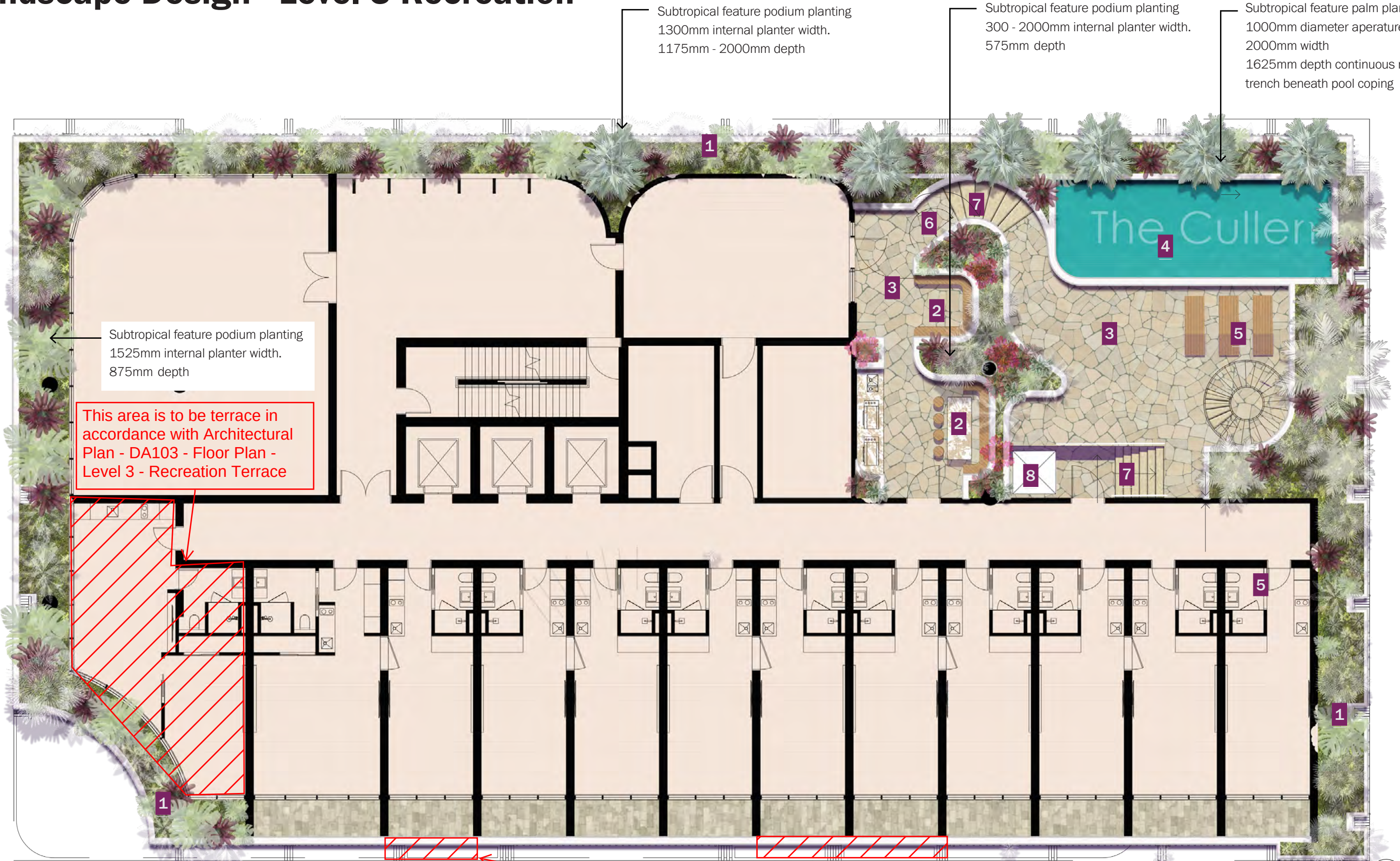


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Legend

- | | | |
|--|--------------------------|--------------------|
| 1. Subtropical feature podium planting | 4. Pool | 7. Stairs up |
| 2. Casual seating areas for small groups | 5. Poolside Lounge | 8. Wheelchair lift |
| 3. Feature pavement | 6. Pool fencing and gate | |

Area to be landscaped in accordance with DA103 - Floor Plan - Level 3 - Recreation Terrace and DA252 - Detail Elevation - South (Main Street)

Level 3 Pool

Planting surrounding the pool will be in planters flush with the pool coping with edge protection through a glass balustrade to give a sense of expansiveness. Planting will cascade from the pool edge over the facade to soften the built form edge whilst providing a green skirt to the recreation terraces viewlines out.

The pool has been articulated to provide for 20m lap and casual swimming

Planting palette

Pool friendly plants will be chosen for their low maintenance, drought tolerance, non invasive roots and ability to cope with the challenges of pool adjacency.

Planting (Indicative)		
1.	Livistona australis	Cabbage Palm
.	Phoenix canariensis	Canary Island date pal
.	Philodendron ‘xanadu’	Xanadu
.	Senecio serpens	Blue chalk sticks
.	Dichondra argentea	Silver Falls
2.	Mixed shade species (Eppipremnum aureum, Peperomia obtusifolia, Syngonium podophyllum)	



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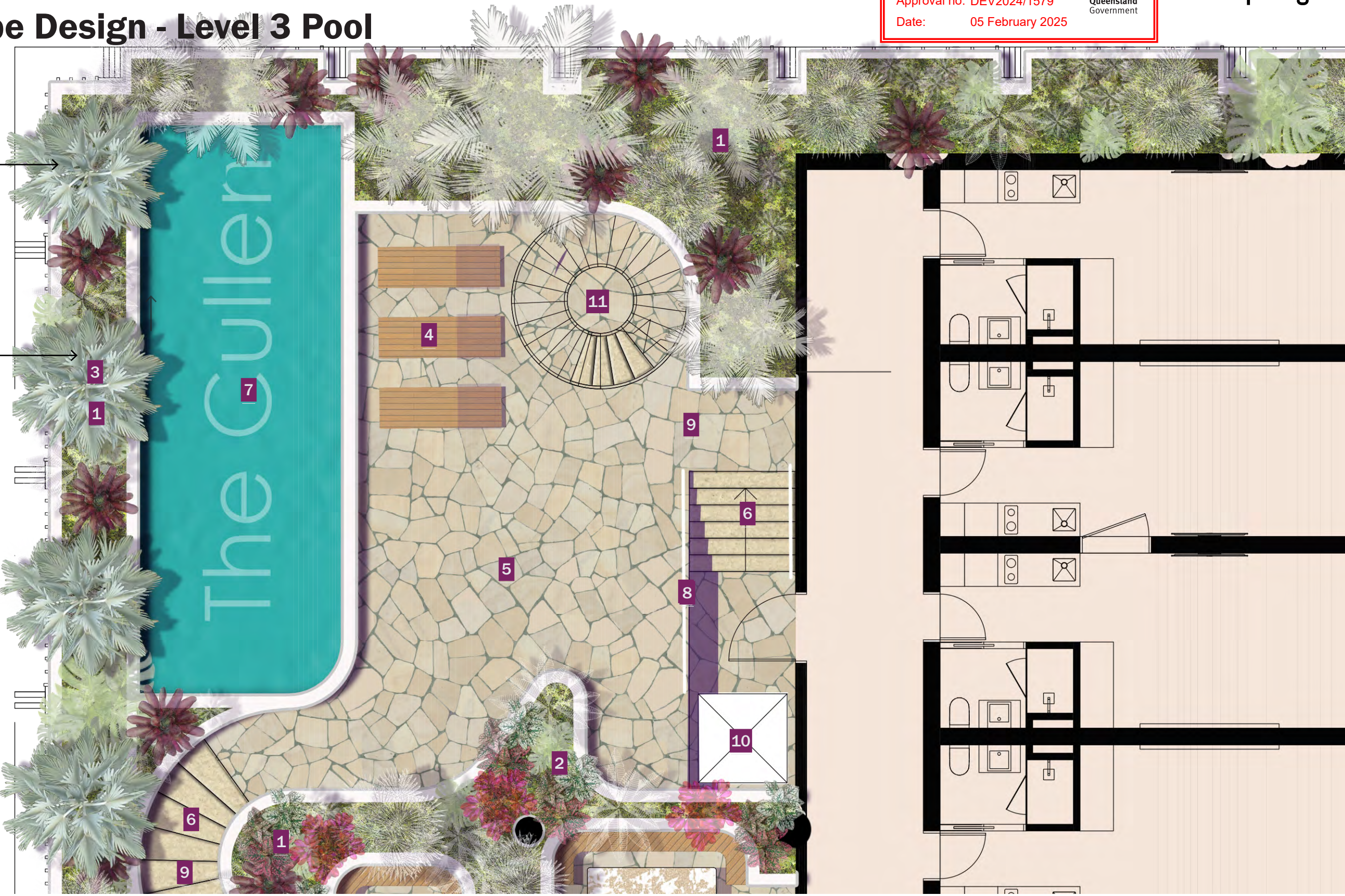
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Landscape Design - Level 3 Pool

Subtropical feature podium planting
1300mm internal planter width.
1175mm - 2000mm depth

Subtropical feature palm planting
1000mm diameter aperature,
2000mm width
1625mm depth continuous media
trench beneath pool coping

Subtropical feature podium planting
300 - 2000mm internal planter width.
575mm depth



- | | | | | | |
|----|-----------------------|----|----------------------|-----|---|
| 1. | Podium planting | 5. | Feature paving | 9. | Pool Gate |
| 2. | Podium shade planting | 6. | Pool entry stairs up | 10. | Wheelchair lift |
| 3. | Palm planting | 7. | Pool | 11. | Spiral stair case to Recreation terrace |
| 4. | Day bed | 8. | Pool fence | | |



Level 4 Recreation

The recreation deck has been inspired by it’s industrial location and brings together a combination of boutique industrial design and luxury to create a recreational space that users will want to be in.

The Level 4 amenities include a resort-style pool, casual eating areas and a gym and fitness space for residents to enjoy at their leisure.

Planting palette

Exposed to the elements with a constrained soil profile, the species chosen are tested in these conditions to complement the luxurious setting. A sample of proposed plant species is listed below.

Planting (Indicative)		
1.	<i>Alocasia macrorrhizos</i>	Giant Taro
2.	<i>Alcantarea Imerialis ‘Rubra’</i>	Imperial Bromeliad
3.	<i>Zamia furfuracea</i>	Cardboard Palm
4.	<i>Anthurium Great Red</i>	Flamingo Lilly
5.	<i>Rosmarinus officinalis ‘Prostratus’</i>	Prostrate Rosemary
6.	<i>Trachelospermum</i>	Star jasmine
7.	Bismarck Palm	Bismarck Palm
8.	<i>Rhapis excelsa</i>	Lady Palm



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Landscape Design - Level 4

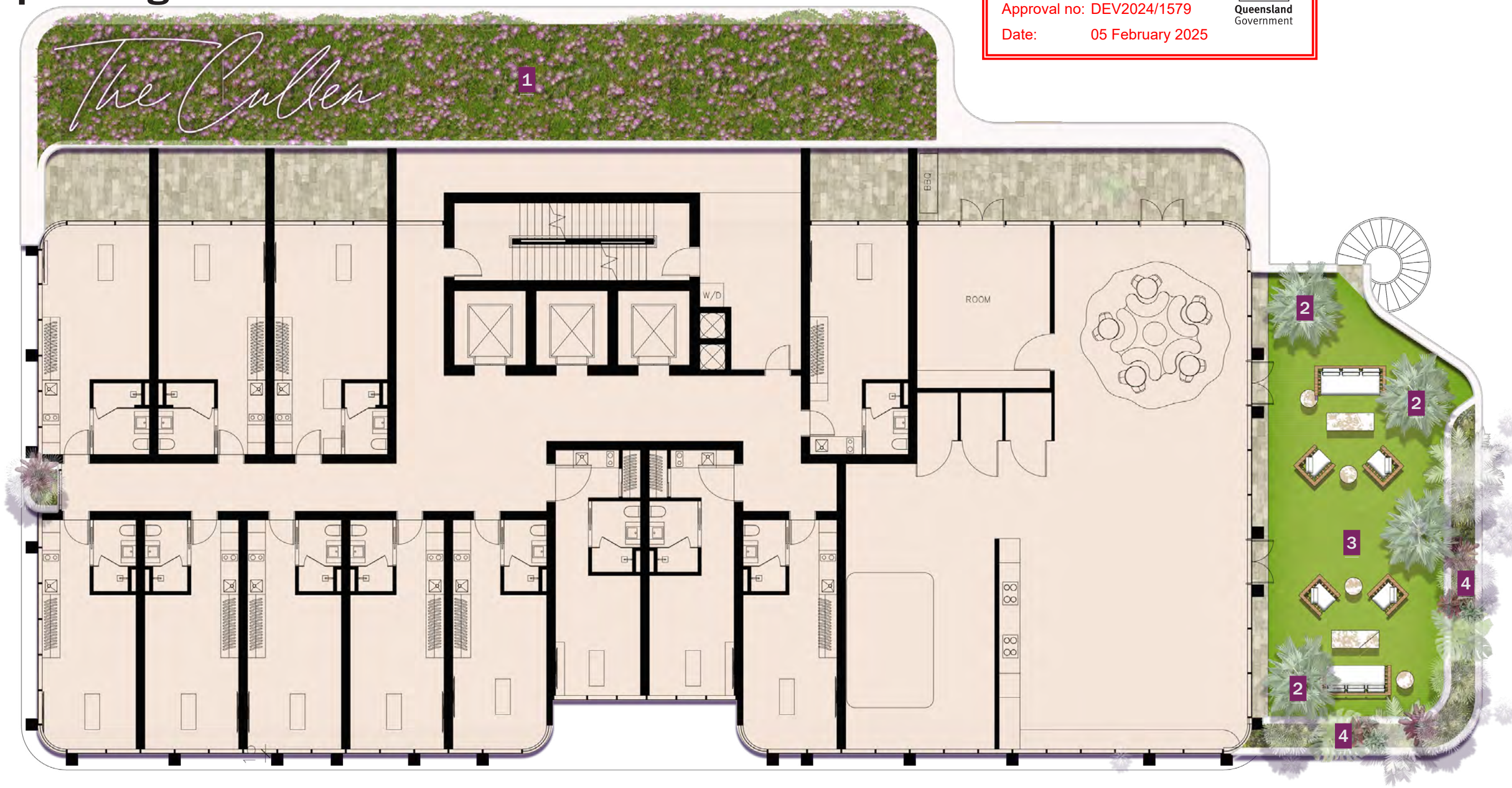
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Legend

- 1. Fytogreen extensive green roof system
- 2. Planted pots
- 3. Synthetic turf
- 4. Podium planting mixed species
Subtropical feature podium planting
600-825mm internal planter width.
575-775mm depth



Landscape Design - Level 17 Rooftop

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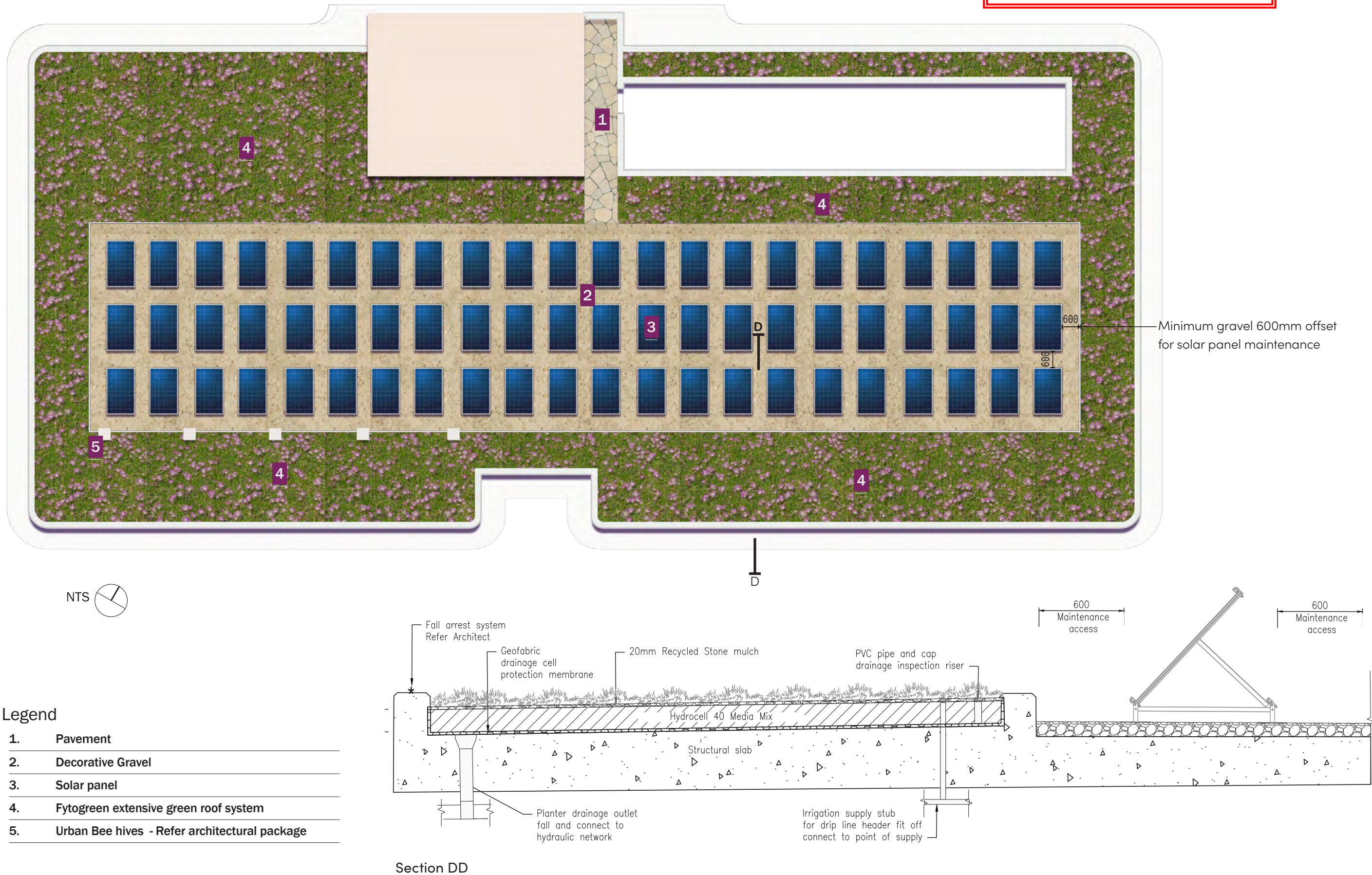


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Level 17 Rooftop

The Roof top offers the opportunity for the integration of solar panels with an extensive green roof system (Fytogreen), creating a biosolar rooftop.

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Planting palette

The planting palette for the roof will be designed with Fytogreen.

Planting (Indicative)

- 1. Sedum Sp.



Biosolar rooftop exemplar



Exemplar rooftop planting



Exemplar rooftop planting



Exemplar rooftop planting

Landscape Design - Upper Levels

Levels 5-9



Levels 10-15



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- Legend
- 1. Podium edge planting
750-1400mm internal planter width.
575mm depth

Landscape Design - Upper Levels

Levels 16

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Legend

1. Podium edge planting
700mm internal planter width.
575mm depth

NTS



Planting palette

Cascading plants

- | | |
|----|--------------------------------------|
| 1. | <i>Convolvulus sabatius</i> |
| 2. | <i>Rosmarinus Prostrate</i> Rosemary |
| 3. | <i>Epopremnum 'devils ivy'</i> |
| 4. | <i>Dichondra 'Silver Falls'</i> |

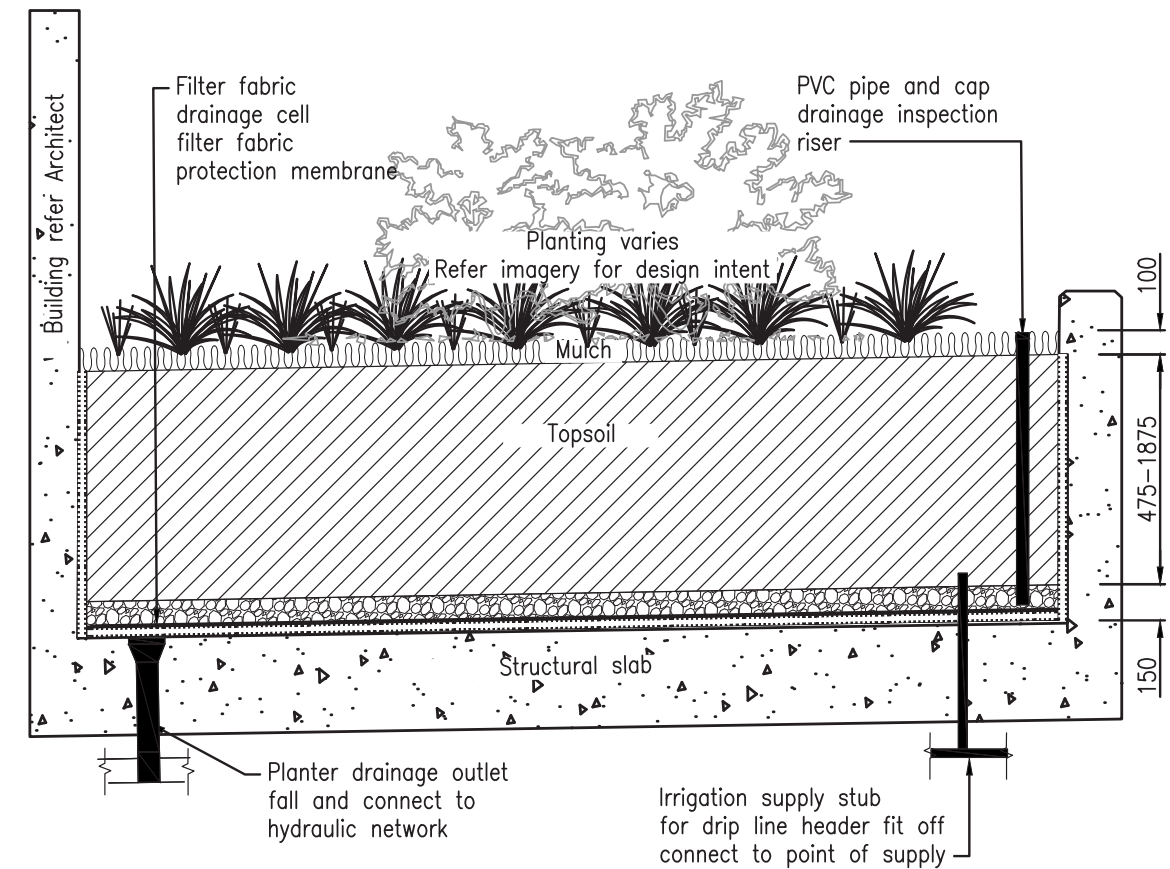


Climbers

- | | |
|----|-------------------------------|
| 5. | <i>Stephanotis floribunda</i> |
| 6. | <i>Ficus pumila</i> |
| 7. | <i>Monstera deliciosa</i> |
| 8. | <i>Chonemorpha fragrans</i> |



Typical planter detail



Landscape Design - Media depths

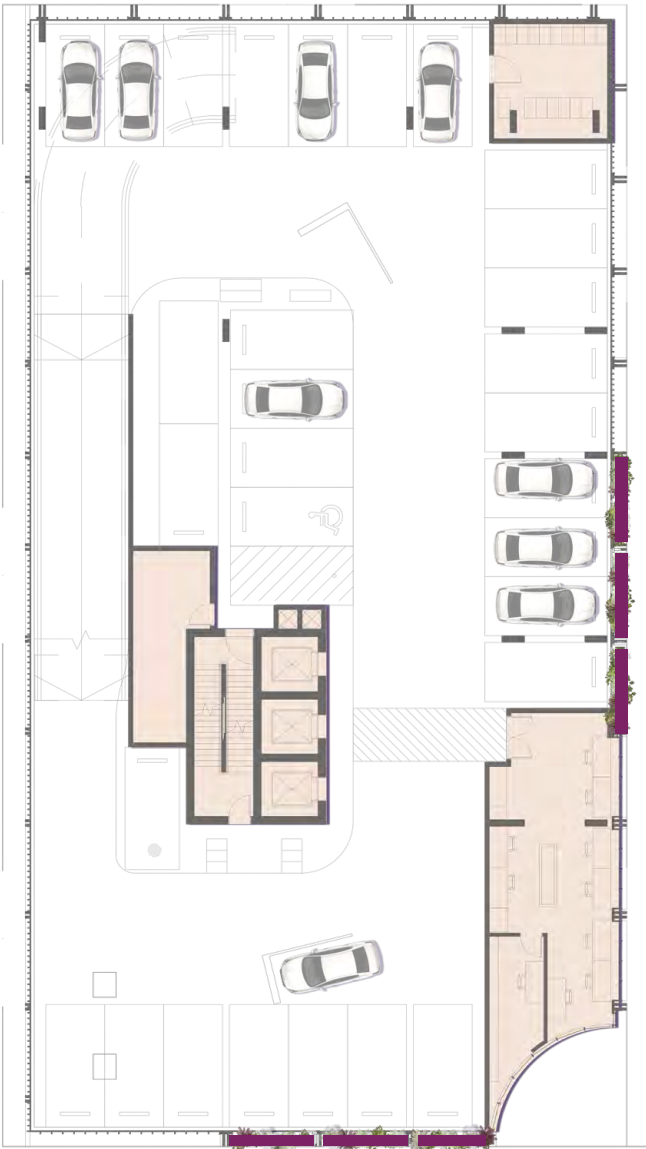


Ground Floor

NTS 

Legend

-  Podium planting 575mm depth
-  Planting on natural ground

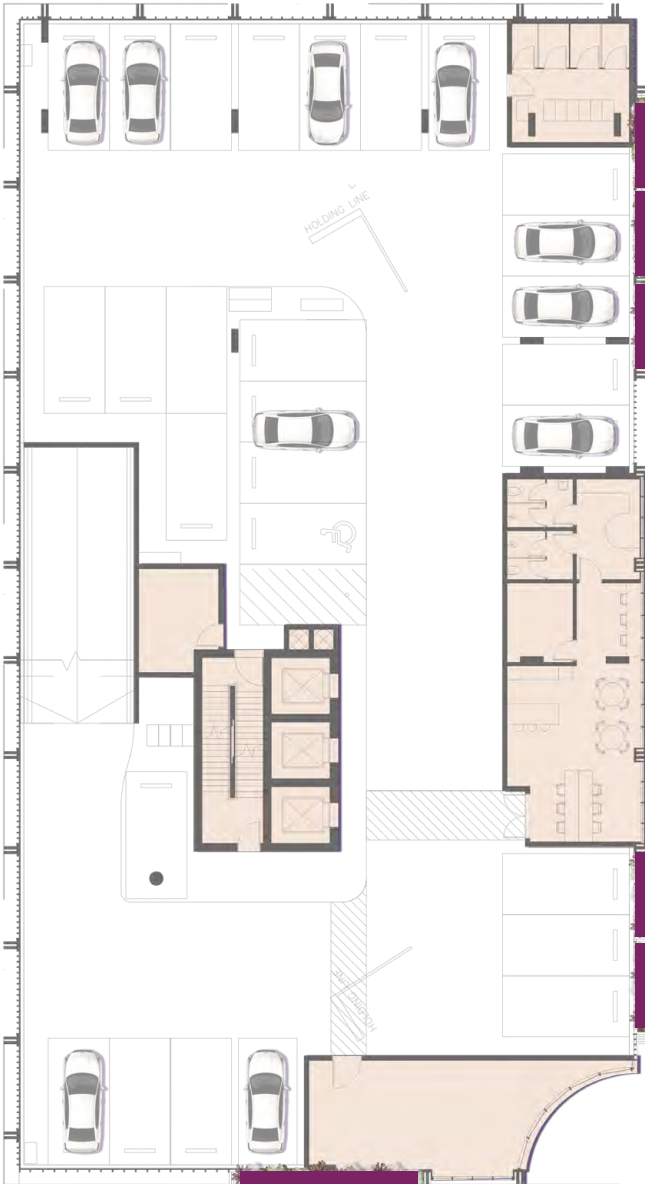


On Podium planting - levels 01.

NTS 

Legend

-  Podium planting 875mm depth



On Podium planting - Level 2

NTS 

Legend

-  Podium planting 875mm depth



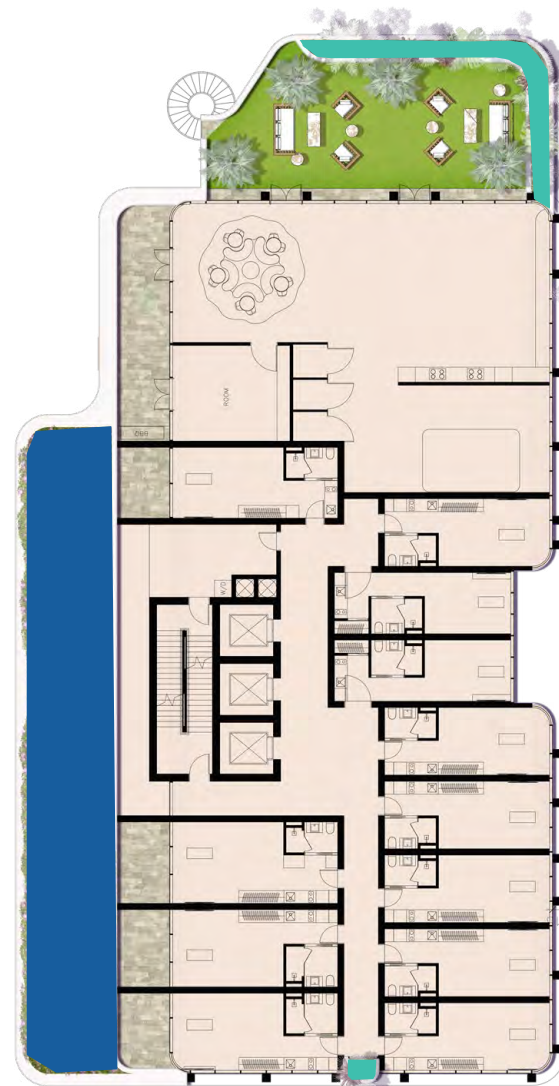
On Podium planting - Level 3

NTS 

Legend

	Podium planting 575mm depth
	Podium planting 1125mm depth

A



On Podium planting - Level 4

NTS 

Legend

	Podium planting 575mm depth
	Podium planting 200mm depth (Fytogreen system) to level

On Podium planting - Level 5-9

NTS 

Legend

	Podium planting 575mm depth
---	-----------------------------

Landscape Design - Media depths

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On Podium planting - Level 10-15

NTS 

Legend

 Podium planting 575mm depth

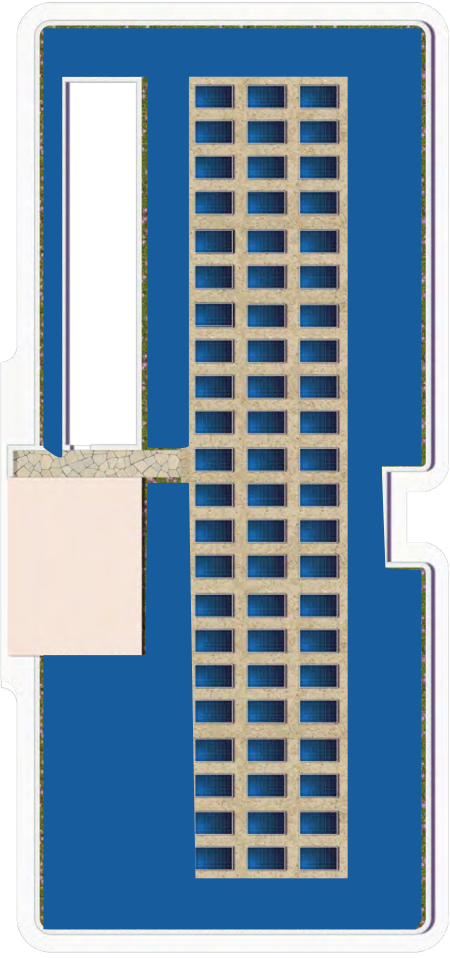


On Podium planting - Level 16

NTS 

Legend

 Podium planting 575mm depth



On Podium planting - Level 23

NTS 

Legend

 Podium planting 200mm depth
(Fytogreen system)

Landscape Design - Planting Areas

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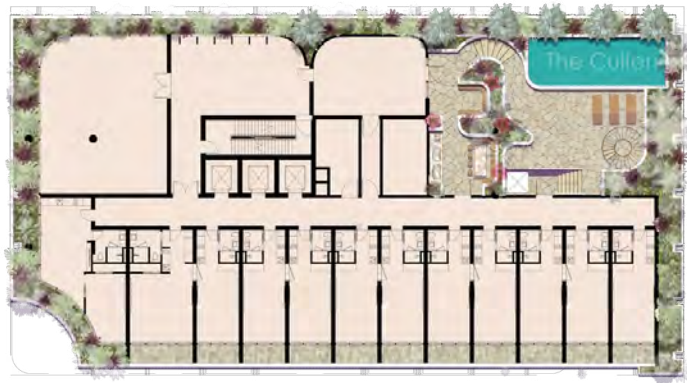
Ground Floor



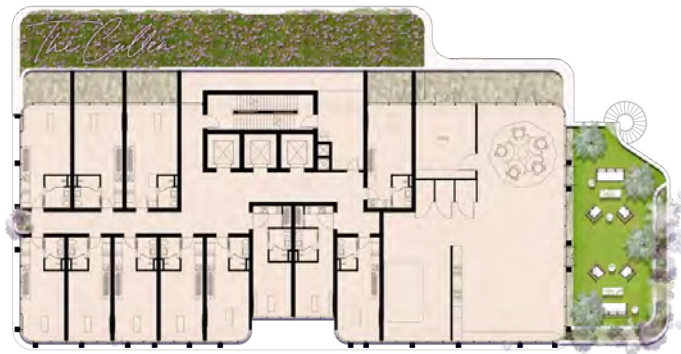
Level 1



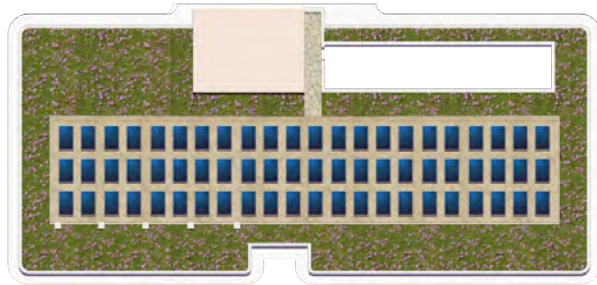
Level 2



Level 3



Level 4



Rooftop



Level 5-9



Level 10-15



Level 16

	Planting Area m2
Ground Floor	74.5
Level 1	8
Level 2	9
Level 3	180
Level 4	132.5
Levels 5-9	27.5
Level 10-15	32
Level 16	2
Rooftop	294
Total	759.5



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5 Hercules Street Hamilton

Irrigation Strategy Report

IRRIGATION WATER USAGE, CATCHMENT & IRRIGATION STRATEGY

5 HERCULES STREET V2 - 15.05.24

Please see below the Irrigation Design / Strategy Information.

Regardless of irrigation application method the water volume required will be the same. Irrigation water usage calculations are based on container size, soil volumes, infiltration rates, soil moisture holding capacity, area volumes, plant requirements (crop factor) and environmental conditions (epan).

See Item 1 below.

1 - IRRIGATION APPLICATION WATER USAGE PER APPLICATION:

Application rates for **Planting** based on:

- ◆ Arid Plant Selection Crop Factor of 0.3
- ◆ Soil / water holding capacity being 110mm.
- ◆ Root Zone depth of 150mm
- ◆ Allowable depletion of Fill capacity being 75%
- ◆ Irrigation efficiency with **ALL sub surface drip** is 98%
- ◆ Evapotranspiration (Epan) value being:
 - o Summer - **5.7**, Autumn – **3.8**, Winter – **2.8**. Spring – **4.9**

2 - SITE DATA (IRRIGATION): LANDSCAPING: Planting 697m²

Based on these figures Irrigation requirement is **12.6mm** per application cycle for the standard Planting.

The interval between irrigation cycles based on these figures and historical BOM data is as follows:
SUMMER 7 Days, AUTUMN 11 Days, WINTER 15 Days, SPRING 8 Days.

(See Table 1 for site data and calculations)

Allowing for a 12.6mm application over **782.5m²** of Planting requires an irrigation application requirement of **9,860 litres**.

WATER REQUIREMENT PER APPLICATION IS 8,782.0litres

9,859.5 litres x 12 Applications in Summer is 118,314 Litres.

9,859.5 litres x 8 Applications in Autumn is 78,876 Litres.

9,859.5 litres x 6 Applications in Winter is 59,157 Litres.

9,859.5 litres x 9 Applications in Spring is 88,736 Litres.

Total Annual Water Usage for the Planting is 345,083 Litres

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3 - IRRIGATION WATER CAPTURE AND STORAGE:

South-East Queensland's climate is volatile. There are no sureties as to the volume of rainfall that will fall in a given season. We have utilised the available historical BOM data to try to forecast potential issues and the figures below depict possible water catchment compared to irrigation requirements. *Catchment from roof areas can be inefficient and hardscape areas need to be noted as they have different run-off efficiencies. The calculations below have been based on approximately 80% of the catchment area.* Area of Catchment. $101\text{m}^2 \times 80\% = 81\text{m}^2$

4 - RAINFALL AND CATCHMENT CALCULATIONS

SITE DATA (CATCHMENT): AREA 81m^2

SUMMER

Summer rainfall average capture of 28,668 Litres

Summer irrigation requirement 118,314 Litres

Shortfall of 89,646 Litres

AUTUMN

Autumn rainfall average capture of 20,192 Litres

Autumn irrigation requirement 78,876 Litres

Shortfall of 58,684 Litres

WINTER

Winter rainfall average capture of 8,840 Litres

Winter irrigation requirement 59,157 Litres

Shortfall of 50,317 Litres

SPRING

Spring rainfall average capture of 14,576 Litres

Spring irrigation requirement 88,736 Litres

Shortfall of 74,159 Litres

Utilising the historical BOM data the above information informs us that the catchment will provide harvested water for 21% of annual requirements.

The annual catchment is **72,276 Litres**, the annual irrigation requirements are **345,083 Litres** a shortfall of **272,807litres**.

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5 - TANK SIZING OPTIONS (WATER STORAGE):

TANK SIZING (WATER STORAGE):

Tank sizing requires consideration of potential harvest volumes as well as irrigation water requirements. The highest average rainfall in Brisbane is 37.6mm a week, therefore the highest volume of water that can potentially be harvested over the project catchment is **3,038 Litres** in a week. The suggestion is for storage is as follows:

3,000 Litre Storage would hold enough water for:

Approximately 0.3 weekly applications of irrigation.

This size tank will require **37mm** of Rain over the nominated catchment area to fill the Tank.

5,000 Litre Storage would hold enough water for:

Approximately 0.5 weekly applications of irrigation.

This size tank will require **62mm** of Rain over the nominated catchment area to fill the Tank.

10,000 Litre Storage would hold enough water for:

Approximately 1.01 weekly applications of irrigation

This size tank will require **124mm** of Rain over the nominated catchment area to fill the Tank.

6 - ALTERNATE WATER SUPPLY

In periods of low rainfall or when tank levels are below requirements an **External Water Supply** may be required. Currently water for irrigation is available for approximately \$250 - \$300 for a 15,000-litre tanker delivered. This could be utilised for tank fill if / when rainfall is not available. The locating of the tanks in an accessible location on the property will assist with access for Tanker fill. Alternatively, a fill line could be installed with an external connection point for a tanker to fill from. **Potable back up** could be utilized (if required) at a 10-25% Tank level. This would safeguard the system should there be an issue with the alternative supply or nil rainfall in periods of demand.

We trust this information, and calculations meet requirements and assist with planning for the required project.

Regards
Rick Freeman

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Soil Profile & Watering Requirements

PLANTING

All irrigation data shown below represents watering required for the given specific soil and plant data on site during NON rain events.

Site Data								
Soil Type:		Sand	Fine Sand	Sandy Loam	Loam	Silt Loam	Clay Loam	Clay
Infiltration Rate (mm/hr):	Low	20	15	10	10	8	5	1
Infiltration Rate (mm/hr):	High	25	20	18	15	12	10	5
Available Water (AW or Fill Capacity FC)		60	90	110	170	170	165	140
Root Zone Depth (mm)		50	100	150	200	250	300	350
Allowable Depletion (%)		25%	50%	75%	100%			
Irrigation Efficiency (Ef)		Aerial	80%	SubSurface	98%			
Plant Water Usage or Crop Factor (F)		Trees	Shurbs	Ground Covers	Turf - Couch	Turf - Rye		
		0.3	0.3	0.3	0.5	0.65		
Daily Evapotranspiration Rate (Epan)		Summer	Autumn	Winter	Spring			
(mm / day)		5.7	3.77	2.77	4.87			
Sprinkler Data		Pressure	Flow (L/H)	Spacing			App Rate (mm/hr)	
DRIP		350kpa	2.3	.3 X.3			25.5	

Irrigation required to initially bring soil to fill capacity (Initial Irrigation Cycle)		
Plant Available Water (PAW) =	Root zone Depth (RD) x Available Water Holding Capacity (Fill Capacity)	RD x (FC/1000)
	RD = 150 (mm depth)	
	FC = 110 (mm depth per 1000mm)	
	PAW = 16.5 mm/m2 (Initial irrigation cycle)	

Irrigation required to maintain soil to fill capacity with allowable depletion (Regular Irrigation Cycle)		
Applied Irrigation Depth (Id) =	(% Allowable Depletion x PAW) / Application efficiency	
	AD % = 75%	Allowable depletion depth (mm/m2) = 12.375
	PAW = 16.5 mm/m2	
	Ef = 98%	
	Id = 12.6 mm/m2 (per irrigation cycle)	

Plant Water usage incorporating Daily Eavporation (Epan) and Crop Factor (F)			
Plant Water Usage (ETc) =	Crop Factor (F) x Daily Evapotranspiration (Epan)		SUMMER
	F = 0.3 %		
	Epan = 5.7 (mm/day)		
	ETc = 1.7 mm/day		
Plant Water Usage (ETc) =	Crop Factor (F) x Daily Evapotranspiration (Epan)		AUTUMN
	F = 0.3 %		
	Epan = 3.77 (mm/day)		
	ETc = 1.1 mm/day		
Plant Water Usage (ETc) =	Crop Factor (F) x Daily Evapotranspiration (Epan)		WINTER
	F = 0.3 %		
	Epan = 2.77 (mm/day)		
	ETc = 0.8 mm/day		
Plant Water Usage (ETc) =	Crop Factor (F) x Daily Evapotranspiration (Epan)		SPRING
	F = 0.3 %		
	Epan = 4.87 (mm/day)		
	ETc = 1.5 mm/day		

Irrigation Intervals (Days between irrigation events required to maintain Fill Capacity of soil)			
Irrigation Interval (Ti) =	Allowable depletion depth (mm) / Etc (mm/day)		SUMMER
	AD = 12.375 mm/m2		
	Etc = 1.7 mm/m2		
	Ti = 7.2 days between irrigation cycles		
Irrigation Interval (Ti) =	Allowable depletion depth (mm) / Etc (mm/day)		AUTUMN
	AD = 12.375 mm/m2		
	Etc = 1.1 mm/m2		
	Ti = 10.9 days between irrigation cycles		
Irrigation Interval (Ti) =	Allowable depletion depth (mm) / Etc (mm/day)		WINTER
	AD = 12.375 mm/m2		
	Etc = 0.8 mm/m2		
	Ti = 14.9 days between irrigation cycles		
Irrigation Interval (Ti) =	Allowable depletion depth (mm) / Etc (mm/day)		SPRING
	AD = 12.375 mm/m2		
	Etc = 1.5 mm/m2		
	Ti = 8.5 days between irrigation cycles		

PLANS AND DOCUMENTS
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DEVELOPMENT APPROVAL

Approval no: DEV2024/1579
Date: 05 February 2025





Irrigation Design Australia RAINFALL/ E.TR./ IRRIGATION SUMMARY BASED ON MEDIAN RAINFALL DATA FROM BOM.

5 HERCULES STREET

Table 2

REGIONAL AREA: Brisbane

Landscape Area (m2): 782.5

Total Catchment Area: (m2)

101

Irrigation Application Rates for

Establishment Period (mm/wk)

Irrigation Application Rates for
Seasons after estab. (mm)

Interval between Irrigation to Planting (days)

32.00																
SUMMER	AUTUMN				WINTER				SPRING							
12.6	12.6				12.6				12.6				12.6			
7	11				15				8							

Statistic Element	December	January	February	March	April	May	June	July	August	September	October	November
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Rainfall (Median)												
Monthly (mm) [Data from BOM]	133.30	159.60	158.30	140.70	92.50	73.70	67.80	56.50	45.90	45.70	75.40	97.00
Weekly (mm)	33.33	39.90	39.58	35.18	23.13	18.43	16.95	14.13	11.48	11.43	18.85	24.25
Seasonal Average (mm)	37.60			25.58			14.18			18.18		

Potential Catchment for defined roof area, less other usages i.e. Toilet flushing												
Monthly Rainfall Catchment (L)	13,463	16,120	15,988	14,211	9,343	7,444	6,848	5,707	4,636	4,616	7,615	9,797
Weekly Rainfall Catchment (L)	3,366	4,030	3,997	3,553	2,336	1,861	1,712	1,427	1,159	1,154	1,904	2,449
Season Average (L)	3797.60			2583.08			1432.52			1835.68		
Average Weekly Rainfall Catchment (L)		2,412										

Evapotranspiration (Median)												
Monthly (mm)	170.80	162.40	145.60	126.00	106.40	84.00	70.00	70.00	92.40	117.60	134.40	156.80
Weekly (mm)	42.70	40.60	36.40	31.50	26.60	21.00	17.50	17.50	23.10	29.40	33.60	39.20
Daily (mm) [Data from BOM]	6.10	5.80	5.20	4.50	3.80	3.00	2.50	2.50	3.30	4.20	4.80	5.60
Seasonal Average (mm)	5.70			3.77			2.77			4.87		

Adjusted Irrigation Appl. Rate comparing ETvsRainfall - VE indicates irrigation IS required + VE indicates irrigation NOT required												
Adjusted Monthly ETvsRain (mm)	-37.50	-2.80	12.70	14.70	-13.90	-10.30	-2.20	-13.50	-46.50	-71.90	-59.00	-59.80
Adjusted Weekly ETvsRain (mm)	-9.37	-0.70	3.18	3.68	-3.48	-2.58	-0.55	-3.38	-11.63	-17.98	-14.75	-14.95
Irrigation Required 1=Yes 0=No	1	1	0	0	1	1	1	1	1	1	1	1

Irrigation Supplement												
Weekly Irrigation Required (L)	-7,336	-548	0	0	-2,719	-2,015	-430	-2,641	-9,097	-14,065	-11,542	-11,698

Irrigation for 1 wk of Establishment (during no rain) (L)	25,040
Irrigation for 1 wk during Summer (during no rain) (L)	9,860
Irrigation for 1 wk during Autumn/Spring (during no rain) (L)	9,860
Irrigation for 1 wk during Winter (during no rain) (L)	9,860
Irrigation for 1 wk during Spring (during no rain) (L)	9,860

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Irrigation Design Australia

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HERCULES STREET

CATCHMENT & IRRIGATION WATER USAGE

Landscape Area (m2): 782.5 Catchment 101 Adjusted Catchment 81

WATER USAGE METHOD - HORTICULTURAL APPLICATIONS (12.6mm)

SEASON	Irrigation Application Requirements	Volume per Application	Seasonal Irrigation Application quantities	Annual Irrigation Requirements
SUMMER	12.6	9859.5	12	118,314
AUTUMN	12.6	9859.5	8	78,876
WINTER	12.6	9859.5	6	59,157
SPRING	12.6	9859.5	9	88,736
Average	12.6	9859.5	35	345,083

WATER USAGE METHOD - INDUSTRY STANDARD APPLICATIONS (25,20,15,10mm)

SEASON	Irrigation Application Requirements	Volume per Application	Seasonal Irrigation Application quantities	Annual Irrigation Requirements
SUMMER	25	19562.5	13	254,313
AUTUMN	15	11737.5	13	152,588
WINTER	10	7825	13	101,725
SPRING	20	15650	13	203,450
Average	18	13693.75	52	712,075

CATCHMENT CALCULATION METHOD A - BOM DATA ANNUAL RAINFALL

	AREA	Annual Rainfall	Cunliffe Adjustment	Adjusted Annual Rainfall	Catchment
	m2	mm	mm	m2	litres
ROOF CATCHMENT AREA	81	1200	24	1,176	95,021
ANNUAL CATCHMENT					95,021

CATCHMENT CALCULATION - BOM DATA SEASONAL RAINFALL

SEASON	Average Weekly Rainfall	Average Weekly Catchment	Weeks in Season	Average Seasonal Catchment
	mm	litres	qty	litres
Highest Weekly Volume (February)	40.40	3,264	1	
SUMMER	33.89	2,738	13	35,598
AUTUMN	24.36	1,968	13	25,588
WINTER	10.82	874	13	11,365
SPRING	17.39	1,405	13	18,266
TOTALS		6,986	52	90,818

Highest Average Rainfall (BOM Data)	37.60	3,038	13	39,495
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AVERAGES

METHOD A

IRRIGATION REQUIREMENT (Horticultural Applications)

CATCHMENT SEASONAL

% provide by Rainfall

DIFFERENCE

Annually	Summer	Autumn	Winter	Spring
345,083	118,314	78,876	59,157	88,736
90,818	2,738	1,968	874	1,405
26%	2%	2%	1%	2%
-254,265	-115,576	-76,908	-58,283	-87,330

METHOD B

IRRIGATION REQUIREMENT (Industry Standards)

CATCHMENT SEASONAL

% provide by Rainfall

DIFFERENCE

712,075.0	19,563	11,738	7,825	15,650
90,818	2,738	1,968	874	1,405
13%	14%	17%	11%	9%
-621,257	-16,824	-9,769	-6,951	-14,245

Tank Sizing

STORAGE

Applications of Irrigation (Horticultural requirements)

Applications of Industry Standard (Average)

mm OF RAIN TO FILL TANK

Average Weekly Application	TANK SIZE	TANK SIZE	TANK SIZE	TANK SIZE
	5,000	7,500	10,000	15,000
9,860	0.51	0.76	1.01	1.52
13,694	0.37	0.55	0.73	1.10
	62	93	124	186