



Urban Forset Tree Planting Petrie Park Reserve

PROJECT NUMBER: **BM230857** Concept Design

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CLIENT: Christchurch City Council

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REV	DATE	DESCRIPTION
A	05.12.23	For Review
B	24.04.24	Concept Design
C	27.11.24	Concept Design

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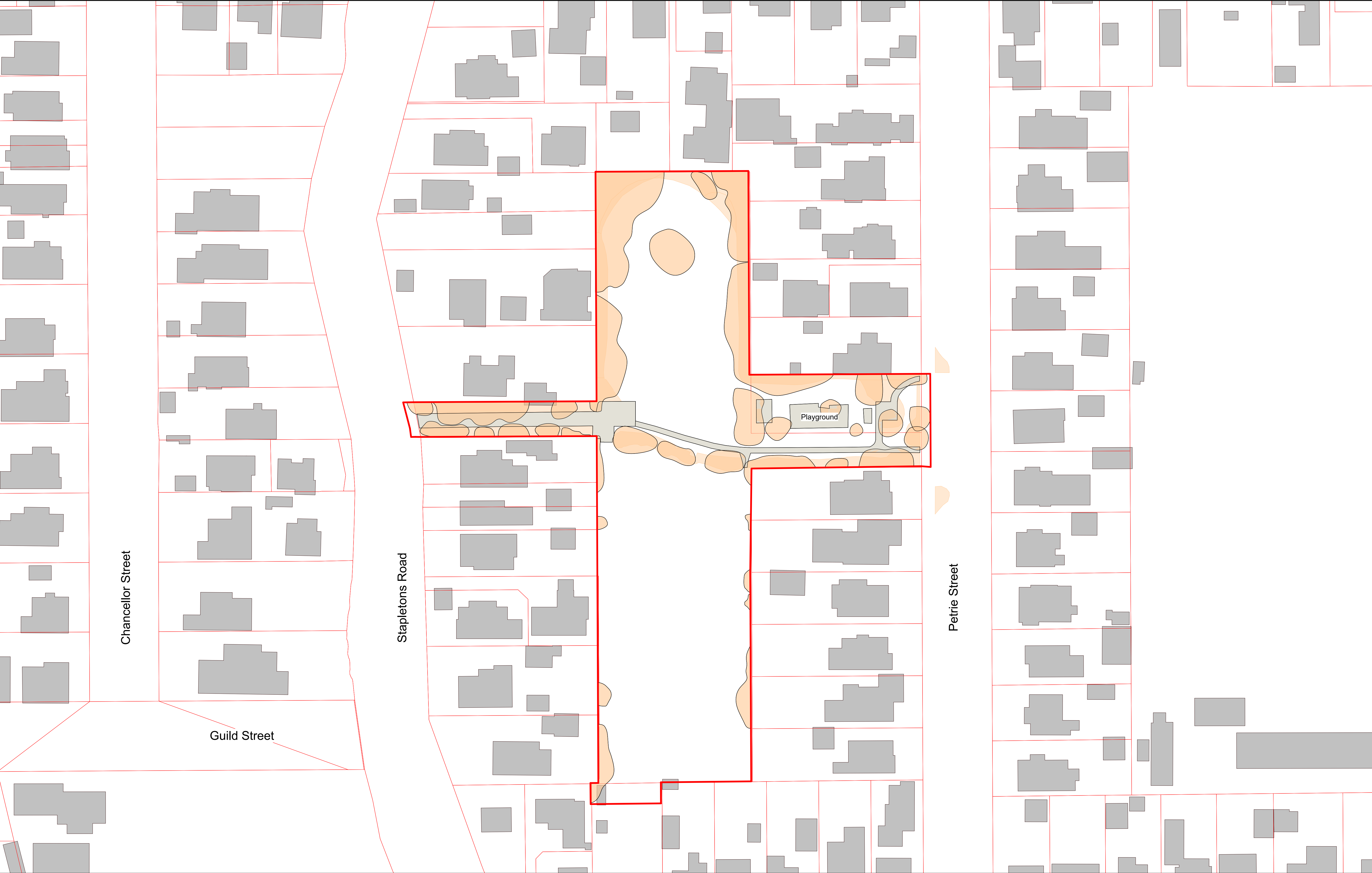
403 Shading Study - Winter - Afternoon

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600 Carbon Sequestration Assessment



ORIGINAL IN COLOUR

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LEGEND

Existing Canopy Cover

Existing Lower Vegetation

Existing Pathways and Features

Vegetation cover mapped based on CCC aerial photography dated 17 November 2023, with site visit to verify existing conditions.

Existing Canopy Cover

- 2583.38 m²

26.1%

Canopy coverage to existing site

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Urban Forset Tree Planting

Petrie Park Reserve

Existing Site

Design

HCO

Scale

Date

Drawn

ARo

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05.12.2023

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CONCEPT DESIGN

DRAWING NO.

BM230857_200

REVISION

C

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LEGEND

20m+ Tree Height Area

10 - 20m Tree Height Area

5 - 10m Tree Height Area

The Tree Height Capacity model is derived from the following rules, supplied by CCC:

- No tree shall intrude through the recession plane at maturity
- No tree shall be planted closer than 3.0m from a pathway
- No tree shall be planted closer than 5.0m from a sports field and no tree canopy drip line shall extend above a sports field
- Tree spacings shall be a minimum of 5.0m apart to allow for easy lawn mowing
- Min. 2m offset for low voltage power
- Min. 3m offset for 11kv power
- Min. 5m offset for 33-66kv
- Min. of 1m offset for all other services and hard paving not mentioned above

0m

5m

10m

20m

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Urban Forset Tree Planting

Petrie Park Reserve

Tree Height Capacities

Design HCo

Drawn ARo

Check GRO

Scale 1:500 @ A1

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Date 05.12.2023

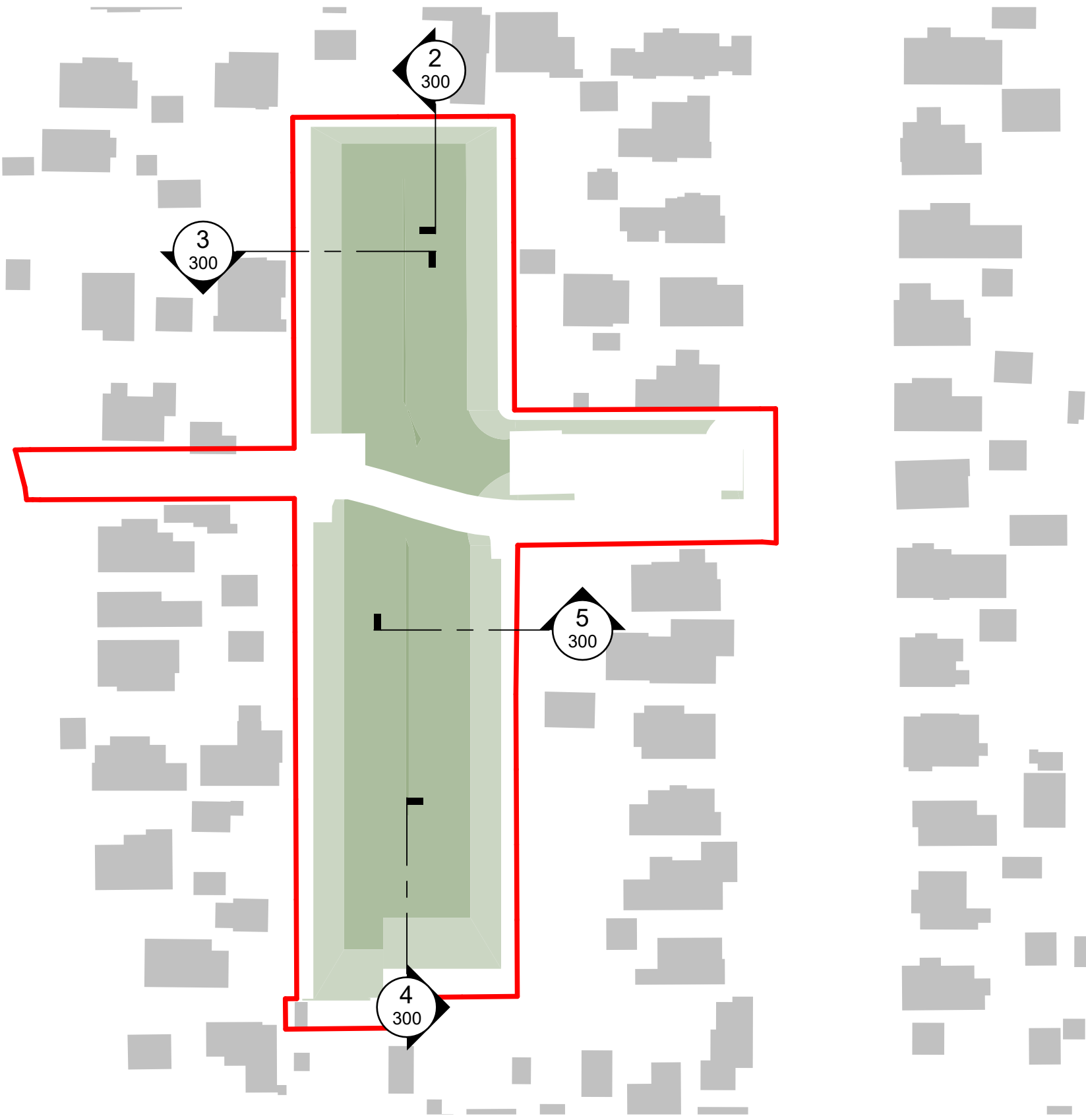
REVISION

Concept Design

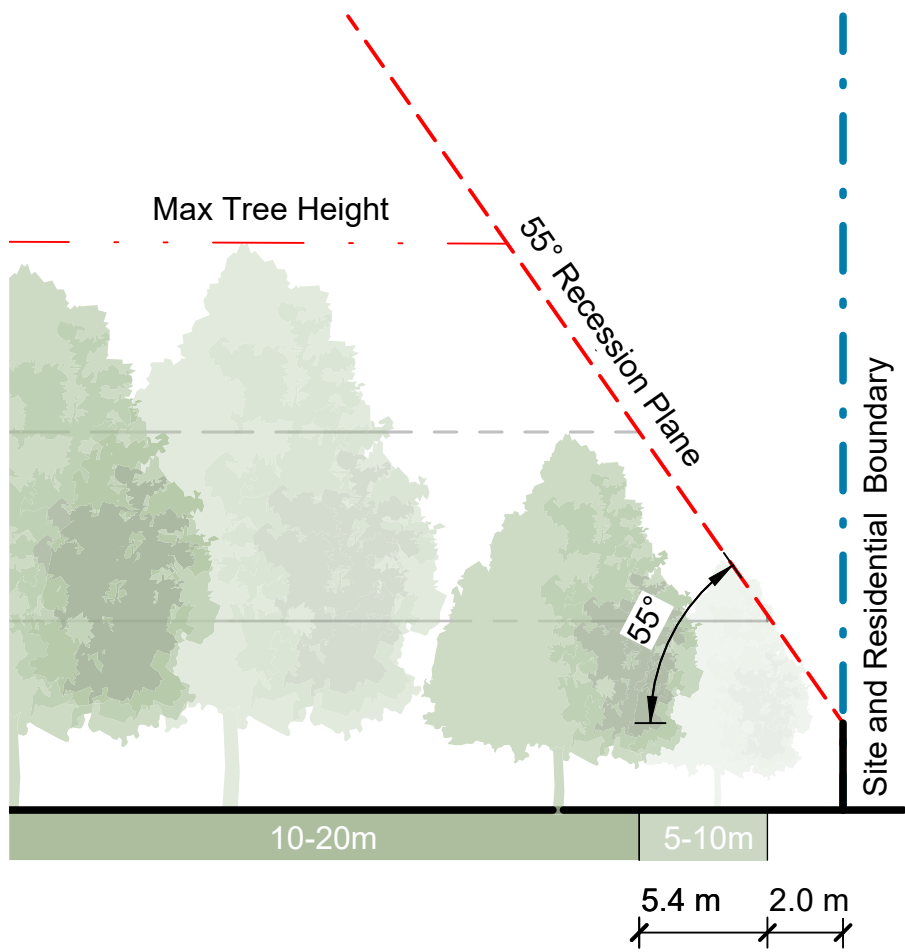
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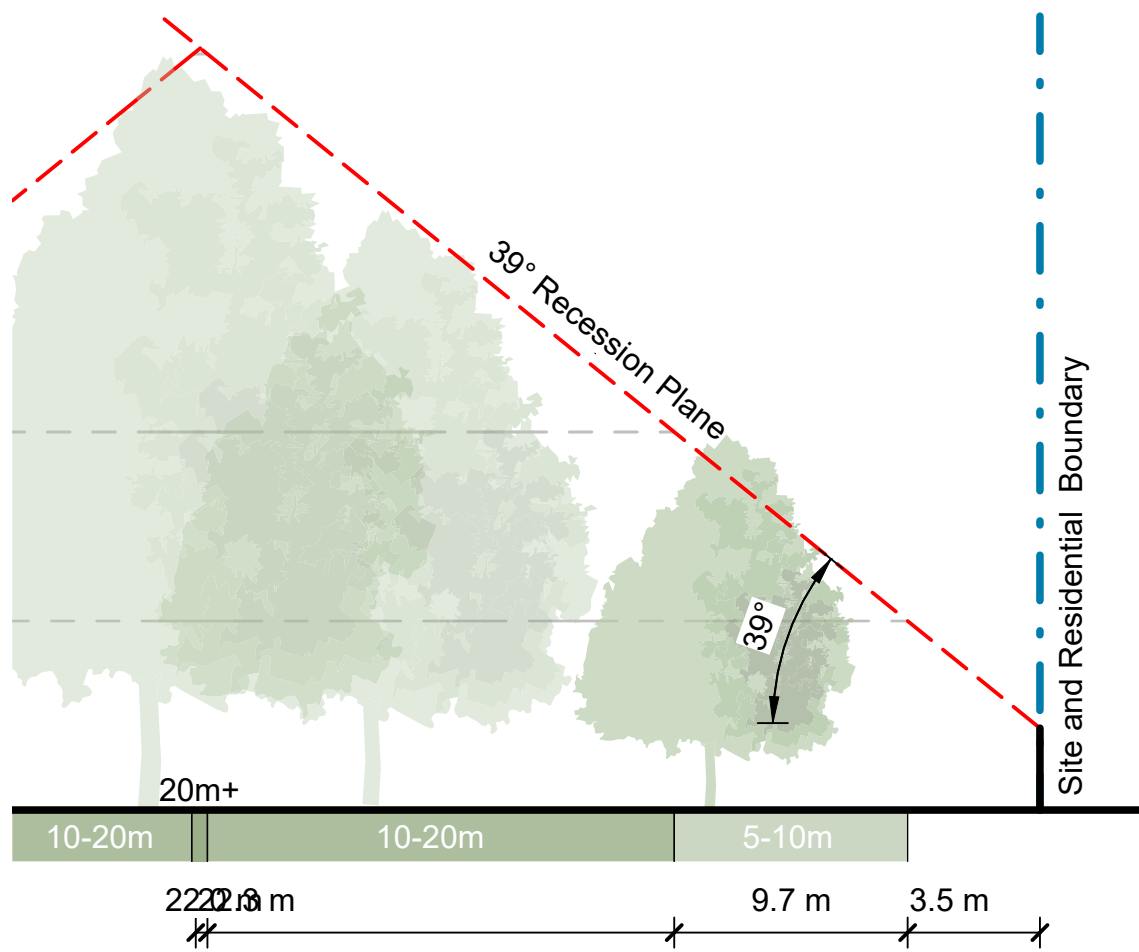
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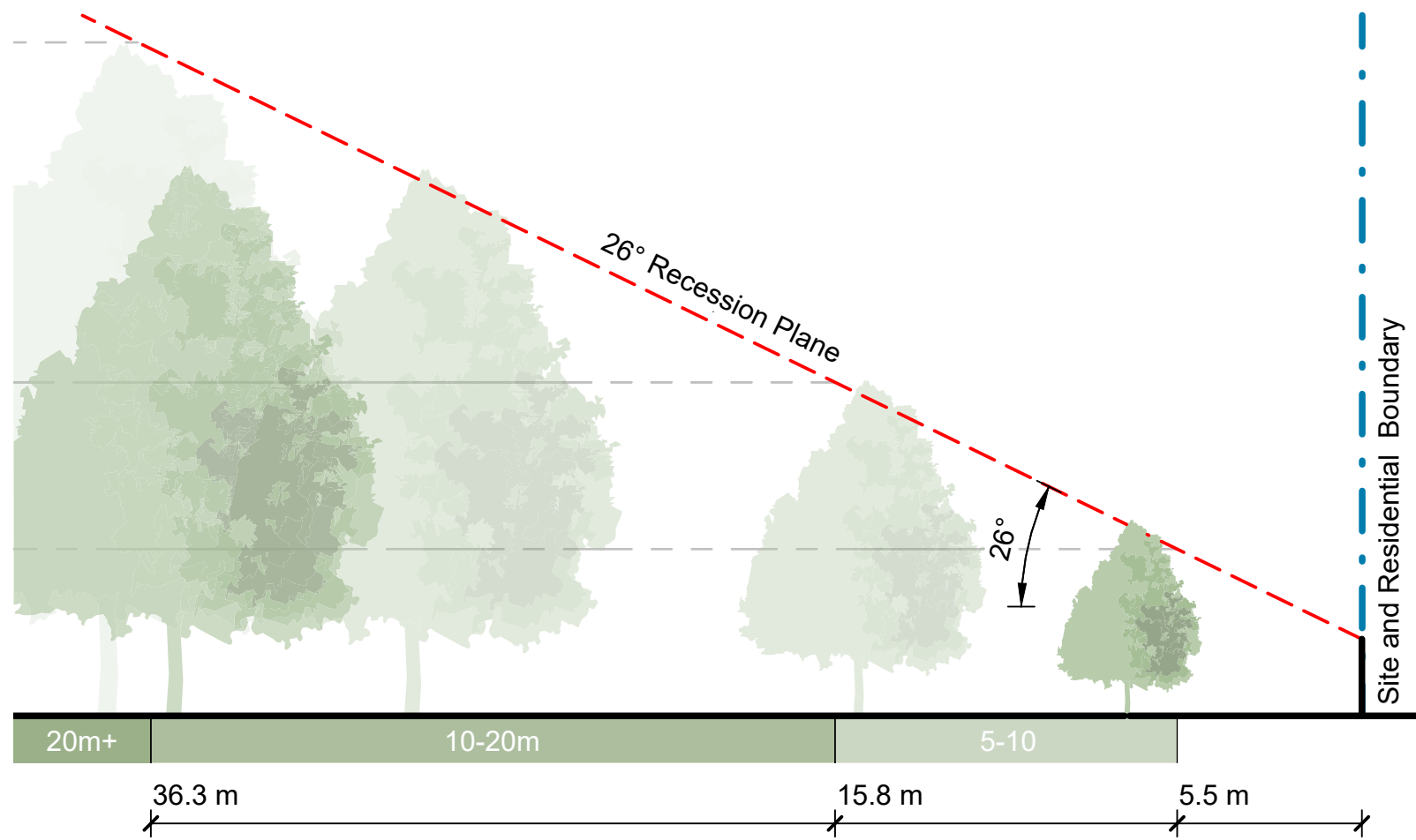
1 Sections - Boundary Plan
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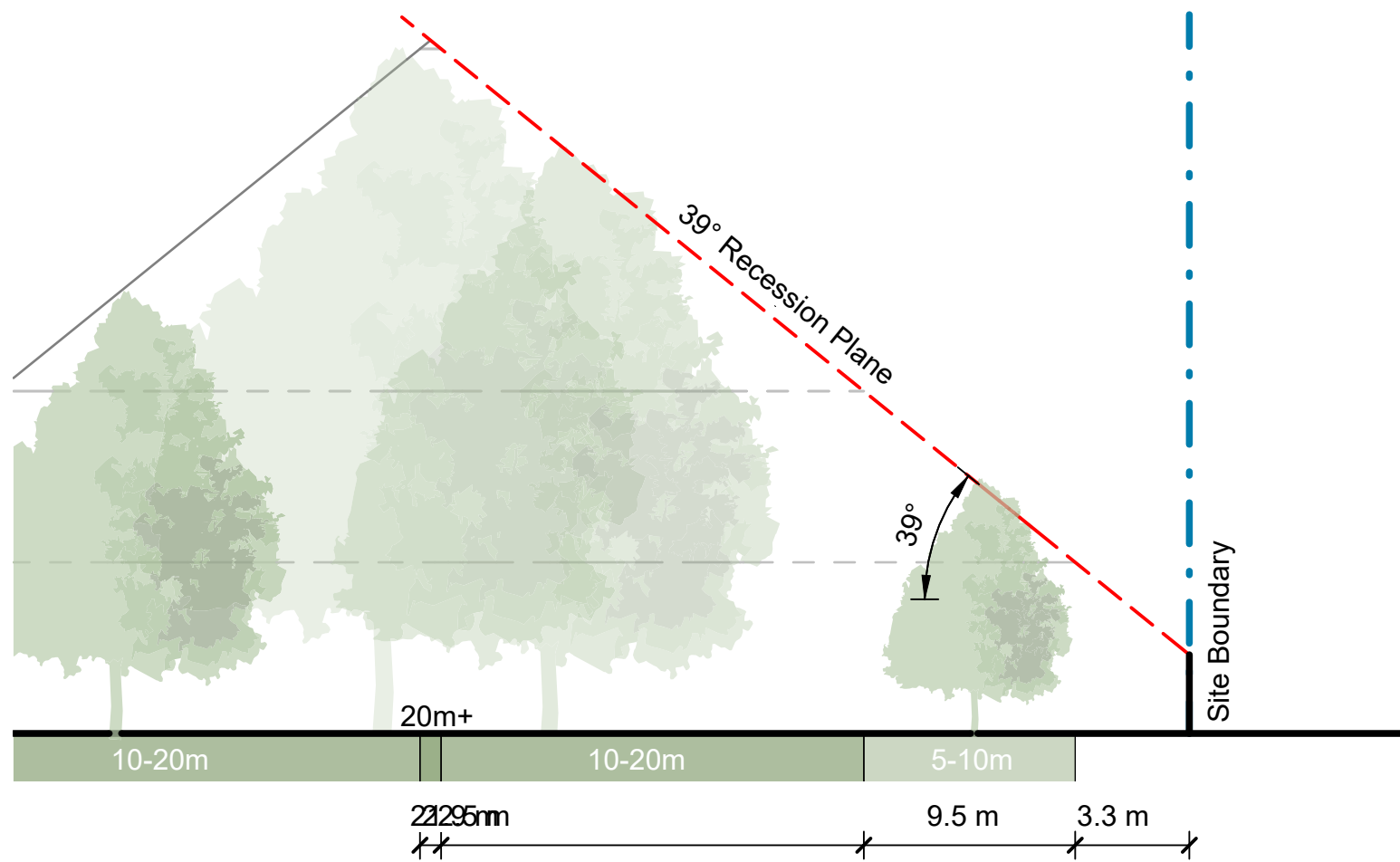
2 Section 1
Scale: 1 : 200



3 Section 2
Scale: 1 : 200

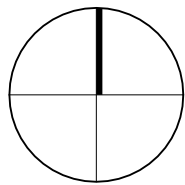


4 Section 3
Scale: 1 : 200



5 Section 4
Scale: 1 : 200

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Urban Forset Tree Planting
Petrie Park Reserve

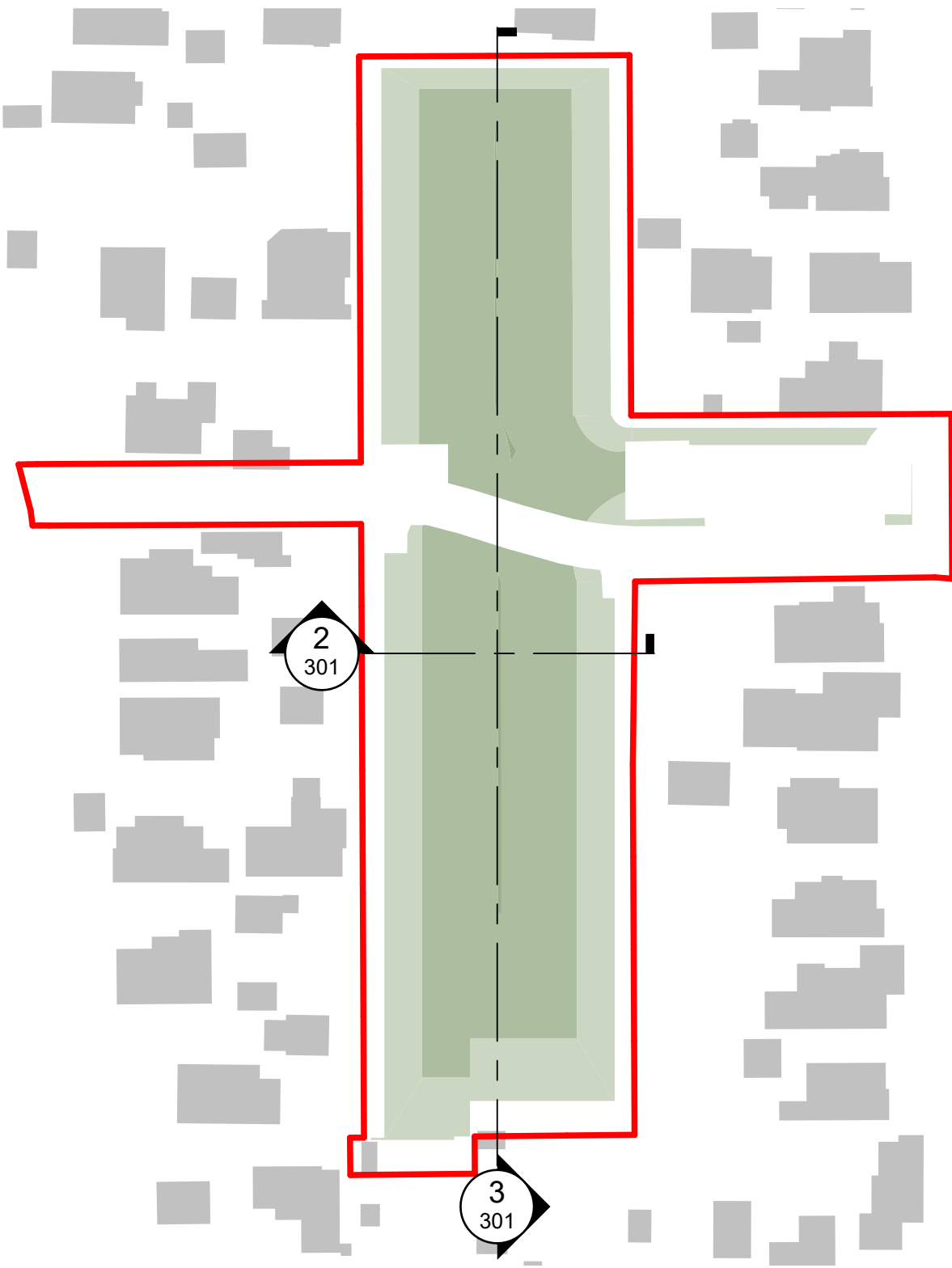
Cross Section Studies of Potential Tree
Heights

Design	HCo	Scale	Date
Drawn	ARo	As Shown	05.12.2023
Check	GRo		

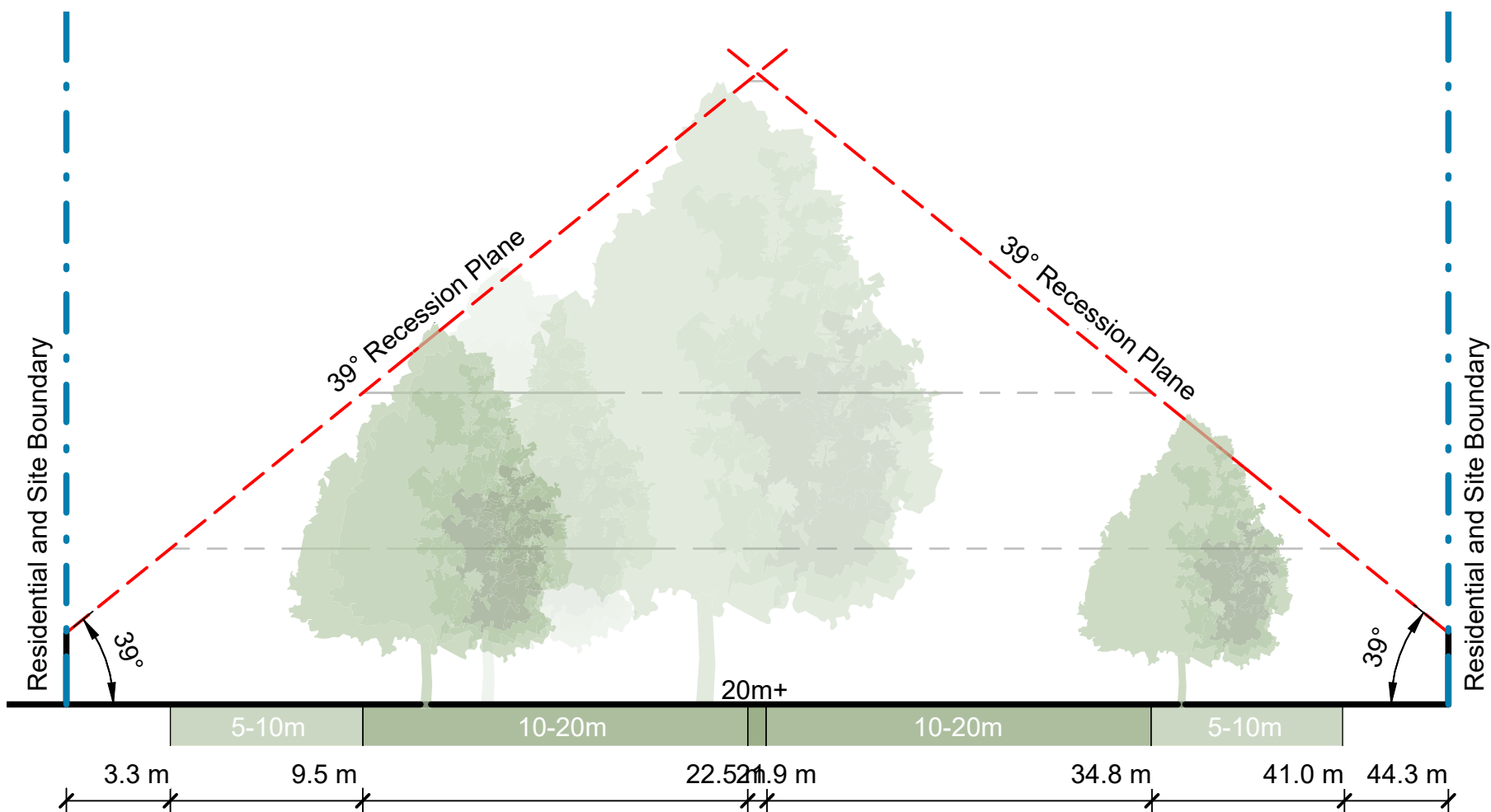
Concept Design

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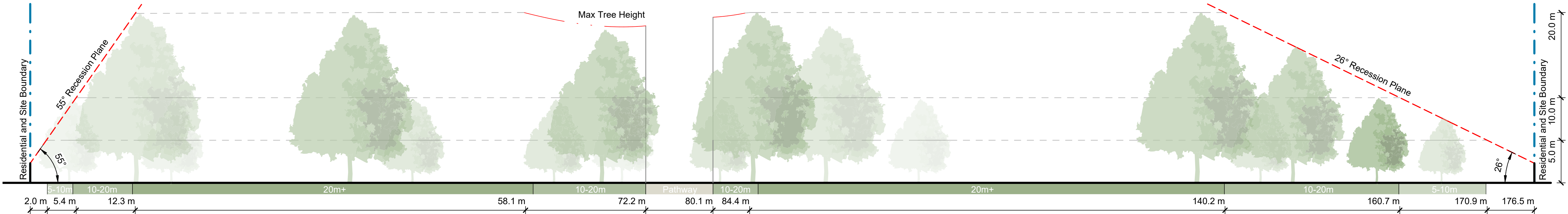
REVISION C



1 Sections - Cross Section Plan
Scale: 1 : 1000

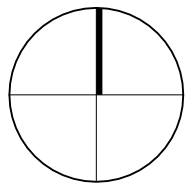


2 Cross Section 1
Scale: 1 : 200



3 Cross Section 2
Scale: 1 : 250

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Urban Forset Tree Planting
Petrie Park Reserve

Cross Section Studies of Potential Tree
Heights

Design	HCo	Scale	Date
Drawn	ARo	As Shown	05.12.2023
Check	GRo		

Concept Design

DRAWING NO.	REVISION
BM230857_301	C

Petrie Park, North Richmond



Concept master-plan

Revamp the southern half of Petrie Park, once a bowling green, with a redesigned concept that incorporates the Urban Forest Tree Plan. Include amenities for dog walkers. The formal fence of the bowling green will once again be activated. Along the fence, there will be murals and plants espaliered and seating. A shelter has been strategically located away from the historical sheds, known to have soil contaminated with reported arsenic concentrations. Soil samples were gathered from the former bowling green clubrooms area at the southwestern corner of the park, revealing the presence of asbestos in the near-surface soil. An asbestos management plan will be devised for this section

Sample 50 and Sample 35 results indicate that isolated areas of health-significant arsenic (above recreational and residential soil contaminant standards)

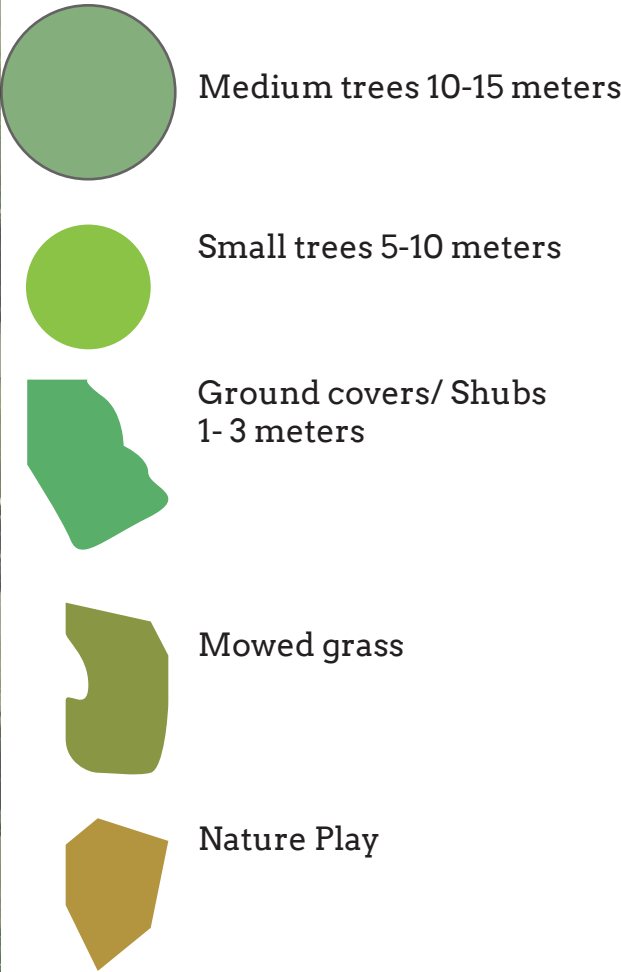
The area surrounding the historical sheds should not be used for produce consumption due to elevated concentrations of arsenic identified in the soil. Despite this, it is considered acceptable for recreational use, mainly due to the isolated nature of results exceeding residential guidelines. However, structures that attract people to this location for recreational purposes, such as picnic tables or other features, should not be installed unless soil management measures are implemented, such as capping.

Health significant level of asbestos (chrysotile) present at locations S55 and S56 Health significant levels of asbestos fines (chrysotile) were also identified in soil sample S55. 14m x 8 m x .05 m Cap over contaminant area

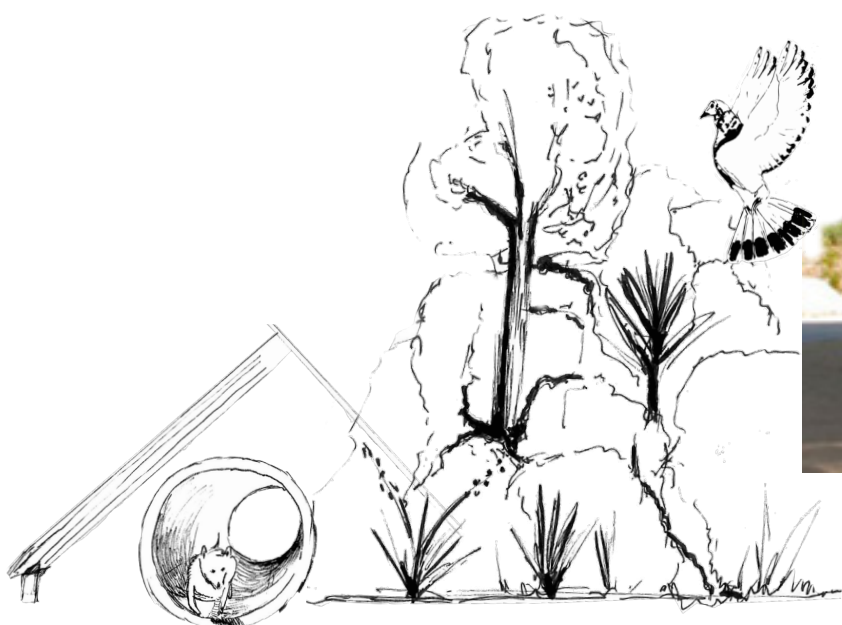


Key

1. Arsenic soil sample site
2. Shelter
3. Grass with dog features
4. Fruit trees
5. Urban forest
- 6 Inner path
7. Slatted seats
8. Mural walls
9. Nature Play
10. Capped asbestos



Concept plan Petrie park
Urban forest with dog park features. Scale 1:300



Concept drawing (2024) Single pitched roof that can catch rain water for fruit trees.



1 Summer - 7:30am
Scale: 1 : 1000



2 Summer - 9:00am
Scale: 1 : 1000



3 Summer - 10:30am
Scale: 1 : 1000



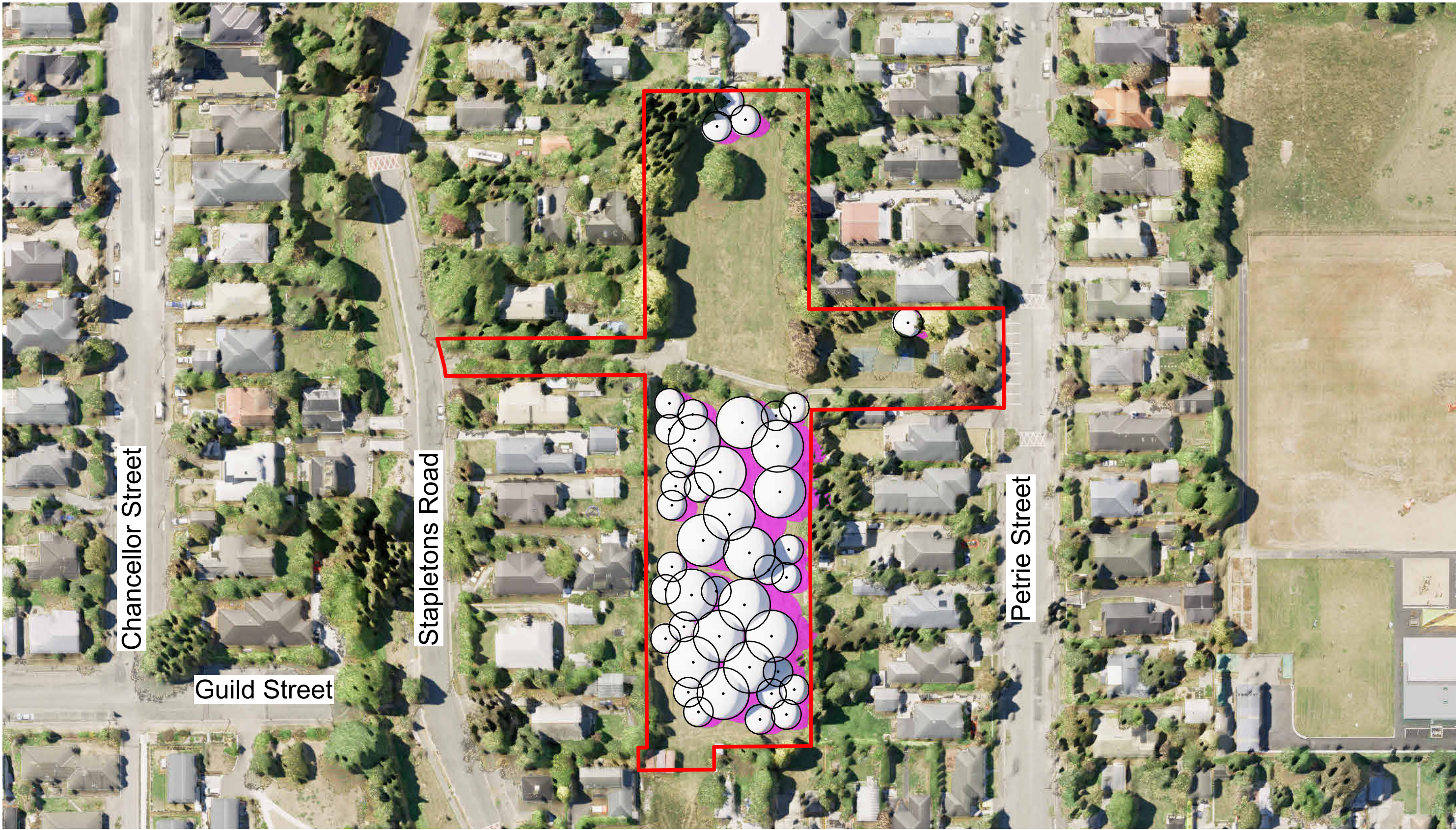
4 Summer - 12:00pm
Scale: 1 : 1000



1 Summer - 1:30pm
Scale: 1 : 1000



2 Summer - 3:00pm
Scale: 1 : 1000



3 Summer - 4:30pm
Scale: 1 : 1000



4 Summer - 6:00pm
Scale: 1 : 1000



1 Winter - 7:30am
Scale: 1 : 1000



2 Winter - 9:00am
Scale: 1 : 1000



3 Winter - 10:30am
Scale: 1 : 1000



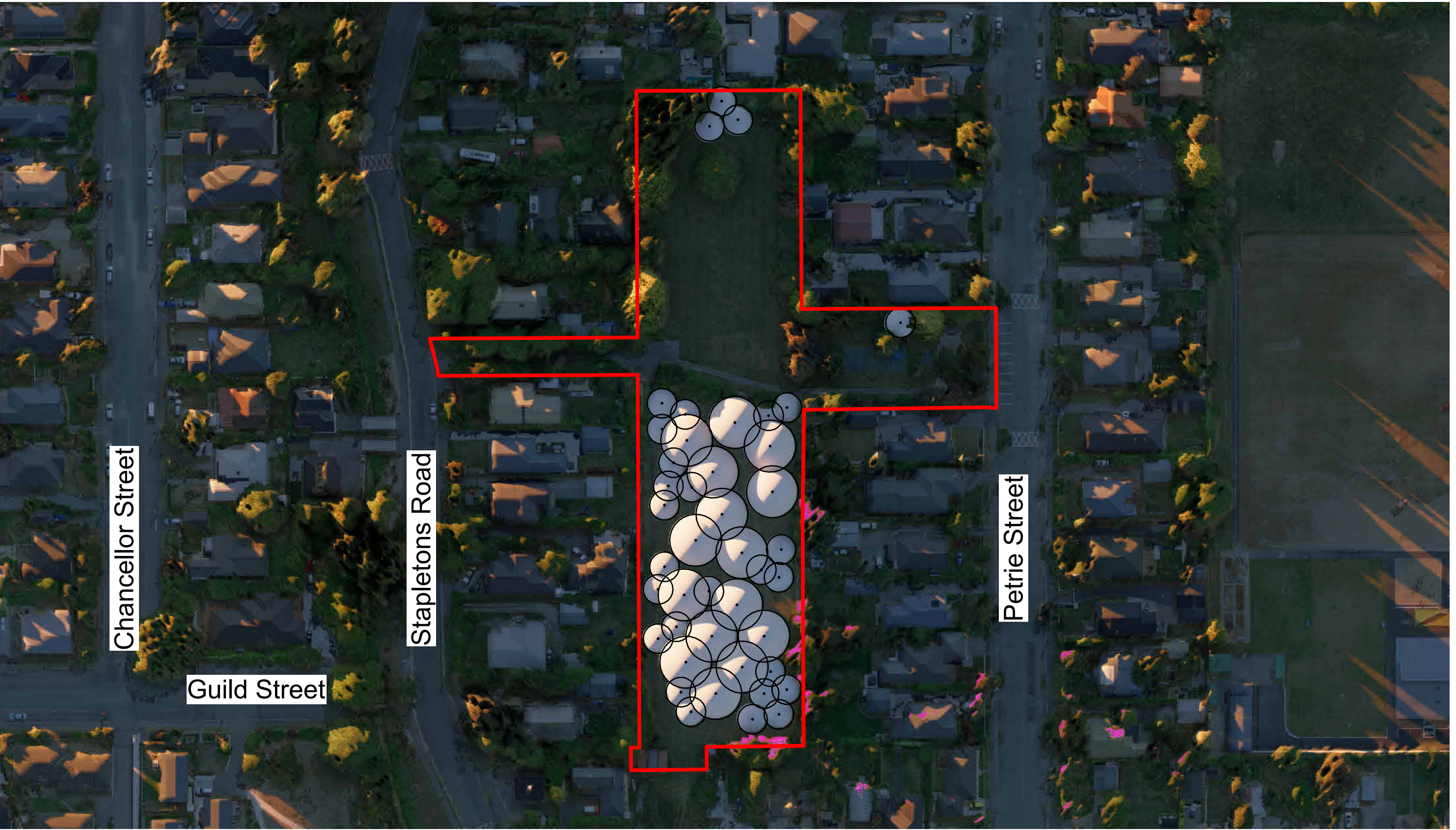
4 Winter - 12:00pm
Scale: 1 : 1000



1 Winter - 1:30pm
Scale: 1 : 1000



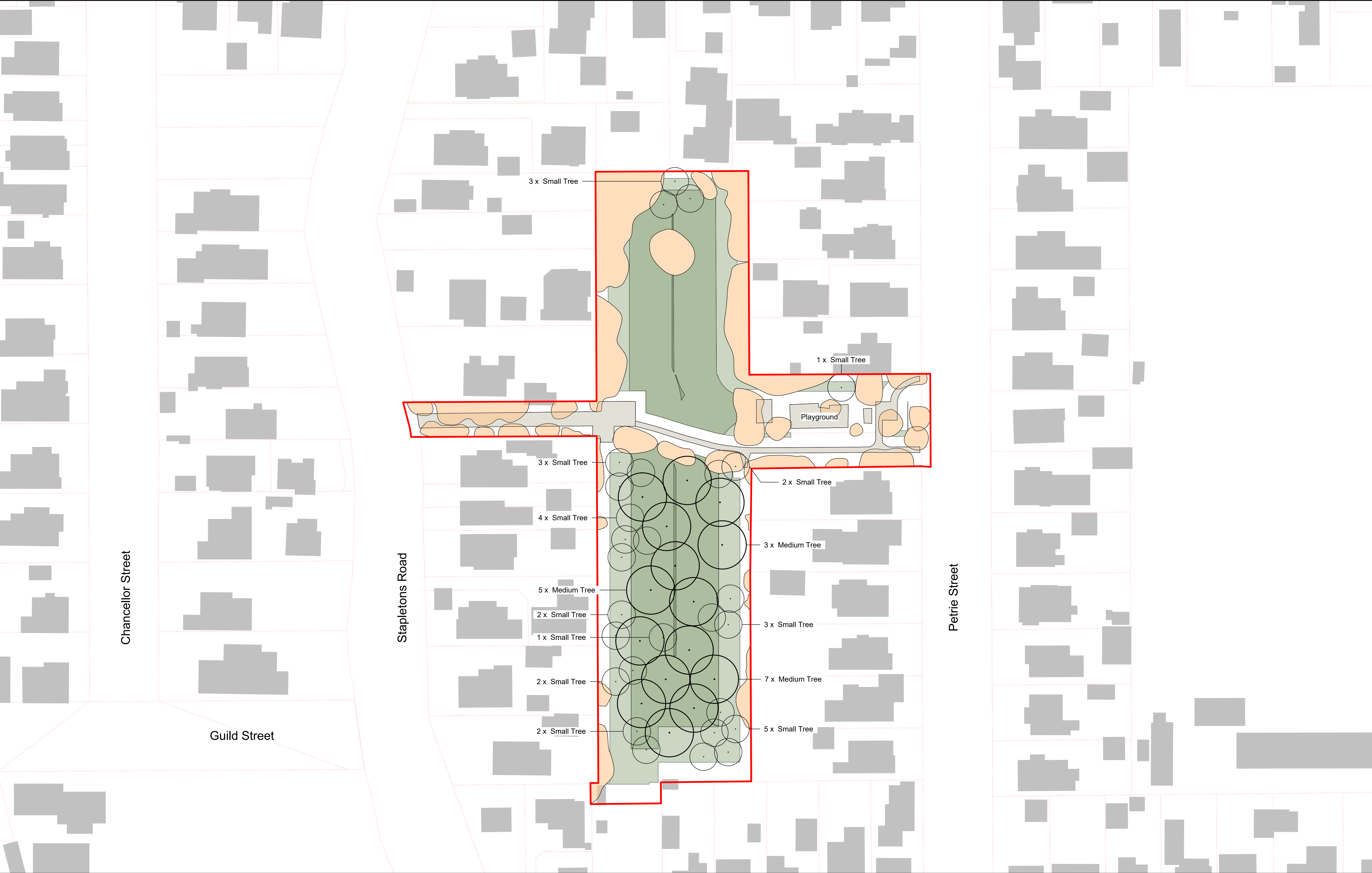
2 Winter - 3:00pm
Scale: 1 : 1000



3 Winter - 4:30pm
Scale: 1 : 1000



4 Winter - 6:00pm
Scale: 1 : 1000



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Existing Canopy Cover - 2583.38 m² 26.1% Canopy coverage to existing site

Proposed Canopy Coverage - 3716.50 m² 37.5% Proposed canopy coverage

Total Canopy Coverage - 6299.88 m² 63.6% Total canopy coverage

PLANTING SCHEDULE

Qty	Type	Tree Height
15	Medium Tree	Tree Height 10-15m
28	Small Tree	Tree Height 5-10m
71	Existing Trees	

0m 5m 10m 20m

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Petrie Park Reserve

Planting Plan

Design HCo Scale Date

Drawn ARo 1:500 @ A1 05.12.2023

Check GRO 1:1000 @ A3

Concept Design

DRAWING NO. BM230857_500

REVISION C

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