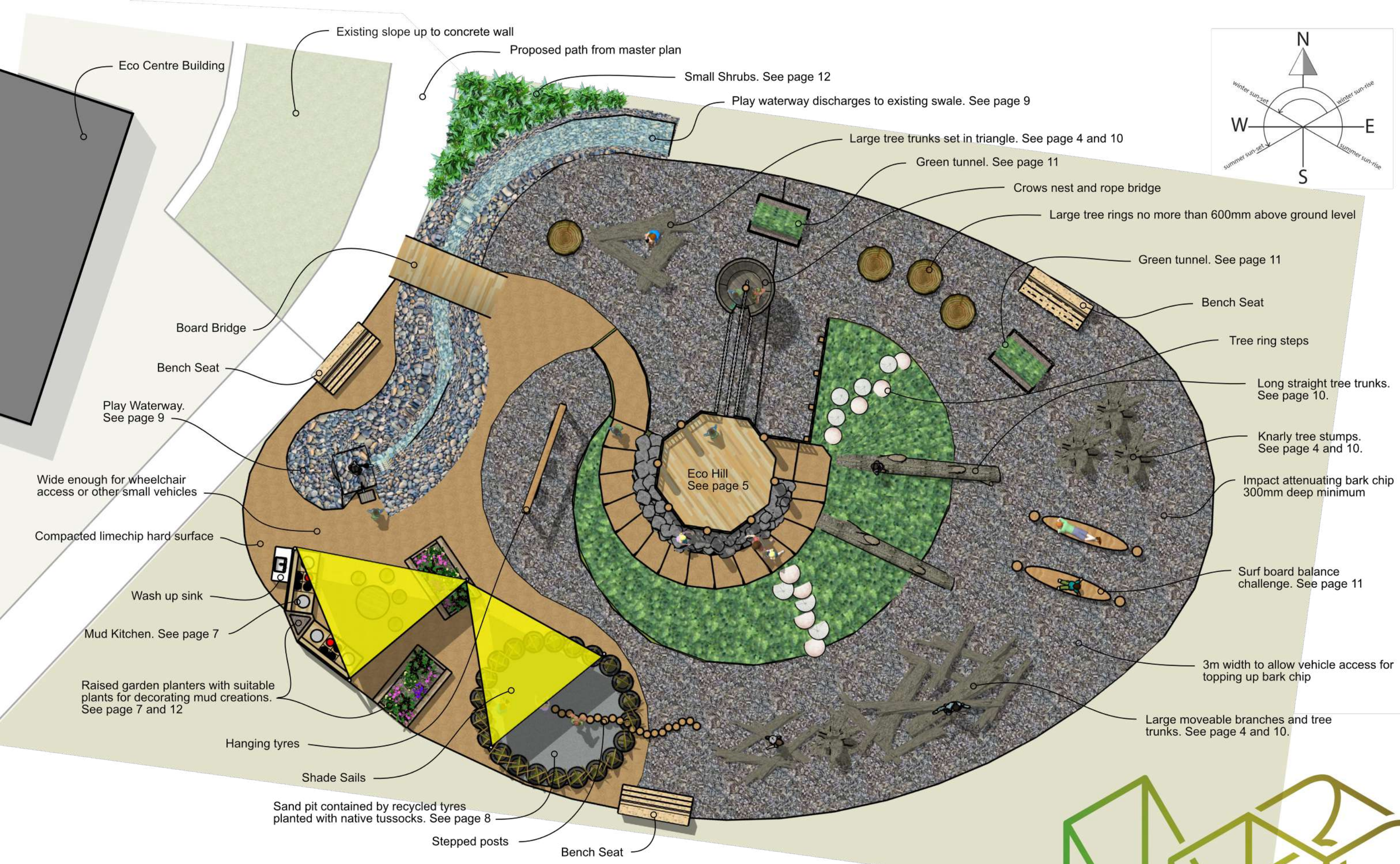
NB ARCHITECTS

Sustainable South Canterbury Trust 55c Redruth Street, Redruth, Timaru

Eco Centre Play Space

June 2024



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Timaru

Play Space Plan
June 2024

Scale 1:100 @ A3
Page 2

drawn by
kwilson
Landscape Architect

Playground design, components, maintenance, and usage must comply with New Zealand Legislation which includes (but not limited to) the following:

Building Act 2004 and the New Zealand Building Code
Fencing Act 1978
Health and Safety in Employment Act 1992
Human Rights Act 1993
Local Government Act 2002
Resource Management Act 1991

Compliance with **New Zealand Standard 5828:2004 Playground Equipment and Surfacing** is not legally required but compliance and regular audits using NZS5828:2004 as the standard measure will be used as evidence in any legal proceedings after a serious injury or fatality.

This playground design has been designed to comply with NZS 5828:2004 as well as be practical to build and a novel natural place to play. It covers an area of approximately 320m^2. The materials are primarily natural or recycled. Posts and fixings (bolts and screws etc) must be durable in the coastal environment (Building Code Clause B2 Durability and NZS3604).

The playground will require regular checks, maintenance and audits to ensure it is safe to use and continues to comply standards and legislation.

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Play Space Perspectives
June 2024

Not to scale @ A3

drawn by
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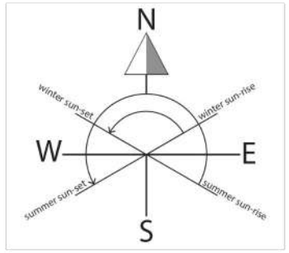
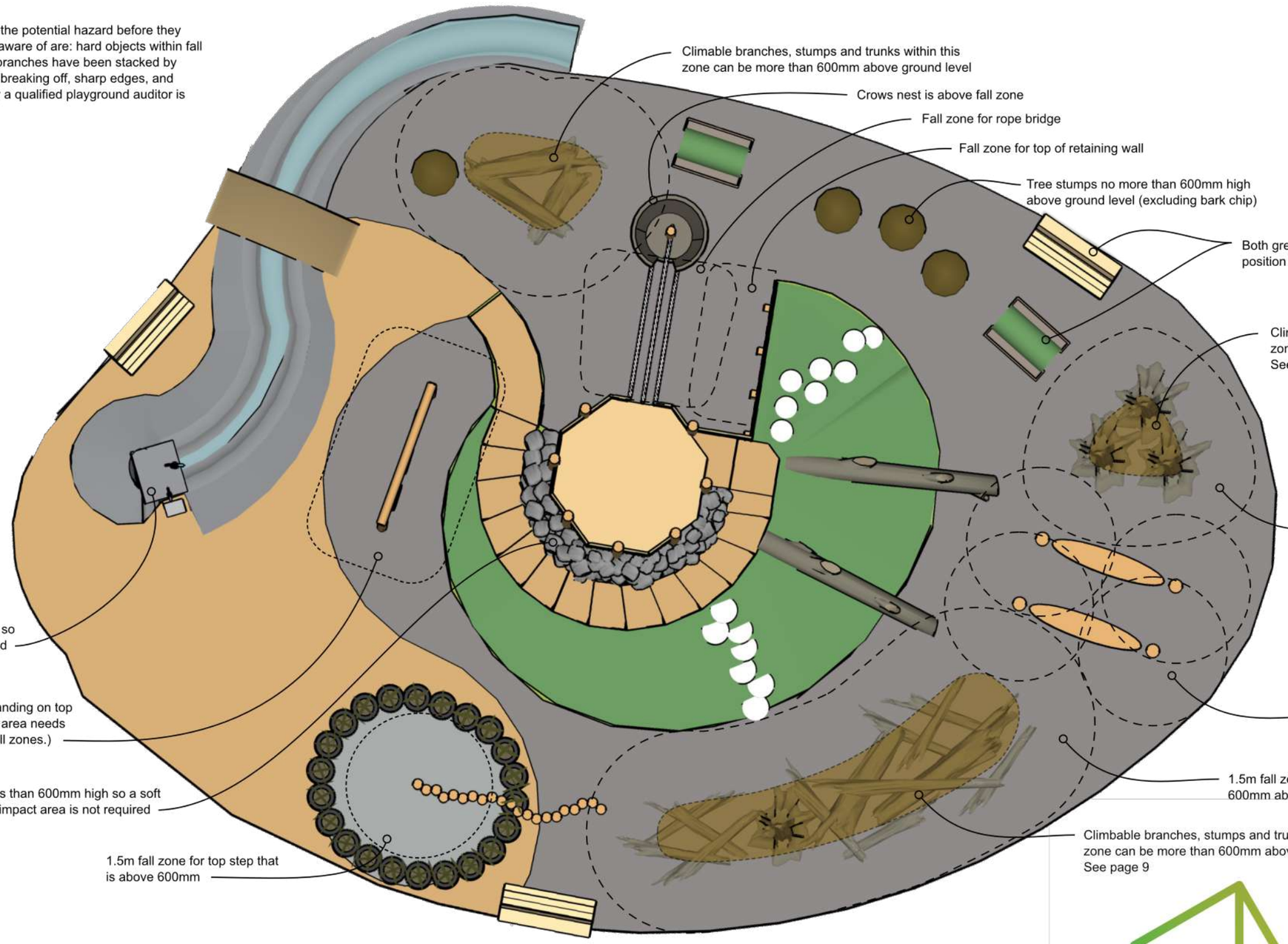
Dimensions are in millimetres. Fences are not shown in these plans or perspectives. Input from an engineer is required for some equipment to ensure structural integrity.



Managing risks
Playground owners are required to identify the potential hazard before they cause harm to users. Some hazards to be aware of are: hard objects within fall zones of other equipment, stability of how branches have been stacked by players, splinters from dry wood, branches breaking off, sharp edges, and entrapment in holes. Periodic inspection by a qualified playground auditor is recommended too.



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Play Space Plan
June 2024

Scale 1:100 @ A3
Page 4

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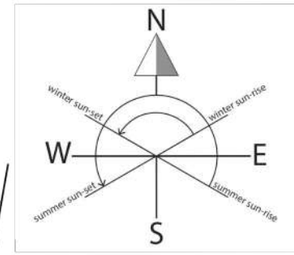
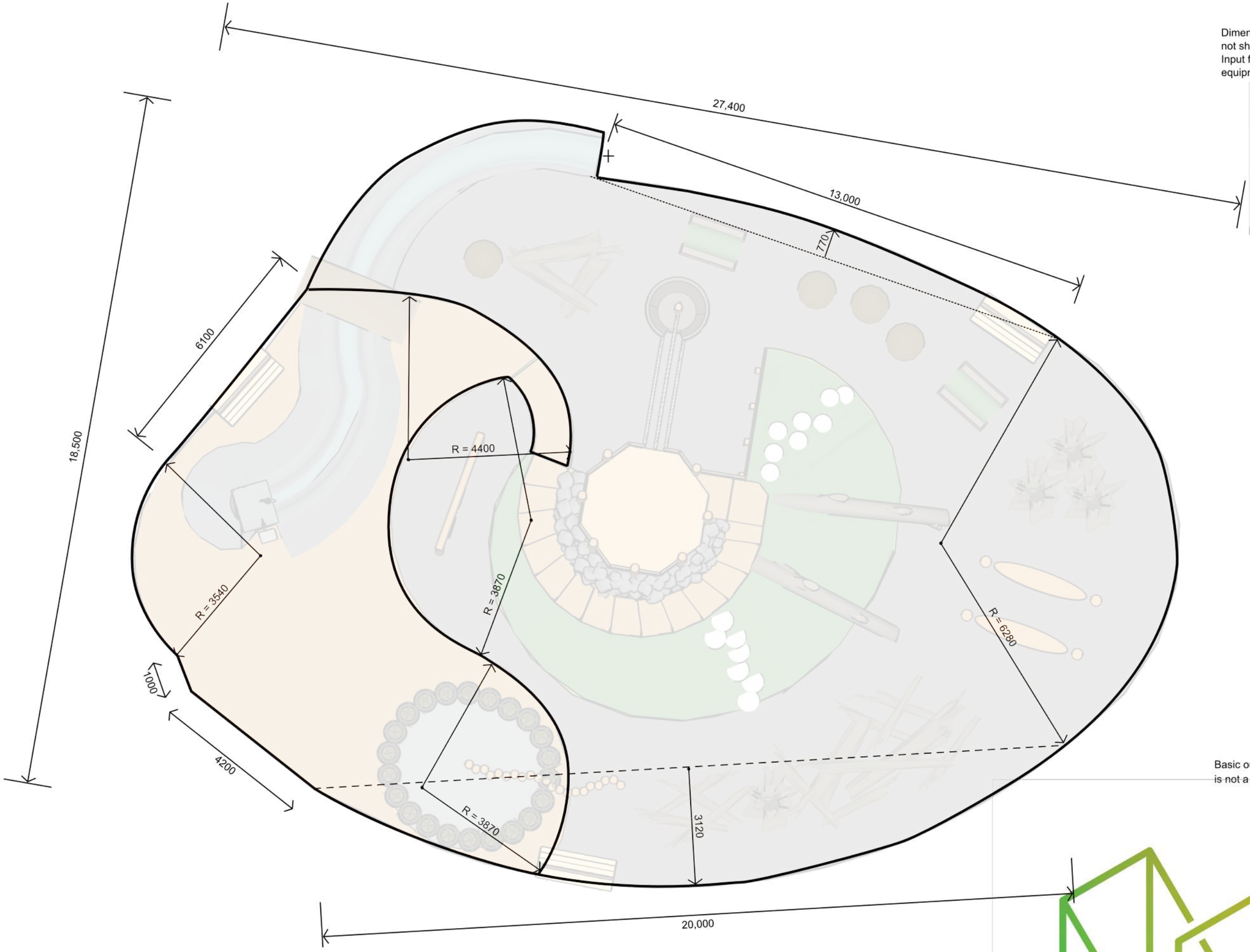
Dimensions are in millimetres. Fences are not shown in these plans or perspectives. Input from an engineer is required for some equipment to ensure structural integrity.





Basic outline of size and shapes. This is not a setting out plan for construction

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Play Space Plan
June 2024

Scale 1:100 @ A3
Page 5

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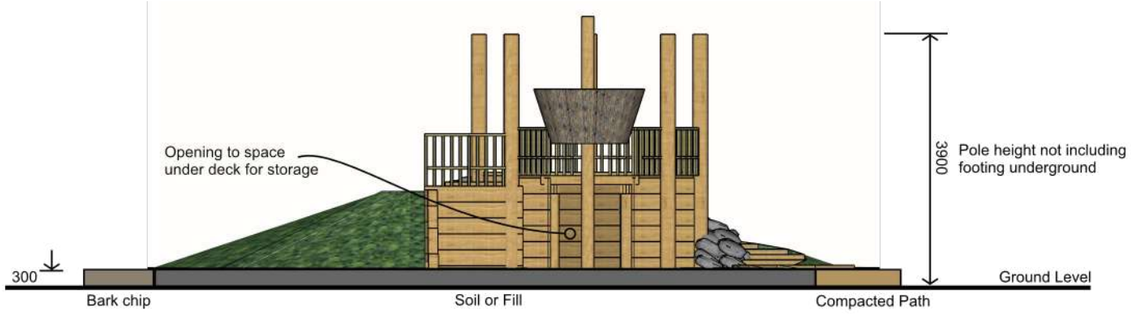
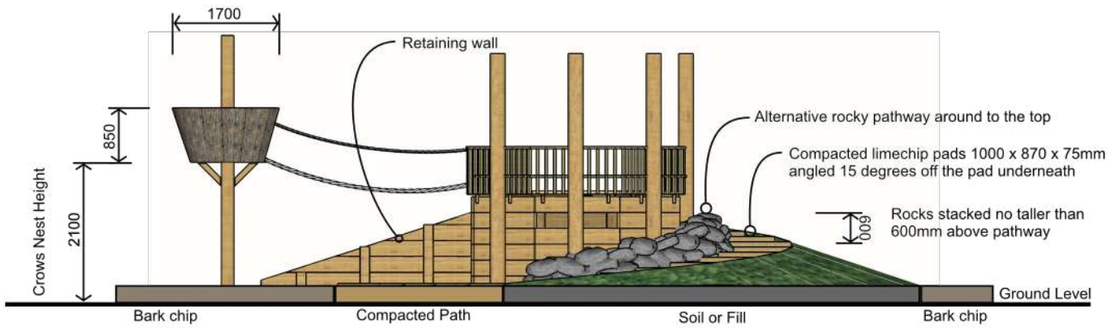
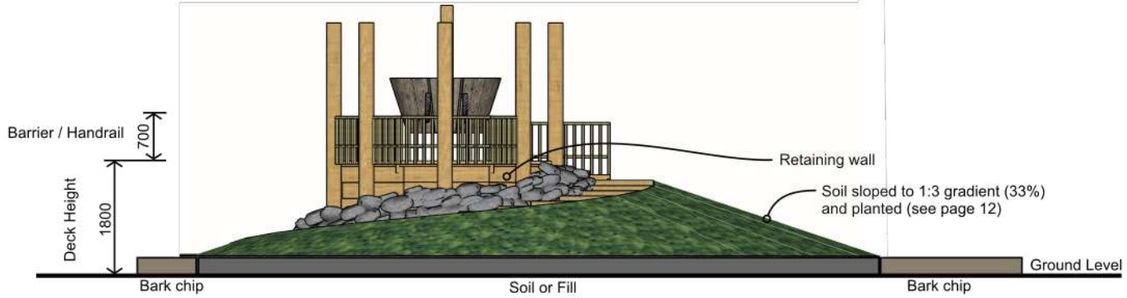


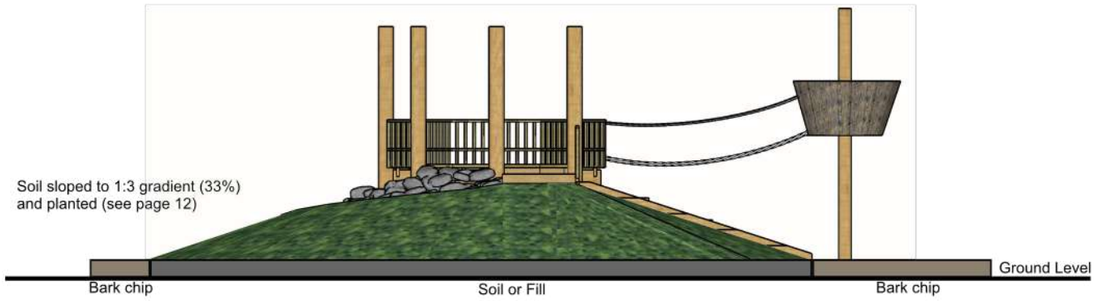
North Elevation.
not to scale



West Elevation.
not to scale

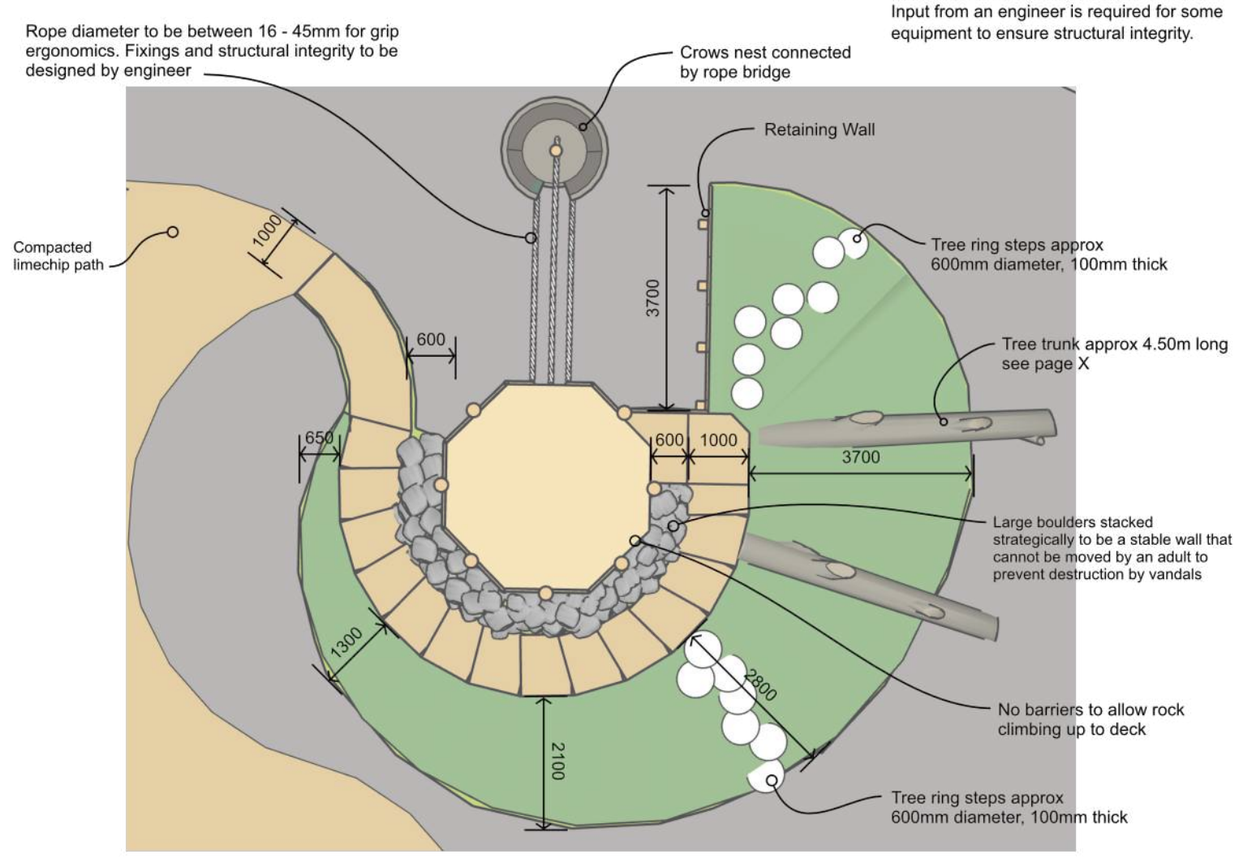


South Elevation.
not to scale

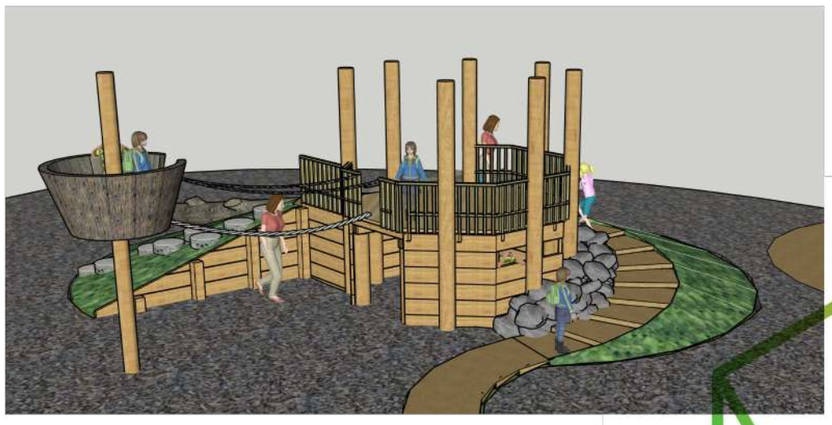


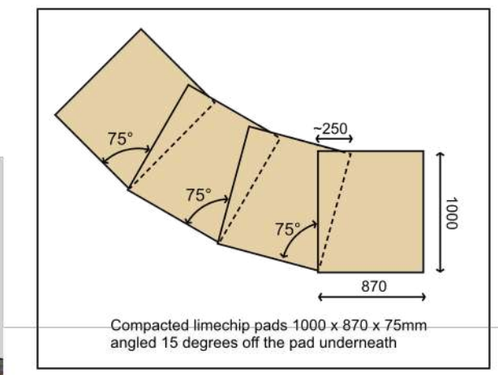
East Elevation.
not to scale

Dimensions are in millimetres. Fences are not shown in these plans or perspectives. Input from an engineer is required for some equipment to ensure structural integrity.



Eco Hill Plan
Scale 1:100





Compacted limechip pads 1000 x 870 x 75mm
angled 15 degrees off the pad underneath

Spiral Path pattern
Scale 1:50

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Eco Hill
June 2024

Scale 1:100 @ A3
Page 6

drawn by
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Landscape Architect

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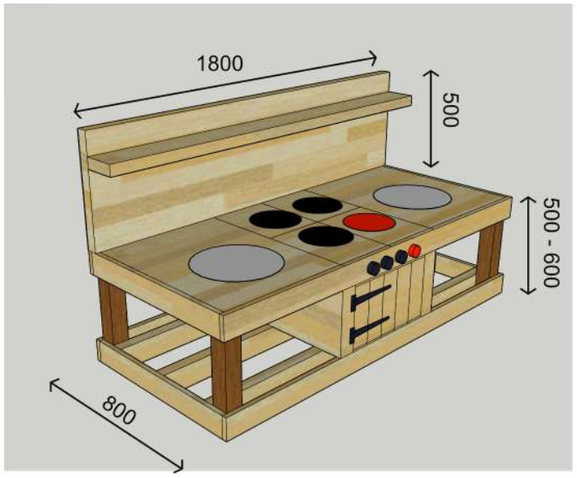
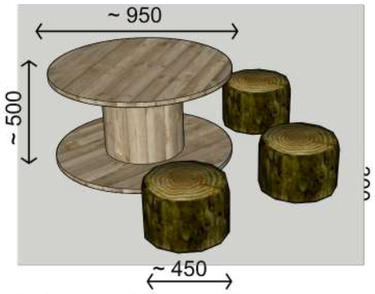


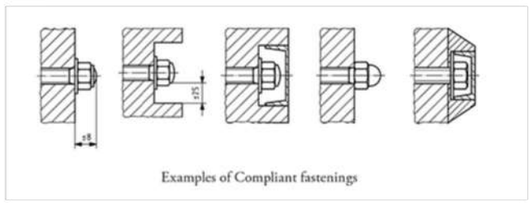
Example mud kitchen bench

Constructed with H3.2 treated timber or hardwood timber. Different bench heights, 500 and 600mm, will suit different age children.

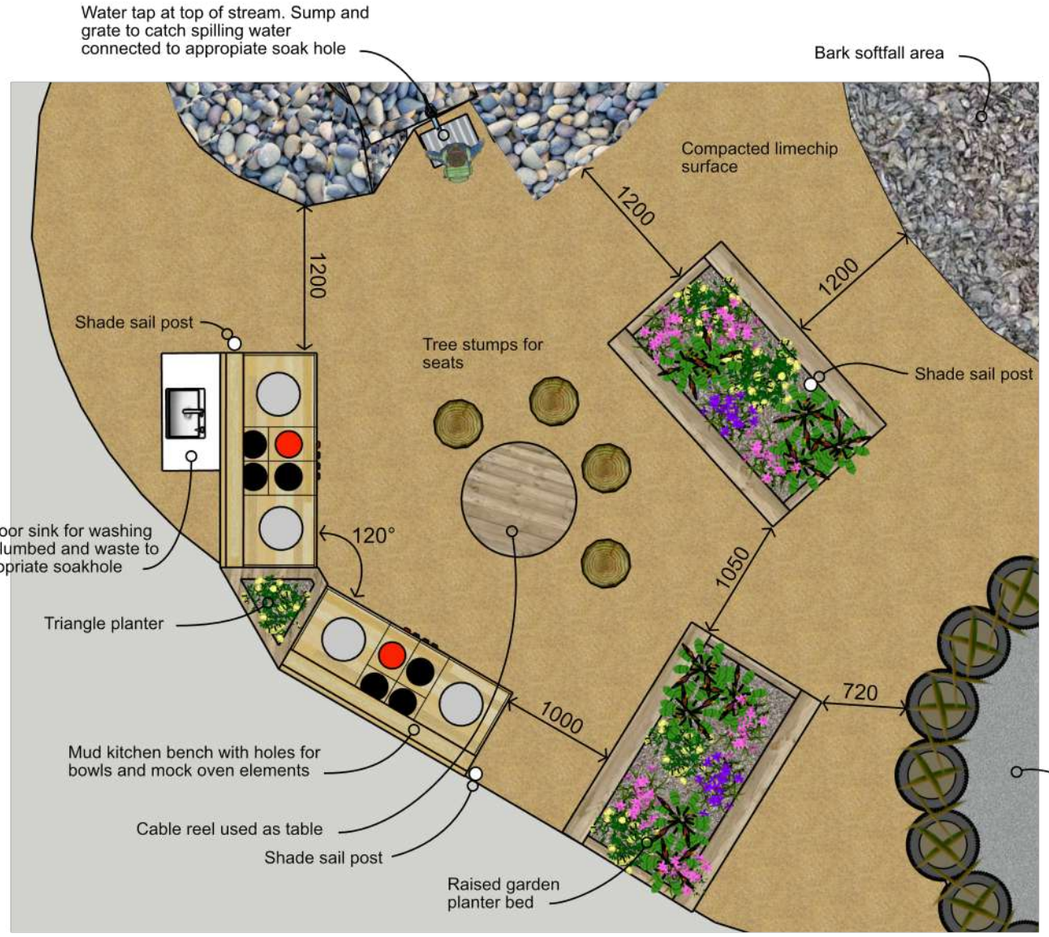


Cable Reel Table and Stump Seats

Dimensions are approximate to guide the search for donated materials that are ergonomic for children. They must not have wood that may splinter. Bolt threads with any accessible part shall be permanently covered e.g. dome headed nuts or must be controlled (see diagram). Nut and bolt heads that protrude less than 8mm shall be free from burrs.

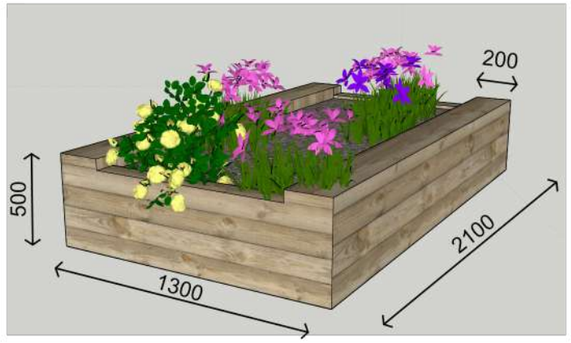


Examples of Compliant fastenings



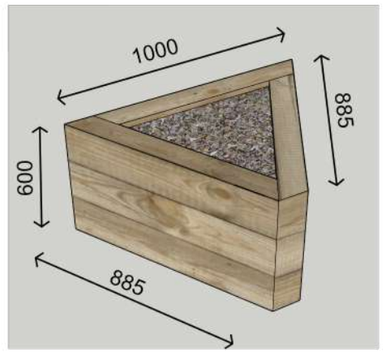
Mud Kitchen Plan View 1:50

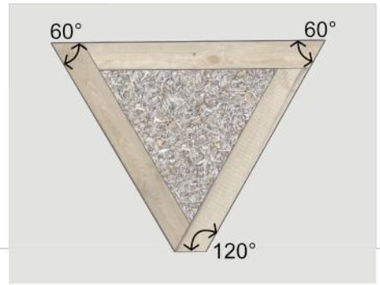
1200mm clear widths are accessible for wheelchair users as well as small machinery for continued construction and topping up soft fall bark. See page 11 for plant species. See page 13 and 14 for quantities



Raised planter garden

Constructed with hardwood sleepers (200 x 100mm). Build on base coarse before compacted limechip finish. So final height from finished ground will be approximately 450mm suitable for seating as well as children helping themselves to dirt and plant material.





Triangle planter
not to scale

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Mud Kitchen Space
June 2024

Scale 1:100 @ A3
Page 7

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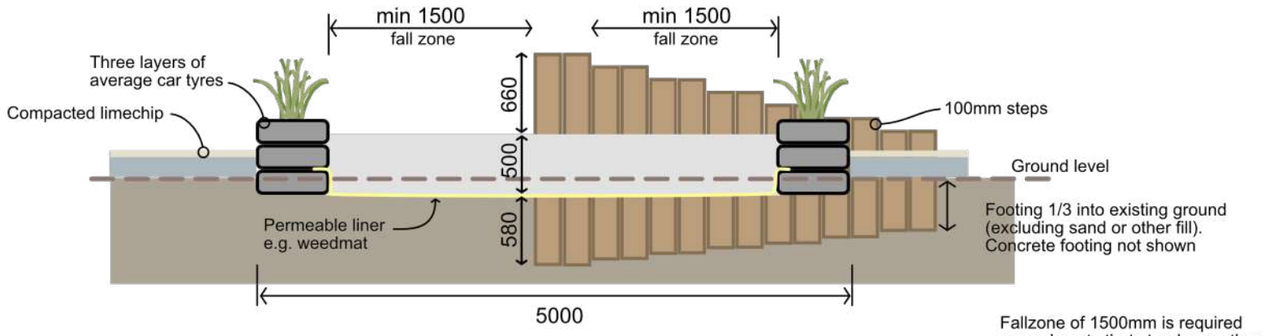
Landscape Architect

Dimensions are in millimetres. Fences are not shown in these plans or perspectives. Input from an engineer is required for some equipment to ensure structural integrity.

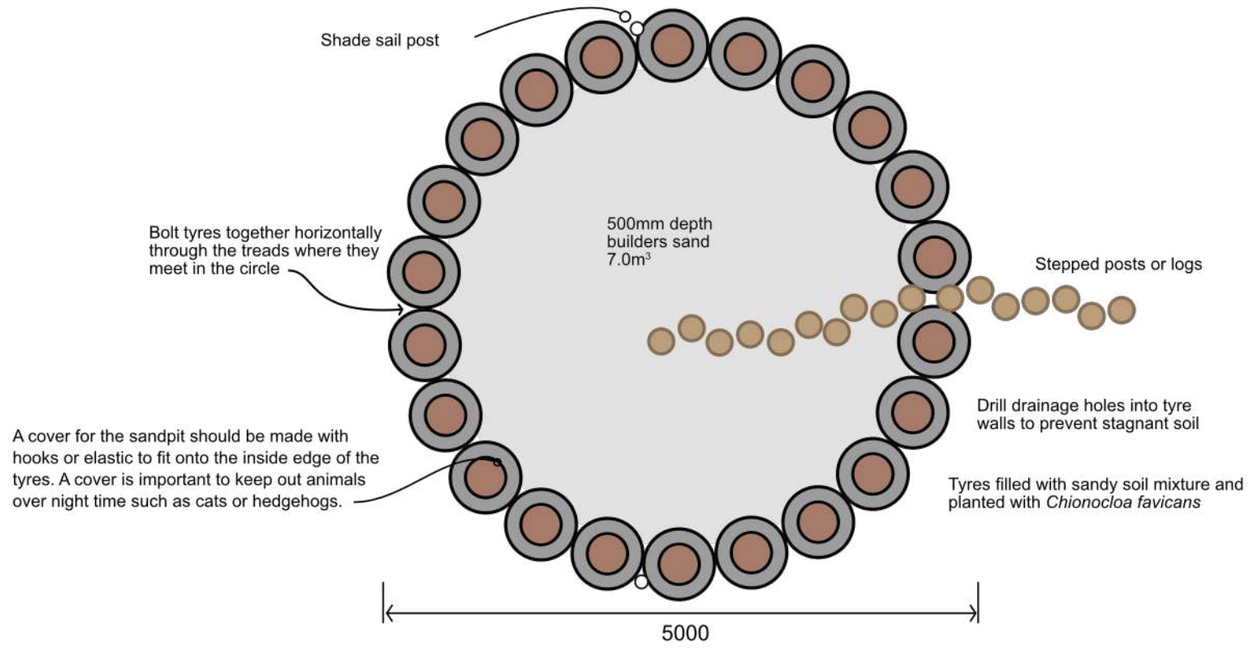


Fallzone of 1500mm is required around posts that stand more than 600mm above the sand level

Sand Pit Cross Section
Scale 1:50

Shade Sail Locations Plan View
Scale 1:100

Shade shown 01 Feb 1:30pm Final shade sail size and placement to be decided based on shade sail source or supplier. Shade sails are not compulsary but highly recommended to protect children from sun burn during sedentry play typical of sandpit areas.



Sand Pit Plan View
Scale 1:50

Sand Pit Prespective
Not to scale

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Sandpit Space
June 2024

Scale 1:100 @ A3

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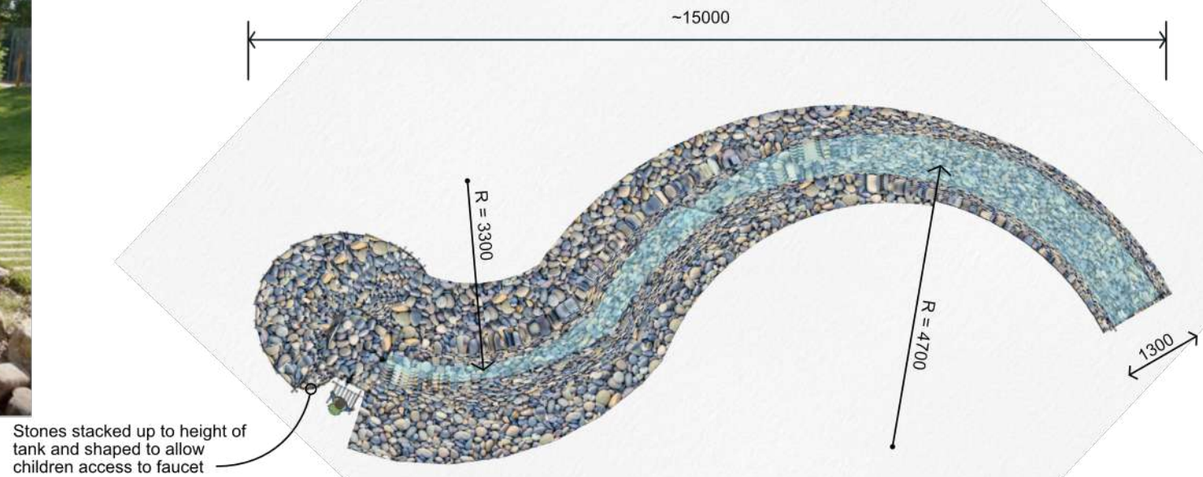
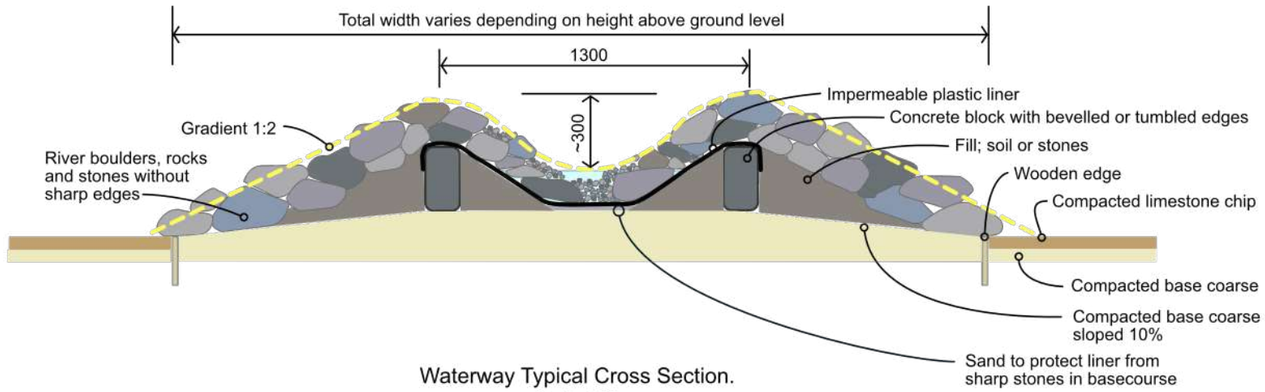
Waterway in context
Scale 1:200

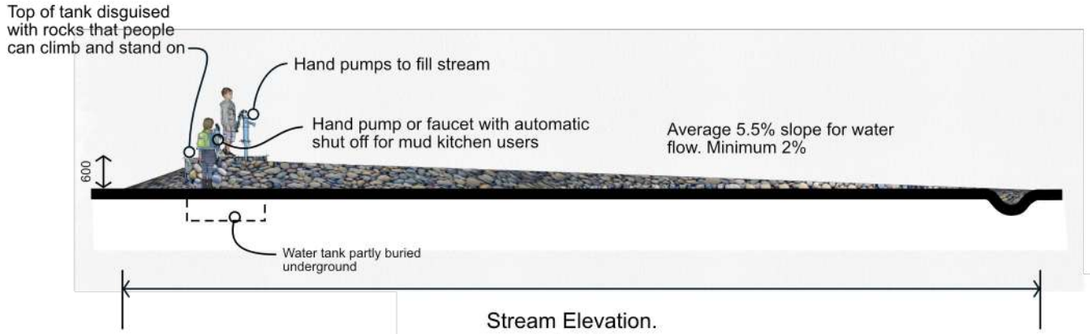
Dimensions are in millimetres. Fences are not shown in these plans or perspectives. Input from an engineer is required for some equipment to ensure structural integrity.



Stream Plan
Scale 1:100



Waterway Typical Cross Section.
Scale 1:25



Stream Elevation.
Scale 1:100

A plumber should be engaged to complete the plan to connect water to the hand pumps, wash up sink as well as the waste water.

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Waterway Play
June 2024

Scale 1:100 @ A3
Page 9

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Example of how 1500mm fall zone should be applied

Edges and sharp points must be rounded to XXmm

The fork between branch and trunk must be wider than Xxmm (measured horizontally) to prevent entrapment of a body part such as neck or ankle. This is especially cruicial where the fork is above 600mm from the ground

This narrow fork would not be compliant in New Zealand

Avoid head bump hazards between approximately 900 and 1200 above bark level that may not be seen by young kids. Large visible branches are fine.

Large unmoveable tree trunks placed on the ground on it's most stable side with 300mm depth bark chip spread around and up to tree trunk

Holes that are wide enough to fit a child's head through, must be wide enough to fit a child's body i.e. holes must not be between xxmm and xxmm in diameter.

Avoid trip hazards that may not be seen easily

Branches smaller than 100mm diameter or at risk of being broken by climbing must be trimmed off.

Dimensions are in millimetres. Fences are not shown in these plans or perspectives. Input from an engineer is required for some equipment to ensure structural integrity.

Medium size tree trunks and branches must be selected or adapted to meet the following criteria:

Knarly interesting shape with a variety or bark types or textures. Driftwood may be acceptable

Side branches thinner than 100mm diameter should be sawn off to prevent breaking during play

The total size and weight should be such that a young teenager cannot lift it high enough to swing it around.

The total size and weight should be such that team work of more than one child or adult is required to lift or roll each branch.

Where branches meet, the fork must be wide enough that it cannot entrap a body part such as an ankle, neck or finger.

Natural holes and knots must not be finger entrapment hazards.

The integrity of the wood should be such that splinters are unlikely.

Sharp points must trimmed back and rounded

Where it is possible for tree trunks and branches to be more than 600mm above ground level (excluding 300mm bark chip), there must be clear 1500mm fall space around the group of branches

Managing risks
Regular inspection of the branches, trunks and stumps should be a key component of hazard and risk management. These natural elements will decay and break down over a long time. Playground owners are required to identify the potential hazard before they cause harm to users. Some hazards to be aware of are: stability of how branches have been stacked by players, splinters from dry wood, branches breaking off, sharp edges, and entrapment in holes. Periodic inspection by a qualified playground auditor is recommended too.

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Trees, Trunks & Branches
June 2024

Not to scale @ A3

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Landscape Architect

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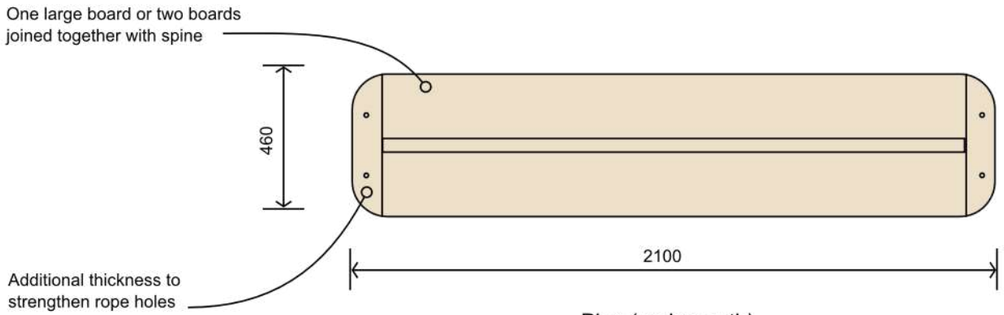
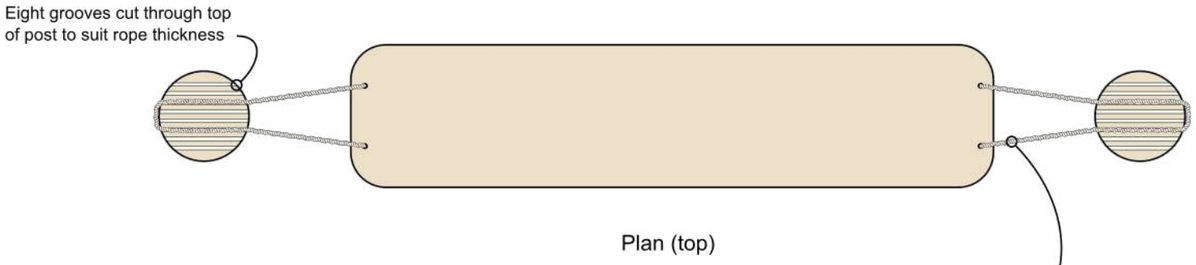
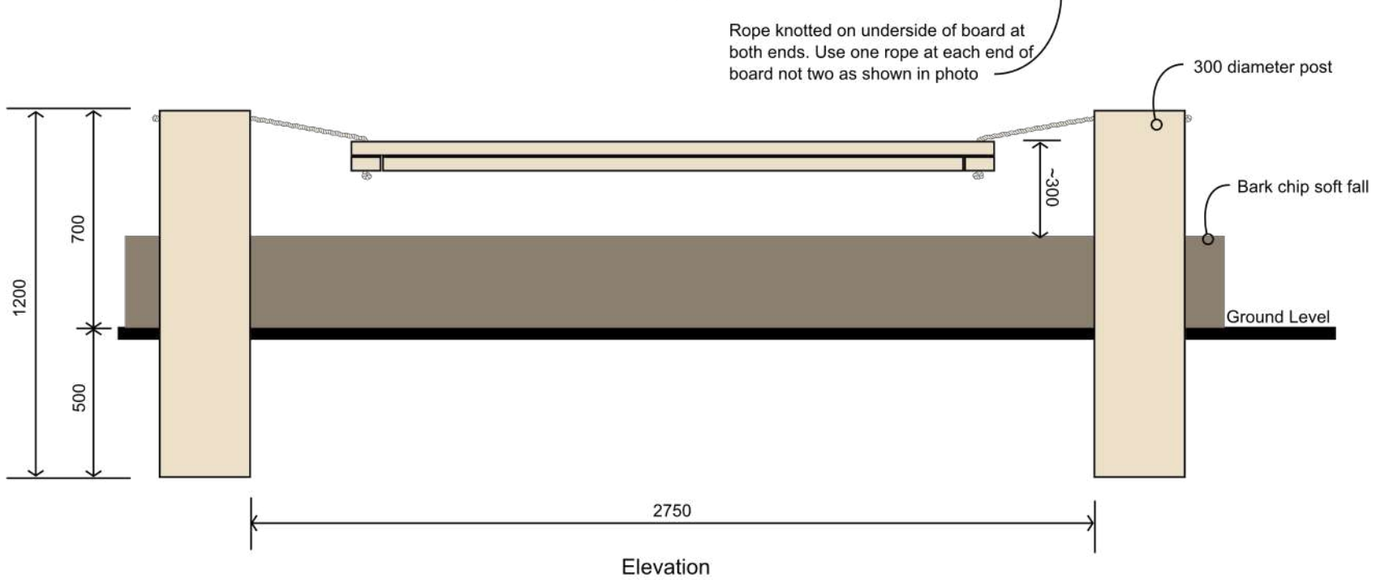


Plan (underneath)

Design by “Hydromind” on instagram

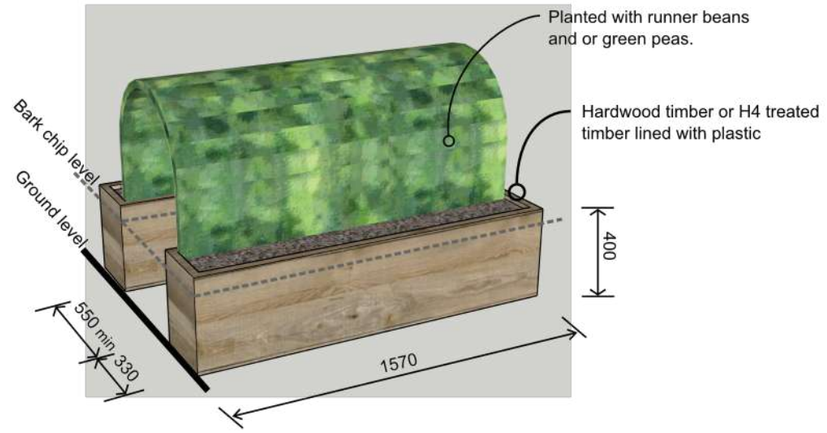


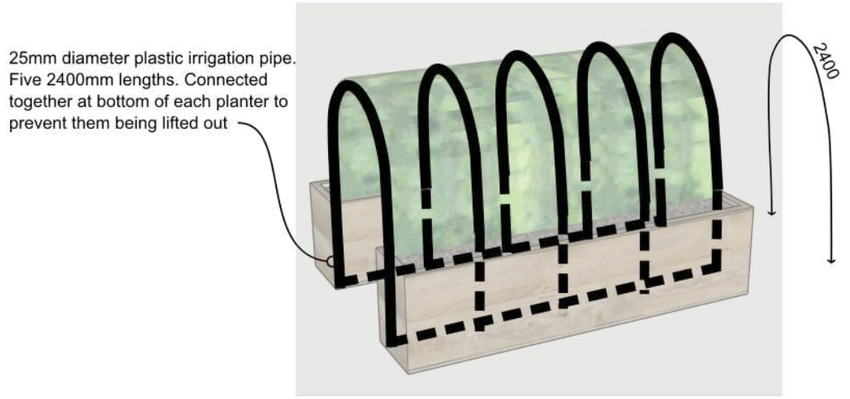
Plan (top)



Elevation

Surfing Balance Trainer.
Scale 1:20





Green Tunnel
Not to scale

Timber edges must not be within the fall zone of other equipment in the play space

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Other Structures
June 2024

Scale 1:100 @ A3
Page 11

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TBC

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Plants
June 2024

Scale 1:100 @ A3

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Estimated Materials
June 2024

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		Area (m^2)	Width (m)	length (m)	Depth (m)	Qty	Vol calc	Vol calc	Total (m^3)	Notes
Whole Playground		321.5								
	Soft fall bark	237			0.35				82.95	Bark chip with pieces between 20 - 80mm. Inspect selection to avoid pieces of wood that may cause splinters. Request CFH certificate from supplier.
	Compacted limechip area	84.5							4.23	based on 50mm depth on base coarse
	Base Coarse (AP20) under compacted limechip									Depends on existing levels and volume of soil scraped before construction
	Driftwood for fencing			168		1344				Based on an average of 8 pieces of driftwood per lineal metre. Gaps between driftwood must be between 25 and 99mm to prevent entrapment.
	Driftwood, logs and stumps for playing					20				Approximate quantity depends on shapes and sizes available
	Sawn tree trunk ring					4				Approx 900mm diameter. No taller than 600mm
	Timber edge around perimeter of playground		84	168						150 or 200 x 25mm H4 edging timber stacked two high to reach minimum depth 300mm for bark chip
	Wooden pegs for edging		84							Positioned every 1m or more to created curved shape.
Eco Hill										
	Base Coarse (AP20) for hill	72			0.3		21.6	54	60.30	Average depth is halfway between lowest and highest (0 - 1.5m). Plus the additional 300mm depth below the timber edge. Minus 300mm soil layer on top. Final volume is compacted. Add a percentage recommended by supplier for uncompacted volume
	Soil for hill.	51			0.3				15.30	300mm depth on top of base coarse for plants to grow
	Poles for piles and retaining wall			48.5		16				Total length depends on structural engineer solution for footing
	Concrete footing for piles and retaining wall									Depends on structural engineer solution
	Timber for retaining wall around octagon			73.5		49				250 x 50mm H4 treated timber in contact with the ground
	Timber for retaining wall around between hill and rope bridge fall zone			26		14				250 x 50mm H4 treated timber in contact with the ground
	Timber for bearers and joists			60						Based on 140 x 45 H3.2 treated timber
	Timber decking			118.8						Based on 90 x 35mm hardwood or H3.2 treated decking
	Timber barrier around deck									Hardwood timber to avoid exposure of CCA to skin. Size and structure yet to be designed.
	Timber edging around base of hill			26.5						150 or 200 x 25mm H4 edging timber stacked two high to reach minimum depth 300mm for bark chip
	Compacted limechip spiral path	15.61							0.47	based on 30mm depth on base coarse
	Timber edging for limechip path			67.3						75 x 25mm H4 rough sawn edge
	Wooden pegs									
	Large rocks for climbing		0.6	7.5	0.6				2.70	based on rocks stacked no more than 600mm high. Width of space is 600mm. Length of rock wall pathway is 7.5m
	Plants for mound									based on 3-4 plants per square metre
	Tree rings for steps		0.5		0.2	15				Average 500mm diameter. 100mm thick
	Large tree trunks for climbing up slope			4.5		2				

Disclaimer note:

These quantities, volumes and lengths are estimates based on the 3D sketchup model created to design the play space. They have not been checked by a quantity surveyor. The designer takes no responsbility for errors or discrepencies.

Some components require further design detail such as the retaining wall, deck and crows nest.

Some components are to be designed by other experts such as plumbing, and shadesails

Some components are yet to be designed such as the bridge, the hanging tyres, bench seats and fencing.

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Estimated Materials
June 2024

Scale 1:100 @ A3
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		Area (m^2)	Width (m)	length (m)	Depth (m)	Qty	Vol calc	Vol calc	Total (m^3)	Notes
Crows nest										
	Central Pole			4						
	Timber for crows nest and structure			26						Based on timber 230 x 90
	Concrete footing									Depends on structural engineer solution
	Rope									Depends on structural engineer solution
	Rope fixings									Depends on structural engineer solution
Entry										
	Timber for bridge									Yet to be designed
	Driftwood for archway									Depends on size and shape of driftwood
Mudkitchen										
	Benches made offsite		1800		800	2				
	2.1m lengths for top edge seat of rectangle planter					4				Hardwood sleeper 200 x 100
	2.0m length for long side of rectangle planter					8				Hardwood sleeper 200 x 100
	1.2m length for long side of rectangle planter					8				Hardwood sleeper 200 x 100
	1.0m length for angled side of triangle planter					9				Hardwood sleeper 200 x 100
	Cable reel for table					1				Approx 950 diameter. 500mm wide (table height)
	Tree ring stumps for seats					4				approx 600mm diameter. 400mm tall
	Soil for 3 planters	3.68			0.4	1.47				
Waterway										
	Water tank (IBC)					1				1000 litre or larger
	Plastic liner		1.7	15						
	Boulders and Stones Around Tank	15.64			0.18				2.82	Surface area 15.64 online calculator for cone based on 1.5m radius and 0.6m height
	Boulders and Stones Stream		15	2.85	0.18				7.70	
	Concrete blocks									
	Taps and plumbing fittings					4				Two hand pumps. One handwash basin. One additional faucet for maintenance hose.
Sandpit										
	Tyres					66				Three layers of 22 recycled car tyres with similar dimensions
	Potting mix soil to fill tyres									
	Plants for tyres					22				
	Sand	14						0.5	7.00	
	Poles for log steps					14				Various lengths from 830 to 1740mm
Bench Seats										
	Large nautical timber sleepers									
Surf Balance Boards										
	Posts 1.2m length							4		
	Wide Boards							4		
	Spine									
	Ends									
	Rope									
Hanging tyres										
	Tyres							3		
	Chains									
	Timber poles for frame							3		

Disclaimer note:

These quantities, volumes and lengths are estimates based on the 3D sketchup model created to design the play space. They have not been checked by a quantity surveyor. The designer takes no responsbility for errors or discrepencies.

Some components require further design detail such as the retaining wall, deck and crows nest.

Some components are to be designed by other experts such as plumbing, and shadesails

Some components are yet to be designed such as the bridge, the hanging tyres, bench seats and fencing.