

## 6 Catherine Street, Garden overview design

Author: Lusi Alderslowe

Design **start date**: October 2020

Design **end date**: ongoing!!! This write up finished August 2023

Design **title**: 6 Catherine Street Garden Overview

Design **aims/overview**: to create a design for my whole site, giving an overview of paths, and approximately what will go where

Design **Process**: SADIMET

Design **Tools**: Observation tools in other document including zones, sectors, Identify functions; SMART goal; functions, systems, elements; limiting factors; zones; tracing paper overlays; card cut-outs

Permaculture **ethics**: Earth care, People Care and Fair share

Permaculture **principles** (from Bill Mollison):

- Each element has multiple functions
- Every important function is served by many elements
- Yield is unlimited
- Work with nature

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# Observation

I started by doing lots of observation of the whole site - please see the [Observation overview sheet](#).

In addition, I went back to ask the main clients about their needs.

Luis requests: grapes, apples, pear, strawberry, blueberries

Robin requests: apple, pear, plum, mulberry, blackcurrant, raspberry, gooseberry.

Lusi requests: apple every day, pear, plum, medlar, blackcurrant, redcurrant, raspberry, strawberry, lime, bay, alder, siberian pea tree, autumn olive.

See the current zones and sectors in the overview document.

# Analysis

## Identify functions

- Provide food (fruit, salad, vegetables, eggs) for people every day from the garden
- Relaxation - Space for people to walk, play, sit, have a fire, observe nature, do yoga, and eat
- Provide habitat for biodiversity (including in the soil)
- Education - I can learn from my garden, and invite others to learn too.
- Build soil fertility

## SMART Goal

By 2025 I will be able to eat food (fruit, salad, eggs, and/or vegetables) from the garden every day of the year.

## Functions, Systems and elements

Functions	Systems	Elements
Provide soil fertility	Compost systems Nitrogen fixing plants Dynamic accumulators Food forest Birds Hugel bed	Biodegradable elements from neighbours, self, wider community - newspaper, shredded paper, Alder, comfrey Chickens, robin, sparrow, starling,
Provide fruit (and nuts)	Food forest Greenhouse Hugel bed	Apples Rhubarb Pears Plums Kiwi?

		<p>Medlar  Quince?  Other experimental?  Chinese lanterns  Blueberries  Raspberries (summer &amp; autumn)  Cucamelons  Tay/logan berries etc.</p>
Provide salad	<p>Greenhouse  Food forest  Raised beds  Hugel bed  Seeds &amp; seed-saving systems</p>	<p>Tomatoes, Cucumber etc  Lettuce, Mixed salad etc  Edible flowers  Chard etc.  Edimentals e.g. day lily, sedum, sweet cicely  Lime tree</p>
Provide vegetables	<p>Greenhouse  Veg beds  ducks/chickens/quail?  Food forest  Hugel bed</p>	<p>Chillies, tom, cu  Brassicas (kale etc)  herbs  Onions, garlic  Perennial veg</p>
Provide eggs	<p>Chickens &amp; coop</p>	<p>Fencing  Kitchen scraps  Garden 'weeds'  Compost  Hen house  Food (org layers pellets)  Corn  Water</p>
Water for me & the plants/birds	<p>Rainwater harvesting and watering  Lade  Greenhouse watering system  Water for birds (if getting)  Pond</p>	<p>Butt and guttering around house, &amp; greenhouse  Storage ibc tank  Pump and pipes  Access to lade  Pond liner, plants, water</p>
Relaxation: Space to walk, small groups, play, relax, do yoga, sit spot and eat	<p>Fire circle with seating  Paths  Yoga spot  Hammock  Circular paths  Water pump  Access to lade</p>	

Education	I will learn from all the	
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Table 1 - functions, systems, elements

## Limiting factors

Physical	Social	Ethical
Size Climate, sun, shade etc Access to lade Dog - need to keep her in Concrete in some areas Lots of vigorous plants established Bringing bikes through the garden No worms, new zealand flatworms	Neighbours/overlooked Kids/teens I go away quite often for weeks at a time My energy/time: I focus on one thing and forget about everything else. Access	Permaculture ethics of earth care, people care, fair share Vegetarian

Table 2 - limiting factors

## Ethics & Principles

**Earth care** - to use as much recycled materials as possible, collect things from skips, neighbours etc. I want to build soil, giving lots of life that is unseen below the surface. Plenty of space for wildlife including birds and lots of different pollinators, slow worms, hedgehogs anything else. I'd love to have otters come up from the burn but think it's more important that we stop Shea from getting down the lade to chase/kill waterlife.

**People care** - to make sure there is space for chilling in the garden, education, fire with friends. Want to be able to welcome permaculture people to the garden and they can learn something from what we are doing here. To have the peace and relaxation of being in the garden, connecting with nature. To have fresh, nutrient dense, delicious food.

**Fair share** - finding a balance between my human needs and the needs of the other species who already live there, the sparrows, slugs, starlings for example. To only use a fair share of resources - asking neighbours to borrow tools if possible when I need them, and when nobody has one I can buy one and make sure they know that they can borrow it back.

**Each element has multiple functions:** Anything that is installed that takes significant/time or money must have multiple functions. E.g. fire circle - for me alone as a sit spot, for education (e.g. permaculture courses), parties. Paths for a network of going through the garden on the way somewhere else particularly with bikes, as well as access for gardening and neighbours to donate their grass cuttings etc. Compost will feed the chickens, give nutrients to plants, recycle waste for me and neighbours, education, habitat for billions of microorganisms.

**Every important function is served by many elements:** You can see in the table above that every one of the key functions are served by many elements.

**Yield is unlimited:** Initially we will have yields such as salad and veg from the front garden and have to forage more for fruit like blackberries. However, in time the fruit trees will establish and provide fruit every day from the garden. Once it is established there will be more yield in terms of fruit but also more pride for me to bring permaculture courses and other visitors to show them what I have done. So yields will improve over time socially, personally (mental health) and physically (more food).

**Work with nature:** My nature is to eat fruit and yoghurt for breakfast which helps me to manage my health. I'd like to eat fruit every day from my garden.

At lunch I typically eat bread and would like something to put on the bread from my garden - e.g. salad.

At dinner I cook whatever there is available and love to eat onions, garlic, kale, broccoli and happy to experiment with different veg.

I enjoy fermenting

I keep going away and missing harvests e.g. elderflowers (with enough time to turn to alcohol). I always get really busy in May/June. Can garden in February-April.

I enjoy socialising with friends. Which also often takes me away from my garden.

There's already so much wild garlic on the walks I do every day (I have a dog) that I don't need to grow my own.

These are all useful considerations in my design:

If keeping chickens they have to be able to look after themselves when I'm not there, with just one daily visit.

Plants should have self-watering systems unless it's very dry and I can ask a friend to water once or twice a week.

## Zones

Although I'd already drawn the current use, I then drew the designed zones - how we would like to use the garden in the future, when the garden design is fully implemented.

Map 1 - Zones

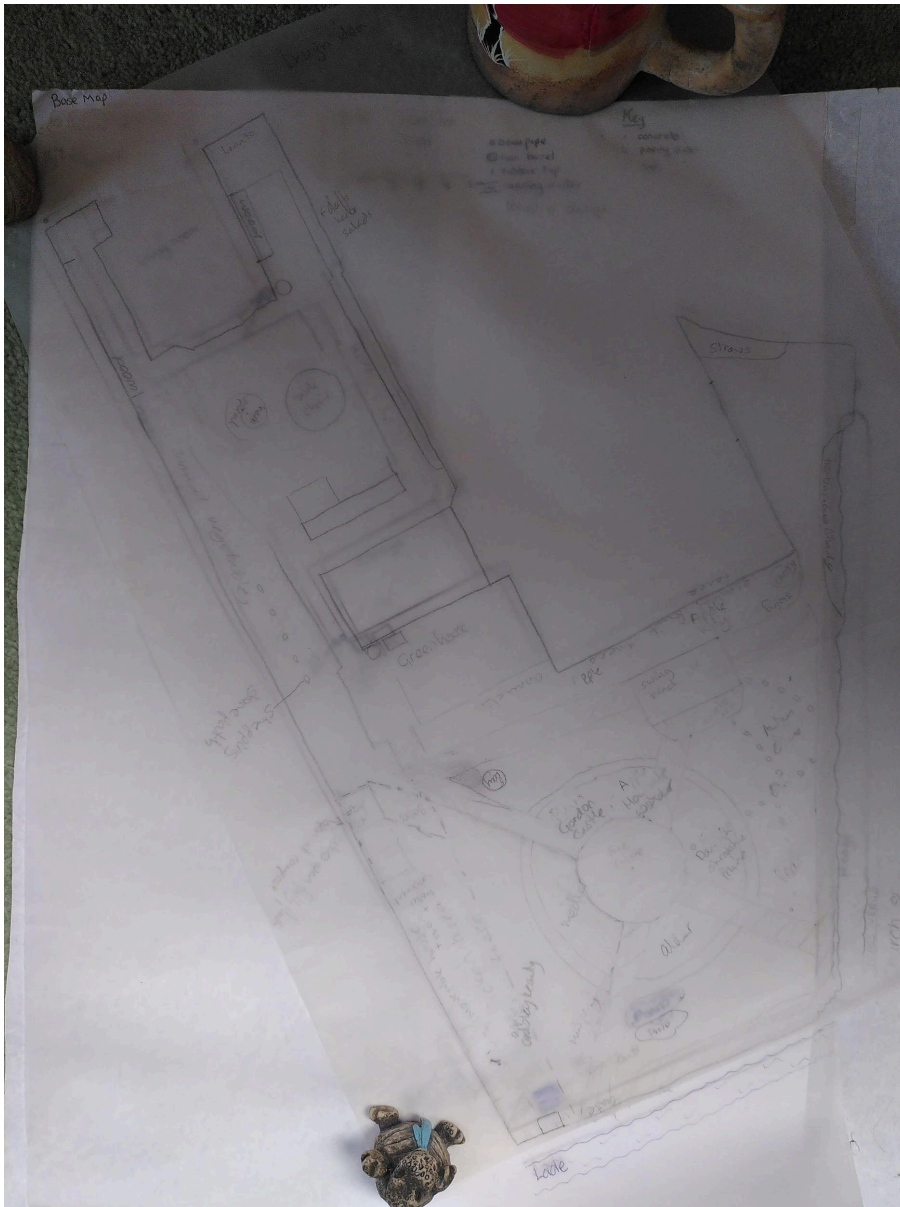


## Design

We had a little solstice gathering in the garden and it helped us to imagine how people would use the space when there is a group.

Robin, Luis and I sat together with the base map and the overlays and played about with different options for the general layout. The favourite was what Luis called the saltire. We can call it a mandala. A fire pit (raised) in the middle of the extra garden. A circle of logs for sitting on around it. A circle of beds around that with fruit trees too. A circular path around that. More beds for plants, the chicken area, etc. Access paths, then the outer layer of hedging/fence/espalier fruit.

Map 2 - Overview design overlay - created January 2022



Main design elements that need implemented:

- Paths
- Hen coop (fencing, house, planting,
- Compost
- Hen house
- Hen food planting
- Fencing whole plot
- Fruit every day - design & implement.
- Pond
- Hugel beds
- Herb spiral
- Greenhouse
- Re-do the side bed edging

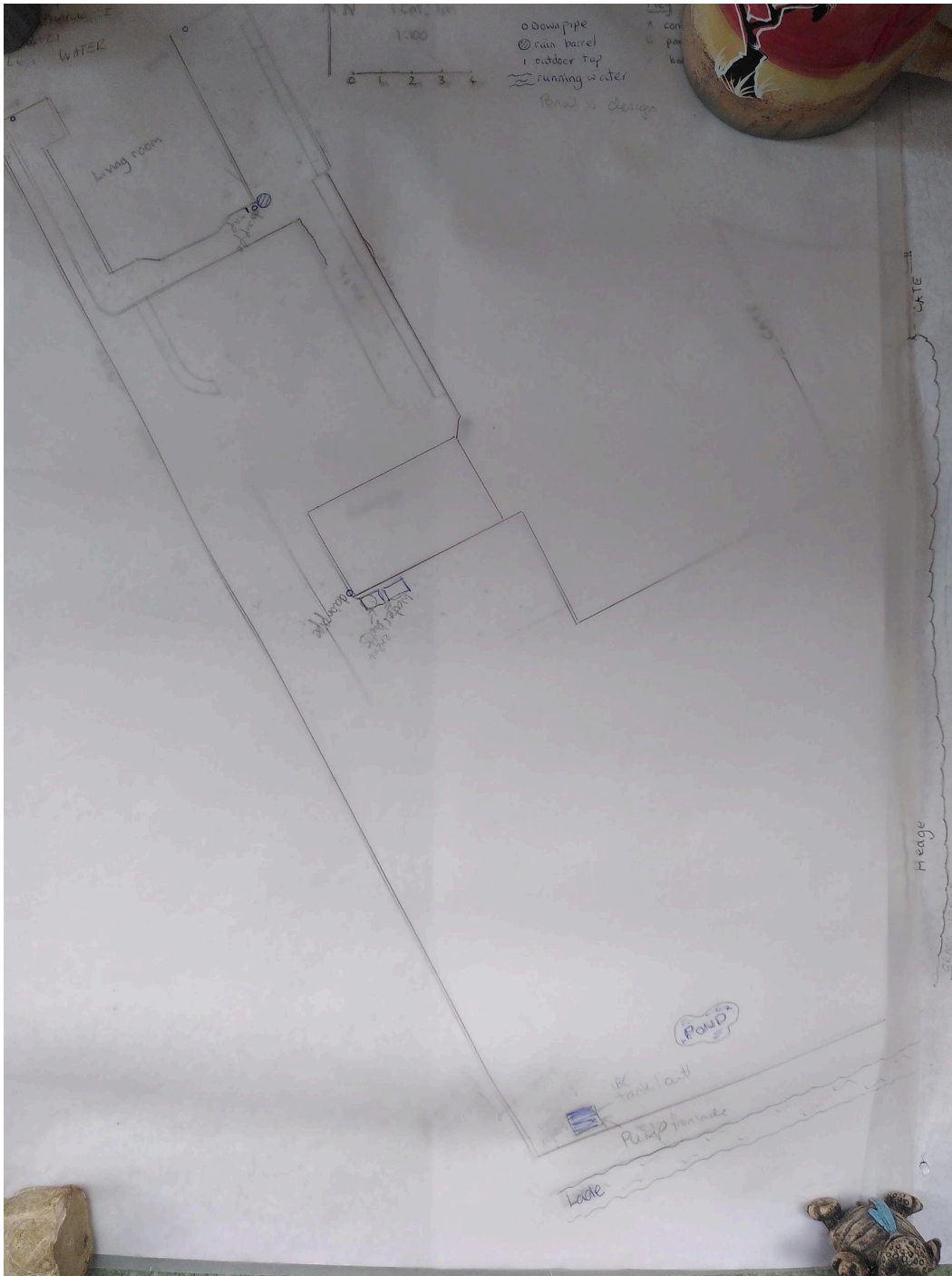
- Wood shed
- Water collection and storage systems
- Hedge (maintain, grow, trim)
- Perennial veg design & implement.

## Water design

There's a lade at the bottom of the garden, which we can take advantage of with a pump to fill up a tank in the chicken area and the pond when needed. When we have the greenhouse we can install water containers into the greenhouse, using catchment from the garage roof. This will work as a heat sink as well as water storage and be more useful than if stored on the outside (each element has multiple functions and relative location).

Map 3 - water design



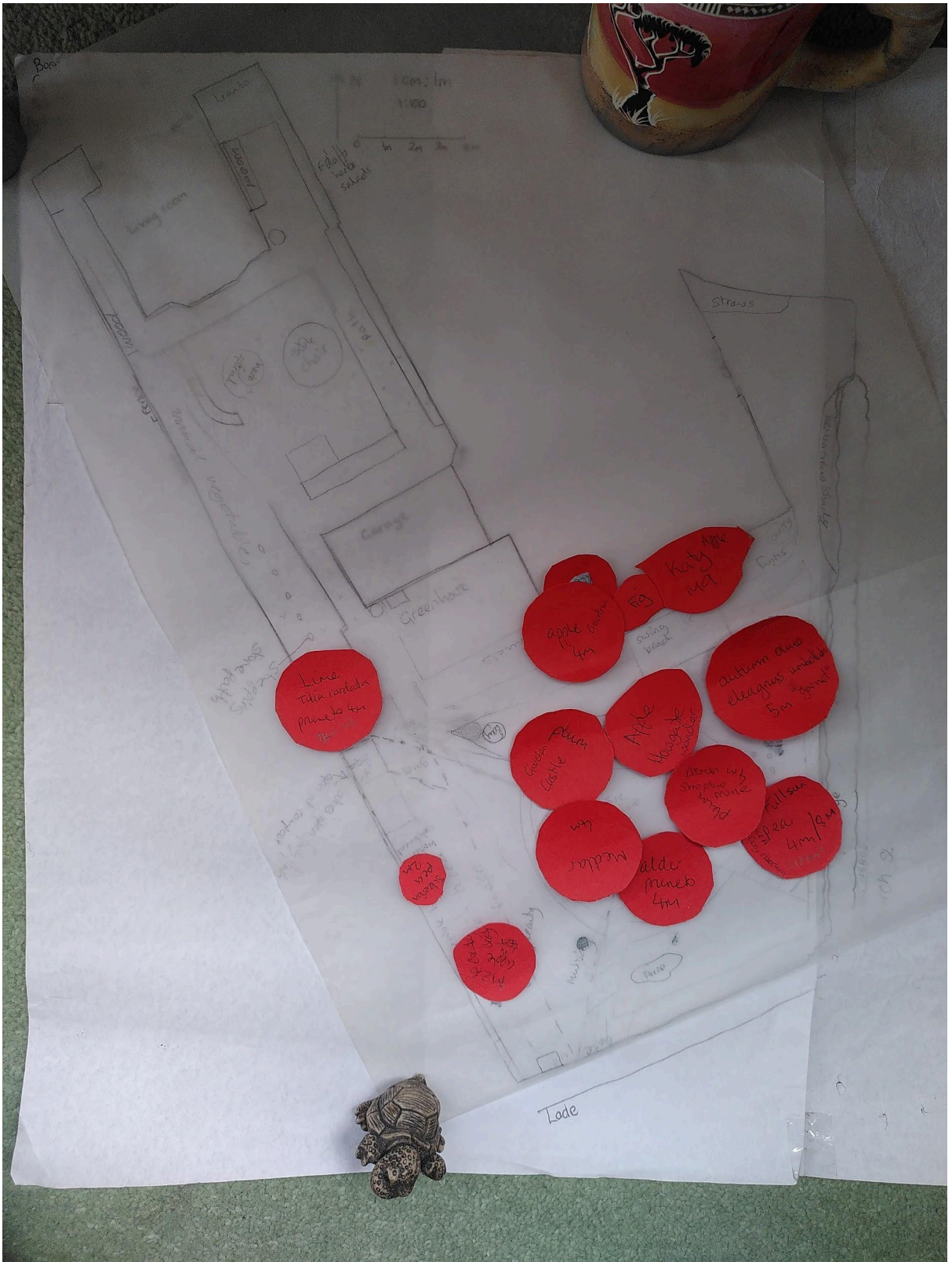


## Canopy design

This spreadsheet is how decisions were made about the trees for the garden:

<https://docs.google.com/spreadsheets/d/1iQ06OXL5lyd2N1Z3bYTZiIAdhfkUjRzNqRUAVM5-i0/edit#gid=0>

Map 4- tree design



## Plant design

I created a spreadsheet from the observation sheet. Then I added some columns as an analysis in relation to the key functions of the design. I then made a decision about whether to keep, remove, propagate, share each plant. See the following spreadsheet:

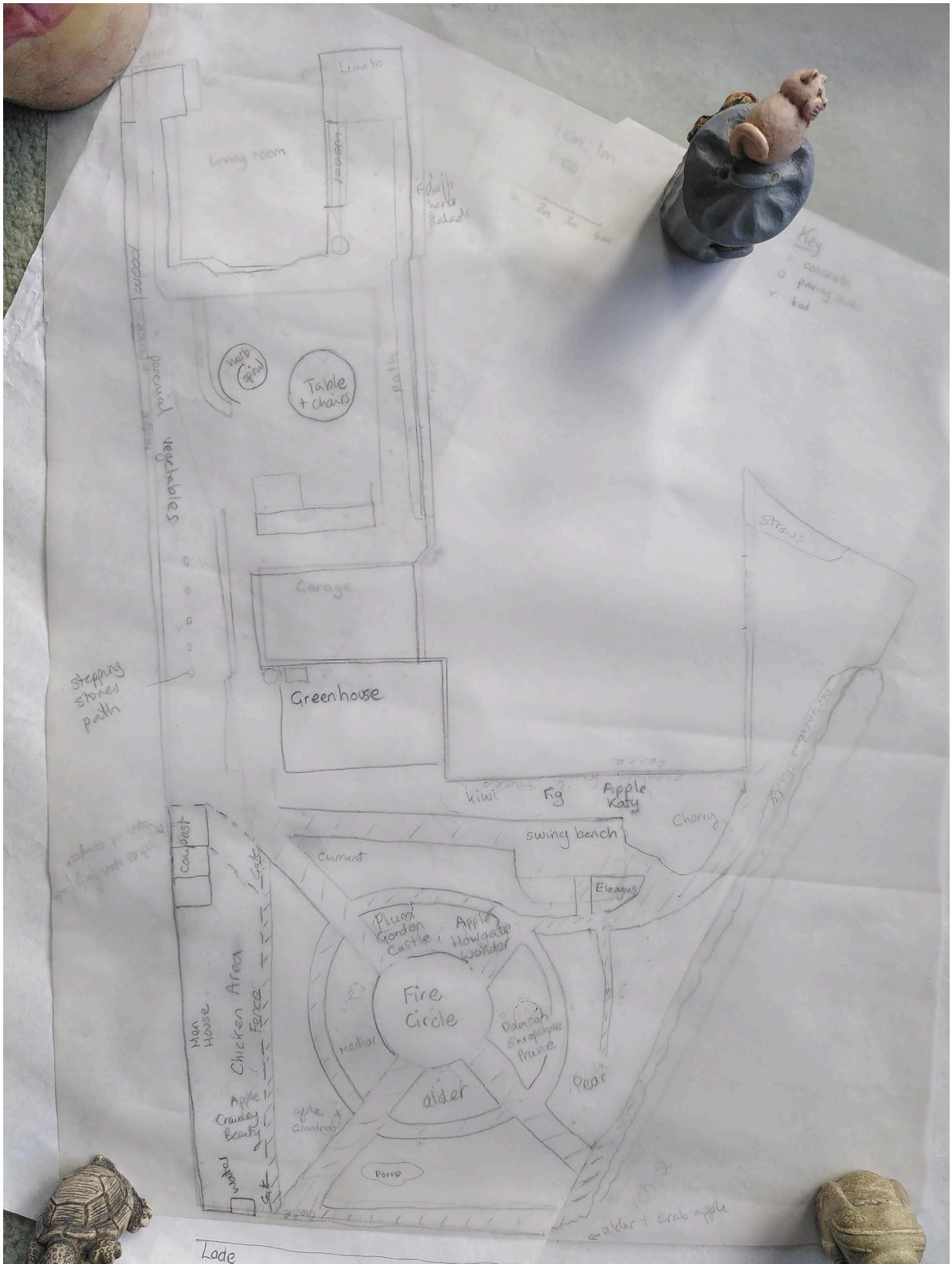
[https://docs.google.com/spreadsheets/d/1iZ6O9FOglOrN2OEvD01RcKU09JMCAeAjKL07RFHDoO8/edit?usp=drive\\_web&oid=111895904522877569861](https://docs.google.com/spreadsheets/d/1iZ6O9FOglOrN2OEvD01RcKU09JMCAeAjKL07RFHDoO8/edit?usp=drive_web&oid=111895904522877569861)

## Updated design

August 2023 - Updated the design based on various changes that have taken place, including the lovely flat area being a great place for potatoes (not just in case we have a gazebo up, now that we can just go inside (each others' houses) when it rains (it's no longer a pandemic).

Map 5 - Overview design drawn august 2023





# Implementation

2021: focus on home - insulating, decorating, install wood burning stove. Maintain garden (inc hedge)

Winter to early spring 2022: Lay out, create the paths, fire circle, plant trees, build a Hugel bed, design & build hen coop & house. Remove south-facing hedge next to fence.

Spring 2022: Grow annuals and herbs. Build second compost bay. Get chickens. Chop wood

Summer 2022: Design & Build wood shed, maintain paths and veg. Chop wood

Autumn 2022: Finish wood shed & fill it. Design & Build saw horse. Mulch beds heavily (lasagne). Trim hedge.

Winter 2022-3: plant trees (not done so far). Prune trees. Mulch beds. Sort out heating house.

Summer 2023: build greenhouse

Planned implementation	Winter 2022	Spring 2022	Summer 22	Autumn 22	Winter 22/3	Spring 23	Summer 23	Autumn 23	Winter 23/4
Paths									
Hens		get chickens							
hen coop	design & build								
Compost		build 2nd compost bay							
Hen food planting						internal fence			
Fencing									
Fruit	plant trees & mulch				Plant other trees				
Pond									
Hugel beds	build 1 hugel								
Herb spiral							Build		
Greenhouse							Build		
Raised beds		grow annuals & herbs							

Wood shed			Design & Build wood shed	Design & Build saw horse					
Water collection and storage systems					design & build				
Hedge	remove south facing hedge								
Perennial veg						acquire & plant			

Table 3 - implementation plan

## Maintenance plan

	Spring	Summer	Autumn	Winter
Paths		weeding as necessary		lay underlay, add woodchip
Hens	feed, water			
hen coop			Clean, varnish outside	
Compost	add greens & browns, turn			
Hen food planting	internal fence, sow green manure			
Fencing				check it's OK, fix anything required
Fruit	rhubarb	mulch, harvest & preserve	harvest & preserve	prune and mulch
Pond	fill as needed	fill as needed, remove excessive growth		
Hugel beds	plant out seedlings, weed, mulch		harvest, preserve	mulch

Herb spiral	plant out seedlings, mulch	harvest, preserve	harvest	mulch
Greenhouse	sow seeds, plant out, weed, mulch	sow seeds, plant out, weed, mulch	sow green manures, harvest mulch	
Raised beds	sow seeds, plant out, weed, mulch	sow seeds, plant out, weed, mulch	sow green manures	
Wood shed	Keep warm, kindling, chop, stack		chop & stack	Keep warm, kindling, chop, stack
Water collection and storage systems	clear drains, check systems working	clear drains, check systems working	clear drains, check systems working	clear drains, check systems working
Hedge			cut hedge	
Perennial veg	harvest	take softwood cuttings, harvest		take hardwood cuttings, mulch

**Table 4-** Maintenance plan

## Evaluation

Planning the evaluation....

Have I met the SMART goal? By 2025 I will be able to eat fruit, salad and/or vegetables from the garden every day of the year.

Need to a book to keep a record of all harvest. Add to implementation plan and maintenance plan.

Option A - do I want to record what I harvest from the garden like Graham bell did - weight everything I take out of the garden.

Positive

- It would be a fantastic record of produce, over time
- I could share with others widely, as Graham did

Negative

- It would take time to do every day
- It would require scales that work to different amounts eg potatoes vs lettuce
- It wouldn't answer the question - can I eat something from garden every day. Since I might harvest something then preserve and eat much later
- Wouldn't know what my kids are harvesting

Interesting

- In weight it might not be that much until getting top fruit.
- It would be interesting to see how it changes over time.





		st bay							
Hen food planting						intern al fence			intern al fence , sow
Fencing									
Fruit	plant trees				Plant other trees			plant strawbe rries	
Pond									
Hugel beds		build 1 hugel			build 2nd hugel				
Herb spiral						Build			
Greenhouse						Build			
Raised beds		grow annual s & herbs						Fix edging by Betty	
Wood shed				Desig n & Build saw horse	Design & Build wood shed			Design & Build saw horse	
Water collection and storage systems					design & build			design & build	
Hedge	remove south facing hedge				partial ly remove south facing hedge			finish removi ng hedge	
Perennial veg						acqui re & plant			ongoin g
Yield		get a biotime diary						got a noteboo k to record yield	

### Evaluation re functions (august 23):

- Provide food (fruit, salad, vegetables, eggs) for people every day from the garden

I think it is already providing food every day in the growing season - perhaps in the spring I harvest more wild garlic from outside the garden but I'm going a walk anyway, so perhaps I can include this! Can also include other wild harvests like the elderflower & honeysuckle champagne. Eggs almost every day.

- Relaxation - Space for people to walk, play, sit, have a fire, observe nature, do yoga, and eat.

New table and chairs means we can sit out to eat, so lovely.

Fire pit used occasionally (for occasions, e.g. when my brother and niece were here), for parties etc.

Place to sit - boys often on swing bench, me on logs or new chairs. Yes definitely met.

Do yoga - in my old house I needed to do yoga outside but here I prefer to do it in my nightie in my bedroom - so not really.

Observe nature - definitely whether just sitting or gardening, or from the living room window.

- Provide habitat for biodiversity (including in the soil)

Yes - slow worms, lizards, sparrows. Shame that when the neighbour cut the trees down that came over my side of the lade, the starlings all left as that was their home. Very sad.

See lots of birds in the garden, and lots of insects too.

- Education - I can learn from my garden, and invite others to learn too.

I am learning all the time through doing. On 2nd september the Galloway PDC are coming to the garden. Other people learn when they come to my garden including: Louise (she did the full potato growing process), Gary Lewis and his daughter (I taught them all about grafting), I take materials and resources from the garden which I use with the groups I work with including forest school, cip workshops, maths week workshops, branching out - e.g. kindling.

- Build soil fertility

I am having less success than I'd imagined. I am composting and the compost has been good although the kale did particularly well in it. The Hugel beds are producing well. The horse manure I got in the spring made the potatoes and trees grow well. The comfrey is growing well. I have made plant feed from nettles and other weeds. The pernicious weeds are being put into the chicken area or into another weed pile. The soil needs dug over and ground elder and broken glass removed before planting potatoes or the tatties are tiny and few. But that works well. I am mulching with compost, manure, cardboard, woodchip (on paths). I get my neighbours' grass cuttings.

## Tweak

I have made various tweaks along the way. You can see the changes in the implementation plan review for example