A lush garden scene featuring a pond with lily pads and tall reeds. The garden is bordered by a wooden fence and a house with a tiled roof is visible in the background. The overall atmosphere is natural and vibrant.

Diploma in Permaculture Design 6

CREATING A WILDLIFE GARDEN

Charlotte Synge

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OVERVIEW OF DESIGN TO CREATE A WILDLIFE GARDEN

Design Aims and Objectives

To provide for the client's wants while considering easy management and the provision of a tidy space which suited her husband's nature more.

The original remit was to design and create an garden with many trees and some meadow that was good for wildlife - within a garden space infested with honey fungus.

Project and Design Outline

- 1) Survey client's wishes, needs etc. and consider her husband's wishes, needs etc.
- 2) Survey area and draw outline plans with 1) current features, and 2) features that will be retained.
- 3) Learn more about honey fungus and which plants are susceptible to attack.
- 4) Find which species, cultivars/varieties and rootstocks are resistant to honey fungus and are available to buy.
- 5) Analyse information collected
- 6) Design and draw plans with main features of new design, or designs.
- 7) Check client and husband are happy.
- 8) Plan order of work, provide costs, time scales etc.
- 9) Create the garden.
- 10) Create management plan.

Accreditation and Complementary Criteria involved

Design Consultancy
Demonstrating Design Skills
Site Development
Education

Holmgren Domain involved

Land and Nature Stewardship
Education and Culture

Permaculture Ethics and Principles involved

- **People Care, Earth care, Fair shares**
- **Observe and interact, Catch and store energy, Obtain a yield. Apply self-regulation and accept feedback. Use and value renewable resources and services, Produce no waste, Design from pattern to detail. Integrate rather than segregate. Use small and slow solutions, Use and value diversity, Use edges and value the marginal. Creatively use and respond to change.**

These are looked at in more detail in my [Assessment of how this design meets the ethics and principles of permaculture](#)

Methods used

Thinking tools: Informal PNI (Positives-Negatives-Interesting), a form of Web of Connections.

Surveying techniques: Information templates, PFASTE

Design frameworks: SADIMET-Flow Chart, Incremental design

Evaluation: ALC (Design-Implement-Observe-Reflect)

Results Summary

The design process required a lot of research into honey fungus issues and plant choice was severely constrained by it. The implementation of the design was kept flexible and was a hugely positive experience for all concerned. The pond, in particular, has been a great success in terms of attracting wildlife and providing enjoyment

Evaluation Summary

The design process SADIMET and a flow chart of the full process were fine for this design. Due to the circumstances Incremental design and implementation were a required part of the process. We started off with ensuring the most important wants of my client (the trees) were incorporated into the design and their positions marked immediately. Other things were added over time, for example with the fruit bed with currant bushes, blackberries etc. as she recovered. This is looked at in more detail in my [Evaluation](#)

Reflection

When I reflect on this project it makes me smile. My client is well and loving the garden - and I have made a good friend. Her husband has enjoyed the garden, particularly the pond, far more than expected and they have spent a huge amount of time on the “beach” pond watching, it was so full of life with frogs and the much desired newts almost immediately.

The meadow areas have been most difficult to work on. I didn't want to strip off the topsoil which would have been a big job and it feels wrong. Michelle's husband isn't that keen on long grass and we have sown for a low cut meadow (at about 4 inches) with yellow rattle while keeping the current grass to see how this goes.

Self-Assessment

My assessment of how successful the project has been and how it fits with the assessment criteria is analysed in my [Assessment of this Design](#)

.....

INTRODUCTION

At the time I started this project my client had just been diagnosed with cancer. I had been asked to consider designing the garden before the diagnosis and then all was cancelled as the prognosis was very poor. However, when the doctors said there was a chance, my client, who is a very positive person, wanted to get on with the garden. She particularly wanted a garden with more shade and a woodland feel and one which was wildlife friendly. This was a project that would require a long term view and account for succession as the garden would change from a very open two dimensional space to a three dimensional one.

The original remit was to design and create an area with many trees and some meadow that was good for wildlife - within a garden space infested with honey fungus.

Primarily, I needed to provide for her wants but I needed to consider easy management and the provision of a tidy looking space that suited her husband's nature more.

Current design

The garden ([Fig 1](#)) has an L shape and is divided at the right angle with Leylandii hedging coming across from both sides leaving just an access route.

The **eastern area**, away from the house, had been fairly unused being almost entirely mown grass, this had been left to grow this year. There was a small pond with a split liner near the far end and a compost area in the far SE corner. There had been some cherry trees in this part of the garden but they had died from homey fungus (*Armillaria mellea*) infection.

The **main garden**, close to the house, was mostly mown grass but had a fairly large bed hidden from the house behind its own hedge. This was completely overgrown but it contained a tiny circular pond which my client was very fond of, a buddleia and a dogwood. The main garden also contained a small wooden edged bed against its western edge, this had mixed flowers in it

Figure 1 Outline plan of original garden layout showing positions of photographs taken.

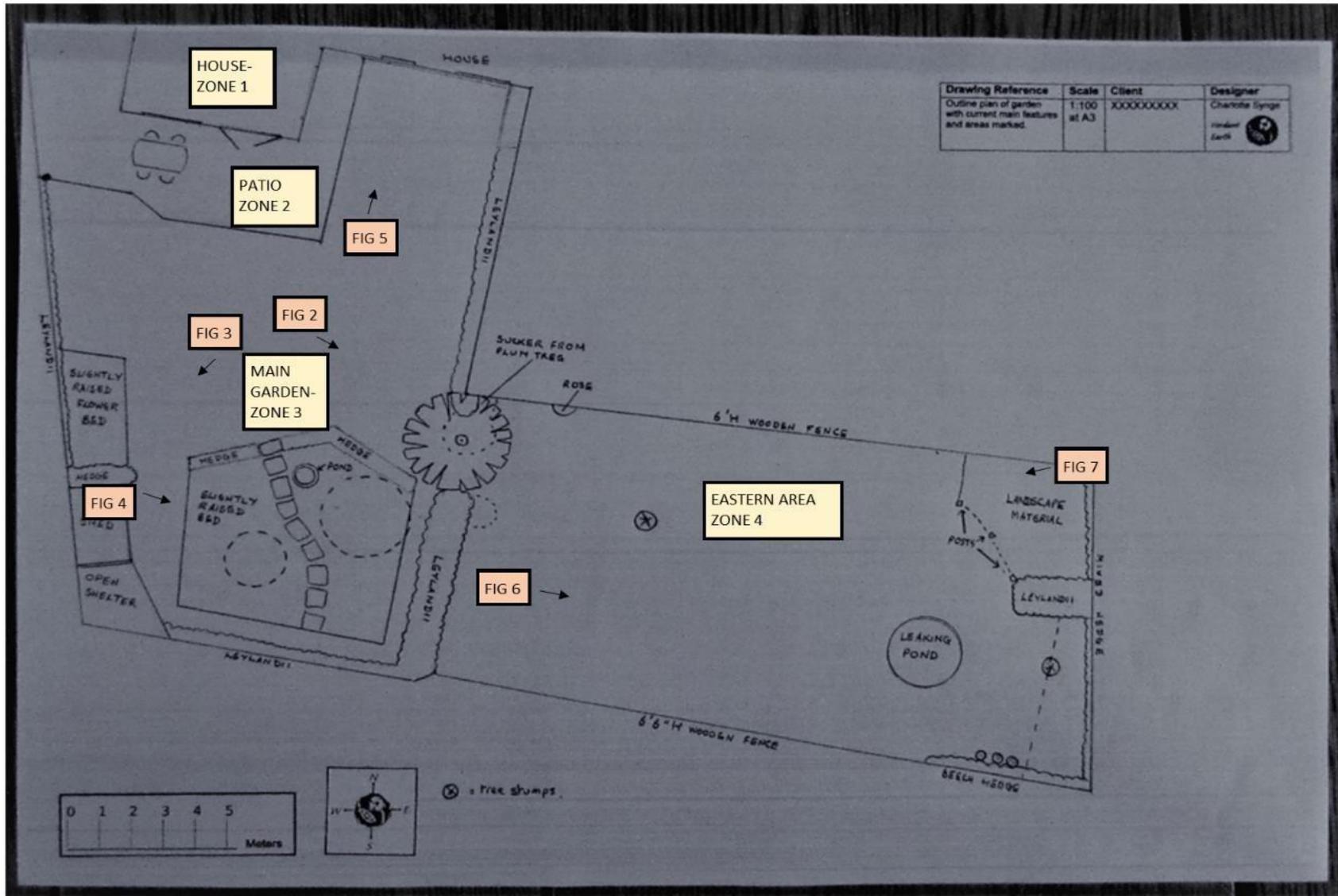


Figure 2 Looking SE, main area



Figure 5 Looking N, main area



Figure 3 Looking SW, main area



Figure 6 Looking E in eastern area



Figure 4 Looking over bed in main area.



Figure 7 Looking W in eastern area



Survey

Figure 8 Survey flow chart



[Table 1](#), [Table 2](#), [Table 3](#), [Table 4](#), [Table 5](#), [Table 6](#), [Table 7](#).

Employees and myself

My time and energy available to do the bulk of the project relatively quickly was a bit limited. I needed to find someone to help. Amy was available, needed driving there, to learn, tools and paying.

Client's needs

My client wished to make the area furthest from the house more enticing to go into, a more integral part of the garden as a whole and more wildlife friendly. She also wanted some trees within the area. My client was too ill to fill in forms, which I usually leave with a client to help them focus on what they might want, but by using my prepared forms and lists (Tables 1-5 [Here](#)) as a reminder of what to cover we managed to discuss all the points and I could make notes and had a good idea of what was required. Looking at the garden, and how it has been managed in the past, and the house I had an idea of what fitted with their style and available time. I filled in the forms for reference for all of us.

Land and water

The land was observed, points recorded and photographs taken

- 1) The soft landscape and natural influences such as trees, sectors, zones, soil etc. (Table 6 [Here](#))
- 2) The hard landscape such as paving, sheds etc. (Table 7 [Here](#))

Research

Other than the research regarding my client's needs and the land, honey fungus issues were the main research. Trying to find out which plants and rootstocks are resistant was hard work as different people regarded the same plants as resistant and susceptible and the lists are far from complete. Rootstocks are not discussed much in relation to honey fungus, often a garden tree will be on a different rootstock and might therefore have a different resistance. I also needed to research on designs for connecting the bog garden to the pond without

nutrients getting from one to the other. Some research on plants for the flower beds and their availability would be needed.

Boundaries other than the client’s wishes and soft/hard landscape etc. are few. There is enough money for the project and no strictly imposed time limit so we can do what we like to a great extent. I probably can’t have Amy work for as long as I’d like as she has other work coming up.

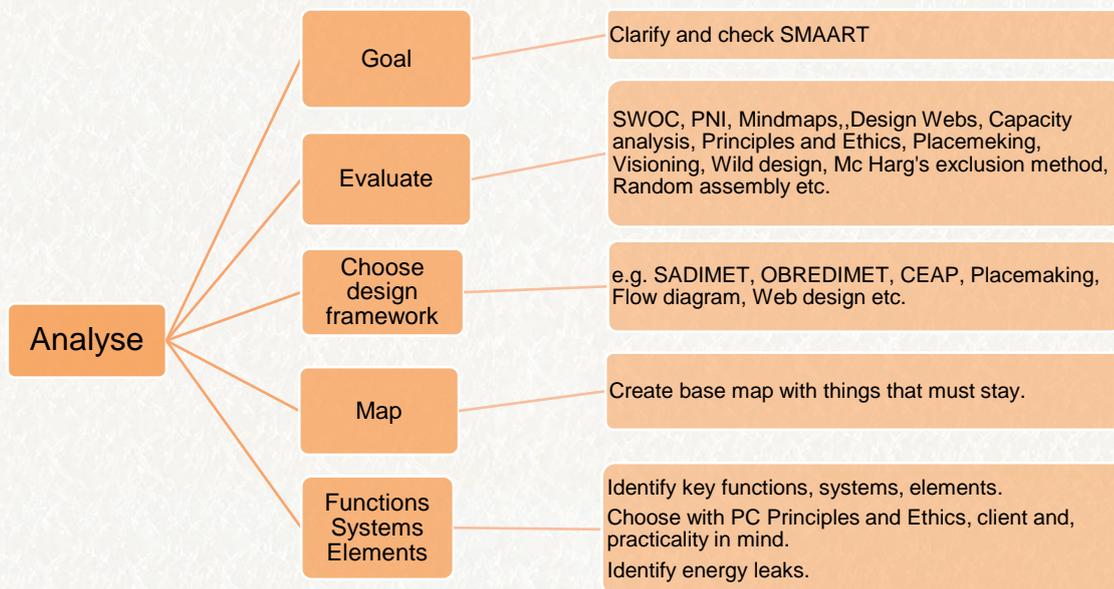
Resources within the garden are few. There is a good pile of compost, a few paving slabs and quite a large piece of old landscape material. I have access to logs and stumps for free.

Observe ([See tables](#))

Both the clients are quite different in their nature and the way they feel about gardening. It would be good to cater for both of them.

Analyse

Figure 9 Analyse, flow chart



Goal Clarification

To design and create an area that was good for wildlife. At least one pond, some meadow areas and many trees were wished for along with a small area for growing vegetables and herbs and some fruit. This needed to be done without increasing the area of beds if possible.

Evaluate

A **SWOC** analysis of the information would have been good for this situation. I did not formally write up an analysis but during the design process I found myself frequently using the structured **Positive, Negative** and **Interesting** thinking tools for various choices. This felt good as my thought processes when designing seemed to be becoming naturally more structured and second nature.

Choose design framework/s

SADIMET incorporated into a flow chart which added information and linked to templates of what information needed to be considered was used along with Incremental design.

Map

The mapping was straight forward, there were plenty of corners to take measurements and triangulate from, the boundaries were straight and the area was not huge. From these measurements, and discussions with the client, an outline plan of the garden boundaries and things which were to be retained was made (Fig 28). This could then be used with tracing paper overlays for all my drawings.

Functions, Systems, Elements

Functions. Clients wants (tables 2-5), wildlife needs, soil improvement, food, aesthetics.

Systems. Trees, shade, pond/s, meadow/s, herb bed, small vegetable plot, fruit trees and shrubs etc., compost heap, covered fences, hedges, flowers all year round, lawn, wildlife habitat boosters, edges, diversity.

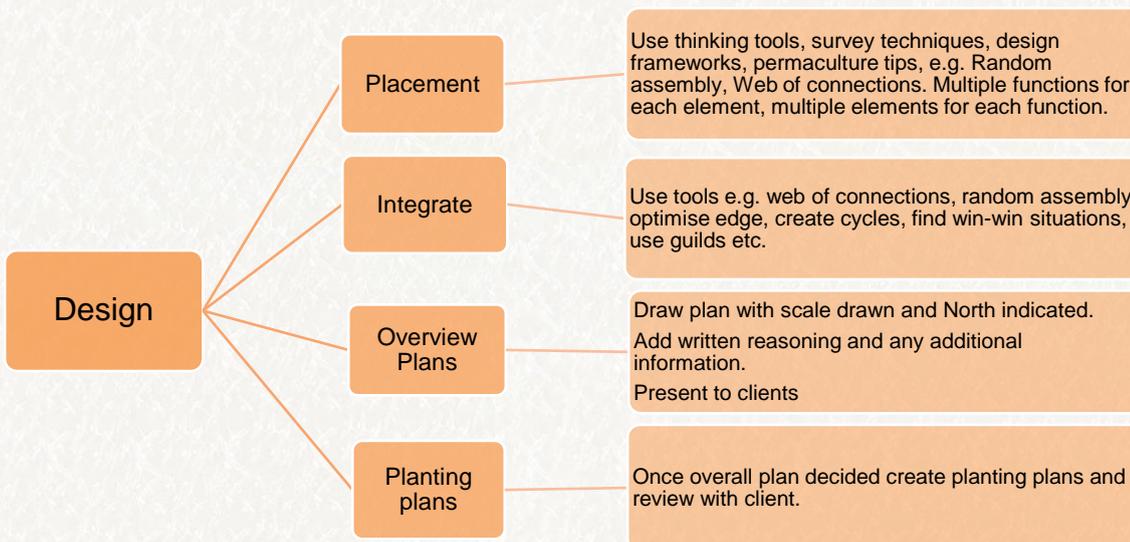
Elements. Pond/s (liners etc.), plants (climbers for fences and others), trees (varieties?), raised beds for vegetables (wood, soil, organic matter pathways), soil (organic matter, compost), food (fruit and vegetable plants, trees, bushes etc.) compost, habitat boosters (logs dug in and piles of, habitat boxes, pond, access routes, plants, 3D structure, niches, edges and microhabitats etc.).

Energy leaks

Water from guttering does not have enough storage. Composting system isn't organized/fast enough so some goes in green bin for council collection.

Design

Figure 10 Design, flow chart



Placement and Integration

Trees

My main concern was to get plenty trees into the design and their placement would have the greatest effect on the garden. My client really wanted a woodland feel and I could feel that it was important for her to see them go in soon. She specifically wanted a bird cherry (*Prunus padus*) and some Himalayan birch (*Betula utilis* Jacquemontii “Snow Queen”) even though they aren't honey fungus resistant. I advised that they may get infected with honey fungus and would have chosen different trees, but as a designer it is often necessary to go with the client's wishes rather than one's own. I decided that birch and rowan should go in zone 3 which had had no signs of honey fungus infection. All the trees are fairly small by nature but needed to be as far from the

house as possible. I looked at predicted tree heights and sun angles which showed that when fully grown they will not shade the windows of the house and patio except between October and February if planted in the SW corner of zone 3. These tree species are light and feathery by nature so should not block much light in winter so shade between October and February was deemed acceptable. In addition, by putting them in a N-S alignment as much as sensible there will be less shade on the patio and house. The multi-stemmed birch just to the east of the main group should not grow as tall as the others and its white trunks should look good against the Leylandii. The trees nearest to the house are an almond on St. Julien A rootstock and a pear on Quince A rootstock (both rootstocks are honey fungus resistant) so these will not grow to more than 4-5 meters. The bird cherry is a good solid tree but low and will hide the neighbours' house. The other trees in the eastern end (Victoria plum on St Julien A, mulberry and whitebeam are all honey fungus resistant).

Meadows

I wanted separate areas of meadow so they could be cut at different times so adding diversity, edges and interest. The area that can be seen from the house while it is still cold has daffodil bulbs in it to herald in Spring, The meadow area to the north will get far more sun than that to the south and so they will probably favour different species which may benefit from being cut at different times. Poppies were added to the meadow mixture to give colour for the first year while the other plants are establishing. The following species are sown in all areas:

Lady's Bedstraw - *Galium verum*, Rough Hawkbit - *Leontodon hispidus*, Oxeye Daisy - *Leucanthemum vulgare*, Common Poppy - *Papaver rhoeas*, Cowslip - *Primula veris*, Selfheal - *Prunella vulgaris*, Meadow Buttercup - *Ranunculus acris*, Yellow Rattle - *Rhinanthus minor*, Musk Mallow - *Malva moschata*, Wild Red clover - *Trifolium pratense*. Var. pratense.

Ponds and bog garden

It made sense to use the leaking pond as a bog garden attached to a new pond. With plenty of logs and shrubs behind the boggy area the whole area would be a great place for wildlife. When looking closely at the life in a pond they are best viewed with the sun behind and sitting close down to the water so such an area was designed in. It is also nice to just relax near a pond so two areas for a table and chairs close to the pond were also provided for.

Vegetables and herbs

My client wanted to grow some crops such as salad leaves, tomatoes, radish etc. and she also wanted a herb bed. I wanted to put these beds close to Zone 2 (the patio) as they will be picked from when cooking and I also wanted to keep the eastern end feeling as unstructured as possible. I decided to build raised beds for the crops which help to break the harshness of the house especially with a grape vine climbing the wall. One deeper raised bed could go over the manhole so it remains accessible - with a bit of work. The herb garden would soften the raised beds look.

Fruit

The south facing fence in the eastern end would make a good space for loganberries and evergreen thornless blackberries (both honey fungus resistant) and currants and gooseberries which are not honey fungus resistant but are worth risking.

Other areas

NE corner: Alder buckthorn is a great plant for wildlife, its leaves being the food for the Brimstone butterfly (*Gonepteryx rhamni*) caterpillar, its berries are a good food source for birds, particularly thrushes, and its flowers are valuable for bees etc. In terms of visual design I am hoping this thicket will provide a mini copse feel (as the trees are multi-stemmed) and a bower of sorts as they lean towards the light.

North facing fence: Plenty of climbing plants such as honeysuckles, hydrangia petiolaris and roses will form a good thick habitat here and would be good for bird boxes.

Flower beds

The views from the house were mainly on to what was the main bed hidden by a hedge and the raised corner bed just to the north of the shed. I wanted to create pretty flower beds here with an emphasis on spring and winter interest for my client and pollinator insects. A flower bed on the corner to the entrance to the eastern end would help frame the entrance/exit to it with flowers. The species chosen for this area were low growing to retain the view through. For fun we decided to concentrate on blue and white flowers for this bed - although the yellow Kerria from the neighbours' garden is keen to pop through. [Planting plans](#) for the flower beds were drawn up, checked through with my client and changes made. I find that these always end up a mess as ideas change, people gift plants, some aren't available etc. - and then it gets dirty when planting out on site so I don't waste time drawing them up very carefully.

Views

There would be a view into the zone 4 if the hedging divide was removed, particularly if sitting outside, so I wanted to remove these especially as they were Leylandii and dying anyway, possibly from honey fungus.

I wanted to create many sitting areas with good views from different angles as possible. I wanted to create a view from the open shelter in the SW corner of the main area as I envisaged it as a covered shady comfortable seating area too, especially if my client remained ill for another summer. There had to be a good spot for viewing the life within the pond.

Desire lines

For people

The main desire lines were:

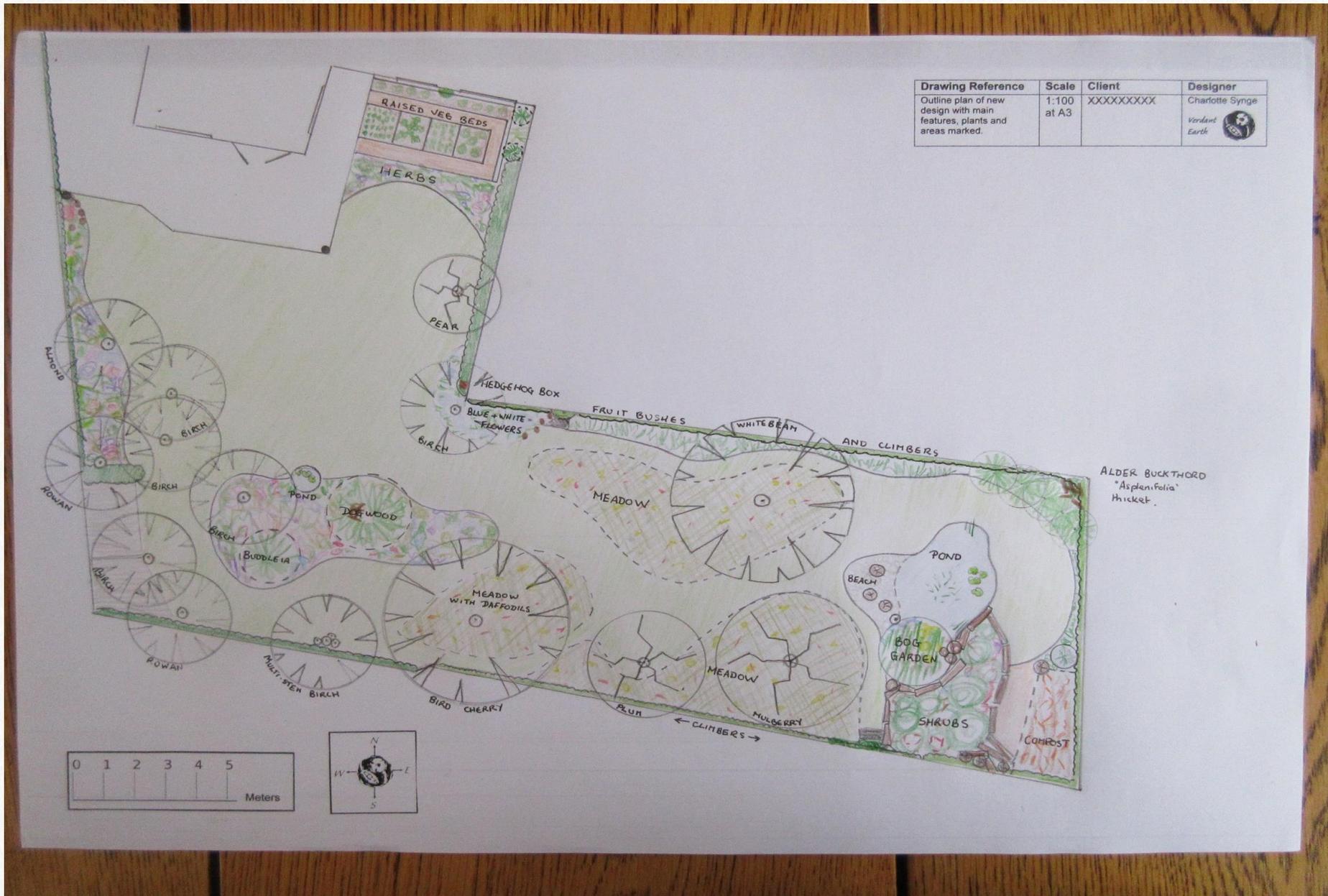
- Zone 2 (patio) to exit, bins and shed down W side of house, patio table and washing line.
- Zone 3 (main area) to the corner shed and shelter, the little pond and dogwood close by - as this provides the only shade in the garden.
- Zone 4 (eastern end) to the table and chairs and to the compost heap.

I believed these would stay much the same so designed around them. The addition of an annual vegetable and herb growing space to zone 2 would add another desire line within it as would the pond in the eastern end.

For wildlife

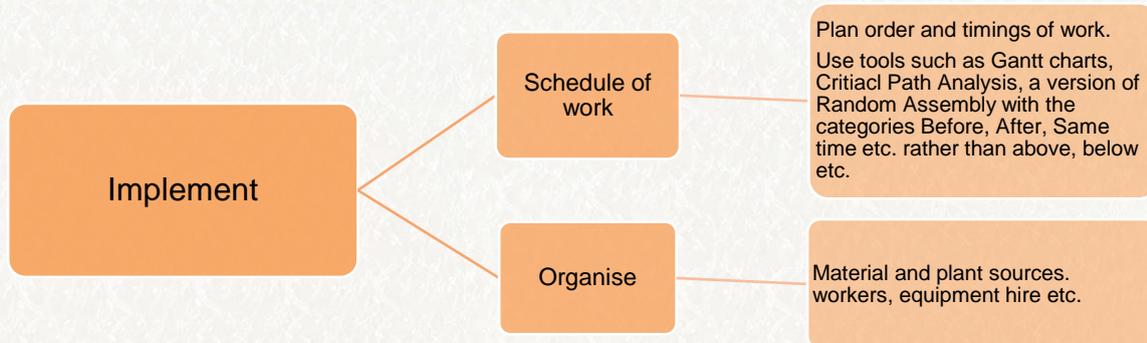
I cut holes in the fencing to all neighbours' gardens and also made access holes in the chicken wire around the compost area for hedgehog use. When bird and bat boxes are fitted flight paths to them will also need to be considered.

Figure 11 Final design.



Implement

Figure 12 Implement, flow chart



Schedule of Work

Timings of work. Normally I would create an outline schedule of work, from my [standard template](#) so my client knew roughly what to expect when. As we didn't know what the future held for my client and how much disturbance would be acceptable at certain times, we just thought we would do what we could when and I would be paid by the hour. I also didn't know exactly how long things would take and I needed to find someone to help who could do odd days here and there so a flexible approach made sense.

Order of work. I still needed to plan the order of work to ensure materials could be reused where possible and an efficient approach was taken. To do this I used a form of the Web of Connections technique (1) that can be seen [here](#).

Implement

This garden did not require much in the way of materials as it attempts to feel like a natural space so little hard landscaping was required. However, the raised vegetable beds were made with FSC wood and the old landscape material from the NE corner was doubled over and used for path weed barrier here and also on the path by the compost area. A lot of organic matter was brought in and taken and used from the compost area. The pond construction used new very high quality liners and some sand and pebbles. It is hoped that the liners will return their cost to nature by providing for it for a long time.

Figure 13 Hedge removed exposing tiny pond. Turf from new vegetable area used to reduce bed size.



Figure 14 Flower beds and young trees planted.



Figure 15 Flower beds looking SE from patio.



Figure 16 Turf removed from vegetable beds and organic matter added to herb garden.



Figure 17 Vegetable beds and herb garden made,



Figure 18 Vegetable beds and herb garden, grape starting to climb up wall and pear tree in foreground



Figure 19 Pond outline as work begins.



Figure 20 Nearly ready for sand and liners.



Figure 21 Whole pond area comes together.



Figure 22 Much loved pond area teeming with life.



Figure 23 Lleylandii hedge cut back and corner blue and white low-growing flower bed planted.



Figure 24 Corner bed and meadow areas looking East.

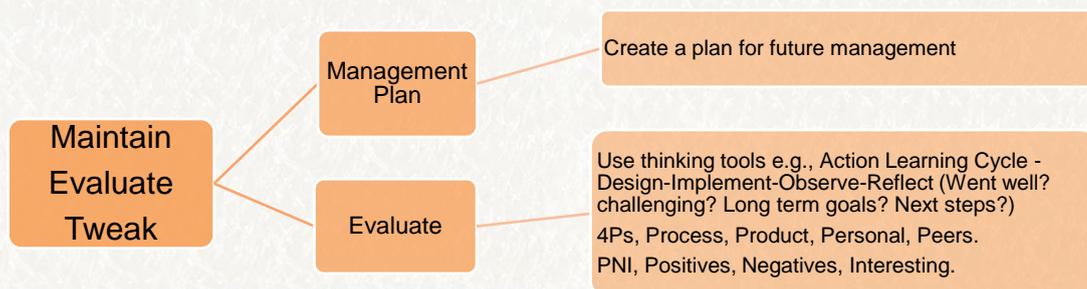


Figure 25 Meadow areas looking West.



Maintain, Evaluate, Tweak

Figure 26 Maintain, Evaluate and Tweak, flow chart



I will be seeing my client so we can discuss management over time. A very basic management plan was a part of the design but together we will make it more detailed.

MANAGEMENT PLAN

Meadows

Meadow under bird cherry - Allow daffodils to flower and leaves to die back then strim at about five inches (removing clippings) aiming to allow the buttercups to flourish.

Meadows 2 and 3 - If it becomes necessary sow Yellow Rattle annually in early Spring, before growth starts, after a very low cut and some heavy raking to loosen the surface in patches. (Note: the seeds should be stratified in fridge and freezer before sowing). In Spring cut every 2 weeks to just above wild flower rosettes until late May (remove clippings). Then let the meadows flower but strim to 6 to 8 inches throughout the year. Try to strim these two meadows at different times and to a height that suits the wild flowers present i.e. cutting off the flower heads to promote more flowers and reduce grass height but not the wildflower leaves where possible. As the meadows are small patches of flowers within them can be strimmed around if they might benefit from being left..

Pond

Pond annual clear in Autumn as things start to die back. Take out a bit at a time and leave spread out close by for invertebrates to escape back to the pond. Take excess out during the summer and any nuisance weeds.

Trees

Fruit tree pruning, plum in summer and pear in winter. Both should be formatively pruned to give open centred frameworks.

Mulberry should be pruned in winter, only if required to give a good shape

Birch, bird cherry, whitebeam and rowan should be winter pruned to give tall trunks and upright growth, possibly tying some branches more upright.

Other plants.

Fruit bushes should be pruned in winter to give compact but open centred bushes.

Loganberries should be pruned in autumn and have two year old canes which have fruited removed and the new one year old canes tied in a spreading fashion.

Thorn-less blackberry should be pruned and tied- in in October taking out some old stems down to just above ground level.

Grape vines should have a main prune in early winter and maintenance pruning throughout the season. Some pruning or leaf removal in late summer to allow plenty light to reach the bunches of grapes is advisable.

Buddleia should be pruned early spring (March) down to 12"-18"

Dogwood should be pruned in spring to a good shape as necessary.

All the plants should be mulched whenever possible. This can be done with a thin layer (about 1cm) of grass cuttings and additional cuttings added to this once it had dried and become semi- incorporated into the soil.

EVALUATION

The use of a tool such as the **Action Learning Cycle** (Design-Implement-Observe-Reflect) to evaluate a project and my work enables me to identify both good and bad aspects of the project and helps me to become a better permaculturist.

Observe

The project has gone well, the best result was the pond. My client is very good at sitting and observing nature and especially so when she was ill. So many hours were spent absorbed in the life within and around the pond, it must have been very therapeutic. The vegetable beds worked well, a lot was grown in them last year. They are large enough for beginners to get a feel for vegetable growing but not be too daunted. They are a good size for those who just want to grow some tomatoes, coriander, parsley, salads etc. rather than get seriously involved in growing their food.

Reflect

It was great for all of us as we got on so well and had a lot of fun. My client found Amy's and my sheer enthusiasm for the project, hard work and happy outlook uplifting during some pretty grim times for her. For me it was lovely to be doing something positive for my client and nature while passing on my love and knowledge to someone who is just starting out on their horticultural career. For Amy it was an education, she has learnt more about permaculture and garden design and we are better friends for the experience.

The survey/observation phase was just a snapshot really, I would have liked to see the garden over the whole year but so often this is not possible when making a garden for someone.

I found it a bit hard buying the liners and beech pebbles but considering the results and how long the pond should last I feel it was a good use of resources.

The meadows are an ongoing experiment . It is clear that tall meadow grass looks a bit too wild for some but I think the shorter 4-5" grass in defined areas gives shape and structure to what would otherwise be flat and boring lawn. They will have good wildlife value at this height and look good and colourful. For me this is the most interesting part of the design and I am grateful that my client is happy for me to experiment with it.

I am also curious to see how the Alder buckthorn "asplenifolia" thicket grows and whether it is as I hoped for.

In future I would put more habitat boosters in as a part of the design so they were costed and bought and erected etc. as a part of the project rather than afterwards when they may get forgotten. A secondary positive from this project was taking on Amy to help make the garden. My main concern is the honey fungus attacking the birch trees

Tweak

Over time the trees will change the feel of the garden dramatically and will alter what grows happily where so there will need to be changes made over time.

The meadow areas are really a part of an ongoing experiment so I imagine we will be tweaking their management and they will also change with the growth of the trees changing conditions.

I don't envisage any major changes being made in the near future but the water butt needs adding to and making more environmentally friendly and aesthetically pleasing.

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APPENDIX

Supporting documentation

The tables below have been completed having discussed everything with my client. The client's details have been omitted.

Client's Details and Requirements

Table 1 Clients details and requirements.

CLIENT DETAILS AND REQUIREMENTS

Client's Name ---Anonymous-----

Address -----

Post Code -----

Telephone numbers Day.----- Eve. ----- Mobile -----

Email address -----

The information outlined in the documents attached (Overview. Ref. _____,

Pages _____ to _____) give a true representation of my requirements and instructions.

Signature/s

----- Date -----

----- Date -----

Brief overview Ref.05/03/16

Client.

Garden users (Ages, sexes, visitors, special requirements, animals, future garden users)

Generally 2 people in 50's

Gardening time available for maintenance (e.g. 1hr pw, half day pw)

Half a day per week plus lawn mowing

Time available for construction of garden (e.g. Over long period, asap, one month, before deadline of ?)

May be able to help some weekends but can't guarantee

Work to be carried out by client or gardener or both (approximate %) ?

Assume 100%

Budget available, (eg. As available, £0 - £500, £500 - £1000, £1000 - £2000 etc.)

Not very bothered as paying by the day but around £5,000- £10,000

Planning permission/restrictions, Tree preservation orders etc.

None

House plans

May build an extension over the patio area

Client's Livestock/Wildlife Requirements

Table 2 Client's livestock/wildlife requirements.

ANIMAL	Y	P	C	N	COMMENTS
	E	O	O	O	
	S	S	N		
	S	S			
BEES	X				Attract solitary, bumble and honey bees but not to keep hives of honey bees
POLLINATORS	X				
WILDLIFE	X				
FOWL			X		
GOATS, SHEEP			X		
PIGS			X		
SOIL ORGS	X				
FISH			X		
OTHER					Most desired are frogs, newts, hedgehogs and pollinator insects
FUTURE POSSIBILITIES					

Client's Horticultural Requirements

Table 3 Client's horticultural requirements.

FEATURE	Y E S	P O S	C O N	N O	COMMENTS
Herbs/own area	X				Wherever they fit
Soft fruit/own area	X				Wherever they fit
Fruit trees/ own area	X				Wherever they fit
Vegetables/ own area	X				Own area annual and wherever they fit for perennials
Nuts		X			
Trees	X				Definitely. Wants a Bird Cherry (<i>Prunus padus</i>) and white barked birch.
Bed types, e.g. foliage, annuals, herbaceous, heather, alpines, rock, scented, for insects, colour scheme, winter, cut or dried flowers, for bird, grasses, woodland	X				Meadow, trees, ground cover, flower Likes blues and whites. Doesn't like yellow so much. Not into heathers and alpines. Likes scents. Definitely wants Daphne, Pineapple sage, <i>Erigeron karvinskianus</i> , some ferns, rock rose.
Lawn/other surface requirements	X				My client's husband doesn't want to increase the area of beds to weed dramatically.
Edges, hedges, fences etc.	X				Boundary fences to be covered in plants. Leylandii to stay for now except I can take out the hedges where they are cutting the main area from the eastern area. The low box hedge in the main area can also go.
FEATURE	Y E S	P O S	C O N	N O	COMMENTS
Style e.g. Modern, formal, symmetrical, asymmetrical, naturalistic, minimalist,					Naturalistic

compartmentalized, seaside, Tudor, Elizabethan etc.					
Favourite colours	X				Blue and white, deep reds not yellows
Favourite plants	X				Daphne, Pineapple sage, <i>Erigeron karvinskianus</i> , some ferns, rock rose wanted. Otherwise those for pollinators so all season long and single and some natives.
Least favourite plants	X				Yellow
Essential plants/ areas to keep	X				Dogwood, buddleia, grape and rose on S fence in eastern area to keep. No areas need to be kept as are except for the compost pile so things can be rearranged.
Essential plants/ areas to remove				X	
Other useful plants, bamboo canes, basketry, string etc.			X		

Client's Non-horticultural Requirements

Table 4 Client's non-horticultural requirements.

FEATURE	Y E S	P O S S	C O N S	N O N S	COMMENT
BBQ	X				Possible BBQing in main area but has a portable BBQ. Would like a fire-bowl but again portable.
Eating table area	X				Definitely one probably two
Entertaining area				X	
Sunbathing area				X	

Shady relax area	X				Definitely, this is important.
Private area		X			Window above SE corner of eastern end is frosted so not an issue.
Hammock, garden bench, swing seat area	X				Bench, perhaps swing seat
Sport			X		
Child play area			X		
Hobby space			X		
Wildlife areas	X				As much as possible. Definitely a pond and native flowers. Wants hedgehogs and newts above all.
FEATURES	Y E S S	P O S S	C O S S	N O N S	COMMENTS
Small features, statues, art, water sundial, bird table/bath containers/pots etc.	X				Water bath, bird bath.
Large features, pond, patio, arbour, terraces, steps, summer- house, etc.	X				Pond
Composting	X				Large heap that is in corner to be retained but screened.
Wood pile, storage	X				Only for wildlife habitat.
Access, paths, gates, steps, stepping stones etc.	X				Access to compost area needed.
Ornamental lighting			X		

Sheds, greenhouses, other structures etc.	X			Keep the current structures. Washing line could be moved
Paving	X			Patio and path down side of house to be kept as is.
Water	X			Tap OK, Water butt could do with adding to.
Vehicle, bike space			X	Only bikes at back and these are stored in sheds.

Client's Utilitarian Requirements

Table 5 Client's utilitarian requirements.

FEATURE	Y	P	C	N	COMMENTS
	E	O	O	O	
	S	S	N		
	S	S			
Rubbish Bins	X				These are down the side of the house not within the area being designed
Washing line	X				To stay as are
Bike storage				X	There are some old bikes in the open shelter but the bike storage is in another part of the garden.
Garage/Car parking				X	No
Shed	X				To be kept as is.

Oil tank/ wood or coal store		X	In another part of the garden		
Access to septic tank, man holes, stop cock, meters.	X		There is one in the lawn near patio.		
Toy, general entertainment equipment storage		X	Nothing that doesn't go in shed or covered shelter.		
Specific hobby equipment storage		X			
Garden equipment storage	X		In sheds already have.		
Compost heaps/bins	X		The area at the end of the garden is to be kept		
Greenhouse/cold frame		X			
FEATURE	Y	P	C	N	COMMENTS
	E	O	O	O	
	S	S	N		
	S	S			
Bonfire/incinerator space				X	
Water taps/,butts, irrigation, drainage	X				There should be more water butts.
Electric lighting, sockets, where to? Access, Task, Security, Ornamental, Amenity				X	
Pet areas and requirements				X	Fred, the dog, uses the whole garden but has no special requirements.

Land Survey, Soft Landscape/ Natural Influences

Table 6 Land Survey, Soft Landscape/ Natural Influences

LAND SURVEY, SOFT LANDSCAPE/NATURAL INFLUENCES.

Checklist.

- PREVIOUS USE

The furthest area had been mown grass with cherry trees but the trees had died from Honey fungus attack. A small circular pod had become overgrown and the liner leaked so forming a boggy patch of rush and yellow flag iris. The grass had been left to grow for this season with a pathway mown through to the compost area and a mown area for a table and chairs. In the area closest to the house the main bed behind the hedge had been a vegetable bed. The area just to the north of the hedge was the only bed devoted to flowers.

- GENERAL CLIMATE

Hardiness zone 8. Dominant winds SW with N-NE cold winter winds. Cambridge is in the driest region of Britain and has a more continental climate than most of Britain. At the Botanic Garden, the 30-year average annual rainfall from 1970 to 2000 was just 557 mm. There is a much more even distribution of rainfall throughout the year than in most other parts of the UK <https://www.metoffice.gov.uk/climate/uk/regional-climates/ee>

- ANIMAL AND PLANT SURVEYS E.G. **PFASTE** (Plants-Fungi-Animals-Structures-Tools-Events) and **DAFORL** (Dominant-Abundant-Frequent-Occasional-Rare-Local)

Plants. The grass has little of interest in it, the hedges are box around bed in main area, Leylandii around main garden and a little bit of beech at end by compost heap.

Fungi. Honey fungus is rife in the eastern area particularly in the SE corner. It had previously killed a couple of cherry trees in the eastern area.

Animals. The garden has a lot of frogs and the occasional newt is found. No hedgehogs are seen. The usual garden birds are found. Soil life, as judged by the number of worm casts appears fairly low (REF) The clients have a dog and a cat.

Structures. Other than the sheds which are staying there is only a piece of trellis at right angles to the fence at the NE corner of the eastern area.

Tools. We can use the client's lawnmower, wheelbarrow, spades, forks etc.

Events. Family life

DAFORL. This was not deemed necessary as the grass had few species of interest; apart from grass species it was abundant in creeping buttercup.

- ZONES

Currently the garden divides into two zones, which could be identified as zones 3 and 4 with the house as zone 1, patio as zone 2, the garden immediately in front of the house as zone 3 and the garden to the east as zone 4.

- DESIRE LINES

The main desire lines for people are currently:

Zone 2 to exit, bins and shed down W side of house, patio table and washing line. Zone 3 to the corner shed and shelter, the little pond and dogwood close by as this provides the only shade in the garden.

Zone 4 to the table and chairs and to the compost heap. The garden is too well fenced for a wildlife corridor.

- TOPOGRAPHY

The area is essentially flat, there is a slight dip down into zone 4 from the main garden (zone 3). There is a lower area in the NE corner of zone 3.

- WIND SECTORS, PREVAILING, FUNNELING, PROBLEMS

The whole area is protected from the winds in all directions with fencing and hedging and surrounding houses. There are no obvious wind funneling problems.

- SUN SECTORS, SHADE, SEASONAL, OBSTRUCTION HEIGHTS AND ANGLES

The south facing fence and house wall should provide a warm microclimate, particularly the house wall which should retain the heat well. The north facing fence and area just to the north of it will be more shaded. In winter these shaded areas will get no sun. Using sun angles for Cambridge sunrise will hit the north side of the fence from March to September and sunset will hit from April to August.

- RAIN SECTORS, SHADOWS, QUANTITY, STORAGE, IRRIGATION, REQUIREMENT

There will be a rain shadow along the northern edge of the fence on the southern boundary. Any plants climbing this fence or on the ground nearby may be in a rain shadow.

- MICROCLIMATES – SUN TRAPS, FROST POCKETS, SHADED, DAMP/DRY

The garden is generally very sunny, too sunny for my client. The areas by the house get very warm.

- SOIL, PH, DRAINAGE, DEPTH, TYPE, ORGANIC CONTENT

The soil is clay loam on top of a layer of pale gault clay with small chalk pieces scattered throughout. The pH varies with patches ranging from 6.4 to 6.9. Drainage appears to be good and I'm told no heavy waterlogging occurs. Organic matter content is low.

- VIEWS, WANTED/NOT WANTED

The Leylandii hedge at the western end blocks views to the rest of the garden. The hedge within the main garden hides the bed behind and the tiny pond.

The views to hide if possible are along the southern edge which has ugly houses. The fences also need covering. Neighbours' windows don't really overlook, main one in SE corner is frosted. Little one in thatched cottage doesn't feel intrusive.

- SITE PROBLEMS, PLANT ROOTS, OLD TREE STUMPS UNDER GROUND, BAD SOIL

The biggest problem is the presence of Honey fungus.

There is a tree root in the grass which might be a problem but may be designed around or chopped out. The soil in the NW corner has been covered in landscape material for a long time and underneath it looks to be compacted and grey, possibly from waterlogging but it is a clayey patch and this is a whitish grey in this area.

- FACTORS OUTSIDE LAND AFFECTING DESIGN (NEIGHBOUR'S TREES, HEDGES ETC.)

There are no huge trees that might cause problems, The main influence relates to views. It would be nice to create more of a barrier between the garden and neighbours in the SE corner and perhaps a bit more thickness to the hedge on the eastern boundary.

- POSITIONS OF PLANTS, THEIR SPECIES, SIZE AND CONDITION

There are not many well established plants, In the main area a viburnum, a buddleia and a few small shrubs. In the eastern area a rose, a plum sucker from a dead plum tree, a grape vine and loganberry are the main plants other than hedging.

- WILDLIFE HABITATS ALREADY APPARENT

The tiny pond in the main area and the leaky pond in the Eastern area both attract frogs and are good wildlife habitat. The long grass which has been allowed to grow this year is good cover. The Leylandii hedges look and feel pretty sterile. The mixed hedge on the eastern boundary is a good wildlife hedge with hawthorn and ivy.

- PRESERVATION ORDERS ON ANY TREES

No

- EXISTING PERSPECTIVE BALANCE AND UNITY OF PLANTS

Nothing outstanding and too many hedges breaking up views.

- PRESENT EASE OF MAINTAINENCE

Fairly easy although largish vegetable and shrub area would require work, however it has been neglected.

- SAFETY ISSUES, WATER, DYING TREES, POISONOUS PLANTS, CLIMBING TREES

None

- REUSABLE PLANT LIST, FIXED AND MOVEABLE

Made

- NOISY AND QUIET AREAS, DISTURBANCE, REDUCTION.

Neighbours to west of patio have noisy dogs which bark. SE corner has most people noise. Eastern end lady sits with friends for tea in afternoon but not noisy.

- PHOTOGRAPHS TAKEN, SIGHT LINES

Yes

- LAW ISSUES, TREE PRESERVATION ORDER. ROAD VIEW OBSTRUCTION,

None

- BOUNDARY CREEP. OF HEDGES ETC. CREATION OF WORK FOR NEIGHBOURS EG. REPLACING BOUNDARY FENCE WITH HEDGE. LIGHT/ VIEW/ACCESS OBSTRUCTION

None envisaged

- POTENTIAL THREATS E.G. FIRE, FLOODING, DEVELOPMENT

No great threats.

Land Survey, Hard Landscape

Table 7 Land survey, Hard landscape Checklist

LAND SURVEY, HARD LANDSCAPE

Checklist.

- AGE AND STYLE OF SURROUNDING BUILDINGS, HOUSE ETC.

Want to keep thatched roof of neighbours visible.

- BUILDING COLOUR AND MATERIAL

Yellowish brick 1960's buildings around but with white plastered house at end of garden with thatched roof

- WHERE IS LAND GENERALLY VIEWED FROM E.G. WHEN INDOORS

People tend to look down the land through gap in Leylandii hedge. This garden area is not visible from house and patio just from outside due to hedge partitioning the garden..

- **POSSIBLE FUTURE BUILDING PLANS ATTACHED OR NOT TO BUILDINGS, HOUSE**

The patio area may become a conservatory area

- **ASPECT OF LAND, BUILDINGS, GARDEN**

The area runs W/E so has long S and N facing fences with the Leylandii hedge to the W and a mixed hedge to the E. The S,N and E boundaries abut neighbours' gardens. Eastern end is a hawthorn and ivy hedge with a section of Leylandii protruding out to the west of it.

- **ACCESS REQUIRED AND AVAILABLE**

Only wheelbarrow access to compost area is required and will be required to pond.

- **MATERIALS AND COLOUR OF ADJACENT WALLS, FENCES, BUILDINGS ETC.**

Mostly brown stained and unstained wooden fences to N and S. The Eastern end of the south fence is mesh with a beech hedge. Pyracantha, ivy and grape vine are on the north fence

- **CONDITION OF ADJACENT WALLS, FENCES, BUILDINGS ETC.**

Fences are in good condition.

- **HEIGHT AND THICKNESS OF ADJACENT WALLS, FENCES, BUILDINGS ETC.**

Fences are 6' high on north side and 6'6" high on south side. Hedges are nearer 10 ft high. The mixed hedge on the eastern boundary is a bit thin in places.

- **MATERIALS AND COLOUR OF ROADS, TRACKS, PATHS, PATIOS, PAVING ETC.**

None

- **MATERIALS, COLOUR AND STYLE OF CONTAINERS, EDGING, POTS ETC.**

None

- **MATERIALS, COLOUR, STYLE AND POSITION OF PRESENT FOCAL POINTS, MOVABLE Y/N**

None

- **OVERHEAD CABLES, STAYS, TELEGRAPH POLES ETC.**

None

- **FACTORS OUTSIDE LAND AFFECTING DESIGN, OVERLOOKING WINDOWS, SHADE FROM NEIGHBOUR'S BUILDINGS/SHED/HOUSE ETC.**

A house on the southern boundary is close to compost area and kitchen door opens there. Garden at eastern end is less well used and one to north rarely used. The roof of the house to the eastern end is lovely. Only upstairs window in SE end overlooks garden. There is a tiny one in the thatched cottage but it doesn't feel as if it overlooks.

- **UTILITARIAN STRUCTURES AND EQUIPMENT, BINS, OIL TANK, LOG PILE, WASHING LINE, SHED, COMPOST BINS, TROUGHS, WATER BUTTS, HOSE REELS,**

Compost area in SE corner of the eastern area.. In the main part of the garden there is a water tap, water butt to collect rainwater from the house roof and a hose that can reach the whole of the back part of the garden. A shed and shelter are in the main area. Two washing line poles are on the corners of the patio. There is a man hole in the lawn just in front of the eastern end of the house.

- **PLAY AND ENTERTAINMENT STRUCTURES /STORAGE, HOBBY EQUIPMENT STORAGE, BBQ, TRAMPOLINE, EATING AREA, BIRD TABLE, BIRD BATH, PERGOLA, BENCH, SUMMERHOUSE ETC.**

Three posts one with a bit of trellis are in the NE corner of the leg of the L. There is an open shelter in the SW corner and shed beside it.

- LAND STRUCTURES AND THEIR + & -'s, STEPS, PONDS, RAISED BEDS, SWALES, BERMS, STREAMS, TRELLISES, TERRACES, PATHS, PATIOS, ARCHES, ETC.

The NE corner has landscape material under a creeping rose and there are a few posts which may have been part of gazebo at one time. The hedge hiding the large bed (old vegetable plot) in the main area is raised and behind a breeze block edging. The rest of the bed is slightly raised with wooden edging. A slab pathway runs through it.

- ELECTRICITY, POSITION, AVAILABILITY, REQUIREMENTS, FITTINGS, FUTURE, LIGHTING, TO SHED/ WORKSHOP, MUSIC, PUMPS, ORNAMENTAL, ACCESS, TASK ETC.

None and no requirement anticipated.

- WATER, POSITION, AVAILABILITY, REQUIREMENTS, FITTINGS, FUTURE, BUTTS, IRRIGATION, DRAINAGE, ETC.

One water butt by house and an outside tap.

- SITE PROBLEMS, UNDERGROUND CABLES AND PIPES, FOUNDATIONS, CESS PITS, OLD PATHS GEOTHERMAL PUMP, OIL OR GAS TANK PIPES ETC.

There are no known underground obstacles.

- PERSPECTIVE, BALANCE AND UNITY + & -'s OF WHAT'S PRESENT, PROBLEMS AND POSSIBILITIES.

The eastern area feels tacked on to the rest and doesn't invite one in. It has a too rectangular feeling.

- EASE OF MAINTENANCE, PRESENT, REQUIREMENTS FOR FUTURE.

Mowing and hedge cutting are the main gardening activities but more gardening that is productive and wildlife friendly is wanted

- SAFETY ISSUES, OLD FENCING, ELECTRICITY, PONDS, FIRE SITES, SURROUNDINGS ETC.

No youngsters live at the house and it is well fenced from neighbours. There is some corrugated asbestos at the base of the Leylandii hedge.

- REUSABLE MATERIALS ON SITE.

Landscape material, some corrugated iron, some breeze blocks and some paving slabs

- PHOTOGRAPHS TAKEN, POSITION WITHIN LAND, ASPECT, REASON FOR TAKING ETC.

Yes, taken

- PHOTOGRAPHS FOR PERSPECTIVE DRAWING NEW DESIGN OVER EG. WHERE TREE MAY BE NEXT TO POND TREE CAN JUST BE DRAWN OVER A PHOTOCOPY OF PHOTO

Yes, taken

- LIGHTING - EFFECTIVE, FOR PURPOSE AFTER DARK.

None wished for.

- POTENTIAL THREATS, E.G. FIRE, FLOODING, DEVELOPMENT.

Possible building of extension on patio area which would probably mean a new patio area being built in front of the current one.

Schedule of work

Table 8 Schedule of work checklist.

SCHEDULE OF WORK

Checklist.

Goal Clarification

Firstly clarify goal.

Introduction

Start with a preamble about the site, working hours, health and safety of both workers and clients, access issues, skip space available and permissions required, landscapers name, upheaval that will be incurred, rubbish disposal, problems for neighbours. Start and finish dates anticipated. Then cover in detail everything from start to finish of the project and deadlines

Site clearance.

Demolishing, removing, lifting paving, sheds, removing foundations, tree felling, fencing dismantling, woody plant removal. perennial weed destruction, potting up plants to save or move.

Site preparation.

Digging out, underground issues, drainage, water pipes, and electricity routes required.

Hard landscaping work.

Paving, gravel areas, building raised beds, rockeries, bog gardens etc., erecting sheds, greenhouses, fences, archways etc. support posts for washing lines, hammocks, tennis nets, netball rings, etc. making ponds, barbecues, fitting trellis's, fitting water feature etc.

Post hard landscaping.

Removing rubbish and tidying up. Painting and wood treatments. Double checking all hard landscaping, electrical and water requirements are there and working.

Soft landscaping.

Plants ordered. Bringing in soil improver. Planting distances measured out. Planting schedule for plants requiring to be planted at different times.

Figure 27 SADIMET-Flow chart in full

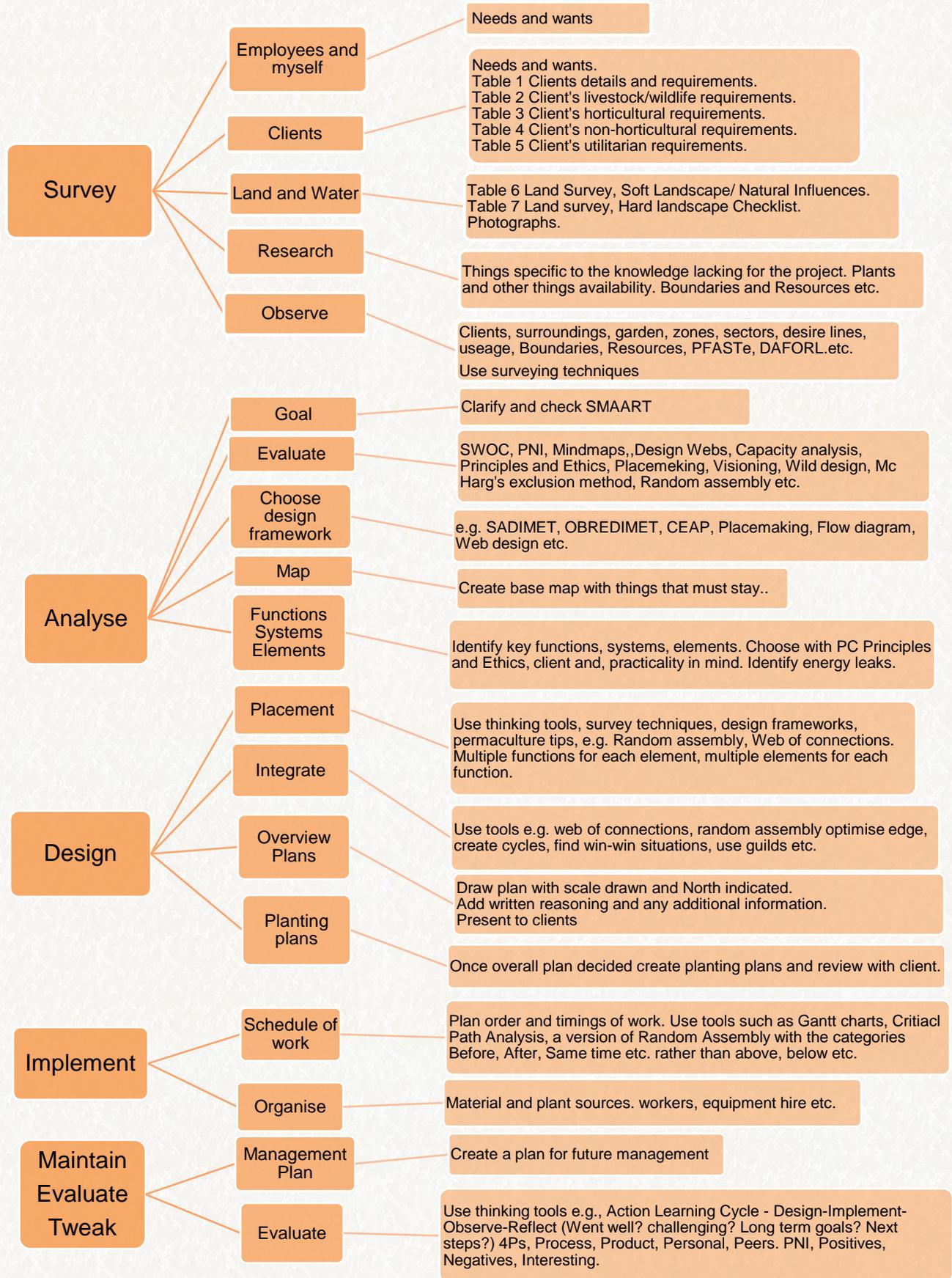


Figure 28 Outline base plan showing only things to retain. Cambridge sun angle overlays are also shown

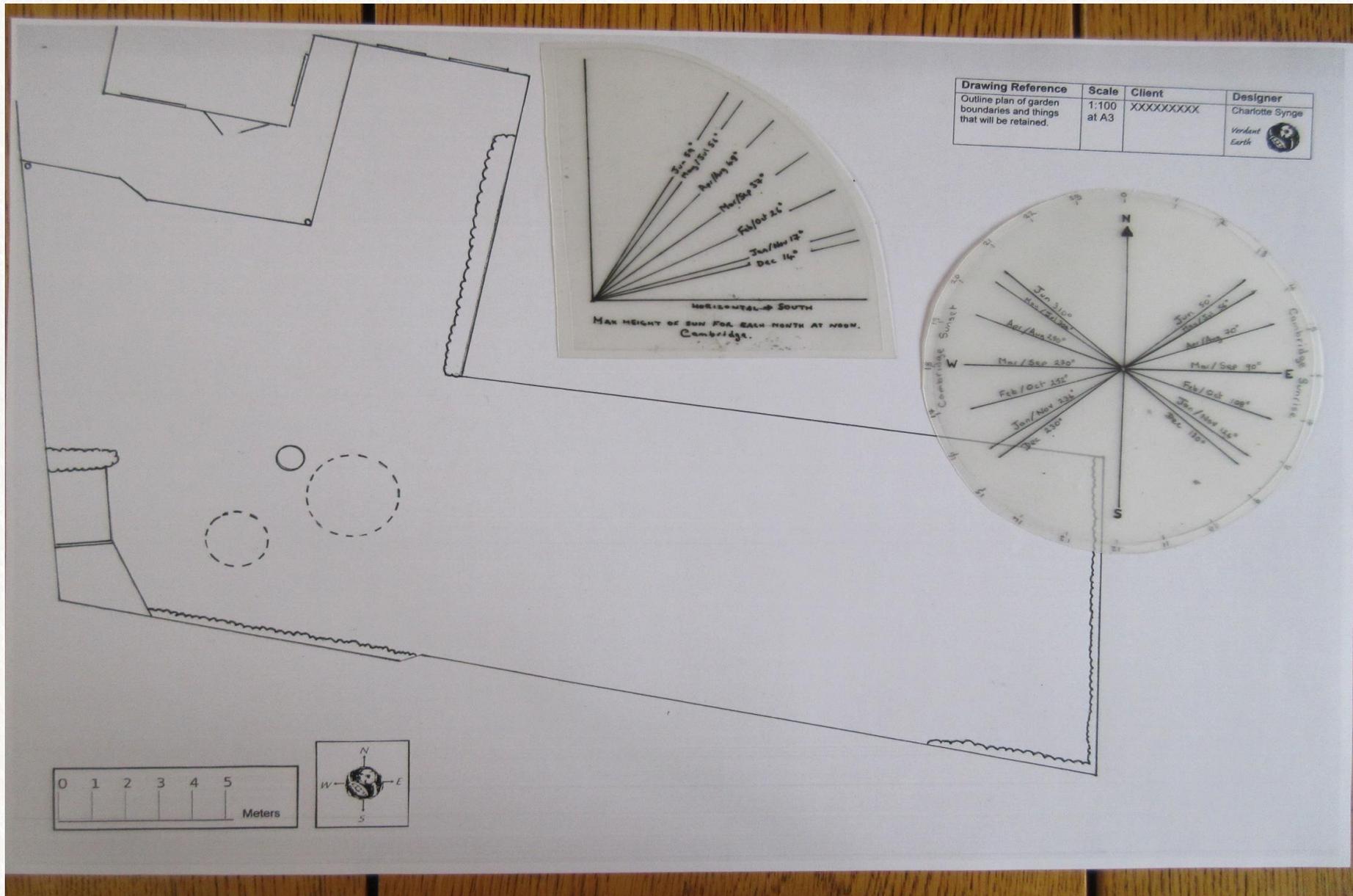
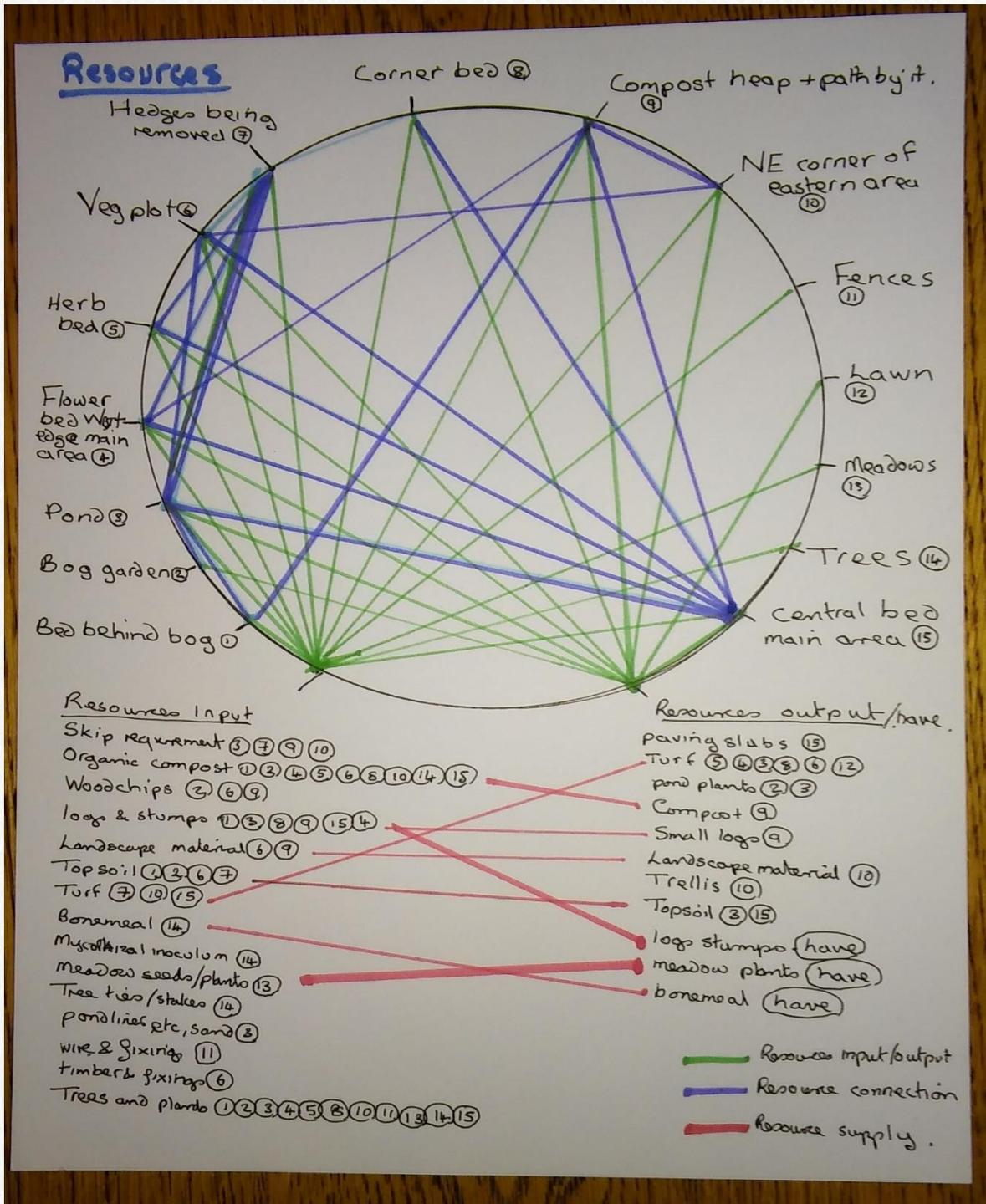


Figure 29 Resource web of connections



ASSESSMENT OF THIS DESIGN

Evaluation

The thinking tools, surveying techniques, design framework and analysis methods worked well. Using PNI as a thinking tool in an informal way but on large and small decisions throughout the project made me feel that I was getting more instinctive in my approach. I found that while creating the garden slight changes to the exact design were often being made as I saw things in 3D; for instance the final shapes of the meadows and the pond were worked out using a hose to mark their shapes. This made me think that it was perhaps a waste of time designing and measuring some things exactly on my plans as there always seems to be some incremental design in my projects. In 2019 there was yellow rattle growing in the meadows and the seeds sown of many varieties have finally started to produce plants so we may have got away with our less than perfect approach. The logs dug upright into a few areas have lasted well and look good and the ones around the pond as habitat have also been great. My favourite part of the garden is definitely the pond, it looks good and is much loved by wildlife and my client. For me the planting plans are the most difficult part of designing a garden, I have found it best to see if plants are available before putting them in any planting plan. I wish we had added water butts and put in a hose down to the pond at the time as it still hasn't been done. I am generally happy with the design and implementation of this project and it is going to be interesting to see how it develops over the years as the trees grow. On a scale of 1-10 I feel this project deserves an 8.

My thanks go to Amy Spencer for her enthusiastic help with the creation of this garden.

How this design meets the Principles and Ethics of Permaculture.

Making a wildlife garden fits with the core ethics **Earth Care**, **People Care** and **Fair Shares**.

It is also easy to apply all of the permaculture principles when the design is for a wildlife garden.

Observe and Interact: This was a large part of this project when assessing my client's needs and surveying the garden but mostly because of the amount of research on honey fungus required..

Catch and store energy: The energy I have put in to planting the trees will be stored in their future existence. The trees will catch and store carbon and some produce a crop as will the vegetable and fruit beds.

Obtain a yield: Fruit, nuts, berries, vegetables, nature and a beautiful place to be should all be obtained.

Apply self-regulation and accept feedback: This has been going on throughout the design and implementation of this project as I observed and interacted with client, nature, the garden and written resources.

Use and value renewable resources and services: The trees will supply a renewable resource. Not many resources were used in this project, however many were bought new such as the wood for the vegetable beds and the pond liners. I hope the use of these products will return their costs to the environment in the long run.

Produce no waste: Little waste was produced. The design of the raised beds and the buying of materials was carefully considered so offcuts were minimal and these were used to make a hedgehog box. I kept the extra pond liners so they can be used for a small pond somewhere. The landscape material found on site was doubled up and used for paths

Design from pattern to detail: The need to design from pattern to detail is conspicuous. Firstly deciding basic outlines of various types of habitat areas, down to what plants to include and what rootstocks to use in these habitat types and then, down to their relative positioning.

Integrate rather than segregate: The garden aims to integrate many habitats and niches and their associated wildlife with crop production and people's space for relaxation.

Use small and slow solutions: On a world-wide scale this is a small slow part of the solution to the problems the world faces.

Use and value diversity: This is evident in the diverse habitats and microclimates created in the garden and in the variety of plants and trees chosen.

Use edges and value the marginal: The garden is full of edges between different habitat types. Nature has also been marginalised and it is at the centre of this design.

Creatively use and respond to change: This project is my client's response to the changes which threaten our planet. My change in direction of career and learning about permaculture is also a response to these changes.

Assessment of Individual Design for Feedback Table

**DIPLOMA in APPLIED PERMACULTURE DESIGN System 5.2
ASSESSMENT of INDIVIDUAL DESIGN for FEEDBACK**

Effective from Oct 1st 2013

Diploma Apprentice's name:	Charlotte Synge
Date first registered for Diploma:	26th January 2015
Date of this feedback:	
Name of Personal Tutor:	
Name of Assessment Tutor:	Aranya Austin
Project Title:	Design to Create a Wildlife Garden
Date Started:	February 2016
Date Completed:	December 2016
Implemented:	Yes
Design Number	6 of 10

ACCREDITATION CRITERION: 1. Demonstrating design skills**(Section C3 in the Guide to Accreditation Criteria)**

	What's gone well?	What could have been done differently?
Accurate and appropriate use of an intentional design process.	Yes. The outline design framework SADIMET incorporated into a flow chart was appropriate. This created a useful design tool for future use. Incremental design relating to the fruit bed and the more detailed issues as to which species and varieties to plant.	Other design frameworks and thinking tools could have been used to equal effect.
	Evaluation of the site used the PNI thinking tool in an informal manner.	
Use of permaculture ethics, principles and theory is appropriate to the situation.	Yes. How the design fits with permaculture principles and ethics can be seen here . Permaculture approach strategies were used, for example: stacking and considering succession with trees, shrubs, meadows etc., considering relative locations such as pond- bog garden-log habitat- hedge and compost heap together for wildlife movement, working within nature and adding diversity.	More use of guilds, particularly to support the fruit and nut trees would have been good. Avoiding leaks of water and compost by adding more water butts and better composting for food waste from the house.
Use of a variety of tools which suit the needs of the client and the situation.	Yes. The templates and tables regarding client's needs and surveying help ensure that all the issues are considered and reassure the client. The design framework SADIMET incorporated into a flow chart along with associated tables made the process very organized and able to look after the needs of the client well.	Not sure.

Design is intelligible, coherent and effective (i.e. it met the needs of the client).	<p>Yes The drawings are clear and make it easy to visualise what the garden will look like.</p> <p>Positioning tall canes where the trees would be, marking beds out with short canes and using the hose to outline the pond helped with visualising the design.</p>	If I was better at drawing I would have like to take photographs and draw over them with the plants and beds in place.
Documentation for and presentation of the design is appropriate for clients & third parties.	Yes. The presentation is clear and appropriate.	Not sure.

ACCREDITATION CRITERION: 2b. Applying permaculture to your work and projects
(Section C2 in the Guide to Accreditation Criteria)

	What's gone well?	What could have been done differently?
Identify which of the 15 categories of application the design applies to from the checklist in the Guide to Accreditation Criteria, and	<p>Demonstrating Design Skills.</p> <p>The design shows a structured approach to tackling the design</p>	Not sure

provide feedback on each.

Thinking tools: PNI and a form of Web of Connections. Surveying techniques: Information templates, PFASTE. Design frameworks: SADIMET, flow chart, Incremental. Evaluation: ALC.

The surveying and observation phase was organised and detailed with consideration of the site's soft landscape features, including soil, climate, sectors, zones, desire lines etc. and hard landscape features such as raised beds, patio etc. as well as the client's needs

Site Development

The garden has been completed and everything is growing well. The pond and bog garden feel particularly well established.

Design Consultancy

This has been a great job to do, very positive and rewarding. I am now working on the front garden for this client, planting more trees and making a thornless evergreen blackberry hedge. We are going to keep experimenting with the meadow areas in the hopes of finding the right species and management plans for

	<p>fertile soils where people want a wildlife friendly lawn with a tidy look.</p> <p>Education</p> <p>Amy, the girl I employed to help, is really keen to learn and this was why I asked her to help. For her the building of the pond and the methods of designing were the most useful experiences. She was also enthused about permaculture design. I will take her orchard pruning next.</p>	
<p>Clear explanation of how the solution was developed using design process and Permaculture theory.</p> <p>The solutions are relevant and appropriate to the activity and content areas.</p>	<p>Yes. The design process used was SADIMET incorporated into a flow chart with additional guidelines. The whole process can be seen here.</p> <p>Yes. How the design fits with permaculture principles and ethics can be seen here.</p>	<p>Not sure</p>

ACCREDITATION CRITERION: 3. Learning from and developing your permaculture practice

(Section C5 in the Guide to Accreditation Criteria)

	What's gone well?	What could have been done differently?
Evaluation of the effectiveness of your design work on this project.	I am happy with the design work for this project. There are plenty of flowers over a long season for pollinators and my client. The pond is good for wildlife and a very good design for close pond watching. I would have liked to add more habitat boosters. I would also have liked to add more edible plants.	I do have qualms over the trees that are not honey fungus resistant.
Reflection on use of design tools and processes, and use of Permaculture theory and practice.	I am very happy with the use of the design tool SADIMET incorporated into a flow chart and the templates I have prepared Using these does keep me on track	I think I should have formally used an analysis tool such as SWOC.
How the design shows that your competence and skills in practice and learning is progressing.	The design shows how much I have learnt about design. It also shows how I think in permaculture terms for my work. I have learnt a lot about honey fungus and it seems to me, with each project I do, that the observation/research phase is generally the most important phase for long term success.	Not sure.

Comments about project format, general or specific issues

Any other comments?	
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Conclusions

How ready is this design for presentation?	
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What are the apprentice's next steps?	
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The highlight of this design for me was....	
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