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Explanations
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Instructions
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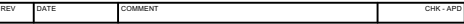
Habitat Support Area: Cricklade Meadow.
Vegetation protection
All existing vegetation to be retained is to be protected in line with the recommendations of Arboricultural Report. Protection shall remain in place until site works are complete.

HSA Preparation
Livestock will be used to reduce the grassland sward within the field and to create approximately 50% bare ground by extensively grazing in the autumn and spring preceding site works or at a higher density for a shorter period of time. The aim of the pre-works grazing is to reduce the height of the vegetation and to create bare areas of ground. Avoid poaching, with livestock removed in wet conditions. Additional bare ground to be created on instruction of appointed ecologist through scarification with a disc/chain harrow to reduce the thatch and provide additional bare ground.

HSA Establishment
A specific grassland mix to be agreed with Natural England (eg Cricklade Meadow Mix by Emorsgate seeds) to be sown on the seed bed at 40kg per hectare;
Cattle will be put out on the field once the seed is sown to tread the seed into the soil;
Cattle will be put out on the field in the early spring and late summer to control the growth of vigorous grasses.

Aftercare
Establishment and grassland management to be carried out by grazing, subject to detail grazing plan as Ethos management plan document

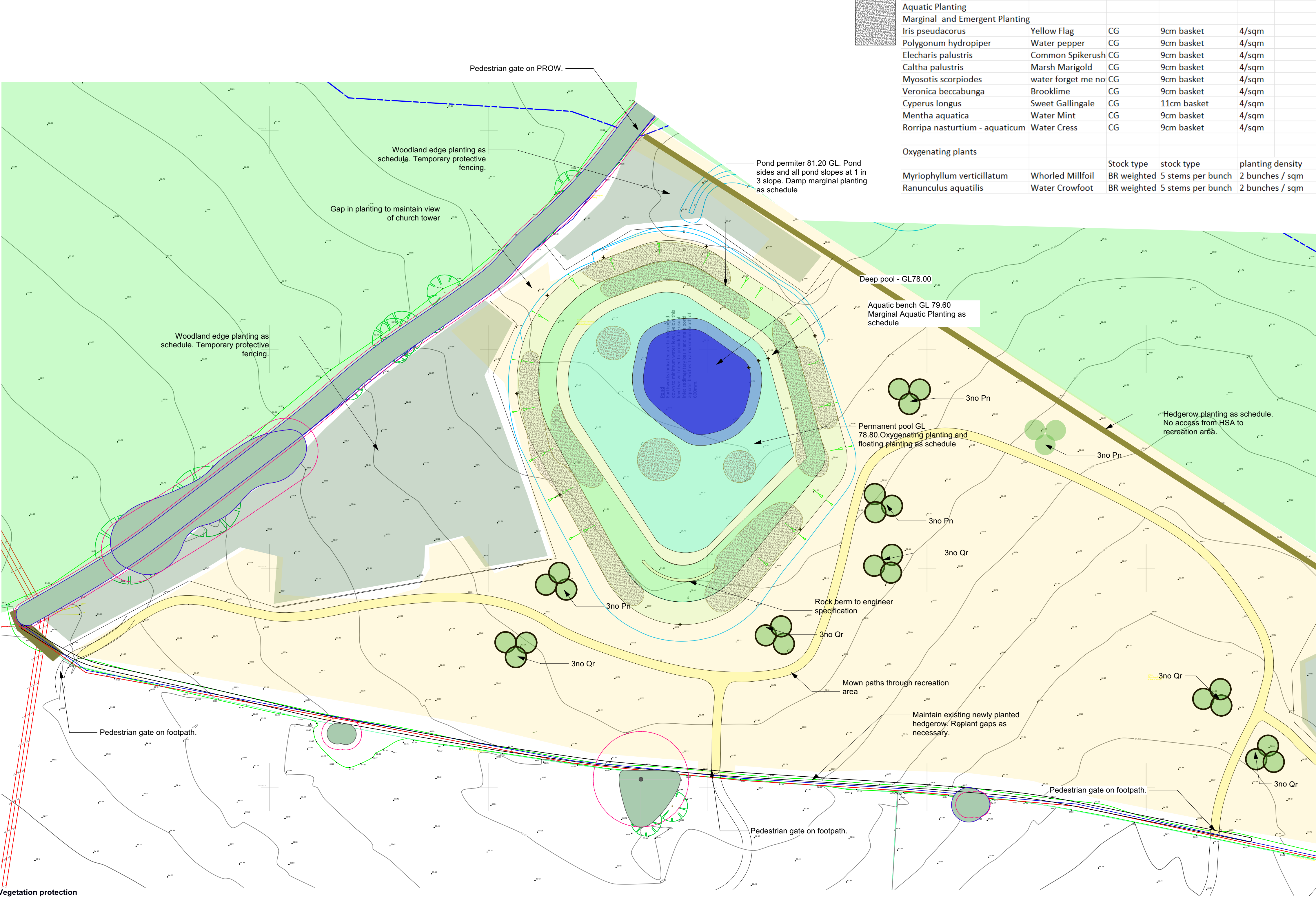
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PROJECT
Stones Farm Cricklade

TITLE
HSA Landscape - Key Plan

PURPOSE OF ISSUE		DRAWN BY	CHECKED BY
Planning		PL	XX
PROJECT No 2917	STATUS	REVISION S1	SCALE @ A1 1:1000
DRAWING NUMBER 2917-RDJWL-ZZ-00-DR-A-0001			



Vegetation protection
All existing vegetation to be retained is to be protected in line with the recommendations of Arboricultural Report. Protection shall remain in place until site works are complete.

Tree and Shrub Planting

Site Preparation for tree and shrub planting
Existing vegetation to be removed by hand.
Soil - Existing soil to be used on site where possible.
The existing soils (subsoil and topsoil) are expected to be adequate for planting and should be to the following minimum depths:
Shrubs 600mm (450mm topsoil)
Low growing perennials - 300mm (150mm topsoil)
Should depths of soils not fall within these minimum standards then depths are to be increased using imported soil to BS3882 or existing soil from elsewhere on site.
Soil to be rotavated to a minimum depth of 450mm, raked and graded prior to planting.

Planting Generally:
Planting shall be carried out in accordance with BS4428:1989 General Landscape Operations.
Plant material shall be provided in accordance with BS3936 Part 1:1992 Nursery Stock Specification For Trees and Shrubs. Deciduous stock to be planted from 31st November to 31st March. Allow for earth to new banks to settle before planting. Do not plant if ground is water logged or frozen.
Clear all weeds and treat with suitable herbicide prior to planting. Care to be taken with clearance and any herbicide use to area adjacent to existing hedges/trees or water bodies.
Prevent roots from drying out prior to planting. Avoid planting in very dry, windy conditions to avoid root dessication.

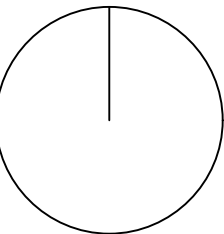
Woodland Edge Mix:
Plant woodland mix in groups of 3, 5 and 7 no. plants of same species 3 plants per sq metre.
Water in new transplants immediately after planting and continue to water as necessary through the first two growing seasons, during dry spells, to ensure good establishment.
Plant protection: spiral guard and cane, min. 600mm high, where necessary. Hedgerow to be protected by timber post and rail fencing to one side.
Protection: - Avoid damage by rabbits/rodents with plastic tube tree guard and stake, min. 0.6m high, where necessary.
Hedgerow Mix:
Plant hedgerow mix in groups of 3, 5 and 7 no. plants of same species, in double staggered row, 5 plants per linear metre.
Water in new transplants immediately after planting and continue to water as necessary through the first two growing seasons, during dry spells, to ensure good establishment.
Plant protection: spiral guard and cane, min. 600mm high, where necessary. Hedgerow to be protected by timber post and rail fencing to one side.
Protection: - Avoid damage by rabbits/rodents with plastic tube tree guard and stake, min. 0.6m high, where necessary.

Standard Tree Planting
Plant in pit twice the width of root spread and 1.5 times depth of root system. Short double stake and tie. Plant protection : 75mm bark mulch and biodegradable non plastic tree guard and stake.
Avoid damage by rabbits/rodents with plastic tube tree guard and stake, min. 0.6m high, where necessary.
Please note: mesh guard to be used as alternative to spiral/tube shelters for evergreen species.

Maintenance for Tree, hedge and woodland edge planting
Weed Control shall be carried out in accordance with BS4428:1989 General Landscape Operations as follows:
Bark mulch to be maintained to a minimum depth of 50mm , in strict accordance with manufacturer's instructions. Keep minimum 1m square area around plants clear of weeds/grass.
Biodegradable matting to be used on planted banks with a slope steeper than 1:3.
Water in new plants immediately after planting and continue to water as necessary through the first two growing seasons, especially during dry spells, to ensure good establishment.
Regularly inspect newly planted areas and remove weeds until new plants are well established (2-3 growing seasons). Following planting establishment checks will be undertaken annually during August/September for a period of 5 years. Any plants found to be dead, dying or diseased shall be removed and replaced as per the above specification during the following planting season.

SUDS Pond
Pond to be excavated and created in dry conditions.
Ponds to be lined with 100mm depth subsoil from excavation, clear of debris and stones. No on site topsoil to be used in ponds.
Pond Planting
Marginal Planting - Pond perimeter up to 30cm water depth
Top subsoil with gravel to keep the soil in place. Create local bog bed to allow water to soak in and plant directly into the ground. For plants provided in basket, place the basket on the shelf, ensuring that the leaves are above water.
Emergent planting up to 60cm water depth
Plants supplied in basket lined with hessian, containing aquatic compost and gravel. Basket to be lowered onto ledge.
Floating and Oxygenating plants
Remove damaged leaves from plant and place directly onto the surface of the pond.
Oxygenating and Floating Planting
Keep stems wet until planted. Drop stems into pond at 45cm depth and deeper. Thin out old stems once 30% of pond is filled.

Aquatic Planting				
Marginal and Emergent Planting				
Iris pseudacorus	Yellow Flag	CG	9cm basket	4/sqm
Polygonum hydropiper	Water pepper	CG	9cm basket	4/sqm
Elecharis palustris	Common Spikerush	CG	9cm basket	4/sqm
Caltha palustris	Marsh Marigold	CG	9cm basket	4/sqm
Myosotis scorpiodes	water forget me not	CG	9cm basket	4/sqm
Veronica beccabunga	Brooklime	CG	9cm basket	4/sqm
Cyperus longus	Sweet Galingale	CG	11cm basket	4/sqm
Mentha aquatica	Water Mint	CG	9cm basket	4/sqm
Rorripa nasturtium - aquaticum	Water Cress	CG	9cm basket	4/sqm
Oxygenating plants				
Myriophyllum verticillatum	Whorled Millfoil	BR weighted	5 stems per bunch	2 bunches / sqm
Ranunculus aquatilis	Water Crowfoot	BR weighted	5 stems per bunch	2 bunches / sqm



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Woodland Edge planted at 3 plants per sq.m in groups of 3, 5 or 7 of one species.					
		%	type	stock	height
Alnus glutinosa	Alder	20%	BR	1+1	60-80cm
Crataegus monogyna	Hawthorn	25%	BR	1+1	40-60cm
Salix caprea	Goat willow	15%	BR	1+1	60-80cm
Salix viminalis	Osier	15%	BR	1+1	60-80cm
Salix cinerea	Grey Willow	15%	BR	1+1	60-80cm
Malus sylvestris	Crab Apple	10%	BR	1+1	40-60cm

Standard tree planting. single straight main trunk cleared of lower branches for the first 1.8m Trees staked and tied. Grazing protection to trees.					
		Stock type	Stock type	Girth	Height
Qr	Quercus robur	Oak	rootballed	Heavy Std	12-14cm 3.0m - 4.0m
Pn	Populus nigra betulifolia	Black Poplar	rootballed	Heavy Std	12-14cm 3.0m - 4.0m

Hedgerow planted in double staggered row at 5 plants per lin.m.

		%	type	stock	height
Prunus spinosa	Blackthorn	25%	BR	1+1	40-60cm
Crataegus monogyn.	Hawthorn	50%	BR	1+1	40-60cm
Salix caprea	Goat willow	10%	BR	1+1	40-60cm
Quercus petraea	Oak	5%	BR	1+1	40-60cm
Viburnum opulus	Guelder Ros	10%	BR	1+1	40-60cm

Hedgerow planting as schedule. No access from HSA to recreation area.

Woodland edge planting as schedule. Temporary protective fencing.

Pedestrian gate on footpath.

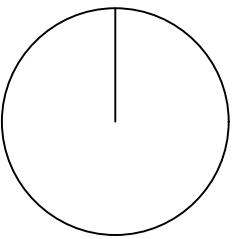
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PROJECT
Stones Farm Cricklade

TITLE
HSA Landscape - Detail Area 1 - Recreation Area

PURPOSE OF ISSUE	DRAWN BY	CHECKED BY
Planning	PL	XX
PROJECT No	REVISION	SCALE @ A1
2917	S1	1:500

DRAWING NUMBER
2917-RD/JWL-ZZ-00-DR-A-0002



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Habitat Support Area: Cricklade Meadow.
Vegetation protection
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HSA Preparation
Livestock will be used to reduce the grassland sward within the field and to create approximately 50% bare ground by extensively grazing in the autumn and spring preceding site works or at a higher density for a shorter period of time. The aim of the pre-works grazing is to reduce the height of the vegetation and to create bare areas of ground. Avoid poaching, with livestock removed in wet conditions. Additional bare ground to be created on instruction of appointed ecologist through scarification with a disc/chain harrow to reduce the thatch and provide additional bare ground.

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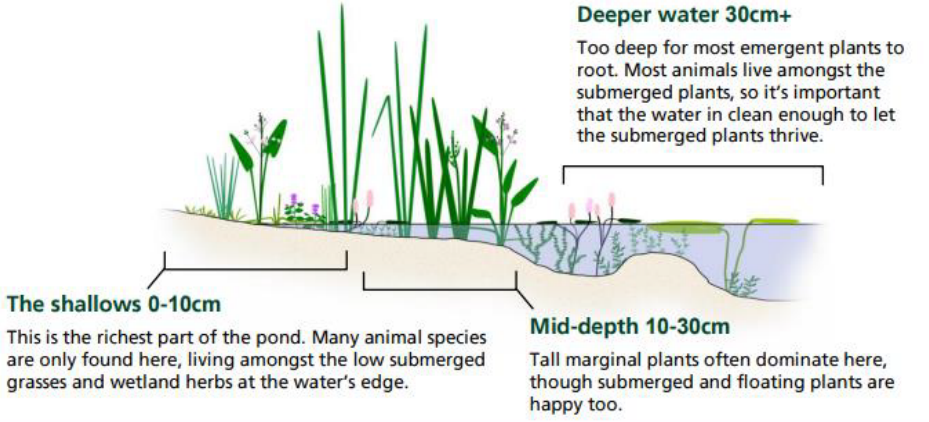
Aftercare
Establishment and grassland management to be carried out by grazing, subject to detail grazing plan as Ethos management plan document

Ponds and river edge area
A series of ponds will be located to the south of the Upper Thames these ponds will be of varying design to provide a complex of habitats and pond types. These will include ponds which will include seasonal ponds as well as ponds which will hold water throughout the year;
The banks and ponds will be shallow with slopes less than 1:5 and preferably less than 1:2;
Ponds will not exceed a depth of 1.5m and will contain varying depth levels;
Broad undulating wetland areas will be created adjacent to the ponds;
Underwater bars and benches will be created to provide suitable areas for aquatic plants.

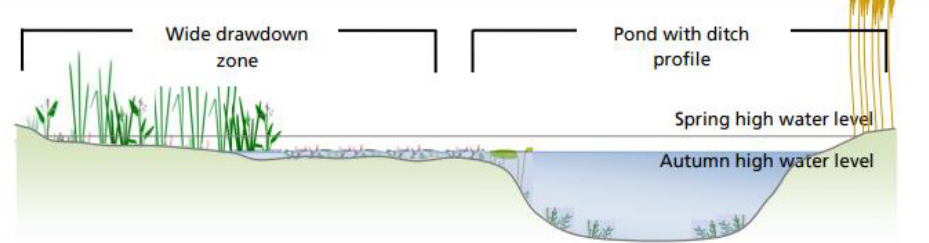
Water Source - It is expected that the ponds will fill naturally from ground water which will provide an ongoing good quality water source.
Several of the ponds will be connected to the brook, as directed by appointed ecologist to provide an infill source into the ponds.

Pond Creation
Ponds to be created in dry conditions; Existing riparian features such as inundations, ditches, and ponds will be avoided and protected;
The exact location of the ponds to be marked out under supervision of the appointed ecologist to avoid any impacts on water vole burrows;
Ponds to be lined with 100mm depth subsoil from excavation, clear of debris and stones. No on site topsoil to be used in ponds. The topsoil from the pond creation to be used within wider landscaping. Excess to be removed from the HSA site.
No planting to take place in ponds. Aquatic vegetation cover to be by natural colonisation.

8a. Pond margins should be shallow and undulating to maximise the habitat for freshwater plants and invertebrates.



8b. Design and create broad undulating drawdown zones – these will be poached by grazing livestock and provide one of the most important areas of the pond for wildlife. Even ponds with a ditch profile can include an area with an undulating micro-topography of small temporary pools.



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DATE: 10/10/2017

PROJECT
Stones Farm Cricklade

TITLE
HSA Landscape - Detail Area 2 -
HSA Area, ponds

PURPOSE OF ISSUE		DRAWN BY	CHECKED BY
Planning		PL	XX
PROJECT No 2917	STATUS	REVISION S1	SCALE @ A1 1:500

DRAWING NUMBER
2917-RDJWL-ZZ-00-DR-A-0003