

A47 Wansford to Sutton Dualling

Scheme Number: TR010039

Volume 6 6.8 Environmental Masterplan

APFP Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

April 2022 Deadline 5



Infrastructure Planning

Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

A47 Wansford to Sutton Development Consent Order 202[x]

6.8 ENVIRONMENTAL MASTERPLAN

| Regulation Number: | Regulation 5(2)(a) |
|--------------------------------|---|
| Planning Inspectorate Scheme | TR010039 |
| Reference | |
| Application Document Reference | TR010039/APP/6.8 |
| Author: | A47 Wansford to Sutton Project Team, National Highways |

| Version | Date | Status of Version |
|---------|-------------|-------------------------------|
| Rev 0 | July 2021 | Application Issue |
| Rev 1 | August 2021 | Updated following PINS Advice |
| Rev 2 | April 2022 | Deadline 5 |



SCHEDULE OF PLANS INCLUDED IN THIS APPLICATION DOCUMENT

| Drawing Title | Drawing number |
|--|----------------------------------|
| Environmental Masterplan (DCO) – Key Plan | HE551494-GTY-ELS-000-DR-LE-33008 |
| Environmental Masterplan (DCO) – Plant Schedule | HE551494-GTY-ELS-000-DR-LE-32009 |
| Environmental Masterplan (DCO) – Sheet 1 | HE551494-GTY-ELS-000-DR-LE-33001 |
| Environmental Masterplan (DCO) – Sheet 2 | HE551494-GTY-ELS-000-DR-LE-33002 |
| Environmental Masterplan (DCO) – Sheet 3 | HE551494-GTY-ELS-000-DR-LE-33003 |
| Environmental Masterplan (DCO) – Sheet 4 | HE551494-GTY-ELS-000-DR-LE-33004 |
| Environmental Masterplan (DCO) – Sheet 5 | HE551494-GTY-ELS-000-DR-LE-33005 |
| Environmental Masterplan (DCO) – Sheet 6 | HE551494-GTY-ELS-000-DR-LE-33006 |
| Environmental Masterplan (DCO) – Sheet 7 | HE551494-GTY-ELS-000-DR-LE-33007 |



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NOTES Purpose of use FOR DCO SUBMISSION Development Consent Order Number / Document TR010039/APP/2.4 1. THESE PLANS SHOULD BE READ IN CONJUNCTION WITH OTHER PLANS AND DOCUMENTS IN THE DEVELOPMENT CONSENT ORDER. 2. ALL DIMENSIONS ARE IN METRES UNLESS STATED OTHERWISE. KEY TO SYMBOLS ORDER LIMITS LS PBla BJon P01 ORG CHK'D APP'D REV DATE REVISION NOTE DESIGNER sweco 🕇 CONTRACTOR GallifordTry highways england A47 WANSFORD TO SUTTON DUALLING PROJECT STAGE PCF STAGE 3 DRAWING TITLE ENVIRONMENTAL MASTERPLAN **KEY PLAN** SUITABLE FOR STAGE APPROVAL P01 N/A S4 HE551494-GTY-ELS-000-DR-LE-33008

| LE 1.3 Species Rich Gras Germinal WFG4 Neutral so | | |
|--|----------------------------|----------|
| Sowing rate: | | |
| 5g/m2 | | |
| Species | | 0/ - 5!- |
| Latin Name | Common Name | % of mix |
| Achillea millefolium | Yarrow | 1 |
| Centaurea nigra | Common knapweed | 1 |
| Cynosurus cristatus | Crested dogstail | 20 |
| Festuca arundinacea | Tall fescue | 10 |
| Festuca rubra litoralis | Sleder creeping red fescue | 25 |
| Festuca rubra rubra | Strong creeping red fescue | 20 |
| Galium verum | Lady's bedstraw | 1.2 |
| Geranium molle | Doves foot cranesbill | 0.3 |
| Leucanthemum vulgare | oxeye daisy | 1.5 |
| Linum usitatissimum | Flax | 1.4 |
| Lotus corniculatus | Leo birdsfotts trefoil | 0.5 |
| Lychnis flos cuculi | Ragged robin | 0.1 |
| Medicago lupulina | Black medick | 1 |
| Onobrychis vicifolia | Sainfoin | 5 |
| Phleum bertolonii | Teno | 5 |
| Plantago lanceolata | Ribwort plantain | 2.4 |
| Prunella vulgaris | Self heal | 1 |
| | | |

Yellow rattle

Salad burnet

Small scabious

White campion

Common vetch

Areas to comprise of LE1.3 species rich grassland Supply size 75% 1+1 450-600mm high transplants Plant Spacing

Transplants at 2m centres Plant Grouping

Rhinanthus minor

Silene latifolia

Vicia sativa

Sanguisorba minor

Scabiosa columbaria

Transplants in single species groups of 5-7

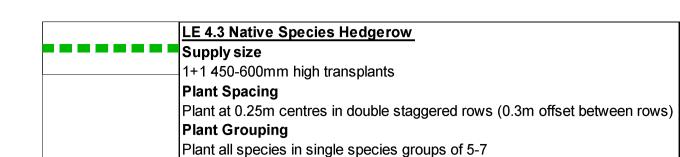
| Species | | % of mix |
|--------------------|-----------------|------------|
| Latin Name | Common Name | % OI IIIIX |
| Acer campestre | Field maple | 5 |
| Betula pendula | Silver birch | 10 |
| Cornus sanguinea | Dogwood | 5 |
| Corylus avellana | Hazel | 20 |
| Crataegus monogyna | Hawthorn | 5 |
| Hedera helix | lvy | 2.5 |
| llex aquifolium | Holly | 5 |
| Ligustrum vulgare | Wild privet | 5 |
| Pinus sylvestris | Scots pine | 7.5 |
| Prunus avium | Wild Cherry | 2.5 |
| Prunus spinosa | Blackthorn | 10 |
| Quercus robur | Penduculate oak | 20 |
| Rubus fruticosus | Blackberry | 2.5 |

LE 2.5 Shrubs with Intermittent Trees Shrubs with LE5.1.1 individual trees; to be planted in naturalistic groups Supply size Shrubs: 1+1 450-600mm high transplants Trees: 8-10cm girth standards and 12-14cm girth heavy standard trees Plant spacing

Plant in groups at 1.5m centres Plant grouping

Plant all species in single species of 3-5

| I lank an species in single species of 5-5 | | |
|--|-------------|----------|
| Species Latin Name | Common Name | % of mix |
| Crataegus monogyna | Hawthorn | 30 |
| Prunus spinosa | Blackthorn | 7.5 |
| Sambucus nigra | Elder | 7.5 |
| Rosa canina | Dog rose | 15 |
| Rubus fruticosus | Bramble | 5 |
| Cornus sanguinea | Dogwood | 15 |
| Corylus avellana | Hazel | 20 |



| Species | | % of mix |
|--------------------|-------------|-----------|
| Latin Name | Common Name | % OF ITHE |
| Acer campestre | Field maple | 10 |
| Cornus sanguinea | Dogwood | 5 |
| Corylus avellana | Hazel | 25 |
| Crataegus monogyna | Hawthorn | 30 |
| Hedera helix | lvy | 2 |
| llex aquifolium | Holly | 10 |
| Prunus Spinosa | Blackthorn | 5 |
| Rosa avensis | Field rose | 5 |
| Rosa canina | Dog rose | 5 |
| Sambucus nigra | Elder | 3 |

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0.3

0.5

0.2

LE 4.4 Native Species Hedgerow with Trees

Planted with LE5.1 individual trees; to be planted as mix of 6-8cm girth light standards in naturalistic groups as per drawing, spacing no less then 5m. Supply size

> 1+1 450-600mm high transplants (Acer campestre, Cornus sanguinea, Corylus avellana, Crataegus monogyna, Prunus spinosa, Rosa avensis, Rosa canina, Sambucus nigra)

2L pots (Hedera helix, Ilex aquifolium)

Plant Spacing

Pinus sylvestris

Prunus avium

Quercus robur

Salix alba

Plant at 0.25m centres in double staggered rows (0.3m offset between rows)

Plant all species in single species groups of 5-7

| Species | | 0/ of mix |
|--------------------|-------------|-----------|
| Latin Name | Common Name | % of mix |
| Acer campestre | Field maple | 10 |
| Cornus sanguinea | Dogwood | 5 |
| Corylus avellana | Hazel | 30 |
| Crataegus monogyna | Hawthorn | 25 |
| Hedera helix | lvy | 2 |
| llex aquifolium | Holly | 10 |
| Prunus spinosa | Blackthorn | 5 |
| Rosa avensis | Field rose | 5 |
| Rosa canina | Dog rose | 5 |
| Sambucus nigra | Elder | 3 |



LE 5.1 Individual Trees Supply size Mix of 6-8cm girth light standard trees Common Name Latin Name Field maple Acer campestre Acer pseudoplatanus Sycamore Malus sylvestris Common crab apple

Scots pine

Wild cherry

White willow

Pedunculate oak

| LE 6.2 Banks and Ditches (Riparian Seed Mix |
|--|
| Emorsgate EP1 Pond Edge mixture |
| (2.5m wide drainage ditch and attenuation basin) |
| Sowing rate: |
| 4g/m2 |
| 1 - |

LE 6.4 Marsh and Wet Grassland

| Species | | % of mix |
|-------------------------|-------------------------------|------------|
| Latin Name | Common Name | % OF ITHIX |
| Wildflowers (20%) | · | |
| Achillea ptarmica | Sneezewort | 1 |
| Angelica sylvestris | Wild angelica | 2.3 |
| Caltha palustris | Marsh marigold | 0.1 |
| Eupatorium cannabinum | Hemp agrimony | 0.6 |
| Filipendula ulmaria | Meadowsweet | 3 |
| Geum rivale | Water avens | 1 |
| Hypericum tetrapterum | Square-stalked st john's wort | 0.4 |
| Iris pseudacorus | Yellow Iris | 4 |
| Lotus pedunculatus | Greater birdsfoot trefoil | 1 |
| Lycopus europaeus | Gypsywort | 0.8 |
| Lythrum salicaria | Purple loosestrife | 0.6 |
| Mentha aquatica | Water mint | 0.1 |
| Pulicaria dysenterica | Common fleabane | 0.1 |
| Ranunculus acris | Meadow buttercup | 2.5 |
| Scrophularia auriculata | Water figwort | 0.1 |
| Silene flos-cuculi | Ragged robin | 1 |
| Succisa pratensis | Devil's-bit scabious | 1 |
| Vicia cracca | Tufted vetch | 0.4 |
| Grasses (80%) | | |
| Agrostis capillaris | Common bent | 10 |
| Alopecurus pratensis | Meadow foxtail | 3 |
| Anthoxanthum odoratum | Sweet vernal-grass | 3 |
| Cynosurus cristatus | Crested dogstail | 32 |
| Dechampsia cespitosa | Tufted hair-grass | 1 |
| Festuca rubra | slender-creeping red-fescue | 24 |
| Hordeum secalinum | Meadow barley | 1 |
| Schedonorus pratensis | Meadow fescue | 6 |

| Riparian seed mix and plug p | lants | |
|--|---|---|
| Riparian Seed Mix | | |
| Emorsgate EP1 Pond Edge r | nixture | |
| Sowing rate: | | |
| 4g/m2 | | |
| Species | | 0, . |
| Latin Name | Common Name | % of mix |
| Wildflowers (20%) | - | |
| Achillea ptarmica | Sneezewort | 1 |
| Angelica sylvestris | Wild angelica | 2.3 |
| Caltha palustris | Marsh marigold | 0.1 |
| Eupatorium cannabinum | Hemp agrimony | 0.6 |
| Filipendula ulmaria | Meadowsweet | 3 |
| Geum rivale | Water avens | 1 |
| Hypericum tetrapterum | Square-stalked st john's wort | 0.4 |
| Iris pseudacorus | Yellow Iris | 4 |
| Lotus pedunculatus | Greater birdsfoot trefoil | 1 |
| Lycopus europaeus | Gypsywort | 0.8 |
| Lythrum salicaria | Purple loosestrife | 0.6 |
| Mentha aquatica | Water mint | 0.1 |
| Pulicaria dysenterica | Common fleabane | 0.1 |
| Ranunculus acris | Meadow buttercup | 2.5 |
| Scrophularia auriculata | Water figwort | 0.1 |
| Silene flos-cuculi | Ragged robin | 1 |
| Succisa pratensis | Devil's-bit scabious | 1 |
| Vicia cracca | Tufted vetch | 0.4 |
| Grasses (80%) | Taited voteri | 0.1 |
| Agrostis capillaris | Common bent | 10 |
| Alopecurus pratensis | Meadow foxtail | 3 |
| Anthoxanthum odoratum | Sweet vernal-grass | 3 |
| Cynosurus cristatus | Crested dogstail | 32 |
| Dechampsia cespitosa | Tufted hair-grass | 1 |
| Festuca rubra | slender-creeping red-fescue | 24 |
| Hordeum secalinum | Meadow barley | |
| | IVICAGOV Daricy | 1 1 |
| Schedonorus pratensis | Meadow fescue | 6 |
| Riparian Plug Plants Plants to be notch planted in a 7cm pot | Meadow fescue single species swaths at 0.5m cent | 6 res |
| Riparian Plug Plants Plants to be notch planted in | | 6 res |
| Riparian Plug Plants Plants to be notch planted in a 7cm pot Species | single species swaths at 0.5m cent | 6 res |
| Riparian Plug Plants Plants to be notch planted in s 7cm pot Species Latin Name | single species swaths at 0.5m cent | 6 es % of mix |
| Riparian Plug Plants Plants to be notch planted in s 7cm pot Species Latin Name Alisma plantago-aquatica | single species swaths at 0.5m centres of the common Name Water plantain | 6 es % of mix |
| Riparian Plug Plants Plants to be notch planted in a 7cm pot Species Latin Name Alisma plantago-aquatica Butomus umbellatus | common Name Water plantain Flowering rush | 6 % of mix 6.25 6.25 |
| Riparian Plug Plants Plants to be notch planted in a 7cm pot Species Latin Name Alisma plantago-aquatica Butomus umbellatus Carex elata Glyceria maxima | Common Name Water plantain Flowering rush Tufted sedge | % of mix 6.25 6.25 6.25 |
| Riparian Plug Plants Plants to be notch planted in a 7cm pot Species Latin Name Alisma plantago-aquatica Butomus umbellatus Carex elata Glyceria maxima Iris pseudacorus | Common Name Water plantain Flowering rush Tufted sedge Reed sweet-grass Yellow flag iris | % of mix 6.25 6.25 6.25 6.25 |
| Riparian Plug Plants Plants to be notch planted in a 7cm pot Species Latin Name Alisma plantago-aquatica Butomus umbellatus Carex elata Glyceria maxima Iris pseudacorus Myosotis scorpioides | Common Name Water plantain Flowering rush Tufted sedge Reed sweet-grass | 6.25 6.25 6.25 6.25 6.25 6.25 |
| Riparian Plug Plants Plants to be notch planted in a 7cm pot Species Latin Name Alisma plantago-aquatica Butomus umbellatus Carex elata Glyceria maxima Iris pseudacorus Myosotis scorpioides Veronica beccabunga | Common Name Water plantain Flowering rush Tufted sedge Reed sweet-grass Yellow flag iris Water forget-me-not | % of mix 6.25 6.25 6.25 6.25 6.25 6.25 |
| Riparian Plug Plants Plants to be notch planted in a 7cm pot Species Latin Name Alisma plantago-aquatica Butomus umbellatus Carex elata Glyceria maxima Iris pseudacorus Myosotis scorpioides Veronica beccabunga Stachys palustris | Common Name Water plantain Flowering rush Tufted sedge Reed sweet-grass Yellow flag iris Water forget-me-not Brooklime Marsh woundwort | 6 % of mix 6.25 6.25 6.25 6.25 6.25 6.25 6.25 6.25 |
| Riparian Plug Plants Plants to be notch planted in a 7cm pot Species Latin Name Alisma plantago-aquatica Butomus umbellatus Carex elata Glyceria maxima Iris pseudacorus Myosotis scorpioides Veronica beccabunga Stachys palustris Caltha palustris | Common Name Water plantain Flowering rush Tufted sedge Reed sweet-grass Yellow flag iris Water forget-me-not Brooklime Marsh woundwort Marsh-marigold | 6 % of mix 6.25 6.25 6.25 6.25 6.25 6.25 6.25 6.25 |
| Riparian Plug Plants Plants to be notch planted in a 7cm pot Species Latin Name Alisma plantago-aquatica Butomus umbellatus Carex elata Glyceria maxima Iris pseudacorus Myosotis scorpioides Veronica beccabunga Stachys palustris Caltha palustris Eupatorium cannabinum | Common Name Water plantain Flowering rush Tufted sedge Reed sweet-grass Yellow flag iris Water forget-me-not Brooklime Marsh woundwort Marsh-marigold Hemp agrimony | 6.25 6.25 6.25 6.25 6.25 6.25 6.25 6.25 |
| Riparian Plug Plants Plants to be notch planted in a 7cm pot Species Latin Name Alisma plantago-aquatica Butomus umbellatus Carex elata Glyceria maxima Iris pseudacorus Myosotis scorpioides Veronica beccabunga Stachys palustris Caltha palustris Eupatorium cannabinum Allium ursinum | Common Name Water plantain Flowering rush Tufted sedge Reed sweet-grass Yellow flag iris Water forget-me-not Brooklime Marsh woundwort Marsh-marigold Hemp agrimony Wild garlic | 6 % of mix 6.25 6.25 6.25 6.25 6.25 6.25 6.25 6.25 |
| Riparian Plug Plants Plants to be notch planted in a 7cm pot Species Latin Name Alisma plantago-aquatica Butomus umbellatus Carex elata Glyceria maxima Iris pseudacorus Myosotis scorpioides Veronica beccabunga Stachys palustris Caltha palustris Eupatorium cannabinum Allium ursinum Persicaria bistorta | Common Name Water plantain Flowering rush Tufted sedge Reed sweet-grass Yellow flag iris Water forget-me-not Brooklime Marsh woundwort Marsh-marigold Hemp agrimony Wild garlic Common bistort | 6 % of mix 6.25 6.25 6.25 6.25 6.25 6.25 6.25 6.25 |
| Riparian Plug Plants Plants to be notch planted in a 7cm pot Species Latin Name Alisma plantago-aquatica Butomus umbellatus Carex elata Glyceria maxima Iris pseudacorus Myosotis scorpioides Veronica beccabunga Stachys palustris Caltha palustris Eupatorium cannabinum Allium ursinum Persicaria bistorta Mentha aquatica | Common Name Water plantain Flowering rush Tufted sedge Reed sweet-grass Yellow flag iris Water forget-me-not Brooklime Marsh woundwort Marsh-marigold Hemp agrimony Wild garlic Common bistort Water mint | 6 **Ges** ** of mix** 6.25 6.25 6.25 6.25 6.25 6.25 6.25 6.25 6.25 6.25 6.25 6.25 6.25 6.25 6.25 6.25 6.25 6.25 6.25 |
| Riparian Plug Plants Plants to be notch planted in a 7cm pot Species Latin Name Alisma plantago-aquatica Butomus umbellatus Carex elata Glyceria maxima Iris pseudacorus Myosotis scorpioides Veronica beccabunga Stachys palustris Caltha palustris Eupatorium cannabinum Allium ursinum Persicaria bistorta | Common Name Water plantain Flowering rush Tufted sedge Reed sweet-grass Yellow flag iris Water forget-me-not Brooklime Marsh woundwort Marsh-marigold Hemp agrimony Wild garlic Common bistort | 6 % of mix 6.25 6.25 6.25 6.25 6.25 6.25 6.25 6.25 |

NOTES Purpose of use

FOR DCO SUBMISSION

Development Consent Order Number / Document

TR010039/APP/2.4

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KEY TO SYMBOLS

LS JMee BJon P01 09/06/21 For review & comment ORG CHK'D APP'D REV DATE **REVISION NOTE**

DESIGNER



CONTRACTOR





A47 WANSFORD TO SUTTON DUALLING

PROJECT STAGE PCF STAGE 3

DRAWING TITLE

ENVIRONMENTAL MASTERPLAN INDICATIVE PLANT SCHEDULE

SUITABLE FOR REVIEW & COMMENT

N/A S3 P01 **A**1

HE551494-GTY-ELS-000-DR-LE-32009

