Pond Edge Seed Mix Margins

"Pre Floral 2 Water Verge & pond edges" Meadetime, or similar approved, to BS 3969:1998. Recommendations for turf for general purposes.

NAME	SPECIES	% OF MIX
Wild Flowers:1 Part 38%		
Common Bistort	Polygonum bistorta	2
Gipsy Wort	Lycopus europaeus	4
Greater Birdsfoot Trefoil	Lotus uliginosus	6
Hemp Agrimony	Eupatorium cannabinum	4
Marsh Marigold	Caltha palustris	3
Marsh Woundwort	Stachys palustris	9
Meadow Rue	Thalictrum flavum	8
Meadowsweet	Filipendula ulmaria	15
Purple Loosestrife	Lythrum salicaria	5
Ragged Robin	Lychnis flos-cuculi	9
Snapdragon	Antirrhinum majus	7
Square Stemmed St. John's Wort	Hypericum tetrapterum	4
Water avens	Geum rivale	3
Yellow Flag Iris	Iris pseudacorus	10
Grasses: 59 Parts 59%		
Browntop Bentgrass	Agrostis castellana	5
Common Sedge	Carex nigra	45
Crested Dogstail	Cynosurus cristatus	20
Meadow Foxtail	Alopecurus pratensis	10
Pendulus Sedge	Carex pendula	45
Rough Meadow Grass	Poa trivialis	7
Sheeps Fescue	Festuca ovina	38
Sweet Vernal	Anthoxanthum odoratum	4
Tufted Hairgrass	Deschampsia caespitosa	15

Sowing at 3g per m²

Wet Area Wildflower Seed Mix

"Pre Rare 2" Wet Areas only

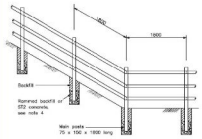
DLF Trifolium, or similar approved

NAME	GRASS TYPE	% OF MIX
Wild Flowers:1 Part 38%		
Betony	Stachys officinalis	8
Black Knapweed	Centaurea nigra	6
Devils-bit scabious	Succisa pratensis	4
Greater Birdsfoot trefoil	Lotus uliginosus	5
Cuckooflower	Cardamine pratensis	3
Hemp-agrimony	Eupatorium cannabinum	4
Marsh woundwort	Stachys palustris	5
Meadow buttercup	Ranunculus acris	12
Meadow rue	Thalictrum flavum	5
Meadowsweet	Filipendula ulmaria	6
Ox-eye daisy	Leucanthemum vulgare	7
Purple loosestrife	Lythrum salicaria	4
Ragged Robin	Lychnis flos-cuculi	5
Sneezewort	Achillea ptarmica	6
St. John St. John's wort	Hypericum tetrapterum	4
Yellow flag iris	Iris pseudacorus	5
Yellow rattle	Rhinanthus minor	15
Grasses: 4 Parts 38%		
Brownop Bentgrass	Agrostis castellana	6
Common Sedge	Carex nigra	12
Crested Dogstail	Cynosurus cristatus	3
Meadow Foxtail	Alopecurus pratensis	15
Pendulus Sedge	Carex pendula	5
Rough Meadow Grass	Poa trivialis	9
Sheeps Fescue	Festuca ovina	3
Sweet Vernal	Anthoxanthum odoratum	16
Tufted Hairgrass	Deschampsia caespitosa	20
Brownop Bentgrass	Agrostis castellana	11
Common Sedge	Carex nigra	5
Crested Dogstail	Cynosurus cristatus	5

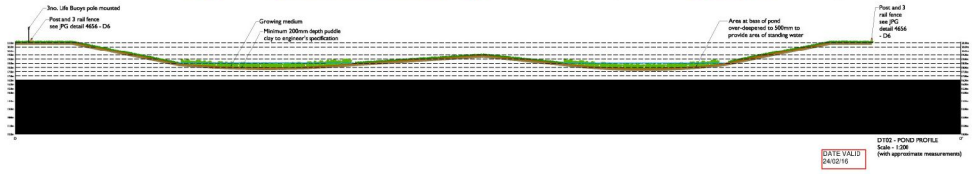
Sowing rate 3g per m2

BS3D Professional Shaded Amalthaderous Grass and Wildflower Mix (1352905AL) or equal and approved.
Supplier: John Chambers Wildflowers www.johnchamberswildflowers.co.uk/
Sowing rate: 3g per m²

Grasses	88%	Wildflowers	28%
Browntop Bent	5.00	Agrimony	0.28
Crested Dogstail	8.00	Angelica Wild	1.50
Tufted Hairgrass	.06	Arable Weed or Herb-Rubrous	0.60
Rough Stalked Meadowgrass	6.00	Bedstraw: Hedge	0.60
Smooth Stalked Meadowgrass	6.00	Bellflower: Nettle-leaved	0.28
Slender Creeping Red Fescue	24.00	Betony	0.98
Sweet Vernal Grass	2.00	Bladder or Wild Marjoram	0.28
Sheeps Fescue	20.00	Campion, Red	0.60
Wood Meadowgrass	8.00	Columbine	0.20
		Foxglove	0.28
		Hedgenettle, Marsh	1.00
		Hemp Nettle: Common	0.98
		Meadowsweet	0.92
		Mustard, Garlic or Jack-by-the-Hedge	1.28
		Pignut	0.20
		Primrose	0.28
		Ragged Robin	0.42
		Ransoms or Wood Garlic	1.40
		Sage, Wood	0.00
		Saltfoil	0.60
		St John's Wort, Perforate Or	0.18



DT01 - POST AND 3 RAIL FENCE
See JPG detail 4656-D5
Scale - 1:50 approx.
GENERAL ARRANGEMENT



DT02 - POND PROFILE
Scale - 1:200
(with approximate measurements)

DATE VALID 24/02/16

Key
SF Soft Landscaping

- Existing tree retained
- Existing tree removed
- Hedge
- Existing vegetation
- Wetland base of pond seed mix
- Pond edge seed mix
- Meadow seed mix
- Post and 3 rail fence See DT01/ JPG detail 4656 - D4
- Bottom of slope
- Reserved Matters Boundary
- Planning Boundary
- Proposed pond
- Area of pond to be deepened to 500mm
- Life Buoys
- Existing hedge to be retained where possible. Gaps and areas lost to construction to be planted at 5 plants per linear metre with species as listed in the schedules.

Note: Topsoil Depths
To be no less than 150mm in grassed/seed areas and 300mm in planted area.

Technical Note: Discharge of condition 5:

'full details of habitat creation and mitigation measures shall be submitted prior to the commencement of development on site. The measures shall draw on the suggestions contained in the Ecological Appraisal submitted by IPCR (hereinafter dated March 2014 and the approved measures shall be fully implemented on site in accordance with an agreed timescale'

The following elements have been incorporated into the design of the retention pond and wild flower meadow to enhance the biodiversity value of the site and contribute to local and national biodiversity objectives, in accordance with current planning policy and as recommended. Recommendations are also made in the ecological report to fulfil the planning condition:

1. The proposed retention pond has been designed with a naturalistic shape to provide habitat niches and adjacent to hedgerows to ensure associated and potentially connective areas of habitat.

2. Two over-deepened areas (approx. 450mm) to the base of the retention pond have been created to 'provide some standing water or permanently dampness' within the pond.

3. The base of the pond should be sown with a suitable damp tolerant/wet grassland mix and margins sown with herb-rich grassland. Beyond the pond a hay meadow and hedgerow mix is specified to provide a rich species diversity and re-create some of the natural habitat and enhance the biodiversity of the site to accord with the LBAP which includes neutral grassland meadows.

NORTH

SMEEDEN FOREMAN

Project	Halton FEZ
Title	Landscape Strategy Proposals
Scale	1:1000 @A1
Drawn by	LW
Date	Nov '15
Checked	MS
Project No.	SF 2459
Drawing No.	LL02
Rev	-

Landscape Architects - Urban Designers
Ecologists - Horticulturists

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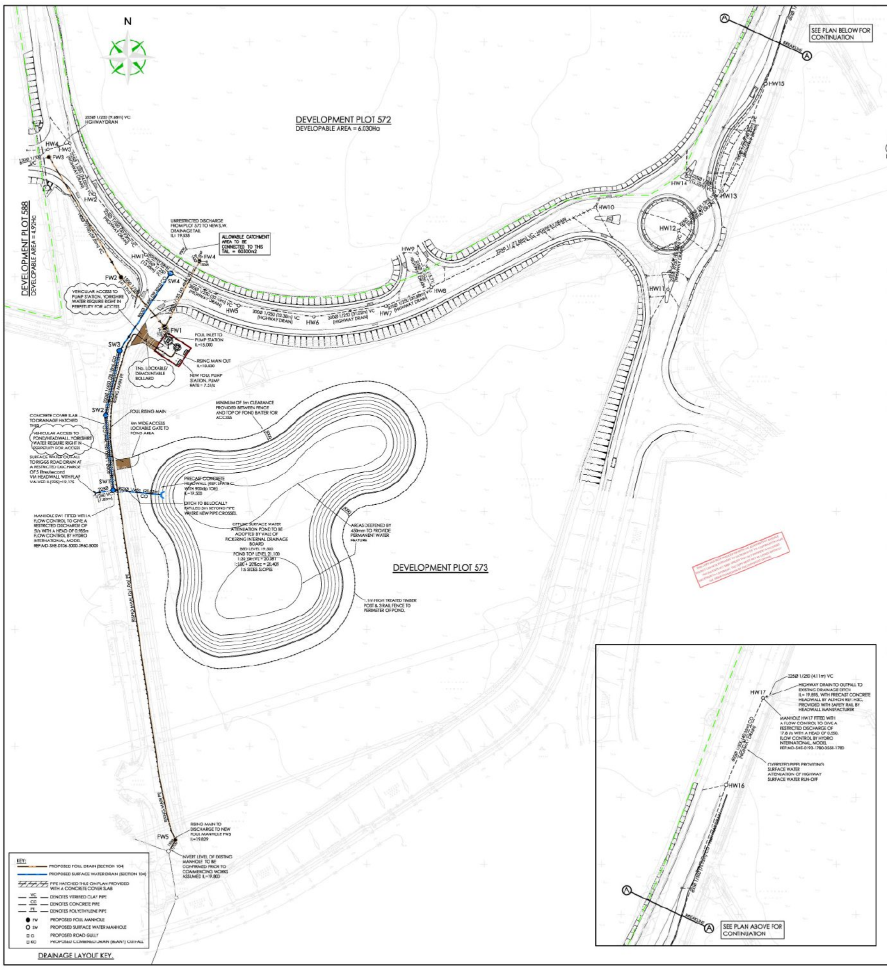

YW REF: H-3-263-387

MH REF.	INVERT LEVELS AT CENTRE OF MANHOLE	COVER LEVELS	DEPTH TO SOFFIT	TYPE	SIZE	COVER TYPE	NOTES
FW1	100Ø - 15.004	21.150	5.966	A	2100Ø CONC.	D400	
FW2	100Ø - 15.445	21.900	6.305	A	1800Ø CONC.	D400	CHAMBER PROVIDED WITH INTERMEDIATE LANDING AND LADDER SEE DRAWING 4656-CF
FW3	100Ø - 16.001	21.440	5.239	A	1200Ø CONC.	D400	
FW4	150Ø - 15.382	21.250	5.718	A	1200Ø CONC.	D400	
FW5	100Ø - 19.829 TBC RISING MAIN - 19.829 TBC	21.380	1.401	E	1200Ø CONC.	D400	
PUMP STATION	150Ø INLET - 15.000 RISING MAIN OUT - 18.830 CHAMBER BASE LVL - 14.000	21.000			3000Ø CONC.	FACTA B	
VALVE CHAMBER	RISING MAIN - 18.830 CHAMBER BASE LVL - 18.470	21.000			2400Ø CONC.	FACTA B	
THE POSITION OF THE INTERNAL FACE OF ANY DRAIN/SEWER OR RISING MAIN SHALL NOT DEVIATE FROM THE DESIGN LINE AND LEVEL BY MORE THAN +/- 20mm, PROVDED THAT NO DRAIN/SEWER SHALL HAVE A REVERSE GRADIENT.							

FOUL MANHOLE SCHEDULE.

MH REF.	INVERT LEVELS AT CENTRE OF MANHOLE	COVER LEVELS	DEPTH TO SOFFIT	TYPE	SIZE	COVER TYPE	NOTES
SW1	900Ø - 11.230 225Ø - 11.205 900Ø TO POND 19.415	21.150	1.020	SPECIAL SEE DRG 4656-DE	1800x1800 BRCK	D400	SECTION 104 MANHOLE FLOW CONTROL MH
SW2	900Ø - 11.310	21.290	1.080	E	1800Ø CONC.	D400	SECTION 104 MANHOLE
SW3	900Ø - 11.381	21.570	1.289	E	1800Ø CONC.	D400	SECTION 104 MANHOLE
SW4	900Ø - 11.479 300Ø - 11.695 225Ø - 11.695	21.750	1.371	E	2100Ø CONC.	D400	SECTION 104 MANHOLE
THE POSITION OF THE INTERNAL FACE OF ANY DRAIN/SEWER OR RISING MAIN SHALL NOT DEVIATE FROM THE DESIGN LINE AND LEVEL BY MORE THAN +/- 20mm, PROVDED THAT NO DRAIN/SEWER SHALL HAVE A REVERSE GRADIENT.							

SURFACE WATER MANHOLE SCHEDULE.

MH REF.	INVERT LEVELS AT CENTRE OF MANHOLE	COVER LEVELS	DEPTH TO SOFFIT	TYPE	SIZE	COVER TYPE	NOTES
HW1	225Ø - 19.747	21.674	1.702	B	1200Ø CONC.	D400	
HW2	225Ø - 19.883	21.520	1.412	E	1200Ø CONC.	D400	
HW3	225Ø - 19.979	21.446	1.242	E	1200Ø CONC.	D400	
HW4	225Ø - 20.018	21.443	1.200	E	1200Ø CONC.	D400	
HW5	225Ø - 19.823	21.834	1.786	B	1200Ø CONC.	D400	
HW6	225Ø - 19.952	21.919	1.742	B	1200Ø CONC.	D400	
HW7	225Ø - 20.076	21.997	1.696	B	1200Ø CONC.	D400	
HW8	225Ø - 20.159	21.974	1.590	B	1200Ø CONC.	D400	
HW9	225Ø - 20.221	21.497	1.051	E	1200Ø CONC.	D400	
HW10	225Ø - 20.470	21.622	0.927		900x675 BRCK	D400	
HW11	225Ø - 20.575	21.850	1.050	E	1200Ø CONC.	D400	
HW12	225Ø - 20.440	21.925	1.260	E	1200Ø CONC.	D400	
HW13	225Ø - 20.339 300Ø - 20.339 PIPES INVERTS LEVEL	21.800	1.161	E	1200Ø CONC.	D400	
HW14	225Ø - 20.405	21.850	1.220	E	1200Ø CONC.	D400	
HW15	300Ø - 20.143 600Ø - 20.143	21.800	1.057	E	1500Ø CONC.	D400	
HW16	600Ø - 19.990	21.650	1.060	E	1500Ø CONC.	D400	
HW17	225Ø - 19.910 600Ø - 19.910	21.550	1.040	E	1500Ø CONC.	D400	
THE POSITION OF THE INTERNAL FACE OF ANY DRAIN/SEWER OR RISING MAIN SHALL NOT DEVIATE FROM THE DESIGN LINE AND LEVEL BY MORE THAN +/- 20mm, PROVDED THAT NO DRAIN/SEWER SHALL HAVE A REVERSE GRADIENT.							

HIGHWAY DRAIN MANHOLE SCHEDULE.

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DO NOT SCALE

NOTES

YORKSHIRE WATER NOTES FOR ADOPTABLE DRAINAGE

A. ALL ADOPTABLE SEWER WORKS AND MATERIAL TO BE IN ACCORDANCE WITH "SEWERS FOR ADOPTION" 6TH EDITION, THE RELEVANT BRITISH/EUROPEAN AND YORKSHIRE WATER'S STANDARDS/REQUIREMENTS/ADDENDUM TO THE MECHANICAL AND ELECTRICAL SPECIFICATION AND KITEMARKED".

B. MANHOLE COVERS SHALL/MUST HAVE A CLEAR OPENING OF 600MM AND SHALL BE CLASS D400 TO BS EN 124 WITH 150mm DEEP FRAMES IN HIGHWAYS.

C. FILLED GROUND MUST BE FILLED AND CONSOLIDATED UNDER THE SUPERVISON AND TO THE SATISFACTION OF YORKSHIRE WATER BEFORE ANY SEWER WORKS ARE CARRIED OUT.

D. YORKSHIRE WATER IS NOT OBLIGED TO ACCEPT FILTER DRAIN/LAND DRAINAGE RUNOFF INTO THE PUBLIC SEWER NETWORK OR ADOPTABLE DRAINAGE SYSTEM (DIRECTLY OR IN-DIRECTLY). AN ALTERNATIVE METHOD OF DISPOSAL OF THE LAND DRAINAGE RUNOFF WILL THEREFORE BE REQUIRED AND YOU WILL HAVE TO LIAISE WITH THE LOCAL AUTHORITY, LAND DRAINAGE SECTION WITH REGARD TO THE DISPOSAL OF THE FILTER DRAIN/LAND DRAINAGE RUNOFF.

E. COVER SLABS MUST CARRY THE BSI KITEMARK OR WILL BE REJECTED BY YORKSHIRE WATER INSPECTOR. WHERE THE CLEAR OPENING OF THE KITEMARKED PRODUCT IS DIFFERENT TO THAT OF THE COVER AND FRAME, A LOADING BEARING SLAB SHOULD BE FITTED ABOVE THE COVER SLAB TO BRING THE SIZE DOWN TO 600mm X 600mm FOR THE YORKSHIRE WATER SPECIFIED COVER SIZE. PLEASE REFER TO CONCRETE PIPE SYSTEMS ASSOCIATION (CPSA), TECHNICAL BULLETIN ISSUED AUTUMN 2004 FOR KITEMARKED COVER SLAB OPENING SIZES.

F. SULPHATE RESISTANT CEMENT (C28/35 - DC4) AND PRECAST CONCRETE PRODUCTS MUST BE USED OR A LABORATORY REPORT PROVIDED PROVING THAT SUCH PRECAUTIONS ARE NOT NECESSARY.

G. THE ADOPTABLE SEWERS SHOULD BE A MINIMUM OF 1m AND MANHOLES 0.5m FROM KERB FACES AND SERVICE MARGINS.

H. BEDDING AND BACKFILL MATERIAL TO CONFORM TO THE REQUIREMENT OF WATER INDUSTRY SPECIFICATION 4-08-02 (TABLE A2).

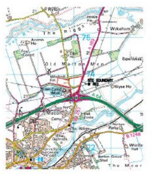
I. SEWERS TO BE LAID IN CLASS "S" BEDDING (150mm GRANULAR BED AND SURROUND), WHERE DEPTH OF COVER TO TOP OF THE SEWER IS LESS THAN 1.2m IN HIGHWAYS AND VERGES (OR LESS THAN 900mm IN NONE VEHICULAR ACCESS AREAS) THEN A CONCRETE SLAB SHOULD BE PROVIDED ABOVE GRANULAR BED AND SURROUND.

J. SEWERS MUST HAVE 5 METRES CLEARANCE FROM TREES AND HEDGES UNLESS AGREED OTHERWISE (PLEASE ALSO REFER TO FIGURE 23 ON PAGE 33 IN "SEWERS FOR ADOPTION" 6TH EDITION FOR RESTRICTIONS ON TREE PLANTING ADJACENT TO SEWERS.).

K. THE CHAMBER SIZE OF MANHOLES WITH MORE THAN ONE CONNECTION IN THEM MAY NEED TO BE INCREASED AN INCREMENT TO ACCOMMODATE THE CONNECTIONS AND BENDS.

L. ALL PLASTIC PIPES SHALL BE BSI KITEMARKED OR HAVE EQUIVALENT THIRD PARTY CERTIFICATION. PLASTIC PIPES UP TO 600mm DIAMETER SHALL CONFIRM TO WIS 4-35-01.

M. YORKSHIRE WATER POLICY IS NOT TO ACCEPT TYPE 'C' BRICK MANHOLES AND 1050mm DIA MANHOLE RINGS. IT IS INSTEAD PREFERRED TO USE A TYPE 'B' MANHOLE WITH 1200mm DIA OF 1500mm DIA RINGS, WITH THE OPENING SITED OVER THE CHANNEL WHERE THE DEPTH OF COVER TO PIPE SOFFIT IS 1.0-1.5m



SITE LOCATION PLAN.

ALL LEVELS RELATE TO THE ORDNANCE SURVEY BENCHMARK AT VALUE = 21.676
COORDINATE = SE 7988 7358
DESCRIPTION/LOCATION: NBM N PARA BR OVER RIGGS ROAD DRAIN W SIDE EDENHOUSE RD

REV	DESCRIPTION	DATE	BY
F	PERMANENT WATER AREA ADDED TO POND	26.01.16	ANF
E	NOTES UPDATED TO SUIT YW COMMENTS	07.12.15	ANF
D	FW1 CHAMBER SIZE REVISED	28.10.15	ANF
C	NOTES ADDED TO SUIT YW COMMENTS, FLOW CONTROL SPEC REVISED SW DRAIN & POND LIFTED 200mm FOUL PUMP RATE REVISED MANHOLE SW1 TYPE REVISED	23.09.15	ANF
B	HEADWALL REF UPDATED	25.08.15	ANF
A	FW5 ADDED	05.08.15	ANF

Job Title
PROPOSED DEVELOPMENT
EDENHOUSE ROAD
MALTON

Drawing Title
INFRASTRUCTURE DRAINAGE LAYOUT

PRELIMINARY

Architect

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