

APPENDIX I: Outline Capital Works and Revenue Costs

THETFORD GREEN INFRASTRUCTURE STUDY
IMPLEMENTATION PLAN – APPROXIMATE BUDGET COSTINGS

Item Project	Phases		
	1	2	3
Thetford North	£	£	£
22 Green Bridge (soft landscape works only)	150,000	–	–
23 Flagship neighbourhood park	–	900,000	–
24 Intermediate grade neighbourhood park	–	770,000	770,000
25 Local park	–	240,000	240,000
26 Footpaths (tarmac)	–	130,000	130,000
27 Semi-mature avenue planting	–	235,000	235,000
28 Green roofs (rate only provided)	EXCL	EXCL	EXCL
29 MUGA	–	190,000	–
30 NEAP	–	230,000	–
31 LEAP	–	110,000	110,000
32 LAP	–	150,000	150,000
33 Earth viewpoint mound	45,000	–	–
34 Native landscape buffer	950,000	–	–
34a Earth bund for item 40	280,000	–	–
35 Balancing pond	–	360,000	–
36 Swales	–	84,000	–
Sub-totals	<u>1,425,000</u>	<u>3,399,000</u>	<u>1,635,000</u>
Inflation additions:			
– Phase 1: 17.6%, say	251,000	–	–
– Phase 2: 70%, say	–	2,379,000	–
– Phase 3: 177%, say	–	–	2,894,000
Total approximate capital cost (excluding professional fees and VAT):	<u>£1,676,000</u>	<u>£5,778,000</u>	<u>£4,529,000</u>
Thetford South-East			
37 Flagship neighbourhood park	–	900,000	–
38 Intermediate grade neighbourhood park	–	770,000	770,000
39 Local park	–	240,000	240,000
40 Footpaths (tarmac)	–	130,000	130,000
41 Semi-mature avenue planting	–	235,000	235,000
42 Green roofs (rate only provided)	EXCL	EXCL	EXCL
43 MUGA	–	190,000	–
44 NEAP	–	230,000	–
45 LEAP	–	110,000	110,000
46 LAP	–	150,000	150,000
47 Native landscape buffer	–	473,000	–
48 Balancing pond	–	360,000	–
49 Swales	–	84,000	–
50 Enhancement to existing Scots Pine shelter belts (rate only provided)	EXCL	EXCL	EXCL
Sub-totals	<u>–</u>	<u>3,872,000</u>	<u>1,635,000</u>
Inflation additions:			
– Phase 1: N/A	–	–	–

THETFORD GREEN INFRASTRUCTURE STUDY
IMPLEMENTATION PLAN – APPROXIMATE BUDGET COSTINGS

– Phase 2: 70%, say	–	2,710,000	–	
– Phase 3: 177%, say	–	–	2,894,000	
Total approximate capital cost (excluding professional fees and VAT):	£	<u>–</u>	<u>£6,582,000</u>	<u>£4,529,000</u>

THETFORD GREEN INFRASTRUCTURE STUDY
 IMPLEMENTATION PLAN – APPROXIMATE BUDGET COSTINGS

Item Project	Phases		
	1	2	3
Other Projects	£	£	£
51 Riverside path	470,000	–	–
52 Timber bridges	180,000	–	–
53 Visitor centre (rate only provided)	EXCL	EXCL	EXCL
54 Playing fields (rates only provided)	–	EXCL	–
Sub-totals	<u>650,000</u>	<u>–</u>	<u>–</u>
Inflation additions:			
– Phase 1: 17.6%, say	114,000	–	–
– Phase 2: 70%, say	–	–	–
– Phase 3: 177%, say	–	–	–
Total approximate capital cost (excluding professional fees and VAT):	<u>£764,000</u>	<u>£ –</u>	<u>£ –</u>

NOTES AND QUALIFICATIONS

- 1 The above estimates have been prepared without the benefit of any drawings or a site visit; at this stage the figures should therefore be treated with some caution.
- 2 Many of the rates and prices are based purely upon statistical costs, and in all cases it is assumed that works will be undertaken on 'green field' sites. It is also assumed that ground conditions are normal (e.g. no requirement for piling), and that there is no requirement for decontamination. In addition, no allowances have been made for temporary fencing to protect new or existing plants, shrubs, trees, etc.
- 3 Pricing source: Spon's Architects' and Builders' Price Book 2007, and Spon's Landscape and External Works Price Book 2007, adjusted for location, together with rates and prices from tenders recently received where appropriate.
- 4 Pricing basis: costs are current at third quarter of 2007 (3Q07), and are exclusive of any future inflation. The above summaries do, however, include a 'best guess' projection for inflation to cover the periods noted for the three phases, i.e. Phase 1: 2008-2011; Phase 2: 2012-2021; and Phase 3: 2022-2031. At present, published statistics are projected only as far as 2009. Future costs have therefore been based upon the assumption that between 1Q07 and 4Q11 inflation will be 34% (BCIS statement 20.08.07), between 2012 and 2021 the annual increase will be 5.4%, and from 2022 to 2031, 5%. The inflation rates for Phases 2 and 3 are therefore inevitably rather arbitrary.
- 5 Each costed section or 'project' is all inclusive, i.e. an appropriate allowance for main contractor's preliminaries, overheads and profit, and contingencies has been allowed.
- 6 All costs are **exclusive** of professional fees and Value Added Tax.
- 7 Other **exclusions** are as follows:
 - cost of land/purchase of site(s)
 - interest/finance charges
 - legal fees
 - prescribed fees to the local authority
 - loose fittings, furnishings, furniture, and equipment (where relevant)
 - loss of income while works are being carried out
 - cost of alternative accommodation whilst works are being carried out.

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IMPLEMENTATION STRATEGY – OUTLINE CAPITAL COSTS

1. For the purposes of calculating inflationary uplift, development phases are as follows: Phase 1: 2008-2011, Phase 2: 2012-2021, Phase 3: 2022-2031

Project	Description	Unit/quantity	Development Phase	Capital Costs (to present as unit cost and total)	
Thetford North					
22.Green Bridge	Soft landscape works associated with pedestrian/cycle Green Bridge to dual carriageway (with central reservation).	1No	1	2,000m ² @ 75	150,000 (soft landscape work only - total cost of each Green Bridge including infrastructure and structural works is several million pounds)
23. Flagship neighbourhood park	2Ha area. Assume the following: i) 50% of area to be grass (seeded rather than turfed, of which 70% amenity grass, 30% meadow areas)	1No	2	20,000m ² @ 45	900,000

Project	Description	Unit/quantity	Development Phase	Capital Costs (to present as unit cost and total)	
	ii) 30% of area to be Shrub Planting (of which 50% high grade ornamental, 30% medium grade/semi ornamental planting and 20% native shrub mix)				
	iii) Up to 50 No ANS Grade specimen trees (say 20-25cm girth)with underground guying) and 5-8 No Semi mature trees (35cm + girth)				
	iv) 20% of area to be hard surfacing – high quality urban park (of which 20% natural stone, 80% Cedec or similar bonded gravel product)				

Project	Description	Unit/quantity	Development Phase	Capital Costs (to present as unit cost and total)	
24. Intermediate grade neighbourhood park	<p>2Ha area. Assume the following:</p> <p>i) 60 % of area to be grass (seeded rather than turfed, of which 60% amenity grass, 40% meadow grassland)</p> <p>ii) Up to 35-40 No ANS Grade trees (say 18-20cm girth, double staked)</p> <p>25% of area to be shrub planting (of which 50% high grade ornamental, 30% medium grade/semi ornamental planting and 20% native shrub mix)</p> <p>15% of area to be hard surfacing (Cedec/Fibredec or similar)</p>	2No	2 and 3	2 Nr @ 20,000m ² @ 38.50	1,540,000

Project	Description	Unit/quantity	Development Phase	Capital Costs (to present as unit cost and total)	
25. Local Park	0.4 Ha area. Assume the following:	TBC	2	4,000m ² @ 60	240,000
	i) 60% of area to be seeded (70% amenity lawn; 30% meadow grass)				
	ii) 20% of area to be planted with high grade ornamental planting				
	iii) 20% of area to be hard surfacing – Cedec or similar				
	iv) Allow for 5-8No ANS Grade trees (16-18cm girth)				
26. Footpaths	Assume shared footpath and cycleway – 2.4m minimum width, 2 surface options:	2km length	2 and 3 (50:50 split)	2,000m @ 130	260,000
	i) Tarmac (timber edged)				
	ii) Bound gravel (timber edged)				
				2,000m @ 130	260,000
				2,000m @	190,000

Project	Description	Unit/quantity	Development Phase	Capital Costs (to present as unit cost and total)	
				95	
27. Semi Mature Avenue Planting	30-35 cm girth trees (e.g. <i>Tilia cordata</i> or similar street tree) planted at 10m c/s with tree grilles and irrigation tube + underground guying	2km length	2 and 3 (50:50 split)	200 Nr @ 2,350 (or £235/ metre)	470,000
28. Green roofs	Sedum green roofs to 2 storey domestic property and 1.5 storey (12-14) industrial sheds	TBC	2 and 3	Rate only approx £75/m ²	
29. MUGA (Multi Use Games Area)*	Macadam surfaced, up to 3000sq.m. Unlit	1No	2	3,000m ² @ 63.33	190,000
30. NEAP (Neighbourhood Equipped Area of Play) or equivalent*	Assume something of similar specification to LUC Priory Park Playground. Approx 1000 sq.m	1No	2	1,000m ² @ 230	230,000
31. LEAP (Local Equipped Area of Play) or equivalent*	Similar specification/quality to Priory Park but smaller scale approx 400 sq.m	2No	2 and 3 (50:50 split)	2 Nr @ 400m ² @ 275	220,000
32. LAP (Local Area of Play) or equivalent*	100 sq.m incidental grassed (seeded) area	15No	2 and 3 (50:50 split)	15 Nr @ 100m ² @	300,000

Project	Description	Unit/quantity	Development Phase	Capital Costs (to present as unit cost and total)	
				200	
33. Earth viewpoint mound	8m max height, assume site won material.	1No		Item	45,000
34. Native Landscape Buffer	30m deep Scots Pine buffer (assume 1+1 20-30cm height plant material), planted in triple staggered rows on 1.5m grid, 3km length	1No	1	40,000 Nr @ 23.75	950,000
34a. Earth bund for same (i.e. to form part of project No 40 but give separate cost breakdown)	3km long x 30m deep x max. 5m high. Assume site won material	1No	1	90,000m ² @ 3.11	280,000
35. Balancing pond	0.75 ha area minimum + allowance for 400sq.m native marginal planting	TBC	2	Item	360,000
36. Swales	To service 2 storey residential development, approx 1.5km length	1.5km length	2	1,500m @ 56	84,000
Thetford South East					

Project	Description	Unit/quantity	Development Phase	Capital Costs (to present as unit cost and total)	
Project	Description	Unit/quantity	Development Phase	Capital Costs	
37. Flagship neighbourhood park	2Ha area. Assume the following:	1 No	2	20,000m ² @ 45	900,000
	i) 50% of area to be grass (seeded rather than turfed, of which 70% amenity grass, 30% meadow areas)				
	ii) 30% of area to be shrub planting (of which 50% high grade ornamental, 30% medium grade/semi ornamental planting and 20% native shrub mix)				
	iii) Up to 50 No ANS Grade specimen trees (say 20-25cm girth)with underground guying) and 5-8 No Semi mature trees (35cm + girth)				

Project	Description	Unit/quantity	Development Phase	Capital Costs (to present as unit cost and total)	
	iv) 20% hard surfacing – high quality urban park (of which 20% natural stone, 80% Cedec or similar bonded gravel product)				
38. Intermediate grade neighbourhood park	<p>2Ha area. Assume the following:</p> <p>i) 60 % of area to be grass (seeded rather than turfed, of which 60% amenity grass, 40% meadow grassland)</p> <p>ii) Up to 35-40 No ANS Grade trees (say 18-20cm girth, double staked)</p>	2No	2 and 3	2 Nr @ 20,000m ² @ 38.50	1,540,000

Project	Description	Unit/quantity	Development Phase	Capital Costs (to present as unit cost and total)	
	iii) 25% of area to be shrub planting (of which 50% high grade ornamental, 30% medium grade/semi ornamental planting and 20% native shrub mix)				
	iv) 15% hard surfacing (Cedec/Fibredec or similar)				
39. Local Park – 0.4Ha	<p>0.4 Ha Assume the following:</p> <p>i) 60% of area to be seeded (70% amenity lawn; 30% meadow grass)</p> <p>ii) 20% of area to be planted with high grade ornamental planting</p> <p>iii) 20% of area to be hard surfacing – Cedec or similar</p>	TBC	2 and 3	2 Nr @ 4,000m ² @ 60	480,000

Project	Description	Unit/quantity	Development Phase	Capital Costs (to present as unit cost and total)	
	iv) Allow for 5-8No ANS Grade trees (16-18cm girth)				
40. Footpaths	Assume shared footpath and cycleway – 2.4m minimum width, 2 surface options: i) Tarmac (timber edged) ii) Bound gravel (timber edged)			2,000m @ 130	260,000
				2,000m @ 130	260,000
				2,000m @ 95	190,000
41. Semi Mature Avenue Planting	30-35 cm girth trees (e.g. <i>Tilia cordata</i> or similar street tree) planted at 10m c/s with tree grilles and irrigation tube + underground guying	2km length	2 and 3 (50:50 split)	200 Nr @ 2,350 (or £235/ metre)	470,000
42. Green roofs	Sedum green roofs to 2 storey domestic property	TBC	2 and 3	Rate only approx £75/m ²	
43. MUGA	Macadam surfaced, up to 3000sq.m	1No	2	3,000m ² @ 63.33	190,000

Project	Description	Unit/quantity	Development Phase	Capital Costs (to present as unit cost and total)	
44. NEAP or equivalent	Assume something of similar specification to LUC Priory Park Playground. Approx 1000 sq. m area	1No	2	1,000m ² @ 230	230,000
45. LEAP or equivalent	Similar specification/quality to Priory Park but smaller scale approx 400 sq.m	2No	2 and 3 (50:50 split)	2 Nr @ 400m ² @ 275	220,000
46. LAP or equivalent	100 sq.m incidental grassed (seeded) area	15No	2 and 3 (50:50 split)	15 Nr @ 100m ² @ 200	300,000
47. Native Landscape Buffer	30m deep Scots Pine buffer (assume 1+1 20-30cm height plant material), planted in triple staggered rows on 1.5m grid, 1.5km length	1No	2	20,000 Nr @ 23.65	473,000
48. Balancing pond	0.75 ha area minimum+ allowance for 400sq.m native marginal planting	TBC	2 and 3	Item	360,000
49. Swales	To service 2 storey residential development, approx 1.5km length	1.5km length	2	1,500m @ 56	84,000

Project	Description	Unit/quantity	Development Phase	Capital Costs (to present as unit cost and total)	
50. Enhancement to existing scots pine shelterbelts	Per 100sq.m area. Assume the following: 1+1 20-30cm <i>Pinus sylvestris</i> transplants on 1.5m grid	TBC	2	Rate only £2,000/ 100m ²	N/A
	Allowance for tree surgery	Provisional sum			20,000?
Other projects					
51. Riverside path	Assume shared pedestrian and cycle route – 2.4 m width in bound gravel/hoggin, on existing tarmac path to be made good	6km length	1	6,000m @ 78.33	470,000
52. Timber bridges	Hardwood pedestrian cycle bridges (say 3m width) over river of max 20m span	2No	1	2 Nr @ 90,000	180,000
53. Visitor centre	Rate for : i)low key visitor centre building – per sq.m; ii)hoggin car park – per		1	Rate/m ² £1,200 to £2,000 average £1,600	

Project	Description	Unit/quantity	Development Phase	Capital Costs (to present as unit cost and total)	
	space			Rate/ space £600 to £800	
54 Playing fields (excluding grading, site preparation and lighting)	i) Senior football pitch ii) Junior football pitch	TBC	2	£7,000 £6,000	

Additional costs info

Notes:

2. Implementation costs for Woodland and heathland (assuming 2007 rates):

Scots Pine woodland (assume 1+1 transplants, 20-30cm ht, on 1.5m grid at £20/sq.m = £200,000/10ha;

Acid heathland at £500/ha = £5,000/10ha.

*Notes on play area terminology – based on NPFA Six Acre Standard:

3. For the purposes of the costing exercise reference has been made to standard terminology as set out in the Six Acre Standard. Whilst the hierarchy of play provision set out in that document is now rather out of date (infers reference to use of 'off the peg' play equipment, which is now increasingly being superseded by the continental model of play provision, which is the approach recommended at Chapter 10 of this report), the terminology in the standard is widely understood in the industry and in Local Planning Authorities. We have therefore used the

hierarchy in terms of size and broad principles for level of play provision, rather than the prescriptive design approach they imply. The categories are as follows:

Multi Use Games Area (MUGA) – Fenced hard surfaced multi use games court with markings;

Neighbourhood Equipped Area of Play (NEAP) – 1000 sq.m approx. Incorporating provision for toddlers, 5-7 years old and older children. Play provision should accommodate this age range and facilitate the development of skills such as climbing and balancing, in addition to provision for quieter, creative or reflective play;

Local Equipped Area of Play (LEAP) – 400 sq.m approx. Catering predominantly for 5-7 year olds. Play provision should facilitate the development of skills such as climbing and balancing, in addition to provision for quieter, creative or reflective play;

Local Area of Play (LAP) – 100 sq.m approx. Catering predominantly for toddlers/younger children. Incidental play areas designed to encourage use of imagination and creative play.

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MANAGEMENT PLAN – REVENUE COSTS

1. The following table sets out the estimated revenue costs associated with each of the projects proposed in **Thetford North** and **Thetford South East** together with costs associated with the establishment/improvement of the riverside path alongside the River Thet. The likely development phase is indicated in the table, the phases are: **Phase 1: 2008-2011**, **Phase 2: 2012-2021**, **Phase 3: 2022-2031**.
2. The revenue costs provided are an estimated annual cost at year 1 of the relevant development phase. This annual cost takes account of the following estimated inflationary increase¹ on 2007 baseline rates.
 - Phase 1: Year 1 is 2008, estimated **6%** inflation.
 - Phase 2: Year 1 is 2012, estimated **34%** inflation.
 - Phase 3: Year 1 is 2022, estimated **118.5%** inflation.
3. The annual revenue costs are presented as an annual unit rate for each element of the project and as an overall project revenue cost.

¹ Inflation rates:

The latest published indices (31st August 2007) have been used to uplift 2005 and 2006 rates to current (2007) baseline rates. The percentage increase from IQ05 to IQ07 was 5%. IQ06 to IQ07 was 1.5%.

Inflation rates for the development phasing have been more difficult to establish as published indices are only projected to 2Q09 at present. For Phase 1, the increase from IQ07 to IQ08 is currently forecast as 6%. As published forecasts are not yet available beyond 2011 estimates have been made of the inflation to 2012 and 2022 in consultation with a Quantity Surveyor. The increase from IQ07 to 4Q11 is currently forecast as 34%. The estimated projections for the subsequent years have been based on an assumed annual average addition of 5% inflation. This assumes that no extreme unexpected economic world events occur e.g. oil shortages, wars, etc. Using this assumption, the increase from IQ07 to IQ12 (Phase 2) would be 34%, and the increase from IQ07 to IQ22 (Phase 3) would be 118.5%. The revenue costs for these development phases should be reviewed at implementation or when published indices become available.

Contingency sums and provisional sums are shown in italics as the cost at Year 1 of relevant Phase, these costs will also need to be reviewed at implementation to reflect published inflationary forecasts. Reactive repair/ replacement contingency sums are based on 2.5% of capital costs. The inflation rates for the development phasing are different for the contingency sums as these are based on capital costs. Inflation additions have been made as follows: Phase 1 17.6%, Phase 2 70% and Phase 3 177%.

Thetford North						
Project	Description	Unit/ quantity	Ref. (see costing detail appended)	Development Phase	Annual unit rate in Year 1 of specified Dev. Phase	Annual project revenue cost (contingency shown in italics where applicable)
22. Green Bridge	Soft landscape works associated with pedestrian/cycle Green Bridge to dual carriageway (with central reservation)	1No	J	1	£4991.29	£4991.29
23. Flagship neighbourhood park	2Ha area. Assume the following:	1No		2		
	50% of area to be grass (seeded rather than turfed, of which 70% amenity grass, 30% meadow areas)	7000m2 amenity grass	A		£0.777	£5439
		3000m2 meadow	B		£0.048	£144
	30% of area to be Shrub Planting (of which 50% high grade ornamental, 30% medium grade/semi ornamental planting and 20% native shrub mix)	3000m2 high grade	C		£5.554	£16,662
		1800m2 medium	D		£4.485	£8073
		1200m2 native	E		£0.274	£328.80

Thetford North						
Project	Description	Unit/ quantity	Ref. (see costing detail appended)	Development Phase	Annual unit rate in Year 1 of specified Dev. Phase	Annual project revenue cost (contingency shown in italics where applicable)
	Up to 50 No ANS Grade specimen trees (say 20-25cm girth) with underground guying) and 5-8 No Semi mature trees (35cm + girth)	58 trees	F		£53.339	£3093.66
	20% of area to be hard surfacing – high quality urban park (of which 20% natural stone, 80% Cedec or similar bonded gravel product)	4000m2	G		£1.288	£5152 <i>(£6800 contingency for periodic resurfacing)</i>
						Sub-total Flagship neighbourhood park Phase 2 £38,892
24. Intermediate grade neighbourhood park	2Ha area. Assume the following:	1No		2		

Thetford North						
Project	Description	Unit/ quantity	Ref. (see costing detail appended)	Development Phase	Annual unit rate in Year 1 of specified Dev. Phase	Annual project revenue cost (contingency shown in italics where applicable)
	60 % of area to be grass (seeded rather than turfed, of which 60% amenity grass, 40% meadow grassland)	7200m2 amenity	A		£0.777	£5594.40
		4800m2 meadow	B		£0.048	£230.40
	Up to 35-40 No ANS Grade trees (say 18-20cm girth, double staked)	40 Trees	F		£53.339	£2133.56
	25% of area to be shrub planting (of which 50% high grade ornamental, 30% medium grade/semi ornamental planting and 20% native shrub mix	2500m2 high grade	C		£5.554	£13,885
		1500m2 medium grade	D		£4.485	£6727.50
		1000m2 native	E		£0.274	£274
	15% of area to be hard surfacing (Cedec/Fibredec or similar)	3000m2	G		£1.288	£3864 <i>(£5100 contingency for periodic resurfacing)</i>

Thetford North						
Project	Description	Unit/ quantity	Ref. (see costing detail appended)	Development Phase	Annual unit rate in Year 1 of specified Dev. Phase	Annual project revenue cost (contingency shown in italics where applicable)
						Sub-total Intermediate grade neighbourhood park Phase 2 £32,709
24. Intermediate grade neighbourhood park	2Ha area. Assume the following:	1No		3		
	60 % of area to be grass (seeded rather than turfed, of which 60% amenity grass, 40% meadow grassland)	7200m2 amenity	A		£1.267	£9122.40
		4800m2 meadow	B		£0.079	£616.20
	Up to 35-40 No ANS Grade trees (say 18-20cm girth, double staked)	40 trees	F		£86.975	£3479
	25% of area to be shrub planting (of which 50% high grade ornamental, 30% medium grade/semi ornamental planting and 20% native shrub mix)	2500m2 high grade	C		£9.057	£22,642.50
		1500m2 medium grade	D		£7.313	£10,969.50
		1000m2 native	E		£0.446	£446

Thetford North						
Project	Description	Unit/ quantity	Ref. (see costing detail appended)	Development Phase	Annual unit rate in Year 1 of specified Dev. Phase	Annual project revenue cost (contingency shown in italics where applicable)
	15% of area to be hard surfacing (Cedec/Fibredec or similar)	3000m2	G		£2.100	£6300 <i>(£8310 contingency for periodic resurfacing)</i>
						Sub-total Intermediate grade neighbourhood park Phase 3 £53,575.60
25. Local Park	0.4 Ha area. Assume the following:	TBC		2		
	60% of area to be seeded (70% amenity lawn; 30% meadow grass)	1680m2 amenity	A		£0.777	£1305.36
		720m2 meadow	B		£0.048	£34.56
	20% of area to be planted with high grade ornamental planting	800m2	C		£5.554	£4443.20
	20% of area to be hard surfacing – Cedec or similar	800m2	G		£1.288	£1030.40 <i>(£1360 contingency for periodic resurfacing)</i>

Thetford North						
Project	Description	Unit/ quantity	Ref. (see costing detail appended)	Development Phase	Annual unit rate in Year 1 of specified Dev. Phase	Annual project revenue cost (contingency shown in italics where applicable)
	Allow for 5-8No ANS Grade trees (16-18cm girth)	8	F		£53.339	£426.71
						Sub-total Local park £7240.23
26. Footpaths	Assume shared footpath and cycleway – 2.4m minimum width, 2 surface options: Tarmac (timber edged) Bound gravel (timber edged)	2km length (so 2400m ² in Phase 2 and 2400m ² in Phase 3)	I	2 and 3 (50:50 split)	£0.297	£712.80 <i>(£4080 contingency for periodic resurfacing)</i>
					£0.485	£1164 <i>(£6648contingency for periodic resurfacing)</i>
27. Semi Mature Avenue Planting	30-35 cm girth trees (e.g. <i>Tilia cordata</i> or similar street tree) planted at 10m c/s with tree grilles and irrigation tube + underground guying	2km length (so approx. 100 trees in Phase 2 and 100 trees in Phase 3)	F	2 and 3 (50:50 split)	£53.339	£5333.90
					£86.975	£8697.50

Thetford North						
Project	Description	Unit/ quantity	Ref. (see costing detail appended)	Development Phase	Annual unit rate in Year 1 of specified Dev. Phase	Annual project revenue cost (contingency shown in italics where applicable)
28. Green roofs	Sedum green roofs to 2 storey domestic property	Assumed 50m2 area.	K	2 and 3	£460.96	£460.96 <i>(£130 contingency for localised replacement)</i>
					£751.64	£751.64 <i>(£260 contingency for localised replacement)</i>
29. MUGA	Macadam surfaced, up to 3000sq.m	1No	L	2	£1075.572	£1075.57 <i>Plus middle year renewal cost £62,983.02 at Yr1 of Phase 2.</i>
30. NEAP or equivalent	Assume something of similar specification to Priory Park Playground, Reigate	1No	M	2	£2909.76	£2909.76 <i>Plus middle year renewal cost £22,658.10 at Yr1 of Phase 2.</i>
31. LEAP or equivalent	Similar specification/quality to Priory Park but smaller scale approx 400 sq.m	2No	N	2 and 3 (50:50 split)	£949.75	£949.75 <i>Plus middle year renewal cost £13,986.89 at Yr1 of Phase 2.</i>
					£1548.66	£1548.66 <i>Plus middle year renewal cost £22,790.40 at Yr1 of Phase 3.</i>

Thetford North						
Project	Description	Unit/ quantity	Ref. (see costing detail appended)	Development Phase	Annual unit rate in Year 1 of specified Dev. Phase	Annual project revenue cost (contingency shown in italics where applicable)
32. LAP or equivalent	100 sq.m incidental grassed (seeded) area	15No	O	2 and 3 (50:50 split so cost based on x7 in Phase 2, x8 in Phase 3)	£369.929	£2589.50 <i>Plus middle year renewal cost £8302.24 at Yr1 of Phase 2.</i>
					£603.205	£4825.64 <i>Plus middle year renewal cost £15,460.32 at Yr1 of Phase 3.</i>
33. Earth viewpoint mound	8m max height, assume site won material. Grassed with meadow mix. (Annual meadow cut)	1No (Say 1000m2 area)	Q	I	£0.701	£701.00
34. Native Landscape Buffer	30m deep Scots Pine buffer (assume 1+1 20- 30cm height plant material), planted in triple staggered rows on 1.5m grid, with native understorey planting at 1.2m centres, 3km length	1No (Assume 6000m2 native hedge, 1m width on either side of buffer to be maintained)	P	I	£0.217	£1302 <i>Plus provisional sum of £2878 in each of Years 5 and 10 for tree thinning/ surgery.</i>

Thetford North						
Project	Description	Unit/ quantity	Ref. (see costing detail appended)	Development Phase	Annual unit rate in Year 1 of specified Dev. Phase	Annual project revenue cost (contingency shown in italics where applicable)
34a. Earth bund for same	2km longx30m deep x max.5m high. Assume site won material <i>(Maintenance covered above under native buffer planting.)</i>	1No	(P)	1		(Costed above)
35. Balancing pond	0.75 ha area minimum+ allowance for 400sq.m native marginal planting	TBC 400m2 marginal planting	R	2	£3.609	£1443.60
36. Swales	To service 2 storey residential development, approx 1.5km length	1.5km length	S	2	£5.486	£8229

Thetford South East						
Project	Description	Unit/ quantity	Ref. (see costing detail appended)	Development Phase	Annual unit rate in Year 1 of specified Dev. Phase	Annual project revenue cost (contingency shown in italics where applicable)
37. Flagship neighbourhood park	2Ha area. Assume the following:	1No		2		
	50% of area to be grass (seeded rather than turfed, of which 70% amenity grass, 30% meadow areas)	7000m2 amenity grass	A		£0.777	£5439
		3000m2 meadow	B		£0.048	£144
	30% of area to be Shrub Planting (of which 50% high grade ornamental, 30% medium grade/semi ornamental planting and 20% native shrub mix)	3000m2 high grade	C		£5.554	£16,662
		1800m2 medium	D		£4.485	£8073
		1200m2 native	E		£0.274	£328.80
	Up to 50 No ANS Grade specimen trees (say 20- 25cm girth) with underground guying) and 5-8 No Semi mature trees (35cm + girth)	58 trees	F		£53.339	£3093.66

Thetford South East						
Project	Description	Unit/ quantity	Ref. (see costing detail appended)	Development Phase	Annual unit rate in Year 1 of specified Dev. Phase	Annual project revenue cost (contingency shown in italics where applicable)
	20% of area to be hard surfacing – high quality urban park (of which 20% natural stone, 80% Cedec or similar bonded gravel product)	4000m2	G		£1.288	£5152 <i>(£6800 contingency for periodic resurfacing)</i>
						Sub-total Flagship neighbourhood park £38,892
38. Intermediate grade neighbourhood park	2Ha area. Assume the following:	1No		2		
	60 % of area to be grass (seeded rather than turfed, of which 60% amenity grass, 40% meadow grassland)	7200m2 amenity	A		£0.777	£5594.40
		4800m2 meadow	B		£0.048	£230.40
	Up to 35-40 No ANS Grade trees (say 18-20cm girth, double staked)	40 trees	F		£53.339	£2133.56

Thetford South East						
Project	Description	Unit/ quantity	Ref. (see costing detail appended)	Development Phase	Annual unit rate in Year 1 of specified Dev. Phase	Annual project revenue cost (contingency shown in italics where applicable)
	25% of area to be shrub planting (of which 50% high grade ornamental, 30% medium grade/semi ornamental planting and 20% native shrub mix)	2500m2 high	C		£5.554	£13,885
		1500m2 medium	D		£4.485	£6727.50
		1000m2 native	E		£0.274	£274
	15% of area to be hard surfacing (Cedec/Fibredec or similar)	3000m2	G		£1.288	£3864 <i>(£5100 contingency for periodic resurfacing)</i>
38. Intermediate grade neighbourhood park	2Ha area. Assume the following:	1No		3		
	60 % of area to be grass (seeded rather than turfed, of which 60% amenity grass, 40% meadow grassland)	7200m2 amenity	A		£1.267	£9122.40
		4800m2 meadow	B		£0.079	£616.20

Thetford South East						
Project	Description	Unit/ quantity	Ref. (see costing detail appended)	Development Phase	Annual unit rate in Year 1 of specified Dev. Phase	Annual project revenue cost (contingency shown in italics where applicable)
	Up to 35-40 No ANS Grade trees (say 18-20cm girth, double staked)	40 trees	F		£86.975	£3479
	25% of area to be shrub planting (of which 50% high grade ornamental, 30% medium grade/semi ornamental planting and 20% native shrub mix)	2500m2 high	C		£9.057	£22,642.50
		1500m2 medium	D		£7.313	£10,969.50
		1000m2 native	E		£0.446	£446
	15% of area to be hard surfacing (Cedec/Fibredec or similar)	3000m2	G		£2.100	£6300 <i>(£8310 contingency for periodic resurfacing)</i>
						Sub-total Intermediate grade neighbourhood park Phase 3 £53,575.60
39. Local Park	0.4 Ha area. Assume the following:	TBC		2 and 3		
	60% of area to be seeded (70% amenity lawn; 30%	1680m2 amenity	A		£0.777	£1305.36

Thetford South East						
Project	Description	Unit/ quantity	Ref. (see costing detail appended)	Development Phase	Annual unit rate in Year 1 of specified Dev. Phase	Annual project revenue cost (contingency shown in italics where applicable)
	meadow grass)	720m2 meadow			£0.048	£34.56
	20% of area to be planted with high grade ornamental planting	800m2	C		£5.554	£4443.20
	20% of area to be hard surfacing – Cedec or similar	800m2	G		£1.288	£1030.40 <i>(£1360 contingency for periodic resurfacing)</i>
	Allow for 5-8No ANS Grade trees (16-18cm girth)	8	F		£53.339	£426.71
						Sub-total Local park Phase 2 £7240.23
40. Footpaths	Assume shared footpath and cycleway – 2.4m minimum width, 2 surface options: Tarmac (timber edged) Bound gravel (timber edged)	2km length (so 2400m2 in Phase 2 and 2400m2 in Phase 3)	I	2 and 3 (50:50 split)	£0.297	£712.80 <i>(£4080 contingency for periodic resurfacing)</i>
					£0.485	£1164 <i>(£6648contingency for periodic resurfacing)</i>

Thetford South East						
Project	Description	Unit/ quantity	Ref. (see costing detail appended)	Development Phase	Annual unit rate in Year 1 of specified Dev. Phase	Annual project revenue cost (contingency shown in italics where applicable)
41. Semi Mature Avenue Planting	30-35 cm girth trees (e.g. <i>Tilia cordata</i> or similar street tree) planted at 10m c/s with tree grilles and irrigation tube + underground guying	2km length (so approx. 100 trees in Phase 2 and 100 trees in Phase 3)	F	2 and 3 (50:50 split)	£53.339	£5333.90
					£86.975	£8697.50
42. Green roofs	Sedum green roofs to 2 storey domestic property	Assumed 50m2 area.	K	2 and 3	£460.96	£460.96 <i>(£130 contingency for localised replacement)</i>
					£751.64	£751.64 <i>(£260 contingency for localised replacement)</i>
43. MUGA	Macadam surfaced, up to 3000sq.m	1No	L	2	£1075.572	£1075.57 <i>Plus middle year renewal cost £62,983.02 at Yr1 of Phase 2.</i>
44. NEAP or equivalent	Assume something of similar specification to Priory Park Playground,	1No	M	2	£2909.76	£2909.76 <i>Plus middle year renewal cost £22,658.10 at Yr1 of Phase 2.</i>

Thetford South East						
Project	Description	Unit/ quantity	Ref. (see costing detail appended)	Development Phase	Annual unit rate in Year 1 of specified Dev. Phase	Annual project revenue cost (contingency shown in italics where applicable)
	Reigate					
45. LEAP or equivalent	Similar specification/quality to Priory Park but smaller scale approx 400 sq.m	2No	N	2 and 3 (50:50 split)	£949.75	£949.75 <i>Plus middle year renewal cost £13,986.89 at Yr1 of Phase 2.</i>
					£1548.66	£1548.66 <i>Plus middle year renewal cost £22,790.40 at Yr1 of Phase 3.</i>
46. LAP or equivalent	100 sq.m incidental grassed (seeded) area	15No	O	2 and 3 (50:50 split so cost based on x7 in Phase 2, x8 in Phase 3)	£369.929	£2589.50 <i>Plus middle year renewal cost £8302.24 at Yr1 of Phase 2.</i>
					£603.205	£4825.64 <i>Plus middle year renewal cost £15,460.32at Yr1 of Phase 3.</i>

Thetford South East						
Project	Description	Unit/ quantity	Ref. (see costing detail appended)	Development Phase	Annual unit rate in Year 1 of specified Dev. Phase	Annual project revenue cost (contingency shown in italics where applicable)
47. Native Landscape Buffer	30m deep Scots Pine buffer (assume 1+1 20-30cm height plant material), planted in triple staggered rows on 1.5m grid with native understorey planting at 1.2m centres, 1.5km length	1No (assume 3000m2 native hedge, 1m width either side of buffer to be maintained)	P	2	£0.274	£822.00 <i>Plus provisional sum of £2526 in each of Years 5 and 10 for tree thinning/ surgery.</i>
48. Balancing pond	0.75 ha area minimum+ allowance for 400sq.m native marginal planting	TBC 200m2 marginal planting in each of Phases 2 and 3	R	2 and 3	£3.609	£721.80
					£5.885	£1177.00
49. Swales	To service 2 storey residential development, approx 1.5km length	1.5km length	S	2	£5.486	£8229

Thetford South East						
Project	Description	Unit/ quantity	Ref. (see costing detail appended)	Development Phase	Annual unit rate in Year 1 of specified Dev. Phase	Annual project revenue cost (contingency shown in italics where applicable)
50. Enhancement to existing scots pine shelterbelts	Per 100sq.m area. Assume the following: 1+1 20-30cm <i>Pinus sylvestris</i> transplants on 1.5m grid	TBC		2	£25.90 (per 100sq.m)	

Other projects						
Project	Description	Unit/ quantity	Ref. (see costing detail in Appendi x X)	Development Phase	Annual unit rate in Year 1 of specified Dev. Phase	Annual project revenue cost (contingency shown in italics where applicable)
51. Riverside path	Assume shared pedestrian and cycle route – 2.4 m width in bound gravel/hoggin, on existing tarmac path to be made good	6km length (1.4ha area in total)	I	I	£0.235	£3384.00 <i>(£16464 contingency for periodic resurfacing)</i>
52. Timber bridges	Hardwood pedestrian cycle bridges (say 3m width) over river of max 20m span	2No (Approx. 100m ² timber surface area per bridge)	T	I	£3.211	£642.20 <i>(£4500 contingency for repair/ replacement)</i>
53. Visitor centre					Costs depend on design	
54. Playing fields (40x100 sq.m approx)				2007-2008 rates only	£74.10/100sq. m + extra over for repair of £10/100 sq.m	£696.40 per pitch

Additional costs – indicative strategic management costs and staffing costs

Additional costs							
Project	Description	Unit/ quantity	Ref. (see costing detail appended)	Period	Annual unit rate	Annual project revenue cost (contingency shown in italics where applicable)	Funding Sources
Woodland management	Tree and scrub cutting (assume >7cm diameter to material majority)	Per 10ha area		2007-2008	£1014/ha	£10,140	
	Ride management – 2 zone cutting (cut central zone annually and alternate outer zones biannually. Average ride width 5m)	Per km/per year		2007-2008	£177.35	Depending on area	
	Chemical weed control - Asulox	Per 10ha area		2007-2008	£177.35/ha	£1773.50	
Heathland management	Bracken spraying (3x knapsack applicators)	Per 10ha area		2007-2008	£347.20/ha	£3472.00	
	Gorse management				£5828/ha	£58280.00	
	Tree/scrub management Pine – average cover, 15 years old				£1984/ha	£19840.00	
	Humic litter removal				£799.80/ha	£7998.00	

Staffing costs - River Valley Park (based on 2007 rates):

1 No Park Manager £40,000 p.a. (on cost e.g. salary + other overheads such as transport, of which approximately £30-33,000 salary);

1 No Arborist Chargehand /Supervisor £35,000 p.a. (on cost, of which approximately £27,000 as salary);

2 No Support staff at £25,000 each p.a. (on cost, of which approximately £17,000 per worker as salary).

Notes

Woodland management costs based on 2006 EWGS Information + inflationary uplift of 1.5% IQ06-IQ07;

Heathland management costs based on Symes and Day, 2003 A Practical Guide to the Restoration and Management of Lowland Heathland, with inflationary uplift of 24% added for 3rd quarter of 2003 – 3rd quarter 2007 (From BCIS All In Tender Price Index, updated 11 July 2007.)

Thetford GI - Revenue costing rates
Rates used in revenue cost table

Ref.	Maintenance Item	Price per occ.	Unit	Annual frequency requirement	Activity	Annual price 2007 per unit	Annual price 2008 per unit PHASE 1	Annual price 2012 per unit PHASE 2	Annual price 2022 per unit PHASE 3	Source of rate	Notes	Contingency sum 2007	Contingency sum PHASE 1	Contingency sum PHASE 2	Contingency sum PHASE 3
A	Amenity grass	£ 0.029	m2	20	cuts per annum	£ 0.580	£ 0.615	£ 0.777	£ 1.267	Breckland Open Space Contributions document.	1.5% added as these were 2006 rates.		£ -	£ -	£ -
B	Meadow grass	£ 0.036	m2	1	cut per annum	£ 0.036	£ 0.038	£ 0.048	£ 0.079	Estimate based on comparable example at 2005 rates	Plus 5% inflation		£ -	£ -	£ -
C	High grade shrub planting		m2	8	visits per annum incl. weeding, annual mulch and pruning.	£ 4.145	£ 4.394	£ 5.554	£ 9.057	PSA 2005	Plus 5% inflation		£ -	£ -	£ -
D	Medium grade shrub planting		m2	4	visits per annum incl. weeding, annual mulch and pruning.	£ 3.347	£ 3.548	£ 4.485	£ 7.313	PSA 2005	Plus 5% inflation		£ -	£ -	£ -
E	Native shrub planting		m2	1x every 2 years	cut every two years.	£ 0.204	£ 0.217	£ 0.274	£ 0.446	PSA 2005	Plus 5% inflation		£ -	£ -	£ -
F	Tree inspection and maintenance		tree	1	annual detailed inspection	£ 39.805	£ 42.194	£ 53.339	£ 86.975	PSA 2005	Plus 5% inflation		£ -	£ -	£ -
G	Bound hard surface maintenance (in parks)	£ 0.018	m2	52	visits per annum including sweeping, removing and disposing of debris	£ 0.961	£ 1.019	£ 1.288	£ 2.100	PSA 2005	Plus 5% inflation, plus contingency sum for resurfacing, based on 2.5% of capital cost.		£ -	£ -	£ -
H	Loose hard surface maintenance (in parks)	£ 0.018	m2	52	visits per annum including removing and disposing of debris	£ 0.961	£ 1.019	£ 1.288	£ 2.100	PSA 2005	Plus 5% inflation, plus contingency sum for topping up surface, based on 2.5% capital cost.		£ -	£ -	£ -
I	Hard surface maintenance (other footpaths/cycleways)	£ 0.018	m2	12	visits per annum including sweeping, removing and disposing of debris	£ 0.222	£ 0.235	£ 0.297	£ 0.485	PSA 2005	Plus 5% inflation, plus contingency sum for topping up surface, based on 2.5% of capital cost estimated at £40 per m2.	£ 40.00	£ 47.040	£ 68.000	£ 110.800
J	Green bridge maintenance		item		18x litter collection, 4x grass cuts, 3x planting maintenance visits, plus annual tree inspection and maintenance	£ 4,708.760	£ 4,991.285	£ 6,309.738	£ 10,288.640	Estimate based on comparable example at 2005 rates	Plus 5% inflation		£ -	£ -	£ -
K	Green roof maintenance		item	2	inspections per annum (2 men for 2 hours plus allowance for hire of scaffold tower)	£ 344.000	£ 364.640	£ 460.960	£ 751.640	Based on 2007 Spons labour rate	(Plus contingency for localised replacement, based on 2.5% of capital cost estimated at £75 per m2.)	£ 75.00	£ 88.200	£ 127.500	£ 207.750
L	MUGA		item		Bi-annual inspection, plus sweeping, litter collection, marking out, appropriate top dressing.	£ 802.666	£ 850.826	£ 1,075.572	£ 1,753.825	Breckland Open Space Contributions document.	1.5% added as these were 2006 rates. Plus contingency based on Breckland middle year renewal costs plus inflation to Year 1 of relevant development phase.	£ 37,048.84	£ 43,569.431	£ 62,983.021	£ 102,625.276
M	NEAP		item		Bi-annual inspection, plus grass cutting, sweeping, litter collection, top dressing.	£ 2,171.463	£ 2,301.751	£ 2,909.760	£ 4,744.647	Breckland Open Space Contributions document.	1.5% added as these were 2006 rates. Plus contingency based on Breckland middle year renewal costs plus inflation (capital inflation rates) to Year 1 of relevant development phase.	£ 13,328.30	£ 15,674.076	£ 22,658.102	£ 36,919.379
N	LEAP		item		Bi-annual inspection, plus grass cutting, sweeping, litter collection, top dressing.	£ 708.769	£ 751.295	£ 949.750	£ 1,548.660	Breckland Open Space Contributions document.	1.5% added as these were 2006 rates. Plus contingency based on Breckland middle year renewal costs plus inflation (capital inflation rates) to Year 1 of relevant development phase.	£ 8,227.58	£ 9,675.634	£ 13,986.886	£ 22,790.397
O	LAP		item		Bi-annual inspection, plus grass cutting, sweeping, litter collection, top dressing.	£ 276.067	£ 292.630	£ 369.929	£ 603.205	Breckland Open Space Contributions document.	1.5% added as these were 2006 rates. Plus contingency based on Breckland middle year renewal costs plus inflation (capital inflation rates) to Year 1 of relevant development phase.	£ 697.67	£ 820.457	£ 1,186.035	£ 1,932.540
P	Scots pine buffer (new)		m2	1x every 2 years	Buffer edges treated as field hedge cut every two years.	£ 0.204	£ 0.217	£ 0.274	£ 0.446	PSA 2005	Plus 5% inflation. Plus provisional sum for thinning/surgery in years 5 and 10 at £452/ha (based on EWGS rates 2006 inflation to Year 1 of relevant phase).	£ 452.00	£ 531.552	£ 768.400	£ 1,252.040
Q	Earth viewpoint mound		m2	1	cut per annum	£ 0.662	£ 0.701	£ 0.887	£ 1.446	PSA 2005	Plus 5% inflation		£ -	£ -	£ -
R	Balancing pond - marginal planting		m2	3	visits per annum (incl. spring tidy, summer invasive weed removal and autumn/winter tidy)	£ 2.693	£ 2.855	£ 3.609	£ 5.885	PSA 2005	Plus 5% inflation		£ -	£ -	£ -
S	Swales		metre	1	visit per year including cut back vegetation on one side of ditch each year, clear ditch bottom of debris each year plus allowance for reform	£ 4.094	£ 4.340	£ 5.486	£ 8.946	PSA 2005	Plus 5% inflation, based on 5 yearly regrading, annual cut of vegetation and removal of silt/debris from ditch bottom.		£ -	£ -	£ -
T	Timber bridge		m2	1	timber treatment per annum	£ 3.029	£ 3.211	£ 4.059	£ 6.618	PSA 2005	Plus 5% inflation		£ -	£ -	£ -
U	Heathland					£ -	£ -	£ -	£ -				£ -	£ -	£ -
V	Wet woodland					£ -	£ -	£ -	£ -				£ -	£ -	£ -
W	Flood meadow					£ -	£ -	£ -	£ -				£ -	£ -	£ -
X	Native woodland					£ -	£ -	£ -	£ -				£ -	£ -	£ -
Y	Scots pine shelterbelts (30m deep)					£ -	£ -	£ -	£ -				£ -	£ -	£ -

Breckland Developer Contribution Rates (from info sent by David Spencer)

Maintenance Item	Price per occ. (2006)	Price per occ. (2007)	Annual frequency requirement	Annual Price £ (2006)	Annual price 2007 (3.95% inflation)	10 year maintenance cost £ 2007 excluding inflation for the 10 years
Grass cutting per sqm	£0.03	£0.03	20 cuts	£0.60	£0.62	£6.24
Hard Surfaces per sqm	£0.04	£0.04	2 inspections	£0.08	£0.08	£0.83
Hedgerows per m	£0.08	£0.08	2 cuts	£0.16	£0.17	£1.66
Shrub areas per sqm	£0.28	£0.29	8 visits	£2.24	£2.33	£23.28
Litter bins	£0.42	£0.44	26 visits	£26.42	£27.46	£274.64
Tree Inspections	£7.00	£7.28	1	£7.00	£7.28	£72.77
Tree Maintenance cost for trees over 5m	£10.00	£10.40	1	£10.00	£10.40	£103.95

APPENDIX 2: Stakeholder Consultation

a)Initial Roundtable Stakeholder Consultation Summary Report, May 2007

**Thetford Green Infrastructure Study
Roundtable Workshop Summary
Report
by
Land Use Consultants**

May 2007

43 Chalton Street
London NW1 1JD
Tel: 020 7383 5784
Fax: 020 7383 4798
luc@london.landuse.co.uk

I. EXERCISE I: CAROUSEL

MAP I: ACCESS AND RECREATION

CHANGES TO THE EVIDENCE BASE MAP

Additional sites and routes

- Nunnery Lakes Nature Reserve should be added.
- The Suffolk Rights of Way network should be incorporated into the map. Rights of Way Improvement Plans should be requested from local and county councils and reviewed as part of this work.
- The Sheepwalk to the north east of Thetford is an ancient public right of way providing a link between Thetford and Brettenham Heath, East Wrexham Heath and Peddar's Way.
- Castle Hill in central Thetford is to become a flagship play area.
- There is work underway to reinstate the playing fields at Barnham Cross Common.
- Lakenheath Fen is an area in which people can enjoy seeing sensitive reedbed wildlife without causing disturbance. The RSPB has provided access for people. It is a good example of how to bring people into close contact with wildlife they may not otherwise see. The RSPB would like to expand Lakenheath and improve its facilities. We would like the reserve and an 'area of search' for its extension included as a project within the GI strategy, and can supply a map and further details upon request.
- The river corridors should be shown as an existing 'blueway' through Thetford; they provide a valuable resource with ample opportunities for enhancements. The BTO river restoration project is an excellent example of what might be achieved. Wherever possible, when land is re/developed, the development should be set back from the river and its floodplain, to enable river habitats and floodplain wetlands to be enhanced, with new paths created for people.

OPPORTUNITIES

Key opportunities

- As a general point, the various opportunities that involve the SPA will need to be looked at carefully because it supports sensitive ground-nesting birds.
- A Suffolk County Council project is underway to create a number of access packages to link sites and routes with the Forest. Norfolk County Council may also become a partner in this work.
- There is a need for access improvements to bridge the A11 at Peddar's Way. This has been suggested as an appropriate location for a green bridge. There is also a need for improved access over the A11 by the fishing lakes.

- There is a need for access improvements to bridge the London Road to the south west of Thetford, and to link southern areas of Thetford to the Thetford Forest Park.
- A Forest Recreation Strategy has recently been completed on behalf of the Forestry Commission, and this includes some useful conclusions to inform the Green Infrastructure Strategy.
- A tree-lined avenue link has been proposed to link Grime's Graves with the edge of Thetford Forest near Two Mile Bottom to encourage access to the site from Thetford.
- Access and recreation opportunities should be provided along the Thet and Little Ouse at Thetford. There is also a need for improved access along the Little Ouse, where a towpath should be installed (an access and costing study has already been undertaken for this). This will provide a link between Thetford and High Lodge in the Forest Park. In addition, the stretch of the Little Ouse between Thetford Forest Country Park and Two Mile Bottom is an established informal canoeing area, and there is potential to enhance the recreation opportunities and quality of this site.
- There may be potential to link the 2012 Olympics with cycling at Thetford Forest
- The Tracks in Sand Project and Waverley Valley Study should also be reviewed.
- The Warren Bus provides good public transport to the countryside and trains should also be promoted in terms of their potential to provide access to the countryside.
- Lynford Pits (north of Thetford Forest) is being considered by the Forestry Commission as a new water recreation site.

ISSUES

- There is a need for an alternative cycleway to the A134 south of Thetford, which is currently heavily used by cyclists but dangerous due to heavy goods vehicles along this route. A cycleway should be created alongside Barnham Cross Common.
- The Croxton Road stretch of Sustrans Route 13 should be closed to traffic and promoted as a family cycle route through the Forest.
- A green link is needed to provide better access between south east Thetford and Knettishall Country Park and surrounding area. In addition, improvements should be made and links created to permissive paths to the south of Thetford to link with Euston Park and surrounding area. One example of how this could be done is to link Angler's Way to other footpaths in the south east.
- A continuous green link should be created to link Thetford with neighbouring Brandon. This could be undertaken mainly through improvements and better signposting along existing rights of way.
- Access to Nunnery Lakes Nature Reserve should be improved.

- PPS9 requires LPAs to map out areas in which habitat creation will be undertaken to deliver key BAP habitat targets. Areas need to be shown in the LDF proposals maps. Breckland supports heathland of European importance, but the resource is heavily fragmented and subject to increasing pressure from recreation. On the other hand, this increasing pressure illustrates how popular these Brecks habitats are. In Breckland, there is a need to review existing habitat creation plans, and to map out key sites for heath creation in the GI strategy. These should also be taken forward within the LDF.
- Haling Path needs to be upgraded.
- Green space should be multi-functional, naturalistic and ‘bring the countryside into the town’. There is a need for an ambitious approach to habitat creation as an intrinsic part of enhancements of recreation sites and access routes.
- There is a need for improved education and interpretation to complement access and recreation enhancements.
- Heritage should also be incorporated into recreation proposals where possible.
- The MOD highlighted the need for clear, well-signed access close to MOD sites. This should be discussed with the MOD as there are some areas of the SPA/SAC outside the Danger Zone where military practice takes place. Sites where access is controlled or not actively promoted should be identified as part of the study.
- Norfolk County Council has undertaken a Transport and Accessibility Study which may inform the work.

MAP 2: BIODIVERSITY

CHANGES TO THE EVIDENCE BASE MAP

- Mapping layers currently masked different designations, particularly with SSSIs being over the top of the UK BAP Habitats (noted that small inset map did change order of layers). Consideration needs to be given the order of layers in future in composite maps to ensure that the different designations are discernable on 'main' map.
- Related to above, it will be important to the strategy to understand the relationship between the various designations and habitats they reflect e.g. SPA and SSSI and UK BAP Habitats as they may reflect different values and therefore approach to them in GI Study.
- General lack of identified biodiversity within Tier 1 – unclear as to whether this was because of the extent of the previous work undertaken (mapping, study area, scale etc) or whether was an omission.
- Comment that the cut-off of the Map meant that the majority of Tier 3 is omitted. This was problematic in terms of understanding Biodiversity in the wider context of the study area and for identifying opportunities in Tier 3.
- Related to above in part, cutting of the Map down played the importance of the link to Suffolk. It was emphasised on a number of occasions that cross- boundary working is critical in the context of the GI Study and that mapping must reflect this.
- Question was raised about incorporation of Geological information where relevant – reference to Planning Policy Statement 9 Biodiversity and Geological Conservation.
- Incorporate Suffolk Heathland opportunity mapping

Opportunities

- No opportunities were put on the map.
- There are lots of opportunities for heathland re-creation and these should be mapped. The various heathland re-creation studies will provide ample information.
- Natural open space should be provided within the town itself, because people clearly value such landscapes for informal recreation. Natural open space can relieve pressure elsewhere.
- The GI strategy should provide specific standards for naturalistic landscaping within new housing and employment development sites, to bring nature to the doorstep and enhance quality of life. Options include green roofs, use of native trees and shrubs in landscaping, sustainable urban drainage that doubles as natural open spaces.
- A nursery for growing locally-native plants for local landscaping could be a good way to get school children and residents involved in local green space enhancements; for example, the London Wildlife Garden Centre was part-funded through a S106

agreement and provides a resource for schools, disabled people etc, and supplies local landscaping projects.

- River valleys and corridors identified as a major opportunity (on a wider and more comprehensive basis than currently shown). In particular, no indication given to the opportunity associated with the Thet and Little Ouse as a continuous biodiversity asset running through the town relating to water species, otters, birds, invertebrates etc.
- Railway embankments identified as potential habitat for reptiles.
- Mineral workings (past, present and future) all represent biodiversity opportunities as might waste sites such as landfill where remediated to high enough standard.
- Arable land offers some biodiversity in terms of invertebrates and not least Stone Curlews. Also arable plant species. The RSPB can supply data on the distribution of stone curlews (though this will have to be in confidence, as they are sensitive)

Issues

- New natural open spaces are needed just ahead of housing going in place, so that it is ready for people to use as they move in. The Government Office may be able to provide seed-funding?
- Notwithstanding the important sensitivity of the European sites, these still offer opportunities not just for biodiversity enhancement but for other managed activities – should be viewed as an opportunity within the GI study rather than just as biodiversity opportunity/constraint.

MAP 3: HISTORIC AND CULTURAL LANDSCAPE ASSETS

CHANGES TO THE EVIDENCE BASE MAP

Additional sites

- Sikh Trail.
- Elveden Hall and park.
- Kilverstone Park.
- Need to consider wider influence of Registered Parks and Gardens of Historic Interest (e.g. Euston, Shadwell) and not just the EH boundary. Euston's planned/created estate landscape is much more extensive, with the influence extending as far north as the river Little Ouse – Euston is important as an early William Kent landscape.
- Add key tree lines i.e. Cockleycle (info available from Brecks Partnership)
- Add Drove Roads, e.g. Harling Drove.
- Lynford Hall. Arboretum and lakes (mammoth site).
- Historic townscape generally (i.e. unlisted buildings of vernacular interest) and outputs of the Extensive Urban Environment Survey.
- It was also considered that in addition to specific sites consideration should be given to the cultural landscape in its broader sense, e.g. historic landscape character/HLC, elements which define sense of place e.g. heathland and the work within Breckland and adjoining Landscape Character Assessments (LCA).
- Possible Romano-British site at Broom Covert north of the River Thet and north east of Shadwell Park.
- Croxton Park.
- High Lodge, Santon Downham.
- Tank Museum.
- Peddars Way – important historic route.
- Early airfield at Snare Hill.

OPPORTUNITIES

Tier 2 is drawn too tightly and needs to consider other important cultural/historic landscape assets within neighbouring Suffolk Districts, e.g. Euston Park, High Lodge at Santon Downham, in addition to other sites of archaeological importance within the wider Brecks area, e.g. Mildenhall.

Key opportunities

- To promote cultural assets within town itself – e.g. improved pedestrian/green links to the SAMs such as the remains of the Saxon Town/earthworks, the Priory and Castle, and to maximise associated opportunities for interpretation/education.
- Thetford and its hinterland illustrating a long continuity of human migration and intervention e.g. prehistoric archaeology at Lynford, Saxon settlement at Mildenhall and Thetford and Iceni activity.
- To tie cultural landscape assets in to local economy and tourism.
- Reputed Boudicca site at Gallows Hill – a range of potential opportunities including Country Park, POS with interpretation materials and viewing platform/terrace – visual link to the Iron Age Fort earthworks incorporated within the later Norman Motte and Bailey Castle.
- Boudicca site needs to be marketed – is a key approach/gateway to Thetford.
- Green links between the forest and the town, in particular High Lodge.
- There is scope for further pine line research and to make more of this distinctive feature of the historic Breckland landscape.
- The potential for an avenue of tree planting to link Grimes Graves and the Boudicca site was suggested, to create a mature feature by 2060 (2000th anniversary of Boudicca's death).

ISSUES

- Need for sustainable overnight accommodation in Thetford Forest – there is a lack of this at present.
- Insufficient capacity for visitors, e.g. campsites. Level of provision is inadequate.
- Currently limited cycle access to cultural sites in Thetford Forest.
- Centre Parcs needs to be more involved – get visitors into the Forest and the town.
- Untidy urban growth and overspill development a concern – need to avoid this approach.
- Lack of connectivity between the cultural sites of the forest and of the town. All is a key barrier – need for green bridging to create safe links for pedestrians/cyclists between the key sites.
- People aren't sufficiently aware of the historic and cultural assets within the town itself beyond the more obvious things such as the Dad's Army Trail.

MAP 4: OPEN SPACE SITES

CHANGES TO THE EVIDENCE BASE MAP

Additional Sites

- Ford Meadows east of Nunn's Bridges.
- Kilverstone Park – query – should this be included as open space/GI.
- E. Common – Town Council owned common land, north of Thetford (nr Rugby Club) and extending as a tongue of land along St. Edmund's Way – needs enhanced management.
- Angling lakes – restricted access sites but considered important recreation spaces – south of Thetford chain of lakes along the Thet, and north west of Thetford on Little Ouse.
- Waterside access and slipway to Little Ouse at Bidwell's Scout site.
- Show all the designated open access land in and around Thetford – including vast areas of forestry land west of Thetford and Thetford Heath Common etc.
- BTO reserve at Nunnery Lakes has permissive access along tracks but very restricted for some e.g. wheelchair users.
- Tier 2 is too narrowly defined and must show relationship to open access sites to the south and east of Thetford and into Suffolk. These sites are all very important GI for people in Thetford and include:
 - Euston Park – which has some permissive access and rights of way.
 - West Stow Country Park/King's Forest – key recreation hub.
 - Knettishall Country Park.

Additional Routes

- Highlight Icknield Way Strategic route – Cycle Route 13 and opportunity to link to Bury via West Stow.
- St Edmund's Way along the Little Ouse.
- Peddar's Way.
- Hereward Way.
- It would also be useful to highlight key nodes e.g. car parks, recreation facilities etc.

Removed Sites

- None, but note pressures on key nature conservation sites e.g. Barnham Cross Common SAC – this should not be illustrated as an open space site as it is already at capacity and can not cope with any increased public access.
- Discussion about whether sites with restricted access such as the golf course and sports facilities should be shown?
- GI strategies generally include all GI, i.e. not just GI with open access. Logically golf courses, allotments, railway embankments etc should be illustrated as part of the network.

Other Changes

Labels for some of the sites are wrong (Risbeth Wood, Thetford Warren and Golf Course).

OPPORTUNITIES

General

Current Tier 2 is drawn too tightly and excludes Thetford Forest – this is a large recreation resource with the ability to deliver a range of GI opportunities – and is very sensitive. The GI plan will require an appropriate assessment. The key opportunity is to break through blockages (AII) and provide radiating routes from town out into the forest. But also to provide new GI as the population grows, rather than relying too much on existing sites (unless it can be shown that existing sites can accommodate further access without damaging them).

Key Links

- Route following natural ride/route through Thetford Forest linking, from St Edmund's Way on the Little Ouse over Brandon Road to High Lodge.
- Icknield Way Link from Barnham Cross Common crossing AII to Thetford Forest Park (note AOD constraints).
- St. Edmund's Way/Icknield Way link to The King's Forest and West Stow Country Park.
- Link to Euston Park.
- North of Thetford, Croxton Road which already provides a crossing of beneath the AII is a key recreation link (need to retain/promote as quiet rural route).
- North east of Thetford, the Sheepwalk Track, alongside the railway is a historic route with an existing link beneath the AII potentially providing access to Thetford Forest and heaths around Langmere.

- East of the Sheepwalk Track, Maiden's Walk (track) provides an access link from Kilverstone Hall – (does this cross under A11 and ownership/ rights of way?)
- South of Thetford the existing good link across the Thet and chestnut lined avenue across Melford Common was highlighted as key pedestrian approach to the town (need for a further pedestrian link across Thet?)
- The dismantled railway to the south of Thetford provides restricted access to the BTO reserve (opportunity?)
- Rivers – access along and to the water, incl. river Ouse Navigation. Whole of river path along the Thet needs upgrading.
- Key recreation nodes to north west of Thetford (Forest Park) and to south and east - The King's Forest/West Stow/Knettishall Heath (hub of recreational routes) – need to enhance links to these nodes.
- Icknield Way (Cycle Route 13) to Bury via West Stow.

Within Thetford and Potential Extensions

- Any new peripheral development needs to tie back into Thetford – appropriate – marginal planting screening of edges will be critical.
- Is there potential for recreational routes to link through the industrial estates?
- Area most deficient in open space judged to be north east Thetford – need to enhance access opportunities here.
- Natural green corridor along side A1075 brings tree belts into the town – important feature.
- Rail line is also a good wildlife link.
- South of the town – pedestrian access into Thetford along the common (tree lined avenue) is good. There are limited pedestrian access routes into the town from the north.
- Opportunities for SUDs adjacent to the rivers.
- 'Green stepping stones' – micro analysis of opportunities within the town e.g. urban trees/pocket parks.
- Consider increasing perception of open space – e.g. views across green areas can be as important as access into areas (e.g. opportunities for visual access to restricted MOD land).

ISSUES

- See key issues noted above about boundary of Tier 2 in relation to Thetford Forest and sites south and east of Thetford.

- The map shows a lot of open space sites – these however are often small, isolated and not connected – study should concentrate on creating linkages between.
- The OSS strategy discounted large areas e.g. Thetford Forest, which should be shown on the GI map.
- Much of Thetford Forest has restricted access (MOD/ SSSI etc).
- Conflicts of interest – access v SAC/SPA. Need to protect (and ‘hide’) some sites (e.g don’t promote for access) and provide alternative better sites.
- It is not just the designated sites which are important – this study should also identify important individual tree belts and secondary woodland.

MAP 5: STRATEGIC GREENINFRASTRUCTURE

CHANGES TO EVIDENCE BASE MAPS

Account needs to be taken of the following:

Suffolk:

- Brandon Country Park
- Santon Downham
- High Lodge
- West Stow Country Park
- Lackford Lakes
- Lark Valley (and Lark Valley Path)
- Knettishall Heath
- Mildnehall Woods
- Mildenhall Fen
- Angles Way
- Lakenheath Fen
- Hereward Way – European walking route E2 – Galway to Rome Via Lakenheath Fen, Thetford and towards Harling
- Icknield Way
- King's Forest

Norfolk

- Drove Rd, Wretham Heath
- Lt Ouse Path
- Weeting Heath
- Cycle route 13
- Welney Washes
- New reserve at Hilgay

Beyond (Cambs/Essex)

- Links to Wicken Fen in terms of habitat

Issues/Opportunities

- River is best asset
- Lt Ouse to Brandon to Thetford – Navigation is a huge opportunity
- Opportunity to create new strategic routes
- Many of the cycle ways do not connect that well – need to go on the road to link them
- Opportunity to recreate heathland in the forest
- Lynford gravel pits are an opportunity for recreation
- Ecological networks – creation of lines from King's Lynn to Thetford
- Links to Redgrave and Lopham Fen and Upper Waveney Valley
- Cambridge GI study identifies huge part of Thetford Forest as potential GI for that area
- Overall growth in the region will have an effect on the area e.g Haven Gateway, South Essex etc
- Thetford Forest Park marketed nationally as an experience only rivalled by New Forest and Peak district
- Opportunities to use buffers round the SPA and SAC as GI
- Linkages for the south are difficult
- Forest is nationally important
- Conflict between ecological and recreation interest re opening river up to navigation
- Concentration v dispersal of visitors
- Use Country Park as an opportunity to divert people away from SPA
- Issue of light pollution needs to be monitored
- Thetford and Brandon both have bad access to forest
- Routes are not well signed or connected
- Economic benefits of having a high quality GI environment – will influence directors of small and medium businesses

- Increasing access on town edges if not managed well can lead to increase in crime – key is to manage access
- Forest has huge potential for recreation e.g shooting/archery
- Aspiration for regional canoe facility in the area
- Forest promoted as a free open space
- Links with Bury St Edmunds are underplayed to the detriment of Thetford
- AA is a hindrance but is also the main carrier of visitors
- Thetford should be promoted as a “draw in its self”
- Tier 2 should include more adjoining parishes
- Issue of access from rail station to the forest
- GI is a huge economic asset

2. EXERCISE 2: BREAKOUT GROUPS

BREAK OUT WORKSHOP DISCUSSIONS – GOLD GROUP

Vision

- The group raised a number of points to include in considering the vision:
- Thetford as destination.
- Consider links to other towns e.g. Brandon.
- Reference should be made to the historic landscape of the hinterland e.g. heathland.
- Thetford as 'a town of trees' – need for significant greening/landscape structure and biodiversity enhancement within the town and its spaces.
- Use sustainability functions such as SuDS (Sustainable Drainage Systems) as a cue for landscape and green infrastructure design, .e.g. swales threading through development can be a valuable landscape and ecological feature. Don't forget though that the Brecks were the opposite – an open landscape – so need to draw out that as a distinctive feature of area.

Issues and opportunities

- The A11 is a significant visual and physical barrier. There is the need for pedestrian/cyclist links and further lateral linkages. Green bridges can also provide links for wildlife
- There is a need for properly managed and planned/zoned recreational space within development in order that POS (Public Open Space) and Green Infrastructure form a community focus.
- Need for an holistic approach to development planning with landscape, open space and ecology considered up front.
- Green Space needs to be properly planned and designed so that it meets the needs of the population and is above all usable. There is some good research which shows that people value natural open spaces, as well as more formal mown grass, sports pitches etc.
- Need to foster a sense of pride and ownership in new POS/GI.
- Implement Design Guides so they become practice/reality rather than remaining theoretical documents.
- Opportunity to make links with biodiversity sites and extend into the wider area, e.g. RSPB Lakenheath.

- Consider capacity/usage as part of the planning of the GI network to ensure that GI provision is appropriate.
- Incorporate provision for alternative transport links e.g. cycle networks.
- Ensure retention of existing landscape/wildlife corridor structure within new development (as in St Edmundsbury).
- In the Thetford area there is a clear design opportunity with the pine lines. A strong landscape structure exists which should not only be incorporated in new development but should also set the framework for creative layout design, so the landscape structure is an integral feature.
- Opportunity for synergy with adjoining GI Strategies and need to ensure cross boundary consistency (study runs in parallel with the GI Strategy for Norwich Growth Point).
- Potential conflict of interest arises from the need for accessible natural greenspace and the need to restrict access to the nature conservation sites within the Thetford hinterland e.g. Natura 2000 sites. . Don't rely on existing natural open space – create new natural open space close to where people live.
- A further conflict of interest may arise in providing accessible, usable green space and the need to police it (crime/anti social behaviour/misuse etc). This could be reduced by ensuring that security, safety and surveillance are considered at the very earliest stages of spatial planning and design as matter of good practice, as well as fostering a sense of community ownership of, and pride in, new GI.
- Potential conflicts may arise in terms of new development (Thetford's historic valley location with later growth on the upper valley sides) in relation to the visual amenity of existing residents.
- Deficiencies in existing GI were identified at the Abbey Estate and estate to east of railway line.

Principles for development

Site I: Thetford North

- Need to ensure town and county clearly separate (e.g. A11 marks natural barrier).
- Conserve the Boudicca site and its setting.
- Need to make green links across the A11 and the railway line as part of a wider network of footways and integrated green transport links.
- Soften edges of existing industrial estate – landscape buffering.
- Need to consider zoning of future industrial/employment development so it does not sit in close proximity to residential.

- Consider remaining field boundaries – landscape structure as template for new development layouts. Need to be stronger, wherever possible, build on and expand existing field margins, planting up gaps, creating wider open space corridors along existing hedges that fall into areas to be developed.
- The site is poorly related to the town in green transport terms and its orientation in relation to the historic town centre. routes between the two are currently car dominated.
- 'How far do you go?' If development is built out up to the bypass what happens when future expansion is needed –further bypass/ring road development?
- Visually sensitive to north, with long views to/from the Brecks.
- Need for green links and buffering to the southern site boundary.

Site 2: Thetford South East

- The existing pine lines should not only be retained within future development but also provide a clear landscape framework in which to site new development, as well as an opportunity for creative/innovative layout design.
- Incorporate pines/hedgerows and street trees within verges.
- The pine lines also provide a design incentive for green transport – could form part of a greenway network.
- Conserve the river, its frontage and setting and explore opportunities for further links along and across it.
- This site relates better to the historic town centre and facilitates opportunities for ready, sustainable access in view of the existing green links (river corridor etc).
- The wooded skyline is a key visual sensitivity (long views back across the valley to the industrial estates on the opposite skyline and the northern/western horizons. Consider also visual sensitivities and settings of Registered Parks and Gardens e.g. Shadwell/Euston.
- Like the northern extension area, this area is very sensitive. Stone curlews nest on arable land both within and outside of the SPA here. Development on land occupied by stone curlews would displace them. Development closet to the SPA boundary could displace nearby pairs. These impacts will need to be thoroughly assessed through the Appropriate Assessments of the GI strategy and DPDs.

Implementation

Priority projects

The group identified the following as priority projects, both in terms of enhancement of existing GI and the provision of new. Particular emphasis was placed on projects which would benefit the existing community first.

- A programme of enhancement and improved access to the River Thet, together with crossing/bridging points. Great opportunity to restore the river channel (creating wider wet margins etc) and wet up the floodplain, provide rock 'riffles' to enable people to get right down to the water, and to create off-river pools, pond dipping areas etc, for schools to use.
- River link to Brandon.
- Green link to High Lodge.
- Lynford Mammoth site – interpretation.
- Proposals for Boudicca Site and earthworks to create visual relationship with iron age fort/earthworks incorporated within the later castle.
- Skate park.
- Enhanced play provision, in addition to appropriate play provision within new development.
- Green links/bridging point(s) across the A11.

Involvement of relevant organisations

- The Thetford Society could ensure resident /community involvement and an appropriate level of 'buy in', in order that the GI network is relevant to and looked after by the local community.
- Sustrans have the potential to liaise with the relevant landowners to ensure that sites can be made available/can be delivered.
- The police have a role in approving the spatial planning and detailed design of Green Infrastructure components and external works to ensure that they are safe and secure environments.

Co ordination and delivery

The following agencies, authorities and bodies were identified by the group as having a key role to play in co ordinating and delivering the capital works associated with the GI network:

- Breckland Council- transport.
- Thetford Town Council – recreation.
- County Councils – Norfolk and Suffolk.
- Forestry Commission.
- Sustrans.
- Environment Agency – water usage and capacity.

- Consultants preparing the Strategic Flood Risk Assessments (SFRA's).
- Highways Agency.
- Development Corporations and their environmental consultant representatives.

Possible funding streams

The following were identified as potential sources of funding for the capital works and for their future management and maintenance:

- Section 106 contributions – make best possible use of this funding source.
- Highways Agency Funding – particularly for green bridge projects.
- East of England Development Agency (EEDA).
- East of England Regional Assembly (EERA).
- Grants to individual landowners.
- Public sector grants such as Heritage Lottery Funding (HLF) for archaeologically based/conservation/restoration/interpretation projects.
- County Council funding for transport works.
- National Health Service.
- Sports grants.

BREAK OUT WORKSHOP DISCUSSIONS: SILVER GROUP

Vision

The groups raised a number of points to include in considering the vision:

- Must engage with communities and include them in design and management.
- Need to ask people of Thetford.
- Must engage with people's perception of Thetford as a place to live.
- Ensure that intrinsic qualities of Thetford are understood and values.
- Intrinsic qualities need to look wider than Thetford only, and view as part of bigger picture - scale is that of a 'big' landscape – large blocks of forestry, wide open skies, expansive areas of heathland.
- Study needs to design in open spaces and views and reflect wider landscape in Thetford (do not micro manage).
- Build on and link to existing visions for Thetford (there are many!)
- Trees.
- Improve everyday lives.
- Bring countryside into the town.
- Green areas as part of everyday life not just special sites.
- Need to recognize different ethnic groups within Thetford.
- Vision must be about people participating and using the assets
- Create and maintain flows through green spaces so that they are used on a regular basis as part of everyday life not just sites to visit.
- Vision must recognize range of different uses and provided for different users/ages e.g. skateboard parks.
- Do not concentrate on managing problems but on managing benefits.

Issues and Opportunities

- How to engage different/new communities of Thetford.
- Start from premise that open space must be multi functional and free (spatial zoning is not successful).
- Challenge of how to put ideas into practice when it is the private sector that are actually delivering growth and GI.

- Need to remember that Thetford wanted Growth Point status and should use democratic process to ensure that only the best schemes are given permission.
- Need to strengthen local communities and educate council members to ensure that growth delivers benefits.
- Strengthen understanding of developers that greenspace is important.

Principles for Development

Site 1: Thetford North

- Much higher
- Open and exposed – development here could create the skyline in views.
- The design of this edge is very important in creating the perception of Thetford.
- Classic infill to bypass forming a hard edge to the town.
- Very difficult to be creative here.
- Think about developing out as fingers/digits – relating to the local lie of the land rather than packing in development up to bypass.
- Investment in A11 – green bridges.
- SuDS?

Site 2: Thetford South East

- Site 2 is more visually pleasing, with good access into Thetford and opportunities for creative design.
- Local lie of land – valley side – gentle slope and then falls way (constraint to develop over valley side?)
- Lie of land creates potential from views from Thetford looking out to this area – need to design creatively.
- Good access links and views into Thetford via Coronation Avenue/Jubilee Avenue – extend this axis as part of new development?
- Potential views from site to Nunnery site and Caste – need to conserve views and consider relationship to focal points.
- Estate landscape including roundels, hedges and tree strips – to be conserved and enhanced.
- Floodplain issue.

- Opportunity for SUD's in relation to river.
- Buffer of SPA.
- Potential future need for a southern bypass?

BREAKOUT WORKSHOP DISCUSSIONS:YELLOW (FORMERLY GREEN) GROUP

Vision

- Forest as a major regional and national destination – the vision needs to reflect both Thetford growth/function but also regional/tourist growth/function.
- Needs to reflect allowing people to access the forest from Thetford by means other than the car e.g. walking, cycling.
- Reflect that Thetford is a key point/location between Norfolk and Suffolk and the south and Midlands.
- Reflect the need to manage the area and access to it.
- Needs to seek to change aspirations of residents with regards to use of GI and the countryside – need to consider the needs of existing housing estate residents and not just future residents as it is possible that their needs are not being met at present or that they are not using existing infrastructure.
- The vision needs to reflect the ‘hierarchy’ of GI in relation to use and provision i.e. both the scale and function and ensure a complimentary approach.
- Vision should reflect the aspiration that GI should be Europe leading – bold and ambitious.
- Needs to reinforce that high quality design in its broadest sense is fundamental to the delivery of quality GI.

Issues and Opportunities

- Cross-border and cross/agency working is critical to success.
- The fact that in terms of the major development areas only a limited number of landowners are involved was seen as an opportunity in terms of developing a consistent and comprehensive approach to GI provision.
- An issue is funding but both Growth Point and developer contributions we seen as opportunities. However, there are other funding sources available such as:
 - Capital: Heritage Lottery, Landfill Tax Credit and Aggregates Levy
 - Revenue: Agri Environment Scheme, FC England Woodland Grant Scheme, local authority grant schemes.
- Issue of needing to ensure that the right stakeholders are engaged – question was raised of where are the schools?
- Issue of how to avoid the mistakes of the past in development of this scale – the LDF was seen as being an important component in this.

- Issue of the disturbance effects on biodiversity/landscape and managing access.
- Issue of questions that need to be answered around what does the community want? Do they want more GI? Do they use what they have already? Do they want different GI?
- Issue of the need for the ‘new community’ to be linked physically and culturally with Thetford – critical role of the town centre in this in terms of being the heart/focus of the community in Thetford.
- Issue that the GI plan will need to improve the aspirations of Thetford community – anecdotally visitation to Thetford Forest is by people from more affluent surrounding areas rather than residents of the town.

GI Principles for Development

- Gallows Hill (Boudicca site) looked at in terms of value/opportunities – limited biodiversity value in terms of location, agricultural past use and size although historic/archaeological value noted. In terms of recreational value noted that poor proximity and connection to existing residential areas and the majority of future growth areas.
- Does seem to be a heavy focus on increasing use of existing areas (e.g. Thetford Forest); much more emphasis is needed on developing additional natural open space closet to where people live.
- A11 identified as a significant barrier. There was questioning of whether a ‘green bridge in the context of Thetford was of value in biodiversity terms (depends what is being linked) and value given potentially significant costs relative to what could be achieved by expending the money elsewhere on biodiversity/GI. However, acknowledged that how create links across the A11 is critical to improving accessibility between the town and Thetford Forest. Existing opportunities marked on the map in the form of railway, Croxton Road and the Little Ouse.
- Any country park needs to be considered in terms of its wider use/function and purpose. Also need to consider cost not only in establishing but maintaining in the longer term – recent experiences in Cambridge. On this basis, a donut shape of land around the west, north and east of the town was delineated including bridging across the A11 into the north developable area, as an area where access and recreation should be considered instead of a single park area.
- The issue of community woodland was raised – suggested that link Breck Plantation to Croxton Plantation as part of ecological network.
- Need to consider opportunities for GI in all areas not just residential including existing industrial areas. With vacant and derelict sites need to consider whether presents and opportunity for GI.
- Need to carefully consider the issue of access vs biodiversity – suggested that Barnham Cross Common should not be ‘promoted’ for use because of the

ecological/biodiversity values of the site. This relates to numerous 'open access' sites throughout the SPA.

- A sectoral/spoke approach should be developed to the issue of access between the town and its surrounds, a 'ring' connection running around the town linking up the spoke/sectors (depicted on map). Specific mention of the need to link the town with High Lodge.

Implementation

- Key issue of funding dealt with above.
- Question of implications of spreading development in the extensions relative to funding and spread of GI provision – question whether this impact on the speed or locations of delivery.

BREAK OUT WORKSHOP DISCUSSIONS : PURPLE GROUP

Vision Thetford 2020

- Not anywhere's "ford"
- Need an iconic piece of sculpture or something on the A11
- Gateway to the Brecks
- Carbon neutral green settlement - highest EcoHome standard
- A town of Trees
- Forest as an "exemplar"
- A Trust required to deliver the vision. Milton K Parks Trust? Take on GI, and build up an 'endowment' of contributions to provide a stream of income for long-term site management? The SPA needs a management plan that covers access management and long-term habitat management.
- Need to bottom out the water supply issues
- Huge opportunities for heathland creation
- Even better than "Camborne" in terms of SUDS
- Industrial areas have good green spaces
- Should be prominence of heathland in landscaping
- Green Fingers form the town into the forest
- High Quality architecture in the town centre near the river
- All must be characteristic of Thetford and the Brecks
- Use CHP to power the town
- Use timber from the forest to build the new

Opportunities

- Need a "trust" to deliver
- River is huge opportunity
- Make the most of the new residents – get them involved in greening their areas as soon as possible
- Repackage image of Thetford as a green town
- Use mitigation for SPA and SAC as GI

- Take back Thetford Warren
- MOD stanta – huge opportunity for non disturbance
- Need cutting edge eco-homes in a Thetford style
- Creation f new allotments
- New cemetery is good GI

Things we would change

- Make sure it is delivered this time
- Remove “retro” dev
- Change poor opportunities in exiting dev
- Green existing devs
- Improve wildlife and foot traffic opportunities
- Improve access to forest for thetford residents
- Improve emotional; connecting of Thetford residents with eh forest
- Improve school participation
- Capacity building new and existing communities

Barriers

- Cost
- A I I/Railway
- SPA – can be an opportunity too
- Emotional and social perceptions
- Parish Boundaries
- Administrative Local Govt boundaries
- Historic inability to deliver
- Appreciation of need amongst decision makers
- MOD/Stanta – also an opportunity
- Would you lose local distinctiveness?

New GI

- Reintroduce heathland
- Defragment habitats
- Forest is a modern landscape and there is a desire to re-establish some of the lost landscapes, e.g. open heathland, within the pine plantations
- Managed open spaces in the town
- Town edge and A11
- Green fingers from the forest to the town
- More cycle dominance
- Need better road design e.g use of Brecks hedge
- Green bridges or green tunnels
- Improve cultural assets – open theatre in the forest
- Button Island – more GI along river
- Connect to Barnham Cross common
- Lynford pits as an opportunity
- Green train at the weekends that would do all of the stops
- Community orchards
- Wild flower nursery

Development Opportunities

Northern Extension

- Keep tree belts
- Strengthen fragmented landscape
- Can we use disused pits as an opportunity – a feature?
- Barrier is the railway
- Some existing crossings
- Remote from the town – need to strengthen links to the town

- Enhance pedestrian routes
- Need link to forest
- Green edges against A11 – use Scots Pine
- Perimeter for cycle path?
- Circular routes
- Cross routes are important

Eastern Extension (Thetford south east)

- Close to town centre
- Use River as GI into the town centre
- GI In association with buffer for SPA
- Sits in a high landscape
- Dismantled railway line is a good opportunity for GI
- Potential for stronger links to the south
- 500m buffer for Stone curlews
- Strong landscape structure with the stud land

Top Priorities

- Buffering and mitigation of the SPA
- Create country park as a diversion
- Radial access from the town (green fingers into the forest)
- Cross the A11 Green bridge or tunnel

Who Delivers

- Local Govt including Town and Parish Councils
- Forestry Commission.Natural England/EERA/EEDA/Highways Agency
- Residents
- Norfolk and Suffolk Wildlife trusts
- Community groups/Volunteers/BTO
- Landowners

- RSPB at Lakenheath

Implementation

- Needs a management plan
- Needs funding

Funding (Ideas for)

- Son or daughter of Growth Areas Funding (GAF)
- European funding for SPA/SAC
- Regional Agencies
- Local Authorities
- Public Appeal on small sites
- Landfill tax
- SETA
- Lottery
- ASLF

BREAK OUT WORKSHOP DISCUSSIONS – PINK GROUP

Vision

- An innovative approach to design, landscape and biodiversity is needed from the outset.
- Biodiversity should be enhanced through shaping development.
- The Pine Lines and other mature tree lines provide an intrinsic 'green grid' which should be used to shape new development
- Thetford is a unique place and its green infrastructure should reflect this
- A zone of restricted development should be applied around the SPA (400m like in Thames Basin Heaths SPA?) – any such mitigation measures must be defined through the appropriate assessment process; the Thames Basin Heaths do not support stone curlews, which are thought to be particularly sensitive to various impacts. Setting development back from the edge of the SPA may address some issues, but may not address others. For example, additional people will spread out and use open areas some way from the development. Stone curlews nest on arable land outside the SPA in this area) and this area of restricted development should be prioritised for habitat creation and enhancement schemes. Connectivity between habitats should be promoted.
- Local people who currently don't go to the countryside or use greenspace need to be engaged and encouraged to do so.
- The river should be safeguarded from development. This is particularly relevant as the two broad development locations meet at the floodplain.
- A range of open spaces should be provided, so that local people have an alternative to forest and open grass heath recreation.

Issues and opportunities

- There is currently a lack of connectivity between Thetford and the Forest. There should be two-way links bringing visitors from the Forest into Thetford and allowing access to the Forest by local people.
- Public transport between Thetford and the countryside/Forest also needs to be improved. Boats should be considered as an attractive transport option alongside buses and trains. The station and adjoining car park have potential to improve access to the countryside and should be better used.
- Habitat fragmentation is likely to be an issue associated with new development. Habitat enhancement within development should be secured and existing habitats should be safeguarded and enhanced. In addition, habitat creation should be appropriate to the ecological character of Thetford, and BAPs should be reviewed in order to identify appropriate habitats for creation.

- Renewable energy should be promoted and incorporated into green infrastructure.
- Ongoing management of the sites is a key issue that shouldn't be overlooked.
- The environmental capacity of Thetford is an issue, and SuDS should be incorporated into new development in order to protect the Thet aquifer.
- The limited number of landowners in the area where development is proposed provides a real opportunity to work with landowners to secure a sustainable approach to development which incorporates and supports green infrastructure.
- Greenways should be used to channel access around SPA, thereby protecting the most sensitive habitats and species populations. There is a need to balance the ecological and recreational roles of the SPA, and the Habitats Regulations Assessment should ensure this. The role of the MOD in protecting the integrity of the SPA also needs to be considered.
- The aim should be to work with developers to promote the fact that green infrastructure doesn't have to restrict development, and that it can add economic, social and environmental value to new development.
- Cycling should be promoted and Sustrans Route 13 should be closed to traffic in order to encourage local families to cycle in the Forest.
- Park and Ride should be considered as an option to provide access to the countryside (e.g. Sainsbury's Car Park?)

Principles for development

Site 1: Thetford North

- Safeguarding the mature tree framework should be a priority in this area. This framework of 'Pine Lines' and mature tree lines could form the basis of a 'green grid'. These lines can also provide a route for green links into the centre of Thetford.
- A more detailed review of existing habitat data, together with detailed ecological surveys should also feed into design of any development to minimise ecological impacts and enhance ecology - further habitat fragmentation should be avoided.
- Consideration should be given to the treatment of Boudicca's Camp, and whether land use of the site should be changed.
- Need to confirm whether or not a housing study has been completed? If so, how does this relate to the size of the broad development areas and the potential land buffer around the SPA?

Site 2: Thetford South East

- The Thetford East area is a much more varied landscape than Thetford North with more complex issues as a result. The top third of Thetford East is very sensitive as part of Shadwell Park and also of ecological importance.

- Any development on this side of Thetford would be prominent in the landscape as viewed from the west, and sensitive development in keeping with landscape character would be essential. The paddocked area in the south of the area would be most appropriate for housing in terms of landscape, however it is likely that this would conflict with the biodiversity of the paddocks.
- The river corridor is another feature of this area which will need to be protected from development and should be the subject of ecological enhancement alongside development.
- The distance of any proposed development from the river and floodplain, and the SPA boundary should be key considerations.
- Pedestrian/cycle access from the eastern area to Thetford centre should be provided along the river corridor, but this will also need to be sensitive to ecological value of the river and associated habitats. There may be potential to use the discussed railway line as a green link.
- Any new roads into and out of the new development should not create additional severance.
- The southern part of this area acts as a Gateway between Thetford and towns further south (Ipswich, Bury St Edmunds), so landscape and views should be a key consideration in any development here.
- There may need to be species-specific surveys in some parts of the area to identify populations of regionally-scarce species such as tower mustard (*Arabis glabra*) and vipers bugloss (*Echium vulgare*).

Implementation

Priority projects

- Work towards the Regional Park should be dovetailed with the Growth Point initiative to ensure a common approach to green infrastructure, landscape and environmental issues.
- The green infrastructure study should also link to the wider area and enable the proposed Brecks Management Plan which is planned to follow on from the GI study.
- A set of developer guidelines should be created and incorporate guidance on use of local materials and character, sustainable transport and local renewable energy.
- A cultural package should be developed based on the Brecks Recognition Study.
- Protection of water resources should be a key consideration in implementation of the green infrastructure approach and in any future development.
- The community should be consulted as an integral element of implementation.

- Any development and green infrastructure proposals should be climate-change proofed prior to implementation.
- Thetford's Growth Point status provides a great opportunity to learn from past mistakes and put Thetford at the cutting edge of sustainable development.

Involvement of relevant organisations

Possible funding streams

- Funding for future management of Thetford Forest and new green infrastructure sites should be secured from prospective developers. Landowners should also be viewed as a key source of funding for green infrastructure within and around their land. Further ecological surveys should be undertaken to establish the ecological value of sites 1 and 2.

Summary of opportunities from consultation responses

- 2.1. A short summary of the key opportunities identified by the stakeholders at the initial Roundtable Workshop, follows, based on the draft audit mapping presented under the 5 themes addressed in the characterisation exercise at Chapter 4.

Access and Recreation

Key opportunities and constraints

- 2.2. A number of issues relating to the provision of access and recreation, as well as opportunities for improvements to the overall infrastructure were gathered through the initial stakeholder workshop. Current access and recreation issues identified include:
- The need for new and improved cycle paths to provide a safe alternative to roads currently used by cyclists. Examples of areas in need of improvements include the A134 south of Thetford, which is used by cyclists as well as heavy goods vehicles, Barnham Cross Common, and Sustrans route 13, which should be closed to vehicular traffic.
 - There is a need for access improvements to bridge the A11 at Peddar's Way, the A11 near the fishing lakes, and over the London Road to the south-west of Thetford.
 - The need for new and improved green links, including a link from south east Thetford to Knettishall Park and the surrounding area, a continuous green link between Thetford and neighbouring Brandon, and improved access to Nunnery Lakes Nature Reserve and Haling Path.
 - The MOD has highlighted the need for clear, well-signed access close to MOD sites which should be defined through discussion with the MOD. There are some areas of the SPA/SAC outside the Danger Zone where military practice takes place. Sites where access is controlled or not actively promoted should be identified as part of the study.

- There is a need for improved education and interpretation to complement access and recreational facilities.
- Heritage interpretation and conservation should be incorporated into recreational facilities where appropriate.

2.3. In terms of potential for improved access and recreational provision, the following opportunities were identified:

- A Forest Recreation Strategy has recently been completed on behalf of the Forestry Commission. This includes some useful conclusions to inform the Green Infrastructure Study.
- A Suffolk County Council project is underway to create a number of access packages to link sites and routes with the Forest. Norfolk County Council may also become a partner in this work.
- A tree-lined avenue link has been proposed to link Grime's Graves with the edge of Thetford Forest near Two Mile Bottom to encourage access to the site from Thetford.
- Access and recreation opportunities should be provided along the Thet and Little Ouse at Thetford. There is also a need for improved access along the Little Ouse, where a towpath should be installed (an access and costing study has already been undertaken for this). This will provide a link between Thetford and High Lodge in the Forest Park. In addition, the stretch of the Little Ouse between Thetford Forest Country Park and Two Mile Bottom is an established informal canoeing area, and there is potential to enhance the recreation opportunities and quality of this site.
- The Warren Bus provides good public transport to the countryside and trains should also be promoted in terms of their potential to provide access to the countryside.
- Lynford Pits (north of Thetford Forest) is being considered by the Forestry Commission as a new water recreation site.

Biodiversity (Tier 1 and 2)

Opportunities and constraints (consultation findings)

2.4. Potential issues and constraints relating to biodiversity in Thetford include:

- Habitat fragmentation is likely to occur as a result of new development. Appropriate habitat creation should be planned and secured alongside planning for new housing.
- Habitat creation should be appropriate to the ecological character of Thetford, and Biodiversity Action Plans should be reviewed in order to identify appropriate habitats for creation.
- Ongoing management of the sites is a key issue that shouldn't be overlooked.
- Greenways should be used to channel access into the SPA, thereby protecting the most sensitive habitats and species populations. There is a need to balance the

ecological and recreational roles of the SPA, and the Habitats Regulations Assessment should ensure this. The role of the MOD in protecting the integrity of the SPA also needs to be considered.

Biodiversity opportunities in Thetford include:

- River valleys and corridors identified as a major opportunity. The River Thet and Little Ouse should be viewed as a continuous biodiversity asset running through the town relating to water species, otters, birds, invertebrates etc.
- The Breckland SPA covers a significant area of land around Thetford. Whilst this area represents a significant biodiversity resource, it should also be viewed as an opportunity rather than just a constraint.
- Railway embankments should be managed as a potential habitat for reptiles.
- Mineral workings (past, present and future) all represent biodiversity opportunities as might waste sites, which should be remediated with habitat creation in mind.
- Arable land offers some biodiversity in terms of invertebrates and scarce birds such as stone curlews.

Historic and Cultural Landscape Assets (Tier 1 and 2)

2.5. A good range of issues and opportunities were identified in relation to historic and cultural assets in and around Thetford. The key issues identified in relation to these assets include:

- Insufficient capacity for visitors to stay in Thetford Forest, e.g. campsites.
- Currently limited cycle access to cultural sites in Thetford Forest.
- Centre Parcs needs to be more involved – get visitors into the Forest and the town.
- Lack of connectivity between the cultural sites of the Forest and of the town. A11 is a key barrier – need for green bridging to create safe links for pedestrians/cyclists between the key sites.
- People aren't sufficiently aware of the historic and cultural assets within the town itself beyond the more obvious things such as the Dad's Army Trail.

Key opportunities and constraints

2.6. The following opportunities for conserving and enhancing historic and cultural heritage were identified:

- Cultural assets within Thetford should be better promoted. Examples of where opportunities lie include improved pedestrian/green links to the sites such as the remains of the Saxon Town/earthworks, the Priory and Castle.

- Thetford and its hinterland illustrate a long continuity of human migration and intervention e.g. prehistoric archaeology at Lynford, Saxon settlement at Mildenhall and Thetford and Iceni activity. This heritage should be highlighted
- To tie cultural landscape assets in to local economy and tourism.
- A range of potential opportunities exist at the Boudicca site at Gallows Hill, including Country Park, open space with interpretation materials and viewing platform/terrace, and a visual link to the Iron Age Fort earthworks incorporated within the later Norman Motte and Bailey Castle.
- Boudicca site needs to be marketed as it is a key approach/gateway to Thetford.
- Green links should be developed between the forest and the town, in particular High Lodge.
- There is scope for further pine line research and to make more of this distinctive feature of the historic Breckland landscape.
- The potential for an avenue of tree planting to link Grimes Graves and the Boudicca site was suggested, to create a mature feature by 2060 (2000th anniversary of Boudicca's death).

Open Space Sites (Tier 1 and 2)

Opportunities and constraints

- 2.7. Key issues for consideration in relation to open space provision include:
- North east Thetford is considered to be the most deficient in open space, and opportunities to increase the provision of open space alongside development should be a priority.
 - The map shows a lot of open space sites, however these are often small, isolated and not connected. The study should concentrate on creating linkages between.
 - Much of Thetford Forest has restricted access (MOD/ SSSI etc).
 - Conflicts of interest – access v SAC/SPA. There is a need to protect (and 'hide') some sites (e.g. don't promote for access) and provide alternative better sites.
 - It is not just the designated sites which are important – this study should also identify individual tree belts and secondary woodland which could play an important role in providing recreational sites.
- 2.8. The major opportunity in terms of open space in Thetford is seen to be Thetford Forest. This is a large recreational resource with the potential to deliver a range of recreational provision. A number of specific opportunities were also highlighted in relation to open space:
- There is potential for a route linking Thetford to High Lodge following natural ride through Thetford Forest from St Edmund's Way to High Lodge.

- To the north of Thetford, Croxton Road already provides a crossing of beneath the A11 and should be enhanced as a key recreation link.
- The Sheepwalk Track, alongside the railway is a historic route with an existing link beneath the A11 potentially providing access to Thetford Forest the heaths to the north east of Thetford.
- The dismantled railway to the south of Thetford provides restricted access to the BTO reserve and has potential as a key recreational route.
- Access along the River Thet and Little Ouse both require significant improvements, although these should be enhanced whilst ensuring that existing species and habitats along the river are maintained.
- Any new peripheral development should provide green access links into Thetford town centre.
- The natural green corridor alongside A1075 brings tree belts into the town, and should be maintained as an important feature.

Strategic Green Infrastructure (Tier 3)

Opportunities and constraints (consultation findings)

2.9. In relation to strategic green infrastructure in and around Thetford, a number of issues for consideration were highlighted:

- The cycle network is fragmented and linkages should be created as part of the green infrastructure study.
- Cambridge green infrastructure study identifies huge part of Thetford Forest as potential GI for that area. The implications of this need to be considered within this study. In addition, other proposed growth in the region will increase the visitor pressure on Thetford Forest.
- There are poor linkages to the south of Thetford and this should be a priority for strategic improvements to the access network.
- Forest is nationally important
- Conflict between ecological and recreation interest re opening river up to navigation.
- Concentration v dispersal of visitors.
- Use Country Park as an opportunity to divert people away from SPA.
- Issue of light pollution needs to be monitored.
- Thetford and Brandon both have bad access to forest.
- Routes are not well signed or connected.

- Increasing access on town edges if not managed well can lead to increase in crime – key is to manage access.
 - Links with Bury St Edmunds are underplayed to the detriment of Thetford.
 - Issue of access from rail station to the Forest.
- 2.10. In terms of opportunities, the Thet and Little Ouse rivers were identified as Thetford's best green infrastructure asset, and the rivers should be highlighted as a key focus of the future green infrastructure network. The navigation between Thetford and Brandon should be viewed as a huge opportunity related to the rivers.
- Opportunity to recreate heathland in the forest.
 - Lynford Gravel Pits are a key strategic opportunity for recreation.
 - In terms of ecological networks, ecological links should be created between Thetford to King's Lynn.
 - Economic benefits of having a high quality GI environment should be promoted to influence directors of small and medium businesses.
 - Forest has huge potential for countryside recreation such as archery and shooting.
 - There is potential for a regional canoe facility to be located along the Little Ouse in Thetford Forest.
 - Thetford should be promoted as an attraction in its own right.
 - Thetford Forest Park should be marketed nationally as an experience only rivalled by New Forest and the Peak District.
 - A development buffer around Thetford Forest SPA/SAC should be viewed as a significant opportunity for the creation of GI.

Land Use Consultants, 18th May 2007 (Updated for draft GI Report, August 2007)

b) Summary Table from Second Stakeholder Workshop, September 2007

THETFORD GREEN INFRASTRUCTURE STUDY – SECOND STAKEHOLDER WORKSHOP

- I. The table below sets out a brief summary of main comments and issues arising from the validation workshop held on 4th September 2007, plus any subsequent comments received by LUC. The issues are dealt with thematically, considering the GI Vision, the GI Strategy/Network, the project list and implementation and other/miscellaneous issues. The table sets out LUC's responses. The response column has been used as a basis for making changes to the final report.

Issue	LUC Response
GI Vision	
Is the Vision too ambitious? Should be grounded in reality. The test will be in delivery.	The Vision should be positive, upbeat and aspirational (it is how Thetford sees itself in 20-30 years time) and should aim for the highest standards/objectives. The Vision is the 'hook' or framework on which all GI proposals hang. Practicalities are considered strategically by the GI Strategy although delivery and budget are matters to be addressed at detailed design and implementation. No Change.
Need to articulate partnership working in Vision.	Agreed. Make reference to collaborative partnership working to deliver the vision.
Vision as 'step up in terms of quality'. Quality as a place to live and work – attract funding.	Agreed. Note comments about aspirational nature of vision above. Add 'quality' to vision and as a functional objective.
How does the GI Vision reflect other visions (e.g.	Ensure consistency with Growth Deliver Plan Vision Moving Thetford Forward etc.

Issue	LUC Response
Growth Vision)?	
Wording to reflect Thetford as Regional GI hub. Connect core of town to forest	Agree – useful phrase to add.
Strengthen ref to GI for living as well as access link/permeability within the town.	Agree – review phrasing.
Need to recognise baseline/starting point and Thetford's issues/problems.	Has informed the Vision and the direction of the strategy although the Vision should not dwell on negative aspects. No change.
Protect River Corridor.	Agreed but this is a more detailed consideration as addressed by the strategy rather than a matter for the vision. Have referred to fundamental importance of river to Thetford in terms of landscape/strategic/historic/environmental considerations. No change.
Ensure existing open space retained	Agree. Refer to a seamless transition between townscape, green-urban and landscape, with retention of existing greenspace as integral nodes/parts of the urban fabric. Add to vision.
Type of growth and how it should be integrated. Development should be	Too detailed for GI Vision, although could state broadly how Thetford is expected to grow in terms of pattern/form and the holistic approach which is desirable for GI.

Issue	LUC Response
apt/appropriate.	LUC to consider.
How to bring people in?	Dealt with in strategy – attractors such as RVP/keynote projects etc. No change.
Vision needs to consider spaces as well as links.	Agreed. LUC to add reference.
Consider quality of life within functional objectives.	Agreed. Create a new Quality objective.
Sense of past and place should be together – mutually informative/dependant.	Agreed. Consider option to merge para's.
Should functional floodplain be 'multi functional floodplain' instead?	Perhaps, although functional floodplain is generally understood to cover a range of functions i.e. greenspace/parkland, biodiversity, water balancing etc in addition to flood storage. No change.
Vision should refer to internationally designated nature conservation sites which are buffered, and protected and the species for which they are designated are	This is a 'micro' consideration and is considered in the GI Strategy. No Change.

Issue	LUC Response
thriving.	
Are all the issue covered? 20 years and beyond?	All issues relevant to GI covered. 20 year timeframe is a guide/to reflect EDAW work. Vision can set the framework for longer term also.
Little to bring people to Thetford.	Aspirational vision and GI Strategy sets the framework to change this.
GI Strategy/Network	
Sustainable Transport	
Link to transport to wider area and links to sustainable transport/movement – need for joined up thinking and approach and links to surrounding towns/Growth Points.	Agree new proposed green and blue links and strategy needs to link to wider sustainable transport objectives. GI Strategy need to set benchmark for and inform/be implemented by future Transport Study. State this clearly in strategy.
Consider how to manage traffic pressure at Nuns Bridges and also how to manage visitors and also how to incorporate safe routes to/from schools.	This should form part of the Transport Strategy.
Cultural Heritage and Assets	

Issue	LUC Response
Gallows Hill green space proposals depend on potential Scheduling.	It is considered likely that scheduling will proceed. Gallows Hill is a key gateway site and a significant part of the green-urban interface, as well as a node in the green link network. Proposals do not necessarily depend on scheduling. No change.
Over great emphasis on cultural assets outside of town. Consider non scheduled sites/medieval urban grain of Thetford etc.	Agree that we need to acknowledge importance of vernacular and medieval streetscene but detailed considerations are outwith the scope of this study. Suggest new Intensive Urban Environment Study (equivalent to urban HLC) and reference to this, although this is not in itself a GI project.
Concern over new links between Scheduled Monuments and potential impact on historic streetscape. Also concern re: need for carefully planned developments in town centre to avoid impacts on historic environment of Thetford.	Proposals are generally not for new routes but for enhancement/improved presentation/signage of existing routes. Refer to links to ongoing archaeological work and potential for Intensive Urban Environment Study.
<i>Ecology and biodiversity</i>	
Consider sensitivity of Thetford Forest (SPA) and ability to absorb pressures.	Note this in report and caveat that proposals for TFP and links across are subject to Appropriate Assessment.

Issue	LUC Response
<p>Heathland creation as part of Forestry Strategy/ add key landscape habitat improvement zones – key sites to bring Brecks heathland to edge of the town.</p>	<p>Already part of FC Design and Management Plan. Cross refer to this objective.</p> <p>Add in proposals for heathland recreation/rewilding.</p>
<p>Question over deliverability/value/demand for green bridges.</p>	<p>Suggest feasibility study and case study review + assessment of options available e.g. in cutting to minimise landtake and therefore cost. At this stage the study must be aspirational.</p> <p>No change.</p>
<p>Green Bridge proposals at Bridgham Heath should not lead to a conflict with MOD training uses to north.</p>	<p>Agreed. Will be subject to Feasibility Study.</p> <p>No change.</p>
<p>Make more reference to broad brush biodiversity opportunities, e.g. to southern edge and forest margins.</p>	<p>Ecological infrastructure proposals currently being worked up.</p> <p>Expanded text and map to be provided.</p>
<p>The draft GIS should not identify any specific Special Protection Area (SPA). Identification of a 400m buffer zone at this stage would be</p>	<p>We have made reference to the fact that the SPA buffer is indicative/potential at this stage and pending the results of the Appropriate Assessment. We consider that removal of reference to potential buffer and associated caveats would be contentious and therefore would wish to avoid this. BDC have confirmed this position. The separation distance is to be confirmed through Appropriate Assessment and should also ensure that there is no detrimental visual impact</p>

Issue	LUC Response
prejudicial to the outcome of the 'Bird Project' which would not be available until May 2008.	through development encroaching too far up the valley side.
Need to make more reference to species other than ground nesting birds within the SPA e.g. RDB species.	This is not an ecological study and ground nesting birds are prime interest of the SPA. No change.
Consider Ecological impact of recreational activity.	Have referred to this already in terms of AA and links to relieve pressures on high profile biodiversity sites. Ensure this is clear/robust enough. No change.
Need to make provision for further acid heathland/grassland habitats e.g. to boundary of plantations.	Agreed: Include on the Ecological Infrastructure Map.
Show CWS on Fig 7.	Agreed.
Fig 7: Explain that pine plantations are not BAP habitats and that some BAP habitats are missing e.g. naturally fluctuating, aquifer	Check and amend as appropriate. BAP data was derived from Natural England.

Issue	LUC Response
fed water bodies.	
A list of references/sources would be useful. Also need to credit EcoNet to both NWT and Norfolk Biodiversity Partnership.	Agreed. Covered in footnotes.
River Valley Park	
Broad support for this project but issue of how to promote access to it.	RVP incorporates visitor centre and educational facilities - central resource for promotion of the RVP and wider GI. Promotion/role of RVP should be subject to community consultation. No change
Is the term 'park' appropriate?	We consider that it is (on similar lines to Nene and Bedfordshire RVP and National Parks). No change.
Is lighting proposed along the river corridor? Paved paths?	This is a detailed design issue but would probably be inappropriate in the rural river valley context – is not a park in the sense of an urban park (cite Nene and Beds RVP as examples). No change.
Link not destination.	Disagree. We see as both. The idea behind the RVP is to create a central GI asset to minimise the need to travel unnecessarily by car and to create pedestrian/cycle/equestrian links to wider GI e.g. TFP. No change.

Issue	LUC Response
Need for assessment of environmental/ecological impacts re project 3 (navigation proposals).	<p>Agreed. EIA will form part of the next stage of the Navigation proposals. All projects will be subject to detailed feasibility studies which will outline the scope of works, assessment and detailed investigations required.</p> <p>Add ref in intro to projects.</p>
Make greater reference to links between Nunnery Lakes and RVP and proposed growth area at Thetford North.	<p>Agreed.</p> <p>Add indicative links at Ashwell Homes and Kilverstone Park.</p>
The BTO have concerns over the purpose of the RVP and would welcome the opportunity to discuss further.	<p>Concern noted. Project partners to follow up/consult further as part of Feasibility. BTO to be a key partner.</p> <p>Should report note all potential partners?</p>
RVP and SuDS are key opportunities for functional floodplain and flood management.	<p>Agree. GI Strategy has considered this from the outset.</p>
Green space	
Can new open space in growth option areas compensate or deficiencies in the surrounding townscape,	<p>Agree. Reconsider locations.</p>

Issue	LUC Response
partic. NE Thetford. i.e. move open spaces to perimeter and create access links to. Can new homes deliver open space to compensate for existing shortfall?	
Green 'stepping stones' in urban area	LUC to revisit linkages between existing areas of greenspace and ensure all appropriate sites linked.
Preserve allotments and incorporate adequate new provision within development. Consider issues of vandalism and demand and Dutch models for provision?	GI proposals for growth options reflect EDAW land use budget, which allocates areas for allotment provision. Detailed considerations part of design and feasibility. No change.
Is neighbourhood park most appropriate near Euston roundabout?	This has been based purely on ANGSt distance threshold criteria although position could be flexible/refined further. Agreed. Location of park to be reconsidered, but note that all projects noted on the growth options sites are indicative and will be subject to detailed design.
Green links	
Croxtan Road is a key green link. Need to enhance crossing/bridging of A11.	Agreed. Have suggested enhanced pedestrian/cycle crossing here.
High Lodge (issue of golf	Link already provided. Detailed route, siting and design subject to safety and buffering

Issue	LUC Response
course)	<p>considerations (Feasibility Study).</p> <p>No change but highlight health and safety issues as part of general preamble on feasibility studies.</p>
Need for new ROWs outside urban area	<p>Already provided by GI Strategy. Not convinced need for any more.</p> <p>No change.</p>
No direct link to Peddars Way	<p>A new direct link is provided plus enhanced existing links, together with green bridge to link heathland sites and connectivity across A11. Long term potential for link along river valley.</p> <p>No change.</p>
Quality link between town and forest + proper connection between town and country	<p>Possibly extend urban greenway or description in project schedule to cover this. GI strategy covers integration of landscape and townscape already. Consider landscape enhancement north of A11 to tie in with new access link at Gallows Hill.</p>
Potential for link to Knettishall Heath (subject to landowner agreement)	<p>Indicative link shown as part of RVP – subject to Feasibility Studies.</p>
Link to West Stow is supported but indicated alignments difficult to deliver in terms of biodiversity and ROW issues. Suggest alternative alignment, as existing is unusable by cyclists/disabled (sandy	<p>Routes shown on map are indicative. Sustrans to be involved in future consultation/feasibility work.</p> <p>No change.</p>

Issue	LUC Response
ground).	
Crossing of A11 to SW of Thetford needs to be as close to town as possible.	Crossing proposed at Gallows Hill + green bridge crossings which depend on habitat. LUC to investigate potential for further pedestrian and cycle crossings sw of town (see FC edits map for possible locations).
Misc	
Planning consent for Kilverstone Farm Buildings	Agree – will add in text.
Community renewables potential on Kilverstone estate (turbines and CHP plant).	Agree in principle re. potential, but subject to further feasibility work. Study should not make reference to specific development potential for individual land holdings.
Economic/tourism impact of GI and links to Regional Economic Strategy. Capitalise on tourism benefits of GI.	Refer to although this is largely outside the scope of the GI Study.
GI needs to be shown as opportunity rather than environmental constraint on proposals maps.	Already shown as positive features both in graphical/spatial representation. No change.
GI maps unclear – need to show distinction between	Disagree. Overlays would be extremely difficult to work with in the document and therefore information needs to appear on single maps. Although the maps necessarily contain a great deal

Issue	LUC Response
existing and proposed, perhaps as overlays	<p>of information, care has been taken to devise a clear graphic language. Accept that keys could benefit from rationalisation.</p> <p>No change.</p>
Should map show development areas as these are to be tested further.	We consider that it is necessary to show these to be consistent with EDAW's work and recognise that they are indicative at this stage.
Need to show graphically the links with other GI strategies.	Dealt with in text, cross boundary check has been undertaken in drawing up the GI Strategy.
Figure 32 should identify the 35m contour line referenced within the report as potential boundary to the Thetford South East growth option.	<p>Subject to EDAW's work as would need to agree/cross reference with this.</p> <p>No change.</p>
Need to fully reflect extent of the training area around Croxton on Fig 3.	LUC to check.
Query as to whether the landscape buffers shown on Figure 32 are at the most appropriate location.	<p>These proposals are indicative only. We would need to see more evidence to justify where they should go.</p> <p>No change (but add further guidance in design principles if relevant).</p>
Draft GIS is inappropriately detailed in setting out specific	The locations are indicative and based on the criteria set out in the methodology (ANGSt and NPFA). The GI Study must be necessarily detailed in terms of interpreting the requirements of

Issue	LUC Response
<p>areas for delivery of NEAPs, LEAPs and LAPs and this should be determined at the detailed planning stage. Simplify GIS to refer only to the need for future developments to provide for sport, recreation, open space and play areas.</p>	<p>these standards and providing a guide to the level of future investment required in the GI Network.</p> <p>No change.</p>
<p>Inappropriate to show detailed costs in respect of capital works and revenue activities.</p>	<p>Disagree. This was a specific client request and is essential to inform estimates for the level of investment and future funding required.</p> <p>No change.</p>
<p>Amend GIS to exclude land to the north of the A1066 in Thetford South East growth area (Shadwell Estate not currently able to release land there due operational reasons).</p>	<p>This is a wider issue which need to be raised with EDAW. Maps reflect EDAW's work.</p>
<p>Need for further, more detailed work to be carried out when site specific aspects of development refined.</p>	<p>Agreed. GI is the starting point from which future detailed landscape and environmental design considerations will arise. GI must be used to inform development layout and design decisions wherever possible.</p> <p>No change.</p>

Issue	LUC Response
Need to refer to Nature Reserve Designation of Nunnery Lakes BTO and that Nunnery Lakes is subject to an existing section 106 agreement (1991).	Ensure refer to these if relevant. Section 106 documentation has been reviewed.
Make links to Env't Agency/Natural England Great Ouse Wetland Vision and EA Flood Management Plan and River Basin Management Plans.	Cross refer to this work. Great Ouse Vision is already in, but also include explicit links to FMP and RBMP.
If funding is to be explored from external sources, the funding bodies will need confirmation of benefits of them being involved.	Agreed. The need for consultation with funding bodies has been referred to in the Implementation Strategy. No change.
Mention National Trail at para 4.6; refer to Peddars Way National Trail in table 4.5, amend title of N. Norfolk Coast Path to Norfolk Coast Path, amend length of PW and NCP to 150km. Amend references to impassable	Check and amend as appropriate. Also LUC to add existing Sustrans route to Fig 29.

Issue	LUC Response
<p>sections of PW at para 4.75. Para 6.8 Croxton Road also links to PW at Wretham. Table 9.1 National Trail as delivery partner.</p>	
<p>Need for flexibility of boundary of eastern growth area. Also significant issues in respect of the southern site in terms of sensitivities with SPA.</p>	<p>The motivation for this appears political and outwith the scope of the study. SPA issue and views of Natural England already noted. The decision for investigation of growth options in the south east comes from the EDAW study. Siting is of course subject to considerable further testing and assessment.</p> <p>No change.</p>
<p>Identify 19ha land area to the east of Gallows Hill; also Business Park adjacent to Kilverstone Hall and proposed landscaped business park which could provide river access.</p>	<p>Need to ensure this is consistent with EDAW's work. GI report uses EDAW's boundaries.</p>
<p>Declassify Kilverstone Hall and gardens as proposed semi natural greenspace and reclassify with Snarehill as private parkland.</p>	<p>Agreed. Show as 'parkland setting'. LUC to also review HLC on extent of parkland.</p>
<p>Concern that approach re: structural landscape</p>	<p>Disagree. This approach has been agreed with the client. GI strategies demand a certain level of prescriptiveness, as they are the framework or structure in which later proposals will sit.</p>

Issue	LUC Response
proposals, general strategy and design brief for sites is overly prescriptive at this stage.	Outline 'Design Brief' is a series of principles to inform future design coding. No change.
Query as to whether Highways Agency's input has been obtained as yet.	This is a matter for site specific feasibility studies. No change (but mention opportunities re. future dualling of A11 west of Thetford).
Need for strategic advance landscape planting in first 11 years.	Agreed, particularly to A11 and northern boundary. This has been accommodated in the project list. No change.
Review visibility of growth option site from south of the town – extent exposed or contained.	Agree, will review and amend accordingly.
Filtered urban edge to new development – can this be addressed more 'crisply'?	Agree – to be considered.
Concern re: built development occurring in river corridor.	This is not a GI consideration, although EDAW's work excludes the floodplain from growth area options.
Development to facilitate access. Need for design	Agree, but these are separate issues from GI, although partly informed by it.

Issue	LUC Response
coding of development to integrate new development into the existing character of Thetford.	
Concerns re: core of town and effects of growth of out of town services. Also question re who is coming to live in Thetford/future employment. Question as to what leads what (regeneration and housing) and how infrastructure delivery is prioritised.	These are within the remit of the EDAW study.
Is the GI Study a mitigation strategy?	In part. One of the key functions of GI is to compensate for the effects of development.
Does GI see things in isolation to other work?	No, the approach is holistic and integrated with other relevant studies as far as possible.
Potential projects to change or add to	
Heathland management and restoration.	Detailed information provided by Reg Lands – LUC to add to project list/ maps and include in costing.

Issue	LUC Response
Stone Curlew at Weeting.	<p>Refer to/check in Ecological Characterisation.</p> <p>Not sure if this is a further GI project?</p>
Interpretation of recently excavated material and map regression exercise.	Outside scope of GI Study. Suggest link to further study (part of suggested Intensive Urban Environment Study work).
Project 33: make stronger link between Castle and Bronze Age Fort and Gallows Hill site (also Bronze Age archaeology) fort, together with providing sensitive/controlled access to motte and bailey of castle.	Agreed. New link to be added.
Should Gallows Hill be the location of a new Green Bridge as a gateway 'par excellence'.	This would not link habitats (the primary reason for using green rather than standard bridging structures) and as such could not be justified on these grounds. We recognise the strategic importance of Gallows Hill as a gateway site and as significant component of the GI Network and this is reflected in the GI proposals. Enhanced road crossing provided at this point.
Need to highlight opportunity for significant enhancements to footpath and cycle networks in Thetford South East and linking to town centre.	Agreed. The GIS is already showing this information. Possibly enhance references to this in project list/description.

Issue	LUC Response
Link to dismantled railway at Arlington Way as potential for further new GI.	Agreed. Refer to in RVP project.
Implementation – issues and considerations	
Consider gateways.	Agreed. Subject to detailed design and consultation.
Amend area of search Lakenheath Fen expansion to be less specific/prescriptive at this stage.	Agreed.
Consider Regional Economic Strategy as 'hook' for new GI + link to Growth Agenda.	Make reference to this although detailed considerations are beyond the scope of the GI Study.
National Monuments Management Service as potential partner.	Add in.
Take account of Thetford Cultural and Community Packages.	These ran until 2006 and are now closed.
Keystone Trust potentially a key partner	Agreed. List in implementation plan and tie to appropriate projects.

Issue	LUC Response
Connect to Brecks project work and Regional Park Initiative.	Agreed.
Ensure phasing is correct, with joined approach to delivery and early engagement with landowners.	<p>This is a detailed masterplanning consideration and dependant on wider criteria(logistical/financial/political). As such outwith the scope of this study other than very broad phasing for Growth Delivery Plan.</p> <p>No change.</p>
Need for joined up partnership working – work together to ensure coordinated delivery.	<p>Agree. Is a key part of delivering GI, but this is to be agreed between client, project group and respective partners at a later stage.</p> <p>No change to report but point taken.</p>
Need for further testing of growth options and for LUC and EDAW study to work together.	<p>Agreed. LUC GI work is informed by EDAW’s emerging technical assessment re: growth options and will change to reflect as finalised. The two studies have worked together throughout.</p> <p>No change.</p>
Need to concentrate GI efforts on the new sites/growth options.	<p>Agreed. Comprehensive provision has been made for this in both project list and implementation strategy.</p> <p>No change.</p>
Need for flexibility re: project prioritisation in light of Appropriate Assessment.	Agreed. Final phasing will be determined at masterplanning stage after the findings of Appropriate Assessment are known. LUC to add caveat to chapter 9.

Issue	LUC Response
Need to consider other contributions for delivery other than developer contributions / s.106 agreements.	Agreed. Refer to Implementation Strategy and Funding Mechanisms overview at Section 9 (already covered).
Developers need to work closely with key partners to successfully deliver GI	Agreed, add to principles.
Need for time and effort in good design.	Agreed – this is the fundamental purpose of GI planning to ensure an holistic approach. No change.
Enhancement of existing facilities need to be written into the Business Case for National Trail.	Agree, but not part of this report.
Ensure community is engaged with landowners early on in the process.	Agreed.
Natural England may have significant expertise in design of urban greenspace.	Yes include as project partner.
An illustrated timescale or project timeline would be	Agreed but this for a later stage (after detailed design development and when phasing of GI Network is finalised).

Issue	LUC Response
helpful.	No change.
<i>Additional map changes</i>	
Figure 30 should show context, i.e. no routes ending at edge of tier.	Agree ensure context of fig 29 repeat on this map.
Figure 29 add existing Sustrans route at Croxton Road.	Add.
Jane's Wood has been removed and is arable.	Remove and reconsider GI opportunities.
Change Santon Downham in key to High Lodge Forest Centre.	Agreed.
Ensure marries with Cambs and Norwich GI maps.	Agreed it does but will undertake final check.
FC Edits.	Changes marked up on FC map to be reviewed and incorporated.

APPENDIX 3: Datasets used

Datasets used

I:10k OS base
I:50k OS base
Local Plan Layers
Allocation for Employment Uses
Allocation for Residential Development
Ancient Monument
Ancient Monument point
Area of Important Landscape Quality
Candidate Special Area of Conservation
Commercial Area
Conservation Area
Corridor of Movement
Hazardous Premises Consultation Area
Highway Improvement Scheme
Highway Improvement Scheme (Trunk Road)
Highway Improvement Scheme (Trunk Road) line
Highway Improvement Scheme line
Historic Parks & Gardens
Inset Boundaries
Listed Building
Local Nature Reserve
Local Plan Queries
National Nature Reserve
Open Space
parish boundary
Plan Area Boundary
Primary Commercial Area
Proposed Car Park
Proposed Open Space
Proposed Service Road (Diagrammatic)
Proposed Special Protection Area
Proposed Traffic Management Scheme (Diagrammatic)
Protected Route for Brandon Bypass
Protection of Rail Track Bed
Protection of River Corridor
Ramsar Site
redevelopment opportunity
Secondary Commercial Area
settlement boundary
Site of Archaeological & Historical Interest
Site of Special Scientific Interest
Site Reserved for Hospital or Institutional Use
Site with Planning Permission for Employment Uses
site with planning permission for residential development
Site with Planning Permission for Retail Park
Site with Planning Permission for School
Site with Planning Permission for Sheltered Housing
Site with Planning Permission for Supermarket
OS 1:25k Base Map (.Tiff)
gb_50k_artificial.shp
gb_50k_bedrock.shp
gb_50k_linear.shp
gb_50k_mass_movement.shp
gb_50k_superficial.shp
Level 2 LDUs
Fadens Map of Norfolk
Mastermap for Breckland
Veteran trees

Norfolk Phase I Orchard Survey
FloodEnvelopes1000yr
FloodEnvelopes100yr
FloodEnvelopes10yr
Final core areas
Final enhancement areas
Final urban
Open Space data (from OSS)
Sustrans data
National Route
NCN link
Regional Route
Econet Data
Calcareous Grassland
Coastal habitat
Core woodland
Fen
Grassland
Heathland
NN district
Norwich Fringe econet
Wetland & rivers
Wood Pasture
Final core areas.shp
Final core areas_region.shp
Final urban.shp
Final urban_region.shp
General_Enhancement_region.shp
heath_wood_grass_region.shp
Suffolk County 1:50k Base Data
LCT Suffolk
Suffolk County HLC data
Highways data for Thetford
Landform Panorama
County Wildlife Sites
Regionally important Geology
Regional Nature Reserves

APPENDIX 4: Glossary

GLOSSARY OF TERMS

Term	Definition
AOD	Above Ordnance Datum (sea level).
Ancient woodland	Woods that are believed to have been continuous woodland cover since at least 1600 AD.
BAP	Biodiversity Action Plan. Countywide plans identifying priority habitats and targets for enhancement/habitat creation.
Characteristic	A distinctive element of the landscape that contributes to landscape character for instance a particular hedgerow pattern or sense of tranquillity.
Coppice	A traditional form of woodland management where trees are cut regularly on a cycle to promote growth from their bases.
CWS	County Wildlife Sites. Site recognised as being of more than local or neighbourhood wildlife value.
Deal Rows	A local term for the Scots Pine windbreak hedgerows or tree lines within the Breckland landscape.
Ecological Network	Identification of key wildlife corridors and opportunities for connectivity/strategic links in implementing/delivering BAP targets.
Fen	Fens are peatlands. Two main types of fen occur: Topogenous fens where water movement in the peat or soil is generally vertical (e.g. basin fens and floodplain fens) and Soligenous fens where water movements are lateral (e.g. mires associated with springs, rills and flushes and valley mires). They are dynamic semi-natural systems requiring appropriate management in order to maintain the open fen communities and associated species richness.
Functional Floodplain	Floodplain that can fulfil a wide range of Green Infrastructure objectives, including passive/informal recreation, greenspace and parkland, in addition to flood storage and flood risk management.
HLC	Historic Landscape Characterisation. Identification of landscape change and evolution through analysis of field boundary patterns.
Intensive Urban Environment Study	Equivalent to an urban HLC, often involving map regression analysis.

Term	Definition
LAP	Local Area of Play. Incidental, small scale play area of approx 100 sq.m area, catering predominantly for toddlers/younger children.
LEAP	Local Equipped Area of Play. Intermediate play area of approx. 400sq.m area, catering predominantly for 5-7 year olds.
Landscape character	The distinct, recognisable and consistent pattern of elements that occurs consistently in a particular landscape and how these are perceived. It reflects particular combinations of geology, landform, soils, vegetation, land use and human settlement.
Landscape character areas	Single unique areas that are the discrete geographical area of a particular landscape type.
Landscape character types	Distinct types of landscape that are relatively homogenous in character. They are generic in nature in that they may occur in different areas in different parts of the country, but share broadly similar combinations of geology, topography, drainage patterns, vegetation, historic land use and settlement pattern.
LNR	Local Nature Reserves.
Meres	Lakes formed when ice sheets retreated, carving out hollows in the underlying bedrock, and filling with meltwater from the glaciers.
MUGA	Multi Use Games Area. A games court (usually fenced and hard surfaced, with markings).
Natura 2000 sites	Sites of pan European nature conservation importance, e.g. Special Protection Areas (SPA – birds) and Special Area of Conservation (SAC- habitats)
NNR	National Nature Reserves.
NEAP	Neighbourhood Equipped Area of Play. Large play area of 1000sq.m area approx. Incorporating provision for toddlers, 5-7 year olds and older children.
Pingos	Periglacial water bodies created by the contraction of frozen pockets of ground water during the thaw following the last Ice Age. They represent sites of significant interest for geological diversity (geodiversity).
RAMSAR Sites	Wetlands of international importance.

Term	Definition
Sensitivity	A judgement of how sensitive or vulnerable an element of the environment is to change.
SSSIs	Sites of Special Scientific Interest. Designated under the Wildlife and Conservation Act 1981, as amended, for their outstanding interest in respect of flora, fauna, geology and or limnology.
Vernacular architecture	Architecture which is indigenous to a specific place and adapted to both the environment and to the user's need. (The term 'vernacular' is derived from the Latin vernaculus, meaning 'native').