



HIGHWAY ASSET MANAGEMENT PLAN

Issued June 2015 **DRAFT**

Contents

1.	Introduction and Policy	3
1.1	Introduction	3
1.2	Links to Other Plans.....	4
1.3	Policies	5
1.4	General.....	5
1.5	Structural	6
1.6	Environmental.....	6
1.7	Safety	7
1.8	Winter	7
2.	Legal Framework	8
2.1	Duty of Care for Highway Maintenance.....	8
2.2	Powers and Duties for Highway Maintenance	8
2.3	Related Powers and Duties.....	8
2.4	Local Government Act 1999 and Best Value.....	8
2.5	Risk Management.....	9
2.6	Health and Safety	9
2.7	Management and Records Systems	9
3.	Strategy and Hierarchy.....	10
3.1	Principles and Objectives of Highway Maintenance Strategy	10
3.2	Components of Highway Maintenance Strategy.....	10
3.3	Network Hierarchy	11
3.4	Carriageway Hierarchy	12
3.5	Footway Hierarchy	14
3.6	Cycle Hierarchy	15
4.	Asset Inspections, Surveys, Assessments and Recording	16
4.1	Importance of Inspection, Surveys, Assessments and Recording Regime	16
4.2	Safety Inspections	16
4.3	Carriageway Surveys.....	17
4.4	Footway Surveys	21
4.5	Condition of Cycleways.....	22
4.6	Structures Inspection	22
4.7	Condition Inspections of Safety Fences and Barriers	24
4.8	Street Lighting Inspections.....	24
4.9	Illuminated Traffic Signs and Internally Lit Traffic Bollards	28
4.10	Condition Inspection of Non-Illuminated Traffic Signs and Bollards.....	29
4.11	Condition of Non-Illuminated Traffic Signs and Bollards.....	30
4.12	Condition Inspection of Traffic Signals, Pedestrian and Cycle Crossings	30
4.13	Condition of Traffic Signals, Pedestrian and Cycle Crossings	31
4.14	Safety Inspection of Electrical Installations	32
4.15	Condition Inspection of Highway Drainage Systems	32
4.16	Condition of Highway Drainage.....	33
4.17	Condition Inspection of Highway Embankments and Cuttings.....	34

4.18	Condition of Embankments and Cuttings	34
4.19	Condition Inspection of Landscaped Areas and Trees	35
4.20	Condition of Landscaped Areas and Trees	35
4.21	Condition of Verges	36
4.22	Condition Inspections of Road Markings and Studs	37
4.23	Condition of Road Markings and Studs	37
4.24	Other Inspections for Regulatory Purposes.....	38
4.25	Highway Maintenance in Special Designated Areas (Lincolnshire Wolds)	38
5.	Performance Indicators	40
5.1	National Performance Indicators	40
5.2	Local Performance Indicators	40
5.3	Benchmarking.....	41
6.	Programming and Priorities	42
6.1	The Importance of Programming and Prioritisation	42
6.2	Strategic Level	42
6.3	Transport Level.....	42
6.4	Maintenance Level.....	43
7.	Weather and Emergencies	45
7.1	Weather	45
7.2	Road Traffic Accidents.....	46
7.3	Structural Collapse.....	46
7.4	Civil Emergencies	46
APPENDIX A.....	Highway Standards.....	47
APPENDIX B.....	Response Times.....	52
APPENDIX C.....	Detailed Asset Table.....	58
APPENDIX D.....	Urban Plans.....	61

1. Introduction and Policy

1.1 Introduction

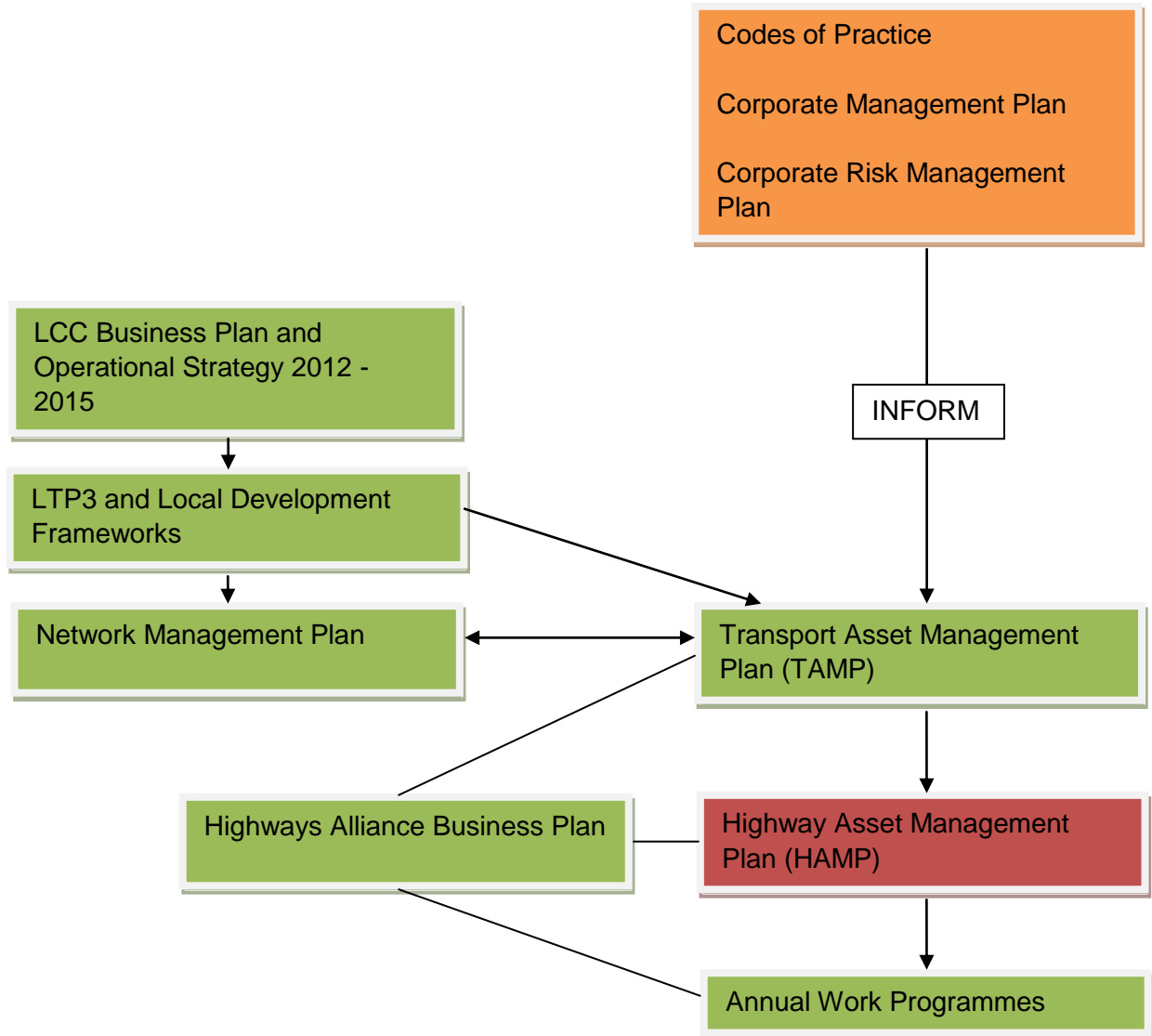
- i. The purpose of this document is to define Lincolnshire County Council's (The Council) policies and methods for maintenance of the County Road Network. This will examine standards in relation to the Well Maintained Highways – Code of Practice for Highway Maintenance Management (July 2005) and how Lincolnshire County Council aims to deliver its standards.

Cross references to the Code of Practice and other documents are shown in the right hand margin throughout the document. Recommended Standards from Well Maintained Highways are shown cross referenced against Lincolnshire County Councils actual standards. Any deviations from these national guidelines are explained.

- ii. This document aims to provide an overview. For more detailed information refer to Well Maintained Highways – Code of Practice for Highway Maintenance Management (July 2005 updated September 2013).
- iii. Prior to 1994 many maintenance policies had not been documented and many standards were based on historic practice rather than current needs and resources. In 1994 the Highway Maintenance Plan was written and, over the following years, has undergone many revisions. With the introduction of the Best Value initiative and The Asset Management Plan the plan has been subject to major review.
- iv. The framework and recommendations set down in this plan are taken from the document, Well Maintained Highways – Code Practice for Highway Maintenance Management which was published in July 2005. This Document is published by The UK Roads Liaison Group and is recommended by Department of Transport, ADEPT (formally County Surveyor's Society) and the Local Government Association through the UK Roads Board. This Document supersedes Delivering Best Value in Highway Maintenance (July 2001) and the "Highway Maintenance- A Code of Good Practice" which was published in 1989. This Plan is a key element in implementing the recommendations proposed by the new code of practice.
- v. The plan references the Highways Maintenance Efficiency Programme (HMEP) which is a Department for Transport (DfT) funded, sector-led transformation programme. HMEP provides tools and resources to help manage the transformation of delivery of roads and services through greater efficiencies. Where possible, Lincolnshire has aligned itself with this programme in an effort to improve the condition of the road network through a sound asset-management based approach to highway maintenance.
- vi. The Department for Transport (DfT) has announced its local highways maintenance capital block funding from 2015 – 2021 as part of the National Infrastructure Plan. Lincolnshire County Council will have an opportunity to secure additional funding on an "incentive basis", dependent on its pursuit of efficiencies and use of asset management. This plan complements Lincolnshire County Council's Transport Asset Management Plan (TAMP), demonstrating policies and procedures which pursue efficiency and asset management.

1.2 Links to Other Plans

The Highway Maintenance Plan links to other Council plans as illustrated below:



1.3 Policies

The maintenance programme is divided into four main policy areas:

- Structural
- Environmental
- Safety
- Winter

General policies are set out below dealing with needs assessment, standards and quality. Specific policies and standards are detailed in the relevant section of this document. Winter service is covered separately in the Winter Maintenance Plan.

1.4 General

- | | | |
|-----|--|---|
| HM1 | The allocation of highway maintenance resources will normally be achieved by assessing needs objectively and using the Council approved standards based upon the principals of sound Asset Management. | <u>4.3</u> |
| HM2 | Maintenance programmes and activities will allow some limited flexibility to respond to the local needs of Lincolnshire’s road users, including pedestrians, cyclists and public transport operators and elected members. | |
| HM3 | Regular highway inspections will be undertaken to identify defects and plan maintenance work. | <u>4.1 to 4.25</u> |
| HM4 | Maintenance standards will reflect the role of the individual categories within the carriageway and footway hierarchies. The highest standards will apply to the strategic road network (carriageways), main shopping/busy urban areas (footways) and Historic/Tourist areas (for example Lincoln, Stamford and Skegness). | <u>3.4 to 3.7</u> |
| HM5 | The specification for and supervision of highway maintenance works will aim for a high quality consistent with European and British Standards, other National Codes and the Councils Maintenance Design Manual. | |
| HM6 | Cost effective maintenance programmes and treatments will be developed and implemented recognising the importance of whole life costing where appropriate. | |
| HM7 | The County Council will co-operate with District and/or Parish Councils in combining works programmes and entering into agreements, where this will provide a better service. | |
| HM8 | In conservation areas highway features and surfaces will be designed and maintained to preserve or enhance the character | <u>Manual for Streets</u> |

and appearance of the street scene and minimise visual intrusion. Wherever possible, opportunities will be explored to seek external funding for the extra costs involved.

- HM9 The County Council will promote and actively encourage the maximum practicable use of secondary/recycled materials in road construction and maintenance schemes, where it is the responsible authority.

1.5 Structural

- HM10 In allocating resources for carriageways and footways, priority will be given to works that contribute the most to preserving the structure of the highway network.
- HM11 The disaggregation of the carriageway structural maintenance budget will be based upon SCANNER (Surface Condition Assessment of the National Network of Roads) condition data for the classified road network and CVI (Coarse Visual Inspection) condition data for the unclassified road network from the Highway Asset Management System.
- HM12 The disaggregation of the footway structural maintenance budget will be based on inventory data from Confirm/SCANNER maintenance management system.
- HM13 The disaggregation of the non-structural maintenance budget between geographical areas and between different highway hierarchy will be based on inventory data from the Confirm asset management system.
- HM14 Surface dressing and other surface treatments will be given priority for resources where such treatments restore sub-standard skidding resistance or are cost effective in reducing future maintenance requirements. [4.3](#)
[4.4](#)
[4.5](#)
- HM15 Structural maintenance works on bridges, culverts and other important highway structures will be given a priority within a 5 point scale from low to very urgent. Position within a range will depend upon the severity of the identified defects and the operational, financial and safety consequences of delaying remedial works. [4.6](#)

1.6 Environmental

- HM16 Maintenance treatments and operations will take account of environmental factors seeking to enhance visual amenity, minimise environmental damage and protect wildlife habitat.
- HM17 Operational procedures and budgets for environmental maintenance and other cyclic activities will be based upon highway inventory data from the Confirm/SCANNER system, frequency standards and contract rates.

1.7 Safety

HM18	Street lighting will be operated throughout the hours of darkness with maintenance programmes designed to minimise the number and duration of faults.	4.8 4.9 4.10 4.12
HM19	Traffic Signals will be operated with maintenance programmes designed to minimise the occurrence and duration of faults.	4.11 4.12
HM20	Signs/ Markings/Studs will be maintained on a priority basis determined by the results of routine condition inspections.	

1.8 Winter

A separate [Winter Maintenance Plan](#) has been produced and holds all relevant information for this service. Information included is as follows:

- Policy
- Responsibilities
- Precautionary and Secondary Salting
- Snow Clearance
- Footway Clearance
- Winter Maintenance Contacts

2. Legal Framework

2.1 Duty of Care for Highway Maintenance

The Authority has a general duty of care to users of the highway to maintain the highway in a condition fit for its purpose. All decisions taken will uphold this principle, be they policy, priority, budgetary, programming or the implementation of highway maintenance works.

2.2 Powers and Duties for Highway Maintenance

- The Highways Act 1980
- The Local Authorities (Transport Charges) Regulations 1998
- The New Roads and Street Works Act 1991
- Traffic Management Act 2004

2.3 Related Powers and Duties

The following is a list of Acts, which refer duties and standards for wider issues on the highway network.

- Road Traffic Regulations Act 1984
- Traffic Signs and General Directions 2002
- Road Traffic Act 1988
- Road Traffic Reduction Act 1997
- The Transport Act 2000
- Wildlife and Countryside Act 1981
- The Environmental Protection Act 1990
- The Noxious Weeds Act 1959
- Rights of Way Act 1990
- Countryside and Rights of Way Act 2000
- The Railway and Transport Safety Bill 2003
- Disability Discrimination Act 1995
- The Ragwort Control Act 2003

2.4 Local Government Act 1999 and Best Value

The Local Government Act 1999 puts forward the general duties of Best Value. The following points must be taken into consideration:

- Statutory basis Local Government Act 1999
- Best Value Performance Plans
- Reviews of all services on five year cycle
- Statutory Inspection by Audit Commission
- Statutory Framework of Best Value Performance Indicators

2.5 Risk Management

All highways assessments, inspections and surveys should be established with a clear understanding of the risks and consequences involved.

Risk Management should address the following crucial issue which could affect users of the Network and employees:

- Safety of the network and liability for accident
- Asset loss or damage
- Service failure or reduction
- Operational
- Environmental
- Financial
- Contractual
- Reputation
- Risk Register

2.6 Health and Safety

The Health and Safety at Work Act 1974, together with the Construction (Design and Management) Regulations 2014 instructs the Local Authority to carry out work in a safe manner and establish arrangements for the management of construction works.

All staff involved in the planning, management and delivery of highway services will receive appropriate training and will be regularly updated in health and safety requirements.

2.7 Management and Records Systems

All records and information maintained by the Authority will be accurate and effectively managed. This will not only help to manage the service, but also to defend the Authority against alleged failure to maintain the network.

Various Highway Advice Notices (HAT's), Departmental Policy Documents (DPDs) and Good Practice Guidelines detail the procedures that will be adhered to ensure the effective management of records relevant to highway maintenance.

The QMS (Quality Management System) has been implemented for the effective management of documents and records, which structures areas to complement the layout of Highways Structure and contains links to other areas, HATs and DPDs.

3. Strategy and Hierarchy

3.1 Principles and Objectives of Highway Maintenance Strategy

Highway Maintenance in Lincolnshire is, as far as is reasonably practicable, undertaken by means of a systematic logical approach based upon recognised principals of Asset Management. The principles of this strategy are:

- To deliver the statutory obligations of the authority.
- To be responsive to the needs of the community and users.
- To provide effective management to preserve or enhance the highway network asset.
- To support highway network management strategy and integrated transport objectives.
- To support and add value where possible to wider policy objectives.

3.2 Components of Highway Maintenance Strategy

i. The foundations for Lincolnshire's maintenance Strategy are:

- A detailed Inventory of components of the network asset.
- A detailed hierarchy for elements of the network.
- A robust framework of policies.
- Defined objectives and actions plans from Best Value Reviews.
- Risk Register

ii. **Transport Asset Management Plan**

The development of a Highway Asset Management Plan (HAMP) to show the Authority is delivering value when maintaining highways as well as addressing wider objectives of corporate strategy, transport policy and value for money has been undertaken by the Directorate.

The HAMP will be a key component of the Transport Asset Management Plan and will include such items as:

- A set of objectives and policies linked to business objectives.
- An asset or inventory register.
- Maintenance strategies for the long term based on sustainable use of physical resources and whole life costing.
- An identification of future funding requirements to maintain required level of service.
- Managing risk of failure or loss of use
- Development of co-ordinated forward programme for highway maintenance, operation and improvement
- Measurements of performance and continuous improvement.

iii. **HMEP**

- **HMEP (Highways Maintenance Efficiency Programme) is a sector-led transformation programme, sponsored and funded by the Department for Transport. It is designed to maximise returns from highways investment and help to improve efficiency and effectiveness of the local highways sector which it is aimed at.**
- **HMEP has developed a series of products to inform highways authorities of examples of best practice and recommendations which should lead to an improved highway maintenance service and better value for money for taxpayers.**

- Lincolnshire County Council will adopt, where affordable, recommendations which add value to current practices.
 - The pothole review and asset management guidance products produced by HMEP both recommend that authorities should employ an asset management approach. The principle "prevention is better than cure" in determining the balance between structural, preventative and reactive maintenance activities has been embraced by Lincolnshire County Council. This philosophy should improve the resilience of the highway network and minimise the occurrence of potholes in the future, informing the risk-based approach to response times in a move to "first-time fixes" to highway defects.
 - The Department for Transport has indicated that around 20% of funding for local highways authorities will be reliant on an ability to demonstrate an engrained approach to asset management and efficiency advised by HMEP. This includes a move away from reactive to proactive maintenance.
- iv. The majority of Lincolnshire’s highways network assets are recorded in detail and are widely available through the use of the corporate/directorate systems such as “Map Info” Geographical Information System (GIS), Confirm, “MayRise” (street lighting), Structures database, Traffic Signal database and the Traffic Signs database.
- v. It is recognised that Lincolnshire is very diverse in terms of its distribution of population. Population densities range from Lincoln City, Boston and Grantham through the large market towns such as Louth, Spalding, Stamford and Gainsborough, to small villages and large, sparsely populated, rural areas.

Defined Towns

Those towns defined within the Lincolnshire Structure Plan (1998). Refer to Appendix D – Urban Area Plan

Alford	Horncastle	Spalding
Boston	Lincoln (inc North Hykeham)	Spilsby
Bourne	Long Sutton	Stamford
Caistor	Louth	Sutton Bridge
Crowland	Market Rasen	Sutton on Sea
Gainsborough	Mablethorpe	Tattershall/Conningsby
Grantham	Skegness	The Deepings
Holbeach	Sleaford	

3.3 Network Hierarchy

- i. Lincolnshire is a large and sparsely populated county with a greater than average length of road per head of population. The length of the road network is 9,000 km of carriageway. The network also comprises 3,643 Km, of footway. Clearly it is not practicable to develop and maintain the whole of the road network to the same standards.
- ii. The County Council has therefore designated a hierarchy of road types with each highway link being allocated to one of these types. The types reflect the roles of different roads.

There are also separate hierarchies for footways and cycle-ways based upon these principles.

3.4 Carriageway Hierarchy

Local Standard	National Standard
<p>Hierarchy Type 1</p> <p>The major long distance, inter-urban routes which either:</p> <ul style="list-style-type: none"> - Provide a network of routes for traffic passing through the county, - Link major urban areas (over 8000 population) to areas outside the county <p>Particularly for long distance through industrial and commercial traffic.</p>	<p>Category 2 - Strategic Route</p> <p>Trunk and some Principal “A” roads between Primary Destinations</p> <p>Routes for fast moving long distance traffic with little frontage access or pedestrian traffic. Speed limits are usually in excess of 40 mph and there are few junctions. Pedestrian crossings are either segregated or controlled and parked vehicles are generally prohibited.</p>
<p>Hierarchy Type 2</p> <p>The remaining inter-urban routes of more than local importance by virtue of their role in handling substantial flows of long distance traffic between:</p> <ul style="list-style-type: none"> - Adjacent towns within the county. - Lincolnshire towns near the county boundary and nearby centres of populations in adjacent counties. <p><i>Hierarchy 1 and 2 roads comprise the County’s strategic road network</i></p>	<p>Category 3a - Main Distributor</p> <p>Major urban and Inter-Primary links. Short to medium distance traffic.</p> <p>Routes between Strategic Routes and linking urban centres to the strategic network with limited frontage access. In urban areas speed limits are usually 40mph or less, parking is restricted at peak times and there are positive measures for pedestrian safety.</p>
<p>Hierarchy Type 3</p> <p>Local roads which provide a good quality connection between the main settlements (population of 500 plus) to the Type 1 and 2 Roads, including rural bus routes and links to major HGV</p>	<p>Category 3b – Secondary Distributor</p> <p>Classified Road (B and C class) and unclassified urban bus routes carrying local traffic with frontage access and frequent junctions</p>

<p>generators.</p>	<p>In rural areas these roads link the larger villages and HGV generators to the Strategic and Main Distributor Network. In built areas these roads have 30 mph speed limits and very high levels of pedestrian activity with some crossing facilities including zebra crossings. On-street parking is generally unrestricted except for safety reasons.</p>
<p>Hierarchy Type 4</p> <p>Minor rural roads, which link the smaller villages and settlements to the 1, 2 or 3 roads.</p> <p>The remaining roads whose main purpose is to provide access to residential properties.</p>	<p>Category 4a - Link Roads</p> <p>Roads linking between the Main and Secondary Distributor Network with frontage access and frequent junctions</p> <p>In rural areas these roads link the smaller villages to the distributor roads. They are of varying width and not always capable of carrying two way traffic. In urban areas they are residential or industrial inter-connecting roads with 30 mph speed limits random pedestrian movements and uncontrolled parking.</p> <p>Category 4b – Local Access Road</p> <p>Roads serving limited numbers of properties carrying only access traffic.</p> <p>In rural areas these roads serve small settlements and provide access to individual properties and land. They are often only single lane width and unsuitable for HGVs. In urban areas they are often residential loop roads or cul-de-sacs.</p>
<p>Hierarchy Type 5</p> <p>Minor rural roads, which serve a very limited number of properties or provide access to agricultural land.</p>	<p>Category 4b – Local Access Road</p> <p>Roads serving limited numbers of properties carrying only access traffic.</p> <p>In rural areas these roads serve small settlements and provide access to individual properties and land. They are often only single lane width and unsuitable for HGVs. In urban areas they are often residential loop roads or cul-de-sacs.</p>

3.5 Footway Hierarchy

Local Standard	National Standard
<p>Type 1 – Primary Walking Routes</p> <ul style="list-style-type: none"> – Footways in the main shopping street of the urban areas of towns listed in the structure plan – Pedestrianised shopping streets in the urban areas of towns listed in the structure plan. <p><i>Note: Type 1 status will not be extended beyond the main shopping street area merely because there are other shops or a proliferation of public buildings etc. outside the main shopping centre.</i></p>	<p>Category 1 – Primary Walking Routes</p> <p>Busy urban shopping and business areas and main pedestrian routes.</p>
<p>Type 2 – Secondary Walking Routes</p> <ul style="list-style-type: none"> – Footways along main pedestrian routes just outside the main shopping area but within the central areas of towns listed in the structure plan. – Local shopping streets in settlements not listed in the structure plan where there is a linear shopping development to 10 retail units or more within a 100 metre length. – Footways remote from the carriageway linking main shopping streets (Type 1) to other areas e.g. pedestrian access to car park etc. 	<p>Category 2 – Secondary Walking Routes</p> <p>Medium usage routes through local areas feeding into primary routes, local shopping centres etc.</p>

<p>Type 3 – Link Footways</p> <p>Linking local access footways through urban areas and busy rural footways.</p>	<p>Category 3 – Link Footways</p> <p>Linking local access footways through urban areas and busy rural footways.</p>
<p>Type 4 – Local Access Footways</p> <p>Footways associated with low usage, for example estate roads to the main routes, cul-de-sacs, adjacent to local access roads and rural footways between villages.</p>	<p>Category 4 – Local Access Footways</p> <p>Footways associated with low usage, short estate roads to the main routes and cul-de-sacs.</p>

3.6 Cycle Hierarchy

Local Standard	National Standard
<p>Type 1</p> <p>Cycle lanes forming part of the carriageway.</p>	<p>Category A</p> <p>Cycle lane forming part of the carriageway, commonly 1.5 metre strip adjacent to the nearside kerb. Cycle gaps at road closure point (no entries allowing cycle access)</p>
<p>Type 2</p> <ul style="list-style-type: none"> - Shared segregated cycle / pedestrian facilities - Shared unsegregated facilities in urban areas 	<p>Category B</p> <p>Cycle track, a highway route for cyclists not contiguous with the public footway or carriageway. Shared cycle/pedestrian paths, either segregated by a white line or other physical segregation, or un-segregated.</p>
<p>Type 3</p> <p>Shared unsegregated facilities in rural areas and other cycle tracks that are not contiguous with the public footway or carriageway.</p>	<p>Category C</p> <p>Cycle trails, leisure routes through open spaces. These are not necessarily the responsibility of the highway authority, but may be maintained by an authority under other powers and duties.</p>

4. Asset Inspections, Surveys, Assessments and Recording

4.1 Importance of Inspection, Surveys, Assessments and Recording Regime

- i. The establishment of an effective regime of inspection, assessment and recording is the most crucial element of highway maintenance. The characteristics of the regime, including frequency of inspections, items to be recorded and nature of response are defined following an assessment of the relative risk.
- ii. All elements of the inspection and assessment regime are applied systematically and consistently. This is particularly important in respect of network safety, where information is critical in the case of legal proceedings. It is important to recognise however that all information recorded, even if not primarily intended for network safety purposes, may have consequential implications for safety and may therefore be relevant to legal proceedings.

4.2 Safety Inspections

- i. Safety inspections are designed to identify defects that are likely to create a safety issue to users of the network. Such defects will be made safe as soon as reasonably practicable, and in any case within the timescales detailed in Appendix B. If in the opinion of the inspecting officer a defect not detailed in Appendix B is so significant as to constitute a safety issue this will be recorded and acted upon within 24 hours.
- ii. Safety inspections on carriageways and footways are carried out at varying frequencies dependent upon their hierarchy type. Deviations from National Guidance Standard have been made due to the nature, extent and usage of the highway network in Lincolnshire. It is considered that the local frequency of inspections will provide the required level of safety for the users of the network.

Safety inspection frequencies are as follows:

	Lincolnshire County Council Standard	National Guidance Standard
Carriageways		
Hierarchy 1	12 per annum	12 per annum (Cat 2)
Hierarchy 2	4 per annum	12 per annum (Cat 3(a))
Hierarchy 3	4 per annum	12 per annum (Cat 3 (b))
Hierarchy 4 and 5	1 per annum	4 per annum (Cat 4(a))/1 per annum (Cat 4(b))
Footways		
Hierarchy 1	12 per annum	12 per annum
Hierarchy 2	4 per annum	4 per annum
Hierarchy 3	4 per annum	4 per annum
Hierarchy 4	1 per annum	1 per annum
Cycleway		
Type 1	As for carriageway	As for carriageway
Type 2	As per footway inspection	2 per annum
Type 3	1 per annum	1 per annum

- iii. Deterioration identified at the time of the safety inspection shall be noted in relevant detail by the inspecting officer. These defects will be recorded within the annual condition inspection and information will be prioritised and used to formulate future programmes.

4.3 Carriageway Surveys

i. Machine Surveys

Three types of machine surveys are carried out on a regular basis. The objectives of these surveys are:

- To identify lengths of road needing further investigation and possibly subsequent treatment.
- To produce an annual review of the performance.

These surveys are:

<p>1. Deflectograph</p>	<p>These surveys measure the structural integrity of the carriageway. The results provide an estimate of its residual life and are a crucial component when assessing structural maintenance requirements.</p> <p>Deflectograph is a valuable tool and is in line with national guidance.</p>
<p>2. SCRIM (Sideway-force Coefficient Routine Investigation Machine)</p>	<p>SCRIM results are used to identify lengths of road with poor skidding resistance. SCRIM surveys are carried out in accordance with HAT 60/1/09. SCRIM is in line with national good practice.</p>
<p>3. SCANNER Surveys (Surface Condition Assessment of the National Network of Roads)</p>	<p>SCANNER surveys are mandatory requirement for reporting of Data Topic 130-01 (formerly NI 168/ BVPI 223), "Condition of principal roads" and Data Topic 130-02 (formerly NI 169/BVPI 224a) "Condition of non-principal classified roads". These surveys are undertaken by a specialist vehicle at traffic speed. The survey collects data on transverse and longitudinal profiles, texture and cracking of carriageway. The information is both reliable and repeatable giving a consistent survey.</p>

- ii. The following programme is being used to regulate the frequency of surveys undertaken:

SCANNER Surveys	
'A' roads –	100% of the network in one direction or 50% of the network in both directions each year
'B' roads –	100% of the network in one direction each year.
'C' roads –	50% of the network each year (in one direction).

CVI Surveys	
Unclassified roads	25% per year on a 4 year rolling program.

iii. Visual Condition Assessment Surveys

The condition of carriageways is monitored by means of SCANNER and CVI surveys and an accredited UKPMS pavement management system. At a less strategic level, the condition of carriageways is also monitored by means of Divisional Condition Inspections.

CVI Survey	CVI surveys are a fast and efficient way of covering large areas of the network. CVI surveys are carried out from slow moving vehicle. They record lengths which have consistent defects rather than a detailed measurement of individual defects.
	CVI survey data is collected using UKPMS accredited data capture software. Inspectors are trained in house at Lincs Laboratory in accordance with the UKPMS Visual Survey Manual. All inspectors are accredited.
	CVI surveys are undertaken by Lincs Laboratory. A 5% sample self-audit is undertaken to ensure quality and consistency of data. The results of these audits are recorded and analysed in order that any trends can be identified and retraining undertaken if necessary.

- iv. The following programme is being used to regulate the frequency of surveys undertaken:

Deflectograph Surveys
All single carriageway Hierarchy Type 1 and 2 roads are covered on a 5 year rolling programme.
On dual carriageways with a residual life of 10 years or more it is generally omitted from the next survey cycle.

SCRIM Surveys
All Hierarchy Type 1 and 2 roads are covered on a 3 year rolling programme.

SCANNER Surveys	
'A' roads –	Covered by a two year rolling programme with 100% of the network in one direction.
'B' roads –	Covered by a two year rolling programme with 100% of the network in one direction each year.
'C' roads –	Covered by a four year rolling programme with 50% of the network in one direction each year.

CVI Surveys	
Unclassified roads	25% per year on a 4 year rolling programme.

v. Condition of Carriageway

The condition of carriageways is monitored by means of SCANNER machine and CVI surveys and an accredited UKPMS pavement management system. At a less strategic level, the condition of carriageways is also monitored by means of Divisional Condition Inspections (DPD/11/04/06).

Plans are produced by Highways Client Services the Service Development team annually, for Area Highways Managers to assist in the targeting of maintenance resources. These plans are based upon the results of the UKPMS survey data and indicate the sections that are approaching and exceed the condition indices for:

- Data Topic 130-01 (formerly NI 168/ BVPI 223), “Condition of principal roads”
- Data Topic 130-02 (formerly NI 169/BVPI 224a) “Condition of non-principal classified roads”.
- GC:HT:05 (formerly BVPI 224b) “Condition of unclassified roads”

Local targets are set for each Area Highways Manager with an aim to improve our overall Performance Indicator. A six monthly monitor is reported to check progress of these targets.

- vi.** The Asset Management Team are responsible for producing plans for the Area Highways Teams showing the results of SCANNER, CVI and deflectograph surveys to assist them to target and prioritise maintenance in their areas.
- vii.** Divisional Condition Inspections record a level of service need on a number of elements within the highway and are best able to identify routine programmes of work, for example minor carriageway patching, surface dressing etc. The Divisional inspections are also able to record information on elements not included within the parameters of machine and CVI surveys such as drainage problems associated with grip cleansing and provision.

4.4 Footway Surveys

- i. The condition of footways is monitored by means of FNS (Footway Network Surveys) and DVI (Detailed Visual Inspection) surveys and an accredited UKPMS pavement management system. At a less strategic level, the condition of footways is also monitored by means of Divisional Condition Inspections (HAT 26/4/06)
- ii. FNS surveys record defects in four categories:
 - As new
 - Aesthetically impaired
 - Functionally impaired
 - Structurally impaired

FNS is a relatively new survey which was introduced onto the Lincolnshire Network in 2012. All Hierarchy 1, 2 and 3 Footways have been surveyed to establish a base line position and a programme will be developed for the Hierarchy 4 network for 2013.

The Asset Management Team are responsible for providing data to the Area Highways Teams on the condition of footways.

- iii. DVI surveys are carried out in 20 metre lengths and records accurately the position and defect type in that area. This gives a much more detailed survey than the FNS. DVI surveys are carried out when more detailed information is required to support and validate a treatment decision or identify a scheme (supplementing the FNS data). Also DVIs are used on a cyclic basis on footway (Type 1 and 2) in accordance with the requirements of BVPI 187.
- iv. Securing continuous improvement in the safety and serviceability of footways, in particular network integrity is a necessary component for encouraging walking as an alternative to the private car, particularly for journeys of up to two miles in urban areas.
- v. Priorities for footway maintenance must ensure that opportunities are taken to aid social inclusion particularly improving accessibility for older and disabled people and also the use of prams and pushchairs. This will include the provision of dropped kerbs in suitable locations and textured paving adjacent to crossing points.

- vi. Although ensuring the safety of footways for users will be a priority, in some cases the presence of highway trees may compromise the provision of footway surface regularity. The radical treatment or complete tree removal necessary to ensure surface regularity may not be possible or desirable and therefore reduced standards of surface regularity may be a more environmentally acceptable and sustainable outcome.
- vii. Maintenance requirements for public rights of way are not covered by this plan.

4.5 Condition of Cycleways

- i. No formal inspections are carried out on Cycleways, but the condition of cycleways is monitored during Divisional Condition Inspections.
- ii. The Directorate have produced a comprehensive guide to new cycleway provision entitled "Providing for Cyclists (May 2003)". This document gives comprehensive advice on the consideration of factors pertaining to the needs of cyclists as vulnerable road users and the standards that will be applied to the various categories of cycle track provision.
- iii. Cycle track provision within the county has increased significantly since the implementation of the Local Transport Plan through the Community Travel Zone Initiative and Rural Priority Initiative. Therefore the majority of cycling provision is of relatively new stock and maintenance is yet to become a significant issue. However it is recognised that maintenance standards for these facilities will be established quickly in order to provide guidance to divisional staff and to ascertain the financial commitment, in terms of the future maintenance costs.
- iv. Currently the standards for cycleways match those of the footway or carriageway over which they exist.

4.6 Structures Inspection

- i. Structures include bridges, footbridges, subways, culverts, gantries and retaining walls. Structures inspections exclude all drainage that is defined as a pipe with a diameter or span less than 600mm.

The County Council policy is to generally abide with the National Code of Practice, 'Management of Highway Structures, A Code of Practice', dated September 2005. The main changes relate to

inspection cycles, and in particular the frequency of Principal Inspections of bridges with spans less than 5m which are subjected to a risk assessment. The inspection cycles are summarised in the Table 2 below.

At present all structures on County Roads are inspected on a regular basis, including those not in the ownership of the County Council, on the basis of a duty of care. Structures not owned by the County do not receive Principal Inspections but receive General Inspections. Inspections are divided into three categories:

1. General	A visual inspection of representative parts of the structure. These are carried out on all structures regardless of ownership
2. Principal	A close inspection (within 1m) of all visible parts of the structure. Specialist access equipment may be required in some cases. Carried out on all County owned structures with a span greater than or equal to 5m. Structures with spans less than 5m will be subject to a risk assessment.
3. Special	These include a programme of bridges to be monitored following an assessment failure or where there is some on-going movement. In addition there is a programme of diving inspections where structures are known to be at risk from the effects of scour.

Table 1

The frequency of these inspections are listed below:

Structure Type	Inspection Type	Classification	Cycle
Culverts	General	All	2 years
Bridges & Miscellaneous	General	All	2 years
Bridges & Miscellaneous	Principal	Span>5m	6 years
Bridges & Miscellaneous	Principal	Span<5m	Subject to risk assessment
Bridges & Miscellaneous	Special	All	Subject to risk assessment
Retaining Wall	General	Ret Ht.>1.37m	6 years

Table 2

- ii. Dedicated, experienced bridge inspectors inspect the county bridge stock including safety fencing intended to prevent direct impact with the end of parapets.
- iii. It is required that all structures are maintained to a sufficient sound structural condition to serve the

purpose it was designed for and not to pose a danger to road users or pedestrians.

- iv. Recommendations from inspections, reported defects or accident damage will be acted upon and safety measures implemented where there is risk to the road user, pedestrians or property. The risks will include the potential consequences of flooding.
- v. Accident damage (generally parapet damage), which is deemed a risk to the road user or pedestrian, will initially be signed and guarded as soon as practicable until permanent repairs can be undertaken.

4.7 Condition Inspections of Safety Fences and Barriers

- i. All steel beam safety fences will be inspected at the intervals in the table below:

Steel beam safety fence	Inspection every five years for mounting height, surface protective treatment and structural condition.
Tensioned safety fence	Tensioning bolts should be checked and reset to correct torque every two years.

Pedestrian guard rails, boundary fences and environmental barriers will be inspected in respect of integrity during the course of a condition inspection. (The general condition of timber guard rails, not associated with a structure, will be checked each year in conjunction with condition inspections.)

- ii. It is required that all safety fence be maintained to a sufficient sound structural condition to serve their purpose and not to be a danger to road users or pedestrians. All damaged sections of safety fence will be treated as a Category 1 defect and made safe (signing and guarding) within 24 hours unless the damage is superficial and there is no loss of integrity.

4.8 Street Lighting Inspections

- i. The regime of street lighting inspection is in accordance with the budget priorities set out in 2011 (core offer review) and the one man working proposal for street lighting. This forms part of an asset management strategy intended to reduce cost, stay within the law and apply common sense. They comprise:

- Immediate attention to any damage or defects which could result in exposed electrical conductors, unsafe lighting column structures or components hanging loose or by its wires that is liable to fall to the ground.
- Night time patrols to identify unlit lamps.
- Repair of faulty lights
- Routine maintenance inspections and electrical tests.

Inspection frequencies:

Night time patrols	Every 4 weeks.
Lantern internal and external	Lantern cleaning is coincidental with routine maintenance inspections.
Routine maintenance	The routine maintenance frequency is commensurate with the core offer and is six years. A general condition inspection of the whole unit is carried out at the same time and the lamp is changed if appropriate.
Electrical and structural testing	Upon commissioning, Street Lighting units are electrically tested in accordance with BS7671 and periodically tested at routine maintenance intervals. Street lighting cable networks will have their electrical earth loop impedance tested at each exit point. Structural defects are noted at the time of routine maintenance. Further non -destructive structural testing may be necessary.
Response to faults	Emergencies are defined in paragraph iv below. The response time is “within 2 hours”. Lamp failure or similar non urgent faults are attended in accordance with schedule iv below. Electricity supply faults are restored by the electricity company, the service level is twenty one working days from the time the fault is notified to the Electricity Company to the date when the electricity company advise that the supply has been restored

- ii. As far as reasonably practicable there is a need to maintain streetlights and illuminated signs to ensure that they are electrically safe, structurally sound, random lamp failures are minimised and to maintain the lumen output of the lamps. The following regime has been adopted in accordance with the core offer.

Bulk Lamp Change Cycles Table:

Lamp Type	Description	Bulk Change Interval	
		Expected burning hours	Bulk change Interval
Low Pressure Sodium	SOX+, SOX PSG, SOX HF, SOXE 35w and 55w	16,000	25,000
Low Pressure Sodium	90 w, 135w, 180w	12,000	25,000
LED	Light emitting Diode	60,000	60,000
High Pressure Sodium	SONT, SONE, SONI, SONC, PIA	16,000	25,000
Low Pressure Mercury	MCF/E	12,000	25,000
Compact Fluorescent	PLT PLL PLS	12,000	25,000
Subway Installations	LED	60,000	60,000
Cosmopolis	COP	16000	25,000

- iii. Routine Maintenance for Street Lighting consists of inspection, cleaning, lamp change where applicable, visual structural inspection, reporting and electrical testing.
- iv. Defects are classified as Category 1A, Category 1B, Category 2 or Category 3. These are as follows:

Category 1A Emergency Defects: attend within 2 hours.

These defects are defined as electrical, structural or lighting defects that present an immediate danger to the highway user. 'Accident damage/vandalism where live cables/voltage may be exposed or cause a cause a column to become live'?

The following are as classified as emergency defects attend within 2 hours;

- (a) Accident damage/vandalism where live cables/voltage may be exposed or cause a column to become live.
- (b) Doors open or missing from street lighting columns, illuminated signs or feeder pillars and wires are exposed.
- (c) Lighting point structural defect caused by, RTA, vandalism or bad weather conditions.
- (d) Call out by the police to a road traffic accident

(e) Column or illuminated sign post collapse or in imminent danger of collapse

Category 1B Defects: next working day response.

These defects that require attention where there is no immediate danger; Respond next working day from contractor's receipt of notification.

(a) Doors open or missing from street lighting columns, illuminated signs or feeder pillars no wires exposed.

(b) Illuminated traffic bollard down or missing.

(c) Lanterns on street lighting Columns or illuminated signs hanging by the supply cable.

(d) Lantern Bowl hanging.

Category 2 Defects: non routine repairs.

(a) Repairs are scheduled into routes and reports of failures are dealt with on the next scheduled visit to the area. Each repair route is visited every two weeks. The average time for repair is 5 working days from the time and date that the contractor receives notification.

(b) Permanent replacement of "knocked-down" accident damaged equipment is replaced in accordance with the term contract processes. The normal procurement period is 90 days from when the contractor receives the order. National Guidance is for installation of a complete unit of apparatus to be completed within 20 working days ("Well Lit Highways") Lincolnshire County Council's 90 day response is a deviation due to the term contract processes.

Category 3 Defects: repair or report within 24 hours of the contractor's receipt of an instruction.

Category 3 defects are those which are less serious than an emergency and in the case of lighting faults it would be unreasonable to expect the job to be serviced during the hours of darkness.

(a) Both lights on a set of Belisha Beacons inoperative.

(b) A bowl missing from a Belisha Beacon.

(c) All lighting out on normally lit street of three or more.

- (d) Five or more consecutive lights out on a road.
 - (e) A request for service that comes from within the Council as a result of an action request or Members Enquiry.
 - (f) Any reasonable request by the Council that requires a fast response.
 - (g) Both flashing lights on a single post of a school patrol inoperative.
 - (h) Both lens of school flashers broken
 - (i) Regulatory sign missing or facing in the wrong direction.
- v. Cleaning and inspection of street lighting units coincide with the 6 year routine maintenance intervals.

Cleaning Cycles Table:

Design Equipment Category	Cleaning Intervals (Months)
Street Lighting Units	72
Traffic Sign Lighting Units	72
Illuminated Traffic Bollards	12

4.9 Illuminated Traffic Signs and Internally Lit Traffic Bollards

- i. The primary objective is to keep illuminated traffic signs legible, visible and effective. The maintenance regime for illuminated signs and illuminated bollards shells is indicated in the Table below:

Night Scouting for illumination	In conjunction with Street Lighting inspections.
Routine maintenance	Intervals in accordance with the core offer is 6 years. (See street lighting inspection). 24 hour burning lamps within illuminated bollards are changed every year except for LED lights which burn to extinction.
Inspections, cleaning and electrical testing of illuminated signs and bollards	Inspection, cleaning and electrical testing takes place during routine maintenance operations.

External cleaning of illuminated bollards	Takes place during routine maintenance operations and annually. Additional cleaning may be dictated by condition.
Replacement and repair of damaged signs and bollards	Respond according to the degree of danger in accordance with section iv above.

4.10 Condition Inspection of Non-Illuminated Traffic Signs and Bollards

- i. Routine daytime inspection shall take place in accordance with the inspection frequency, to all roads, including attention to overhanging vegetation.
- ii. Night time inspection for reflectivity will take place annually after sign washing has taken place and co-ordinated with the road markings inspection on Hierarchy 1 and 2 and designated 3 roads.

General Condition	Part of the general highways inspection
Cleaning	Once a year for strategic road network and 4 times a year for bollards. All others as required. Note: Any faults will be reported including any within 20 m on each side of the road
Replacement and repair of damaged signs and bollards	Respond according to the degree of danger. In extreme cases this would be within 2 hours.

- iii. Hierarchy 1 and 2 and designated 3 roads detailed route inspection for structural integrity, serviceability, and network integrity to take place maximum period of 5 years by the Traffic Signs Team in TSP on completion of inventory.
- iv. Heritage signs and milestones will be refurbished or will be replaced with same or similar whenever possible.
- v. Missing or dangerous signs will be dealt with as per the procedures outlined in HAT 26/4/06

4.11 Condition of Non-Illuminated Traffic Signs and Bollards

- i. Primary objective is to keep all signs legible, visible and effective as far as possible. The speed and permanence of the response will depend upon the degree of danger, but important warning and regulatory signs will be replaced as quickly as possible. The following will be recorded and rectified:
 - Matters affecting the legality of important warning and regulatory signs
 - Damage, deterioration, or vandalism to signs and bollards leaving either the sign or situation to which it applies in a dangerous condition
 - Structural integrity
- ii. Sign cleaning will be undertaken in accordance with schedules and frequencies defined in the Highway Works Term Contract.
- iii. Every five years the signing regime for Hierarchy 1, 2 and selected 3 roads will be reviewed to ensure integrity and to remove unnecessary clutter from the network.
- iv. Consideration will be given to the use of non-illuminated highly reflective signs as the Council standard, and all new and replacements signs will fit this criteria.

4.12 Condition Inspection of Traffic Signals, Pedestrian and Cycle Crossings

- i. An annual inspections will be carried out and shall include the following items:

1. Signal lenses will be cleaned.
2. Inspections of the physical condition of the controller and auxiliary equipment cabinets and other site hardware
3. Earth testing.

Full inspections for electrical safety will be carried out at intervals of six years. Guidance on aspects to be inspected and on defect criteria is given in TD 24/86.

The following frequencies will be used:

Scouting for illumination	Covered by Urban Traffic Control and Remote Monitoring Systems
Lamp changing	Bulk change every 12 months
Internal inspections and cleaning	At least annually or additionally when required
Checking of phasing	When a fault is suspected
Checking of alignment	Annually or when a fault is suspected
Mechanism	Annually or when a fault is suspected
External Cleansing	Every 12 months

4.13 Condition of Traffic Signals, Pedestrian and Cycle Crossings

- i. The priority objective is to provide and maintain all traffic signals, controlled pedestrian and cycle crossings to a high standard to ensure the safety of all road users and to ensure the efficient operation of the highway network.
- ii. The following standards are used in the operation of the highway network:
 - Urgent traffic signal faults or damage constituting a danger to the road user are attended to within 2 hours and repaired within 24 hours.
 - Traffic signal controllers damaged beyond repair are replaced within 72 hours where reasonably practicable
 - Failed traffic signal lamps are repaired within 24 hours.
 - Less urgent faults are repaired within 48 hours.
 - Traffic signals installations are inspected for safety once a year.
 - Traffic signals installations are cleaned at least once per year and additional cleaning is carried out when required.
 - Traffic signal lamps are changed once per year.
 - Warning signs are erected if traffic signals are off and temporary traffic signals will be provided where reasonable practicable.

4.14 Safety Inspection of Electrical Installations

Special attention will be given to electrical equipment which is located on the highway. This relates primarily to street lighting, illuminated traffic signs and signals. Immediate attention will be given to any damage or defects which could result in exposed cables. Regular inspections by accredited personnel will be established to check the safety of the equipment. The frequency of such inspections will be based on risk assessment, but will not be longer than six years. Also a visual inspection of the site will be carried out at every maintenance visit. This is important bearing in mind the variable and often poor conditions of much of the street lighting stock.

4.15 Condition Inspection of Highway Drainage Systems

Condition inspection requirements fall into four categories:

1. Gullies and catchpits	Gullies and catchpits will be cleansed in accordance with the table below and arrangement made for non-functioning gullies to be recorded for more frequent or detailed attention. Grips and ditches, which may be obstructed by the growth of vegetation or damaged by traffic will be cleared of vegetation and dug out when required. In most cases the responsibility for maintenance of ditches will rest with the adjoining landowner.
2. Drainage under roads	Drainage under roads, where there is a need to inspect for structural damage and blockages.
3. Piped drainage	Piped drainage, which includes a wide variety of conduits and filter drains, which may be susceptible to siltation or blockage. Piped drainage soakaways and associated systems will be inspected and cleared when required.
4. Surface boxes and ironwork	Surface boxes and ironwork for both drainage and non-drainage applications, which will be inspected during safety and condition inspections for carriageways, footways and cycleways.

Cleaning frequencies:

Gullies	Once per year with a targeted second clean on gullies identified as requiring more frequent cleaning.
Catchpits	As Gullies
Grips	When required
Offlets	As Gullies

4.16 Condition of Highway Drainage

- i. Highway drainage condition standards fall into three main categories:

Grips and ditches - can be obstructed by growth of vegetation or damaged by traffic and animals. Grips and Highway Authority ditches will be cleared of vegetation and dug out when required. Grip clearing will be commenced after the last grass cut and the programme completed if possible before the worse of the winter weather.

Kerb offlets will be cleared once a year. **Note that most roadside ditches are the responsibility of adjoining landowners.**

Piped drainage – includes a wide variety of conduits and filter drains, which may be susceptible to siltation or blockage. Piped drainage, soakaways and associated systems will be checked and flushed if necessary during service inspections and cleared when required.

- ii. All gullies, catchpits and interceptors will be cleansed at least once per year and arrangements made for non-functioning gullies to be recorded for detailed inspection and further work such as jetting. More frequent emptying may be required for some areas with known problems.
- iii. The frequency of cleansing of oil interceptors will depend on their design and location and will need particular consideration on a site-specific basis.
- iv. Material arising from all road drainage emptying and cleansing operations has potential implications for pollution and will be disposed of correctly in accordance with Environment Agency, or equivalent authority, requirements.
- v. Where local flooding of the highway occurs relevant warning signs will be placed in position as quickly as possible. The cause of the flooding will be determined and given prompt attention, in order to restore the highway to a reasonable condition. If it is determined that the flooding is attributable to deficiencies in infrastructure or the maintenance regime then action to permanently relieve the problem will be considered urgently. If the event is attributable to the actions of a third party, the matter will be taken up with them at the earliest opportunity.
- vi. Ironware set in carriageways, footways and cycleways have the potential to compromise safety and serviceability and in certain cases cause noise

and disturbance to local residents.

Although responsibility for defective ironwork may lie with that Utility, claims are often also pursued against the Authority. Defects identified during inspection or from users will therefore be formally notified to the Utility with a follow up procedure to ensure that dangerous defects are remedied within the prescribed timescale. Correspondence with the Utility will be retained for the future in the event of any claim being submitted to the Highway Authority.

- vii. Manhole covers and boxes in the carriageways, footways and cycleways will be installed and maintained to a tolerance as specified in DPD/11/04/06 appendix 2.

4.17 Condition Inspection of Highway Embankments and Cuttings

The following standards are used for Embankments and Cuttings:

1. Inspections to be based on specialist geotechnical advice.
2. All inspections to take place during winter months and after periods of heavy rain whenever possible. This is the worst time of year for instability, the easiest for inspection and there is little foliage to hide evidence.
3. A record of locations prone to rock-falls and slips is kept by the Council.
4. These locations and others identified by Area Highways Managers as being suspect are inspected once a year.
5. All inspections will be undertaken by a qualified geotechnical engineer or geologist with experience of slope stability.

4.18 Condition of Embankments and Cuttings

Slips and rock-falls happen rarely. However the Council have records of suspect locations and have established an inspection and maintenance regime based on a local risk assessments. The Council's scheme is based on the Highways Agency's inspection regime which inspects cuttings and embankments over 5 metres and lower ones which have been identified as suspect. The embankments and cuttings which have been identified as suspect will be inspected once a year. All inspections will be undertaken by a qualified geotechnical engineer or geologist with experience of slope instability.

4.19 Condition Inspection of Landscaped Areas and Trees

- i. All established trees within the highway are visually inspected as part of condition surveys to identify obvious potential hazards. Surface damage to carriageways, footways and cycleways, associated with root growth will be recorded as part of Safety or Condition Inspections for those elements.

**See 15.9.6
Delivering Best
Value in Highway
Maintenance**

General Condition	Trees should be visually inspected as part of a Condition Survey to identify obvious hazards as per Lincolnshire County Council's Tree Inspection Policy.
Obstruction of street lighting and traffic signs	During routine night patrols any obstructions should be recorded
Grass Cutting	Safety (Rural) Hierarchy 1 – 3cuts Safety (Rural) Hierarchy 2 & 3 – 3 cuts Safety Hierarchy 4 & 5 – 3 cuts Amenity – 7 cuts
Weed Control	3 treatments in a year –between the last weeks in April and May (first treatment), July/August (Second treatment), and September or first two weeks in October (third treatment).

4.20 Condition of Landscaped Areas and Trees

- i. The condition of landscaped areas has major implications for all the key maintenance objectives, and the maintenance regime will therefore require particularly careful consideration to ensure that the necessary balance continues to be achieved.
- ii. The obstruction of street lighting and traffic signs can be a major safety risk to users. During routine night-time inspection any such obstruction will be recorded. Trees and other foliage will be trimmed back to allow the lighting and the signs to be legible, while maintaining the shape of the tree. It is the responsibility of the tree(s) owner to undertake this work.
- iii. Potentially dangerous trees in or adjoining the highway are more easily identified during the summer when healthy trees are in leaf. These trees will be dealt with in accordance with the guidance given in the booklet “Potentially dangerous trees in relation to the Highway. Recognition and action (2002)”.
- iv. Significant pruning or felling of trees can be the subject of significant local concern and will only be done with specialist advice and support. The relevant

District Council will be informed and proposed work discussed prior to work on the highway trees with TPOs and in conservation areas.

- v. In rural areas work on highway trees will be mainly reactive and limited, other than for safety reasons. Some routine maintenance will be necessary from time to time to maintain the condition of the tree. This will be a matter for local consideration having regard to users and community views.
- vi. In urban areas trees have a significant impact on the local environment, but can cause damage to highways and property if not properly managed. The County Council Arboricultural Officer is co-ordinating a proactive management programme including regular inspections.

4.21 Condition of Verges

- i. Verges – grass cutting - Vegetation either on verges, or on private land will not restrict visibility at junctions, access points and bends. Sight lines and minimum stopping distance will be kept clear and signs, lights, and markers posts will not be obstructed. It may also be necessary for vegetation to be cut back in order to enable inspections or surveys.
- ii. The Council policy for grass cutting on Highway Verges is defined in Appendix B. Good practice suggests that full width verge (flail) cuts are undertaken to control the extent of self-set bushes and tree growth. The exception to the above is where protected roadside verge areas are established. Lincolnshire has over 50 protected roadside verges and SSSI where the flora and fauna are of particular conservation value. Under an agreement with the Lincolnshire Wildlife Trust, the Trust is responsible for all environmental maintenance at these sites, apart from safety mowing.
- iii. Edge maintenance or “siding” of carriageways, footways and cycleway is occasionally necessary to prevent encroachment of grass and reduction of width. This work will be carried out infrequently, preferably during the autumn. On un-kerbed roads, siding will be carried out in advance of footway surface treatment, where necessary.
- iv. Verge – Weed Treatment - The growth of weeds in footways and cycle ways, hardened verges, central reserves and along kerb lines, may cause structural damage. Lincolnshire County Council weed treatment programme is in accordance with

frequencies stated in Appendix B.

- v. The Noxious Weeds Act 1959 places a responsibility on the Authority to take action to inhibit the growth and spread of injurious weeds. For example, Ragwort will be removed by spraying or pulling by hand where significant infestation is adjacent to grazing land.

4.22 Condition Inspections of Road Markings and Studs

- i. The general condition of road markings and studs will be inspected during the annual condition survey by divisional staff. An annual night-time survey to check reflectivity will be undertaken on Hierarchy 1 and 2 roads and some designated hierarchy 3 roads. This survey will be undertaken between November and February and will include non-illuminated bollards.
- ii. Any anomalous results from the above surveys will be referred to Lincs Laboratory where consideration will be given to further investigation.
- iii. The results of the surveys will be maintained on a Divisional Database.

4.23 Condition of Road Markings and Studs

- i. Road marking will be prioritised for renewal based on the results of the condition inspections.
- ii. All mandatory road markings existing before resurfacing, patching or surface dressing shall be replaced as soon as is reasonably practical:

Stop and Give Way markings shall be replaced within 7 days.
Other mandatory lines within 14 days.
All other markings and road studs within 28 days of completion of work.

- iii. At all times when markings or studs are removed “No Road Marking” boards shall be displayed until all markings have been replaced. In addition, where “double line” systems have been removed “No Overtaking” boards shall be displayed.
- iv. There will be a preference toward bulk changes of road studs on all other routes prioritised in accordance with the condition inspection results. Bulk changes will reflect the type of use of a particular route and will start and finish at salient points on the route (e.g. major junctions).
- v. Displaced or loose road stud castings lying on the carriageway, hard shoulders or laybys, shall be dealt

with as a highway emergency. Any defects in the running surface as a result of missing studs shall be attended to as soon as is reasonably practical.

4.24 Other Inspections for Regulatory Purposes

- i. A significant element of highway maintenance comprises regulation and enforcement of activities on or affecting the highway.
- ii. Key regulatory duties include:

1. New Roads and Street Works Act 1991
2. Management of Highway Register.
3. Management of Public Rights of Way.
4. Dealing with encroachment on the Highway
5. Dealing with illegal and unauthorised signs.
6. Licensing skips, hoardings, temporary closures and other authorised occupation of the highway.
7. Construction of vehicle crossovers.
8. Illegal parking on verges and footways.
9. Adoption of new highways.

4.25 Highway Maintenance in Special Designated Areas (Lincolnshire Wolds)

- i. The use of white marker posts within this area will cease.
- ii. Kerbing works will be kept to a minimum and will only be provided where there is a risk in respect to safety and/or severe damage to the carriageway.
- iii. It will not be the Councils intention to increase the numbers of signs within this area. However, safety must be paramount. Consideration will be given to the removal of “unnecessary” signage.
- iv. Once scrim sites have been treated and retested, slippery road signs will then be REMOVED, following the required retesting policy.
- v. Those in position will be maintained but again, it will not be the Councils intention to provide additional markers unless for safety reasons, when this is the only solution that is appropriate.
- vi. Traffic calming measures will only be considered as Traffic Regulation Orders are being implemented but again the presumption will be that Traffic Regulation Orders to stand alone without associated calming measures.

- vii. The main option for maintenance of carriageway verge overrun would be to sub base and soil. Kerbing only to be considered as noted above.
- viii. Concrete post and timber arm signs:
- Maintenance of timber arm and re-lettering shall be the preferred maintenance option.
 - Replacement of damaged concrete posts shall be with timber.
 - Existing signage where damage has occurred and a complete replacement is required – replacement shall be with timber posts and arms.
- ix. The Council will continue to carry out for programmed grass cutting regime which is also linked to an annual treatment of SSSI sites.
- x. Roadside public rights of way fingerposts now replaced in timber.
- xi. The Council will continue to improve the street scene in villages and towns within the Wolds catchment area when carrying out RPI and maintenance schemes.
- xii. Reinstatement and surface improvements on unsurfaced public rights of way shall be with natural stone. Recycled materials will not be acceptable.
- xiii. Provision for hand salting (eg gradients) salt bins will be provided at such locations.
- xiv. Surface Dressing – the use of appropriate chippings where designs permits shall be considered to balance the usage and visual impact.
- xv. **Note: The Highways Standards Group will seek to produce guidance in respect to working in Conservation Areas.**

5. Performance Indicators

5.1 National Performance Indicators

National Performance Indicators are compliant with and reported through the Assistant Directors Business Plan. Current indicators relevant to highway maintenance are:

- **NI47** - People KSI in RTA (BV99a)
- **NI48** - Child KSI in RTA (BV99b)
- **Data topic 130-01** (formerly NI 168/ BVPI 223) – Principal roads Road Network where maintenance should be considered (BV223)
- **Data Topic 130-02** (formerly NI 169/ BVPI 224a) - Non-principal classified roads Road Network where maintenance should be considered (BV224a)
- NI169 - Congestion - average journey time per mile during the morning peak.
- NI 169 – Local Biodiversity Monitoring – This affects local wildlife sites which are now within the highway as well as Roadside Nature Reserves.
- SDL 160 (replaces NI 167) – Local Biodiversity Monitoring

Targets for each of these indicators are detailed in the divisional/group service plans and are monitored and reported at regular intervals.

5.2 Local Performance Indicators

Local performance indicators and targets are set and reported through the Group Service Plan. The lead officer(s) responsible for recording information and achieving these targets are also defined within this document.

The Local Performance Indicators are considered against the following requirements:

- Designed as far as possible on outcomes
- Practical, concise and easy to interpret
- Capable of precise definition
- Readily measurable
- Relatively inexpensive to collect in terms of supporting data
- Readily understood, meaningful, and of interest to the public
- Relate to an authority's corporate or service objectives
- Performance will be entirely within the authority's control
- Clearly indicative of good or bad performance
- Balance of cost against quality will be measurable
- Where possible, comparison of public and private sector identifiable

The following indicators are in use:

- **BV99c** - Total Slight Casualties
- **BV215a** - Rectification of Street Light Faults (non DNO)
- **BV215b** - Rectification of street light faults (DNO)
- **GC:HT:04** (formerly BVPI 187) - Condition of footways Surface (2 year rolling average)
- **GC:HT:05** (formerly BVPI 224b) - Condition of unclassified roads
- **LTP9** - Condition of Principal Roads (Deflectograph)
- **LTP10** - Skidding Resistance on Principal Roads

- **LTP11** - KSI involving young drivers
- **LTP12** - Road Safety Education for 17-24 year olds
- **LTP 17** - Pedestrian crossing with facilities for the Disabled (BV165)
- **LRSP7** - Provide pre/new driver road safety education and training to a minimum of 1500 people per year

5.3 Benchmarking

Regular comparisons of National Indicators are compared at Regional and National level.

6. Programming and Priorities

6.1 The Importance of Programming and Prioritisation

- i. The development and implementation of an effective system of programming and prioritisation highway maintenance is a key requirement for the delivery of Best Value.
- ii. There are three basic levels involved in the establishment of priorities:
 - Strategic Level
 - Transport Level
 - Maintenance Level

6.2 Strategic Level

At the strategic level, members of the county council recognise the importance of the highway network to the economy of Lincolnshire and the benefits to its residents in terms of access to facilities, employment and social inclusion. Accordingly, budget provision for highway maintenance is given appropriate priority within corporate objectives.

6.3 Transport Level

- i. The 4th Local Transport Plan (2014) (LTP) details the directorate wide strategies and targets that form the basis of transport level priorities. The main themes of the LTP are:
 - Asset Protect
 - Rural Priorities
 - Community Travel Zones
 - Staying Alive
 - Interconnect
 - Economy and Regeneration
- ii. The Best Value Reviews of Highway Services, Structural Maintenance, Winter Maintenance and Road Safety and their associated Action Plans also feed into the decision making process that affects the overall prioritisation of transport level strategies.

4th LTP 2014

Best Value Reports

6.4 Maintenance Level

i. There are three main areas of priority at the maintenance level:

- **Programmed Maintenance**
- **Routine Maintenance**
- **Reactive Maintenance**

ii. Programmed Maintenance

There is a presumption that a programmed maintenance regime will provide lower whole life costs than one based upon a reactive approach. The Directorate therefore employs systems that enable a data led approach to the targeting of structural maintenance.

The updated PMS system provides UKPMS outputs from CVI and DVI inspections. Combined with results of other surveys such as deflectograph, scrim and local condition inspection enable informed decisions to be made in respect of planned maintenance programmes and treatments.

There is a five-year programme of major structural maintenance schemes for the principal road network, which is updated annually on the basis of latest survey data.

For the remainder of the network Area Highway Managers are provided with detailed maps showing the results of CVI and DVI surveys. These combined with annual local condition inspections undertaken by the area teams enable effective planning of maintenance programmes.

Budget disaggregation to Area Highway Managers is also based upon the visual survey data output to ensure that available funding is correctly apportioned.

Maintenance funding for other none routine elements of the network such as signs, lighting columns etc. are based upon inventory counts.

iii. Routine Maintenance

Routine maintenance standards for cyclic works such as drainage cleansing, grass cutting and sign cleaning are defined in Appendix B of this document.

Divisional Service Plans

Timing of such cyclic works can be dependent upon various factors such as time of year or weather conditions. Each Division has within its Service Plan a “Year Planner” in order that a consistent approach to this type of work and effective service delivery is maintained.

Other routine programmes of work, for example Surface Dressing are based upon the results of local inspections and reports from CVI surveys and are determined by Area Highway Managers.

The results of safety inspections identifying non-urgent works, local condition inspections and customer requests may also generate routine works programmes.

iv. Reactive Maintenance

Reactive maintenance involves attending to the rectification of Category 1 and some Category 2 defects, arising either from inspections or customer requests. Although all such matters will by definition have a degree of urgency, some may have the potential to have serious consequences. Priority will be determined upon the individual situation.

Consideration will be given to one of the following

- Sign and make safe
- Carry out initial temporary repair
- Effect a permanent repair

The option selected, together with the relevant follow up, will be determined by operational practicalities and also whether the site is already programmed for more comprehensive treatment, in which case a temporary repair may be the appropriate course of action.

7. Weather and Emergencies

7.1 Weather

- i. The Council operates a 24 hour/365 days a year system to deal with weather and other emergencies by means of the Out of Hour Officers, and the Highway Works Term Contractor provides an emergency response vehicle in each Division. Weather-related emergencies, with which the County Council as Highway Authority routinely deals, are as follows.

HAT 26/4/06

ii. Winter Maintenance

A separate Winter Maintenance Plan has been produced and holds all relevant information for this service. Information included is as follows:

- Policy.
- Responsibilities.
- Precautionary and Secondary Salting.
- Snow Clearance.
- Footway Clearance
- Winter Maintenance Contacts

iii. Flooding

Information on the likelihood and location of areas of potential flooding are received from the Environment Agency. The actions taken by the County Council will be mainly reactive and will include:

- Setting up of road closures and diversions.
- Erecting "flood" warning signs.
- Inspecting affected areas after the flooding has receded and dealing with any damage or silting.

During flooding events where the situation cannot be dealt with as a normal operational response, Lincolnshire County Council's Divisional Incident Response Plan (DIRP) will be used for a single-agency emergency response.

iv. High Winds

The adverse effects of high winds can be broadly considered from two standpoints namely:

- Damage to trees and structures
- Effect on traffic

Advanced warning of severe weather is passed to the County Council from the National Severe Weather Warning Service.

The identification of likely areas to suffer damage is to some degree predictable based on previous experiences.

The effects of a particular strength of storm will be influenced by other factors. For example, more trees are likely to suffer damage when in full leaf or when the ground is waterlogged.

Through its Highway Works Term Contract arrangements the Council will:

- Set up road closures/diversions.
- Prioritise clearance operations.
- Arrange for the removal of obstructions from the highway.
- Liaise and assist other agencies to bring the highway network back into full operation.

7.2 Road Traffic Accidents

These will normally be notified by the police and will include requests to close the road to allow investigation, clearance of debris, and reinstatement of any surface damaged through heat or abrasion or chemical spillage (softening effects of fuel spillage on bituminous binders).

7.3 Structural Collapse

This category includes buildings, sewers and embankment slips. The Council will be required to protect the highway user by closure, barrier or diversion and initiate actions to restore the full use of the highway.

Note: The District Council is responsible for issuing notices for unsafe structures and would be the lead authority in this respect.

7.4 Civil Emergencies

The Council through its JEMS is responsible for the management of civil emergencies and the planning and co-ordination of actions.

The Highway Authority through its Highway Works Term Contract will provide support wherever appropriate.

APPENDIX A

Highway Standards

The following standards are used in Lincolnshire:

a) Safety Inspection

Safety inspection frequencies are:

Carriageways	Hierarchy 1	12 per annum
	Hierarchy 2	4 per annum
	Hierarchy 3	4 per annum
	Hierarchy 4 & 5	1 per annum
Footways	Hierarchy 1	12 per annum
	Hierarchy 2	4 per annum
	Hierarchy 3	4 per annum
	Hierarchy 4	1 per annum
Cycleways	On carriageway	Include with adjacent carriageway
	Cycle track	1 per annum (See 4.2)
	Shared cycle/pedestrian	As per footway inspection carriageway
	Hierarchy 1	12 per annum

b) Structures

The frequency of inspections are as listed below:

Structure Type	Inspection Type	Classification	Cycle
Culverts	General	All	2 Years
Bridges and Miscellaneous	General	All	2 Years
Bridges and Miscellaneous	Principal	Span>5m	6 Years
Bridges and Miscellaneous	Principal	Span<5m	Subject to Risk Assessment
Bridges and Miscellaneous	Special	All	Subject to Risk Assessment
Retaining Wall	General	Ret. Ht. <1.5m	6 Years
Retaining Wall	General	Ret. Ht. >1.5m	2 Years

c) Street Lighting

- (i) Night time Patrols Every 4 weeks in winter.
Every 4 weeks in summer.
- (ii) Lantern internal and external Lamp cleaning is coincidental with routine visits for bulk lamp changing

- | | | |
|-------|-----------------------------------|--|
| (iii) | Bulk lamp changing | Bulk Lamp change frequency is commensurate with the lamp guarantees as set out in the term contract documents. A general condition inspection of the whole unit is carried out at the same time. |
| (iv) | Electrical and structural testing | <p>Upon commissioning, street lighting units are electrically tested in accordance with BS 7671 and periodically tested at alternate bulk lamp change cycles.</p> <p>Street lighting cable networks will have their electrical earth loop impedance tested at each exit point at alternate bulk lamp change cycles.</p> <p>Structural defects noted during condition inspection may require further non-destructive structural testing.</p> |
| (v) | Response to faults | <p>Emergencies are defined in the term maintenance contract, response time is “within two hours”.</p> <p>Lamp failures or similar non urgent faults are attended within five working days from the date the contractor is notified.</p> <p>Electricity supply faults are restored by the electricity company, the service level is twenty one days from the time the fault is notified to the Electricity Company to the date when the Electricity Company advise that the supply has been restored.</p> |

d) Illuminated Signs and Bollards

- | | | |
|------|---------------------------|--|
| (i) | Scouting for illumination | In conjunction with Street Lighting inspections. |
| (ii) | Lamp Changing | Changed at regular intervals to coincide with internal inspections and cleaning (see street lighting inspection). Clean and inspection every three years. 24 hour burning (illuminated bollards) every year. |

- | | | |
|-------|--|---|
| (iii) | Internal inspections/Cleaning | Inspection and Cleaning takes place when bulk lamp change occurs |
| (iv) | External Cleaning | Dictated by serviceability – Now takes place during (i) and (ii) operations. |
| (v) | Replacement and repair of damaged signs and bollards | Respond according to the degree of danger. In extreme cases this would be within 2 hours. |

e) Drainage Cleansing

The standard frequency for cleansing is:

- | | | |
|-------|-------------------|---|
| (i) | Gullies | Once per year with a targeted second clean on gullies identified as requiring more frequent cleaning. |
| (ii) | Catch-pits | As Gullies |
| (iii) | Grips | When Required |
| (iv) | Offlets | As Gullies |

These standards can be varied where necessary to deal with problem locations where more frequent treatment may be required.

f) Embankments and Cuttings

The following standards are used for Embankments and Cuttings

- (i) Inspections to be based on specialist geotechnical advice.
- (ii) All inspections to take place during winter months and after periods of heavy rain.
- (iii) A record of locations prone to rock-falls is kept by the Council.
- (iv) These locations are inspected once a year. All other locations are on a 3 year inspection programme.
- (v) All inspections will be undertaken by a geotechnical engineer or geologist.

g) Verges and Landscaping

- | | | |
|-------|---|--|
| (i) | General Condition | Trees should be visually inspected as part of a Condition Survey to identify obvious potential hazards. |
| (ii) | Obstructions of street lighting and traffic signs | During routine night patrols any obstructions should be recorded. |
| (iii) | Grass cutting | Safety (Rural) Hierarchy 1 - 3 cuts
Safety (Rural) Hierarchy 2 & 3 - 3 cuts
Safety (Rural) Hierarchy 4 & 5 - 3 cuts
Amenity - 7 cuts |
| (iv) | Weed Control | 3 treatments a year – between the last two weeks in April and May (first treatment) and September and first two weeks in October (second treatment). Provision for a third treatment in July or August if it is a very wet summer. |
| (v) | Grips | Grips to be cleaned when required. |

h) Fences and Barriers

- | | | |
|------|-------------------------|--|
| (i) | Steel beam safety fence | Inspection every five years for mounting height, surface protective treatment, and structural condition. |
| (ii) | Tensioned safety fence | Tensioning bolts should be checked and reset to correct torque every two years. |

i) Non-illuminated signs and bollards

- | | | |
|------|-------------------|---|
| (i) | General Condition | Part of the general highways inspection. |
| (ii) | Cleaning | Once a year for strategic road network and 4 times a year for bollards. All others as required. |

- | | |
|--|---|
| (iii) Replacement and repair of damaged signs and bollards | Respond according to the degree of danger. In extreme cases this would be within 2 hours. |
|--|---|

j) Non-illuminated signs and bollards

The general condition will be inspected during the annual condition survey by divisional staff.

An annual night-time survey to check reflectivity will be undertaken on Hierarchy 1 and 2 roads and some designated Hierarchy 3 roads. This survey will be undertaken between November and February.

k) Traffic Signals and Pelican Crossings

All signals in the County are covered by remote monitoring systems which automatically detect and report faults as soon as they occur.

- | | |
|--|---|
| (i) Scouting for illumination | Covered by remote monitoring systems |
| (ii) Lamp changing | Bulk change every 12 months |
| (iii) Internal inspection and cleaning | At least annually or additionally when required |
| (iv) Checking of phasing | When a fault is suspected |
| (v) Checking on alignment | Annually or when a fault is suspected |
| (vi) Mechanism | Annually or when a fault is suspected |
| (vii) External cleansing | Every 12 months |

APPENDIX B

Response Times

Lincolnshire County Council's response times are based on the Council's classification of hierarchy taking into account the risk matrix laid out in Well Maintained Highways which is illustrated below, assuming that a high impact defect on a lower hierarchy road will have the same potential impact but a much lower probability of causing this impact. This also correlates with the inspection frequencies of the network.

Probability →	Very Low (1)	Low (2)	Medium (3)	High (4)
Impact ↓				
Negligible (1)	1	2	3	4
Low (2)	2	4	6	8
Noticeable (3)	3	6	9	12
High (4)	4	8	12	16
Response	Category 2 (L)	Category 2 (M)	Category 2 (H)	Category 1

Risk Matrix from Well Maintained Highways

Lincolnshire County Council's Category 1 and Category 2 defects are defined in the table below, which compares them to the national standard set out in *Well Maintained Highways*:

Local Standard	National Standard
<p>Category 1</p> <p>Category 1 defects should be corrected or made safe at the time of the inspection, if reasonably practicable. In this context, making safe may constitute displaying warning notices, coning off or fencing off to protect the public from the defect. If it is not possible to correct or make safe the defect at the time of inspection, which will generally be the case, repairs of a permanent or temporary nature should be carried out as soon as possible, and in any case within a period of 24 hours or the end of the next working day. Permanent repair should be carried out within 28 days.</p>	<p>Category 1</p> <p>Category 1 defects should be corrected or made safe at the time of the inspection, if reasonably practicable. In this context, making safe may constitute displaying warning notices, coning off or fencing off to protect the public from the defect. If it is not possible to correct or make safe the defect at the time of inspection, which will generally be the case, repairs of a permanent or temporary nature should be carried out as soon as possible, and in any case within a period of 24 hours. Permanent repair should be carried out within 28 days. Some authorities have formally adopted a higher level response time of 2 hours for those Category 1 defects considered to pose a particularly high risk. Others, whilst not formally defining such a high risk category, have arrangements in place to deal with situations requiring a particularly urgent response as</p>

<p>Category 2</p> <p>Category 2 defects are those which, following a risk assessment, are deemed not to represent an immediate or imminent hazard or risk of short term structural deterioration. Such defects may have safety implications, although of a far lesser significance than Category 1 defects, but are more likely to have serviceability or sustainability implications. These defects are not required to be urgently rectified, and those for which repairs are required shall be undertaken within a planned programme of works, with the priority as determined by risk assessment. These priorities together with access requirements, other works on the road network, traffic levels, and the need to minimise traffic management, should be considered as part of the overall asset management strategy. The programmes of work for their rectification should be part of the HAMP.</p> <p>Category 2 defects are categorised according to priority with maximum response times of 7 days, 28 days or potential planned programme, based on the risk probability and its likely impact.</p>	<p>they arise.</p> <p>Category 2</p> <p>Category 2 defects are those which, following a risk assessment, are deemed not to represent an immediate or imminent hazard or risk of short term structural deterioration. Such defects may have safety implications, although of a far lesser significance than Category 1 defects, but are more likely to have serviceability or sustainability implications. These defects are not required to be urgently rectified, and those for which repairs are required shall be undertaken within a planned programme of works, with the priority as determined by risk assessment. These priorities together with access requirements, other works on the road network, traffic levels, and the need to minimise traffic management, should be considered as part of the overall asset management strategy. The programmes of work for their rectification should be part of the HAMP.</p> <p>Category 2 defects may be categorised according to priority, high (H) medium (M) and low (L). Authorities should adopt a range of local target response times for Category 2 defects and apply them in responding to various categories of defect, based on the risk probability and its likely impact. This should also take into account the likelihood of further deterioration before the next scheduled inspection, and where this is a high probability, the defect should either be dealt with as Category 1 or an intermediate special inspection programmed.</p>
--	--

Emergency Response

The following is a list of response times relating to Highway maintenance activities, that includes but is not limited to items covered in safety inspections. This table forms Lincolnshire County Council's risk assessment for intervention levels and response times but in all cases is subject to on-site professional judgement. In all cases these are maximum response times. Any reference to days is Calendar days unless otherwise stated.

In the notes field, some defects are identified as emergencies. These particular defects have been singled out as particularly high risk, and will be dealt with expeditiously but in all cases within 24 hours. They have been identified taking into account the likely risk, however on site

judgement will always need to take account of particular circumstances therefore it is possible other situations could be considered as emergencies. Defects notified by the emergency services are also considered to require an urgent response which complies with guidance in *Well Maintained Highways*.

CARRIAGEWAYS				
Designation	Monthly inspected highways (Hierarchy 1)	Quarterly inspected highways (Hierarchy 2 and 3)	Annually inspected highways (Hierarchy 4 and 5)	Potential emergency dependent on location
Ironwork collapsed / missing / broken	24 hours	24 hours	24 hours	X
Missing / defective road stud	24 hours	24 hours	24 hours	X
Severe loss of chippings on carriageway surface	24 hours	24 hours	24 hours	
Pothole greater than 25mm adjacent a hierarchy 1 or 2 footway	24 hours	7 days	28 days	
Pothole greater than 40mm	24 hours	7 days	28 days	
Other abrupt level difference greater than 40mm	24 hours	7 days	28 days	
Edge damage greater than 40mm breaking edge white line	24 hours	7 days	28 days	
Edge damage greater than 40mm encroaching more than 100mm into metalled surface (no white line)	24 hours	7 days	28 days	
Ironwork raised / sunken greater than 25mm adjacent a hierarchy 1 and 2 footways	24 hours	7 days	28 days	
Ironwork raised / sunken greater than 40mm	24 hours	7 days	28 days	
Pothole less than 40mm	Potential planned programme	Potential planned programme	Potential planned programme	
Edge damage less than 40mm	Potential planned programme	Potential planned programme	Potential planned programme	
Surface issues (non winter maintenance)	Potential planned programme	Potential planned programme	Potential planned programme	

Ironwork raised / sunken less than 40mm	Potential planned programme	Potential planned programme	Potential planned programme	
---	-----------------------------	-----------------------------	-----------------------------	--

FOOTWAYS				
Designation	Monthly inspected highways (Hierarchy 1)	Quarterly inspected highways (Hierarchy 2 and 3)	Annually inspected highways (Hierarchy 4 and 5)	Potential emergency dependent on location
Ironwork collapsed / missing / broken	24 hours	24 hours	24 hours	X
Pothole greater than than 25mm	24 hours	24 hours	24 hours	
Ironwork raised / sunken greater than 25mm	24 hours	24 hours	24 hours	
Trip greater than 25mm	24 hours	24 hours	24 hours	
Loose / rocking / missing kerb stone	24 hours	7 days	28 days	
Pothole less than than 25mm	Potential planned programme	Potential planned programme	Potential planned programme	
Trip less than 25mm	Potential planned programme	Potential planned programme	Potential planned programme	
Ironwork raised / sunken less than 25mm	Potential planned programme	Potential planned programme	Potential planned programme	

OBSTRUCTIONS				
Designation	Monthly inspected highways (Hierarchy 1)	Quarterly inspected highways (Hierarchy 2 and 3)	Annually inspected highways (Hierarchy 4 and 5)	Potential emergency dependent on location
Fuel spillage or hazardous material on the highway	24 hours	24 hours	24 hours	X
Fallen tree / branch	24 hours	24 hours	24 hours	X
Road traffic collision	24 hours	24 hours	24 hours	X
Unsafe works in the Highway	24 hours	24 hours	24 hours	
Visibility splays	7 days	7 days	28 days	
Overgrown trees / hedges	28 days	28 days	28 days	

DRAINAGE				
Designation	Monthly inspected highways (Hierarchy 1)	Quarterly inspected highways (Hierarchy 2 and 3)	Annually inspected highways (Hierarchy 4 and 5)	Potential emergency dependent on location
Standing water: over half carriageway	24 hours	24 hours	24 hours	X
Investigate flooding: risk to Life/ risk to internal property	24 hours	24 hours	24 hours	X
Standing water: under half carriageway	7 days	28 days	28 days	
Investigate flooding: non-life threatening / non internal property	28 days	28 days	28 days	

SIGNS / LINES				
Designation	Monthly inspected highways (Hierarchy 1)	Quarterly inspected highways (Hierarchy 2 and 3)	Annually inspected highways (Hierarchy 4 and 5)	Potential emergency dependent on location
Missing / damaged non illuminated sign (Stop, One Way, No Entry, Give Way)	7 days	7 days	28 days	
Missing / damaged non illuminated sign (other)	Potential planned programme	Potential planned programme	Potential planned programme	
Damaged / missing non-illuminated street furniture	7 days	7 days	28 days	
Give Way / stop line deteriorating	7 days	7 days	28 days	
Markings deteriorating	Potential planned programme	Potential planned programme	Potential planned programme	
Offensive graffiti / vandalism to street furniture	7 days	7 days	7 days	

VERGES				
Designation	Monthly inspected highways (Hierarchy 1)	Quarterly inspected highways (Hierarchy 2 and 3)	Annually inspected highways (Hierarchy 4 and 5)	Potential emergency dependent on location
Collapsed verge	24 hours	24 hours	24 hours	X

APPENDIX C

Detailed Asset Table

Below is a detailed asset table which relates to section 2.1 of the Transport Asset Management Plan:

Asset Group	Element	Quantity	Data Confidence (High, Medium, Low)		Comment	Included in TAMP / Responsibility
			Inventory	Condition		
Carriageway	including lay-bys, bus lanes etc.	8,960 km.	High	High		Carriageway LCP
	Kerbs	km.	Low	Low		
	Line markings and studs (including at zebra crossings)	km.	Low	Low		
	Boundary fencing	m.	Low	Low		
	Hard strip / shoulder / verges / vegetation	km.	Low	Low		
	Fords and causeways	35 no.	High	Low		
	Traffic calming features – including Tables, Humps, Chicanes etc.	1,277 no.	Medium	Low		
Footways and cycletracks	Footway - adjacent to the carriageway	3,834 km.	High	Medium	FNS surveys commenced on all hierarchies in 2011/12	Footway and Cycletrack LCP
	Footpaths – remote from the carriageway	225 km.	High	Medium	FNS surveys commenced on all hierarchies in 2011/12	
	Cycleways - on carriageways (included in carriageways above)	23 km.	High	Low		
	Cycleways shared with footways (included in footways above)	Included with below.	High	Low		
	Cycleways remote from the carriageway	241 km.	High	Low		
Rights of Way (PRoW)	Remote from the carriageway – total length of recorded PRoW	4,008km.	High	Medium	See Note 1.	PRoW LCP
Structures	Bridge	1,533 no.	High	High		Structures LCP
	Footbridge	121 no.	Medium	High		
	Culvert >0.6m diameter	2,502 no.	High	High		
	Retaining Wall	134 no.	Medium	Medium		
	Subways (including submersible pumps)	10 no.	High	High		
Street Lighting	Lighting columns	62,930 no.	High	Medium		Lighting LCP / Stan Hall
	Illuminated Signs and Posts	8,040 no.	High	Low		
	Illuminated Bollards	2,720 no.	High	Medium		
	Feeder Pillars	600 no.	Medium	Low		
	Vehicle Activated Signs	220 no.	High	High		
	Subway Lights	180 no.	High	High		

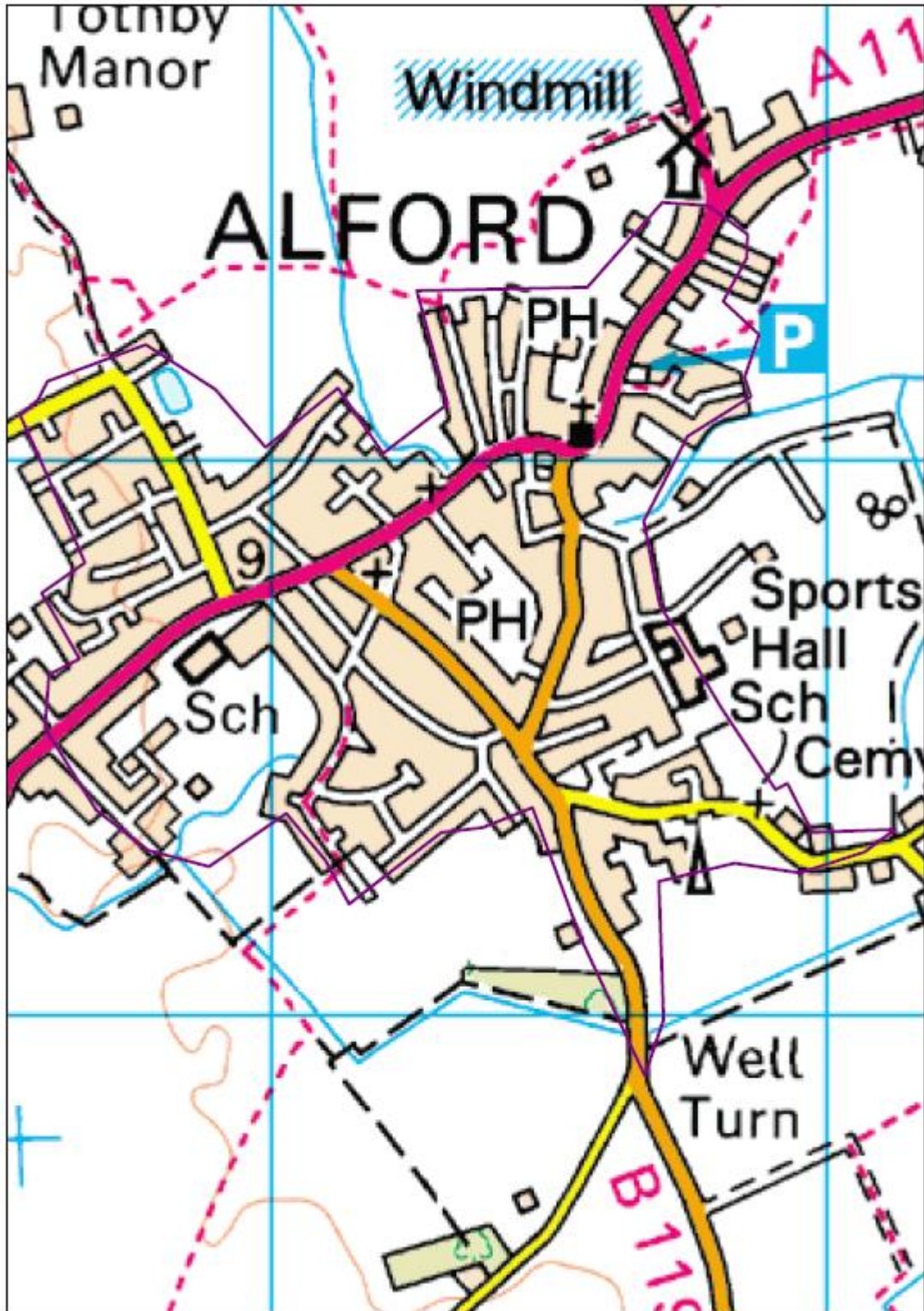
Asset Group	Element	Quantity	Data Confidence (High, Medium, Low)		Comment	Included in TAMP / Responsibility
			Inventory	Condition		
	Zebra crossings	222 no.	High	High		
	Cables (estimated 14,166 lengths at 30m each)	424.98 km.	Low	Low		
Traffic Management Systems	Signals at junctions	150 no.	High	High		Traffic Management Systems LCP
	Signals at pedestrian crossings	128 no.	High	High		
	Signals at pedestrian and cycle crossings	22 no.	High	High		
	Signals at pedestrian and horse crossings	1 no.	High	High		
	CCTV Cameras (Traffic Control)	26 no.	High	High		
	Traffic Signal In-station equipment (SCOOT/UTC)	1 no.	High	High		
	Traffic Signal In-station equipment (Remote monitoring)	1 no.	High	High		
	Traffic signal matrix (CCTV)	1 no.	High	High		
	Tidal flow system (Canwick Rd Lincoln)	1 no.	High	High		
	Bus priority equipment	5 no.	High	High		
	Fire service priority equipment	3 no.	High	High		
Drainage	Gullies	129,792 no.	Medium	Low	Work currently being undertaken to locate and reference all gullies	Drainage LCP
	Drainage Channels	lin m.	Low	Low	Not available	
	Piped drains	lin m.	Low	Low	Not available	
	Watercourses, roadside ditches, swales etc	lin m.	Low	Low	Not available	
	Interceptors	no.	Low	Low	Not available	
	Balancing ponds	no.	Low	Low	Not available	
Street Furniture	Vehicle safety fences	70 km.	High	Medium		Street Furniture LCP
	Non illuminated signs (Warning, Regulatory and local direction/information signs/posts)	106,024 no.	High	Low		
	Bollards	no.	Low	Low	Not available	
	Pedestrian Guardrail	m.	Low	Low	Not available	
	Street Name Plates	no.	Low	Low	Not available	
	Grit Bins	1,700 no.	Medium	Low		
	Trees - PRN	2,000 no.	High	High	Inventory & Condition inspection complete	
	Trees – Non PRN	no.	Low	Low	Programme to be extended to non-PRN in 2012.	

Asset Group	Element	Quantity	Data Confidence (High, Medium, Low)		Comment	Included in TAMP / Responsibility
			Inventory	Condition		
	Automatic Traffic Counters (c'way and cycleway)	59 no.	High	High	Operational Sites Only	
	Cattle grids	no.	Low	Low	Not available	
	Gates	no.	Low	Low	Not available	
	Seating	no.	Low	Low	Not available	
	Weather Stations (Ice prediction equipment managed by Vaisala)	11 no.	High	High		
	Bus Shelters	1,812 no.	High	Medium		

APPENDIX D

Urban Plans

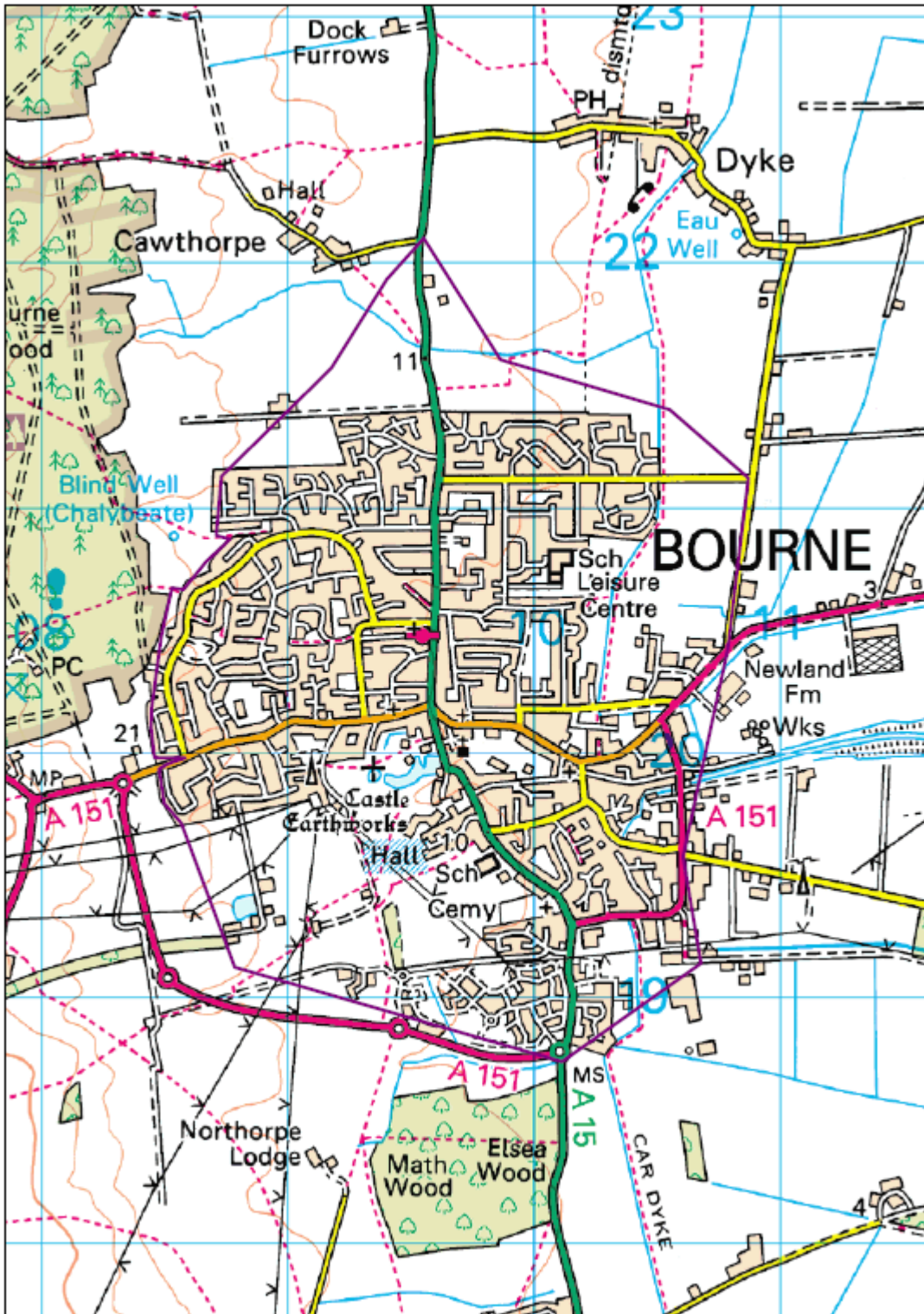
Alford



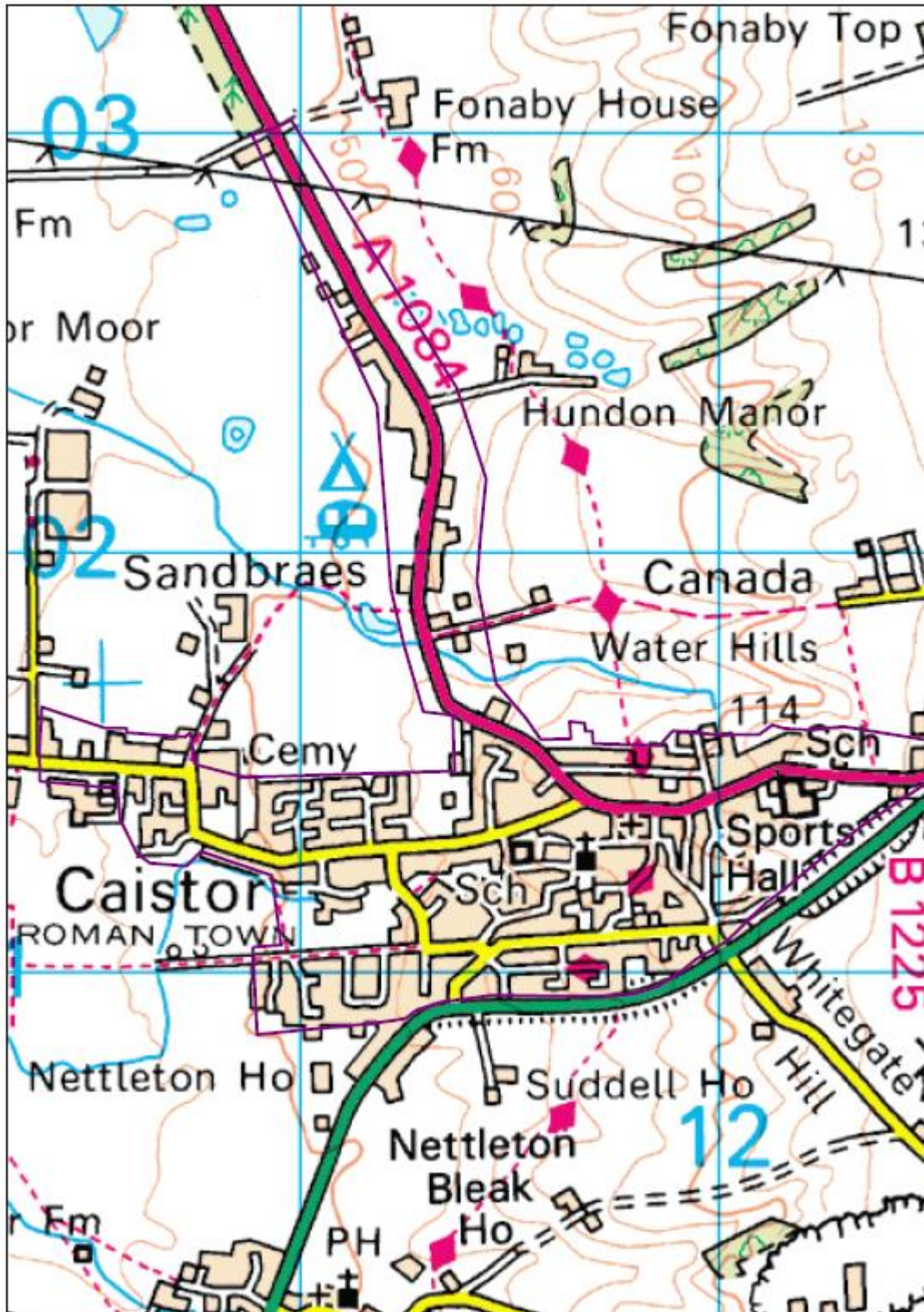
Boston



Bourne



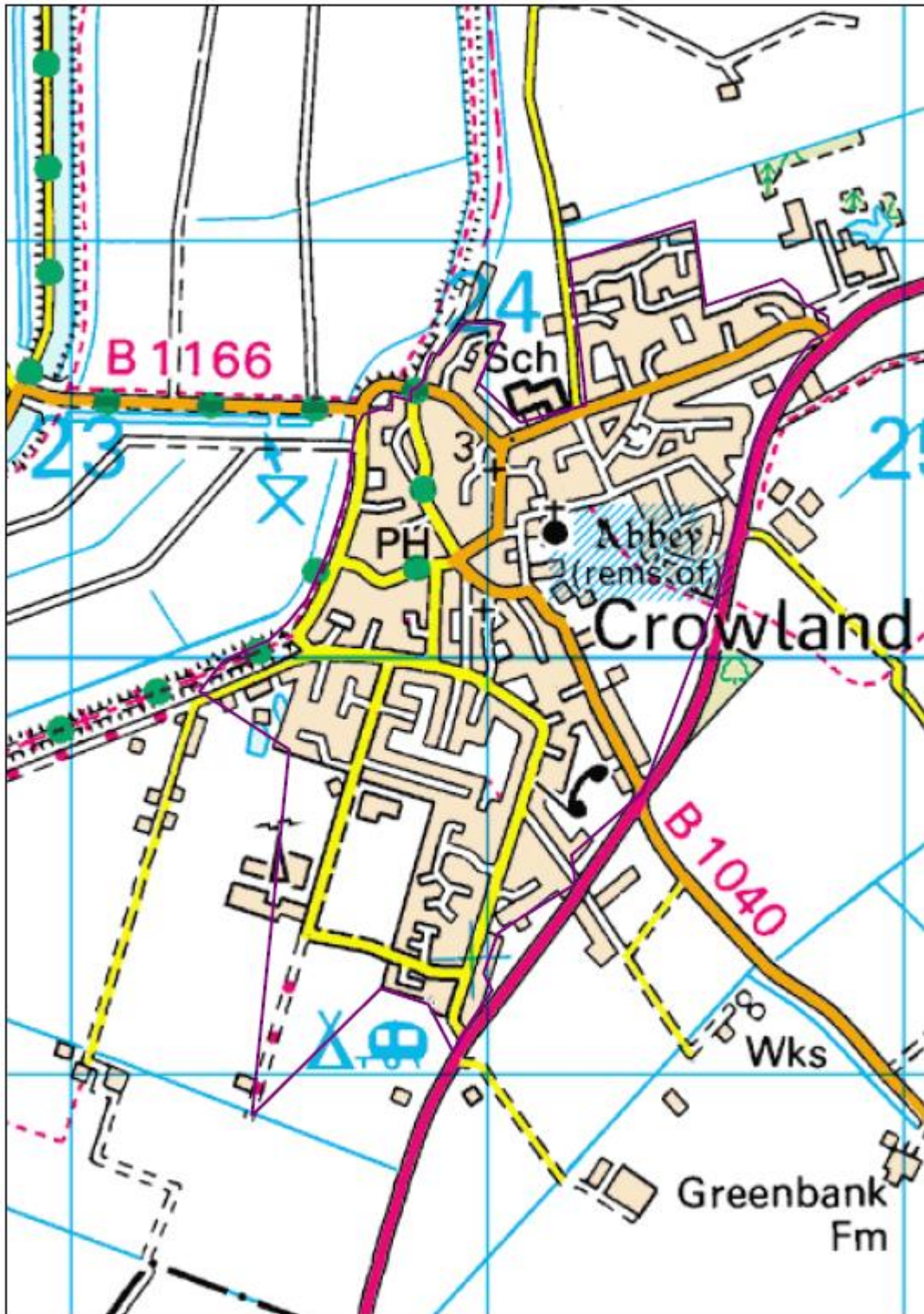
Caistor



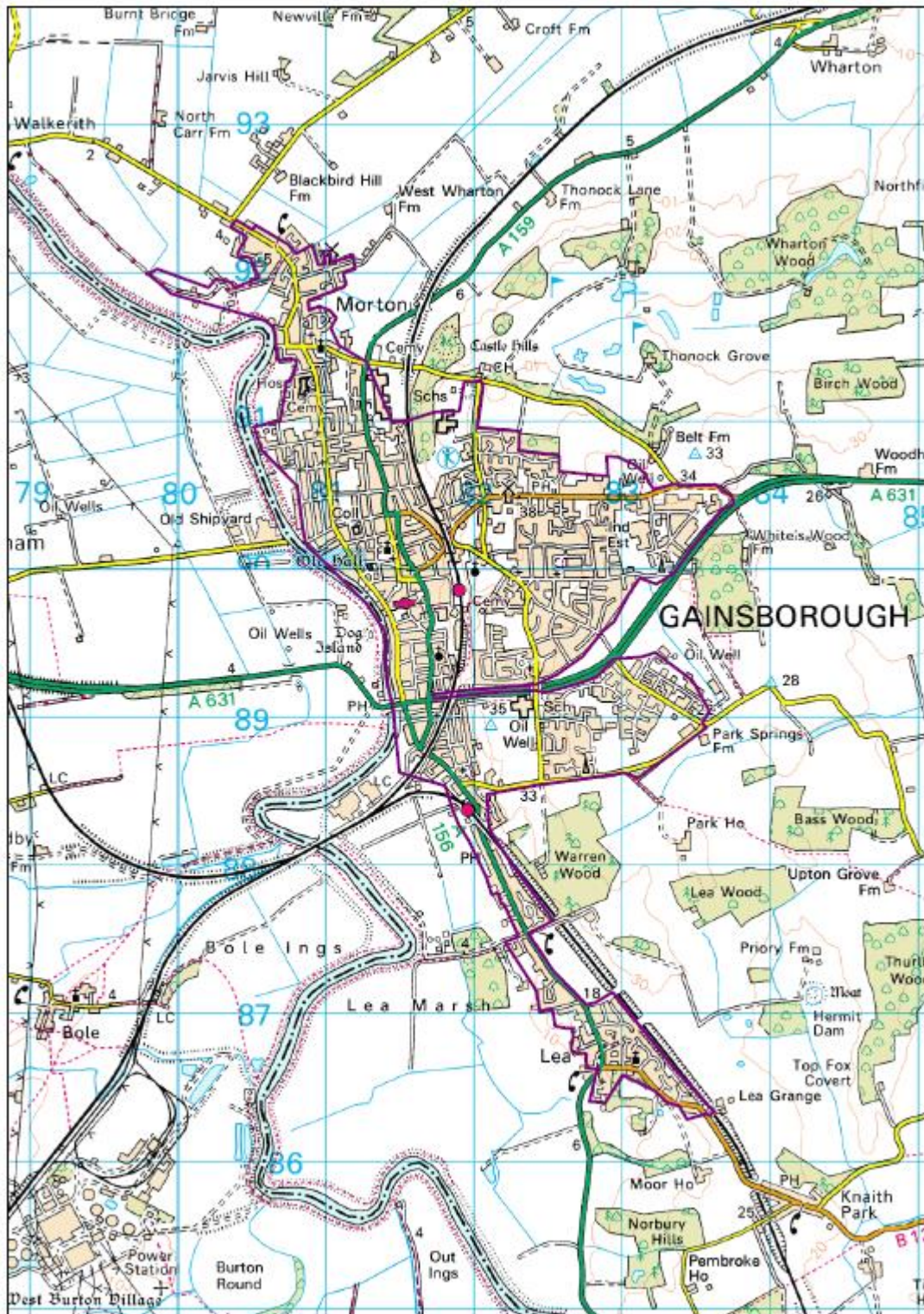
Coningsby



Crowland



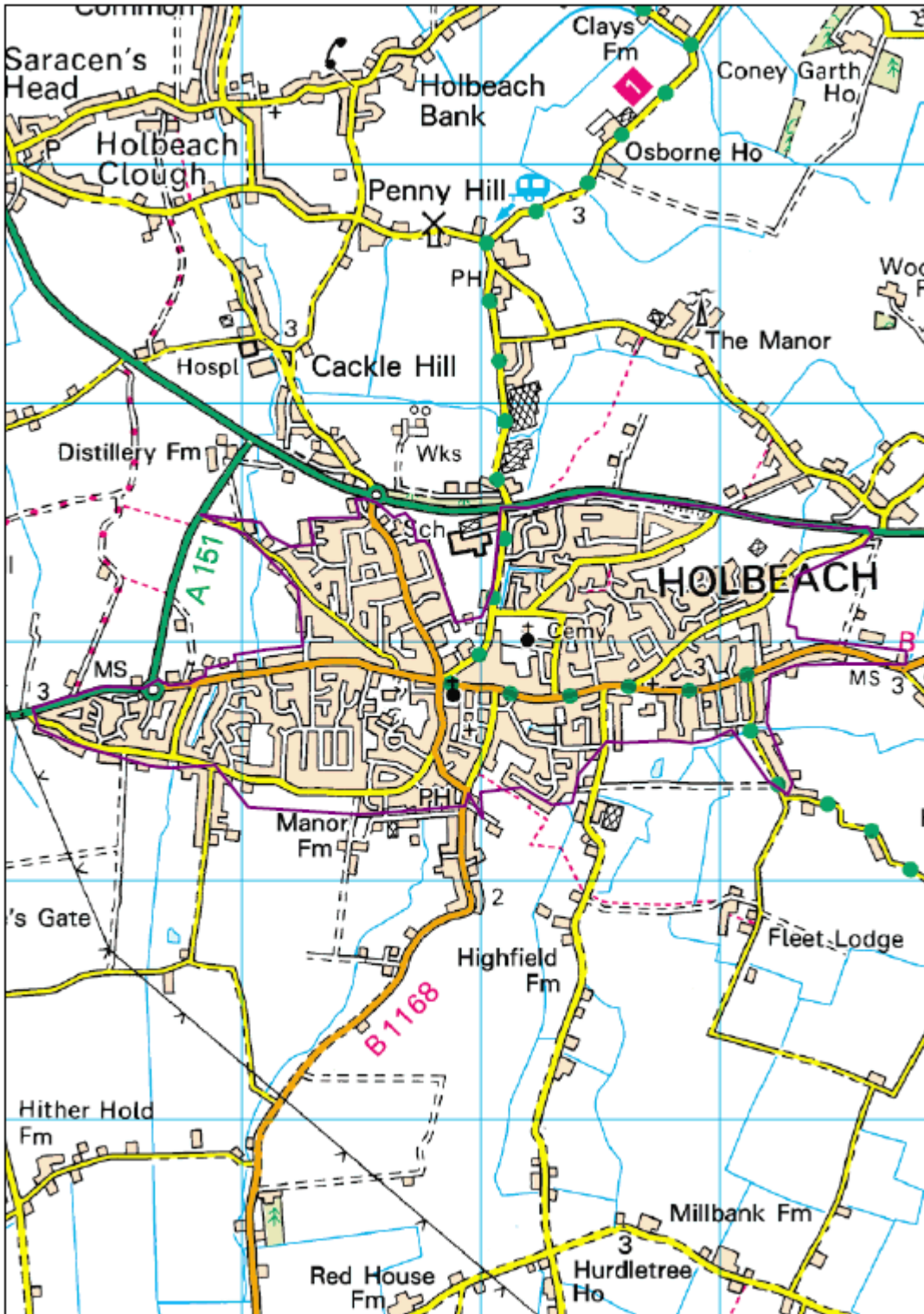
Gainsborough



Grantham



Holbeach



Horncastle



Lincoln



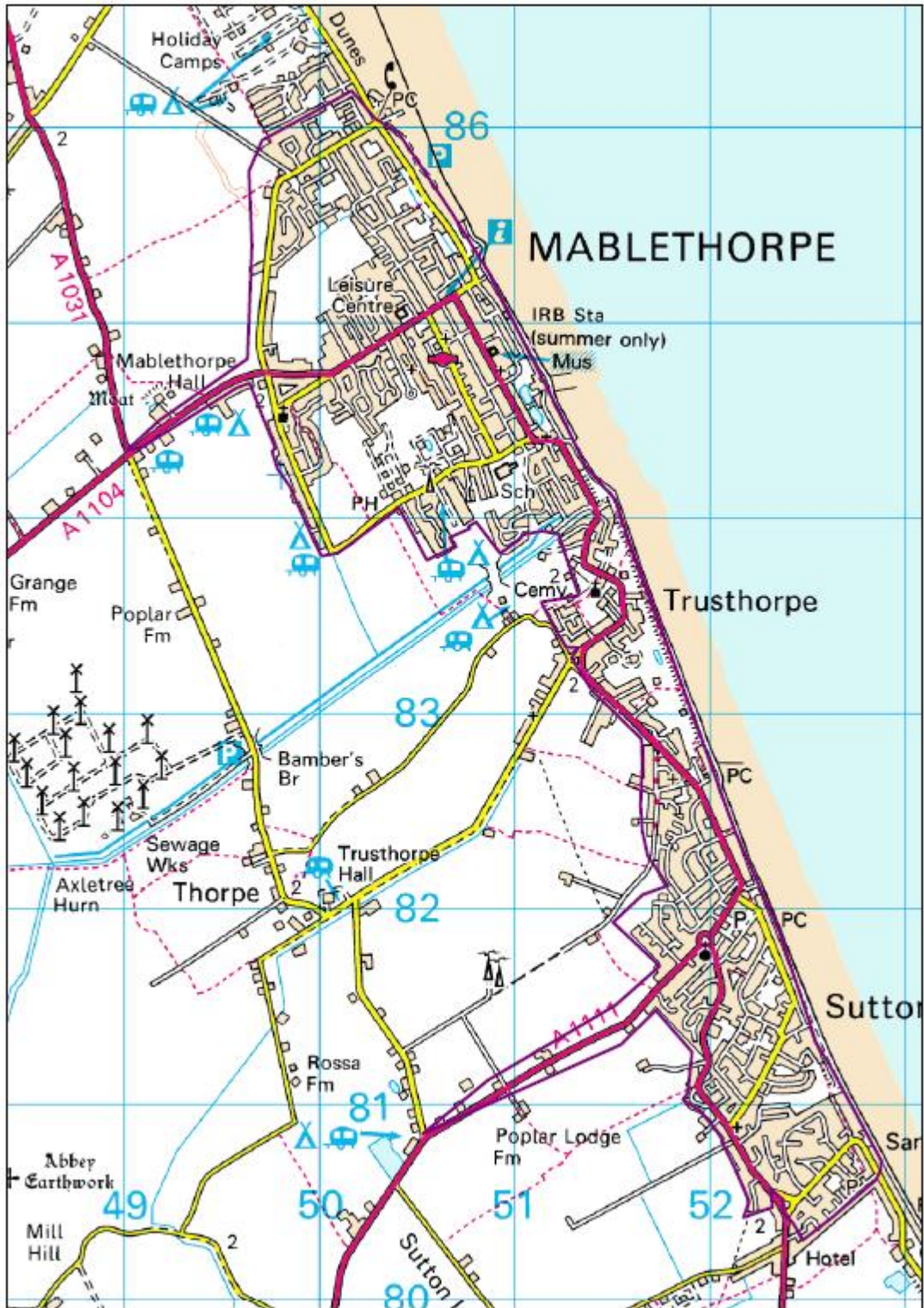
Long Sutton



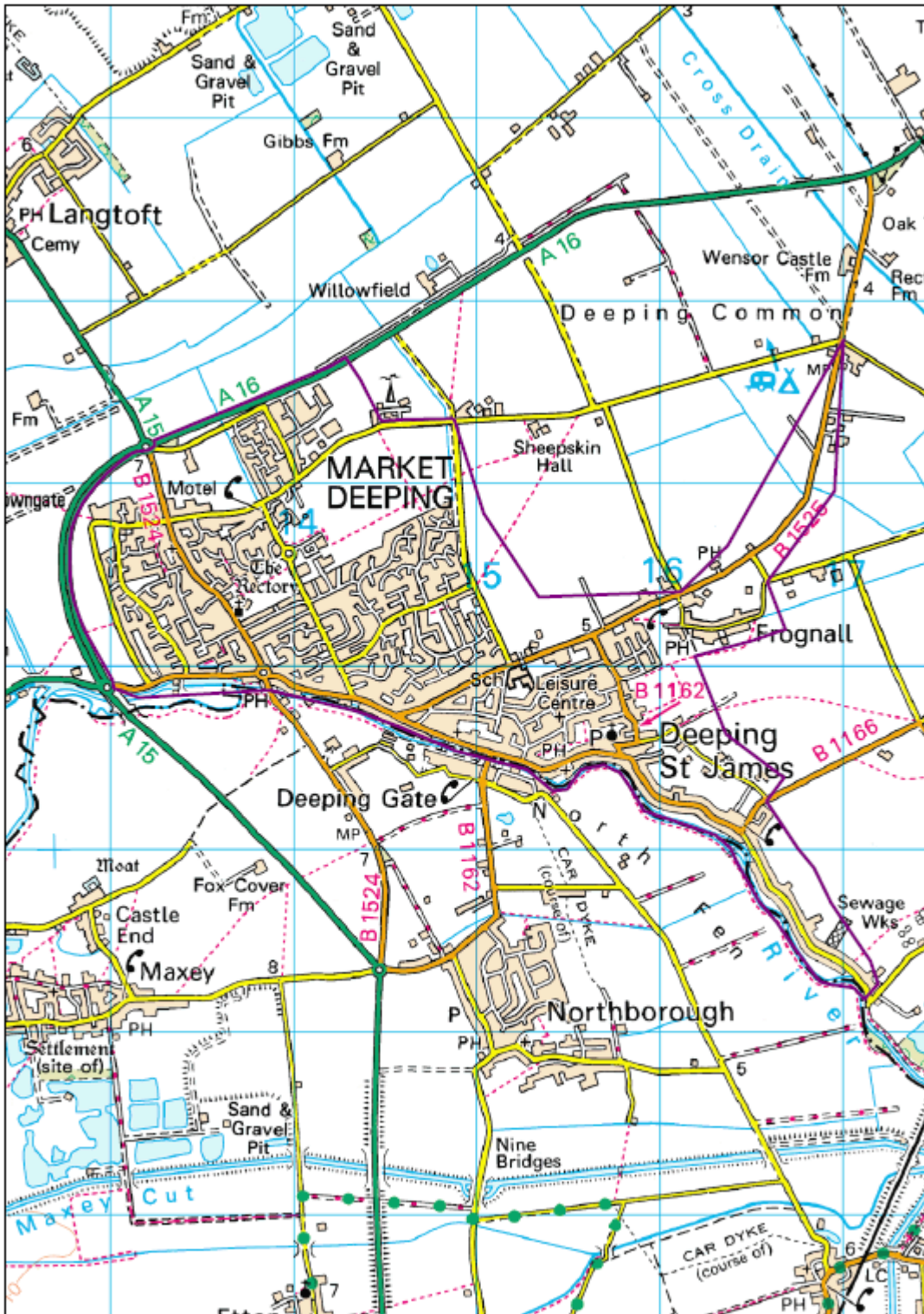
Louth



Mablethorpe



Market Deeping



Market Rasen



Skegness



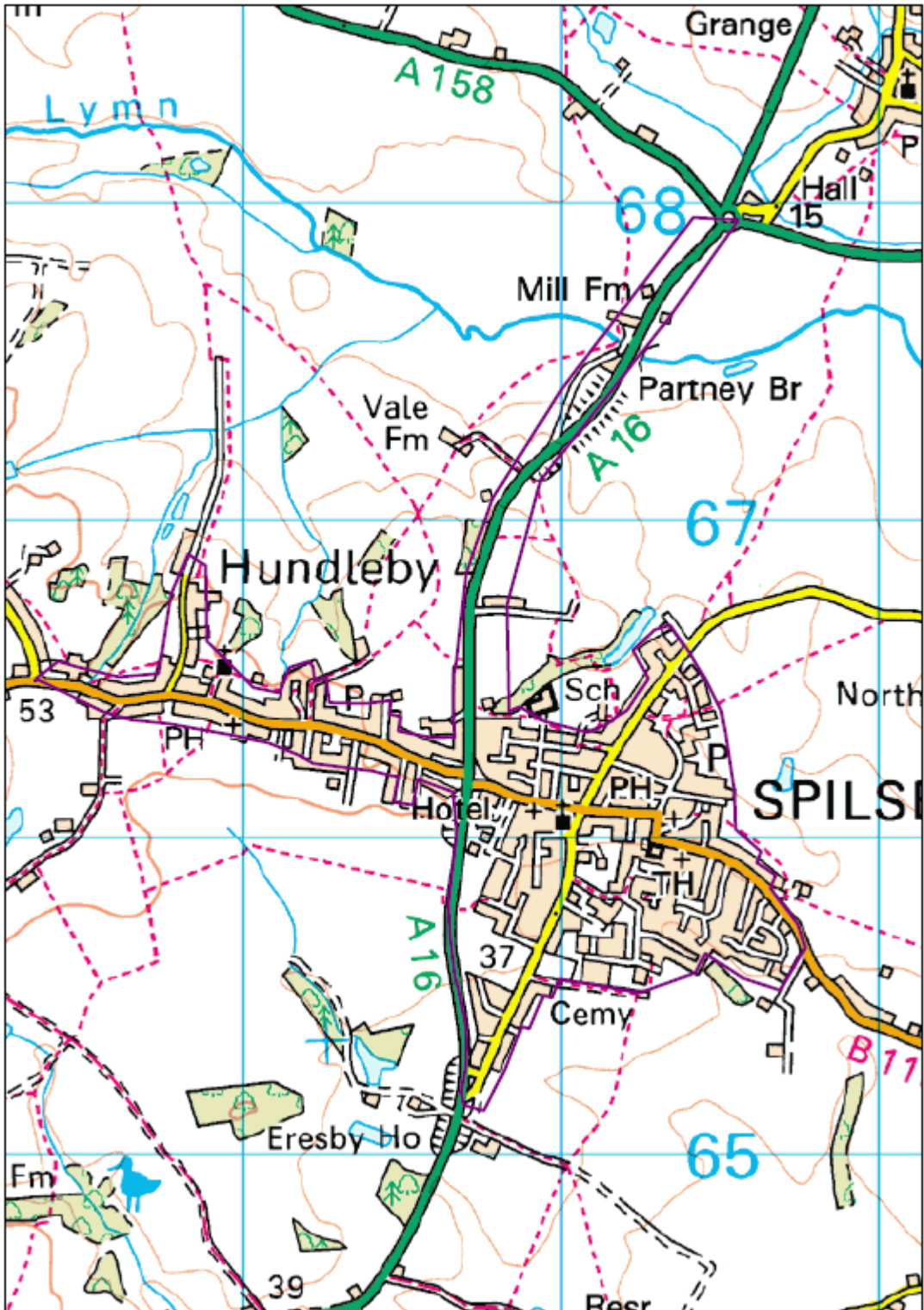
Sleaford



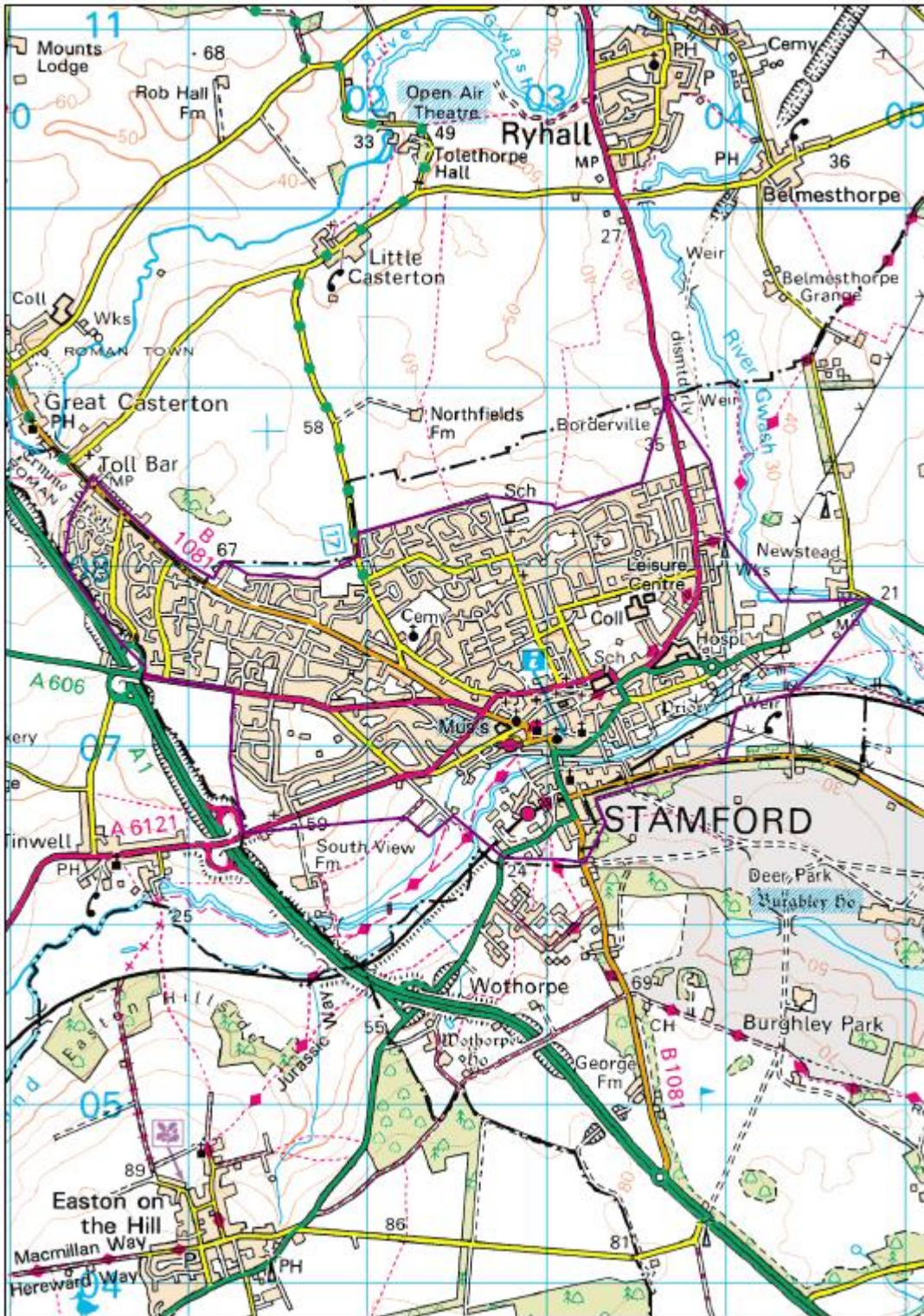
Spalding



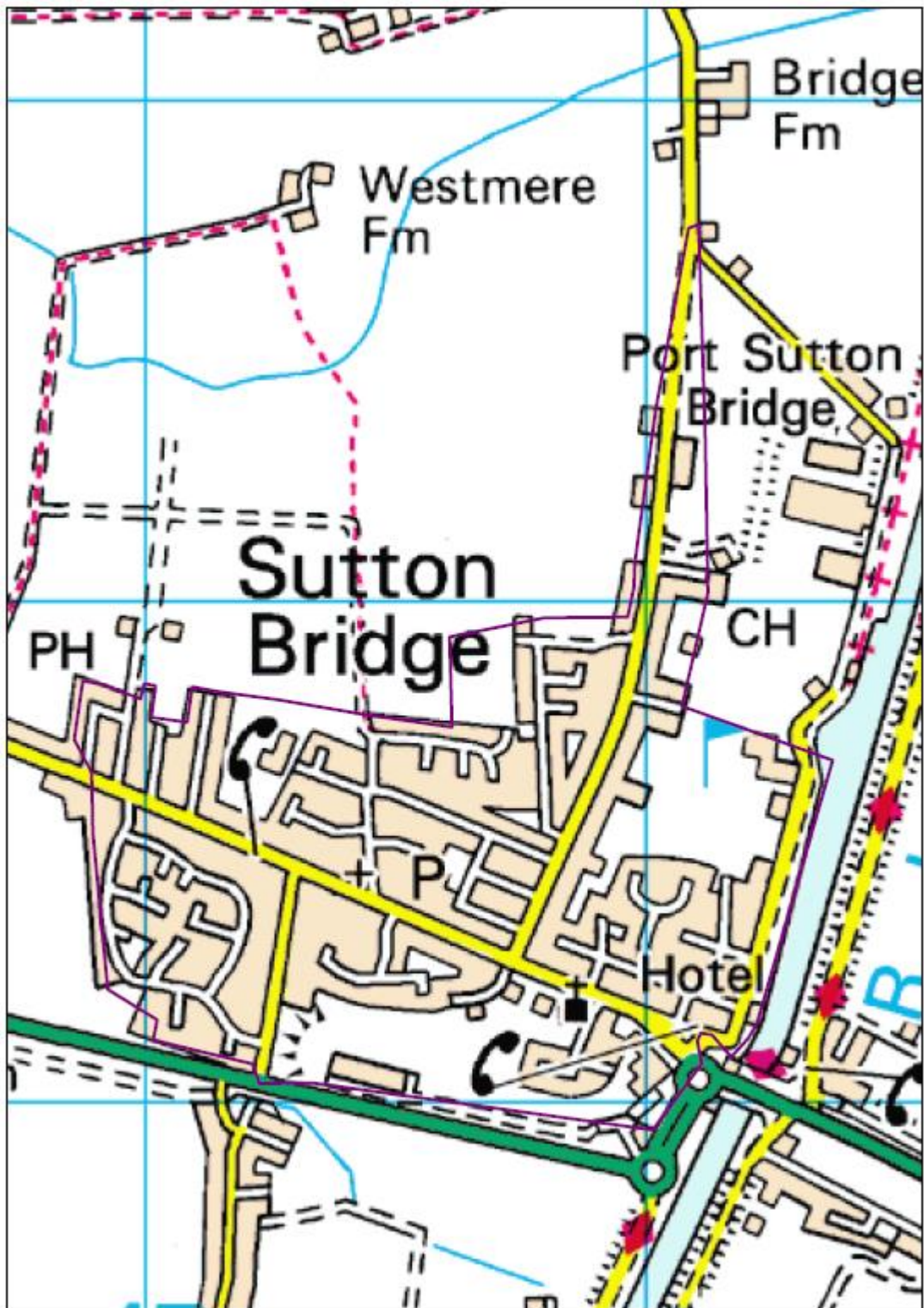
Spilsby



Stamford



Sutton Bridge



This page is intentionally left blank