

Derbyshire Climate Change Charter 2014 - 2019

**Wayne Bexton – Principal Policy
Officer**

Derbyshire Climate Change Charter 2014 - 2019

“Transforming Climate
Action”



DERBYSHIRE COUNTY COUNCIL



Derbyshire Communities



Derbyshire County Council



Derbyshire County Council Adaptation Action Plan



6 Key Priority Areas



Ground Mounted Solar PV in Derbyshire

Post-industrial land – generating solar power and income

Council Plan 2014 – 2017

A Safer Derbyshire – Green and Sustainable Communities

- Lead on climate change mitigation and adaptation
 - Climate Change Charter
- Reduce the Council's carbon footprint
- Assess efficiency of all assets
- Invest in renewable energy
 - Reduce risk of future energy price rises
 - Generate income streams

Corporate approach to sustainability

Environmental Sustainability Group

- Established in 2010
- Objectives;
 - Achieve greater sustainability impacts from existing resources
 - Performance framework for sustainability accounting across the whole council
 - Balanced Scorecard

Corporate approach to sustainability

Review of Sustainable Energy Potential

- Improvement and Scrutiny Committee (Resources)
- Aim;
 - Investigate current council sustainable energy projects
 - Ascertain viability of future projects on council owned land and projects, including those identified in the Non-Operational Review

Corporate approach to sustainability

Review of Sustainable Energy Potential

- Land based solar PV
 - Best suited to sites unfit for agriculture and housing
 - Former heavy industrial sites now present opportunities for developing large scale sustainable energy on brownfield and contaminated sites on a commercial basis

Sustainable Energy Generation – Initial Site Identification

- Size – minimum 2 hectares
- Department and current use
- Vacant possession or Tenanted (whole or part)
- Details of any tenancies in place including start date, end date, tenant and current rent.
- Flood risk
- Shape and topography

2nd Stage Feasibility Criteria

- Land Use - previously developed land
 - Brownfield
 - Contaminated
 - Industrial
 - Agricultural land classed 3b, 4 and 5

2nd Stage Feasibility Criteria

- Grid connection and capacity
 - Sub-station proximity
 - Capacity
 - Length of cable runs
- Access
 - Construction and maintenance
 - Highways Development Control

2nd Stage Feasibility Criteria

- Local Plan Policy
 - Review adopted plans and emerging policies
 - NPPF
- Visual and landscape impact
 - Reduce impact from visual receptors
 - Utilise natural screening

2nd Stage Feasibility Criteria

- Protected landscapes
 - Avoid Green Belt, SSSI, conservation areas
- Heritage assets
- Ecology
- Biodiversity gains
 - Long term land management

- Early discussions (approximate connection costs)
- Contestable/Non-Contestable works
- Grid connection applications and accepting grid offers.

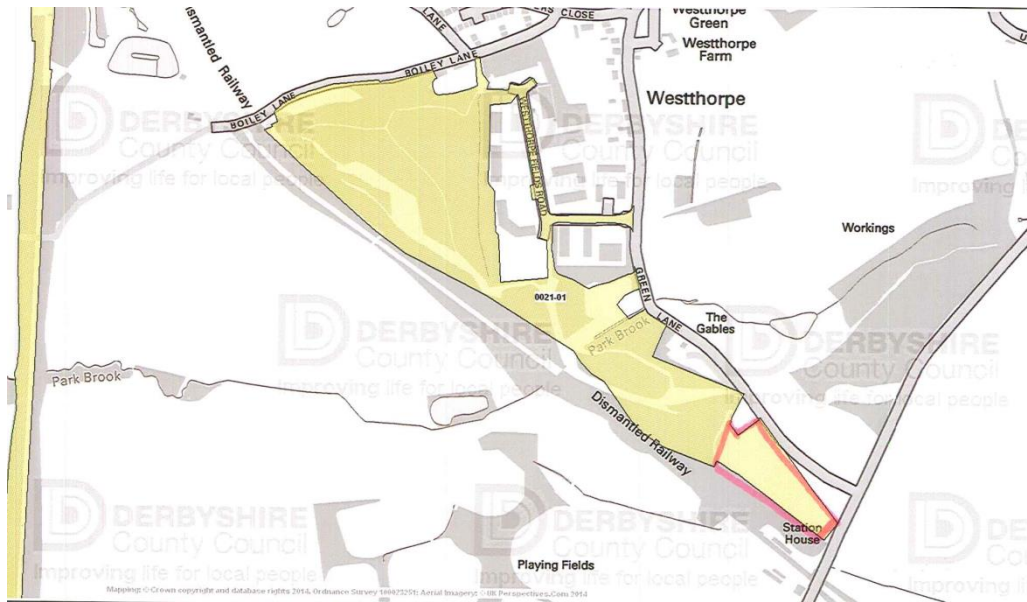
- Roadshow
- Ensuring issues dealt with early
- Informing local communities
- Gauging opinion

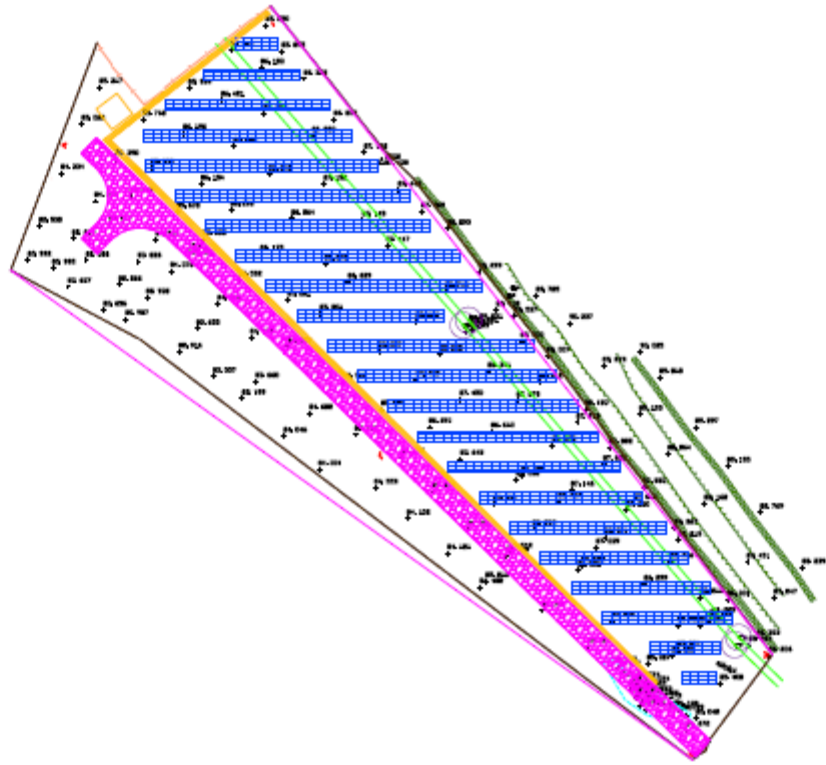
Westthorpe Hills (former colliery)



Westthorpe Hills (former colliery)

- 1.19Ha
- 1,242 panels
- Installed capacity = 0.4 MWp
- Annual generation = 321 MWh
- Approx. 75 homes





NOTES:

- The system comprises of 100 x 100W solar modules with a total collector capacity of 10000Wp.
- The system will have an export capacity of around 100kW in a year of a total maximum meter AC output, depending on electrical meter choice and configuration.
- The system is such that it is made up of the free and free-growth into the solar modules around the site below 10m in the most efficient manner, with maximum generation capacity of 100kW.
- The system has been specified with a 10 year warranty. The warranty is a standard level of the warranty of the system. The warranty is, with the warranty, with the warranty.
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- A construction programme will be developed for the system, but may not be applied because of the small size of the site.

KEY:

Electricity pylon	#EP
Support wire	#SW
Overhead electricity wires	—
Electricity pylon buffer zone	○
Solar panel	□
Corner	□
Transformer	□
Cable route	—
Access track	—
Perimeter fence	—
Hedge/row boundary	—
Building perimeter fence	—

Client: Derbyshire County Council			
Project: Layout drawing, showing quantity and positioning of solar PV technology on the			
Site: 1001-01 Heathcote Reclamation Land			
File: Layout Drawing for Heathcote Reclamation Land			
Author: BRE	Drawn: BRE	Check: BRE	Date: BRE
Project No: PR-1004	Issue No: 0001-01-01	Date: BRE	Scale: BRE

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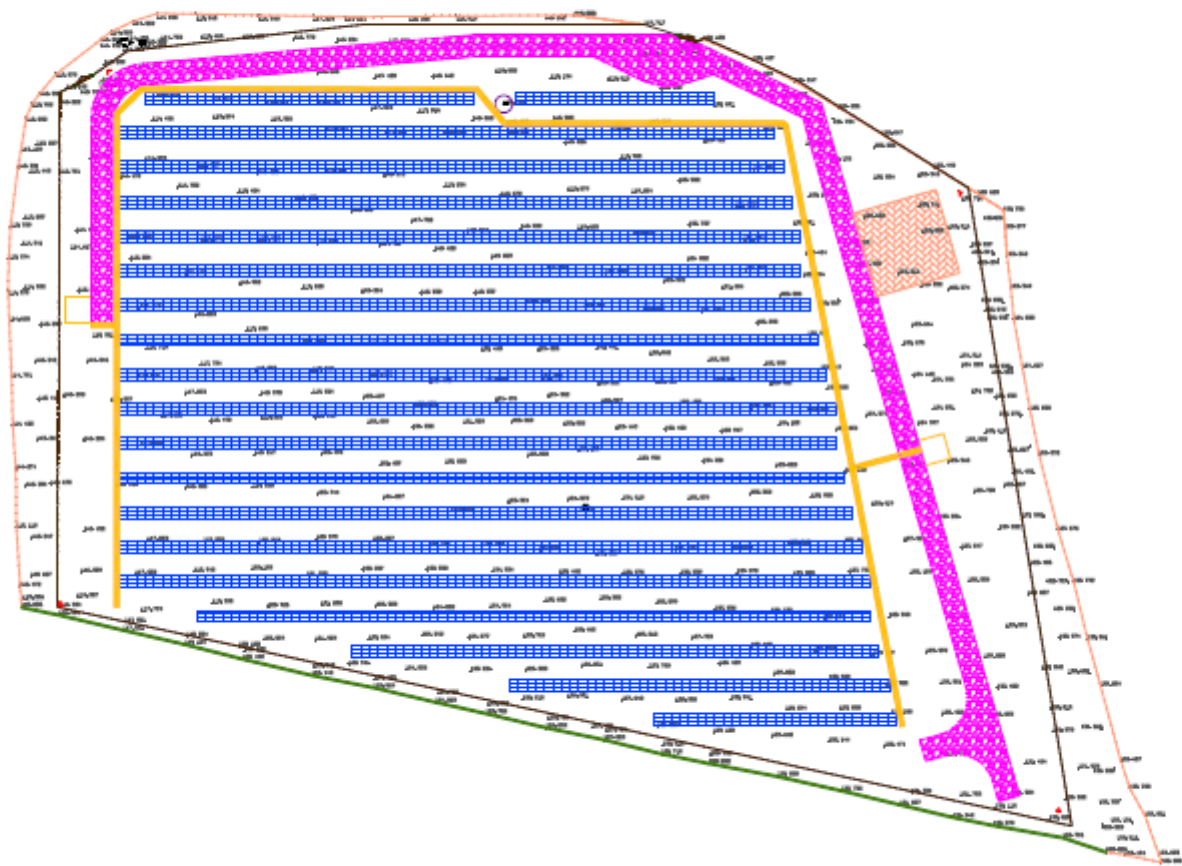
Former Swanwick Colliery



Former Swanwick Colliery

- 3.6 Ha
- 4,236 panels
- Installed capacity = 1.3 MWp
- Annual generation = 1,141 MWh
- Approx. 270 homes





Notes

The system comprises of 428 x 310 Hp solar modules with a total installed generation of 1,313.4 MW. See specified data sheet for module specification.

The system will have a grid export capacity of 1,287 MW as a result of the total maximum inverter AC output.

The configuration is such that shading is kept to an acceptable level whilst maximising generation capacity on site.

The layout has been specified with an 8m spacing between rows on account of the north facing aspect of the site. The 8m row spacing provides comparable shading to 7m spacing on a horizontal plane.

Key

Heathcote	+HH
Inspection Chamber	+IC
Safety Service Valve	+SV
Overhead electricity wire	—
Fracture buffer zone	○
Solar panel	□
Corner	↙
Transformer	□
Cable route	—
Access track	—
Perimeter fence	—
Hedgerow boundary	—
Existing perimeter fence	—
Construction compound	▨

Client

Derbyshire County Council

Project

Layout drawing, showing quantity and positioning of solar PV technology on site

Site

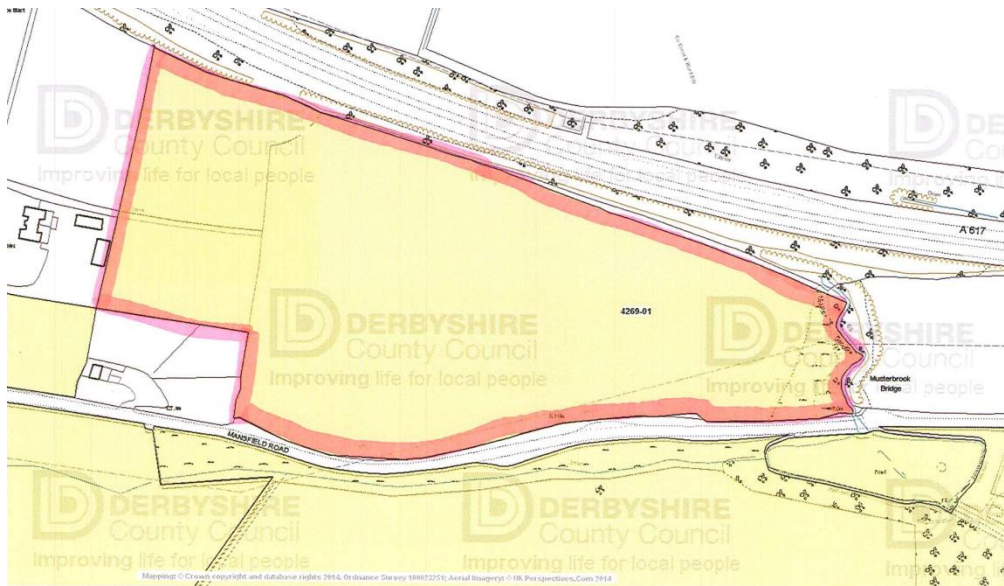
DAFF-01 Swinwick, Colley Land

Project Drawing for Swinwick, Colley Land

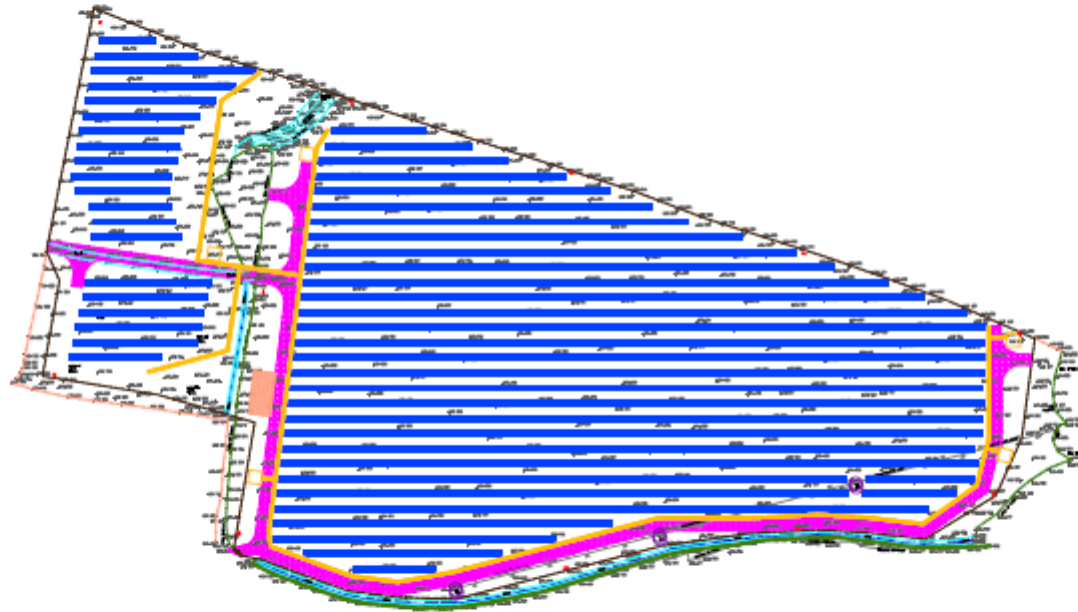
Rev No	Date	Rev	By
1	11/05/15	INC	INC
2	11/05/15	INC	INC
3	11/05/15	INC	INC
4	11/05/15	INC	INC

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Land off Mansfield Road



- 7.54 Ha
- 11,928 panels
- Installed capacity = 3.7 MWp
- Annual generation = 3,249 MWh
- Approx. 768 homes



NOTES:

- The system comprises of 1035 x 330W solar modules with a total collector capacity of 342,750Wp.
- The system will have an export capacity of 100kW DC (100kW AC) as a result of a total maximum inverter AC output, depending on inverter inverter choice and configuration.
- The layout is such that it allows shading from the trees and hedgerows to the solar modules during the site layout. 20% of the roof area is shaded, with the remaining generation capacity 20%.
- The layout has been specified with a 5m spacing between rows, this provides a clear view of the surrounding area from the solar modules, whilst maintaining the capacity.
- The access road is 6m wide where it meets the site boundary and is 4m wide for the rest of the site.

Key:

Electricity pylon	+EP
Support wire	+SW
Overhead electricity wires	—
Electricity pylon buffer zone	○
Solar panel	▭
Corner	□
Transformer	▭
Cable route	—
Access track	—
Perimeter service	—
Hedgerow boundary	—
Existing perimeter service	—
Construction compound	■

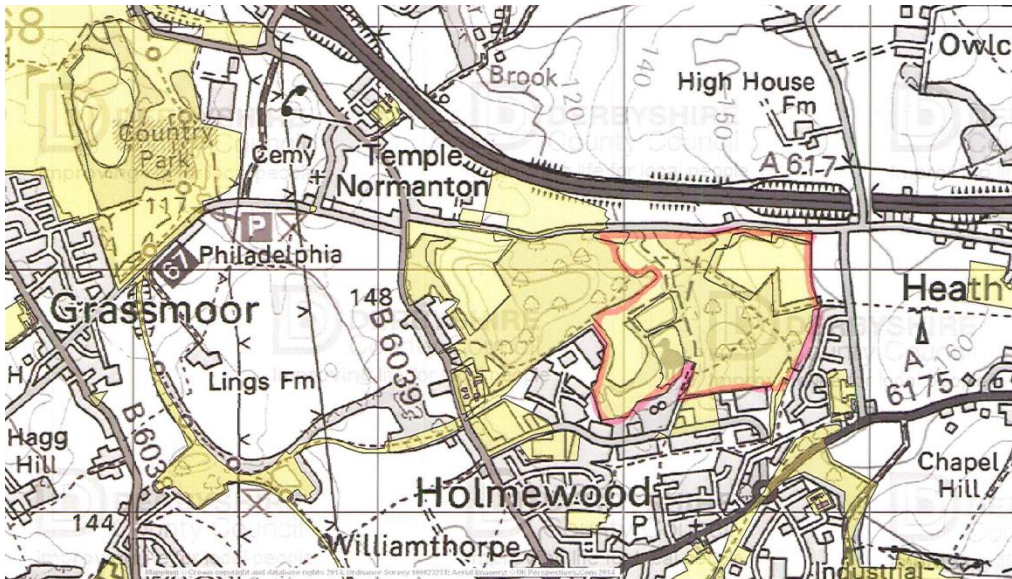
Client: Derbyshire County Council			
Project: Layout drawing, showing quantity and positioning of solar PV technology on site			
Site: CSP-01, Mansfield Road, Temple Normanton			
Project Drawing for: Land of Mansfield Road			
Scale: 1:1500	Date: 20/05/15	Rev: 001	Drawn by: JMC
Scale: 1:1000	Date: 03/06/15	Rev: 001	Drawn by: JMC

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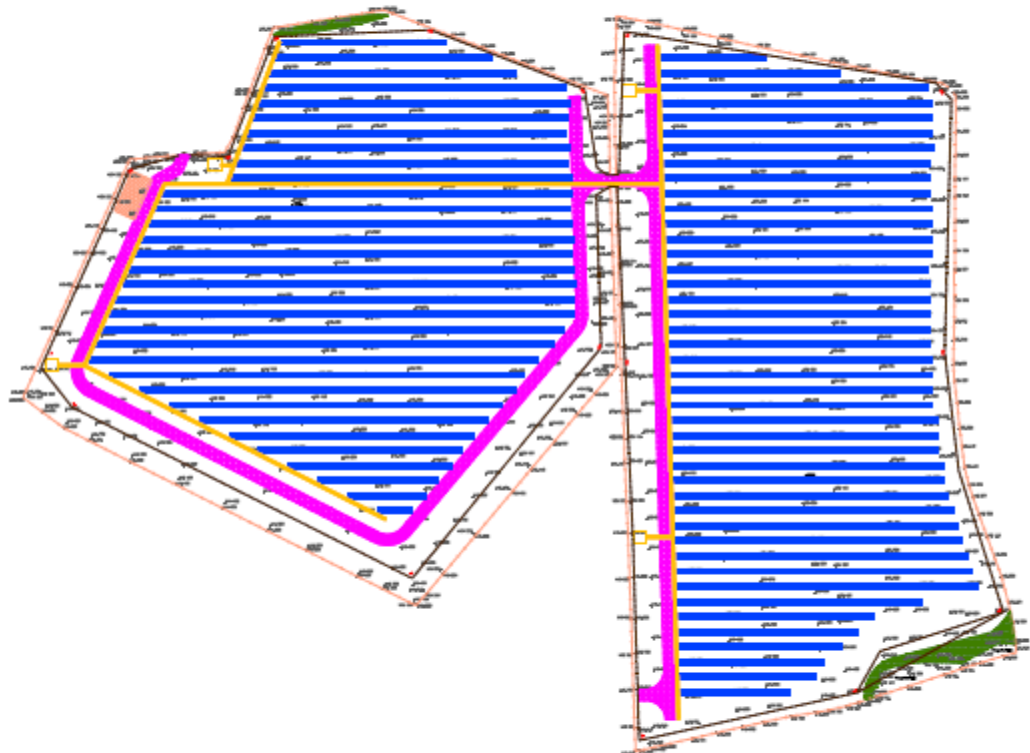
Williamthorpe Colliery



Williamthorpe Colliery



- 10 Ha
- 14,231 panels
- Installed capacity = 4.4 MWp
- Annual generation = 3,738 MWh
- Approx. 884 homes



Notes

The system consists of 1,000 x 100W solar modules with a total collector capacity of 60.0 MWp.

The system will have an export capacity of around 47.5 MWp as a result of a 10% maximum inverter AC output depending on weather and inverter configuration.

The layout is based on a 7m spacing between rows. The production is based on the use of shading of below 0.6m. The location is based on the shading capacity. The north facing panels are located at a 15 degree angle to the north-south axis. The row spacing is based on the use of shading of below 0.6m.

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Key

Minimum	+MH
Inspection Chamber	+IC
Safety Service Valve	+SV
Overhead electricity cables	—
Heedure buffer zone	○
Solar panel	□
Comms	□
Transformer	□
Cable route	—
Access track	—
Perimeter fence	—
Hedgerow boundary	—
Building perimeter fence	—
Construction compound	—
Screening	—

Derbyshire County Council

Layout showing, showing quantity and positioning of solar PV technology on site

4373-01 Willeshoppe Colliery

Project Drawing for Willeshoppe Colliery

Rev	By	Date	Desc
1	1000	20/05/15	MC
2	1004	03/07/15	MC

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- Planning applications submitted for four sites
- Joint procurement exercise via APSE Energy

Next Steps.....

- Consultation around subsidies could impact on our business case (initially predicted at 9% annual return on investment).
- Grid Parity? Drop in equipment costs?
- Still working on a 2016/17 delivery date.

Thoughts and questions?.....

Accessing the Derbyshire Climate Change Charter:

- Online: www.derbyshire.gov.uk
- Leaflets
- DPF members
- Paper copies available by order

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