# New Construction Centre, Barnsley College
# Ground Investigation Statement

Jan 2014

## Site Location and Description

The centre is to be located on the Honeywell site of the Barnsley College Campus, to the south-west of the Sports Centre and to the west and across the road from the new Think Low Carbon (TLC) Sustainable Centre which was completed at the end of 2011.

The site is currently an area of rough scrubland.

The Barnsley to Huddersfield railway line runs alongside the western boundary.

## Site History

The 1855 OS map indicates that site was being tipped on, probably by the spoil generated by the construction of the two railway lines that run close to the site. Some areas were then used as allotment gardens until further tipping started in the 1980's.

The site has been discussed with the Contaminated Land Officer and Building Control Officer of Barnsley Metropolitan Council. They confirmed that there is a closed landfill on the site which accepted inert waste and material described as 'not being expected to give rise to landfill gas in substantial quantities'. This filling is recorded as having commenced in 1984 and was completed in 1989. A copy of a letter dated 03rd July 2006 from Barnsley Metropolitan Borough Council to WYG is attached at the end of this statement.

## Site Geology and Mining

The site is shown by the British Geological Survey 1:10000 map to be underlain by approximately 10m of sandstone of the Kents Rock (or Kents Thin Rock) sandstone member of the Middle Coal Measures Formation of Upper Carboniferous age.

A mining report was obtained from the South Yorkshire Mining Advisory Service (SYMAS). This report states that there is no evidence of any shallow mine workings in either the Kents Thin or the Kents Thick coal seams which lie beneath the site. Working of the Barnsley Coal Seam took place around 1834 at a depth of approximately 100m below existing ground level however any movement associated with these workings will have ceased. A copy of this report is also attached at the end of this statement.

The site is not in an area affected by Radon gas.

Two previous site investigations have been carried out by WYG Environmental on the site. One in July 2006 for the new Sports Hall and one in July/August 2010 for the TLC Centre. As part of the second investigation one borehole and four trial pits were excavated in the area of the proposed new Construction Centre.

The borehole identified made ground to a depth of 6.80m followed by 1.7m of sandy clay over a weak weathered mudstone, a thin bed of coal and sandstones. The trial pits were each approximately four metres deep and the material excavated comprised entirely of made ground. The made ground generally comprised of a variety of building materials, sandy gravelly clay, lenses of decaying vegetation and cobbles of sandstone, and mudstone all of which are suspected to be waste from building works.



Insert Office address, Arndale Court, Otley Road, Headingley, Leeds, LS6 2UJ
Tel: +44 (0)113 278 7111 Fax: +44 (0)113 278 3487 Email: info@wyg.com www.**wyg**.com

WYG Engineering Ltd Registered in England Number: 1959704
Registered office: Arndale Court, Otley Road, Headingley, LS6 2UJ

There were no observable signs of contamination in the trial pits except for a slight hydrocarbon odour in one location.

It is anticipated that the new building on the site will have piled foundations.

## Site Investigation

A further site investigation will be undertaken to;

1. Determine the below ground strata properties and depth to rock for foundation design.
2. Further investigate and assess any below ground contamination.
3. Record and monitor ground water levels and any gas concentrations.
4. Assess any geotechnical risks.

BARNSLEY
Metropolitan Borough Council

**Regulatory Services**
Assistant Director: Ken Eastwood, BSc (Hons), MCIEH
Central Offices, Kendray Street, Barnsley. S70 2TN.

My Ref: JSC/140029 Your Ref: E9056 Date: 03 July 2006

Enquiries To: Mr J Scott PollutionControl@barnsley.gov.uk Dial Direct: (01226) 772456 Fax: (01226) 775699

Dear Sir

**Re Barnsley College, Honeywell Site**

Further to your fax requesting information in respect of the above site, I can now supply you with the information we hold regarding this site.

**Closed Landfill Sites**
As you have indicated within your enquiry, there is a closed landfill on the above site, the details of which are listed below:
Reference - 23
Address - Old Mill Lane, Barnsley.
NG Ref. - 434468, 407087
Waste Disposal Licence - WD20 B446
Planning Application - B/84/0865/BA, B/84/1103/BA, B/87/0674/BA
Site Operator - Mr M White and Twibell Plant
Landfill Material - Inert Waste
Total Volume - 4000m$^3$
Date Commenced - 1984
Date Completed - 1989

WYGE 06 JUL 2006
NO 11 E9056
ACT SC MC
INFO
INIT

This landfill has been classified as Category 4, meaning the Waste Disposal Site Licence indicates the site has been licensed to accept material that would not be expected to give rise to landfill gas in substantial quantities.

**Contaminated Land**
Under the provisions of the Environmental Protection Act 1990, we have a duty to inspect the borough for contaminated land. As part of this work, records of potential sources of contamination have been complied through the use of historical Ordnance Survey maps and local knowledge.

With regards to Part IIA of the Environmental Protection Act 1990, the closed landfill site will be inspected as to whether they could be determined as 'contaminated land' in respect of the sites current use. We have prioritised all of the sites that have been identified with a previous uses, and

Dan Pollard
White Young Green
Arndale Court
Headingley
Leeds
LS6 2UJ

this site is ranked 776 out of 2208 in priority order. However, I am unable to give any timescales as to when this site will be inspected under Part IIA.

I must inform you that the Council make a charge for supplying this information and you will be invoiced accordingly in due course. This charge will be £40 as agreed.

This information is submitted as being the position to-date and other information may be available in records not held by this Authority at the present time. The Borough Council cannot, therefore accept liability or be prejudiced by the views expressed.

Should you wish to discuss this correspondence further, please don't hesitate to contact me.

Yours faithfully



John Scott
Contaminated Land Officer

BARNSLEY
Metropolitan Borough Council

**Planning & Transportation Service**
Assistant Director, Ruth Middleton BA (Hons). MRTPI. Dip Surv
**South Yorkshire Mining Advisory Service**
Mining Advisory Manager: C. P. Naylor, CEng., MIMM.,
Central Offices, Kendray Street, Barnsley, S70 2TN
Tel: (01226) 772685 Fax: (01226) 772688
Email: SYMAS@barnsley.gov.uk

My Ref: FW/SML/M1246/1 Your Ref:

Date: 11th April, 2006 Enquiries to: Mrs. F. Wickham Dial Direct: (01226) 772689

White Young Green Environmental Ltd.,
Arndale Court,
Headingley,
LEEDS.
LS6 2UJ

FOR THE ATTENTION OF DR. MARTIN CROSS

Dear Sir,

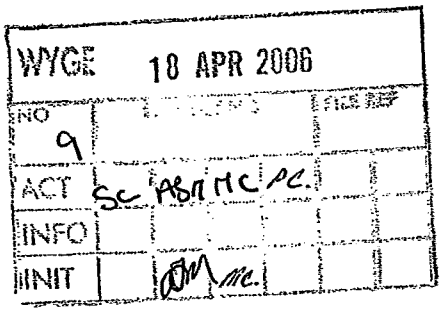
BARNSLEY COLLEGE, OLD MILL LANE, BARNSLEY

Further to your consultation request of 3rd April, 2006, please find enclosed a mineral report and plans which outline the mining and geological situation for the above site at Barnsley.

Yours faithfully,

pp C. P. Naylor,
Mining Advisory Manager.

Enc.



P.S.3937

SOUTH YORKSHIRE MINING ADVISORY SERVICE

# MINERAL REPORT

CONFIDENTIAL

Date: 11/04/2006
Ref: FW/SML/M1246/1

BARNSLEY COLLEGE, OLD MILL LANE, BARNSLEY

SITUATION

It is proposed to construct a ten-storey building on land adjacent to the existing Barnsley College buildings; the site being shown edged orange on the attached plans nos. M1246/1A-M1246/1E.

A visual inspection of the site showed that the surface dips to the east.

GEOLOGY

Geological records indicate that the site is located on the Kents Rock Sandstone of the Middle Coal Measures, which generally dips at a rate of 1 in 11 in a north-easterly direction in this area. Information on the geological sheet suggests that the bedrock is around 11 m thick hereabouts, as recorded in the borehole situated just over 40 m to the east, see plan no. M1246/1A.

There are no geological faults shown to affect the locality.

The conjectured outcrop of the Low Beamshaw Coal Seam is shown to lie some 60 m to the south-east of the College, with the Top Beamshaw Coal lying around 130 m from the south-eastern corner of the site. These seams will dip clear away from the location.

An area of 'made ground' is shown to lie at the eastern edge of the site, which was recorded as being 7.5 m thick in the aforementioned borehole.

MINING INFORMATION

**Shallow Mining**

Kents Thin Coal Seam

The Kents Thin Coal Seam is recorded in two nearby boreholes as lying around 16.5 m and 18.5 m deep at these locations, see plan no. M1246/1A.

There are no records to suggest that this seam, which has been proved to be around 600 mm thick, has been worked in this area of Barnsley.

A borehole investigation was undertaken by the County Mining Engineers (predecessors to SYMAS) in 1978 on a site to the north-east, also associated with Barnsley College, to assess the possibility of a shallow mining situation as cavities had been encountered by an earlier investigation. Although voids were

encountered in the fill material covering the site the natural ground was found to comprise sandy clay underlain by a competent sandstone. No voids were encountered in the natural strata and no evidence of shallow mineworkings was seen, the boreholes terminating above the horizon of the coal seam in natural ground.

Boreholes carried out to the east of the site in the County Way area proved the Kents Thin Coal between 14 m - 20 m deep with a section of 500 mm.

No old workings were encountered. However, fracturing of the sandstone bedrock was found which is indicative of the effects of workings in the underlying Barnsley Coal Seam at a relatively shallow depth - see below.

Kents Thick Coal Seam

There are no records of any workings in the Kents Thick Coal Seam (thickness 920 mm) which lies over 20 m deeper than the Kents Thin Coal.

**Deeper Mining**

The only mineworkings to have affected the site would have been in the Barnsley Coal Seam (approximate depth 100 m, thickness 2670 mm) which was worked on a 'pillar and stall' basis. These workings were abandoned circa 1834 and are shown coloured pink on plan no. M1246/1B.

All mining movement associated with these workings will have ceased long ago and as the area is remote from the active coalfield will not be affected in the future.

DISUSED MINESHAFTS

Plans nos. M1246/1A and M1246/1B show a disused mineshaft around 75 m to the north of the site. No other mine entries are known within the immediate vicinity of the proposals.

FORMER LAND USES

The relevant County Series and Ordnance Survey Sheets have been checked for any former industrial uses which might influence the site.

Plans nos. M1246/1C and M1246/1D indicate the 'Falcon Works', Mines Rescue Station, railway, factory and builders yards, together with other structures such as a tank and former buildings to lie in the area.

LANDFILL

The site lies within 250 m of a Category 4 Landfill Site, as indicated on the current Borough Landfill Site Map and illustrated on drawing M1246/1E.

CONCLUSIONS

1. The site is currently stable from the deep mining subsidence aspect, with no future mining proposed under Barnsley.

2. The Kents Thin Coal Seam is indicted to lie at a shallow depth of around 15 m in the vicinity of Barnsley College. There are no records of any associated mineworkings in this part of the Town and it is thought unlikely that any would be present. With a proved thickness of 600 mm and at the depths suggested any unrecorded workings would be too deep to affect the surface stability in any case.

   However, considering the large development proposed and the author of this report not knowing the depths of the proposed foundations etc. it may be prudent to carry out a limited borehole investigation in the area of the new building, possibly as part of a soils investigation, in order to confirm the situation.

   Prior to any investigations involving the shallow coal seam indemnification must be sought from the Coal Authority.

3. The Kents Thick Coal lies more than 20 m deeper than the Kents Thin Coal and again no associated mineworkings are recorded. Ground stability would not be affected at this depth in any case.

4. There are no geological faults indicated to affect the site.

   However, past site investigations in the general locality have proved fracturing of the sandstone bedrock and therefore these types of conditions may also exist at the Barnsley College Site.

   Where weak ground conditions are encountered they may require treatment and/or foundations to be strengthened.

5. A disused mineshaft is indicated to be present around 75 m clear to the north of the site.

6. An area of made ground lies just within the eastern part of the site. If development is proposed in this area the nature and characteristics of the material should be checked for its suitability in relation to the end use.

7. Historical plan records confirm that a number of land uses have been present on and around the site, including a works, factory and builders yards.

8. The site lies within 250 m of a Category 4 Landfill Site, as indicated on the current Borough Landfill Site Map, which is described as:-

"A site which the Waste Disposal Site Licence indicates has been licensed to accept material that would not be expected to give rise to landfill gas in substantial quantities.

Or a site which has been granted an exemption from Waste Management Licensing pursuant to the provisions of the Waste Management Licensing Regulations 1994."

9. Due to the shallow coal seams, Barnsley Seam workings, fractured sandstone and made ground etc the usual precautions/monitoring in respect of fugitive gases are advised during investigations or development works, particularly where deep excavations are involved.

THIS REPORT IS BASED ON AND LIMITED TO THE RECORDS IN THE POSSESSION OF SYMAS AT THE TIME THE ENQUIRY IS ANSWERED.

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pp C. P. Naylor,
Mining Advisory Manager.

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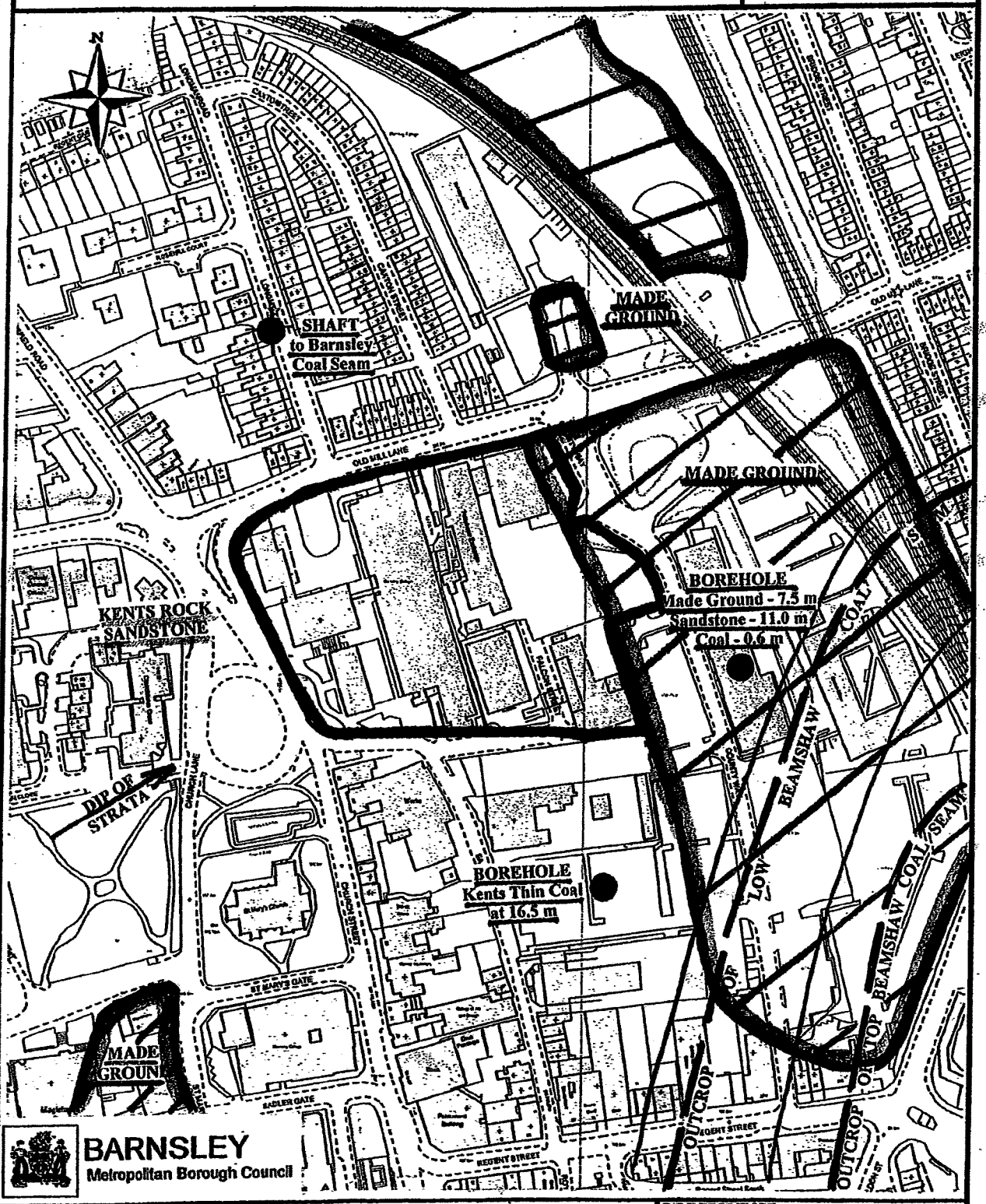
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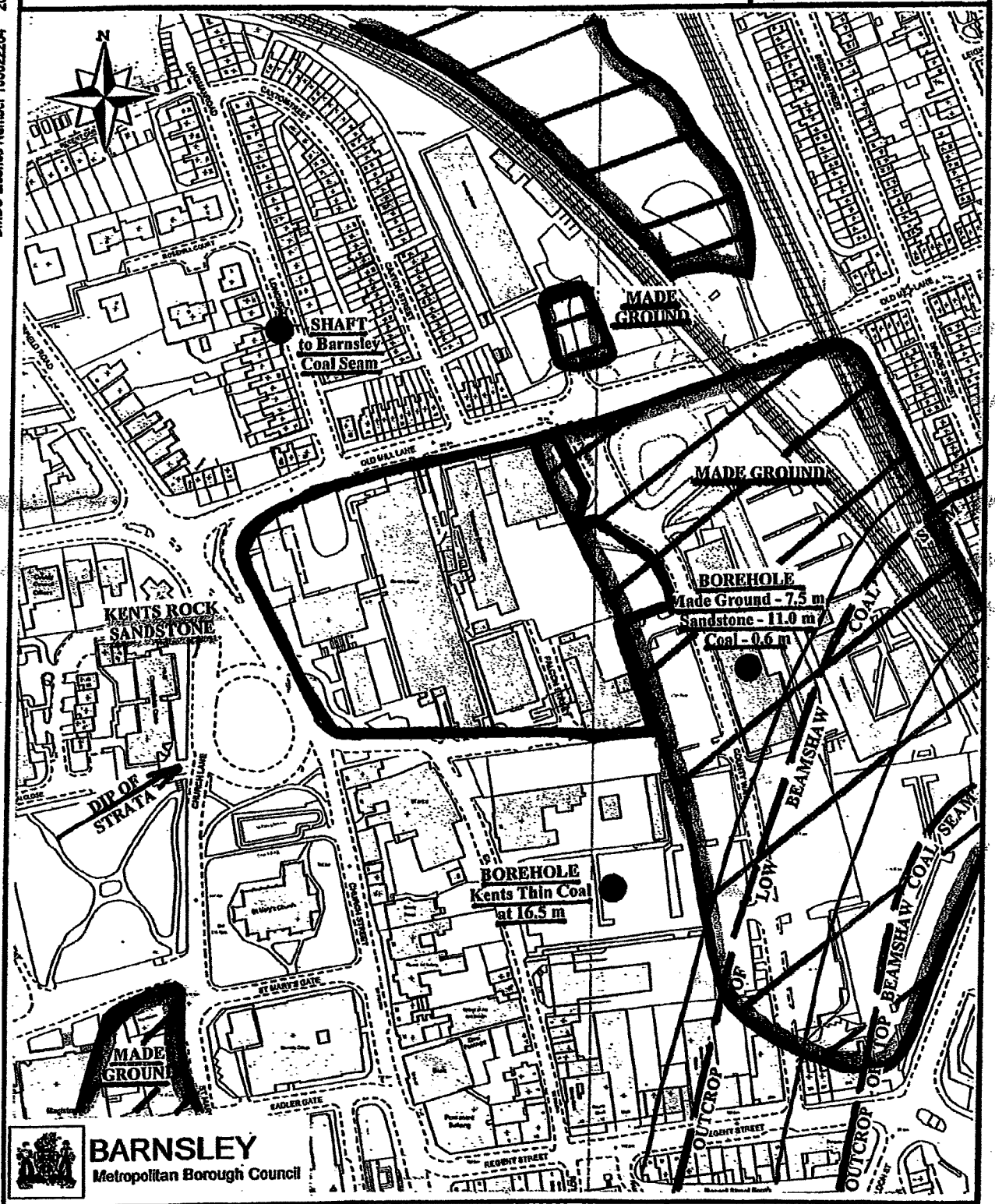
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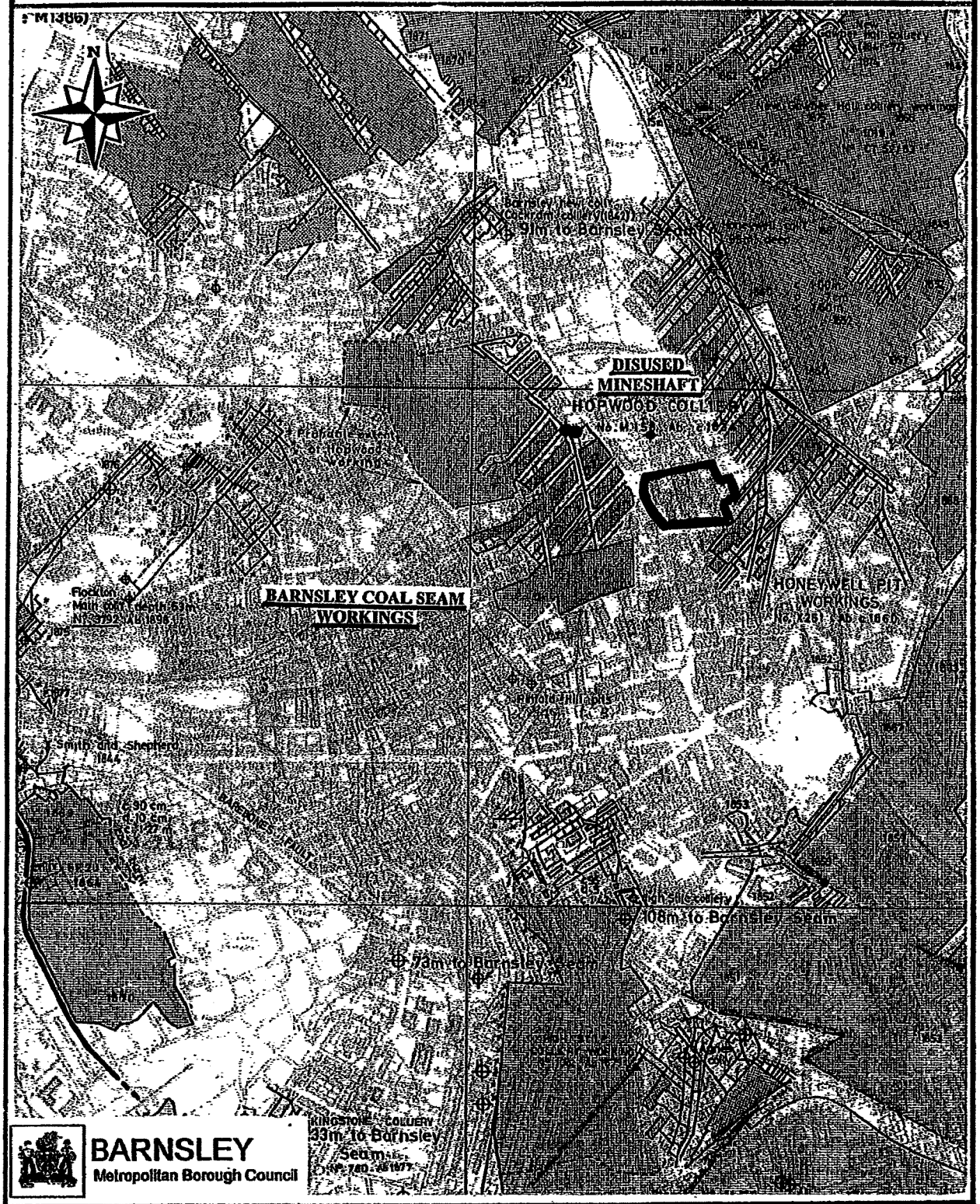



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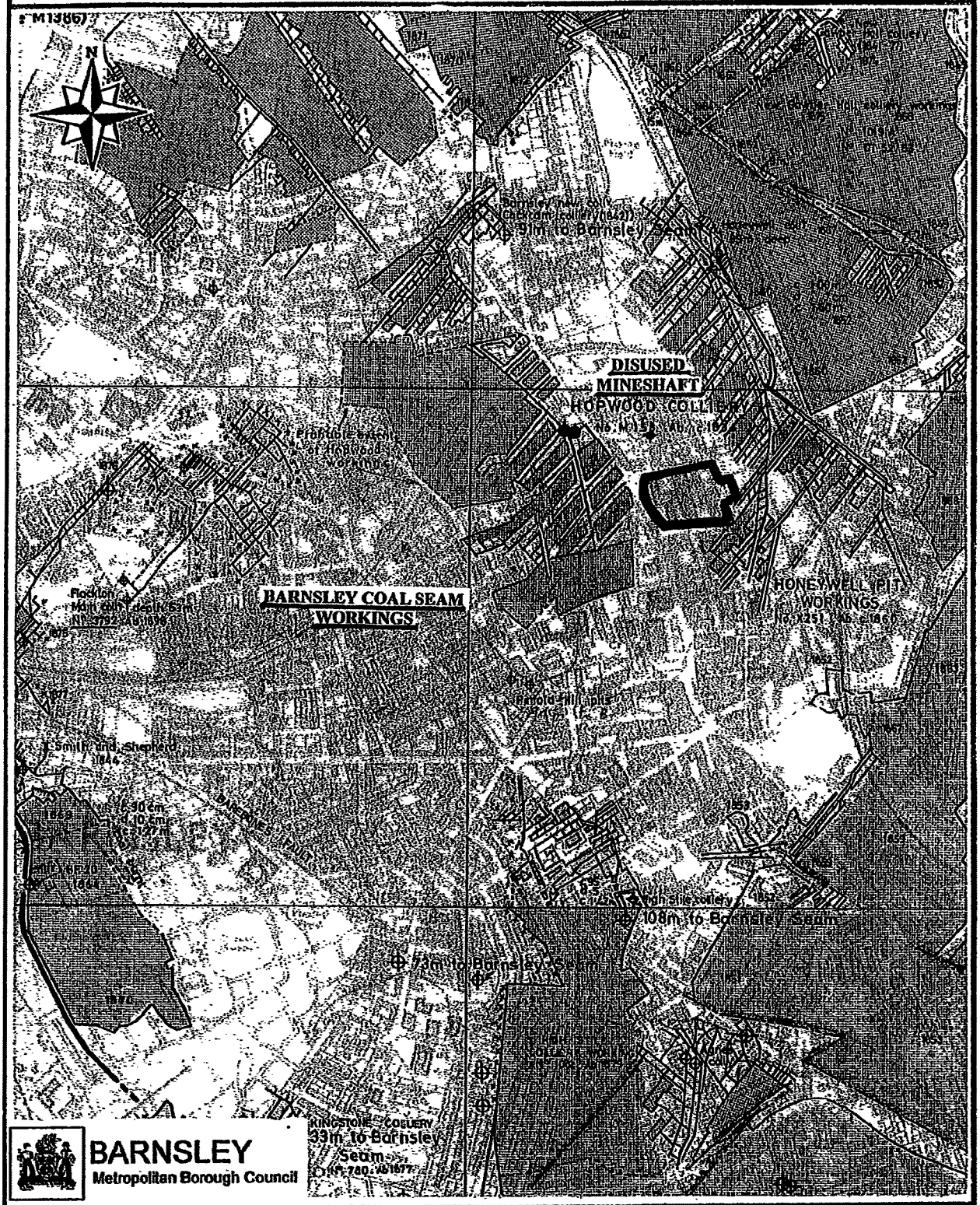
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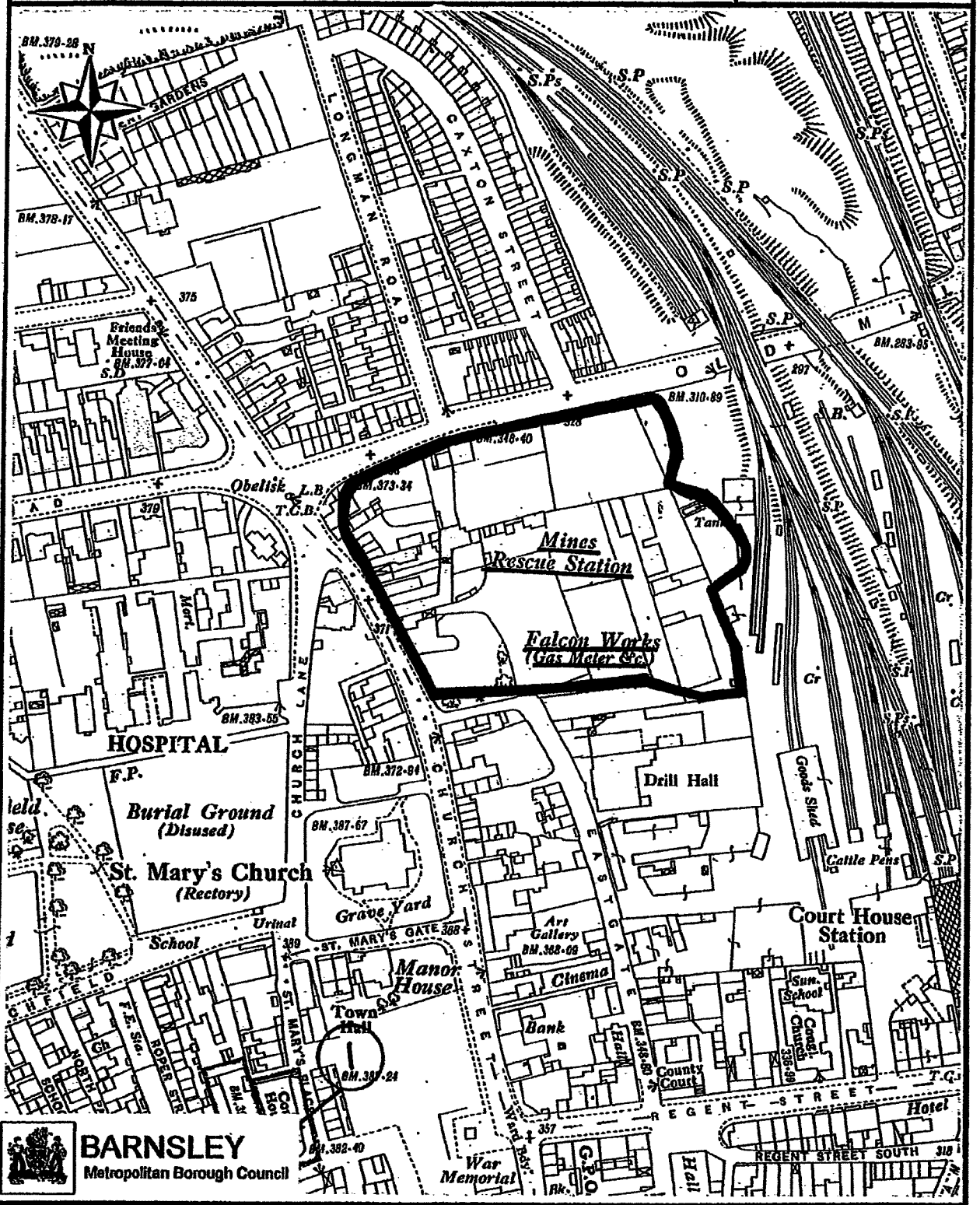



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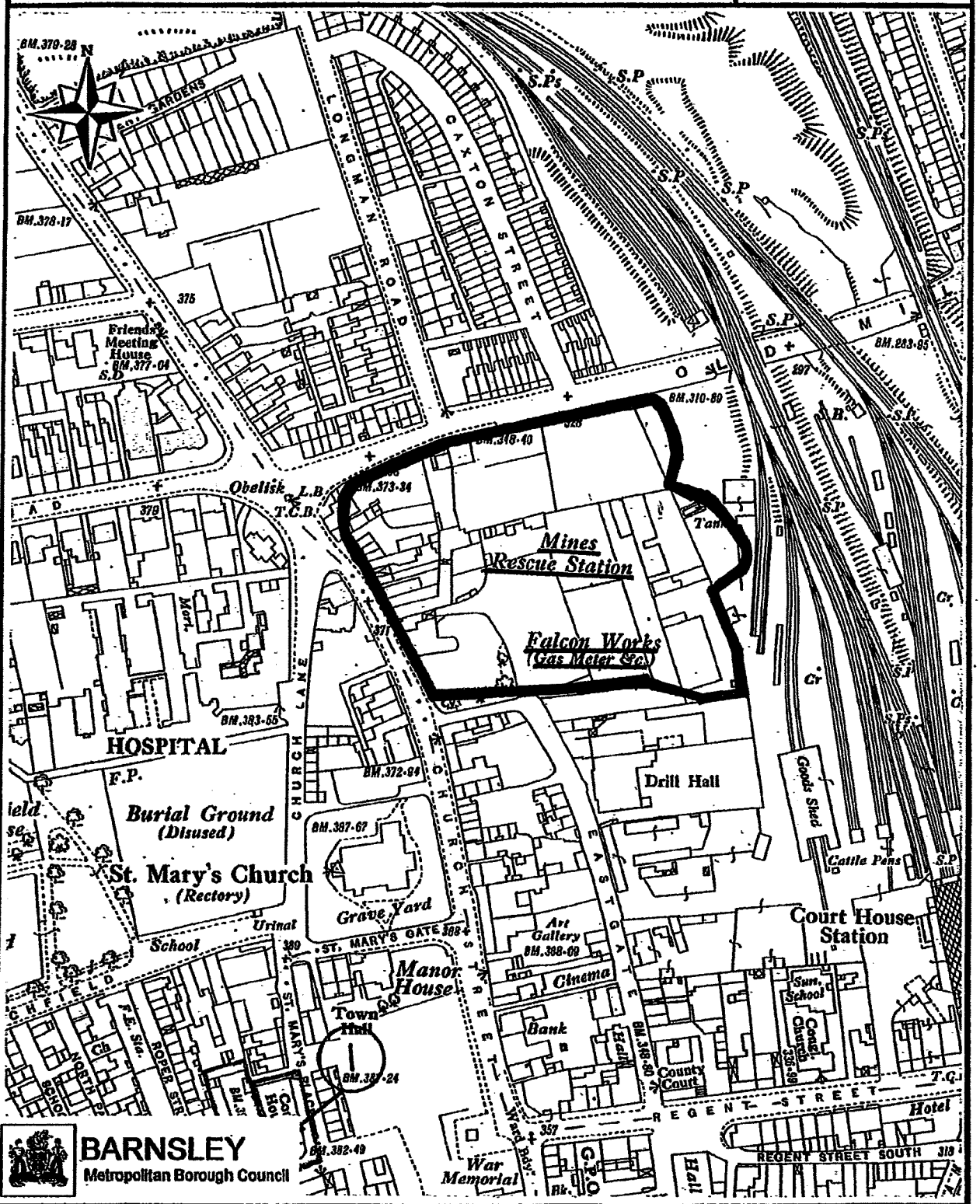
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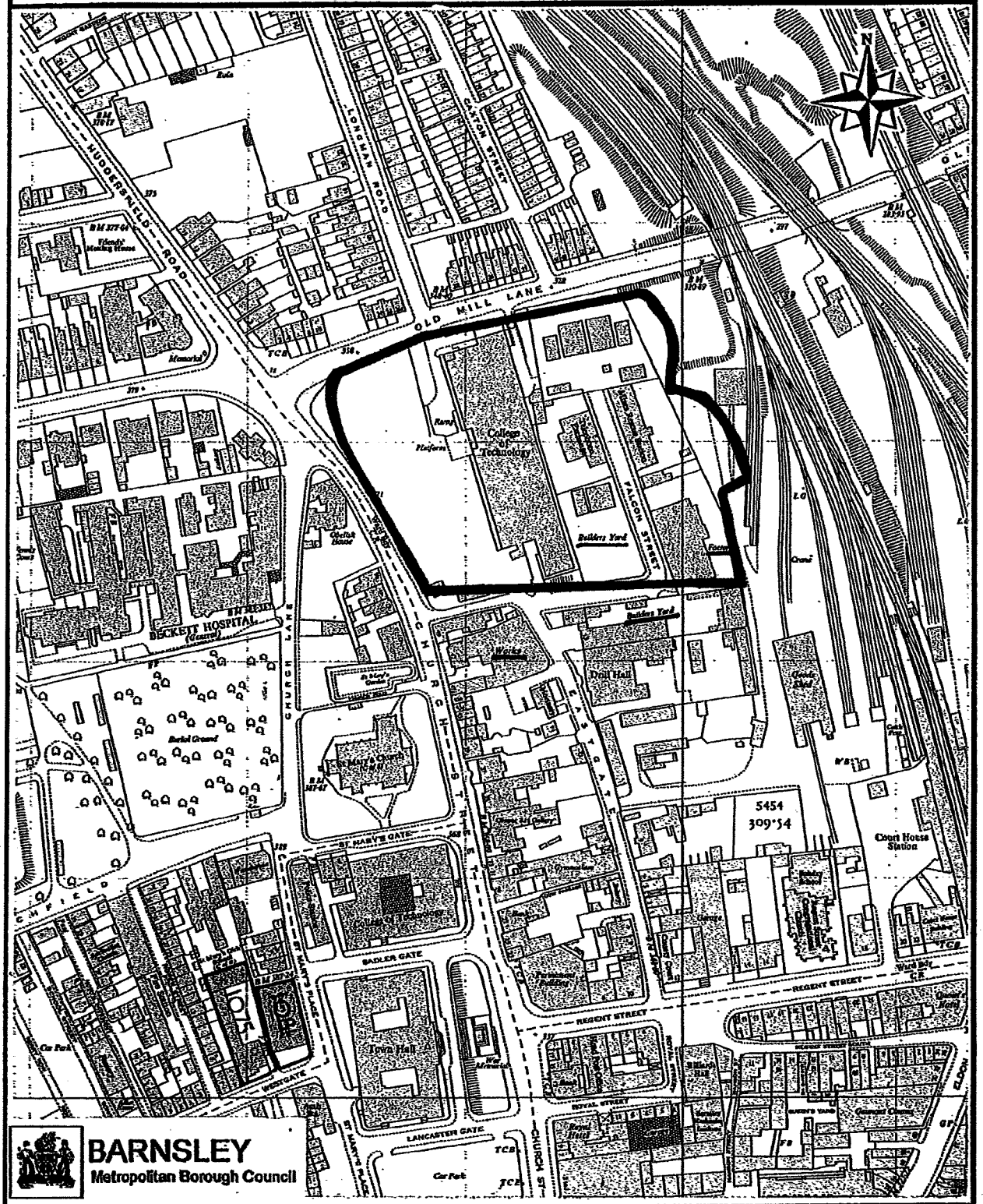
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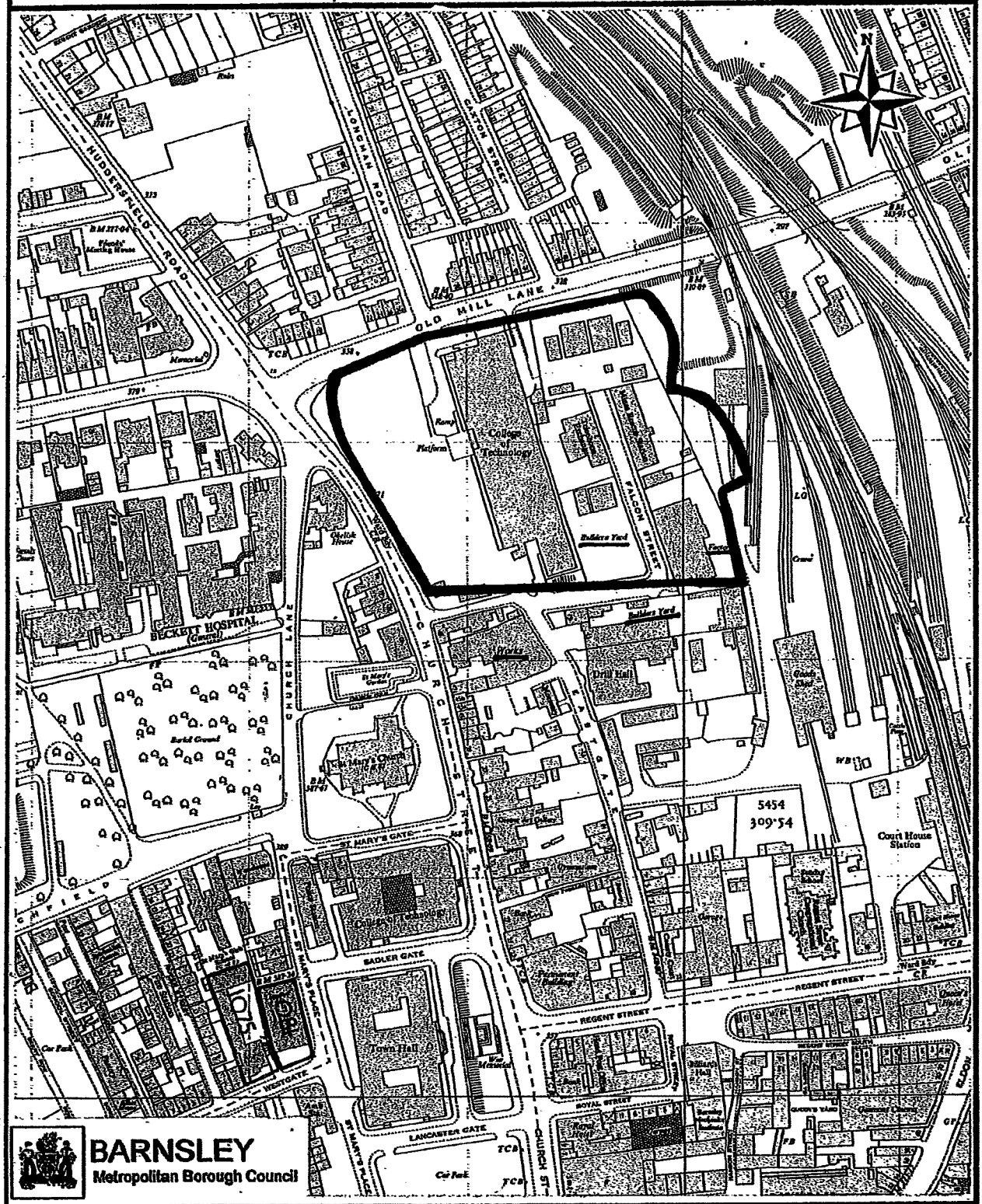
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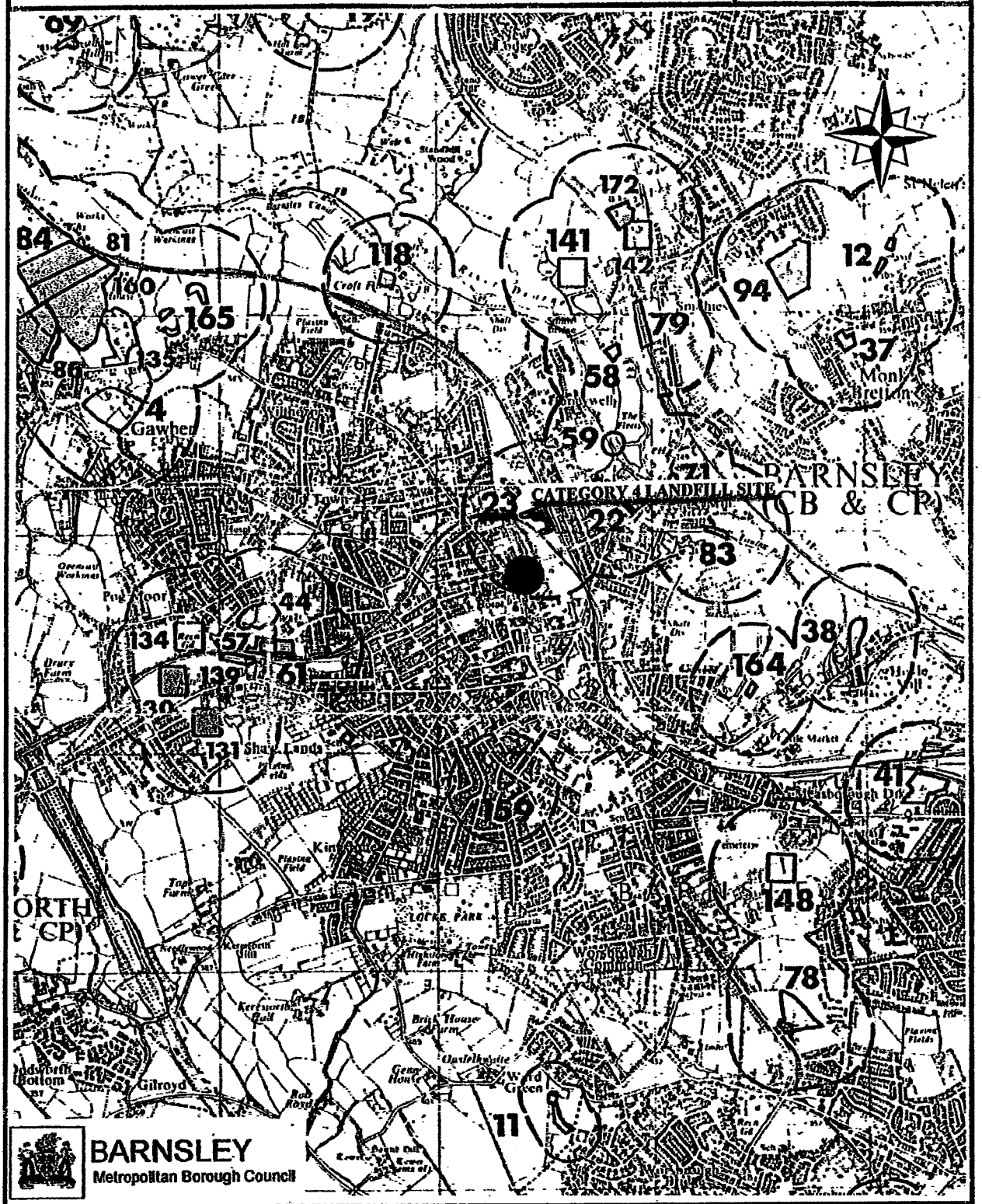

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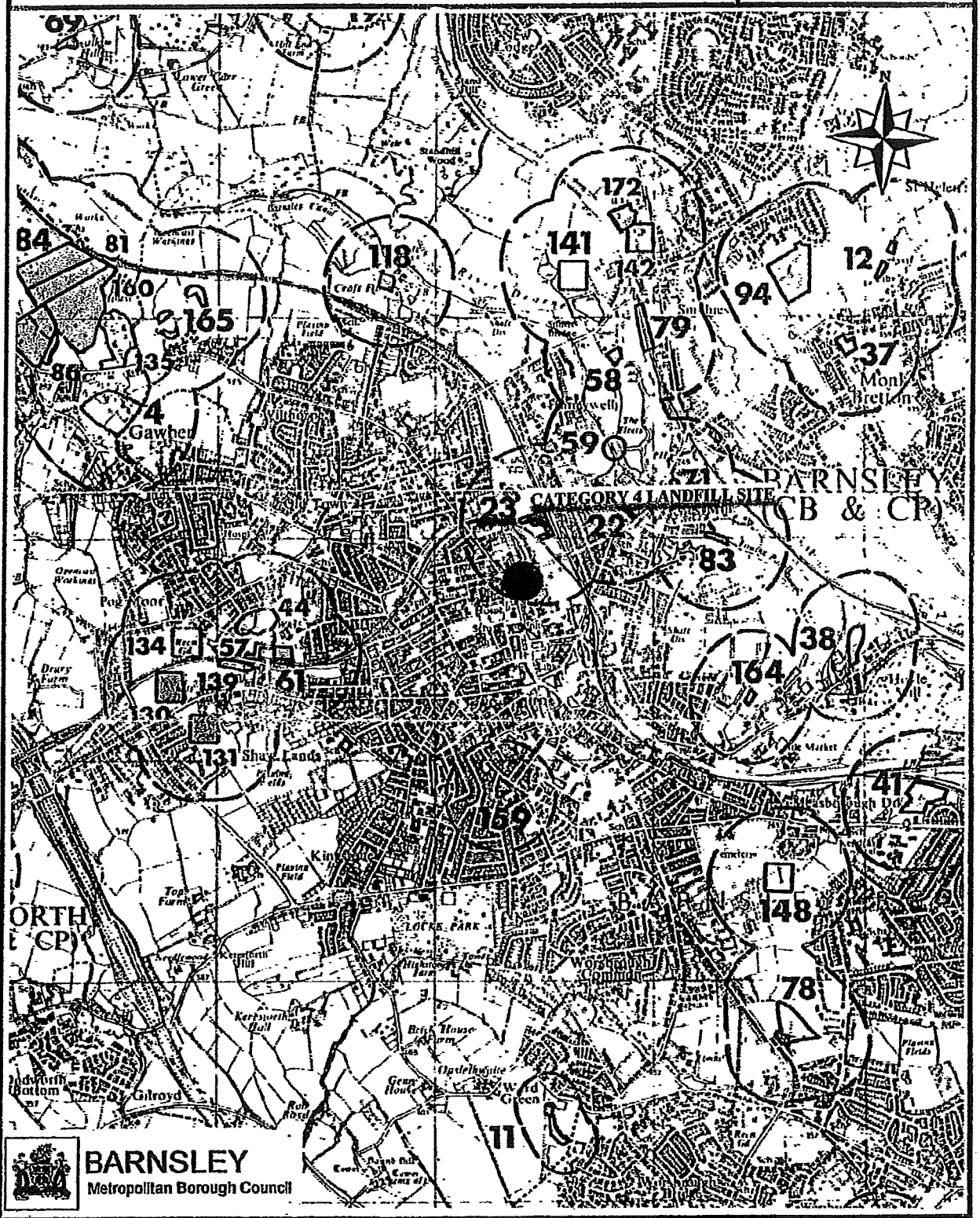
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