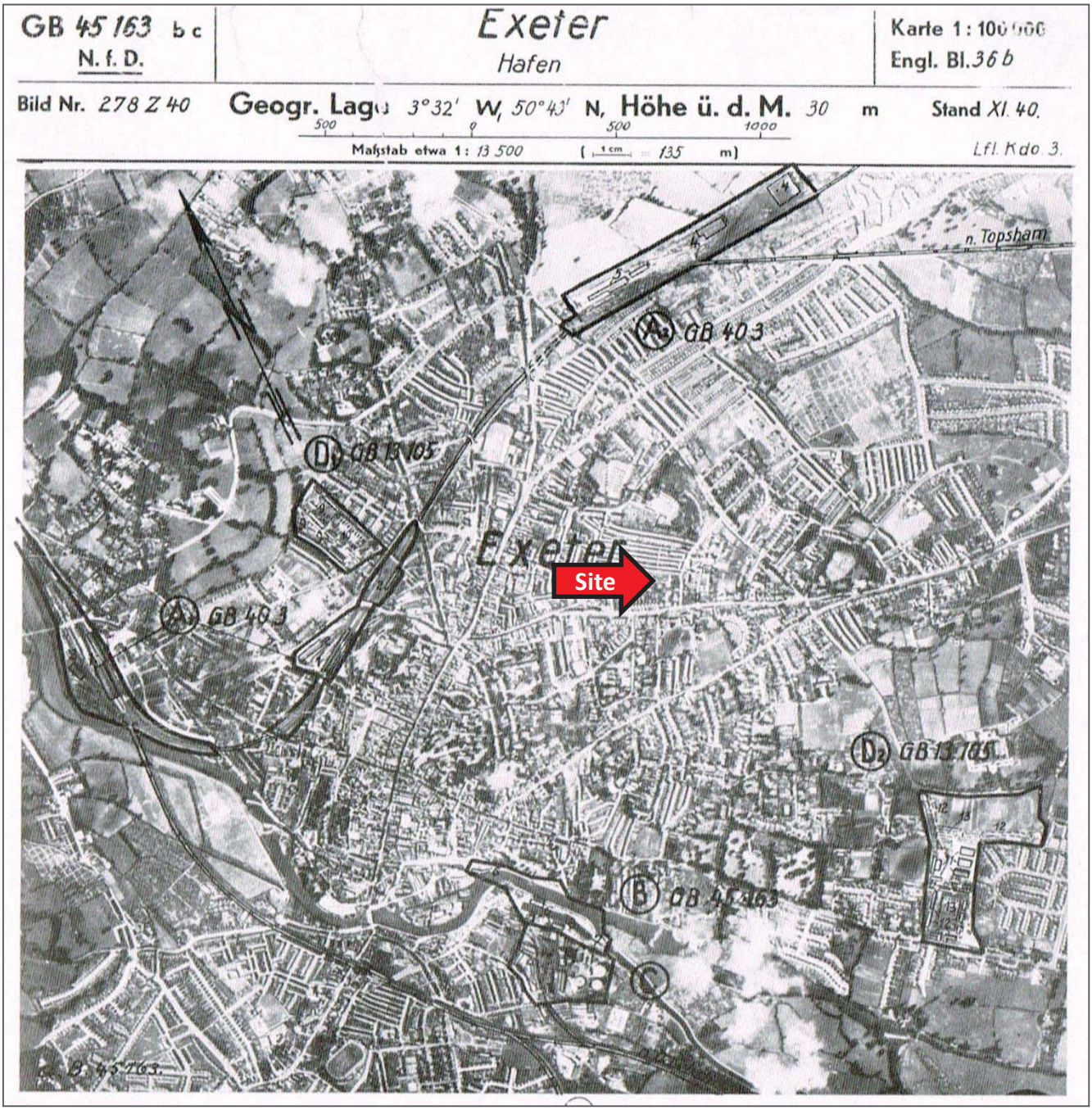


Exeter
A-Workshop Buildings
A2 – Workshop Buildings
B- Docks
B2-Industrial Warehouses
C- Gasworks
D-Military Barracks
D2- Accommodation Barracks

1ST LINE DEFENCE

Unit 3, Maple Park
Essex Road, Hoddesdon,
Hertfordshire. EN11 0EX
Email: info@1stlinedefence.co.uk
Tel: +44 (0)1992 245 020

Client: **Newmark Developments**

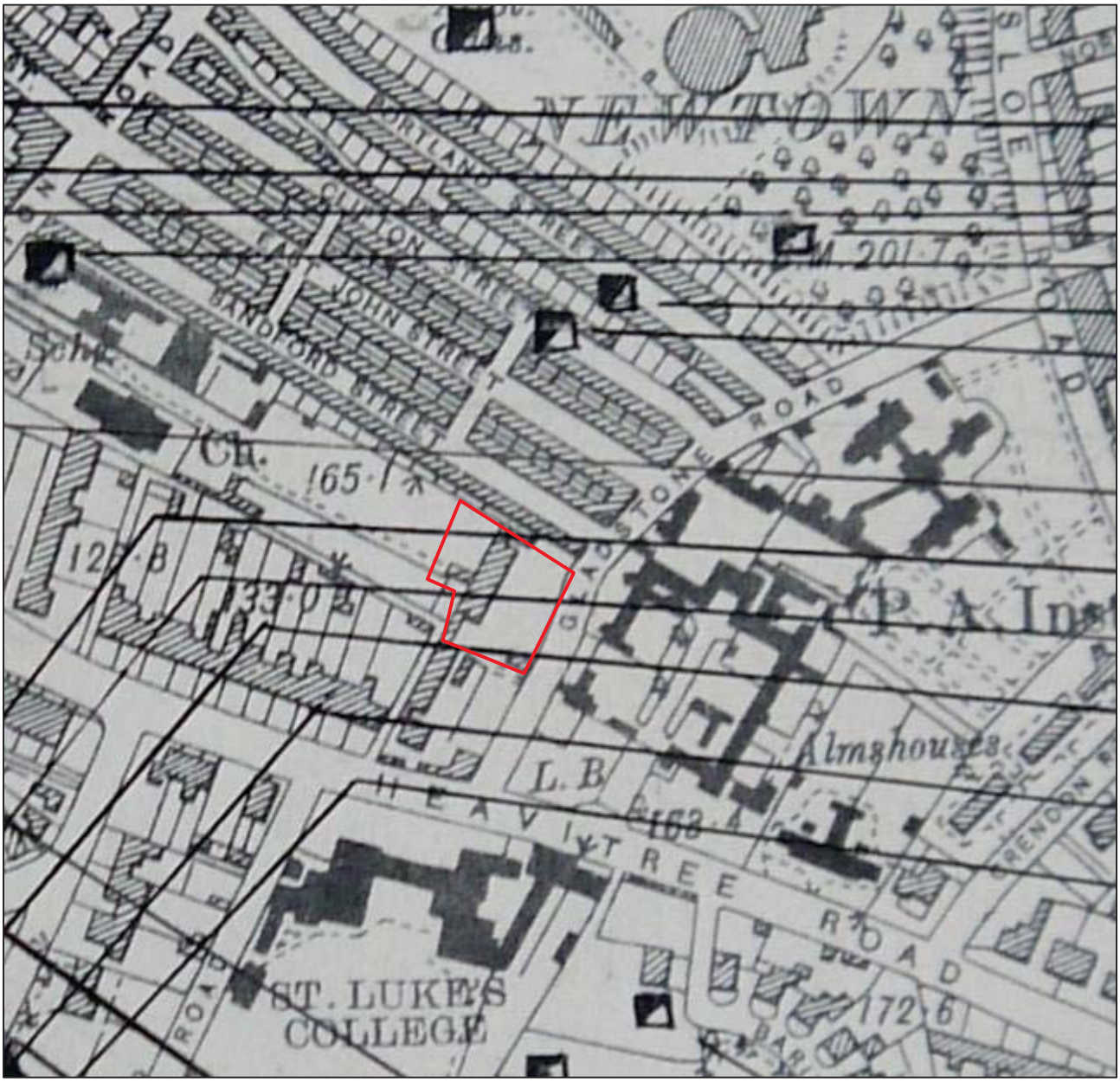
Project: **Gladstone Road, Exeter**

Ref: **DA8603-00**

Source: N.Clarke, Adolf Hitler's Holiday Snaps, Nigel.J.Clarke Pulblications.1995.

Baedeker Raids Bomb Plot Maps

Annex: J



500KG bomb

1ST LINE DEFENCE

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Essex Road, Hoddesdon,
Hertfordshire. EN11 0EX
Email: info@1stlinedefence.co.uk
Tel: +44 (0)1992 245 020

Client: **Newmark Developments**

Approximate site boundary

Project: **Gladstone Road, Exeter**

N

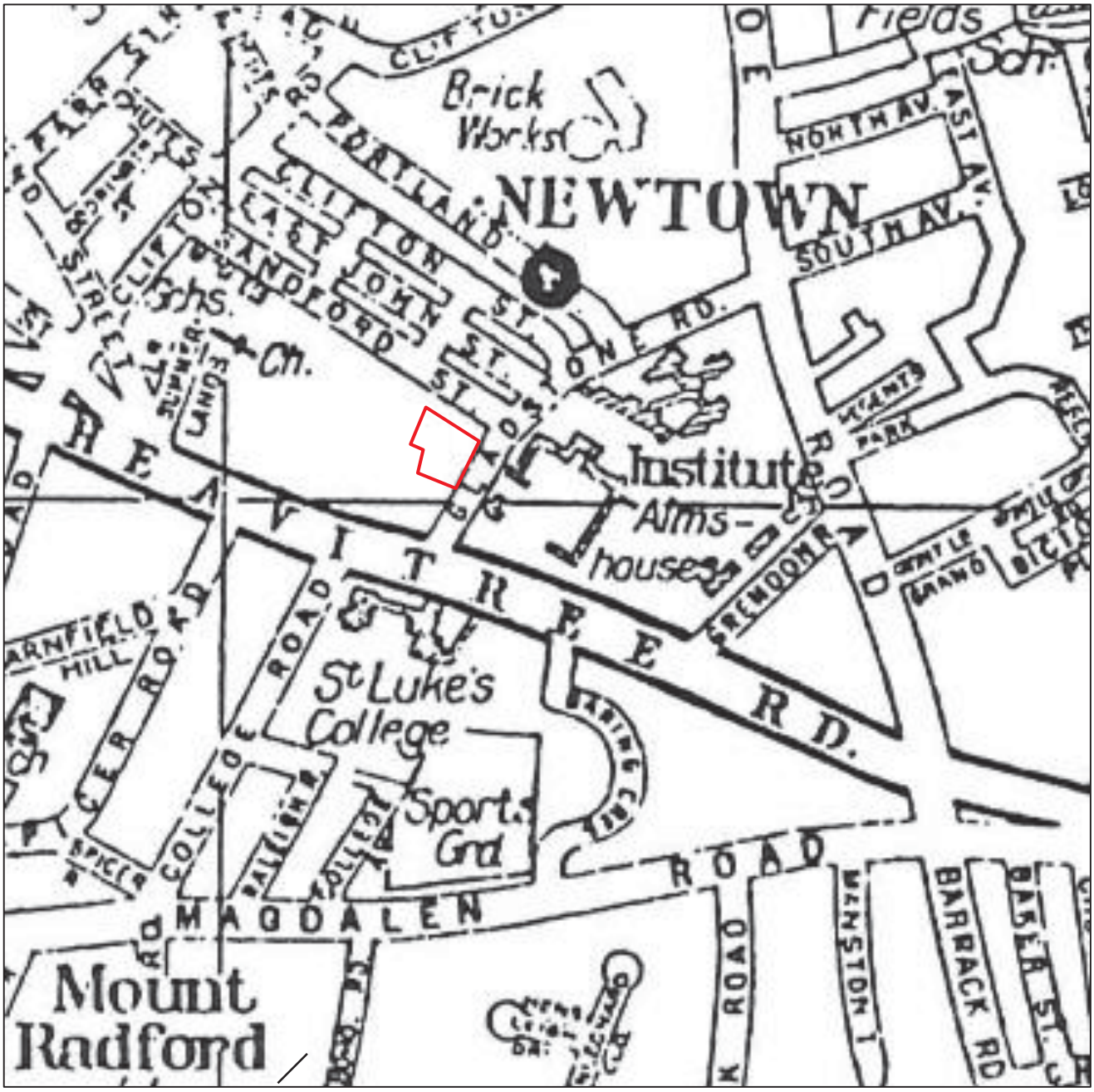
Ref: **DA8603-00**

Source: The National Archives, Kew

Exeter ARP Bomb Map

Annex: **K1**

25th April 1942



● 50kg HE strike

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Tel: +44 (0)1992 245 020

Client: **Newmark Developments**

Project: **Gladstone Road, Exeter**

Ref: **DA8603-00**

Source: The National Archives, Kew

Approximate site boundary

N

Exeter ARP Bomb Map

Annex: **K2**

4th May 1942

50kg HE strike

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Tel: +44 (0)1992 245 020

Client: **Newmark Developments**

Project: **Gladstone Road, Exeter**

Ref: **DA8603-00**

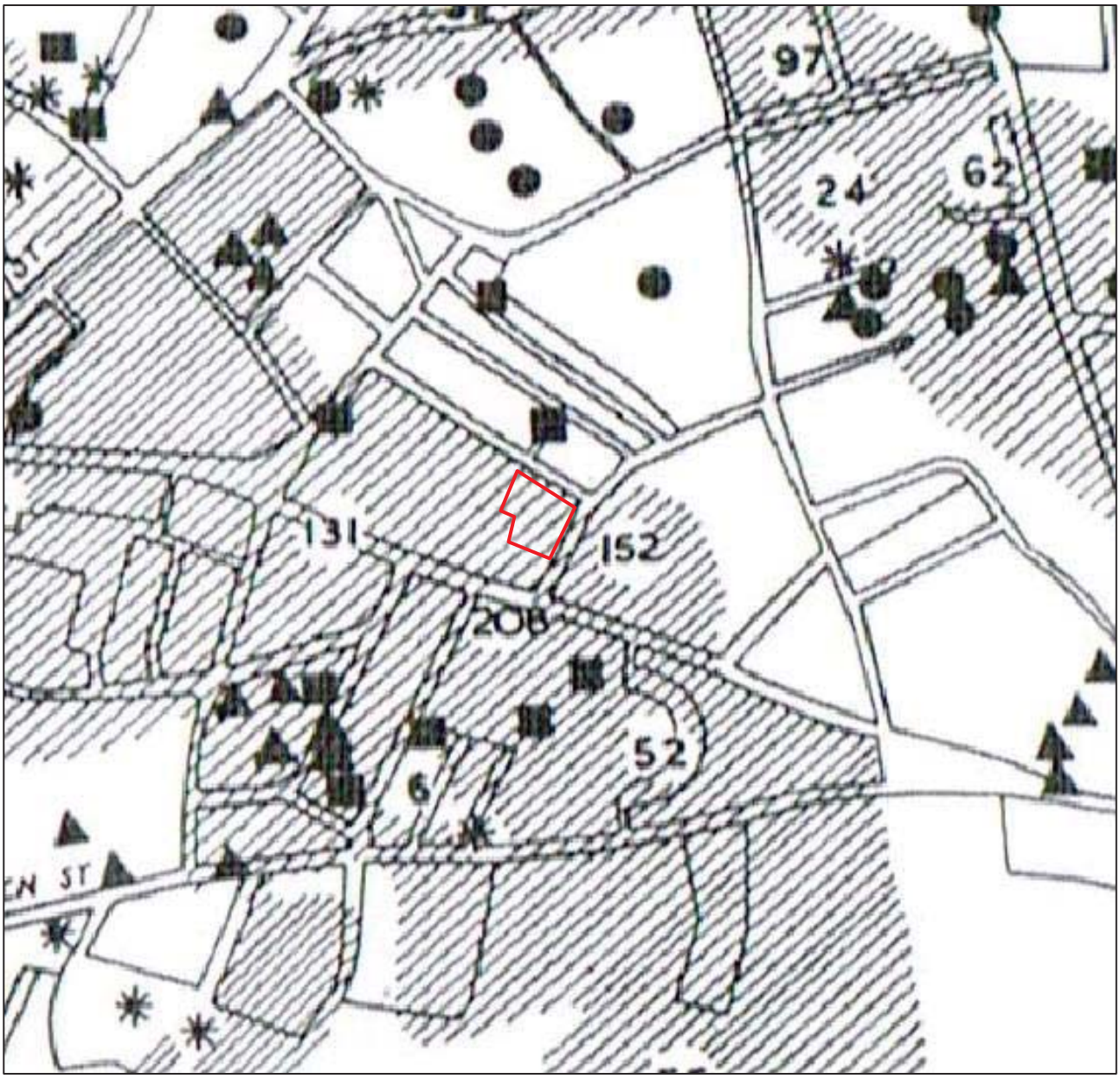
Source: The National Archives, Kew

Approximate site boundary

N

‘Devon at War’ Bomb Map 3rd May 1942

Annex: **L**



50kg HE strike

Unclassified

250 kg HE strike

500kg HE strike

Parachute Mine

Incendiary Bombing

1ST LINE DEFENCE

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Tel: +44 (0)1992 245 020

Client: **Newmark Developments**

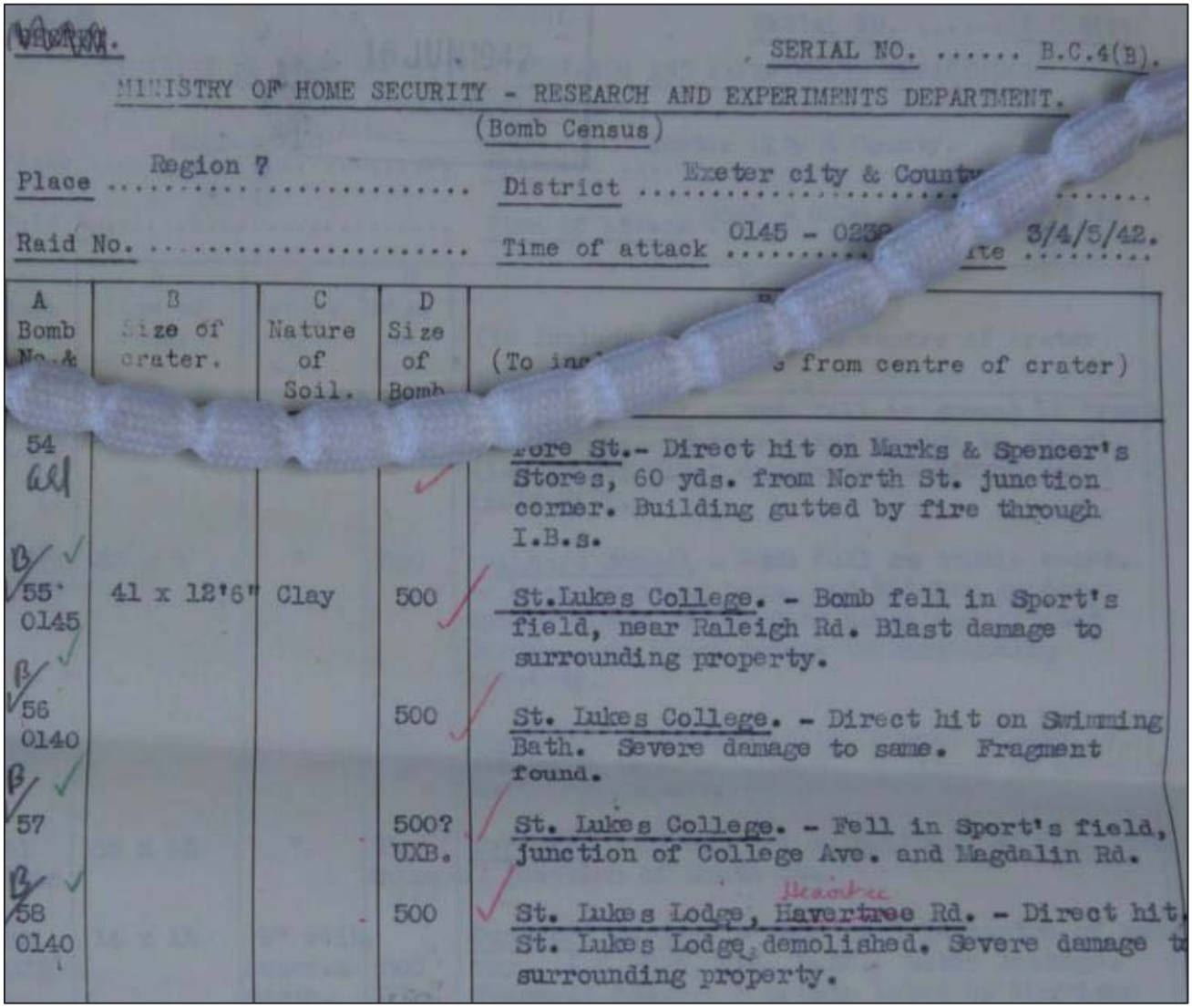
Project: **Gladstone Road, Exeter**

Ref: **DA8603-00**

Source: The National Archives, Kew

Approximate site boundary

N



SERIAL NO. ..... B.C.4(B).

MINISTRY OF HOME SECURITY - RESEARCH AND EXPERIMENTS DEPARTMENT.

(Bomb Census)

Place Region 7 ..... District Exeter city & County .....

Raid No. ..... Time of attack 0145 - 0230 ... Date 3/4/5/42.

A Bomb No.	B Size of crater.	C Nature of Soil.	D Size of Bomb	(To ind... from centre of crater)
54				...ore St.- Direct hit on Marks & Spencer's Stores, 60 yds. from North St. junction corner. Building gutted by fire through I.B.s.
55 0145	41 x 12'6"	Clay	500	St.Lukes College. - Bomb fell in Sport's field, near Raleigh Rd. Blast damage to surrounding property.
56 0140			500	St. Lukes College. - Direct hit on Swimming Bath. Severe damage to same. Fragment found.
57			500? UXB.	St. Lukes College. - Fell in Sport's field, junction of College Ave. and Magdalin Rd.
58 0140			500	St. Lukes Lodge, Havertree Rd. - Direct hit. St. Lukes Lodge demolished. Severe damage t... surrounding property.

RAF Aerial Photography 12th November 1945

Annex: **N1**

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Client: **Newmark Developments**

Project: **Gladstone Road, Exeter**

Ref: **DA8603-00**

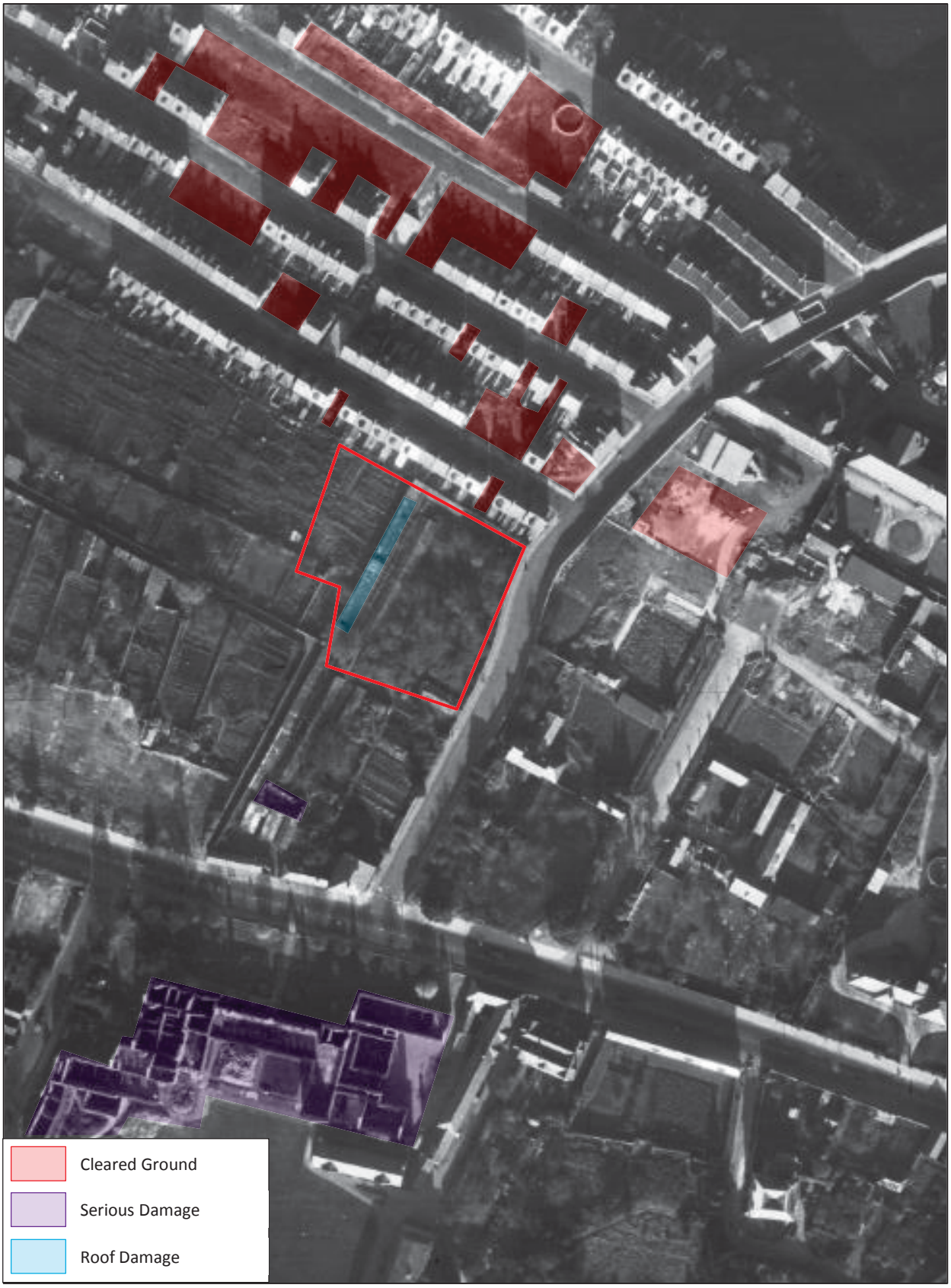
Source: National Monuments Record Office (Historic England)

Approximate site boundary

N

RAF Aerial Photography 12th November 1945

Annex: **N2**



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Client: **Newmark Developments**

Project: **Gladstone Road, Exeter**

Ref: **DA8603-00**

Source: National Monuments Record Office (Historic England)

Approximate site boundary

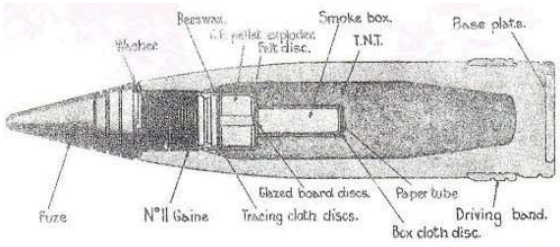
N

Examples of Anti-Aircraft Projectiles

Annex: O

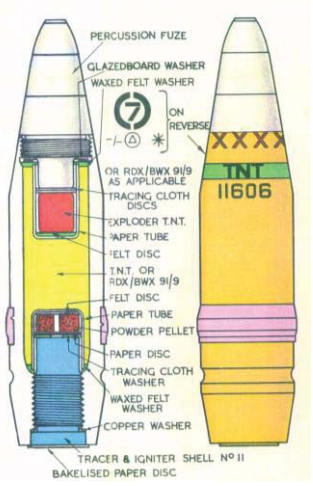
3.7 Inch QF Anti-Aircraft Projectile

Projectile Weight	28lb (12.6 kg)
Explosive Weight	2.52lbs
Fuze Type	Mechanical Time Fuze
Dimensions	3.7in x 14.7in (94mm x 360mm)
Rate of Fire	10 to 20 rounds per minute
Use	The 3.7in AA Mks 1-3 were the standard Heavy Anti-Aircraft guns of the British Army.
Ceiling	30,000ft to 59,000ft



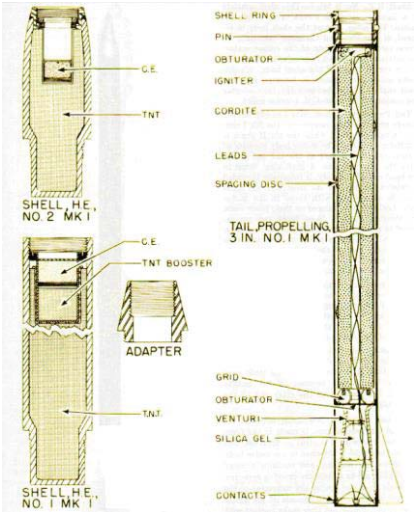
40mm Bofors Projectile

Projectile Weight	1.96lb (0.86kg)
Explosive Weight	300g (0.6lb)
Fuze Type	Impact Fuze
Rate of Fire	120 rounds per minute
Projectile Dimensions	40 x 180mm
Ceiling	23,000ft (7000m)
Remarks	Light quick fire high explosive anti-aircraft projectile. Each projectile fitted with small tracer element. If no target hit, shell would explode when tracer burnt out. Designed to engage aircraft flying below 2,000ft



3in Unrotated Projectile (UP) Anti-Aircraft Rocket ("Z" Battery)

HE Projectile Weight	3.4kg (7.6lb)
Explosive Weight	0.96kg (2.13lb)
Filling	High Explosive – TNT. Fitted with aerial burst fuzing
Dimensions of projectile	236 x 83mm (9.29 x 3.25in)
Remarks	As a short range rocket-firing anti-aircraft weapon developed for the Royal Navy. It was used extensively by British ships during the early days of World War II. The UP was also used in ground-based single and 128-round launchers known as Z Batteries. Shell consists of a steel cylinder reduced in diameter at the base and threaded externally to screw into the shell ring of the rocket motor



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Client: **Newmark Developments**

Project: **Gladstone Road, Exeter**

Ref: **DA8603-00**

Source: Various sources

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1ST LINE DEFENCE

APPENDIX Q – COMPLYING WITH CONTROL OF ASBESTOS REGULATION 2012

Complying with Control of Asbestos Regulations (CAR): Risk Assessments, Licensing and Training

This appendix outlines CAR risk assessments and where they should be applied in relation to assessing and remediating brownfield sites. The information below details the different classifications of work with asbestos under CAR, summarises the legal requirements for asbestos awareness training for all involved in the investigation and management of asbestos containing soil (ACS), and details the potential requirements for suitable proficiency training relating specifically to ACS.

CAR RISK ASSESSMENTS

A CAR Risk Assessment is required for any work which may expose employees to asbestos. It is recommended that a precautionary approach is adopted if there is any doubt about risks associated with asbestos.

There are three main activities for potential asbestos exposure during work on brownfield sites:

- Site reconnaissance visits;
- Site investigation works; and
- Site remediation.

CAR risk assessments are needed at each stage but may be incorporated during the site investigation stage into the overarching health and safety risk assessments.

The CAR risk assessment must:

- Identify the type of asbestos to which employees are liable to be exposed, where possible, or assume it is present in different forms;
- Determine the type and extent of exposures to asbestos that may occur during the work
- Identify the steps to be taken to prevent exposure or reduce it to the lowest level reasonably practicable; and,
- Consider the effects of control measures that have been or will be taken.

The CAR risk assessment should include any information used to inform the risk assessment such as asbestos reports or desk study information. In the event that this information is not available, the assessor should be assumed that all forms of asbestos may be present on Site.

For all investigation and remediation of ACSs, a detailed written work plan should he produced and followed as detailed on the HSE website and in the CAR.

The CAR risk assessments for specific investigations or remediation projects, will determine whether or not work is 'licensable work' (LW), notifiable non-licensable work' (NNLW) or 'non-licensed work' (NLW). In addition, training requirements are also defined by the CAR risk assessment.

Some examples of control measures that apply during site reconnaissance, site investigation works and site remediation are given below and should be applied depending on the asbestos risks identified for the Site at each stage of investigation:

- Avoiding stirring up dust;
- Cleaning footwear after site works;
- Removing and bagging any overalls for disposal/laundering;
- Respirators and hygiene facilities for high risk sites;
- Segregated welfare units;
- Wetting ground
- Minimising soil disturbances;
- Implementation or retention of capping/break layers;
- Implementation of awareness training;
- Air monitoring;
- Managing stockpiles;
- Area segregation;
- Wheel washing
- Road washing/cleaning

It is important to note that during Site reconnaissance visits, Site investigation works and Site remediation that asbestos should not be considered in isolation and control measures are likely to form part of a wider health and safety precautions.

Respiratory protective equipment (RPE)

RPE is the last line of defence and its requirement would be defined by the CAR risk assessment. HSE (2013b) advises that RPE should have an assigned protection factor of 20 or more for all work with asbestos. In certain instances, full face-piece, positive pressure respirators with a protection factor of 40 are necessary (to EN 12942:1998, TM3).

Suitable types of RPE for most ***short*** duration non-licensed asbestos work:

- Disposable respirator to standards EN149 (type FFP3) or EN1827 (type FMP3)
- Half mask respirator (to standard EN140) with P3 filter
- Semi-disposable respirator (to EN405) with P3 filter

These filters are not suitable for people with beards/stubble or for long or continuous use.

LICENSING

CAR defined certain types of activities involving asbestos as 'licensable work' (LW) or as 'notifiable non-licensable work' (NNLW). All other work would be 'non-licensable work' (NLW).

LW is defined as:

- work where exposure is not 'sporadic and low intensity'
- work where the risk assessment cannot demonstrate that the control limits (four hour and 10 minute limits) will not be exceeded
- work on asbestos coating
- work on AIB or insulation where risk assessment is either of first two points above or not of short duration (where short duration is defined for any work liable to disturb asbestos as taking less than two hours per week (including ancillary work) and no one person carries out that work for more than one hour').

NNLW includes work with:

- AIB or asbestos insulation of short duration that is not licensable
- fire-damaged asbestos cement or asbestos cement damaged so as to create significant dust and debris
- asbestos ropes, yarns, woven cloths in poor condition or handling cutting or breaking up the materials
- asbestos papers, felts and cardboard in poor condition, unencapsulated or not bound into another material.

Work with weathered asbestos cement, air monitoring and collecting samples of ACM in buildings would not normally be notifiable.

It is impossible to specify definitively what activities will and will not be licensable. This decision should be made as part of the CAR risk assessment. CAR is not primarily aimed at work with ACSs and there is little published information on airborne asbestos concentrations during work with ACSs. Nevertheless, CAR will require some remediation projects, and occasionally site investigations, to be LW. Investigations on other sites may involve NNLW. The decision as to whether work is LW or NNLW should be made during the CAR risk assessment by those in charge of the brownfield site investigations and remediation projects.

TRAINING REQUIREMENTS

Asbestos health and safety courses are offered by a number of providers in the UK. Training courses that include the problem of identifying ACMs in soil should be undertaken at regular intervals by those involved in the investigation, assessment and management of sites where ACs are known or suspected. It is the role of the employer to identify the level of training required for an employee based on their role, experience and duties. Reference to Regulation 10 of CAR should be referred to for more information on training requirements.

Recognising asbestos within soils is challenging due to the heterogeneity of such soils and the discolouration of asbestos by smeared soil. Specific training for ground workers should include understanding fibre release potential, potential control measures in the field, how to take representative ACSs safely, sample labelling and what analytical tests are available and when the y should be implemented.

Health and safety training required under CAR includes asbestos awareness, non-licensable work (including notifiable non-licensable work) and licensable work with asbestos.

In addition to health and safety training, some staff involved in the technical identification on site of ACMs, sampling and analysis may require technical proficiency training (competency training).

Training vs. Competence

HSE (2005) identifies that 'training alone does not make people competent. Training must be consolidated by practical experience so that the person becomes confident, skilful and knowledgeable in practice on the job'. It is critical that ACS surveyors demonstrate competency with details of relevant field experience alongside training and examples of previous works/references.