APPLICATION NO:
CON/2001/4524

LOCATION:
Transport Research Laboratory Old Wokingham Road, Crowthorne.

APPLICANT:
Trl Ltd C/O Legal & General Investment Management

PROPOSAL:
Consultation from Bracknell Forest BC on application for the erection of a three storey B1 office building and B8 storage building. Construction of access road and bridge over test track to form vehicular access onto Nine *Mile Ride* via new roundabout with associated car parking and landscaping.

EARLIEST DATE FOR DECISION: **20/08/2001**

APPLICATION WILL HAVE EXPIRED ON:
27/08/2001

CASE OFFICER: **Ron Madell**

RAILEX
Marbleboard

EASIFILE EP7

953

1013

Tel: (0118) 974 6229 (Direct Line)
E-mail: Ron.Madell@wokingham.gov.uk
Date: November ~~14~~ 20, 2001
My ref: [Click here to type reference details]
Your ref: 01/00722/FUL/CONS

Environmental Services Department
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Attention: Mr Eric Konig
Borough Planning Officer
Bracknell Forest Borough Council
Time Square, Market Street
Bracknell, Berkshire
RG12 1JD

Dear Mr Konig

NEW OFFICES AND WAREHOUSE - TRL LTD, OLD WOKINGHAM ROAD, CROWTHORNE

I refer to your letter of 27th July 2001, enclosing this application for Wokingham Council's observations.

I am now in a position to advise you that the Council has no formal objections to the proposals be TRL Ltd. It appears that there will be a potentially considerable increase in private motor vehicle traffic, but I am content to leave your Council to interpret and follow up the contents of the Transport Assessment. This indicates that measures will be taken to encourage and support a modal shift towards more sustainable travel modes on occupation of the development.

Yours sincerely

MICHAEL THORP
Principal Development Control Officer

cc: Tom Callaghan, Highways

Bracknell: Historic Buildings, Sites and Monuments Record *(Full Report)*

21/08/01

SMR Number	Site Name	Record Type
00351.01.000 - BF472	ROAD RESEARCH LAB	Monument

SITUATED IN DENSE FIR PLANTATION. S SIDE DESTROYED BY CONSTRUCTION OF A TEST TRACK AND N SIDE MUTIL-ATED BY A FOREST RIDE. CONSISTS OF SHALLOW DITCHES WITH SLIGHT BANK ON E SIDE. AP REC 03 REVEAL SUB-RECTANGULAR FEATURE WITH BRANCHES ON NW, SW AND SE SIDES. E BRANCHES SUGGEST LINK TO .02?

Classification and Scoring

Type and Date — **Materials/Evidence**

ENCLOSURE - to — EARTHWORK

Class

Rating and Scoring

Condition: Good -

Location

National Grid Reference

SU846654

Administrative Area

Civil Parish: Easthampstead, Bracknell Forest, Berkshire

Address

Historic Names

Status and other references

Sites & Monuments Record - 00351.01.000

Description

Sources

Associated Finds

Associated Events/Activities

Associated Individuals

Associated Organisations

Bracknell: Historic Buildings, Sites and Monuments Record *(Full Report)*

21/08/01

SMR Number	Site Name	Record Type
00351.00.000 - BF471	ROAD RESEARCH LABORATORY	Monument

TWO POSS RECTANGULAR EARTHWORKS, SITUATED ON LOW GROUND WHICH WAS PROBABLY MARSHY IN THE PAST. BOTH HAVE BEEN MUTILATED BY A DRAINAGE DITCH AND .01 BY TWO TRACKWAYS; NO ENTRANCES SURVIVE -OS 1963. OS SUGGEST PROB MEDIEVAL OR LATER STOCK ENCLOSURES AND REJECT RO DATE.

Classification and Scoring

Type and Date		Materials/Evidence
ENCLOSURE	- to	EARTHWORK
ENCLOSURE	- to	
SITE	- to	EARTHWORK

Class

Rating and Scoring

Condition Poor -

Location

National Grid Reference

SU847654

Administrative Area

Civil Parish Easthampstead, Bracknell Forest, Berkshire

Address

DEPT OF TRANSPORT, ROAD RESEARCH LABORATORY

Historic Names

Status and other references

Sites & Monuments Record - 00351.00.000

Description

Sources

Photograph: UNKNOWN, , , 12/07/29,
Photograph: AO01974ALDERSHOT22/3, , , ,
Photograph: RAF106GUK1069 4074-5, , , 06/11/45,
Photograph: RAF106GUK1069 3075-6, , , 06/12/45,
Bibliographic reference: READING MUSEUM RECORDS 16/2/67, , , ,

Associated Finds

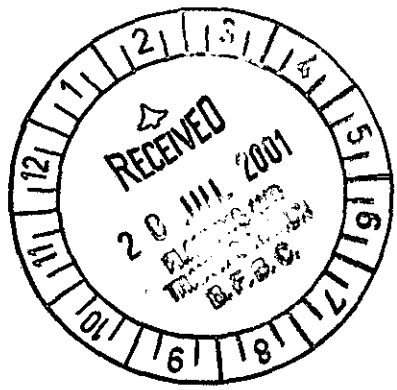
Associated Events/Activities

Associated Individuals

Associated Organisations

development of new headquarters for the transport research laboratory

00722



environmental statement

July 2001

Foreword

This Environmental Statement describes the outcome of the Environmental Impact Assessment that was carried out for the proposed development of new headquarters for the Transport Research Laboratory (TRL Ltd.) It will be submitted with the planning application in July 2001, as part of the planning application for the development.

The applicant is TRL Ltd. On behalf of TRL, Legal and General Investment Management act as development managers and installed a project team to design the development and prepare the necessary documents for the application process.

The following are members of the project team:

Legal and General Investment Management	Development Managers
AYH Plc.	Project Management, Quantity Surveyors and Programme Management
Thorpe Architecture	Architect & Master Planning
Peter Brett Associates	Structural & Civil Consulting Engineers, Environmental Statement
Hoare Lea & Partners	Mechanical, Electrical and Environmental Engineers
Whitelaw Turkington	Landscape Architect

July 2001

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Map 1. Location of the TRL site

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Map 4 Sensitive receptors associated with the proposed development

1. Background

1.1. Introduction

TRL Ltd. proposes the development of new headquarters comprising an office building and test laboratory facilities. The application site is located in Crowthorne, Berkshire, and falls under the authority of Bracknell Forest Borough Council.

The requirement to assess the environmental impacts of certain developments is set in the European directive 85/337EEC, which is amended by directive 97/11/EC. The directive was given legal effect through the Town and Country Planning Act (Environmental Impact Assessment) (England and Wales) Regulations 1999 (SI No. 293) ("*EIA regulations*").

The regulations apply to projects that are set out in two separate lists:

- Schedule 1 projects, for which an assessment is required in every case
- Schedule 2 projects, for which an assessment is only required if it is considered likely that the project has a significant environmental impact.

Bracknell Forest Borough Council has indicated that the proposed development for new TRL Headquarters is a Schedule 2 development.

This document forms volume I of the total environmental statement. Volume II consists of the technical assessment reports underlying the environmental statement.

1.2. Environmental Impact Assessment Process

An Environmental Impact Assessment is defined in the DETR Circular.02/99 as:

"*A means of drawing together in a systematic way, an assessment of a projects likely significant environmental effects. This helps to ensure that the importance of predicted effects, and the scope for reducing them, are properly understood by the public and the relevant competent authority before making decisions.*"

The process consists of two phases. The first phase consists of an investigation to set the scope of the Environmental Impact Assessment. This investigation should lead to a limited number of issues that will be addressed in detail during the environmental impact assessment. The results of the investigation can then be laid down in a scoping report. The scoping report can be presented to the planning authority with a request for a formal opinion on the proposed scope of the assessment.

The second phase consists of the Environmental Impact Assessment itself. In this phase detailed studies will be made into the impact of the proposed development on the various socio-economic and environmental issues identified during the scoping study. During this phase there is an interaction between the assessment process and the design process in that mitigation measures will be identified and integrated in the final development proposals. The results of the various assessments are brought together in the Environmental Statement, a comprehensive document that describes the impact of the proposed development, mitigating measures that are taken to avoid or reduce adverse impacts and the remaining impacts after the implementation of the mitigating measures.

The project falls in category 10b of Schedule 2 of the EIA regulation: "*Urban development projects, including the construction of shopping centres and car parks, sports stadium, leisure centres and multiplex cinemas*". Projects that fall in this category may require an environmental impact assessment if the area of development exceeds 0.5 ha.

In order to confirm the need for an assessment for the proposed TRL development, the local authority was asked to give a screening opinion, i.e. that an Environmental Impact Assessment was needed. This was communicated verbally to Legal and General's representative in early 2001.

The following team of consultants carried out the Environmental Impact Assessment:

- Thorpe Architecture; Architects
- Peter Brett Associates; Consulting Engineers
- Whitelaw Turkington; Landscape Architects
- The Ecology Consultancy Ltd.
- Thames Valley Archaeological Services

The Environmental Impact Assessment procedure was started with a scoping study. In this phase the opinion on relevant issues to be addressed in the Environmental Statement is asked from relevant public bodies, such as the Environment Agency, Planning Authority, Highway Authority and English Nature. The scoping study led to the issue of a scoping report, which was submitted to the Bracknell Forest Borough Council with a request for a formal opinion, based on the information given in the report.

The first part of the scoping opinion was received on 20th June 2001, with further correspondence on 27th June 2001 (Appendix 2).

2. Proposed Development

2.1. *Introduction*

The Transport Research Laboratory (TRL Ltd.), is a former governmentorganisation. Nowadays, TRL is an internationally operating consulting company on transport issues with an outstanding reputation. The company operates from a site on the Old Wokingham Road in Crowthorne (this site will be referred to as *the TRL-site* throughout these documents).

Among the facilities present on the TRL site are a "figure of 8"-shaped car test track and an office estate, known as Crowthorne Business Estate. Within the test track there is a road network known as the "small road system", which is used for access, driver instruction and testing and includes several buildings and waste storage facilities. Most of the facilities date from the 1960's, when the TRL-site was founded. The office estate was originally built for TRL, although part of the office and storage space is now let out to local businesses.

The present situation of a smaller staff establishment in unsuitable and ageing buildings no longer suits TRL's requirements as a world renowned, innovative, efficient company who have and attract a wide and distinguished client base. TRL is therefore looking for alternative space to establish new headquarters. The proposed development aims to provide TRL with headquarters tailored to their role in the twenty-first century.

2.2. *The site location*

The site is located between the towns of Crowthorne and Bracknell in Berkshire and is centred on National Grid Co-ordinates SU 846 654. The location of the site is given in Map 1. The entire site is triangular shaped and enclosed by Nine Mile Ride in the North, Old Wokingham Road in the West and the Sandhurst-Crowthorne by-pass and Bracknell Road in the Southeast.

The site is divided into two parts:

- A predominantly office development in the north-western corner of the site
- A test-track consisting of a central part from which two loops run to the south-west and the north-east respectively, passing through woodland. Many activities undertaken by the TRL take place at various locations within the wooded area

Two partially culverted streams cross the site. These streams feed the Emm Brook, which flows north from the site. The area within and around the test-track is predominantly planted with Scot's pines (Pinus sylvestris). Timber has been harvested from time to time.

The proposed new development is situated within the north-eastern loop of the test-track. The approximate location of the new development is given in Map 2. The proposed new buildings occupy an area of approximately 3.5 hectares. The area for the proposed new buildings currently contains test roads, storage

space for used test cars, a concrete batching plant, a pavement test laboratory, materials storage facilities and several other small buildings, all in use by the TRL. Figure 1 gives an impression of the current situation:

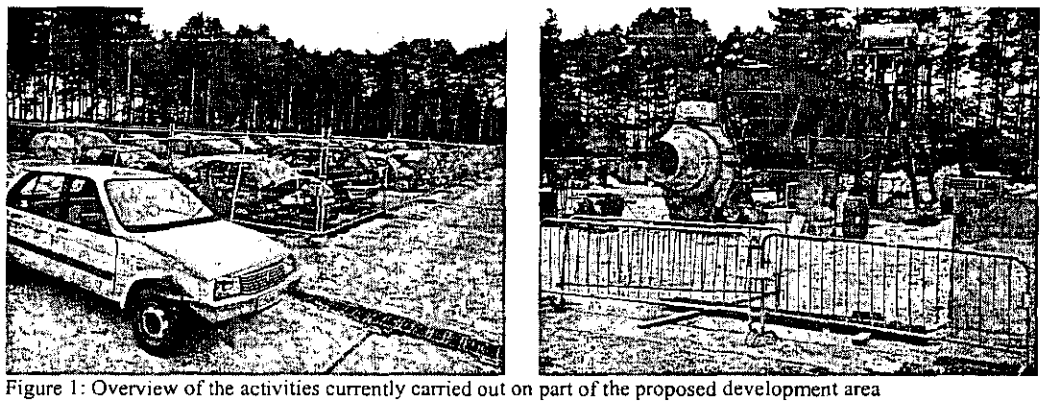

Figure 1: Overview of the activities currently carried out on part of the proposed development area

Within the TRL site the proposed area has the benefit of the presence of some development already. A large part (about 1.4 ha) of the area consists of hardstanding and there are several buildings directly adjacent to the proposed development site. The ratio of the existing compared to the new development hardstanding is 1.4ha /3.5ha. When the new HQ is complete, the presence of several other facilities near the site will compact the total area of the TRL-facilities and reduce the area needed for operation. Other locations for the HQ building within the TRL site would not have this benefit. The proposed development area is therefore considered as being the best available option within or near the TRL site from an environmental perspective.

2.3. *The proposed development*

Technical Appendix 1 shows the site layout plan of the development, including the red line planning application boundary. The proposals comprise the following elements:

- Office building
- Test laboratory
- Workshop
- Warehouse
- Car park
- Service area
- Roundabout/bridge/access road

The proposed footprint of the headquarters building is 0.825 ha and that of the hardstanding service area 0.335 ha. The remaining area will be used for parking space, access roads, landscape design and a balancing pond.

Access to the site will be provided by a new access road from Nine Mile Ride at the site of existing Gate 4a, by means of a new roundabout. The road will follow the existing service road towards the main test track. The main test track is to be crossed by the construction of a new bridge.

2.4. *Construction phase*

The construction phase (including the contractor mobilisation) is estimated to have a duration of eighteen months and will start as soon as the detailed planning approval is granted.

2.5. *Utilities & Construction impacts*

The proposed development will not have a significant influence on the demand for utility service in the area. There is therefore no need for the provision of extra strategic capacity in the utility services in the area.

The impacts of construction and demolition have not been addressed in a separate section. Instead, the impact on the various topics is addressed in the main relevant topic section. Therefore, for example, the noise and vibration impact of construction and demolition is described in the Noise and Vibration section of this document.

3. Policy Context

3.1. National and Regional Planning

The following documents give guidance to the national and regional planning policies that apply to the proposed development;

- Revised PPG1: General Policy and Principles (Feb. 1997)
- PPG9: Nature Conservation (Oct. 1994)
- PPG13: Transport (March 2001)
- PPG16: Archaeology and Planning (Nov. 1990)
- PPG24: Planning and Noise
- PPG25 (draft): Development and Flood Risk
- Regional Planning Guidance for the South East (2001)

PPG1 General Policy and Principles
In February 1997, a revised version of this PPG was published. It places increased emphasis on the planning system achieving sustainable development.

PPG9: Nature Conservation
This document provides guidance on national policy for nature conservation. PPG9 confirms the government's commitment to the conservation of the natural heritage.

PPG9 recognises in paragraph 4 that considerable wildlife interest is not restricted to areas protected by statutory designations. In addition, paragraph 4 requires local authorities to take account of nature conservation interests in determining all relevant planning applications.

Further paragraph 27 states that local planning authorities;

"*should not refuse permission if development can be subject to conditions that will prevent damaging impacts on wildlife habitats or important physical features, or if other material factors are sufficient to override nature conservation considerations*"

And in paragraph 28:

"*Planning obligations can accompany permission in order to secure long-term management, to provide funds for management or to provide nature conservation features to compensate for any features lost when development takes place*"

PPG 13: Transport
PPG13 is the main Planning Policy Guidance dealing with transport. Its main objectives are to integrate planning and transport at the national, regional and strategic level to:

- Promote more sustainable transport choices
- Promote accessibility of jobs by public transport, walking or cycling
- Reduce the need to travel, especially by car

Developments are expected to encourage people to travel by non-car modes through the provision of suitable alternative public transport as well as through measures that promote walking and cycling

PPG16: Archaeology and Planning
PPG16 recognises the value of archaeological remains for society and that : *care must be taken to ensure that archaeological remains are not needlessly or thoughtlessly destroyed*".

It also recognises the need to strike a balance between saving archaeological remains and the need for development:
"*The key question is where and how to strike the right balance. Where nationally important archaeological remains, whether scheduled or not, and their settings, are affected by proposed development there should be a presumption in favour of their physical preservation.*"

For archaeological remains of lesser importance preservation by recording can be an appropriate alternative:
"*Where planning authorities decide that the physical preservation in situ of archaeological remains is not justified in the circumstances of the case and that development resulting in the destruction of the archaeological remains should proceed, it would be entirely reasonable for the planning authority to satisfy itself before granting planning permission, that the developer has made appropriate and satisfactory provision for the excavation and recording of the remains. Such excavation and recording should be carried out before development commences, working to a project brief prepared by the planning authority and taking advice from archaeological consultants. This can be achieved through agreements reached between the developer, the archaeologist and the planning authority. Such agreements should also provide for the subsequent publication of the results of the excavation. In the absence of such agreements planning authorities can secure excavation and recording by imposing conditions*"

PPG24: Planning and Noise
This PPG gives guidance to local authorities on their use of planning powers to minimise the adverse impact of noise. Paragraphs 10 and 11 relate to major noise sources and noisy developments that include roads, railways, airports, industrial and recreational uses.

PPG25: Development and Flood Risk
The consultation draft of this PPG advises the following;

- The susceptibility of land to flooding is a material planning consideration
- The Environment Agency has the lead role in providing strategic advice on flood issues
- Policies in development plans should outline the consideration which will be given to flood issues, recognising the uncertainties that are inherent in the prediction of such rare events
- Planning decisions should apply the precautionary principle to the issue of flood risk, avoiding such risk where possible and managing it elsewhere
- Planning Policies and decisions should recognise that flood risk management needs to be applied on whole-catchment basis and should not be restricted to flood plains.

3.2. *Local and Strategic Policies*

- Sandhurst and Crowthorne Local Plan April 1991
- Berkshire Structure Plan November 1995
- Bracknell Forest Borough Local Plan (1996 Draft) (modifications, post Inspector's report, subject to consultation, Spring 2001)

Bracknell Forest Borough Local Plan

The Bracknell Forest Borough Local Plan seeks to provide guidance for the balancing of the need for economic development with the need to minimise adverse impacts on the environment. To meet this goal it formulated a strategy comprising of two parts:

"The Borough Local Plan seeks to control future development in the Borough, in accordance with strategic guidelines, in order to protect and enhance the environment, such that the needs of the Borough's residents are met without jeopardising the ability of future residents to meet their own needs."

"The Bracknell Forest Borough Local Plan seeks to concentrate development in existing settlements and neighbourhoods. Otherwise, the Local Plan identifies land for development which is well related to public transport and will have least damaging effect on the environment."

Natural Environment
Policies EN10 and EN8 emphasise the value expressed in the Local Plan to maintain the distinction between rural and urban areas. Potential development outside settlements or identified major employment sites (policy E13) should not have an impact on the open and rural character of the land.

After the inspectors report the Borough Council has published a series of "proposed modifications" to the local plan (May/June 2001). According to these latest proposals for the Local Plan policy EN10 is deleted and EN8 states:

"The countryside will be protected for its own sake. Outside the defined settlement boundaries, development will be permitted only where it would not adversely affect the character, appearance or function of the land, would notdamage its landscape quality and where conspicuous from the green belt, would not injure the visual amenities of the green belt."

The Bracknell Forest Borough Local Plan proposes a considerable area in the south of the Borough to be designated a "Special Protection Area" under the European Habitats and Birds directives. These areas are safeguarded from development that negatively affects their special value (policy EN3). None of the TRL site is covered by the proposed SPA designation.

Transport
The Bracknell Forest Borough Council seeks to reduce the reliance on travelling by private car and encourages greater use of public transport. It is expected that measures to promote the use of alternative means of travel be considered in new development proposals (policies M5, M9).

Sustainable Development
The aim to stimulate sustainable development is not restricted to policies on transportation and the character of the natural environment. Policy EN21 states that *"...sustainable development should be achieved through energy design and layout and the reuse of building material wherever possible. Where new materials are used, the Borough will particularly encourage those with minimum impact on natural resources in terms of production, energy efficiency during use, and future disposal or reuse."*

3.3. Conclusion

It is concluded that the proposed development is not in conflict with existing policies. The key issues in the local planning policies and the way these are affected by the proposed development are summarised below:

Natural Environment (EN3, EN8)

Impact on SPA/SSSI	-the development would cause no significant impact on the SPA/SSSI (see 4.7)
General Nature Conservation	-the landscape design includes mitigating measures for any loss of habitat worth conserving (see 4.7)
Character, appearance or function of the land	the development would cause no significant impact on these issues (see 4.9)
Landscape quality	the development would have a beneficial impact on the landscape character of the main part of the development and no significant impact on the quality of the landscape elsewhere associated with the development (see 4.9)

Visual amenities in the Green Belt	the proposed development is not in the Green Belt

Transport

Measures taken to promote transport, other then car, include (see 4.2):
Footpaths and cycleways on the development
Continued promotion of the Green Travel Plan

Sustainable Development

A program to re-use materials that come free during demolition wherever possible is included in the proposals (see 4.10)

4. Assessment of Environmental Impact by Topic Area

4.1. Socio-economic impact

4.1.1. Baseline

TRL is an independent, internationally recognised centre of excellence in surface transport issues. For more than 60 years TRL has worked closely with customers in the public, private and independent sectors of the UK and world-wide. The organisation provides research based technical help which enables customers to obtain improved value for money, generate competitive advantage and gain a better understanding of transport problems.

The laboratory has been established in Crowthorne for nearly 40 years and draws its staff predominantly from the surrounding area. Approximately two thirds of the workforce live within 10 miles of TRL.

This research centre complements the high-tech industries also located in the Thames Valley/M4 corridor and helps focus the importance of Bracknell Forest as a home to these prestigious employers.

4.1.2. Potential impact

The need to maintain outdoor testing facilities, notably the test track, means that the choices open to the laboratory seeking more modern offices and laboratories are limited. Essentially the choice is to redevelop within the current landholding or move to a new location where test track facilities can be replicated. Such a move would be extremely expensive in infrastructure works and staff relocation costs, assuming that a suitable site could be found. Support staff would be less likely to move than professional and managerial grades. Hence there would potentially be impact on the employment market.

The relocation of the track would require a greenfield site or perhaps a disused airfield on which to base it. Such sites are unlikely to be found within the Thames Valley and if found at all are likely to be in relatively remote and more sparsely populated areas.

4.1.3. Assessment

Neither relocation to a new site nor redevelopment of the existing buildings is a practicable proposition. In the case of the latter, accommodation is not available to let work carry on unhindered during the construction of new facilities.

4.1.4. Residual effects

The residual effect in overall socio-economic terms of the proposal is no change in the employment aspects, as business would continue as usual. There is however a positive impact in that the TRL business would be relocated in modern more efficient premises which would be of considerable

operational benefit both in the way it operated its own affairs and providing a modern environment for staff.

In comparison with the scenario that TRL would leave the area to new facilities elsewhere there would be a high beneficial impact in the retention of a world-renowned institution in the district.

4.2. *Traffic and Transportation*

4.2.1. Baseline

The section of Nine Mile Ride along the TRL site is a single carriage way subject to the national speed limit of 60 mph. On both sides of the TRL site there is a roundabout. These roundabouts currently operate near their maximum capacity.

Peak hour traffic flows for the year 2000, were obtained from the Borough Council. The data is shown in appendix 3.

4.2.2. Potential impact

The number of employees at the proposed new headquarters is 500-550. According to a survey that was held by TRL among its employees an average of 72% will commute by car. This leads to a peak hour flow (08.00-09.00 and 17.00-18.00) of approximately 200 vehicles.

This additional flow may result in an increase in delays at the roundabouts at the junctions with Old Wokingham Road and Crowthorne Road.

The low increase in traffic flow is considered to have a negligible effect on road safety.

4.2.3. The assessment

The capacities of the roundabouts at the junctions of Nine Mile Ride with Old Wokingham Road and Crowthorne Road were tested against the increase in traffic flows generated by the proposed development. The assessment was carried out using the ARCADY software.

The results indicate that, with minor alterations to the kerb lines, the performance of both roundabouts will be no worse after the proposed development is in operation than at present.

The proposed new access roundabout is likely to have some beneficial impact on road safety on this part of Nine Mile Ride. as It will have the effect of reducing the speed of traffic.

4.2.4. Mitigation measures

Mitigation measures taken fall into two categories. First of all, measures can be taken to stimulate a modal shift in transport away from single occupancy of cars. This is the approach already being taken by TRL. However some additional highway capacity is desirable at the Nine Mile Ride roundabout-junctions and can be achieved by modest adjustment to entry kerblines, with minimum environmental effects.

The TRL, as the leading transport research establishment in Western Europe, has been deeply involved in the development of integrated transport policies for many years. As part of its commitment to these policies the TRL has already introduced a number of measures aimed at encouraging staff to use modes other than single occupancy car travel for both commuting and business trips. Initiatives to stimulate this modal shift are described in TRL's Green Travel Plan A comprehensive inventory has been compiled of the personal travel patterns of the TRL staff which has been used to establish the transport impact of the development and mitigation proposals.

The TRL Green Travel Plan targets are to reduce the sole use of private cars for commuting from the current 73% to 68% by the end of 2002 and to 60% by the end of 2005. Hence by this latter date if the target is achieved then car use to and from the site will be reduced by nearly one fifth.

Measures taken to achieve these targets include:

- further cycle use – already nearly 3 times the local and national average.
- walking - promoted as a healthy option.
- public transport use – interest free season ticket loans and customised information services.
- car sharing- online directory and preferential car share parking spaces
- business travel using cycle and or public transport for both staff and visitors.
- new staff recruits to consider non motorised and public transport from the start of their careers with TRL.

In addition to the continued promotion of the Green Travel Plan objectives and the initiatives already taken, the following measures on the site can contribute to the reduction of car journeys.

- A footway and cycleway leading from the building to join with Nine Mile Ride.
- Paved areas and crossing points to connect bus stops in the vicinity of the new access roundabout with pedestrian route into the site.
- Improved public or private bus services serving the whole of the Crowthorne Business Estate/TRL complex and local shops/stations.

The following off site works have been identified as desirable and therefore a developer's contribution may be appropriate. It is assumed that the Borough Council will be responsible for the implementation of any schemes.

Listing these items does not imply that a full cost contribution is appropriate. This is a matter of negotiation between the applicant and the Council. It is particularly important to stress that large-scale road improvements are not appropriate and are consequently not recommended. Proposals reflect the emphasis on providing solutions on a multimode transport appraisal.

- Entry flare improvements to the roundabouts at Nine Mile Ride/Old Wokingham Road and Nine Mile Ride/Crowthorne Road

- The provision of a cycle and footway along Nine Mile Ride within existing verges, and enhanced crossing facilities, to join with the Southern Bracknell cycle network.
- Other general transport measures, biased towards public transport, that the Borough Council officers may propose.

4.2.5. Residual Effect

After the implementation of the mitigating measures it is considered that the impacts of the development on traffic and transportation are negligible and therefore there are no residual effects of the development.

4.3. *Geology and Contamination*

4.3.1. Baseline

The geological map (sheet 269) shows this site area to be underlain in parts by Plateau Gravels. These deposits in turn are underlain by the Bracklesham Group which are divided into two formations. The upper levels comprises yellow and pale brown sandy clays and glauconitic sands with some clay (Windlesham Formation) The lower levels are formed by deposits of sand with some clay and pebble beds (Bagshot Formation). The sequence is then underlain at depth by the London Clay Formation, a series of clays and silty clays. Within the area of the TRL facility, sands of the Barton Group are shown overlying the Bracklesham Group, however these deposits are not shown over the actual site area.

The ground investigation carried out at the site has confirmed the general stratigraphical and lithological sequence identified by the map. Areas of made ground are present associated with the current areas of hardstanding. Localised areas of disturbed natural soils have also been identified. The natural soils are generally firm to stiff clays and medium dense to very dense clayey sands and silts.

The ground water vulnerability map (sheet 39) shows the site to lie on a minor aquifer formed by the Plateau Gravels, Bracklesham Beds and nearby Barton Sands. The soils shown on the map below the site are known to have either have a moderate ability to attenuate diffuse source pollutants or to be of a type in which it is possible that some non-adsorbed diffuse source pollutants and liquid discharges could penetrate into the soil layer. These soils could potentially transmit a wide range of pollutants.

Groundwater is currently indicated by the onsite piezometers to be at a depth of 15m below surface level. However this level is unlikely to represent equilibrium conditions and a relatively shallow groundwater level is anticipated. Insitu testing indicates the soils have a low infiltration rate.

Environmental site sensitivity data indicates that there are no significant groundwater abstractions that would be affected by the site.

An asbestos survey of the existing buildings at the TRL facility has indicated that some cementitious asbestos is present in some of the structures on the site.

4.3.2. Potential Impacts

Dependent on the particular loading of the buildings various foundation solutions will be adopted. These will range from conventional spread footings for the lighter structures to piling for the heavier structures. Piling is likely to take the form of continuous flight auger piles since it may be difficult to install driven piles as a result of pore pressure build up during piling. The foundations can in some circumstances act as a pathway for near surface contamination to migrate to underlying aquifers.

There is a potential risk of spillage during the proposed decommissioning of the refuelling facility.

Demolition of structures containing asbestos can release fibres unless carried out in a controlled manner.

The site requires cut and fill earthworks to provide the required development platform. The reuse of onsite material will reduce the requirement to both dispose of material offsite and the importation of material back into the site.

4.3.3. The Assessment

Significant widespread contamination of the soil at this site was not encountered with all values being recorded below the threshold concentrations given in the various assessment criteria used for the proposed development. Localised areas of slight hydrocarbon contamination appear to be present that are likely to be the result of spillages associated with the refuelling pump and the crashed car remains stored on the site. The groundwater testing does not highlight any significant contamination.

The site has been assessed with respect to a qualitative risk assessment based on the *source-pathway-receptor* model in accordance with Part IIa of the Contaminated Land Regulations. The underlying minor aquifer is assessed to be of low to moderate environmental sensitivity. From the desk study and ground investigation the potential for receptors at the site to be significantly impacted by contamination is considered to be low.

4.3.4. Mitigation Measures

Moisture conditioning of earthworks material through air drying or lime stabilisation is likely to be required in order to reuse the site won materials. An earthworks trial will be undertaken to define the performance specification required for reusing the intermixed materials. However, laboratory testing indicates that the materials should be suitable for reuse thereby avoiding offsite disposal and importation of replacement suitable material.

The potential for significant pollution migration is considered to be low for either conventional foundations or piling.

The decommissioning of the onsite fuel facility will be carried out in a suitably controlled manner to avoid the release of hydrocarbons. The removal of the underground tank will provide an opportunity to review the underlying soil conditions and allow localised remediation if significant contamination is encountered.

Any structural demolition will be carried out in a suitably controlled manner such that asbestos where present is removed prior to general demolition. Removal will be carried out in a suitably controlled manner to prevent the release of free fibres.

4.4. *Hydrology and surface water*

4.4.1. Baseline

The existing site proposed for the development project covers some 3.5 ha of which 1.56 ha is currently 'paved' ie covered in hardstanding, roadways and roof area. There is no formal drainage evident so it is assumed that the surface water runs off the edges of these existing impermeable 'paved' areas and then is disposed off by a combination of overland flow to the arterial watercourse system, soakage to groundwater and evaporation and evapotranspiration.

The surrounding TRL site comprises wooded areas, wide expanses of paved test track/skid pan and the existing buildings plus external road/parking areas. This site is drained by two minor watercourses which cross the site (see Map 3) and have a confluence at the site boundary immediately prior to leaving the site and then joining the Emm Brook. There is only limited formal drainage of the track/skid pan areas, while the existing built area drains to culverted sections of the natural watercourses, which then pass through on-line attenuation facilities.

There was a series of flooding events at the existing built areas in the 1970's including two serious events in November 1979 and September 1980. A flood alleviation scheme was subsequently implemented following a study and scheme design in October 1982. This scheme included the following works:

1. An on-line storage pond to Stream B upstream of the test track and adjacent to the Bracknell Road. This pond (Pond B) was actually constructed in two halves either side of an access track but linked together with a twin barrelled culvert beneath the track

2. An on-line storage pond (Pond A) on Stream A immediately adjacent to both the skid pan and the southwest loop of the test track.

3. A package of drain and sewer improvements within the main TRL built area.

In addition, at some stage unknown, an orifice plate was fitted at the inlet to the main culverted section of Stream B in order to restrict flows through this culvert. Despite these works having been carried out there was a serious flooding event in May 2000 which caused approximately £0.5million value of damage within the main TRL site. During this event it was reported that all storage ponds were full and some even overflowing. There are clearly deficiencies in the existing drainage system for the whole TRL site due to a series of factors including poor design of flow control structures, inefficient on-line storage ponds for attenuation of sewered flows, insufficient maintenance of Ponds A and B and large paved areas without any formal drainage or discharge control

4.4.2. Potential Impact

The construction of paved area ie hardstanding, roadways, parking and roofed areas results in an increase in the volumes of surface water run off in times of rainfall. The construction of gutters, drains and sewers then results in a very efficient drainage system which gives rise to high peak flows. Such peak flows can exacerbate existing flooding problems or cause new flooding problems downstream of the site unless appropriate measures are taken to reduce both the volumes and the rate of run off.

The increase in volumes of run off results in a reduction in volumes of water which would otherwise soak into the underlying soil and recharge aquifers. This can have the effect of reducing available water resources from wells and boreholes and can also have a detrimental effect on certain wetland habitats.

In any area of lorry and car parking a risk exists of oil or petrol spillages which can accumulate and be washed into drainage systems in times of rainfall. This can then give rise to pollution resulting in damage to plant/animal life and relevant habitats.

Due to the existing risk of flooding on the main site, the proposed development could be inundated by such floodwaters

4.4.3. Assessment

A calculation is made of existing rates of run off on the basis of existing land usage for a range of return period rainfall events. This information is then used as a basis for the design criteria of maximum allowable run off and therefore discharge from attenuation facilities. The method used for this calculation is that given in the document "Control of run off from New Developments. Interim Regional Guidance" (approved by Thames RMT 30th September 1997) incorporating Section 4 of ADAS publication "the design of field drainage pipe systems".

The potential for the use of sustainable drainage measures involving soakage to underlying soils is investigated through a full geotechnical investigation involving falling head permeability tests in accordance with BS5930-1999 and in situ trial pit soakage tests in accordance with BRE 365. Design standards of attenuation for the proposals being assessed are on the basis of no increase in peak rates of run off from the pre-development situation for a full range of return periods up to 1:100 years in accordance with the "Control of Run off from New Development. Interim Regional Guidance".

From inspection on site, discussions with witnesses and cross-referencing to the topographic survey, a flood level of 81.00m A.O.D. can be assumed adjacent to the proposed development site. Existing ground levels range from 80.5m to 87.5m A.O.D. while proposed development levels range from 83.0 m to 85.5 m A.O.D.

4.4.4. Mitigation

In order to avoid the increased rates of run off associated with the increase in paved areas, a surface water balancing pond will be constructed at the

southern corner of the site to attenuate flows from the roofed areas and some hardstanding. The balancing pond will be designed to accommodate a range of return periods up to 100yrs.

A system of filtration trenches or alternative "sustainable drainage" solutions will be incorporated in the design proposals for the larger areas of parking, especially on the northern part of the site. This system will rely on infiltration, evaporation and evapotranspiration for the disposal of the surface water and thereby reduce the volume of run off which would otherwise be discharged to the receiving watercourse.

Incorporated in the balancing pond will be a permanent wet area which will be planted with reeds and other species which have a role in biological cleaning of the run off so that the potential for impact from pollution is reduced. Kerbed and piped drainage systems from roadways, hardstanding etc. will include deep seal trapped gullies which will help to retain both grit/heavy solids and petrols/oils.

There is a risk of pollution to surface and groundwater from major spillage following a vehicle accident or similar incident. This risk is extremely low and any surface spillage would be trapped either by the balancing pond or by the existing on-line petrol/oil interceptors within the existing TRL site.

The proposed development levels of 83.0m to 85.5m A.O.D. will provide a freeboard for flood protection of at least 2.0m

4.4.5. Residual effect

After the implementation of the mitigating measures it is considered that the impacts of the development on hydrology and drainage issues are negligible and therefore there are no residual effects of the development.

4.5. *Air Quality*

4.5.1. Baseline

Bracknell Forest Borough Council has assessed the air quality in the borough in accordance with LAQM. There are no areas in the borough designated for Air Quality Management. The local background of air pollutants was obtained from the national air quality information archive. The data reflect the 1996 situation on air quality and are given below:

Compound	**Level**
CO	0.22 mg/m^3
Benzene	0.57 ppb
NOx	33.81 µg/m^3
PM_{10}	19.50 µg/m^3

The air quality in the area is mainly affected by the traffic on the A3095 and to a lesser extent Nine Mile Ride.

4.5.2. Potential impact

Three processes related to the proposed development have been identified to have a potential impact on air quality. These are:

- Traffic to and from the development during the operational phase
- Traffic to and from the development during the construction phase
- Construction and demolition

The potential impact on the air quality of traffic is mainly associated with carbon monoxide, hydrocarbons, nitro-oxides and particulates at the local level. The emissions of sulphur dioxide and carbon dioxide have an impact on regional and global level respectively. On the local level poor air quality has an impact on public health and on the local ecology. Regionally the emission of SO_2 can cause acid rain and the increase of levels of CO_2 in the air is one of the major contributors to global warming.

The potential impacts that are associated with construction and demolition activities are dust formation and the release of asbestos fibres to the air. Dust can be released during various activities during construction and demolition. All parts of the construction/demolition works can potentially release dust. The construction/demolition works at the roundabout/access road are likely to have an impact on traffic on Nine Mile Ride, the activities on the bridge and the main site may have an impact on the ecology in the area. Asbestos fibres can be released to the air during the demolition of existing buildings.

Traffic to and from the site during the construction phase may contribute to the spread of dust directly or via the spread of mud on the road.

4.5.3. Assessment

The impact of traffic to and from the site in the operational phase is assessed using the method described in Volume 11 of the Design Manual for Roads and

Bridges (latest update March 2000). A representative location along Nine Mile Ride was selected. The impact on the air quality at this location was assessed. In addition a generalised assessment of that area was made. Map 4 shows the location of the receptors assessed.

The full assessment is described in the Volume II part 4. An abstract of the result is given in table 4.5.2 and 4.5.3.

Table 4.5.2: Results of the generalised local impact assessment

	Base	Project	Difference	Assessment value
Roadside PM10	68.5	68.6	0.1	7
Roadside NO2	61.8	61.8	0	0

Table 4.5.3: Concentrations of potential pollutants at receptor B.

Compound	**2001**	**2005**	
		Base	**Devel.**
CO (mg/m3) (max 8 hour)	2.71	1.74	1.75
Benzene (µg/m3) annual average	2.13	0.99	0.99
1,3 butadiene (µg/m3) annual average	0.29	0.14	0.14
NO^2 (µg/m3) Annual average	29.3	22.1	22.1
PM^{10} (µg/m3) 90th%ile of daily means	39.7	29.5	29.5

The current levels of potential air pollutants are well below the limits that may affect public health. In general the trend in air quality is gradual improvement over time. In 2005 the quality of air is expected to have improved considerably. The assessment of the impact of the development on traffic generated air pollution is based on the situation in 2005. It reveals that there is *no significant impact from the traffic related to the development on air quality* predicted.

Regional and global impacts are not quantified. The regional impact is mainly associated with the release of SO_2, which is the main source for acid rain. The global impact is mainly associated with the release of CO_2, which a major contributor to global warming. Due to the limited scale of the development the increase of traffic caused by the development will not have a measurable impact on the regional and global air quality. As there is no industrial use of fossil fuel other than space heating, there will be minimal emissions of this gas from the development when in operation. This aspect will be addressed in more detail in the Use of Energy and Natural Resources section.

During construction, the main sources of the formation of dust will be:

- Excavation
- Storage of materials
- Demolition of existing structures
- Crushing of Concrete
- Cement and plaster handling

Construction-related traffic to and from the site can greatly increase the spread of dust. The increase in traffic flow is relatively low and will therefore have no general impact on air quality.

4.5.4. Mitigation

The implementation of a Green Travel Plan TRL will contribute to the joint effort to reduce the overall impact traffic and transportation in general have on the regional and global air quality.

During construction the implementation of a range of standard measures will reduce the formation and the spread of dust. These measures will be laid down in a Code of Good Practice by the developer.

4.5.5. Residual effect

After the implementation of the mitigating measures it is considered that the impacts of the development on air quality are negligible and therefore there are no residual effects of the development.

4.6. *Noise and vibration*

4.6.1. Baseline

Due to the location of the proposed development, at the edge of a town in a rural setting, there are not many sensitive receptors for noise nearby. The nearest houses are on Nine Mile Ride on both sides of the proposed new access. The residential area in the south-western corner of Bracknell is considered to be a potential receptor for noise impacts due to increased traffic levels related to the development.

Near the proposed development the following sensitive receptors were identified:

	Receptor	Source of noise and vibration
A	South western residential area of Bracknell, near the Nine Mile Ride and A3095 roundabout.	(construction) traffic
B	Houses on Nine Mile Ride near South Road.	Traffic construction activities
C	House on Nine Mile Ride, west of proposed new access	Traffic Traffic on access road Construction activities

These sensitive receptors are shown in Map 4

In addition to these receptors, consideration is given to a potential noise impact on the nearby SPA.

Nine Mile Ride between the roundabouts at the junction with the Old Wokingham Road and the A3095 is a single carriageway road, with the national speed limit of 60 mph.

4.6.2. Potential Impacts

Noise and vibration issues that may be associated with the proposed TRL development are:

- Increase in ambient noise due to traffic to and from the site
- Noise and vibration nuisance due to construction activities

It is not expected that the development itself will have an adverse impact on noise levels during its operational phase, due to its nature. The proposal is for offices and laboratories with most activities undertaken indoors. This aspect is not further assessed.

As described in the traffic and transportation section the maximum traffic flow in peak hours is predicted to be 200 vehicles per hour and the overall traffic flow is expected to be 800 vehicle movements per day. Due to the relatively low level of traffic to be generated by the development it is not anticipated that there will be a significant impact on the noise nuisance experienced at the identified receptors as a result from an increase in traffic on Nine Mile Ride. A traffic flow of two hundred will split at Nine Mile Ride to two flows of approximately one hundred east and west of the entrance. After the junctions with the Old Wokingham Road and the A3095, these flows will be diluted

even further. Differences of less then 3dB(A) are not likely to give rise to complaints and are at the limit of the human perception.

4.6.3. Assessment

In order to establish the need for a detailed noise assessment a pre-assessment was carried out. This pre-assessment consists of calculating the basic noise levels using the equations set out in the "Calculation of Road Traffic Noise" (CRTN). Two situations were assessed in this way: the impact of the development on the hourly flow noise level (peak hour) and the impact of the development on the 18 hour flow noise level.

The hourly flow noise level is calculated by using the equation given in chart 2 of CRTN (L_{10}=42.2 + 10 Log_{10} q), where q is the peak hour traffic flow and L_{10} (hourly) is the noise level exceeded only 10% of the time. The 18-hourly flow noise level is calculated using the equation give in chart 3 of CRTN (L_{10}=29.1 + 10 Log_{10} Q), where Q is the 18 hourly traffic flow and L_{10} (18-hourly) is the arithmetic mean of the values of L_{10} hourly for each of the eighteen one-hour periods between (06.00-23.59).

The basic peak hour flow in 2000 was 1633. The 18-hour flow in 2000 was 16800. It was assumed that the development would result in 100 car journeys extra in either direction on Nine Mile Ride during peak hours and 400 in the 18 hour period.

This leads to the following results:

	Base	Incl. Dev.	Difference
1 hour	74.3	74.6	0.3
18 hour	71.4	71.5	0.1

The impact of traffic on the access road can be assessed in a similar way. The noise level at the kerb of the access road was calculated for the peak hours and the 18-hour daily flow. Traffic flows for both calculations are 200 for the peak hour and 800 for the 18-hour daily flow. The noise levels are 65.2 and 55.1 dB(A) respectively. Taken into account the distance and the angle of the access road in relation to the nearest sensitive receptor these levels are negligible compared to the base level of noise produced on Nine Mile Ride.

It is therefore concluded that the impact of traffic generated noise on the sensitive receptors (including the pSPA) is negligible.

Construction Traffic

Gate 4 on Nine Mile Ride, the gate that will be transformed into the access road with a roundabout, will be used to access the construction site to deliver materials and remove unused materials and waste.

The main impact on traffic levels as a result of construction traffic related to the proposed development will be during the initial phase of groundworks. In the section "Use of energy and natural resources" an assessment of the

volumes of materials is carried out. The amount of materials that will be exported is of the order of 25,000 – 30,000m^3

A lorry will hold approximately 12m^3 of load, the number of lorries necessary for the transportation of goods will therefore be 2000 to 2600. Assuming that the groundworks will be finished in 2 months after the start of the construction the daily number of extra traffic on Nine Mile Ride will be in the order of 50. The increase in the hourly flow is then approximately 4-5.

The impact of this low increase on noise and vibration is negligible.

Construction & Demolition

During the construction phase there are a number of activities that may give rise to an impact on nearby sensitive receptors. These include crushing concrete for re-use and piling. There will be no unusual sources of noise and vibration and the sensitive receptors are also a considerable distance way (approximately 200 metres from the construction of the roundabout, 300 metres from the construction of the bridge and 400 metres from the main development).

It is likely that there are some sources potentially having an impact on the sensitive receptors, most likely as a result from construction and demolition activities at the access road and roundabout.

4.6.4. Mitigation

It is likely that the construction activities will have some noise impact on nearby receptors. It is not expected that the construction of the proposed development will be a source of extraordinary noise production. In addition the nearest sensitive receptor is 200 to 400 metres away from the main sources of noise.

Implementing a range of standard measures can reduce the impact of noise. By adopting a code of good practice, it can be assured that levels will be within acceptable limits. This code of good practice should be written by the developer. It will be a condition of the works contract that the contractor applies to the local authority for prior consent under section 61 of the Control of Pollution Act 1974. A consent will approve construction methodology, plant, noise levels, hours of working etc. within parameters that the authority considers acceptable to protect the local environment.

4.6.5. Residual effect

After the implementation of the mitigating measures it is considered that the impacts of the development on noise and vibration are negligible for traffic. Regarding the construction and demolition activities there may remain a residual impact on noise levels after mitigation took place. The significance of this impact would be minor, restricted to the construction period and be at levels approved by the Borough Council in issuing "prior consent".

4.7. *Ecology*

4.7.1. Baseline

The ecological baseline was established by an extended phase 1 type habitat survey with a full listing of higher plants and bryophytes and incidental recording of bird, mammal, reptile and insect species.

The development area lies on the western flanks of Clay Hill, a flat-topped hill which rises to c. 98 metres A.O.D. on the eastern edge of the TRL estate. Within the development area the ground slopes gently down from the east central part, which lies at about 90 metres A.O.D., to c. 85 metres on the northern and south-western periphery. Steep banks occur on the margins of the test track, which is in a cutting in this part of the site. To the north of the test track the ground is fairly level in the vicinity of the sports field but then drops steeply via a bank to Nine Mile Ride, which is at c.77 metres A.O.D.

For the most part the subject area is free draining, although an area of softer, damp ground occurs in the south-western portion of the site. This area is drained by a steep sided ditch, running diagonally south-westwards from the edge of the aggregate storage bays to the western periphery and then running south to join another ditch, which runs along the southern boundary. This drains into a partially culverted stream that runs under the main office and laboratory complex to feed into the Emm Brook to the north of the TRL site. At the time of survey there was a slight flow in the ditches, but it is likely that they are dry for much of the summer. Another area of damp ground occurs along the western margins of the sports field, close to Gate 4A, in the vicinity of the proposed access road.

Native soils within the subject area are podsols, derived from the Bagshot Beds that dominate the local surface geology. These are highly leached sandy soils, acidic in reaction and nutrient poor. A layer of acid mor humus occurs at the surface, with a bleached ash coloured sandy B horizon below. These soils underlie most of the forested areas but have been disturbed in places by forestry operations, for example in the south-western part of the subject area where a series of ridges and furrows have been created to aid drainage. Soils around the testing facilities and roads are also disturbed and modified by the incorporation of imported materials, including hardcore.

The main habitat in the subject area is coniferous plantation. Fragments of heathland and acid grassland occur on the periphery of the plantations, especially along the banks of the test track along the northern and western edge of the proposed development area. There are also small areas of semi-improved neutral grassland associated with lawns around some the existing buildings and with the sports field near the proposed access road. Disturbed areas around the aggregate bays support a sparse cover of ruderal vegetation. Patches of scrub occur in places.

The studied area has been divided into a number of habitat parcels, based on existing roads and other physical features. These are shown on figure 4.7.1. The following habitat types are found in the development area:

- Coniferous plantation
- Broad-leaved trees
- Scrub
- Heathland
- Acid grassland
- Neutral grassland
- Marshy grassland
- Ditch
- Tall ruderal

Fauna present on the site comprises small numbers of rabbits and deer, a limited range of common birds, wood pigeon, goldcrest, blue tit and magpie. In addition to this the presence of adders has been reported.

The main habitat within the subject area is coniferous plantation. Such habitats are widespread in the Bracknell Forest district, having been planted for commercial timber production on former heathland and other open land. The plantation trees, in this case Scot's pine and Corsican pine, are introduced species that support only a limited range of invertebrates and other fauna. The trees are closely spaced and form a dense closed canopy, which casts a heavy shade and limits understorey and ground flora development. The habitat is structurally simple and relatively species poor. Nevertheless, with appropriate management, conifer plantations can be important for biodiversity conservation, especially where they incorporate areas of broad rides and glades.

Fragments of heathland and acid grassland vegetation occur around the margins of the conifer blocks within the TRL site and more extensively along the banks of the test track. Such habitats were formerly widespread in Berkshire, especially in the Bracknell District. However only a few extensive areas of open heathland remain - it has been estimated that of 1300 ha. of heathland habitat in the County in 1960, less than 135 ha. remained by 1990 (Berkshire Nature Conservation Forum 1999). Although the heathland and acid grassland habitats within the TRL site are small and fragmented, they are nevertheless of conservation value.

Neutral grassland occurs around the margins of the sports field and along some of the road verges within the subject site. These areas are apparently semi-improved, having been derived from re-seeded grassland laid down for landscaping purposes or as amenity turf. They nevertheless support a limited range of common grassland wildflowers and are therefore of some conservation value. Of particular note is the area to the east of the sports field, which is apparently unmanaged and is developing as an area of marshy grassland with heather around the margins.

Other habitats within the subject site include limited areas of broad-leaved trees, scrub, ditch and ruderal vegetation. The scrub and broad-leaved trees provide useful habitat, especially where they form a graded edge on the margins of conifer plantations. Ditches occur within the conifer plantation. They are steep sided, heavily shaded and appear to be contaminated with grit and other runoff. They do however provide additional habitat diversity. Ruderal vegetation occurs in areas of recent disturbance and is of limited conservation value.

No rare or uncommon bird species have been recorded within the subject area. Woodlark, Lullula arborea, nightjar, Caprimulgus europeaeus, and Dartford Warbler, Sylvia undata, all species of Europe wide conservation concern listed under Annex 1 of the EC Birds Directive, occur in conifer plantations in the nearby Crowthorne Woods, where they are associated with clearfell areas, young plantation growth and other areas where there is an interface between woodland, scrub and heathland. They could potentially occur within the TRL site, although given the lack of large clearings or graded edge areas it is unlikely that these species will utilise the site at present.

There is an unconfirmed record of adder and the heathland/acid grassland areas also potentially support common lizard and slow worm. Adders are given full protection under Section 9 of the Wildlife & Countryside Act 1981, whilst lizard and slow worm are given limited protection (from killing, injury and sale).

4.7.2. Potential impacts

A range of potential ecological impacts have been considered. Each of these impacts was evaluated. The table below gives an overview of these potential impacts

The following of the listed impacts will be described in more detail:

- Habitat loss
- Impact on protected species
- Light Pollution

Habitat loss

The proposed development will result in habitat loss, the extent of which is as follows:

• Coniferous plantation	c 2.7 ha
• Broad-leaved trees and scrubs	<0.1 ha
• Heathland and acid grassland	c 0.2 ha
• Neutral grassland	c 0.4 ha
• Ditch	c 100m
• Tall ruderal	<0.1 ha

Table 4.7.1 Potential impact of the development

Impact	Importance	Effect	Duration	Significance
General habitat loss	Local	Adverse	Long-term	Minor
Loss of heathland & acid grassland	Local	Adverse	Long-term	Minor
Loss of breeding sites	Local	Adverse	Long-term	Minor
Habitat fragmentation	Local	Adverse	Long-term	Minor
Impacts on protected species and sites	Local	Adverse (potentially positive after mitigation)	Long-term	Minor
Soil erosion and siltation	Local	Adverse	Short-term	Minor
Hydrological changes	Local	Adverse	Short-term	Minor
Competition by alien species	Local	Adverse	Short-term	Minor
Change in microclimate	Local	Adverse	Long-term	Minor
Animal mortality	Local	Adverse	Long-term	Minor
Light Pollution	Local	Adverse	Long-term	Minor
Disturbance	Local	Adverse	Short-term	Minor
Water-borne pollution	Local	Adverse	Long-term	Minor

The main impact will be the loss of coniferous plantation. Given the low ecological value of this habitat the impact is considered as not significant. The loss of heathland/acid grassland, neutral grassland broad-leaved trees and scrubs represent valuable habitats. The relatively small area of these habitats that will be lost represents a minor adverse impact.

Impact on protected species
Near the area of the development a Site of Special Scientific Interest is located. This site is classified under the European Birds Directive. The area provides a breeding area for woodlark, nightjar and Dartford warbler.

Although the TRL site is contiguous with those of Crowthorne Woods it is considered unlikely that it provides suitable habitat for the aforementioned bird species. The plantations are dense and mature, with no significant areas of young growth or clearings. It is therefore considered that the proposed development will not have an impact on the potential SPA/SSSI.

The heathland and acid grassland areas within the site are likely to support adders and have a potential to support common lizard and slow worm. These animals are protected under section 9 of the Wildlife and Countryside Act 1981. Although some of their habitats will be lost, the main area potentially utilised by these species will be unaffected. The significance of this impact is considered to be minor.

Light pollution
Light pollution both during the construction and operation phases has the potential to disturb, and deter from the site, birds, reptiles and possibly bats. Spillage of lighting to the nearby pSPA may attract moths from that area. This could have an adverse impact on the nightjar population. Due to the distance between the development and that area light pollution is considered to have a minor impact.

4.7.3. Mitigation

Table 4.7.2 Mitigation Measures

Impact	Mitigation
Habitat loss	Integrating the re-creation into landscape design
Loss of breeding sites Habitat fragmentation	Integration in landscape design
Impacts on protected species and sites	Re-creating lost habitat, integrated within the landscape design. If necessary translocation of protected species by licensed handlers
Soil erosion and siltation	Code of good practice during the construction phase
Hydrological changes	Integration in drainage system design
Competition by alien species Change in microclimate	Monitoring the origin of fill materials imported on the site
Animal mortality	Speed limit on the access road
Light Pollution	Introducing lighting that reduces spillage. Keeping artificial lighting to a minimum
Disturbance	Site clearance will be carried out outside of the bird-nesting season (august-march) to prevent disturbance of breeding birds.
Water-borne pollution	Code of good practice during the construction phase

The destroyed heathland/grassland habitat will be restored on the location of the development. It is expected that this will be a sufficient measure to ensure the affected fauna is protected. In order to make sure no additional measures are necessary a reptile survey will be carried out prior to the start of the demolition and construction activities. In the event additional action is needed, appropriate measures will be taken, in consultation with the planning authority.

Any impact on the small stream in the woodland between the development area and the skid pan will be avoided by preventing people associated with the construction to enter that area.

4.7.4. Residual effect

After the implementation of the mitigating measures it is considered that the impacts of the development on ecological resources are negligible and therefore there are no residual effects of the development.

4.8. *Archaeology*

4.8.1. Baseline

To establish the present situation on archaeology and cultural heritage a desk-based survey was carried out by Thames Valley Archaeological Services. The full report of the survey can be found in the Technical Appendices.

The site does not lie within a registered park or garden, nor are there listed buildings within the site. A search of the Wokingham District and Bracknell Forest Sites and Monuments Recording revealed the presence of 59 entries within a one kilometre radius from the proposed development area. Ten of these entries have not been dated, the remainder ranging from Mesolithic to Post-Medieval types. The majority of the sites are Roman and Post-Medieval. Among the sites are the Devil's Highway, the Roman Road from Silchester to London and Caesar's Camp.

Two of the entries are located near the site of the proposed development. These sites are undated and consist of two earthworks enclosures. Modern drainage ditches have damaged both sites and the building of the test track to the south and a road to the north has partially destroyed entry number 16.

4.8.2. Potential Impact

During the construction phase the two earthworks to the South of the development may be damaged.

Although there are no direct indications for the presence of any archaeological deposits on the development site, there is a potential for the presence of such deposits of local importance. The development could destroy these potential deposits. The need for a further archaeological evaluation is determined by the extent to which possible archaeological deposits are expected to be preserved and the likelihood of the presence of any sites.

4.8.3. Assessment

The two identified earthworks south of the development area are of unknown date and it is therefore not confirmed that these earthworks are indeed archaeological or, if they are, what their importance is, on the scale national, regional and local. If the development affects these earthworks, a further assessment to determine their importance is necessary.

The development itself has no impact on the earthworks. During the construction phase there is a potential that the earthworks will be damaged. The main potential risk lies in the possible use of the area around the earthworks for manoeuvring with lorries, temporary materials storage etc.

Further archaeological evaluation

There is no direct evidence for the presence for archaeological deposits on the site. To minimise the chance of destroying yet undiscovered deposits, an archaeological evaluation will be carried out prior to the start of the development.

4.8.4. Mitigation

During the construction phase the developer will ensure that the area where the earthworks are located are not used for any purpose by people involved in the construction. Fencing will be erected to protect the site. This measure will avoid the risk of damage to the earthworks as a result of the development.

The potential destruction of yet unknown deposits on the development site will be prevented by carrying out an archaeological evaluation prior to the start of the construction. The research aims of this evaluation are:

1. Determine whether archaeological relevant levels have survived on the site
2. Determine if archaeological deposits of any period are present on the site
3. Determine the date and nature of the earthwork enclosure
4. Determine whether further remains are present in adjacent areas.

The developer will compose a proposal for fieldwork on the site and seek agreement from the planning authority before carrying out the archaeological evaluation. The work will be carried out by a professionally qualified archaeologist. In the event any archaeological deposits are found appropriate action will be undertaken to preserve the deposits. In selecting the appropriate method for the preservation of potential deposits, agreement with the planning authority will be sought.

4.8.5. Residual effect

After the implementation of the mitigating measures it is considered that the impacts of the development on archaeological resources and cultural heritage are negligible and therefore there are no residual effects of the development.

4.9. *Landscape and Visual Impacts*

4.9.1. Baseline

The impact assessment of the development on the landscape and visual aspects is assessed by Whitelaw Turkington. The full assessment can be found in the technical appendices. The full assessment comprised 13 landscape areas and view points.

There are five areas of interest in relation to the proposed development:

- The Northern Boundary on the Site
- Nine Mile Ride Corridor
- The site associated with the development
- Pine structure
- Site associated with the roundabout.

The Northern Boundary.

The northern boundary zone of the TRL site is characterised by a more open, fragmented landscape and creates a wide boundary between Nine Mile Ride and the existing test track which runs parallel with it. It features a large grassed sports field in the central area of the character zone. A mature Leylandii hedge runs along the southern boundary of the sports field. There is a steep wooded bank of some 3m along the northern edge of the sports field down to Nine Mile Ride. The Leylandii hedge and wooded bank currently assist in creating an effective screen to views from Nine Mile Ride towards the development site. An access track leads from Gate 4a on Nine Mile Ride to the test track along the western boundary of the sports field. This falls within the corridor of the proposed access road for the new development.

The western area is predominantly conifer plantation. Centrally located within this plantation and fronting Nine Mile Ride is a two-storey residential cottage. The surrounding vegetation will protect potential views from the cottage to the proposed development On the south east corner of this plantation is a small group of buildings used by TRL for staff amenity together with two tennis courts. Views may be available of the new access road from these buildings. East of the sports field there is a tarmac utility area set within a large open grassland and water cooling tanks. Beyond the grassland the character area is dominated by pine plantation. Within this wooded setting and fronting onto Nine Mile Ride are two brick cottages. One is used as the headquarters for Chartwell Security Services Ltd. and the other for residential use. These lie west of the sports field at a considerable distance apart. Dense evergreen boundary planting protects these from potential views of the nearby development site.

Nine Mile Ride Corridor

The Nine Mile Ride road corridor runs along the northern boundary of the TRL site. The two lane road forms a section of the historic hunting ride which runs in a straight line linking Wokingham with Bracknell. The road is characterised by no kerbs, soft verges and containment from mature broad leaf

and coniferous trees, which give an attractive rural appearance. The pleasant character of the road landscape is to some extent compromised by the presence of significant high-speed traffic.

The vertical alignment of Nine Mile Ride gently undulates with a steady climb from 74m AOD at the Old Wokingham Road junction in the west and 92m AOD at the A3095 junction in the east. Long distance views are possible in both directions along the road corridor.

The wooded road margins comprise mature coniferous and broadleaf species. Scots pine is dominant with grey-sallow, goat willow, birch and western hemlock spruce also occurring. A line of birch extends along the boundary of the adjacent sports field within the TRL site. This vegetation is of high landscape and visual amenity value as it creates a distinctive and attractive character to the road corridor.

There are glimpsed views at intervals along the length of Nine Mile Ride of the test track and other facilities within the TRL site. This, in combination with views of a cyclone mesh boundary fence, lessens the natural character of the southern side of the road corridor. On the northern side views are of predominantly uninterrupted woodland.

The ground rises steeply from the road to the sports field. This bank, which is between 2-3m height, in combination with the coniferous planting, provides effective screening of views towards the proposed development site. In summer, the additional leaf cover of the broadleaf species is likely to provide a denser screen.

There are a number of minor entrances to the TRL site leading from Nine Mile Ride. This includes Gate 4a, which will be replaced by the new main entrance to the TRL headquarter facilities. Gate 4a currently comprises an asphalt crossover, cyclone mesh fence and mown grass verges, which are of low landscape and visual amenity value.

Site associated with the development
This character area forms the central core of the proposed development site. It contains the Pavement Testing Facility Building in the south, a large sheet metal clad shed structure, large areas of concrete hard standing in the north including aggregate storage bays, a crashed car compound, road surfaces and other outbuildings. These facilities have an industrial appearance with little landscape or visual amenity value.

Around these facilities are small areas of Scots Pine plantation with more open areas which support an emerging understorey and edge vegetation of gorse, birch and heather.

Pine Structure
This area covers the periphery of the main development site and is dominated by pine plantation woodland. It also includes site access roads, parking and a small building.

The woodland comprises mature Scot's Pine in the southwest and southeastern areas and a mature mixed plantation of Scots and Corsican Pine in the north. The tree canopy is an apparent skyline feature for long distance views from the valley landscape north of the TRL site.

In the southwest and southeastern areas the woodland is tall with an average spacing of 4-6m which results in a dense canopy. The ground layer is heavily shaded and is characterised by bracken, bramble and a thick bed of pine needles. The woodland opens up along the margins, supporting a wider variety of ground flora including heather, purple moor grass, willow and broom. This woodland margin zone is at its widest and therefore most significant along the western boundary with the test track. These woodland areas are visually important to views from within the TRL site to the development, and to a lesser extent to long distance views of the site from Bracknell Road.

In the southwestern area the ground has been modelled with a ridge and furrow system, possibly to facilitate surface drainage. Drainage ditches run diagonally from the central hard standing areas to the southwest corner and along the southern margin. There is also a narrow line of broad-leaved trees including English Oak and Sweet Chestnut and birch along the southern boundary.

In the northern area the woodland is also tall but is more open with an average spacing of 7-14m. This supports a ground flora including bracken and bramble with a mulch of pine needles. Woodland margin vegetation described above is also present along the edges. This is at its most extensive along the western boundary and bordering the road and parking area. The trees have a clear stem of about 10m before the canopy starts, which is characteristic of all the pine trees on site, and reduces the screening ability of the pines at the lower level.

Landscape associated with access proposals
This area occupies a swathe of the TRL site from the existing Gate 4a on Nine Mile Ride to the principle area of the proposed buildings and car park which is occupied by the crashed car compound and materials bunkers.

Flanking the entrance gates are narrow belts of woodland vegetation on the road verge and the inside the TRL boundary fence. These include Scots Pine and a variety of broadleaved species including birch and willow. To the east of the entrance within the TRL site a steep bank rises some 2-3 metres up to the sports field. There is a belt of mixed conifer and broadleaf woodland along the northern road verge of Nine Mile Ride.

The existing access road rises steeply up from Nine Mile Ride into the proposed site area. Along the flatter ground within the site the road corridor has an open aspect to the east and southeast, with views across the sports field to the trees within and beyond the high ground of the development site. A Leylandii hedge along the southern edge of the sports fields is a prominent feature of the middle distance. It serves to screen the test track cutting and lower levels of the trees on the edge of the development site. There is also a

large rectangular shaped earth mound south west of the sports field that is a feature of views from the road corridor.

To the west the landscape is enclosed with woodland and earth mounding creating a strong boundary for most of the length of the road.

The test track itself lies in a cutting and with grassed embankments and margins. North of the test track the character area comprises existing road surfaces, hard standing compound areas

Visual characteristics
An assessment of the site visibility from the surrounding landscape of the development was carried out. A total of ten key viewpoints had been identified. These key viewpoints were divided into neighbouring/close-up views and long-distance views. These viewpoints are listed in table 4.9.1.

Table 4.9.1 Overview of key viewpoints that have been assessed

Close-up	***Long-distant***
Existing offices	Bracknell Road
Main TRL Test Track	Easthampstead Park College
Small Road System	Great Hollands Housing Estate
Sports Field	Old Wokingham Road
Nine Mile Ride I	Nine Mile Ride II

With regard to the neighbouring/close-up viewpoints the viewpoint from the existing offices and the viewpoint from Nine Mile Ride have a medium sensitivity to change.

The view from the existing offices overlooks the existing test track from the eastern part of Crowthorne Business Estate towards the site. The view on the proposed development site is screened during the summer months by a stand around the test track containing a mixture of pine, birch, hawthorne and gorse. The main visual receptors are employees and visitors to the business estate.

The Nine Mile Ride is a tree-lined road that, despite the fact that the road is straight, has rarely views exceeding 200-300 metres. The vegetation lining the road mainly comprises Scot's pine, birch and rhododendron species with scrub vegetation on the verges. The close-up viewpoint on Nine Mile Ride comprises the views on the proposed roundabout and entrance road and into the site up to a distance of 500 metres.

As the roundabout is offset southwards from the centre line of Nine Mile Ride, the impact on views along this road are minimised. However, due to the necessary visibility splays, the roundabout will be visible up to an estimated distance of about 300m along Nine Mile Ride.

Views of the new entrance road will be available from the roundabout. The lower level of the proposed road relative to natural grades will reduce its visibility from the approaches to the roundabout.

The proposed development site itself is not expected to be visible from the road in summer as it is obscured by roadside vegetation, a bank of 2-3m on the north side of the sports field, and a row of Cupressocyparis leylandii on the south side. However, glimpsed views may be available in the winter months.

The main visual receptors are motorists travelling along the road.

The key long-distance viewpoints are all considered to have a low sensitivity to change. Due to vegetation and topography, perpendicular views from Nine Mile Ride, further than 500 metres away from the proposed new roundabout, towards the development site rarely exceed 20 metres.

4.9.2. The assessment

There is an effect of the proposals on the character of the landscape associated with the development. After mitigation the impact of the development on the various character areas will be mainly neutral. The impact on the site associated with the development itself will be beneficial. The visual impact of the development is mainly limited to close-up/neighbouring views, due to the relatively isolated position of the development and the predominant presence of woodland area, which effectively shield the proposed development for long-distant views. The general concept of the landscape design will strengthen this protection already present.

The proposed access road, including the roundabout, will change the character of part of the northern boundary. The change is mainly limited to the on-site sports field. The new entrance roundabout is at the existing gate 4A. There will be loss of vegetation due to the larger size of the roundabout. The impact of the access road and the roundabout is considered to be of minor significance and the proposed new planting of woodland in association with the access road will mitigate for this impact. The impact on the landscape character and views of other parts of the northern boundary is considered to be insignificant, due to the distance and shielding effect of existing woodland. The overall long-term impact of the development on the northern boundary area will be neutral.

The impact of the development on the Nine Mile Ride corridor is limited to the proposed roundabout. The roundabout will be larger than the existing entrance to the site provided by Gate 4a and will have a more engineered appearance including signage and lighting. There is also the need to remove some of the existing vegetation along the road to create visibility splays.

The adverse impact of the development on Nine Mile Ride corridor will be mitigated for by planting new woodland within the TRL site flanking the entrance. This will have a positive long-term effect by:

1. mitigating the loss of existing woodland planting from the road corridor
2. restoring a sense of woodland enclosure to the rural road corridor
3. limiting views into the open landscape of the TRL site

The long-distant view along Nine Mile Ride is largely protected by the fact that the proposed roundabout will be located on the TRL site i.e. slightly offset

to the south from Nine Mile Ride. An impact on this view is further mitigated for by the proposed planting of woodland.

There will inevitably be a residual impact from the roundabout on the close up view from Nine Mile Ride. This impact is considered to be of moderate significance after mitigation.

The proposed new buildings and car park area have a beneficial impact on the local landscape. At presence the area comprises structures associated with industrial activities, such as waste storage, concrete batching and various small buildings, giving the area a shabby appearance. The development will impose major physical change to this area. This change comprises:

1. replacement of existing low quality hard standing areas and industrial sheds with new quality buildings and hard landscape finishes
2. intensification of the development
3. a more brightly lit night time environment

These changes will have a moderate beneficiary impact on the landscape character.

The adjacent pine tree structure will also undergo change, which mainly consists of the loss of existing trees. This area will be integrated with the above mentioned industrial area. The landscape design comprises a formal design near the buildings and the entrance areas of the access road and a more natural design for the area further away from the buildings.

The re-creation of woodland edges and heathland-style habitats, which are landscape styles that originally appeared in abundance in the area, will mitigate for the loss of pine tree plantation. The long-term impact will therefore be moderate and neutral.

4.9.3. Mitigation

The landscape design aims to mitigate for the impact on the landscape, visual aspects and ecology caused by the development. In addition it will take into account the works needed for the implementation of elements of a sustainable drainage system (e.g. balancing pond).

The development is seen conceptually as a building within a forest clearing. Visually, this creates an open centre, within a protective envelope of vegetation, effectively expanding the pattern of open space and closed canopy, which currently exists on the site.

This strategy helps to create an appropriate setting for the building and also gives the opportunity to develop the more valuable qualities of the species rich woodland edges, which exists only in small part now, into a more significant landscape resource.

In adopting this philosophy, the potential for adverse visual impacts is significantly reduced and there are opportunities for significant environmental benefits in creating a new woodland character.

The landscape design around the building, on the service area and the parking area, aims to strengthen the above-mentioned concept. Away from the building a natural planting scheme and the introduction of 6-7 metre wide strips in the parking area will create the sense of a natural environment and the opportunity for the provision of filtration trenches. Closer to the buildings a more formal landscape design will be implemented. The whole development area is surrounded by a wooded envelope. In this area selective tree felling creates more opportunities for heathland/acid grassland to develop. This will have a beneficiary impact on the ecological and landscape value of that area.

The construction of the roundabout will result in a loss of roadside vegetation. This loss will be compensated by the planting of indigenous broadleaf woodland at the new entrance. This new woodland will, in time, assist the screening of views of the proposed development from the proposed roundabout. The potential adverse impact of the construction of the roundabout on the views from Nine Mile Ride are reduced by the slightly southward location of the roundabout with regard to Nine Mile Ride and the lower level (approximately 2.6 metres below the existing TRL land) of the roundabout.

The planting strategy emerges from the landscape concept of retaining existing vegetation at the perimeter of the built area to create an appropriate, high quality setting for the new buildings and in maximising the opportunities for ecological benefits.

There are, in addition, elements of the development where a more formalarchitectural character is considered appropriate.

The planting strategy has the following components:

- Where possible, retain and conserve significant areas of existing heathland and acid grassland. These areas are detailed in the ecological assessment.

- Undertake selective felling of existing pine trees within the areas of pine plantation at the edges of the proposed car parking and if appropriate, remove leaf litter and nutrient rich topsoil. This would be allowed to recolonise naturally, and maintained as heathland and acid grassland. In addition, indigenous tree planting is proposed to assist in reducing the potential visual impact of proposed parking.

Within the larger area of parking to the north of the proposed office building, substantial open swathes have been incorporated as median strips, up to 7 metres wide. Within these, a planting regime, historically characteristic of the area, is proposed. This is intended to assist in creating viable new habitat and significantly reduce the potential visual impact of the car parking.

Within the car park to the south of the office building, tree planting and understorey is accommodated within narrower median strips. Though more formally arranged, species would be selected to reflect the historic characteristics of the area.

The removal of existing Pine trees to accommodate the balancing facility will create opportunities to allow natural recolonisation of heathland and acid grassland species.

In the immediate area of the pond, planting is proposed which is characteristic of damp or marshy areas.

The impact of the development on landscape character and visual aspects after the implementation of the above-mentioned mitigation measures are summarised in tables 4.9.1 and 4.9.2.

Table 4.9.2 Summary of impacts on the landscape characteristics *(0=neutral impact; -=adverse impact; +=beneficial impact)*

	Landscape Value	Impact	Magnitude
Landscape on the site itself			
Crowthorne Business Park	Low	0	Low
Test Track and Conifer Plantation	Moderate	0	Low
The Northern Boundary	Moderate	0	Moderate
Surrounding Area			
Nine Mile Ride Corridor	High	0	Moderate
Old Wokingham Road and Bracknell Road/A3095	High	0	Low
Woodland and Open Space	Moderate	0	Low
Crowthorne Wood	High	0	Low
Bracknell Residential Area	Moderate	0	Low
Crowthorne Rsidential Area	High	0	Low
Site Landscape Character Area			
Site associated with the proposed development	Low	+	Moderate
Pine structure	High	0	Moderate
Site associated with the proposed entrance	Moderate	0	Moderate

Table 4.9.3. Summary of visual impacts of the proposed development *(0=neutral impact; -=adverse impact; +=beneficial impact)*

Viewpoint	Prior Mitigation		Post Mitigation	
	Magnitude	Nature	Magnitude	Nature
Existing offices	Moderate	-	Low	0
Main TRL Test Track	Low	0	Low	0
Small Road System	Low	0	Low	0
Sports Field	Low	0	Low	0
Nine Mile Ride I	High	-	Moderate	-
Bracknell Road	Low	0	Low	0
East Hampstead Park College	Low	0	Low	0
Great Hollands Housing Estate	Low	0	Low	0
Old Wokingham Road	Low	0	Low	0
Nine Mile Ride II	Moderate	-	Low	0

4.9.4. Residual effect

After the implementation of the mitigation measures, the development will have the following impact:

	Object	Relevance	Nature	Magnitude	Time scale
Landscape	site associated with the main development	local	beneficial	moderate	long-term
Visual	view on access roundabout and road	local	adverse	moderate	long-term

4.10. *Use of Energy and Natural Resources*

4.10.1. Potential Impacts

The impact of the use of energy and natural resources on the environment in general is threefold:

1. The use may lead to a decrease in the future availability of these resources
2. The mining activities to obtain energy and natural resources have environmental impacts themselves
3. The disposal of waste as a product of the use of the resources has an impact on the environment

Energy

The main source of energy is the combustion of fossil fuels. One of the key issues related to this process is the emission of CO_2 and its effect on the global climate. Two sources of CO_2 emissions are identified to be associated with the proposed development: transportation and interior climate control of the building (heating and air conditioning). Approximately 40-50% of Britain's energy use is related to buildings.

Natural Resources

The main issue related to the impact of the development on the use of natural resources is the amount of materials that are used. In addition to the impact as described above the amount used also has an impact on the number of vehicle movements for delivering the materials or removing waste.

4.10.2. The assessment

Energy

The main energy use will be related to the climate control of the buildings.

Natural resources

The following materials will be recovered:

Topsoil strip:	4800m^3
Made Ground	4300m^3
Concrete breakout	2800m^3
Subbase removal	2800m^3
Clay from earthworks	27200m^3

The following is needed on the site:

Topsoil:	3100m^3
Clay for earthworks	7600m^3

4.10.3. Mitigation measures

Energy:

The modern building standards incorporate a range of provisions to reduce the energy-use. These include insulation values of walls and windows, guidance to

avoid overheating, performance standards for boilers efficiency and heating and hotwatersystems and performance standards for light fittings.

Natural Resources:
The following measures will be taken to reduce the need for import and export of materials:

- The necessary fill material will be taken from the clay that is excavated, treated as necessary.
- The subbase material recovered from below hardstandings will be re-used in the construction of new paved areas including roads
- If the quality of the stripped topsoil permits, this will be re-used
- If possible the remainder of the topsoil will be used for planting outside the development boundary
- Where possible crushed concrete from the site will be used as subbase

These measures may lead to a decrease in export of materials of 10,000-16,000m^3 and a similar decrease in the import of materials. This has effect in both primary source and transport implications.

4.10.4. Residual impact

After implementing the mitigation measures it is predicted that the development will have the following impact:
CO_2 emission: 80-89 kg/m^3.yr
Depending on the possibilities to recycle part of the materials: 24,000m^3 - 31,500m^3 waste is taken off the development during preparation.

5. Summary and Conclusions

The Environmental Impact Assessment revealed a number of impacts related to the proposed development. A series of mitigating measures was identified and implemented. An overview of the key impacts, the measures taken for their mitigation and the residual effect is given in table 5.1.

Table 5.1 Overview of key impacts related to the proposed development
(+ beneficial impact, - adverse impact, LT long-term, NMR Nine Mile Ride)

Area	Impact	Impor-tance	Nature (prior mitigation)	Time	Mitigation	Magnitude of residual effect
Socio-economic	Retaining world renowned institution	District	+	LT		High
Traffic	Delays at existing roundabouts. Increased demand for non car travel.	Local	-	LT	Green Travel Plan, R'bt kerb line alterations. Contribution to off site transport measures.	No residual effect
Ecology	Loss of heathland/ acid grassland	Local	-	LT	Re-creation of habitats	No residual effect
Landscape	Site associated with the proposed development	Local	+	LT		Moderate
Visual	Existing offices	Local	-	LT	Landscape design	No residual effect
Visual	NMR close up	Local	-	LT	Landscape design	Moderate
Visual	NMR long distant	Local	-	LT	Landscape design	No residual effect

From the assessment it can be concluded that the proposed development has a number of impacts mainly on the local environment. These impacts are minor to moderate and both beneficial and adverse impacts exist. Mitigation measures were identified for the adverse impacts.

After implementation of the mitigation measures only one significant, adverse impact remains. This impact is the close-up view on the proposed roundabout and access road. This impact is of local importance and moderate in magnitude.

Against this adverse impact two beneficiary impacts were identified:

- A high benefit of district importance as a result of the retaining a nationally important institution within the Borough.
- A moderate benefit of local importance on the value of the landscape character on the proposed development site

Other adverse impacts were mitigated for.

Appendix 1. Scoping Report

PROPOSED DEVELOPMENT FOR TRL

AT

CROWTHORNE BUSINESS PARK, CROWTHORNE

SCOPING REPORT FOR THE ENVIRONMENTAL ASSESSMENT

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1.0 Background

1.1 Introduction

This report is an initial study to identify the scope of the key environmental issues involved in the re-development of the TRL site.

Environmental Impact Assessment is defined in the DETR Circular 02/99 as:

"A means of drawing together in a systematic way, an assessment of a project's likely significant environmental effects. This helps to ensure that the importance of predicted effects, and the scope or reducing them, are properly understood by the public and the relevant competent authority before it makes a decision."

The main functions of scoping are to determine the following in consultation with the statutory consultees;

- The nature/characteristics of the development
- The alternatives under consideration
- The breadth of the EIA
- The range and complexity of key issues
- The extent to which each environmental topic area needs to be investigated.

The scope of the Environmental Impact Assessment undertaken in support of a proposed development at TRL site should be determined through consultation with the Environment Agency, English Nature, the Planning Authority and the local community.

Predicted Impacts
In the final Environmental Statement (ES) where possible, impacts will be identified as unavoidable, uncertain or unlikely. Predicted impacts will be discussed and presented in a summary table ranking them in terms of their importance (e.g. International, National, Regional, District or Local) their effect (e.g. Adverse or Beneficial) their nature (e.g. Long-term, Short-term) and their significance (e.g. Major or Minor).

Mitigation Measures
An assessment of measures to ensure that any adverse impacts of the proposed development are avoided, reduced or compensated and any positive effects are enhanced will be included in the ES. The residual effects of the proposed development after the mitigation measures have been implemented will also discussed and presented in a summary table.

1.2 Site Location and Description

The proposed new development is situated on the site already in use by TRL. Part of the existing office buildings is let to other parties. The site is located between the towns of Crowthorne and Bracknell in Berkshire and is centred on National grid Co-ordinates SU 846 654. The location of the site is given in Figure 1. The entire site is triangular shaped enclosed by Nine Mile Ride in the North, Old Wokingham Road in the West and the Sandhurst-Crowthorne by-pass and Bracknell Road in the Southeast.

A residential area is situated west from Old Wokingham Road. The area north of Nine Mile Ride consists mainly of undeveloped woodland. Opposite of the north-eastern corner of the TRL site, to the North lies a residential area of Bracknell. The woodlands to the East and Southeast

(directly at the other site of Bracknell Road) are proposed to be designated "Special Protected Area" (SPA) under the European Directive for the Protection of Birds. The distance from the proposed area of development to the SPA is less then 500 meters. Approximately 1 mile south of the TRL site lies an area designated a Site of Special Scientific Interest (SSSI).

The site is divided into two parts:

- an office building development in the north-western corner of the site
- a test-track consisting of a central part from which two loops run to the south-west and the north-east respectively, passing through woodland. Various activities of the TRL take place at the location within the wooded area/

A partially culverted stream crosses the site. This stream feeds the Emm Brook, which streams north from the site. The area within and around the test-track is predominantly planted with Scottish Pines (Pinus sylvestris).

The proposed new development is situated within the north-eastern loop of the test-track. The location of the new development is given in Figure 2.

The proposed new buildings occupy an area of approximately 3.6 hectares. The area of the proposed new buildings currently contains test roads, storage space for used test cars, a pavement test laboratory and several other small buildings, all in use by the TRL.

1.3 Description of the Proposed Development

The proposed development comprises new, purpose built facilities for the Transport Research Laboratory. It consists of an office building, a building containing workshops/test laboratory and a warehouse.

The total area of the development is 3.6 ha. Part of the existing development will be demolished. This includes part of the small roads system, the waste storage areas and may include some of the small buildings. The pavement test laboratory will be maintained. The floor space created by the proposed development will be confirmed in the application and will be of the order of the areas summarised in table 1.

Table 1 overview of created floor space

Type	Floor space	storeys
Office	9,200 m^2	3
Workshop/test lab	4,500 m^2	1.5 - 2
Warehouse	1,200 m^2	1

A car park for visitors and employees is proposed near the buildings. The number of spaces is proposed to be 400-450.

Currently, the site can only be reached via the main access on the Old Wokingham Road. An old Bailey bridge crossing the test track gives access to the area of the proposed development. To give sole access to the new development, a new roundabout on Nine Mile Ride is proposed. The proposed access road comprises bridges crossing the test track at two points.

Once the construction of the proposed development is finished, TRL will relocate to the new site. This will free up commercial space at the site currently occupied by TRL. It is likely that this space will be let out to new tenants.

1.4 Overview of Relevant National, Regional and Local Planning Legislation and Guidance

National and Regional Planning

- Revised PPG1: General Policy and Principles (Feb. 1997)
- PPG13: Transport (March 1994)
- PPG4: Industrial and Commercial Development and Small Firms (Nov.1992)
- PPG24: Planning and Noise
- PPG25 (draft): Development and Flood Risk
- Regional Planning Guidance for the South East (2001)

Local and Strategic Policies

- Sandhurst and Crowthorne Local Plan April 1991
- Berkshire Structure Plan November 1995
- Bracknell Forest Borough Local Plan (1996 Draft)

Bracknell Forest Borough Local Plan

The Bracknell Forest Borough Local Plan seeks to provide guidance for the balancing of the need for economic development with the need to minimise adverse impacts on the environment. To meet this goal it formulated a strategy comprising of two parts:

> *"The Borough Local Plan seeks to control future development in the Borough, in accordance with strategic guidelines, in order to protect and enhance the environment, such that the needs of the Borough's residents are met without jeopardising the ability of future residents to meet their own needs."*

> *"The Bracknell Forest Borough Local Plan seeks to concentrate development in existing settlements and neighbourhoods. Otherwise, the Local Plan identifies land for development which is well related to public transport and will have least damaging effect on the environment."*

Natural Environment

Policies EN10 and EN8 emphasise the value expressed in the Local Plan to maintain the distinction between rural and urban areas. Potential development outside settlements or identified major employment sites (policy E13) should not have an impact on the open and rural character of the land.

The Bracknell Forest Borough Local Plan proposes a considerable area in the south of the Borough to be designated a "Special Protection Area" under the European Habitats and Birds directives. These areas are safeguarded from development that negatively affects their special value (policy EN3).

Transport

The Bracknell Forest Borough Council seeks to reduce the reliance on travelling by private car and encourages greater use of public transport. It is expected that measures to promote the use of alternative means of travel be considered in new development proposals (policies M5, M9).

Sustainable Development

The aim to stimulate sustainable development is not restricted to policies on transportation and the character of the natural environment. Policy EN21 states that *"...sustainable development should be achieved through energy design and layout and the reuse of building material*

wherever possible. Where new materials are used, the Borough will particularly encourage those with minimum impact on natural resources in terms of production, energy efficiency during use, and future disposal or reuse."

1.5 Summary of existing reports and papers

Land Quality Assessment, TRL Site at Crowthorne (1996) Aspinwall & Company TRLLQAB2.doc

After the privatisation of TRL the Department of Transport decided to sell the land, which it managed on behalf of the Crown. The aim of the work covered by the report was to establish the existence of any liabilities associated with the current and past activities on the site.

- The site is in an area of medium to low sensitivity with regard to groundwater pollution
- The site is in an area of medium sensitivity with regard to surface water pollution
- No evidence for contaminated land
- The site is well managed on environmental matters
- Evidence for compliance with all relevant environmental legislation
- TRL was awaiting the application for a consent for discharge to surface water to be granted

2.0 Scope of Assessment

2.1 Utilities

2.1.1 Key Issues

Need for utility services
The demand for each utility service will need to be considered in relation to known and potential users of the site. If there is a need for substantial changes in relation with the existing utilities services, the works necessary to accomplish the increased capacity have a potential environmental impact and will need to be assessed.

Capacity of utility services
The capacities within the existing networks for each utility service will need to be assessed in conjunction with demands from known and potential users of the site. This will be undertaken in consultation with the relevant Utility Companies. The following utility services will need to be assessed:

- Water supply;
- Foul water;
- Surface Water;
- Electricity;
- Gas;
- Telecommunications.

2.1.2 Assessment Methodology

Improvement and reinforcement works will need to be considered. A specific assessment section in relation to the utility services will not be included in the ES. Predicted impacts of the utilities improvement and reinforcement works for the proposed development will instead be dealt with under the relevant environmental aspect, for example, effects to surface water, will be dealt with under the Water section, or visual impact under the Landscape and Visual impact session.

2.2 Socio-economic Impacts

2.2.1 Key Issues

The new development has no direct impact on socio-economic issues as housing demand and employment. When the construction of the new development is finished, TRL will relocate from its present to the new facilities. This will free up commercial space in a mixture of Class B1, B2 and B8. There may be an impact on socio-economic issues associated with the new use of this space.

The kind of key issues associated with the proposed development much depends on the new use of the freed up space and may include impacts on local housing demand and employment.

2.2.2 Assessment Methodology

An assessment of the amount of the different classes of freed up space will be made. Together with an assessment of the local demand for these types of commercial space a prediction of the

kind of future tenants can be made. Based on this information the appropriate other key issues will be identified.

2.3 *Traffic and Transportation*

2.3.1 Key Issues

The aim of the Transport Assessment will be to identify the constraints and opportunities to movement to and from the new development.

In this section impacts related to the spatial aspects and the means of transport and transportation will be dealt with. The impacts of traffic on other environmental issues (noise and vibration and air quality) are described in the respective sections.

Traffic Conditions

- Most Recent and Current Land Uses on Site
- Local Road Network
- Observed Traffic Levels and Characteristics
- Road Safety

Pedestrians and Cyclists

- Pedestrian Routes and Footpaths
- Cycle Routes and Facilities

Public Transport

- Public Transport Services (Bus)
- Public Transport Services (Train)

Access

- Existing access Arrangement
- Alternative Access Arrangement
- On Site Parking

2.3.2 Assessment Methodology

The impacts of the proposed development will be assessed against the current situation and against future changes that may occur due to the Peacock Farm Development at West Bracknell.

To assess the impacts on traffic and transport the following data will be analysed:

- Areas net/gross of current occupation by office/laboratory/warehouse.
- Total staff working in each of office/laboratory/warehouse
- Planned population of new buildings by office/laboratory/warehouse
- Staff travel statistics and general information on modes and times of commuting
- Increase of traffic on adjacent roads and junctions
- Accident record on adjacent roads and junctions
- Green travel plans already in existence and future mode shift targets

2.3.3 Significance Criteria

- Increase in traffic levels will be compared with the available capacity
- Potential for change in accident occurrence

2.4 *Geology and Contaminated Land.*

A review of readily available published geological maps, memoirs, hydrogeological and aquifer vulnerability maps for this region has been made.

The Geological Survey Map of this area show that the site is underlain by a sequence of, Plateau Gravels which generally comprise sands gravels and a little clay, overlying Bracklesham Beds which are typically interbedded clays and sands, overlying Bagshot Beds which comprise fine grained sands. These deposits then overlie The London Clay Formation, which is a series of silty clays.

The ground water vulnerability map (National Rivers Authority, 1994) shows the site to lie on a minor aquifer formed by the Plateau Gravels, Bracklesham Beds and nearby Barton Sands.

Historical borehole logs within the TRL site encountered made ground up to 3.7m thick.

2.4.1 Key Issues.

Geotechnical.
The sequence of soils described above is not thought to pose any significant geotechnical issues, traditional foundations are likely to be suitable to support lightly and medium class structures whilst heavy class structures are likely to require ground support such as piled or pad and beam solutions.

Groundwater may impact on the foundation design if control is required where deep excavations are envisaged.

Ground Contamination.
The soils below the site are likely to have a moderate ability to potentially transmit a wide range of pollutants into the groundwater, or to accumulate these potential pollutants within the soil mass and then transmit them to site users. The presence of any potential contaminants is likely to be as result of past site activities as there are few potentially polluting uses of land in the surrounding area.

2.4.2 Assessment Methodology.

Geotechnical.
Assessment of the geotechnical issues is essential prior to any preliminary design of foundations or structure. Due to the requirement for some fairly heavily loaded structures on this site an investigation of the founding soils to some considerable depth will be required.

This investigation will take the form of boreholes in areas were deep foundations are proposed, and machine dug trial pits were traditional footings are envisaged. In situ strength tests will be carried out in both trial pit and borehole, disturbed samples will be recovered for laboratory classification and where possible undisturbed samples will be taken for laboratory strength testing.

Ground Contamination.
Samples of soil and groundwater will be recovered for contamination testing. Samples of soil will be recovered from the vicinity of any likely sources of pollution, for instance fuel tanks and areas where scrapped cars are stored. Samples of the underlying groundwater if possible will also be recovered to check the integrity of the aquifer below.

2.4.3 Significance Criteria.

Geotechnical.
Investigations will be carried out in accordance with BS 5930 Code of Practice for Site Investigations. Geotechnical data (in situ tests and laboratory tests) will be obtained as specified in BS 1377 Soils for Engineering Purposes: 1990. The data will be used to confirm the suitability of the site for traditional foundations and ground bearing slabs.

Ground Contamination.
Contamination testing and assessment will be carried out in accordance with suitable assessment criteria to determine the level of contamination present. The following assessment criteria will be referred to:

1. DOE (1987), Interdepartmental Committee on the Re-development of Contaminated Land (ICRCL), Guidance Note 59/83, HMSO.
2. Water Supply (Water Quality) Regulations (DOE 1989)
3. Environment Agency (1997), Interim Guidance on the Disposal of Contaminated Soils, 2nd Edition.
4. Ministerie VROM Leidschedam (1994/95), Leidraad Bodembescherming (Aflevering) (Ministry of Housing, Land Use and the Environment, Soil Protection Act, Netherlands).

A risk assessment will be undertaken to determine the appropriate development methodology and remediation criteria if required.

2.5 Hydrology and Water Resources

2.5.1 Key Issues

As no formal records related to the design of the present surface water drainage system are available, the present situation of the drain system was established by a site visit and an interview with a member of the staff of TRL.

Currently, the drainage of water from the small roads system and part off the test track relies on soakage to the surrounding soils where exposed and some run-off towards the small open watercourse on the site. It approximately flows in a south-east to north-west direction on the site. From the central part of the test track onwards, the watercourse is culverted. In the north-western part of the TRL site a series of balancing ponds attenuates run-off from the main site to protect down-stream properties.

In recent times a series of floodings occurred on the site, following high levels of localised precipitation. These were probably due to the expansion of the test track, which results in an increase of unattenuated run-off. An orifice, designed to restrict water flow, is mounted on the upstream side of the culvert. This results in storage of water within the lower parts of the area during periods of high levels of precipitation.

Due to an increase in the area of hard surfacing a shift from soakage to run-off to the small watercourse will occur. The increased run-off may result in the regular occurrence of peak levels of discharged water that may contribute to downstream flooding.

Surface Water
The surface water is discharged to the small watercourse on the site. This watercourse feeds Emm brook, which is at a distance of 3 km from the site. Possible existing or new contamination may be washed with the surface water into the small watercourse.

There is a potential impact of the construction and demolition activities on the quality of the surface water. Contamination of the small watercourse may result in a decline in overall water quality.

2.5.2 Assessment Methodology
Runn-off from proposed buildings and hard surfacing will be assessed against the capacity of the existing drainage system. To attenuate water run-off adequately the possibility of implementing a Sustainable Drainage System (SUDS) will be assessed. The decision whether to implement SUDS very much depends on the impact the SUDS has on the quality of the surface water discharged to the main water system as well as on the amount of space that is available for the implementation. Other means of attenuating the run-off to complement or replace SUDS will also be assessed.

The quality of the water discharged to the small watercourse will be assessed. Part of the assessment will be an investigation towards contaminated land and groundwater (see the Geology and Contaminated Land section). Further assessments depend on the type of drainage that will be implemented.

Potential sources that contaminate the surface water during construction and demolition will be identified using a risk analysis.

2.5.3 Significance Criteria

The drainage system will be designed to meet the standards of the Environment Agency.

2.6 Air Quality

2.6.1 Key Issues
Detrimental effects on human health
There are a number of important air pollutants that can have a detrimental effect on human health; these include benzene, carbon monoxide (CO), particulates (PM_{10}), sulphur dioxide (SO_2), nitrogen oxides (NO_x), volatile organic compounds (VOC's) and Ozone (O_3). The primary anthropogenic sources of these pollutants are petrol and diesel fuelled vehicles and industrial processes, which burn fossil fuels.

Health effects of air pollution in the general population are associated with an increase in mortality and worsening of heart and lung conditions such as asthma and bronchitis.

Effects on sensitive ecosystems/species
Dust and other particulates arising from construction activities (e.g. silt) as well as operational activities (e.g. industrial emissions, vehicle emissions) of the proposed development have the potential to adversely effect both aquatic and terrestrial vegetation by physically restricting photosynthesis. This can potentially has a knock-on effect to the rest of the organisms within an

ecosystem (e.g. woodland) which rely on vegetation for food and shelter. Other pollutants such as ground level ozone can also have a detrimental effect on plants.

Gases that contribute to global climate change: greenhouse gases
There are several gases that contribute to climate change. Among the most important are $CO_2$and [H]CFC's, which is often used as a refrigerant. The major source of $CO_2$is the combustion of fossil fuels for transport, industrial processes, electricity and heating of buildings. The impact of the new development on the amount of greenhouse gases will be assessed. For CO_2 there is overlap with the issues discussed in section Use of Energy and Natural Resources. The CO_2 issues related to the energy use of the building will be dealt with in that section.

An impact on air quality is possible as a result from construction and demolition activities and traffic and transportation. It is very unlikely that any of the onsite industrial activities that will take place on the proposed development will directly emit any significant amounts of air pollutants. This aspect will therefore not be assessed in the EIA.

2.6.2 Assessment Methodology

The impact of traffic on air quality issues will be assessed using the method described in the Traffic and Transportation section.

For the assessment of the impact of emission of dust during the construction and demolition phase, sensitive receptors will be identified.

2.6.3 Significance Criteria

The impacts of the new development will be assessed in reference to the National Air Quality Standards (NAQS) and Local Air Quality Review and Assessment criteria.

2.7 Noise and Vibration

2.7.1 Key Issues

This section deals with the impact noise and vibration has on humans in the neighbouring area. To be able to assess this it is necessary to identify the presence of sensitive receptors. The following scale is used to identify sensitive receptors:

Very Sensitive Receptors	Residents and Public Recreation or Open Space, (potential) SPA's
↕	Recreational Pedestrians
	Schools
	Non-recreational Pedestrians
	Motorists
	Business Users
Least Sensitive Receptors	Industrial Users

Other factors that influence the possible impact are the distance between source and receptor and the presence of structures that alter the transmission of noise between source and receptor.

For the proposed development the key receptors are residents due to the sensitivity and business users due to their proximity.

The proposed development has a potential impact due to the following three activities:

Noise and vibration from construction and demolition activities
This activity it self has two major components. First, there is a potential noise and vibration impact of the transportation of building materials to and from the construction site, which will cause an increase in traffic of heavy duty vehicles and noise and vibration associated with the loading and unloading thereof.
Second, an increase in noise and vibration due to construction activities on site has a potential impact.

Noise and vibration from transport and traffic
On Nine Mile Ride a new roundabout is proposed to give access to the new development. There is a potential increase in traffic related ambient noise levels for housing estates near the access roads of the proposed development. Possible sensitive receptors are the south-western housing estate in Bracknell along Nine Mile Ride and the houses in Crowthorne bordering the Old Wokingham Road.

Traffic on the site itself will not cause a significant impact. The noise level of traffic will be moderate and the frequency low. The nearest receptors are the current existing office buildings on the TRL site. The nearest sensitive receptors are houses in Crowthorne along the Old Wokingham and houses in Bracknell. Regarding noise, these sensitive receptors are mainly effected by traffic on the adjacent roads and a potential contribution of traffic on the site of the proposed development will not be significant.

Noise and vibration from the activities in the test laboratory
One of the uses of the test laboratory is for collision experiments with cars. The collisions may lead to high levels of noise and vibration. While noise can have a direct effect on humans, vibration can lead to resonation of built structures, which may be accompanied with the production of noise. Possible receptors for the noise and vibration caused in the test laboratory are the proposed office building and the existing buildings across the test track.

The activities carried out in the offices, the workshops and the warehouse are not expected to have a significant impact.

2.7.2 Assessment Methodology

Baseline Noise Levels
Noise levels across the site and at nearby sensitive receptors will be determined. This will provide the ambient noise levels currently experienced on and around the site and will be used as a baseline for determining the significance of noise levels predicted for the proposed development.

The noise levels likely to be experienced at sensitive receptors, from increased road traffic associated with the proposed development, will be predicted using the Department of Transports' publications Calculation of Road Traffic Noise (CRTN) method for predicting noise levels. The significance of any predicted increases in noise levels will then be assessed.

The guidance given in BS 5228 will be used to predict the noise impact from the construction activities.

The need for detailed investigations towards the noise and vibration related impact caused by the activities in the test laboratory will be assessed.

2.7.3 Significance Criteria

Specific planning guidance is not given for noise exposure to new industrial/commercial development. However, British Standard (BS 4142) "The assessment of noise from industrial premises in residential areas" will be referenced.

Any policies relating to noise in the Local Plan will also be will be used to assess the significance of any predicted noise effects from the proposed development.

2.8 Ecological Resources

2.8.1 Key Issues

An ecological impact assessment of the proposed development will be carried out by Ecology Consultancy. The aim of the assessment is to determine the site's current ecological value and to assess whether the development will have a significant impact on the ecological value and adjacent areas. Based on the information from this study possible mitigation or compensatory measures will be identified.

Special attention will be given to the potential impact of the proposed development on the potential SPA near the proposed development. Noise and changes in hydrological characteristics are potential impacts on the potential SPA.

2.8.2 Assessment Methodology

A site visit comprising an extended Phase 1 type habitat survey, full listing of higher plants and bryophytes, and the incidental recording of bird, mammal, reptile and insect species will be held.

The assessment of the impact of noise on the potential SPA will be dealt with in the noise and vibration section. The potential for hydrological changes will be assessed.

2.8.3 Significance Criteria

The site survey report will include an indication of the importance of the site for nature conservation and some proposals for mitigation any adverse impacts.

The significance of the potential impact on the potential SPA will be expressed in terms of:

- Severe/Moderate/Low
- Short term/long term
- Negative/positive(beneficial)/no change(neutral)

2.9 Landscape and Visual Impacts

2.9.1 Key Issues

The Environmental Statement will consider two types of landscape impact:

- Direct effects on the landscape such as changes in the character and quality of the landscape
- Changes in the available views of the landscape and the perception of those changes by the public (receptors)

The two elements of the new development that have a potential impact on the landscape and visual aspects are the buildings and their surrounding space and the access from Nine Mile Ride and the access road.

2.9.2 Assessment Methodology

The landscape and visual impact will be assessed by analysing a range of relevant aspects.

Landscape Impacts

- Description and analysis of the existing landscape of the site and its surroundings
- Assessment of existing landscape character and quality
- Assessment of sensitivity to change
- Assessment of the physical impact of the development on the existing landscape, changes to its character and quality
- Value and sensitivity of the existing landscape
- Ability of the landscape to absorb development
- Physical impacts to the landscape and its severity
- Influence of the development upon the visual character and quality of the site and its appreciation
- Scale of the development in relation to the wider context

Visual Impacts

- Assessment of the visual envelope of the site
- Identification of viewpoints
- Visual relationship with adjacent viewpoints
- Scale of the development in relation to the overall context of the view
- Quality of the available views and the degree to which they will change
- The number of visual receptors likely to be affected
- Seasonal changes to the view
- The visual quality of the proposed development

2.9.3 Significance Criteria

Both landscape and visual impacts will be assessed against the following criteria:

- Severe/Moderate/Low
- Short term/long term/cumulative
- Negative/positive(beneficial)/no change(neutral)

2.10 Cultural Heritage and Archaeological Resources

2.10.1 Key Issues

An assessment of the impacts associated with the proposals in terms of culture and heritage will be carried out by Thames Valley Archaeological Services. The aim of the assessment will be to

establish the archaeological importance of the site and the potential impact on this resulting from the development.

2.10.2 Assessment Methodology

A desk-based assessment will be performed according to the guidelines of the Institute of Field Archaeologists. The following sources are to be consulted:

- The Bracknell Forest Sites and Monuments Records including the schedule of Ancient Monuments.
- Department of Environment list of buildings of special architectural or historic interest.
- Register of historic parks and gardens.
- Aerial photographic collections (RCHME photo unit).
- Ordnance Survey Maps (19th and 20th Century) at all available scales (source: County Record Office, Local Studies Library, British Library).
- Tithe Maps and apportionment and any other relevant historical maps available at the Record Office, Local Studies Library or elsewhere.
- Geological maps of the study area and geotechnical reports if available.
- Previous archaeological evaluation and excavation reports relating to sites in and adjacent to the study area.
- Any other relevant published works, theses or reports.

2.11 Use of energy and natural resources

2.11.1 Key Issues

The impact of the use of energy and natural resources on the environment in general is threefold:

1. The use may lead to a decrease in the future availability of these resources
2. The mining activities to obtain energy and natural resources have environmental impacts themselves
3. The disposal of waste as a product of the use of the resources has an impact on the environment

In relation to the proposed development key issues to be considered are energy use and waste minimisation.

Energy

The main source of energy is the combustion of fossil fuels. One of the key issues related to this process is the emission of CO_2 and its effect on the global climate. Two sources of CO_2 emissions are identified to be associated with the proposed development: transportation and interior climate control of the building (heating and air conditioning). Approximately 40-50% of Britain's energy use is related to buildings.

The Building Regulations 2000 (Part L in schedule 1) contains requirements for the energy use and the application of energy saving measurements in commercial buildings. Reasonable provision to conserve energy should be made by:

- limiting the heat loss through the fabric of the building
- controlling the operation of the space heating and hot water systems
- limiting the heat loss from hot water vessels and hot water service pipework
- limiting the heat loss from hot water pipes and hot air ducts used for space heating
- installing in buildings artificial lighting systems which are designed and constructed to use no more fuel and power than is reasonable in the circumstances and making

reasonable provision for controlling such systems

Waste minimisation
Minimisation of waste production often coincides with minimisation in the use of natural resources, due to a more efficient use of the available resources. Other ways for minimising the production of waste is the re-use or recycling of wastes. This may be done on the site itself or elsewhere.

2.11.2 Assessment Methodology

The following issues will be assessed:

- Need for energy in the building
- Waste minimisation during construction and demolition activities and during normal use of the facility
- Minimisation of resource use related to the future occupations of the development

3.0 Summary and Conclusions

3.1 Introduction

It is proposed to develop an office building and a test laboratory with adjacent workshops to be used by the Transport Research Laboratory (TRL). The proposed development is situated on the edge of the existing development and within the area currently used as a test track.

An Environmental Impact Assessment will be carried out to make sure that the development meets the targets for sustainable development of both local and national authorities. To establish the relevant issues to be addressed in the final Environmental Statement a scoping study was performed. The results of this study are reported in this document.

3.2 Sustainable development

In the document *A better quality of life: A strategy for sustainable development for the United Kingdom* the government has set out its strategy on sustainable development. The strategy has four aims:

- social progress which recognises the needs of everyone
- effective protection of the environment
- prudent use of natural resources
- maintenance of high and stable levels of economic growth and employment

To measure the progress made related to sustainable development a number of headline indicators was adopted. The following of these headline indicators apply significantly to the proposed development on the Crowthorne Business Park:

1. Investment in public, business and private assets
2. Emissions of greenhouse gases
3. Road traffic
4. Populations of wild birds
5. Waste arising and management

The themes underlying these headline indicators have been translated to a set of local planning policies as discussed in chapter 1. The Environmental Statement will address the relationship between a possible environmental impact of the proposed development and the aims towards sustainable development of the Bracknell Forest Borough Council.

3.3 Main Issues

The scoping study identified a number of main issues that will be assessed in the Environmental Impact Assessment process. For each potential impact a description of the assessment methods is given and where appropriate the relevant significance criteria. Table 2 gives an overview of the main issues, the potential impacts and the methodology used for the assessment

Table 2: Potential significant impacts and the significance criteria

Main Issue	*Potential Impact*	*Assessment methodology*
Social issues	Housing demand and employment Land use and function	
Traffic and Transportation	Increased level of traffic on local road system Increase of the occurrence of accidents on local road system	Analysis of current traffic situation and transportation need for new development Review of existing Green Travel Plan
Geology and Contaminated Land	The choice of foundation Potential for contaminated land	Strength test and soil classification Risk analysis for new contamination Investigations of land and groundwater contamination
Hydrology and Water resources	Surface water quality Surface water run off	Desk study towards water quality monitoring data Analysis of the risks on pollution of surface water Run-off calculations Design of drainage system
Air Quality	Air Quality access roads due to traffic Air Quality on site due to traffic Dust emission due to construction and demolition	Analysis of existing data on traffic related air pollution Identification of sensitive receptors
Noise and Vibration	Increase levels of ambient noise due to traffic to and from the site Increased levels due to construction activities and transport of building materials Increased levels due to activity in test laboratory	Desk study regarding traffic and construction related impacts Analysis of potential noise and vibration sources in the test laboratory Identification of sensitive receptors
Ecological Resources	Change of ecological value of the site Change of the ecological value of nearby areas Disturbance of protected birds in nearby SSSI/SPA	Phase 1 type habitat survey
Landscape and Visual Issues	Direct impact on the landscape Changes in perception of the public	General appraisal
Cultural Heritage and Archaeological resources	Changes in the archaeological importance of the site	Desk-based assessment
Use of Energy and Natural Resources	Climate change Waste production	Appraisal of energy use and energy saving measurements

3.4 Possible Mitigation Measures

The inventarisation of possible impacts on the environment caused by the proposed development set out in this document makes it possible to identify possible mitigation measures to some extent. Issues such as socio-economic impacts, ecological resources, cultural heritage and archaeological resources, landscaping and visual impacts have a broad scope at this stage. Identifying mitigation measures will be strongly an iterative process. Consultation with the appropriate authorities will be essential.

For the other issues it is possible to indicate the type of mitigation measures likely to be implemented if necessary. Table 3 gives an overview of these measures.

Table 3. Overview of possible mitigation measures

Traffic and transportation	• Stimulating modal shift away from private car (Green Travel Plan) • Off site highway work • *Encouragement of additional public transport or site based group transport*
Geology and Contaminated Land	• Remediation of contaminated land • Measurements to protect soil from contamination
Hydrology and Water Resources	• Attenuation of surface water run-off flows • Sustainable Drainage Systems • Remediation of contaminated land • Oil Interceptors
Air Quality	• See traffic and transportation section • During demolition all dismantling and removal works of the superstructure and substructure, as well as removal of asbestos, will be undertaken by an experienced, licensed contractor. • All activities will be carried out to meet statutory requirements and all necessary mitigation measures will be undertaken.
Noise and Vibration	• See traffic and transportation section • Isolation of the test laboratory
Use of Energy and Natural Resources	• Energy saving construction methods where possible • Recycling and re-use of building materials on- or offsite

Appendix 2. Scoping Opinion

Planning & Transportation

Director of Planning & Transportation : ~~George Kingston M.A. (Oxon) DipTP MRTPI~~
Borough Planning Officer : Mike Holmes BSc (Econ) DipTP MRTPI

This matter is being dealt with by: **Nick Griffin - Ext. 1133**

Our Ref: NG/DC/2/5

19 June 2001

Mr P Giesberg
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Dear Mr Giesberg

Environmental Impact Assessment – request for scoping opinion
Crowthorne Business Park (TRL), Old Wokingham Road, Crowthorne

I refer to your letter, dated and received 15 May, and accompanying EIA scoping report in relation to proposals for 14,000m^2 of office, workshop and warehouse floorspace at Crowthorne Business Park.

I have consulted on the content of the report and would offer the following comments from the responses that I have so far received:

- The scoping with regards the neighbouring SPA and annex 1, bird species, is adequate. In addition the environs of this development may provide scope for a suitable habitat for the species of birds identified in annex 1, in particular woodlark.
- Description and analysis of the existing landscape, within the area identified on page 21, needs to specify the requirement of a detailed land survey in accordance with British Standard 5837 recommendations (section 5). This will need to include, trunk locations and where possible crown spreads of all trees over 75mm diameter together with significant areas of shrubbery near any proposals, existing ground levels and proposed finished levels and any existing ditches watercourses.
- Effects on existing trees and shrubbery should be specifically referred to.
- With regard to maintenance of existing screening, clear information on all proposed tree/shrubbery loss and retention near the proposals will need to be provided.

I still await responses from both the Environment Agency and the Borough Council's archaeology consultant. I am aware of the requirement to respond to your scoping request within 5 weeks which I have calculated to be 22 June. May I therefore request that this threshold is extended for a further 2 weeks to ensure that all the appropriate consultation responses can be reported. Your agreement to this request would be gratefully appreciated.

If you require any further assistance please do not hesitate to contact my contact my colleague, Nick Griffin, on (01344) 351133 (direct line) or email at nick.griffin@bracknell-forest.gov.uk.

Yours sincerely

N.J. Griffin

for **Mike Holmes**
Borough Planning Officer

Planning & Transportation

Director of Planning & Transportation : ~~George Kingston MA (Oxon) DipTP MRTPI~~
Borough Planning Officer : Mike Holmes BSc (Econ) DipTP MRTPI

This matter is being dealt with by: **Nick Griffin - Ext. 1133**

Our Ref: NG/DC/2/5

27 June 2001

9585
FC
P. Giesberg

02 JUL

Mr P Giesberg
Peter Brett Associates
16 Westcote Road
Reading
Berkshire
RG30 2DE

Time Square
Market Street
Bracknell
Berkshire
RG12 1JD
☎ 01344 424642
Fax 01344 351104
DX 33611 Bracknell
Minicom 01344 352045
www.bracknell-forest.gov.uk

Dear Mr Giesberg

Environmental Impact Assessment – request for scoping opinion
Crowthorne Business Park (TRL), Old Wokingham Road, Crowthorne

I refer further to my letter, dated 19 June regarding your submitted EIA scoping report in relation to proposals for 14,000m^2 of office, workshop and warehouse floorspace at Crowthorne Business Park.

I have now received responses from the Environment Agency and the Borough Council's archaeological consultant. A summary of the these consultations are as follows:

- The scheme outlined in the report would be satisfactory as an initial stage in archaeological research.
- The Environment Agency is generally pleased that the report seems to indicate all the issues have been covered and will be addressed sufficiently in the EIA. However the Environment Agency wish to ensure that the ecological importance of any watercourses on site is assessed in the EIA, as well as their drainage functions. Included within the submission of further development proposals it is also advised that provision be made for the retention of appropriate buffer zones to the watercourses on site.

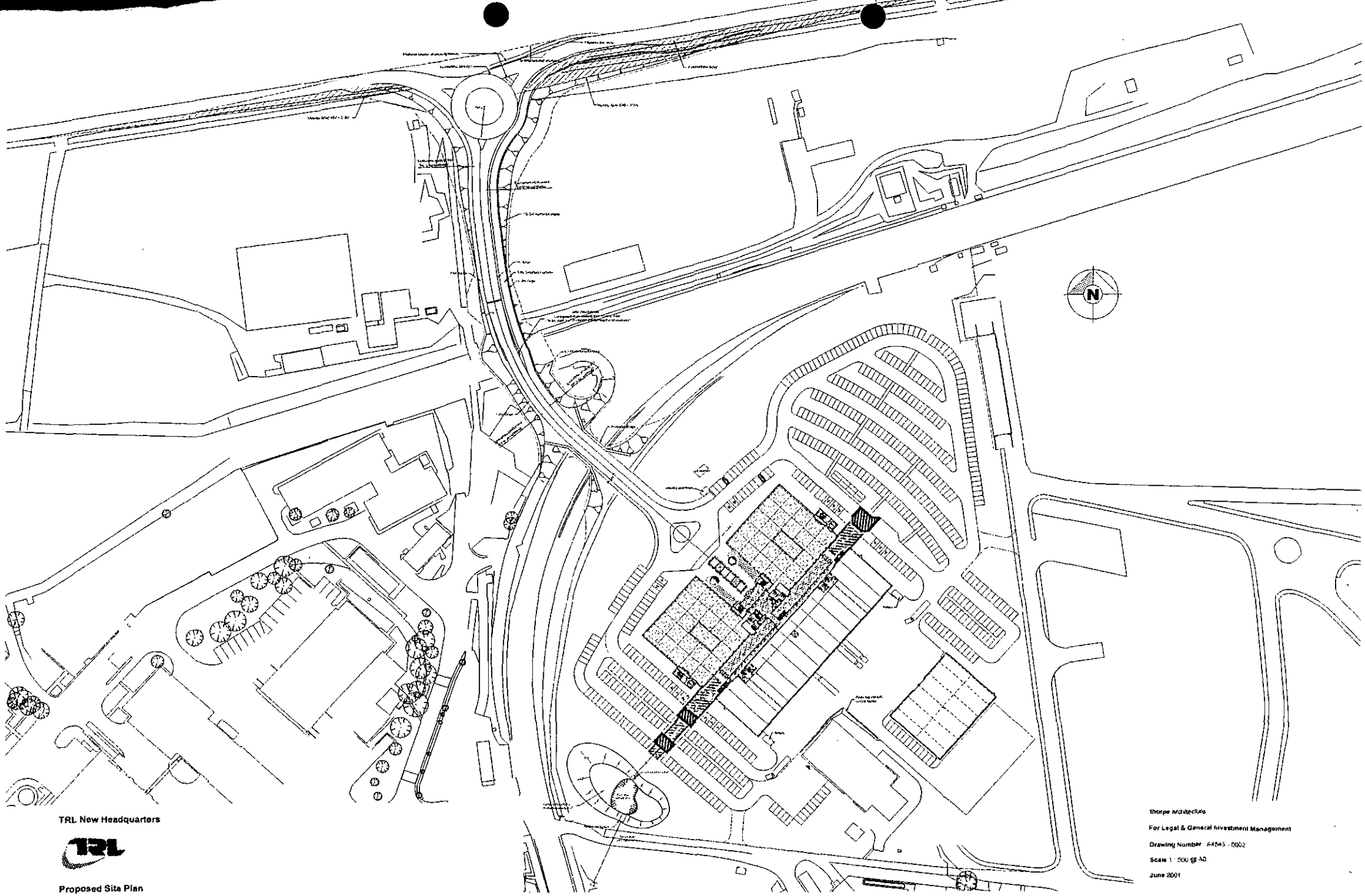
If you require any further assistance please do not hesitate to contact my contact my colleague, Nick Griffin, on (01344) 351133 (direct line) or email at nick.griffin@bracknell-forest.gov.uk.

Yours sincerely

John Walker

for **Mike Holmes**
Borough Planning Officer

Appendix 3. Proposed Site Layout Plan



TRL New Headquarters

Proposed Site Plan

thorpe architecture

For Legal & General Investment Management

Drawing Number A4545 - 0002

Scale 1 : 500 @ A0

June 2001

Appendix 4. Traffic flows

Throughout the Environmental Impact Assessment figures, for the estimation of traffic flows along Nine Mile Ride between the junctions with Old Wokingham Road and the A3095 were based on the indicative figures for the peak hour traffic flow (figure 1). These figures were obtained from the Highway Authority and represent the situation in the year 2000.

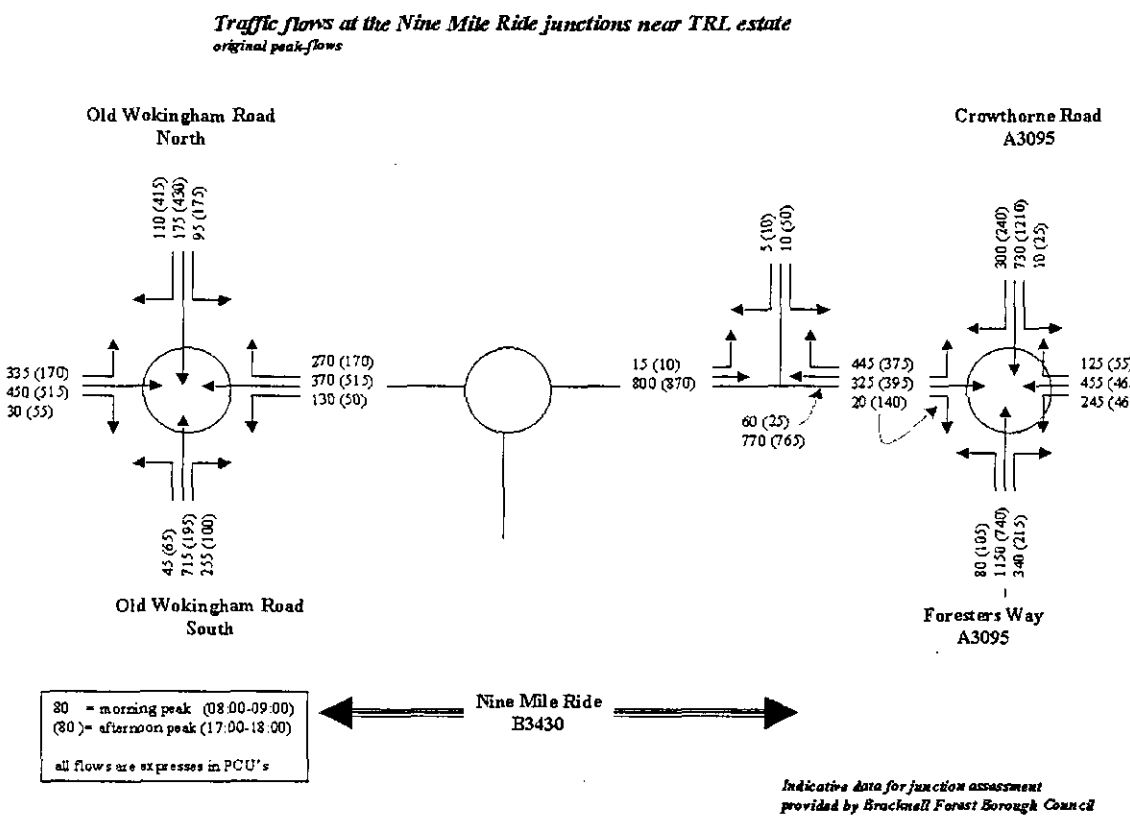


Figure 1 Indicative data for junction assessment, Year 2000 peak flows.

Where it is necessary to represent the traffic flow other than in peak flows, the appropriate figure was estimated using the conversion in table A1.1.

Table A1.1. Conversion between the various expressions of traffic flow.

Expression	Description	Conversion
Average Peak Traffic Flow	Average flow from the flow between: 0800-0900 and 1700-1800	
16 hour flow	Traffic 06:00-22:00 h	10 times Av Peak Traffic Flow
Average daily 18 hours flow	1.05*16 hours flow	
AAWDT	annual average week daily traffic	10/9 times 16 hour flow
AADT	annual average daily traffic	6/7 times AAWDT

Autonomous growth for traffic was assumed to be 1% annual for the air quality and noise & vibration assessments. Traffic generated by the Peacock Farm development, which received planning permission, was judged not to be of a significant increase (5% from that development is predicted to travel in the Wokingham/Crowthorne direction, the majority of which has Wokingham as its destination).



Location of the TRL site		
Client: TRL	Date June 2001	Job no. 9858
Peter Brett Associates Consulting Engineers	PG	Map 1

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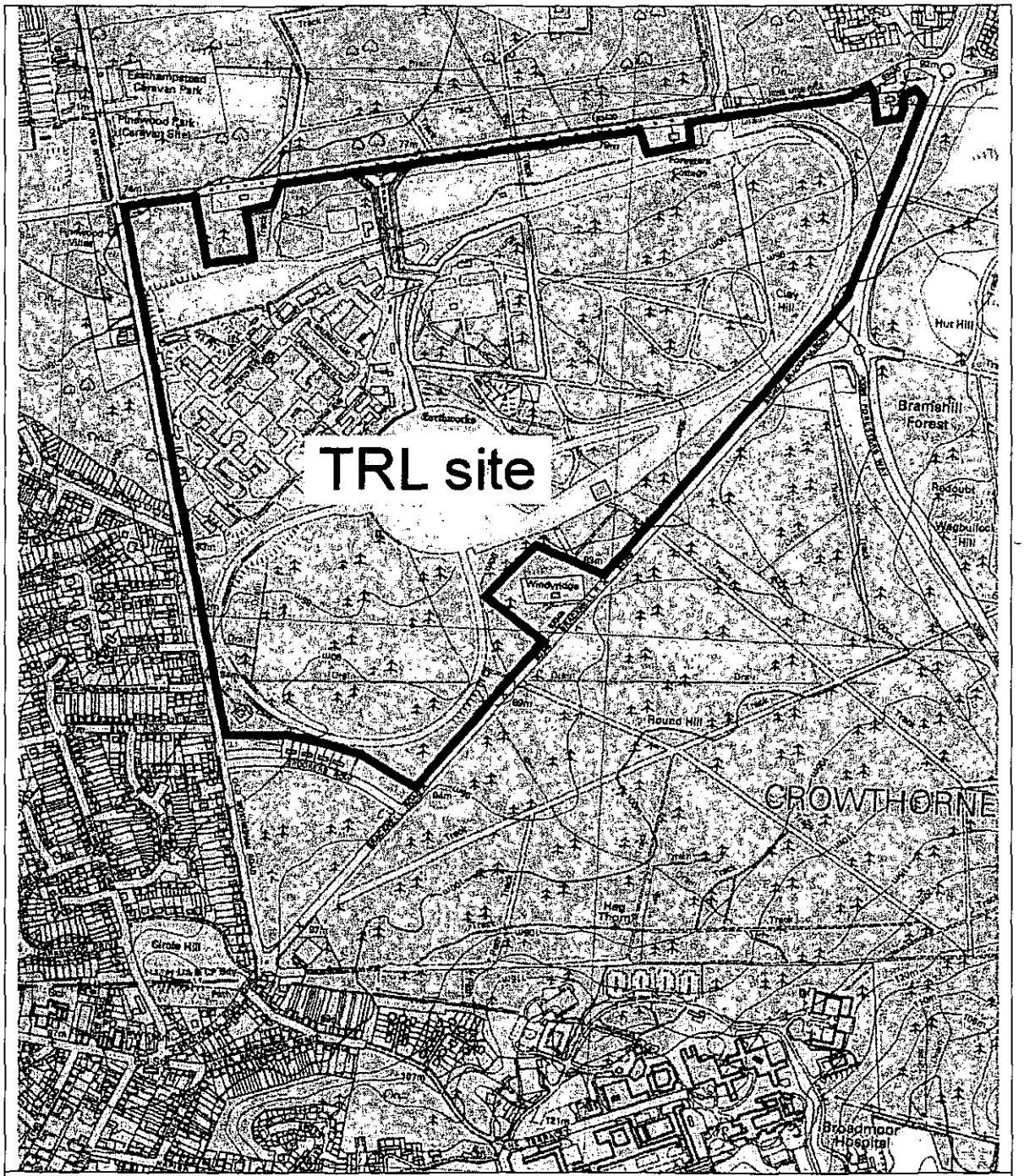

Approximate location of the proposed development within the TRL Site			
Client: TRL	June 2001		Job no. 9858
Peter Brett Associates Consulting Engineers	PG		Map 2

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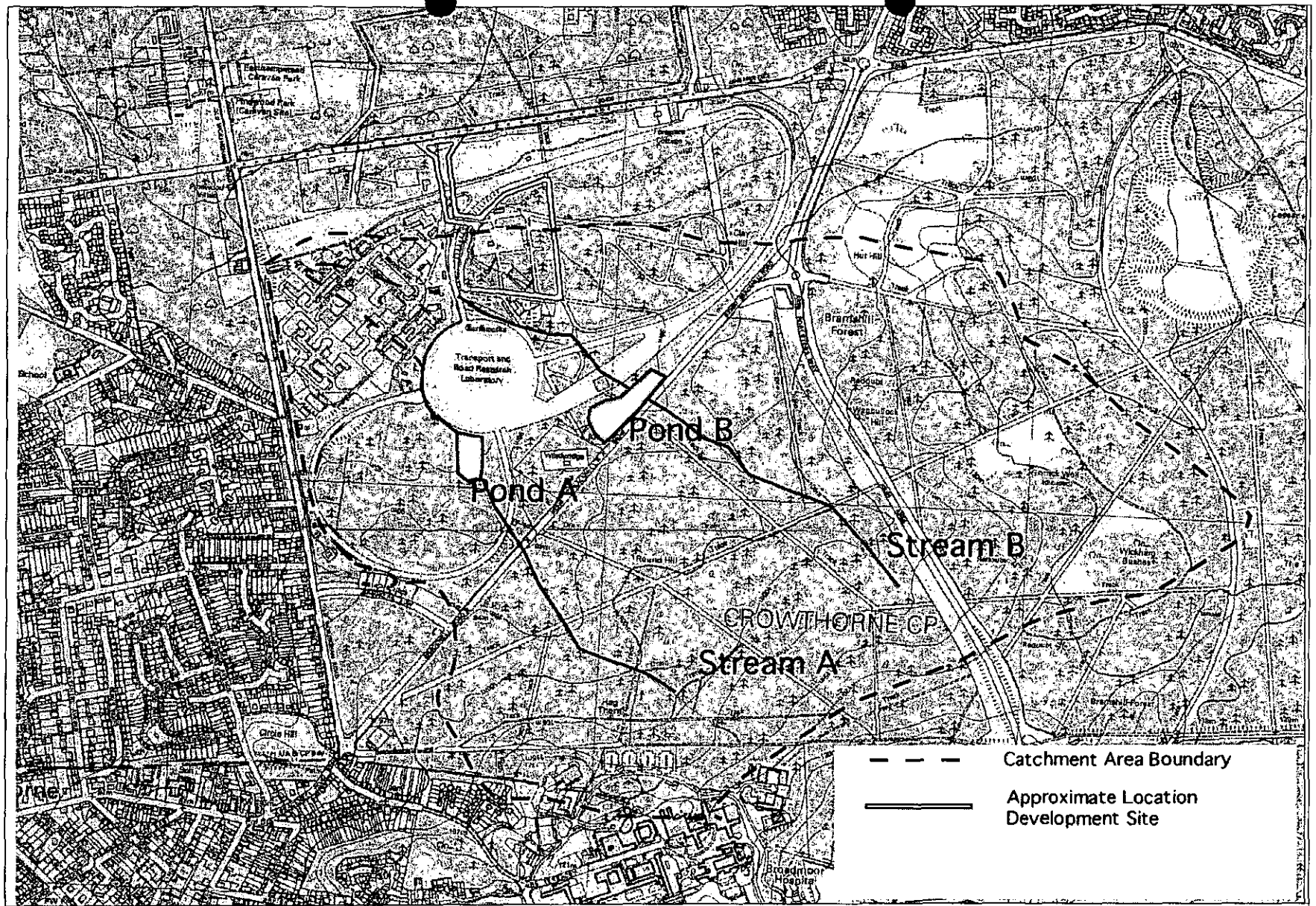

Surface Water Drainage; catchment plan			
Client: Legal & General Property Ltd	June 2001		Job no. 9858
Peter Brett Associates Consulting Engineers	PG		Map 3

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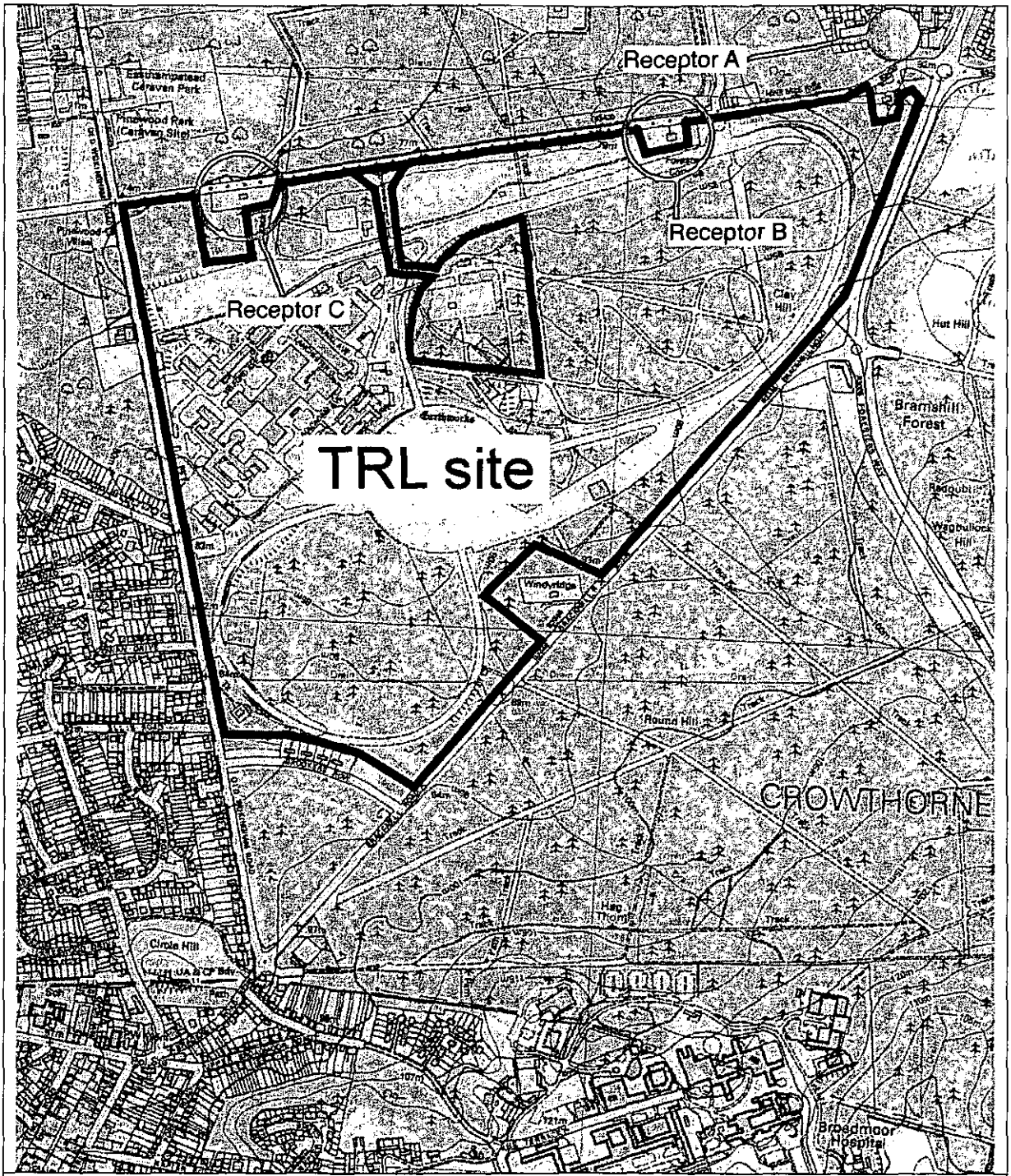

Sensitive receptors associated with the proposed development			
Client: TRL	Date June 2001		Job no. 9858
Peter Brett Associates Consulting Engineers	PG		Map 4

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Tel: (0118) 974 6229 (Direct Line)
jE-mail: Ron.Madell@wokingham.gov.uk
Date: August 14, 2001
My ref: F/2001/4524
Your ref: 01/00722/FUL/CONS

Environmental Services Department
Planning Services
P.O. Box 157
Shute End, Wokingham
Berkshire RG40 1WR
Tel: (0118) 974 6000
Fax: (0118) 974 6484
Minicom No: (0118) 974 6991
DX: 33506 – Wokingham

Attention: Mr E Konig
Borough Planning Officer
Bracknell Forest Borough Council
Time Square, Market Street
Bracknell, Berkshire
RG12 1JD

Dear Mr Holmes

OBSERVATIONS TO BRACKNELL FOREST BC - TRANSPORT RESEARCH LABORATORY, OLD WOKINGHAM ROAD, CROWTHORNE

Thank you for your letter of 27th July, referring this major scheme to this Authority for observations.

The Council is of the view that, given the significant increase in vehicular traffic likely to be generated by the development, a Transport Assessment is required in this case. We are aware that an Environmental Statement has been submitted, but the section on Traffic and Transportation (4.2) does not deal in sufficient detail with the traffic generation predictions, and the statistical basis for the consultants' conclusions that relatively minor roundabout alterations will constitute adequate mitigation in highways terms.

Would you please treat this letter as a holding objection, pending receipt of the information requested.

If you wish to discuss this matter please speak to Mr Ron Madell on the above extension.

Thank you.

Yours sincerely

MLT

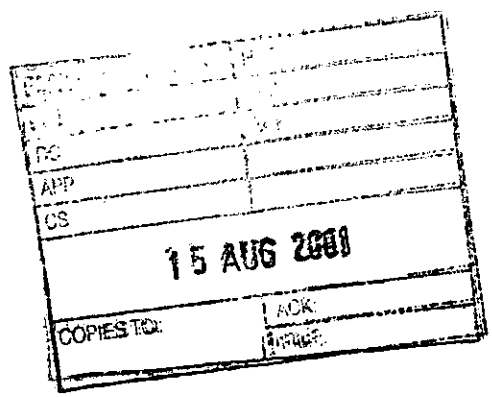
M L Thorp
Principal Development Control Officer

Wokingham Without Parish Council Consultation Sheet

Officer	Ron Madell
No	CON 2001 4524
Proposal	erection 3 storey B1 office bldng, and B8 storage bldng, access rd over test track & vehicle access onto 9 Mile Ride via new rndabt, assoc car pk etc.
Site	Transport Research Laboratory, Old Wokingham Road, Crowthorne.

Committee's Comments

With information supplied, it was felt the proposals were likely to put unacceptable strain on existing infrastructure, esp. roads, and surface water drainage, as it seems there are no proposals to demolish existing offices.



Signed : _____
Clerk to Wokingham Without Parish Council

14 August 2001

HIGHWAYS CONSULTATION SHEET

From: Ron Madell **Date:** 01 August 2001

Application Number: CON/2001/4524

Proposal: Consultation from Bracknell Forest BC on application for the erection of a three storey B1 office building and B8 storage building. Construction of access road and bridge over test track to form vehicular access onto Nine Mile Ride via new roundabout with associated car parking and landscaping.

Parish:

Site Address:
Transport Research Laboratory, Old Wokingham Road, , Crowthorne.

Applicant:
Trl Ltd C/O Legal & General Investment Management.

Your observations are required in respect of this application within **7 days** of the above date.

✓ below as applicable;

1) ☐ Recommend refusal for the reason(s) **stated below;**
2) ☐ Recommend approval but with condition(s) & reason(s) **stated below;**
3) ☐ Recommend approval with **no** condition(s) or reason(s).

WHILST THE LAND TO BE DEVELOPED IS WITHIN BRACKNELL BC'S ADMINISTRATIVE BOUNDARY, A SIGNIFICANT AMOUNT OF THE TRAFFIC IMPACT OF THE DEVELOPMENT WILL AFFECT ROADS & JUNCTIONS WITHIN WOKINGHAM. THEREFORE, IN ORDER TO COMMENT FORMALLY ON THE APPLICATION, TWO COPIES OF THE TRANSPORT ASSESSMENT ARE REQUIRED.

ON A GENERAL POINT, I AM CONCERNED AT A DEVELOPMENT OF THIS TYPE & SCALE IN A LOCATION NOT WELL SERVED BY MEANS OF TRANSPORT OTHER THAN THE PRIVATE CAR. IT MAY ALSO BE WORTH WOKINGHAM BRACKNELL BC WHAT PROVISION IS BEING MADE TO SECURE A GTP & APPROPRIATE CONTRIBUTIONS TOWARDS MORE SUSTAINABLE FORMS OF TRAVEL.

JR 14/8/01

Square,
ket Street,
racknell,
Berkshire. RG12 1JD
Tel: (01344) 424642
Fax (01344) 351104
DX 33611

Planning Application CON/2001/4524

Application for permission to carry out development
Town and Country Planning Acts

Mike Holmes BSc (Econ) DipTP MRTPI Borough Planning Officer

BRACKNELL FOREST BOROUGH COUNCIL

00722

- Please answer all questions in block letters
- If a question is not applicable, answer N/A
- Please submit SIX copies of forms and plans to the address above.
- Applicants Notes are available to assist completion of this form.

RECEIVED 20 JUN 2001 PLANNING AND TRANSPORTATION B.F.B.C.

Part 1

1	Applicants Name	TRL Limited (TRANSPORT RESEARCH LABORATORY)	
	Address	OLD WOKINGHAM ROAD, CROWTHORNE, BERKSHIRE	
	Post Code	RG45 6AU	Phone: 01344-773131
2	If the applicant has an agent, all correspondence will be sent to the agent. Agents Name	LEGAL & GENERAL INVESTMENT MANAGEMENT	
	Address	BUCKLERSBURY HOUSE, 3 QUEEN VICTORIA STREET, LONDON	
	Post Code	EC4N 8NH	Phone: 0207-528-6500
3	On the plans show the site outlined in RED. Show also OTHER land in the applicant's ownership or control in BLUE. (see note 4). Site Location/ Address	WITHIN EXISTING NORTHERN TEST TRACK, TRL SITE, OLD WOKINGHAM ROAD, CROWTHORNE, BERKSHIRE, RG45 6AU.	
4	Description of Proposal: Give brief details and state for what purpose this site and any buildings will be used.	ERECTION OF NEW HEADQUARTERS WITHIN B1 USE FOR TRL LIMITED. (TRANSPORT RESEARCH LABORATORY)	
5	Give the area in hectares or part of a hectare. (see note 2).	Area of site	WITHIN APPLICATION RED LINE 6.5 HECTARES
6	State the applicant's interest in the land, e.g. owner, prospective purchaser, lessee.	Ownership	LEASEHOLDER
7	List all the plans and drawings submitted with this application or provide a schedule.	Plans/Drawing	REFER TO DRAWING SCH.

8 Does the application involve any of the following? Tick the relevant boxes.

Change of use		Redevelopment	✓
Erection of a new building	✓	Alteration/Extension	
		Demolition	✓

9 What type of application is this? (see note 2). Tick one box only.

Outline permission (see question 10 overleaf)		State relevant outline permission number. Also complete Q.10	
Full permission	✓		
Approval of details/reserved matters		State period required	
Temporary permission			
Variation of conditions		State relevant application no. and Condition no.(s) to be varied	

	this is an outline application or an approval of reserved matters, which details, if any do you wish to be considered as part of the application?	External appearance / ~~Means of access~~ / ~~Landscaping~~ N/A / Siting / Design	
11	What is the existing use of the land and/or buildings(s)? eg. residential, industrial, etc. If the site is vacant say so, and also state its previous use and when that ceased.		TEST ROADS, HARDSTANDING, STORAGE SPACE FOR USED TEST CARS, CONCRETE BATCHING PLANT, PAVEMENT TEST FACILITY
12	Does a public right of way cross or abut the site or the proposed access?	~~Yes~~/No	If yes, show existing route(s) and any proposed alternatives on the plans.
13	Are there any existing trees on the site?	Yes/~~No~~	If yes, please show positions, spread and species on the plans indicating which, if any, are intended to be felled.
14	State external materials to be used (if known)		CURTAIN WALLING, RENDER AND PROFILE STEEL CLADDING
15	How will the site be enclosed? Say whether walls, fences, or hedges and give height, colour and materials. If the site is divided into plots, say how each is to be enclosed.		AS EXISTING
16	How will surface water be disposed of?		NEW SYSTEM TO LOCAL AUTHORITY SURFACE WATER SYSTEM
17	How will foul sewage be disposed of? Please indicate line of existing or proposed on the plans.	To existing system Yes/No	If no, please give details: NEW SYSTEM TO CONNECT TO LOCAL AUTHORITY SEWERS
18	What are access arrangements? Give details of pedestrian and vehicular access.	As existing	LIGHTWEIGHT BAILEY BRIDGE
		As proposed	NEW ACCESS FROM NINE MILE RIDE WITH NEW BRIDGE OVER EXISTING TEST TRACK
19	Has provision be made for the disabled? (see note 8).		YES

20 If this proposal involves residential development or the loss of residential units, complete the following table. (see note 5).

	Number of dwellings			Number of habitable rooms		
	Proposed	To be retained	To be lost	Proposed	To be retained	To be lost
House						
Bungalow		N/A			N/A	
Flat/ Maisonette						
Other						

21	Does the proposal involve any non-residential building or use?	Yes/~~No~~	If yes, complete part 2 of the form
22	State the fee enclosed with this application.	£ 9,500	N.B. A separate fees schedule must be completed and enclosed with this application form.

I hereby apply for permission in respect of the particulars described above and in the attached plans and drawings.

Signed: N. Baker on behalf of: TRL LIMITED Date: 20.7.01.

Before submitting the application check that it is complete, that all questions have been answered and that the site boundary and the new work are clearly edged in RED and all new work is clearly distinguished on the plans (see note 4). Every application must be accompanied by the appropriate certificate and fee.

Part 2

s part of the form need only be completed if the application involves non-residential development. Please answer all questions block letters. If the answer is not applicable, write N/A in the space provided. Space is provided overleaf for any additional information. Applicants Notes are available to assist completion of this form.

23 State the gross floor space (by external measurement) of all buildings to which this application refers (metric units only).

Use class (as defined in the use classes order)		Existing floor space		Proposed additional floorspace created by	
		Retained in existing use	Lost by change of use or demolition	New building	Change of use
A1	Shops				
A2	Financial & Professional services				
A3	Food & Drink				
B1(a)	Office (other than A2)			9,959	
B1(b)	Research & Development			3,624	
B1(c)	Light industrial				
B2	General Industrial				
B8	Storage or distribution			1,307	
C1	Hotels & Hostels				
C2	Residential Institutions				
D1	Non-Residential Institutions				
D2	Assembly & Leisure				
Other	Please Specify				
Other	Please Specify				
Total				14,890	

24 If C1 or C2 use is proposed, please state number of bed spaces. — N/A

25 What provision is being made for parking, loading and unloading on site? (show location on the plans and distinguish between parking for operational needs and other purposes). — REFER TO SITE PLANS

26 Describe the activity or processes to be carried on. Please provide details of any equipment, plant or machinery to be installed and any end products. — TRL ACTIVITIES, ADMINISTRATION, RESEARCH & DEVELOPMENT, TESTING.

27 Who will occupy the premises?
a) Give the name and current operating address of the proposed occupier. — TRL (AS ANSWER 1.)
b) Will these premises be vacated? — YES

28 If known, how many people are likely to be employed on site after completion of the development?

Existing staff	Transferred staff	New staff	Total
500-550			

29 Does the proposal involve the use or storage of hazardous substances? If so, state this material, the quantity and method of storage. A separate consent may be required. (see note 6). — Yes/No

30 What is the nature, volume and proposed means of disposal of any trade effluents, waste or refuse? — AS EXISTING, BY CERTIFIED CONTRACT

CON/2001/4524

Our Ref LGP/BH/AM/NGB/AR
Your Ref
Direct Tel 020 7 528 6909
Direct Fax 020 7 528 6848
E-Mail nick.baker@lgim.co.uk
Date 20 July 2001

Legal & General

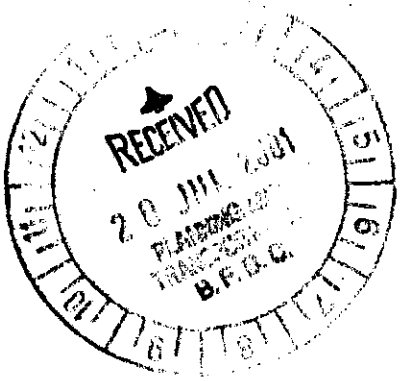
00722

Investment Management - Property
Bucklersbury House
Queen Victoria Street
London EC4N 8NH

Telephone 020 7-528 6500

Acting as Agent for:
Legal & General Assurance Society Ltd

Borough Planning Officer
Bracknell Forest Borough Council
Time Square
Market Street
Bracknell
Berkshire RG12 1JD



Dear Sirs

TRL Site, Crowthorne

We act on behalf of the Transport Research Laboratory (TRL Limited), and now enclose a planning application on their behalf for the erection of an office building, test laboratory, workshop and warehouse, for the laying out of a car park, service area and roundabout/bridge/access road and ancillary landscaping, all to be sited on land immediately surrounding one of the existing major test facilities, just to the east of TRL's existing accommodation and with access from Nine Mile Ride.

The TRL is, as you know, a former governmental organisation, which was privatised in 1996. It is now an internationally operating company providing consultancy advice on a wide range of transport issues. It has an outstanding reputation both nationally and internationally and has contributed to safer roads and vehicles, reduced traffic noise from trunk roads, and less disruption from roadworks, to name only some of its areas of operation in a wide spectrum of transport. The results of its research continues to produce huge benefits to the community, the taxpayer and UK plc.

The present accommodation occupied by TRL in unsuitable and ageing buildings no longer fits with its requirements as a world renowned, innovative and efficient company which has and attracts a wide and distinguished client base. TRL now seeks a new headquarters tailored to its role in the 21st century. We consider that the use of the proposed facility, which will comprise offices with research and development laboratories, together with ancillary storage, will be within class B1 of the Town and Country Planning (Use Classes Order) 1987.

The TRL site is located immediately to the north-east of Crowthorne. It is triangular shaped, and enclosed by Nine Mile Ride in the north, Old Wokingham Road in the west and the Sandhurst-Crowthorne Bypass and Bracknell Road in the south east.

The site is divided into two parts:

- A predominantly office development in the north western corner of the site;
- A test track and other testing areas located within the woodland of the rest of the site.

The proposed development is situated within the north eastern loop of the test track occupying an area of approximately 3.5 hectares in a location currently occupied by test roads, storage space for used test cars and bridge beams, a pavement test laboratory,

Legal & General Property Limited
Registered in England No. 2091897
Registered Office: Temple Court,
11 Queen Victoria Street, London EC4N 4TP

material storage facility, concrete batching plant and several other small buildings all in use by TRL.

The proposed development is designed by Thorpe Architecture specifically to the requirements of the TRL, and will be a building of the highest quality designed specifically pursuant to TRL's brief. This identifies clear building uses relating to administration, research and development and test procedures to be integrated in the new building design in a three storey office element linked to a single storey and mezzanine flexible linear research and test element by a connecting 'street'. The office element is split into two equal wings providing clarity and focus to the building entrance, and shields the laboratory element to the rear.

Access is adjacent to the car parks, with the service area to the rear adjacent to the areas where testing takes place.

The visual image of the building is modern and smooth skinned, with external materials which echo the nature of research activities carried out within, including glass/aluminium framing combined with rendered service/escape cores and linking to the more 'engineered' feel of the larger scale activities. The 'street' link provides an element of focus and modulation connecting the building and landscape with an iconic form which provides identity for the building and its occupiers.

The surrounding car park areas maintain the forest feel of the surroundings. The more solid looping service road leads to gravel treated tarmac car park access aisles, breaking out into retained gravel parking bays utilising existing contours with rustic 'wheel' stops. Large landscape swathes between parking bays provide also for surface water drainage solutions. Adjacent to the building a harder surface approach is utilised, to define visually the extent of the new facility and create level access for façade cleaning.

Control of surface water is provided by the introduction of a suitably planted dry/wet balance area.

The development will enable TRL to stay on site, and to retain existing staff. It will in itself be neutral in respect of transport implications, with the only new issue arising in this area from the construction of the enhanced access onto Nine Mile Ride. A Transport Assessment has been prepared by Peter Brett Associates on the basis of green travel plans and targets already in existence. From the traffic impact element of this assessment it is shown that it is desirable that there should be minor improvements at the Nine Mile Ride/Old Wokingham Road and Nine Mile Ride/Crowthorne Road roundabouts, and the installation of a cycleway/footway along Nine Mile Ride with enhanced crossings to join the Southern Bracknell cycleway, together with other reasonable improvements in the area biased towards public transport as may be proposed by the Council. This will be met as appropriate through a Highway Agreement to be negotiated.

The proposal lies outside the designated Major Employment Area under policy E13 of the Bracknell Forest Borough Local Plan as modified in May 2001, and is therefore covered by policy EN8, which deals with development on land outside the settlements. This provides that:

> "Outside the defined settlement boundaries, development will be permitted only where it would not adversely affect the character, appearance or function of the land, would not damage its landscape quality and, where conspicuous from the green belt, would not injure the visual amenities of the green belt."

The policy makes it clear that development permitted in this way may include development for agriculture and forestry, and other development permissible in the green belt but is not restricted to these purposes. Accordingly, there is therefore no reason why the present proposals should not be considered within the remit of this policy.

Nevertheless the proposed development must satisfy the test that:

- It would not adversely affect the character, appearance or function of the land;
- Would not damage its landscape quality.

The site does not adjoin the green belt, and will not injure its amenities.

The proposals have been the subject of proper environmental assessment by Peter Brett Associates pursuant to a scoping report agreed with the Council.

The proposed location and siting of the development have been specifically selected so that it will occupy a site which is currently substantially occupied by hard standing, and it is considered by Peter Brett Associates to be the best available option within or near the TRL site for the location of the new facility from an environmental perspective.

It is apparent that the character and function of the land at present is of hard built development associated with and ancillary to the TRL, and this will not be adversely affected by the proposed development.

Its appearance and landscape quality are extensively assessed in the environmental assessment by landscape architects Whitelaw Turkington, including, in particular, the effect of the access onto Nine Mile Ride, and the effects on Old Wokingham Road, and the environmental effects are assessed at low or moderate following mitigation, which will result from the landscape strategy. This strategy sees the building conceptually as being within a forest clearing, creating an open centre with a protective envelope of vegetation – a concept which effectively expands the pattern of open space and closed canopy presently existing on the site. The strategy will help to create an appropriate setting for the building and give the opportunity to develop the more valuable qualities of plant species within woodland edges, existing only in small part now, into a more significant landscape resource.

It will be seen from this that the requirement in policy EN8, that development on land outside settlements should not damage landscape quality, will be met.

On this basis we consider that the requirement that development permitted should be in accordance with the development plan, unless material considerations indicate otherwise as set out in Section 54A of the Town and Country Planning Act 1990, is met and since there are obvious advantages at the national, regional and local level to the granting of permission, we would ask that the application receive favourable consideration.

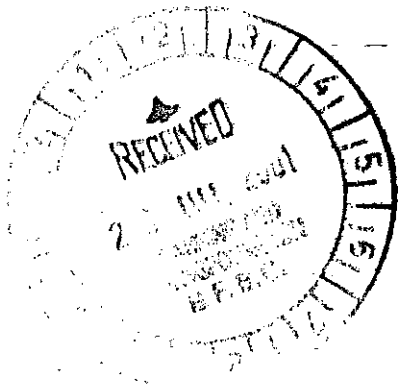
Please do not hesitate to contact Stephen Sawkings of Thorpe Architecture, acting as our agent, in the event of any questions or if additional information is sought.

Yours faithfully

N. Baker.

Nick Baker
for and on behalf of
Legal & General Investment Management Limited

00722



TRL – NEW HEADQUARTERS

CROWTHORNE BUSINESS PARK

Architectural Design Statement

7 JULY 2001

Thorpe Architecture
Sparks Yard, Tarrant Street, Arundel
West Sussex. BN18 9SB
Tel: +44 (0) 1903 883500 Fax: +44 (0) 1903 882100
Email: thorpe.architecture@thorpearch.co.uk

1.0 GENERAL DESCRIPTION

TRL have developed a detailed brief for the consolidation of their overall operations within a single building. The commercial realities of the 21st Century demand that TRL utilise new and emerging technologies to serve their existing and develop new clients. During this brief assembly TRL have fully explored existing workplace practices and suitability of existing premises for their ongoing business needs. This exploration has determined the extent of the proposed facilities and the requirement for a bespoke building.

The opportunity also includes for the integration of the new facility with the existing test track, reinforcing the unique nature of the location. This in turn assisted in the determination of the proposed site – making best use of existing retained test equipment.

In addition to the above, it is vital that the new facility is capable of being provided without impacting on the existing core business.

2.0 BUILDING DESIGN

The proposed site is currently occupied by significant areas of hard-standing and a pavement test facility, which is to remain.

During design development, location and orientation of this existing test facility greatly impacted on the positioning of the new headquarters. The brief identified clear building uses, related to administration, research & development and test procedures. Whereas previous facilities created a disparate relationship, the new facility is used to bind these uses together. This generated the proposal of three-storey office accommodation linked to single storey and mezzanine laboratory accommodation via a communicating street.

Various forms of building massing were explored. The need to form a new vehicular access from Nine Mile Ride, cross the existing test track and relate the building orientation to the existing buildings provided constraints that assisted in creating the building form.

Access is via a new roundabout on Nine Mile Ride, providing for pedestrian cycle and vehicular use. Crossing the test track with a new bridge commences the opportunity for a 'processional' approach.

By splitting the office accommodation into two equal wings, provides the opportunity to focus the approach into the main building entrance. By orienting the building in this manner, and linking via the street to a flexible linear laboratory and test facility, the existing testing building is shielded from view.

This manner of access provides for vehicular pedestrian and cycle access to be created adjacent to the majority of parking areas. The access road is continued as a loop around the building – allowing for the separation of service vehicles and the creation of the 'back lot' where the majority of testing commences.

This 'back lot' is contained by the new headquarters, the new storage building and the existing testing facility. Whilst functional in nature – the relationship formed provides for efficient use of space and a sense of enclosure.

Due to the diverse activities enclosed within the combined structure emphasis is placed upon the provision of a cohesive solution, whilst acknowledging the range of activities. The 'street' provides for this link to occur between public presentation and 'back lot' use.

The visual image is considered as a modern building encompassed by the existing tree bank, modified to accommodate the overall building needs. Smooth and slick materials, echoing the nature of research activities carried out within, are considered for the external building skin. Ranging from glass with an aluminium frame combined and terminated by rendered service and escape cores linking through to a more 'engineered' solution for the larger scale activities. The 'street' provides the focus and modulation ensuring a firm link, for those using the building, is created between building and landscape and provides a visual icon, from which the building identity is generated.

3.0 CAR PARKING AND LANDSCAPING

The building is considered as existing in a woodland and as such consideration of the external element is vital to offer a comprehensive solution.

The overall concept is that of maintaining a 'forest feel'; this, inturn, with seeking a more substantial solution, has generated a softer approach to the car parking and landscape feature. The looping service road is more solid in nature, with car park access aisles being considered as a gravel treated tarmac. These break out into retained-gravel parking bays utilising existing contours with 'rustic' wheel stops. Provision of large landscape swathes between parking bays allows for both soft landscaping and surface water drainage solutions.. Adjacent to the building a harder surface approach is utilised – firstly to derive the extent of the new facility and create level access for façade cleaning.

Control of surface water is provided by the introduction of a dry/wet balance area, suitably planted to provide a more natural image within the overall landscape concept.

Planting solutions are fully considered within the environmental Statement, but are generated from the original concept of 'building within landscape clearing within existing forest.

4.0 SUMMARY

From the initial brief and it's further development and enhancement, the opportunity created is an exciting challenge. Design development and consultant team liaison has ensured a responsive design solution. We firmly believe that the application as submitted confidently addresses the requirements of TRL whilst respecting the nature and location of the proposed site.

A4545 TRL FACILITY

00722

RECEIVED
JUL 2001

LANDSCAPE

L4545	0001	PROPOSED LANDSCAPE MASTER PLAN
	0002	SECTION A-'A

CIVIL ENGINEER

CE4545	0001	ACCESS BRIDGE OVER TEST TRACK

ARCHITECT

A4545	0001	LOCATION PLAN
	0002	PROPOSED SITE PLAN
	0003	PROPOSED FLOOR PLANS
	0004	PROPOSED NORTH AND EAST ELEVATIONS
	0005	PROPOSED SOUTH AND WEST ELEVATIONS
	0006	SECTION A-A AND B-B
	0007	SECTION C-C
	0008	SECTION D-D AND E-E
	0009	PROPOSED STORAGE BUILDING PLAN AND ELEVATIONS

THORPE ARCHITECTURE
04-Jul-01

Babtie Environmental

School Green
Shinfield
Reading
Berkshire RG2 9HL
Tel 0118 988 1555
Fax 0118 988 1666

Babtie

A member of Babtie Group

Our ref Kgb02

RM

Your ref As below

PLANNING SERVICES | HPT 4F6993
POL | TL
DC | ENF
APP |
CS |
22 AUG 2001
COPIES TO: | ACK:
FILE:

21st August 2001

Ron Madell
Planning Services
Wokingham District Services
PO Box 157
Shute End
Wokingham
RG40 1WR

Dear Ron,

APPLICATION CON/2001/4524
Transport Research Laboratory, Old Wokingham Road, Crowthorne

Regulation 4 Town and Country Planning (Applications) Regulations 1988
Request for further information

In line with advice contained in PPG16, Wokingham District Council Planning Policy WHE15 and 17 Development Affecting Archaeological Sites, Policy EN6 of the Berkshire Structure Plan, Policy LBE22 of the Loddon Area Local Plan. I would now advise you that the applicant should be required to provide further information relating to the archaeological impact of the proposed development. This should be achieved by means of an archaeological evaluation. This evaluation should be undertaken and reported on by a competent IFA registered archaeological contractor, *before* determination of this application as per PPG16, Planning Conditions, Paragraph 30:

"No development shall take place within the area indicated until the applicant has secured the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted by the applicant and approved by the Planning Authority."

I would advise you that the above application has potential archaeological implications. The site has the potential to contain Medieval remains and consequently requires an archaeological evaluation to be undertaken in order to establish the potential impact of the development on any remains present.

I have enclosed a brief for the evaluation, which should be forwarded to the applicant.

If you wish to discuss this matter, please contact me on 0118 988 1611.

Yours sincerely,

Elizabeth Rowe
Archaeologist

Group Offices:
Aberdeen
Abingdon
Aylesbury
Bedford
Belfast
Birmingham
Bristol
Cambridge
Cardiff
Chelmsford
Coventry
Croydon
Derby
Dublin
Edinburgh
Exeter
Glasgow
Inverness
Ipswich
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Newcastle upon Tyne
Oxford
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Reading
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Telford
Wakefield
Wallingford
Westminster

Ankara
Bangkok
Hong Kong
Jakarta
Kuala Lumpur
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Prague
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Babtie Group Ltd
Registered Office:
95 Bothwell Street
Glasgow G2 7HX
Registered in Scotland
No: 141100

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INSTITUTE OF ENVIRONMENTAL ASSESSMENT
Registered Environmental Impact Assessor

TRANSPORT RESEARCH LABORATORY, OLD WOKINGHAM ROAD, CROWTHORNE

BRIEF FOR AN ARCHAEOLOGICAL EVALUATION

Prepared For
Wokingham District Council
By
Babtie

TRANSPORT RESEARCH LABORATORY, OLD WOKINGHAM ROAD, CROWTHORNE
BRIEF FOR ARCHAEOLOGICAL EVALUATION

1 INTRODUCTION

1.1 This brief sets out the background and general conditions to enable a detailed specification for an archaeological scheme to be prepared and submitted for approval to Wokingham District Council. The brief is valid for six months only, after which time the District should be contacted. Specifications produced in accordance with this brief will be considered valid for the same period of time.

2 SITE LOCATION AND DESCRIPTION

2.1 The site is located at The Transport Research Laboratory, Old Wokingham Rd, Crowthorne, at national grid reference SU 8469 6565.

3 PLANNING BACKGROUND

3.1 Planning application number Con/2001/4524, submitted to Wokingham District Council, as a consultation from Bracknell Forest Borough Council on application for the erection of a three storey B1 office building and B8 storage building. Construction of access road and bridge over test track to form vehicular access onto Nine Mile Ride via new roundabout with associated car parking and landscaping.

4 ARCHAEOLOGICAL BACKGROUND

4.1 The site lies close to several rectangular earthworks probably Medieval in origin. The proposed construction may disturb archaeological remains associated with earlier land use of the site.

5 REQUIREMENT FOR WORK

5.1 In order to enable the planning authority to make an informed and reasonable decision on the planning application, further information on the archaeological remains is required. This will be obtained through a programme of archaeological evaluation trenching.

6 AIMS AND OBJECTIVES

6.1 The aims and objectives of the evaluation are as follows:

(i) To determine or confirm the general nature of the remains present.

(ii) To determine or confirm the approximate date or date range of the remains, by means of artefactual or other evidence.

(iii) To determine or confirm the approximate extent of the remains.

(iv) To determine the condition and state of preservation of the remains.

(v) To determine the degree of complexity of the horizontal and/or vertical stratigraphy present.

(vi) To determine or confirm the likely range, quality and quantity of the artefactual evidence present.

(vii) To determine the potential of the site to provide palaeoenvironmental and/or economic evidence and the forms in which such evidence may be present.

7 STAGES OF WORK AND TECHNIQUES

7.1 The Project Specification will provide a clear statement of the archaeological objectives, detailing the relevant aims, objectives and recording strategies.

7.2 The general requirements of work are as follows:

Evaluation trenching

A 6% sample of the site area will be excavated. The project specification must contain a plan of the trench layout.

(i) Any mechanical excavation will be carried out in such a manner as to avoid or minimise damage to the archaeological remains. All machinery used must be of an appropriate nature to suit the situation and be fitted with an appropriate bucket. All machine work must be directly supervised by an archaeologist.

(ii) Spoil should be scanned for artefacts, which should be recorded and retained.

(iii) Sufficient of the features located will be excavated by hand in order to fulfil the aims of the project specification, with reference to the general aims and objectives given above. This will be achieved through an agreed sampling strategy.

(iv) Care should be taken not to compromise the integrity of archaeological features or deposits which might better be excavated under the conditions pertaining to full excavation.

(v) The depth and complexity of the deposits across the whole site should be assessed. Written and drawn records shall be made of the stratigraphy of all trenches, even if no archaeological deposits have been identified.

(vi) Full written and drawn records of all excavated contexts shall be made in accordance with best archaeological practice. Archaeological deposits which are not excavated should be recorded to the maximum extent possible. Records shall include overall trench and site plans. All excavation and recording shall be in accordance with the IFA *Standard and Guidance for Field Evaluations*.

(vii) Recording, cleaning and conservation of finds should follow the IFA *Guidelines for Finds Work*.

(viii) Where human remains are encountered, they should initially be left in-situ and the coroner should be informed as soon as possible. Where their removal is necessary, an appropriate licence should be obtained from the Home Office.

(ix) A programme of soil sampling to recover palaeobotanical, palaeozoological and pedological evidence shall be undertaken as appropriate. The scope of the programme shall be agreed prior to work commencing. Specialist advice shall be

sought as necessary and at least one visit to each site made by a relevant specialist during the course of the fieldworks on that site.

7.4 The project will be supervised on a daily basis by a competent archaeologist and managed on a regular, agreed basis by a Member of the Institute of Field Archaeologists registered with an appropriate area of competence.

8 METHODS

8.1 The project specification will include a method statement detailing the methods and standards to be applied in the programme of evaluation, both field and post-field.

9 TIMETABLE AND MONITORING ARRANGEMENTS

9.1 Details of timing should be the subject of discussion between the developer's representative, Babtie Group (the archaeological consultant for Wokingham District Council) and the archaeological contractor. A programme of works, monitoring, recording and access will be agreed in writing before the project commences.

9.2 Babtie Group will monitor the progress and quality of the work at intervals to be agreed. A representative of the archaeological contractor should be present at all monitoring inspections.

9.3 In order to facilitate the monitoring programme, the following will be required:

- a period of notice required to start site works following the award of the contract.
- a projected timetable of work on site.
- the contractor will notify the planning archaeologist and/or archaeological consultant when work commences, and at the start of agreed stages during the course of the project.

9.4 Monitoring is held to be complete only when the archive has been deposited and a suitable report presented in accordance with the brief and/or specification, and/or agreement on publication reached.

10 SITE ARCHIVE

10.1 The site archive will contain all the data collected during the evaluation including records, finds and environmental samples. It should be quantified, ordered, indexed and internally consistent.

10.2 Adequate resources shall be provided during fieldwork to ensure that records are checked and internally consistent.

10.3 Archive consolidation shall be undertaken immediately following the conclusion of fieldwork.

10.4 The archive shall be assembled in accordance with the guidelines set out in *Management of Archaeological Projects* (English Heritage 1991).

10.5 The integrity of the primary field record shall be preserved. Security copies in digital or fiche format shall be maintained where appropriate.

10.6 All finds (other than those of gold or silver) are the property of the landowner. The agreement of the landowner for the ownership of any finds to be transferred to an appropriate museum will be sought.

10.7 Provision shall be made for the deposition of archive and artefacts in the appropriate museum or other repository. The museum shall be advised of the proposed investigation before excavation starts and the contractor shall adhere to any reasonable requirements they may have regarding conservation and storage of excavated material and archive. The archive shall be prepared in accordance with the guidelines published in *Guidelines for the preparation of Excavation Archives for long-term storage* (United Kingdom Institute for Conservation, 1990) and *Standards in the Museum care of archaeological collections* (Museum and Galleries Commission, 1994). Deposition shall take place after completion of the works.

11 REPORTING REQUIREMENTS

11.1 A report should be produced no later than 2 weeks after the completion of the fieldwork.

11.2 The report will address the aims and objectives of the evaluation.

11.3 An estimate of time and staff resources required for report production should be provided. This should include details of arrangements for specialist conservation and analysis of artefacts and ecofacts.

11.4 Details of style and format to be determined by the archaeological contractor. However, the report ***must*** have a front sheet providing the following information:

- Site Name
- Grid reference
- Site activity type (e.g. evaluation trenching, geophysical survey, fieldwalking, etc.)
- Date & duration of project
- Site code
- Area of site
- Summary of results
- Monuments identified (this ***must*** be referenced to the RCHME Thesaurus of Monument Types)
- Location and reference of archive

11.4 The report should include:-

(i) a summary of the project's background;
(ii) the site location;
(iii) a methodology;
(iv) a description of the project's results;
(v) an interpretation of the results in the appropriate context;
(vi) a summary of the contents of the project archive and its location (including summary catalogues of finds and samples);
(vii) site layout plans on an Ordnance Survey base, with the location of the trenches superimposed on the results of any earlier, non-intrusive surveys;
(viii) plans of each trench or area;
(ix) trench sections and feature sections;
(x) site matrices where appropriate;
(Xi) a consideration of evidence within the wider setting.

12 STANDARDS

The project should be carried out to the highest professional standards and conform to the IFA *Code of Conduct and Code of Practice.* The IFA's *Code of approved Practice for the Regulation of Contractual Arrangements in Field Archaeology* will be applied throughout the selection procedure and contract period.

13 PUBLICATION & DISSEMINATION

13.1 A copy of the results will be supplied to the Wokingham SMR on the understanding that this will become a public document after an appropriate period of time (usually not exceeding six months).

13.2 The archaeological contractor will supply the SMR with a representative set of catalogued slides taken during the projects, together with selected negatives, for future use in lectures, publications, or other publicity material.

14 OTHER FACTORS

14.1 The specification may be varied, subject to agreement between the contractor, the landowner/developer and Babtie Group, in response to significant discoveries during the evaluation process.

14.2 Once a satisfactory report has been submitted a completion notice may be issued to the applicant if requested. The notice will confirm that the archaeological scheme of work has been completed and that it has complied to the brief and is of an acceptable standard. This notice has no statutory force, but if the work has been undertaken as part of a planning application, the planning authority may require it as proof of compliance with a planning condition or before they determine an application.

REGISTERED IFA ORGANISATION

THAMES VALLEY
ARCHAEOLOGICAL
SERVICES Ltd

47-49 DE BEAUVOIR ROAD, READING, RG1 5NR. TELEPHONE (0118) 9260552
EMAIL tvas@tvas.co.uk WEBSITE http://www.tvas.co.uk FAX (0118) 9260553

Director of Planning,
Wokingham District Council,
Planning Services,
PO Box 157,
Wokingham,
RG40 1WR.

Your ref.
Our ref:

3rd August 2001

Dear Sir/madam,

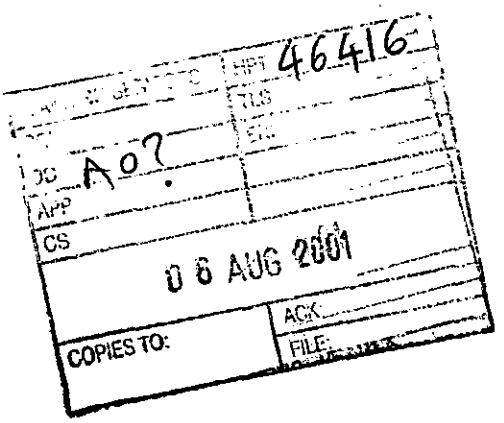
TRL Crowthorne
Proposal for Archaeological Evaluation

I am pleased to enclose a copy of our proposal for this site. I have also forwar ded a copy direct to Mr. Beachus at Babtie.

Yours sincerely,

Steve Ford

Dr. S. Ford
enc



Angela,
This may not be for you so
Sorry in advance.
Ian.

Transport Research Laboratories,
Crowthorne,
Berkshire

Project specification for archaeological evaluation

7th June 2001

Transport Research Laboratories, Crowthorne, Berkshire
Project specification for archaeological evaluation

Prepared by Thames Valley Archaeological Services

TRL.EV

1.0 Background

1.1 A planning application and Environmental Statement is to be made to Bracknell Forest Borough and Wokingham District Councils for the construction of new facilities with the TRL park (SU 847 656). The site comprises a c. 3.6 ha parcel of moderately sloping land which contains a number of upstanding structures, roads, 'carparks' and pine woodland. Several of the structures and the large carpark appear to have been terraced into the slope.

1.2 The archaeological potential of the site has been highlighted in an input to the Environmental Assessment (Hardy 2001). In summary the site lies in an area from which a number of sites and finds are known, such as Ceasar's Camp Iron Age hillfort to the east, but of most significance is the presence of an upstanding earthwork site immediately adjacent to the proposal area for the new buildings site and possibly within an area required for construction of balancing ponds or to be landscaped.

2.0 Requirement for Work

2.1 In order to provide sufficient information on the archaeological potential of the site so as to mitigate the effects of development, a field evaluation has been requested as set out in *Archaeology and Planning* (PPG 1990) and Bracknell Forest Borough and Wokingham District policies on Archaeology.

2.2 A single component of work is required: a field evaluation by means of machine trenching.

3.0 Aims and Objectives

3.1 The aims of the evaluation will be to determine the presence/ absence, extent, condition, character, quality and date of any archaeological or palaeoenvironmental deposits within the area of development.

3.2 This work will be carried out in a manner which will not compromise the integrity of archaeological features or deposits which warrant preservation in-situ, or might better be excavated under conditions pertaining to full excavation.

3.3 The specific research aims of this project are:

a) Determine whether archaeologically relevant levels have survived on the site.

b) Determine if archaeological deposits of any period are present on the site.

c) Determine the date and nature of the earthwork enclosure.

d) Determine whether further remains are present in adjacent areas.

e) The potential and significance of any such deposits located will be assessed according to the research priorities such as set out in *Exploring our past* (Engl-

ish Heritage 1991, 36) and *English Heritage Research Agenda* (English Heritage 1997, 44) or any more local or thematic research priorities as necessary.

4.0 Methodology

4.1 Trench Layout

4.1.1 We propose to dig 63 trenches up to 10 m long and 1.6 m wide (c. 2.8% of site area).

4.1.2 The trenches will be located as close as possible to the positions shown on figure 1, and will avoid services, etc. It will not be possible to avoid tree roots on most of the site due to the presence of the close set conifer plantation.

4.1.3 Trenches may need to be subdivided and their positions altered due to the presence of the woodland.

4.1.4 The distribution of trenches across the site has been determined by several factors. The pattern overall had three specific aims; 1) To examine the earthworks adjacent to the new build site with a minimum of trenches; 2) To target the area just to the north of the earthworks to search for further deposits either as levelled earthworks or other cut deposits; 3) To examine the remainder of the proposal site with a uniform coverage of otherwise randomly located trenches. This objective was tempered by the presence of upstanding structures, service runs and areas where there was surface indications to suggest that truncation of archaeologically relevant levels had taken place. The distribution of trenches was thus modified to take the latter into account and to target trenches at the areas of greatest impact, that is, where the new build is likely to take place. However, as detailed proposals and the scale and location of landscaping and balancing ponds are not yet finalised, trenches are positioned in other areas. Trenches have also been positioned to examine the route of the new access road and roundabout proposals.

4.2 Excavation Methodology

4.2.0 Turf and any other overburden will be removed by a small tracked machine fitted with a toothless bucket.

4.2.1 Following removal of the turf/overburden, excavation of the earthwork trenches will be by hand.

4.2.2 Where archaeological features or layers are certainly or probably present, the stripped areas will be cleaned using appropriate hand tools (hoes/trowels).

4.2.3 Sufficient of the archaeological features and deposits exposed will be excavated or sampled by hand to satisfy the aims of the brief, without compromising the objective set out in 3.2.

4.2.4 All finds and artefacts will be retained on-site. At the post-excavation stage (see below, 4.5) the collection policy of the recipient museum will be followed and which may involve the discarding of certain classes of building material such as brick and tile or flint nodules after recording with only a representative sample being retained.

4.2.5 Conservation on site will follow guidelines in **First Aid For Finds** with any other specialist conservation work subcontracted to an establishment such as Wiltshire County Council Conservation Centre at Salisbury Museum.

4.2.6 Discovery of any human remains will be reported to the coroner. No further action will be taken as part of the evaluation exercise other than to satisfy the aims of the project. The burials will be covered and protected prior to backfilling.

4.2.7 Spoilheaps will be searched for finds.

4.2.8 An extensive programme of environmental sampling will not take place but any significant deposits will be sampled in consultation with the Heritage Officer and in consultation with our environmental consultants and English Heritage regional scientific advisor as appropriate.

4.2.9 A metal detector will be used to enhance recovery of metal artefacts. This work will be carried out by in-house staff with no removal of finds without reference to contextual information. No title will be assumed by the finder. Gold or silver finds will be reported to the Coroner and kept in a secure place as required by the Treasure Act (1996).

4.2.10 Following completion of all excavation and recording, the trenches will be efficiently backfilled but will not be resurfaced, returfed or reseeded.

4.3 Not used

4.4 Recording Methodology

4.4.1 A single context recording system will be used in accordance with the TVAS Field Recording Manual (3rd edition 2000). Descriptions of individual deposits and features will be recorded on pro-forma context recording sheets.

4.4.2 All archaeological deposits exposed will be planned at a scale of 1:20 and sections drawn at a scale of 1:10. All site drawings will be by pencil on drafting film. A representative section of a segment of each trench will be drawn even if devoid of archaeological features.

4.4.3 Heights above OD will be taken and recorded on plans and sections.

4.4.4 Where appropriate, significant finds will be recorded in 3D.

4.4.5 The locations of the trenches, and of all plans and sections will be tied into the National Grid.

4.4.6 A full photographic record will be made of the evaluation project, consisting of colour slide, colour print, and b/w print (contact sheet). It will record the principal features and finds discovered, both in detail and in their general context.

4.5 Post-fieldwork

4.5.1 Finds processing and analysis will commence immediately following the completion of the fieldwork in accordance with guidelines in MAP2 (see also 6.1 below).

4.5.2 Artefacts/ecofacts will be cleaned, conserved and prepared for long term museum storage to accord with the recipient museum policy and *Standards in the Museum care of archaeological collections* (Museum and Galleries Commission 1994).

4.5.3 Specialist reports will be prepared on the artefacts recovered, Particular attention will be paid to correlating the pottery recovered with local or regional fabric type sequences.

4.5.4 Specialist analysis and reporting will be carried out by the following specialist staff or consultants as appropriate:-

pottery - Dr J Timby, Mr P. Blinkhorn or Dr. M. Lyne (consultants)
stone - Dr D Williams (Southampton University)
metalwork - N Powell (TVAS)
bone - S Hamilton-Dyer (consultant) or S Anthony (TVAS)
botanical/ environmental remains - Dr M Robinson or Ms Ruth Pelling (Oxford University Museum)
peat /pollen - M Keith-Lucas (Reading University) or P Wiltshire (Consultant)
struck flint - Dr S Ford (TVAS)
human bone- W White (Museum of London) or S Anthony (TVAS)

5.0 Report and Dissemination

5.1 The report will follow our established format, comprising a descriptive text, illustrations and catalogues in appendices.

5.2 The text will address the aims and objectives of the evaluation, the methodology employed, describe the basic nature of the archaeological deposits discovered, and report on the artefacts recovered. It will then attempt to place the significance of the findings in their local, regional and national setting.

5.3 The report will include a frontsheet providing the following information:

*Site name
*Grid reference
*Site activity (eg. evaluation trenching, geophysical survey, fieldwalking, watching brief, excavation etc.)
*Date and duration of project
*Site code
*Area of site
*Summary of results
*Monuments identified (referenced to the RCHME Thesaurus of Monument Types
*Location and reference of archive

5.4 The illustrations will include:

a site location plan
a trench layout plan
trench plans and sections
profiles/sections of a representative selection of excavated features
a selection of colour photos of significant findings

5.5 Catalogues giving descriptions of trenches, archaeological features, and artefacts

will be contained in a series of appendices.

5.6 Any findings of academic merit will be published as a note in an appropriate journal such as the *Berkshire Archaeological Journal.*

5.7 A copy of the results will be supplied to the Bracknell Forest Borough Council SMR and planning department as will a representative set of catalogued slides illustrating the project if requested.

6.0 Archive Deposition

6.1 The finds and site archive will be prepared in accordance with guidelines in **Management of Archaeological Projects 2** and after consultation with the recipient museum.

6.2 The site archive will be deposited with Reading Museum.

6.3 The site finds will be deposited with Reading Museum with the agreement of the landowner.

6.4 The records will be copied onto microfiche for the National Archaeological Record.

7.0 General Items

7.1 The project will be managed on a regular basis by a Member of the Institute of Field Archaeologists (S. Ford, M. Hall or G Hull) with an appropriated area of competence.

7.2 The project will be carried out in accordance with the IFA Code of Conduct, Code of Practice and Standards and Guidance for Field Evaluations, Finds work and desk-based assessments.

7.3 Safe working practices will be as set out in the TVAS health and safety manual and current health and safety regulations will be adhered to. Deep trenches will be shored or battered if access is required. Trenches will be fenced with barrier mesh/ road pins if appropriate.

7.4 In the event of any dispute with the client arising out of this scheme of investigation either party may refer to the Arbitration Scheme of the Institute of Field Archaeologists for a decision.

7.5 Our insurance cover comprises £5 million for public liability, £10 million for employee liability, cover for any hired-in plant, and professional indemnity cover of £2m.

8.0 Timetable

It is anticipated that 25-30 person/days will be needed for fieldwork and a lesser number for post-fieldwork.

A report on the results of the evaluation should be available within 2 weeks of completion of the fieldwork.

9.0 References

ENGLISH HERITAGE 1991, **Exploring our past**. English Heritage, London.

ENGLISH HERITAGE 1997, Research Agenda (Draft, 8th April), Archaeology Division, English Heritage, London.

HARDY, 2001, Transport Research Laboratories, Crowthorne, Bracknell, input to an Environmental Assessment, Peter Brett Associates, (Draft).

PPG16, 1990,*Archaeology and Planning*. DoE Planning Policy Guidance note 16. (HMSO).

WOKINGHAM DISTRICT COUNCIL
ENVIRONMENTAL PROTECTION AND HOUSING

MEMORANDUM

To: Ron Madell
Development Control

Your Ref: CON/2001/4524

From: John Mullaney
Environmental Heath

My Ref:

Date. August 8, 2001

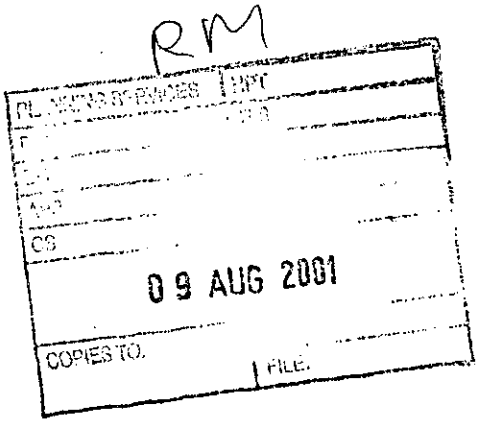
PROPOSED: CONSULTATION ON ERECTION OF B1 OFFICE BUILDING AND B8 STORAGE.

LOCATION: TRANSPORT RESEARCH LAB, OLD WOKINGHAM ROAD, WOKINGHAM W.O.

These proposals have been evaluated and I have no environmental health objections to the application.

JOHN MULLANEY
SENIOR ENVIRONMENTAL HEALTH OFFICER
ENVIRONMENTAL PROTECTION AND HOUSING

RM



HIGHWAYS CONSULTATION SHEET

From: Ron Madell **Date:** 01 August 2001

Application Number: CON/2001/4524

Proposal: Consultation from Bracknell Forest BC on application for the erection of a three storey B1 office building and B8 storage building. Construction of access road and bridge over test track to form vehicular access onto Nine Mile Ride via new roundabout with associated car parking and landscaping.

Parish:

Site Address:
Transport Research Laboratory, Old Wokingham Road, , Crowthorne.

Applicant:
Trl Ltd C/O Legal & General Investment Management.

Your observations are required in respect of this application within **7 days** of the above date.

✓ below as applicable;

1) ☐ Recommend refusal for the reason(s) **stated below;**
2) ☐ Recommend approval but with condition(s) & reason(s) **stated below;**
3) ☐ Recommend approval with **no** condition(s) or reason(s).

WHILST THE LAND TO BE DEVELOPED IS WITHIN BRACKNELL BC'S ADMINISTRATIVE BOUNDARY, A SIGNIFICANT AMOUNT OF THE TRAFFIC IMPACT OF THE DEVELOPMENT WILL AFFECT ROADS & JUNCTIONS WITHIN WOKINGHAM. THEREFORE, IN ORDER TO COMMENT FORMALLY ON THE APPLICATION, TWO COPIES OF THE TRANSPORT ASSESSMENT ARE REQUIRED.

ON A GENERAL POINT, I AM CONCERNED AT A DEVELOPMENT OF THIS TYPE & SCALE IN A LOCATION NOT WELL SERVED BY MEANS OF TRANSPORT OTHER THAN THE PRIVATE. IT MAY ALSO BE WORTH WOKING BRACKNELL BC WHAT PROVISION IS BEING MADE TO SECURE A GTP & APPROPRIATE CONTRIBUTIONS TOWARDS MORE SUSTAINABLE FORMS OF TRAVEL.

R 14/8/01

Tel: (0118) 974 6229 (Direct Line)
jE-mail: Ron.Madell@wokingham.gov.uk
Date: August 14, 2001
My ref: F/2001/4524
Your ref: 01/00722/FUL/CONS

Environmental Services Department
Planning Services
P.O. Box 157
Shute End, Wokingham
Berkshire RG40 1WR
Tel: (0118) 974 6000
Fax: (0118) 974 6484
Minicom No: (0118) 974 6991
DX: 33506 – Wokingham

Attention: Mr E Konig
Borough Planning Officer
Bracknell Forest Borough Council
Time Square, Market Street
Bracknell, Berkshire
RG12 1JD

Dear Mr Holmes

OBSERVATIONS TO BRACKNELL FOREST BC - TRANSPORT RESEARCH LABORATORY, OLD WOKINGHAM ROAD, CROWTHORNE

Thank you for your letter of 27th July, referring this major scheme to this Authority for observations.

The Council is of the view that, given the significant increase in vehicular traffic likely to be generated by the development, a Transport Assessment is required in this case. We are aware that an Environmental Statement has been submitted, but the section on Traffic and Transportation (4.2) does not deal in sufficient detail with the traffic generation predictions, and the statistical basis for the consultants' conclusions that relatively minor roundabout alterations will constitute adequate mitigation in highways terms.

Would you please treat this letter as a holding objection, pending receipt of the information requested.

If you wish to discuss this matter please speak to Mr Ron Madell on the above extension.

Thank you.

Yours sincerely

MLT

M L Thorp
Principal Development Control Officer

WOKINGHAM D.C. DEVELOPMENT CONTROL

Start date: 30 JUL 2001

Officer: ~~EK~~ RM | Application No. CON/2001/4524

Map No. ..... Site .....

Easting: ..... Flood Pln .....

Northing: ..... Mineral .....

Level: ☐ Sub Committee ☑ Delegated ☐ Sec. State

☐ Incorrect Fee ☐ Invalid ☐ PD

Description:

(CON) Consultation from Bracknell Forest BC on application for the erection of three storey B1 office building; and B8 storage buildings. Construction of access road and bridge over test track to form vehicular access onto Nine Mile Ride via new roundabout with associated car parking & landscaping.

Location: Transport Research Lab, Old Wokingham Rd.

Parish: CROWTHORNE Ward: Lewis, Heller-Symons AJ Ross

Applicant: TRL Ltd

Fee Received ✓ Required ..... Additional ..... Refund .....

Enforcement Section to be notified ☐ tick if required

Additional information required for validation

		Reason	Requested	Received
1	1:2500 OS location plan showing property edged in blue/red			
2	1:500 block plan showing existing & proposed dev. + adj. Properties			
3	Forms unsigned			
4	Correct S 66 certificate			
5	Elevation plans			
6	Floor plans			
7	Metric scale disclaimer			
8	Encroachment letter			
9	Miscellaneous			

APPLN NO. _____

ACTION REQUIRED BY DEVELOPMENT CONTROL

Conservation Area .....

Listed Building 1 2 2*

Advertisement Required .....

Date Site Notice Sent : ..... Parish Council Informed - YES / NO

INTERNAL CONSULTATIONS

Building Control .....
Landscape .....
Trees .....
Conservation Officer .....
Environmental Health ✓ .....
Housing .....
Leisure & Cultural services .....
Public Rights of Way .....
Property .....
District Secretary (only if called in by SOS) .....
Policy & Plans .....
Strategic Planning (JSPU) .....
Minerals (INTERNAL) .....
Archaeological Site (BABTIE) : .....
Education .....
Social Services .....
Highways ✓ .....

EXTERNAL CONSULTATIONS

Adjacent D P A ✓ : .....
Adjacent Parish WOR W lout : .....
Southern Electricity Board .....
British Gas .....
PSA Oil Pipeline .....
Transco : .....
Environment Agency .....

Rail Track .....
Police Arch. Liaison Officer .....

HERITAGE BODIES

The Georgian Group .....
Ancient Monuments Society .....
Council for British Arch. .....
RCHME .....
Telecommunications (NRPB) : .....
Sport England : .....

OTHERS:

.....
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.....

NEIGHBOURS:

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CON/2001/4524

Planning & Transportation

Borough Planning Officer : Mike Holmes BSc (Econ) DipTP MRTPI

This matter is being dealt with by:

Erich Konig 01344 351137

27th July 2001

Our Ref: 01/00722/FUL/CONS

30 JUL 2001

Wokingham District Council
Planning Department
PO Box 15
Shute End
Wokingham
Berkshire
RG11 1WR

BRACKNELL FOREST BOROUGH COUNCIL

Time Square
Market Street
Bracknell
Berkshire
RG12 1JD
☎ 01344 424642
Fax 01344 351104
DX 33611 Bracknell
Minicom 01344 352045
www.bracknell-forest.gov.uk

Dear Sir/Madam

DESCRIPTION: Erection of three storey class B1 office building (9,959 sq m) and storage building (1,307 sq m). Construction of new access road and bridge over test track to provide vehicular access onto Nine Mile Ride via new roundabout. Formation of associated car parking and landscaping.

LOCATION: Transport Research Laboratory Old Wokingham Road Crowthorne

REFERENCE: 01/00722/FUL

CASE OFFICER: Erich Konig 01344 351137

Town and Country Planning Act 1990

Please find enclosed a copy of the above planning application.

I shall be grateful if you would consider the proposal and advise me of any relevant views you may have. Any comments should be expressed in writing and received within 21 days of the date of this letter.

Please do not hesitate to contact the Case Officer, Erich Konig, on direct line 01344 351137, should you have any queries on this matter.

Yours faithfully

E.A.König

For Borough Planning Officer

Enc.

Time Square,
Market Street,
Bracknell,
Berkshire. RG12 1JD
Tel: (01344) 424642
Fax: (01344) 351104
DX 33611

Planning Application CON/2001/4524

Application for permission to carry out development
Town and Country Planning Acts

Mike Holmes BSc (Econ) DipTP MRTPI Borough Planning Officer

BRACKNELL FOREST BOROUGH COUNCIL

00722

- Please answer all questions in block letters
- If a question is not applicable, answer N/A
- Please submit SIX copies of forms and plans to the address above.
- Applicants Notes are available to assist completion of this form.

RECEIVED 20 JUN 2001 PLANNING AND TRANSPORTATION B.F.B.C.

Part 1

1	Applicants Name		TRL Limited (TRANSPORT RESEARCH LABORATORY)
	Address		OLD WOKINGHAM ROAD, CROWTHORNE, BERKSHIRE
	Post Code		RG45 6AU Phone: 01344-773131
2	If the applicant has an agent, all correspondence will be sent to the agent.	Agents Name	LEGAL & GENERAL INVESTMENT MANAGEMENT
		Address	BUCKLERSBURY HOUSE, 3 QUEEN VICTORIA STREET, LONDON
		Post Code	EC4N 8NH Phone: 0207-528-6500
3	On the plans show the site outlined in **RED**. Show also **OTHER** land in the applicant's ownership or control in **BLUE**. (see note 4).	Site Location/ Address	WITHIN EXISTING NORTHERN TEST TRACK, TRL SITE, OLD WOKINGHAM ROAD, CROWTHORNE, BERKSHIRE, RG45 6AU.
4	Description of Proposal: Give brief details and state for what purpose this site and any buildings will be used.		ERECTION OF NEW HEADQUARTERS WITHIN B1 USE FOR TRL LIMITED. (TRANSPORT RESEARCH LABORATORY)
5	Give the area in hectares or part of a hectare. (see note 2).	Area of site	WITHIN APPLICATION RED LINE 6.5 HECTARES
6	State the applicant's interest in the land, e.g. owner, prospective purchaser, lessee.	Ownership	LEASEHOLDER
7	List all the plans and drawings submitted with this application or provide a schedule.	Plans/Drawing	REFER TO DRAWING SCH.

8 Does the application involve any of the following? Tick the relevant boxes.

Change of use		Redevelopment	✓
Erection of a new building	✓	Alteration/Extension	
		Demolition	✓

9 What type of application is this? (see note 2). Tick one box only.

Outline permission (see question 10 overleaf)		State relevant outline permission number. Also complete Q.10	
Full permission	✓		
Approval of details/reserved matters		State period required	
Temporary permission			
Variation of conditions		State relevant application no. and Condition no.(s) to be varied	

10	If this is an outline application or an approval of reserved matters, which details, if any do you wish to be considered as part of the application?		External appearance ~~Means of access~~ ~~Landscaping~~ N/A Siting Design
11	What is the existing use of the land and/or buildings(s)? eg. residential, industrial, etc. If the site is vacant say so, and also state its previous use and when that ceased.		TEST ROADS, HARDSTANDING, STORAGE SPACE FOR USED TEST CARS, CONCRETE BATCHING PLANT, PAVEMENT TEST FACILITY
12	Does a public right of way cross or abut the site or the proposed access?	~~Yes~~/No	If yes, show existing route(s) and any proposed alternatives on the plans.
13	Are there any existing trees on the site?	Yes/~~No~~	If yes, please show positions, spread and species on the plans indicating which, if any, are intended to be felled.
14	State external materials to be used (if known)		CURTAIN WALLING, RENDER AND PROFILE STEEL CLADDING
15	How will the site be enclosed? Say whether walls, fences, or hedges and give height, colour and materials. If the site is divided into plots,say how each is to be enclosed.		AS EXISTING
16	How will surface water be disposed of?		NEW SYSTEM TO LOCAL AUTHORITY SURFACE WATER SYSTEM
17	How will foul sewage be disposed of? Please indicate line of existing or proposed on the plans.	To existing system Yes/No	If no, please give details: NEW SYSTEM TO CONNECT TO LOCAL AUTHORITY SEWERS
18	What are access arrangements? Give details of pedestrian and vehicular access.	As existing	LIGHTWEIGHT BAILEY BRIDGE
		As proposed	NEW ACCESS FROM NINE MILE RIDE WITH NEW BRIDGE OVER EXISTING TEST TRACK
19	Has provision be made for the disabled? (see note 8).		YES

20 If this proposal involves residential development or the loss of residential units, complete the following table. (see note 5).

	Number of dwellings			Number of habitable rooms		
	Proposed	To be retained	To be lost	Proposed	To be retained	To be lost
House						
Bungalow		N/A			N/A	
Flat/ Maisonette						
Other						

21	Does the proposal involve any non-residential building or use?	Yes/~~No~~	If yes, complete part 2 of the form
22	State the fee enclosed with this application.	£ 1,500	N.B. A separate fees schedule must be completed and enclosed with this application form.

I hereby apply for permission in respect of the particulars described above and in the attached plans and drawings.

Signed: N. Baker on behalf of: TRL LIMITED Date: 20.7.01.

Before submitting the application check that it is complete, that all questions have been answered and that the site boundary and the new work are clearly edged in RED and all new work is clearly distinguished on the plans (see note 4). Every application must be accompanied by the appropriate certificate and fee.

Part 2

This part of the form need only be completed if the application involves non-residential development. Please answer all questions in block letters. If the answer is not applicable, write N/A in the space provided. Space is provided overleaf for any additional information. Applicants Notes are available to assist completion of this form.

23 State the gross floor space (by external measurement) of all buildings to which this application refers (metric units only).

Use class (as defined in the use classes order)		Existing floor space		Proposed additional floorspace created by	
		Retained in existing use	Lost by change of use or demolition	New building	Change of use
A1	Shops				
A2	Financial & Professional services				
A3	Food & Drink				
B1(a)	Office (other than A2)			9,959	
B1(b)	Research & Development			3,624	
B1(c)	Light industrial				
B2	General Industrial				
B8	Storage or distribution			1,307	
C1	Hotels & Hostels				
C2	Residential Institutions				
D1	Non-Residential Institutions				
D2	Assembly & Leisure				
Other	Please Specify				
Other	Please Specify				
Total				14,890	

24 If C1 or C2 use is proposed, please state number of bed spaces. — N/A

25 What provision is being made for parking, loading and unloading on site? (show location on the plans and distinguish between parking for operational needs and other purposes). — REFER TO SITE PLANS

26 Describe the activity or processes to be carried on. Please provide details of any equipment, plant or machinery to be installed and any end products. — TRL ACTIVITIES, ADMINISTRATION, RESEARCH & DEVELOPMENT, TESTING.

27 Who will occupy the premises?
a) Give the name and current operating address of the proposed occupier. — TRL (AS ANSWER 1.)
b) Will these premises be vacated? — YES

28 If known, how many people are likely to be employed on site after completion of the development?

Existing staff	Transferred staff	New staff	Total
500-550			

29 Does the proposal involve the use or storage of hazardous substances? If so, state this material, the quantity and method of storage. A separate consent may be required. (see note 6). — Yes/No

30 What is the nature, volume and proposed means of disposal of any trade effluents, waste or refuse? — AS EXISTING, BY CERTIFIED CONTRACTOR

31	Is the proposal related to an existing or recent planning application on or near the site?	~~Yes~~/No	If yes, please explain the relationship.
32	What is the estimated vehicular traffic flow to/from the site during a normal working day?		REFER TO ENVIRONMENTAL STATEMENT / SECTION 4.2

Additional Information:

PLEASE SEE THE :-

ENVIRONMENTAL STATEMENT.
ARCHITECTS DRAWING SCHEDULE.
ARCHITECTURAL DESIGN STATEMENT.
COVERING LETTER FROM LEGAL & GENERAL

Data Protection Act 1984

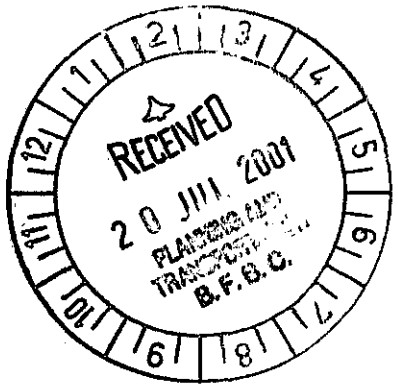
Information contained in this form is likely to be personal data within the terms of the Data Protection Act 1984, and as such will be held by the Council on computer and may be used by the Council only for purposes registered under the Data Protection Act.

CON/2001/4524

Our Ref LGP/BH/AM/NGB/AR
Your Ref
Direct Tel 020 7 528 6909
Direct Fax 020 7 528 6848
E-Mail nick.baker@lgim.co.uk
Date 20 July 2001

Legal & General

00722



Investment Management - Property
Bucklersbury House
Queen Victoria Street
London EC4N 8NH

Telephone 020 7-528 6500

Acting as Agent for:
Legal & General Assurance Society Ltd

Borough Planning Officer
Bracknell Forest Borough Council
Time Square
Market Street
Bracknell
Berkshire RG12 1JD

Dear Sirs

TRL Site, Crowthorne

We act on behalf of the Transport Research Laboratory (TRL Limited), and now enclose a planning application on their behalf for the erection of an office building, test laboratory, workshop and warehouse, for the laying out of a car park, service area and roundabout/bridge/access road and ancillary landscaping, all to be sited on land immediately surrounding one of the existing major test facilities, just to the east of TRL's existing accommodation and with access from Nine Mile Ride.

The TRL is, as you know, a former governmental organisation, which was privatised in 1996. It is now an internationally operating company providing consultancy advice on a wide range of transport issues. It has an outstanding reputation both nationally and internationally and has contributed to safer roads and vehicles, reduced traffic noise from trunk roads, and less disruption from roadworks, to name only some of its areas of operation in a wide spectrum of transport. The results of its research continues to produce huge benefits to the community, the taxpayer and UK plc.

The present accommodation occupied by TRL in unsuitable and ageing buildings no longer fits with its requirements as a world renowned, innovative and efficient company which has and attracts a wide and distinguished client base. TRL now seeks a new headquarters tailored to its role in the 21st century. We consider that the use of the proposed facility, which will comprise offices with research and development laboratories, together with ancillary storage, will be within class B1 of the Town and Country Planning (Use Classes Order) 1987.

The TRL site is located immediately to the north-east of Crowthorne. It is triangular shaped, and enclosed by Nine Mile Ride in the north, Old Wokingham Road in the west and the Sandhurst-Crowthorne Bypass and Bracknell Road in the south east.

The site is divided into two parts:

- A predominantly office development in the north western corner of the site;
- A test track and other testing areas located within the woodland of the rest of the site.

The proposed development is situated within the north eastern loop of the test track occupying an area of approximately 3.5 hectares in a location currently occupied by test roads, storage space for used test cars and bridge beams, a pavement test laboratory,

Legal & General Property Limited
Registered in England No. 2091897
Registered Office: Temple Court,
11 Queen Victoria Street, London EC4N 4TP

material storage facility, concrete batching plant and several other small buildings all in use by TRL.

The proposed development is designed by Thorpe Architecture specifically to the requirements of the TRL, and will be a building of the highest quality designed specifically pursuant to TRL's brief. This identifies clear building uses relating to administration, research and development and test procedures to be integrated in the new building design in a three storey office element linked to a single storey and mezzanine flexible linear research and test element by a connecting 'street'. The office element is split into two equal wings providing clarity and focus to the building entrance, and shields the laboratory element to the rear.

Access is adjacent to the car parks, with the service area to the rear adjacent to the areas where testing takes place.

The visual image of the building is modern and smooth skinned, with external materials which echo the nature of research activities carried out within, including glass/aluminium framing combined with rendered service/escape cores and linking to the more 'engineered' feel of the larger scale activities. The 'street' link provides an element of focus and modulation connecting the building and landscape with an iconic form which provides identity for the building and its occupiers.

The surrounding car park areas maintain the forest feel of the surroundings. The more solid looping service road leads to gravel treated tarmac car park access aisles, breaking out into retained gravel parking bays utilising existing contours with rustic 'wheel' stops. Large landscape swathes between parking bays provide also for surface water drainage solutions. Adjacent to the building a harder surface approach is utilised, to define visually the extent of the new facility and create level access for façade cleaning.

Control of surface water is provided by the introduction of a suitably planted dry/wet balance area.

The development will enable TRL to stay on site, and to retain existing staff. It will in itself be neutral in respect of transport implications, with the only new issue arising in this area from the construction of the enhanced access onto Nine Mile Ride. A Transport Assessment has been prepared by Peter Brett Associates on the basis of green travel plans and targets already in existence. From the traffic impact element of this assessment it is shown that it is desirable that there should be minor improvements at the Nine Mile Ride/Old Wokingham Road and Nine Mile Ride/Crowthorne Road roundabouts, and the installation of a cycleway/footway along Nine Mile Ride with enhanced crossings to join the Southern Bracknell cycleway, together with other reasonable improvements in the area biased towards public transport as may be proposed by the Council. This will be met as appropriate through a Highway Agreement to be negotiated.

The proposal lies outside the designated Major Employment Area under policy E13 of the Bracknell Forest Borough Local Plan as modified in May 2001, and is therefore covered by policy EN8, which deals with development on land outside the settlements. This provides that:

> "Outside the defined settlement boundaries, development will be permitted only where it would not adversely affect the character, appearance or function of the land, would not damage its landscape quality and, where conspicuous from the green belt, would not injure the visual amenities of the green belt."

The policy makes it clear that development permitted in this way may include development for agriculture and forestry, and other development permissible in the green belt but is not restricted to these purposes. Accordingly, there is therefore no reason why the present proposals should not be considered within the remit of this policy.

Nevertheless the proposed development must satisfy the test that:

- It would not adversely affect the character, appearance or function of the land;
- Would not damage its landscape quality.

The site does not adjoin the green belt, and will not injure its amenities.

The proposals have been the subject of proper environmental assessment by Peter Brett Associates pursuant to a scoping report agreed with the Council.

The proposed location and siting of the development have been specifically selected so that it will occupy a site which is currently substantially occupied by hard standing, and it is considered by Peter Brett Associates to be the best available option within or near the TRL site for the location of the new facility from an environmental perspective.

It is apparent that the character and function of the land at present is of hard built development associated with and ancillary to the TRL, and this will not be adversely affected by the proposed development.

Its appearance and landscape quality are extensively assessed in the environmental assessment by landscape architects Whitelaw Turkington, including, in particular, the effect of the access onto Nine Mile Ride, and the effects on Old Wokingham Road, and the environmental effects are assessed at low or moderate following mitigation, which will result from the landscape strategy. This strategy sees the building conceptually as being within a forest clearing, creating an open centre with a protective envelope of vegetation - a concept which effectively expands the pattern of open space and closed canopy presently existing on the site. The strategy will help to create an appropriate setting for the building and give the opportunity to develop the more valuable qualities of plant species within woodland edges, existing only in small part now, into a more significant landscape resource.

It will be seen from this that the requirement in policy EN8, that development on land outside settlements should not damage landscape quality, will be met.

On this basis we consider that the requirement that development permitted should be in accordance with the development plan, unless material considerations indicate otherwise as set out in Section 54A of the Town and Country Planning Act 1990, is met and since there are obvious advantages at the national, regional and local level to the granting of permission, we would ask that the application receive favourable consideration.

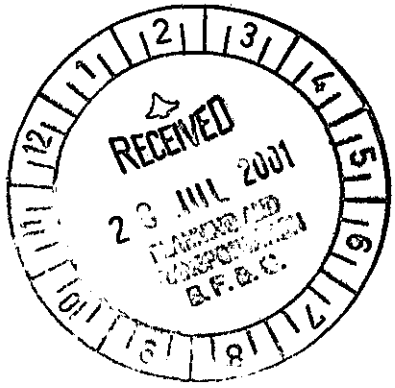
Please do not hesitate to contact Stephen Sawkings of Thorpe Architecture, acting as our agent, in the event of any questions or if additional information is sought.

Yours faithfully

N. Baker.

Nick Baker
for and on behalf of
Legal & General Investment Management Limited

00722



TRL – NEW HEADQUARTERS

CROWTHORNE BUSINESS PARK

Architectural Design Statement

7 JULY 2001

Thorpe Architecture
Sparks Yard, Tarrant Street, Arundel
West Sussex. BN18 9SB
Tel: +44 (0) 1903 883500 Fax: +44 (0) 1903 882100
Email: thorpe.architecture@thorpearch.co.uk

1.0 GENERAL DESCRIPTION

TRL have developed a detailed brief for the consolidation of their overall operations within a single building. The commercial realities of the 21st Century demand that TRL utilise new and emerging technologies to serve their existing and develop new clients. During this brief assembly TRL have fully explored existing workplace practices and suitability of existing premises for their ongoing business needs. This exploration has determined the extent of the proposed facilities and the requirement for a bespoke building.

The opportunity also includes for the integration of the new facility with the existing test track, reinforcing the unique nature of the location. This in turn assisted in the determination of the proposed site – making best use of existing retained test equipment.

In addition to the above, it is vital that the new facility is capable of being provided without impacting on the existing core business.

2.0 BUILDING DESIGN

The proposed site is currently occupied by significant areas of hard-standing and a pavement test facility, which is to remain.

During design development, location and orientation of this existing test facility greatly impacted on the positioning of the new headquarters. The brief identified clear building uses, related to administration, research & development and test procedures. Whereas previous facilities created a disparate relationship, the new facility is used to bind these uses together. This generated the proposal of three-storey office accommodation linked to single storey and mezzanine laboratory accommodation via a communicating street.

Various forms of building massing were explored. The need to form a new vehicular access from Nine Mile Ride, cross the existing test track and relate the building orientation to the existing buildings provided constraints that assisted in creating the building form.

Access is via a new roundabout on Nine Mile Ride, providing for pedestrian cycle and vehicular use. Crossing the test track with a new bridge commences the opportunity for a 'processional' approach.

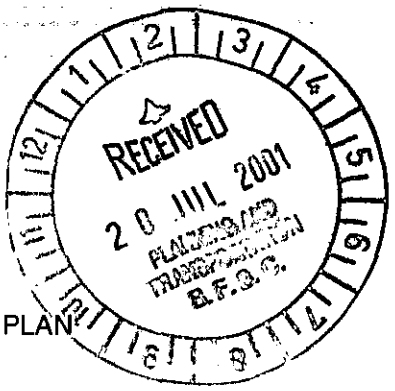
By splitting the office accommodation into two equal wings, provides the opportunity to focus the approach into the main building entrance. By orienting the building in this manner, and linking via the street to a flexible linear laboratory and test facility, the existing testing building is shielded from view.

This manner of access provides for vehicular pedestrian and cycle access to be created adjacent to the majority of parking areas. The access road is continued as a loop around the building – allowing for the separation of service vehicles and the creation of the 'back lot' where the majority of testing commences.

This 'back lot' is contained by the new headquarters, the new storage building and the existing testing facility. Whilst functional in nature – the relationship formed provides for efficient use of space and a sense of enclosure.

A4545 TRL FACILITY

00722



LANDSCAPE

L4545	0001	PROPOSED LANDSCAPE MASTER PLAN
	0002	SECTION A-'A

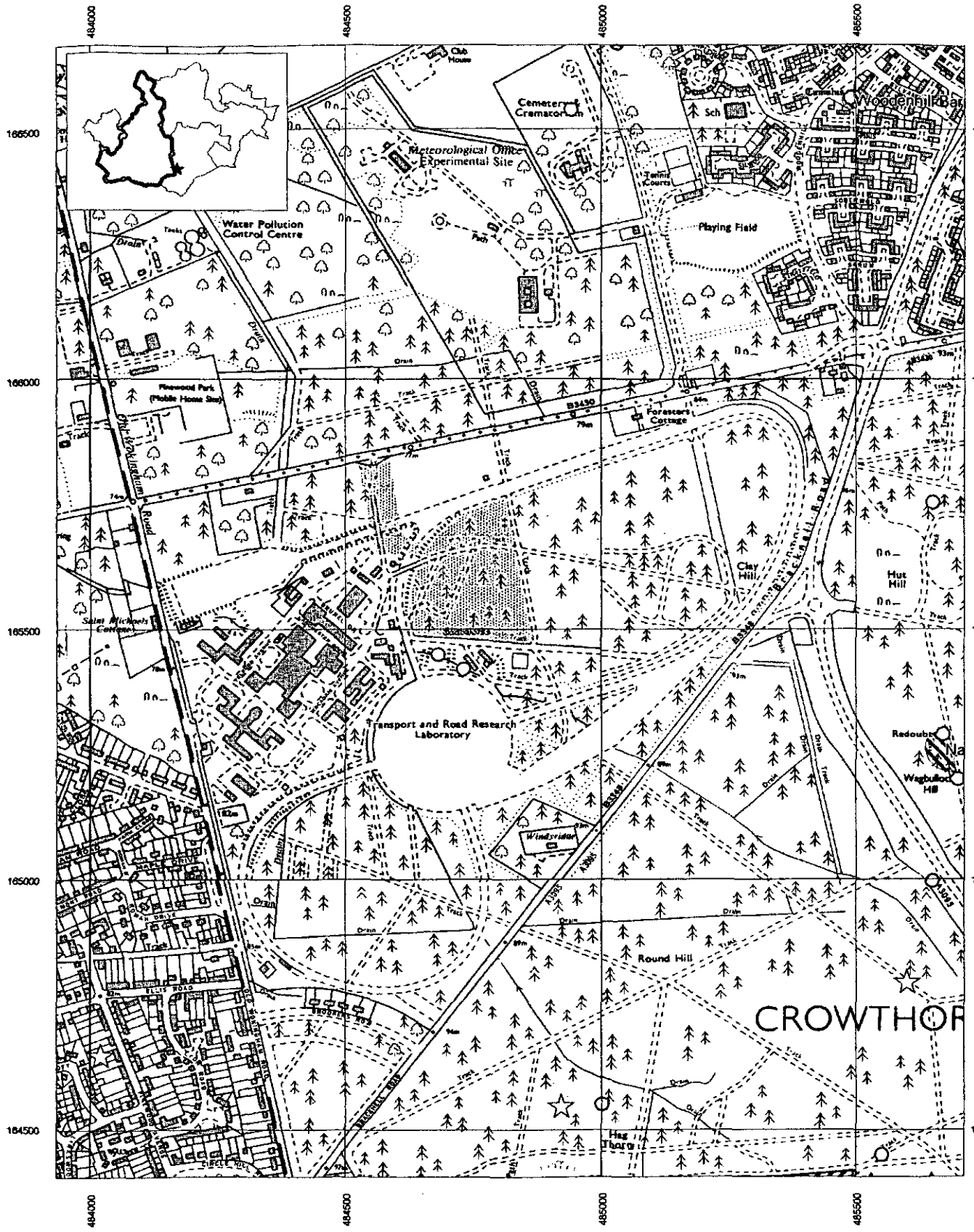
CIVIL ENGINEER

CE4545	0001	ACCESS BRIDGE OVER TEST TRACK

ARCHITECT

A4545	0001	LOCATION PLAN
	0002	PROPOSED SITE PLAN
	0003	PROPOSED FLOOR PLANS
	0004	PROPOSED NORTH AND EAST ELEVATIONS
	0005	PROPOSED SOUTH AND WEST ELEVATIONS
	0006	SECTION A-A AND B-B
	0007	SECTION C-C
	0008	SECTION D-D AND E-E
	0009	PROPOSED STORAGE BUILDING PLAN AND ELEVATIONS

THORPE ARCHITECTURE
04-Jul-01



CON/2001/4524

Transport Research Lab

Produced from Wokingham District Council Sites and Monuments Record

Scale 1:10993 *21 August 2001*

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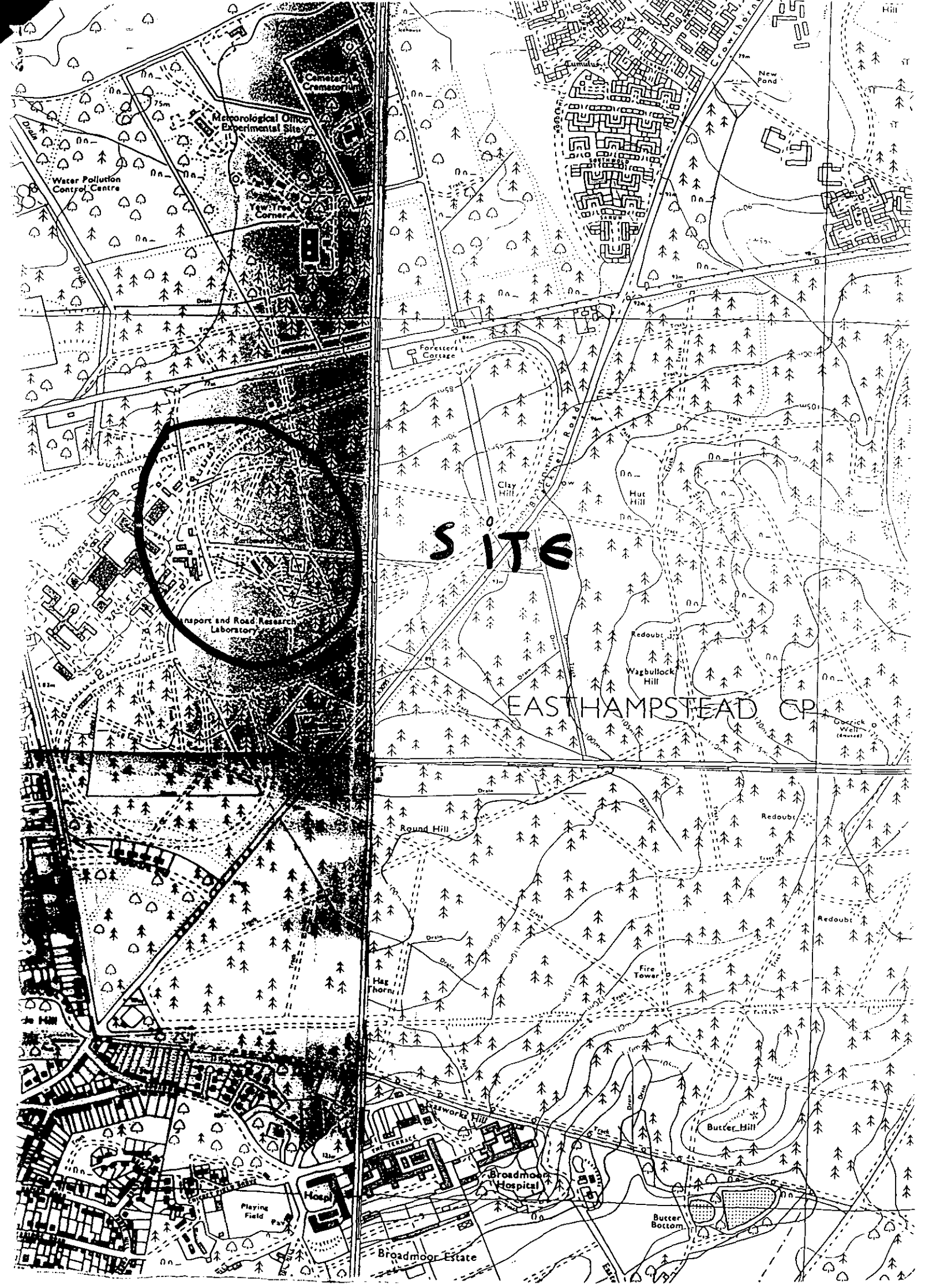
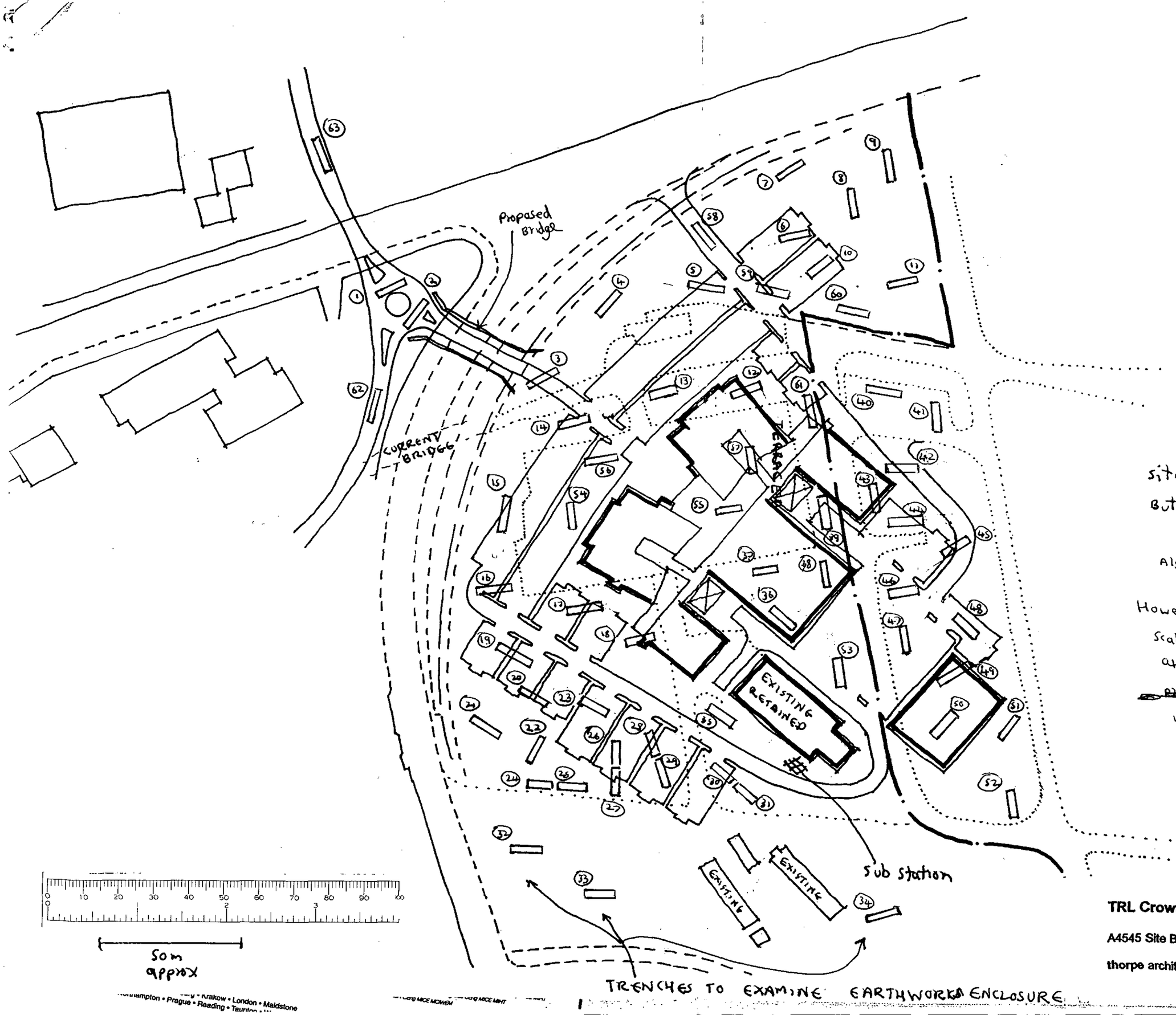
WOKINGHAM DISTRICT COUNCIL, LA086134, 2001

Babtie
Archaeological Consultants to
Wokingham District Council

WOKINGHAM DISTRICT COUNCIL



Cemetery & Crematorium
Meteorological Office Experimental Site
Water Pollution Control Centre
Yew Tree Corner
Forestry Cottage
Clay Hill
Hut Hill
SITE
Redoubt
Wagbullock Hill
EASTHAMPSTEAD CP
Round Hill
Redoubt
Redoubt
Fire Tower
Hag Thorn
Butter Hill
Broadmoor Hospital
Hospl
Playing Field
Butter Bottom
Broadmoor Estate



site Area c. 3.6 ha

But existing structures, roads and truncated areas

Also some areas untouched

However

Scale of landscaping in unoccupied areas unknown and location of balancing ponds unknown.

TRL Crowthorne

A4545 Site Block Plan - Option One

thorpe architecture **march 2001**