Application No: 15/2730N

Location: LAND AT MMU CREWE CAMPUS, CREWE GREEN ROAD, CREWE, CHESHIRE, CW1 5DU

Proposal: Proposed construction and operation of a Deep Geothermal Single Well (DGSW) system including a single vertical well drilled to a depth of 2 km below ground level and associated infrastructure to include above ground well head and perimeter security fence and underground pipeline connection to the MMU Valentine Building plant room, temporary construction access, construction compound and lighting.

Applicant: Mr Ryan Law, Geothermal Engineering Ltd

Expiry Date: 14-Sep-2015

SUMMARY:

There is a presumption in the NPPF in favour of the sustainable development unless there are any adverse impacts that significantly and demonstrably outweigh the benefits.

In terms of sustainability the proposal would satisfy the economic and social, sustainability role by enabling the use of geothermal heat as a low emission, renewable heating solution for the University buildings, reducing energy demand from conventional sources.

This should be balanced against any potential harm to residential amenity and the environment resulting from the landscape and visual impacts arising from the drill rig, and the temporary, short term noise impacts arising from the operation of the drill during the evening and night time periods.

The benefits arising from the proposal are considered sufficient to outweigh any harm caused by the scheme, and the potential harm to residential amenity and the environment can be mitigated to some degree by a range of planning conditions and through the controls in other environmental legislation.

On the basis of the above, it is considered that the short term temporary adverse effects of the scheme are significantly and demonstrably outweighed by the long term social and economic planning benefits created in terms of the provision of renewable, low carbon energy. As such, the scheme is considered to accord with policies of CNBLP, and the approach of the NPPF and is recommended for approval subject to conditions.

SUMMARY RECOMMENDATION: Approve subject to planning conditions

PROPOSAL

This application proposes the development of a deep geothermal system which utilises deep geothermal heat to provide building space heating. The proposed system comprises a deep geothermal well, whereby cold water fed in at surface level is heated within the well and subsequently rises back to the surface via convection. This hot water then passes through a plate heat exchanger in order to provide supplementary heat to existing space heating systems.

The project would initially supply approximately 1GWh per annum of renewable heat to four buildings on the Campus followed by further connections to additional buildings to supply a total of 2GWh per annum.

The following above and below ground elements are proposed:

- Single vertical well drilled to 2km depth, cased to a depth of 1.7km in standard oil and gas casing,
- Insulated pipe installed in the well shaft to within 50m of the bottom of the well,
- Underground pipeline connection between the well head and MMU Valentine Building plant room,
- Above ground well head
- 3m high black chain link temporary perimeter security fencing.
- Temporary construction access, construction compound and lighting

Construction Phase

During the construction phase a temporary site compound would be established including drilling rig, worker welfare facilities and lighting. The total construction process would comprise 4 days for site set up, approximately 35 days for well drilling, and 9 days for site dismantling.

The temporary compound would be formed by laying an impermeable membrane and timber matting across the site, and installation of a collection sump to collect surface water runoff.

Single storey temporary welfare facilities and site cabins (housing site office, workshop and storage accommodation) would be erected within the construction compound. Temporary lighting would be erected for the duration of the construction process.

Drilling Phase

The drilling will be undertaken in a series of stages. Three cellars (1m deep by 2.1m) would be excavated and installed with concrete rings and sleeve casings. A shallow auger drilling rig would then be used to drill a 510 mm diameter bore to a depth of approximately 20 m below ground level and a steel casing would be installed with concrete.

The rig would then be demobilised and all ancillary equipment removed from site. Formation of the conductor installation stage would be undertaken over a four day period, with drilling taking place for up to 12 hours per day.

The drilling rig and ancillary equipment, comprising mud mixing and holding tanks, generators, and cuttings processing and storage units would be installed over a period of 7 days. A 375 mm well-bore would then be drilled to a depth of 500m and lined with a steel casing (cemented in place). This process would take five days with drilling over 24 hours. Preparation of the drill for the second section would then take place over approximately 4 days during which time no drilling would occur.

A 241 mm well-bore would then be drilled to a depth of 2 km over a period of approximately 12 days with drilling over 24 hours. A steel casing would be installed from a depth of 350m to 1.7 km. Placement of the casing and geophysical testing would be completed within 4 days.

The scheme will use a drill rig with hydraulic top drive unit for the main borehole while a shallow auger drilling rig would be used to complete the conductor section.

During drilling, all cuttings would be separated from the drilling fluid using shaker screens and stored in skips. This will then be exported to an appropriate disposal site by a licensed contractor. All excess drilling fluid would be transported and discharged by a licensed contractor.

Site Dismantling Phase

The drill rig and associated equipment would be dismantled and removed from site over a 6 day period; whilst removal of site infrastructure and remaining equipment would take place over 3 day period. Site-run-off would be emptied from the collection sump and removed from site by tanker, to an approved water treatment facility.

The total site construction and operational period is anticipated to be a maximum of seven weeks from initial site set-up to site decommissioning.

Hours of operation

Aside from drilling activities as listed above, the general hours of construction proposed are:

- 06.30 – 19.30 Monday-Friday;
- 07.00 – 13.30 Saturday; and
- No working on Sundays & Bank holidays.

The 24 hour drilling periods would be undertaken for two periods of 5 and 12 days respectively.

Proposed traffic movements

A total of 300 (150 in, 150 out) HGV movements are proposed over the site construction and drilling periods. The maximum daily number of HGV movements would occur during mobilisation and demobilisation of the drilling rig, with 8 two-way movements occurring over a 9 working day period.

SITE DESCRIPTION

The application site is a parcel of land within the Manchester Metropolitan University campus situated off A534 Crewe Green Road, on the eastern edge of Crewe. This is located

approximately 1.7 km to the east of central Crewe, 55 km south of MMU's main campus in Manchester and 24.4 km to the north west of Stoke-on-Trent.

The application site comprises an existing 60 space car park serving the campus which is situated on the northern boundary; the application site also includes an access route through the campus following the existing internal vehicular roads to the roundabout at the junction of A534 Crewe Road, Electra Way and Crewe Green Road.

Immediately to the west and south of the car park are educational buildings and an area of tree planting. To the west beyond the buildings is an all-weather multi use games pitch and further west approximately 100m from the site are residential areas of Ludlow Avenue and Stanhope Avenue. To the north is a small woodland in which Valley Brook flows and beyond this the Hungerford Road allotment and residential areas approximately 120m from the application site. Land to the east comprises woodland vegetation and tree planting which separates the application site from Halls of residence approximately 200m away.

The nearest listed building is the Grade II Listed Delany Building and is located 172m to the east of the application site.

RELEVANT HISTORY: The site has been subject to a number of planning applications largely associated with educational related development; the most relevant including:

- P07/1612 and P08/0517 – Performing arts centre – approved 2008
- P08/1076 – three storey student learning facilities – approved 2008
- P09/0194 – ground floor link extension – approved 2009
- Ref 09/1586N – Erection of an exercise sports science facility - approved 2009

NATIONAL & LOCAL POLICY

National Policy:

The National Planning Policy Framework establishes a presumption in favour of sustainable development.

Of particular relevance are paragraphs 14 concerning sustainable development; paragraph 17 outlining the core planning principles; and paragraphs 93, 97 and 98 addressing climate change and renewable energy.

Development Plan:

The Development Plan for this area is the Borough of Crewe and Nantwich Replacement Local Plan (CNBLP) 2011.

The relevant Saved Polices are: -

NE.5 Nature Conservation and Habitat
NE.9 Protected Species
NE.17 Pollution Control
NE.19 Renewable Energy

BE.1 Amenity
BE.3 Access and Parking
BE.4 Drainage, Utilities and Resources

The saved Local Plan policies are consistent with the NPPF and should be given full weight.

Cheshire East Local Plan Strategy – Submission Version (CELP)

The following are considered relevant material considerations as indications of the emerging strategy:

MP1 and SD1 – Sustainable Development
SD2 – Sustainable Development Principles
SE1 – Design
SE3 – Biodiversity and Geodiversity
SE4 – The Landscape
SE5 – Trees, Hedgerows and Woodland
SE8 – Renewable and Low Carbon Energy
SE12 – Pollution, Land Contamination and Land Instability
SE13 – Flood Risk and Water Management

Other considerations

National Planning Practice Guidance
EC Habitats Directive
Conservation of habitats and species regulations 2010

Cheshire East's Ambition for All Sustainable Communities Strategy (2010-2025) identifies the need to promote sustainable energy sources.

Review of Geothermal Potential in Cheshire East.

In January 2015 the Council's Energy Framework identified Geothermal energy as a significant opportunity to help deliver affordable, sustainable and decentralised energy sources.

CONSULTATIONS:

Highways: The well will be located within an existing car park at the northern end of the campus. Access to the site will take place using the existing access to the campus site, it is proposed to construct the well during the summer break and allow the car park to be available for car parking use for the 2015/2016 academic year.

In regard to traffic movements the site is predicted to have 16 maximum two way movements to the site during the construction period.

The proposal will not create any highway problems on the public highway network and no objections are raised to the application.

Environmental Health:
The proposal is to establish a geothermal heating system. This would require 2 periods of 24 hours drilling activities during the construction phase. Drilling rigs of the scale required in this proposal are considered as high level noise sources and can particularly cause annoyance due to the night time operational aspect and the relative inability to mitigate the range of noise sources on a rig.

The proposed drilling site is located relatively close to residential properties. The noise assessment indicates that the noise levels during this phase could exceed levels inside bedrooms at these properties where sleep disturbance is possible. This section would normally seek to ensure that the night time equivalent noise levels at residential properties do not exceed LAeq 45dB (15 minutes). The noise levels due to drilling activities at properties on Lynbrook Road and Lyncroft Close are predicted to be in excess of this level by a significant margin the 2 drilling periods 5 days and 10 days respectively are relatively short for an operational of this scale.

To make this proposal acceptable to this section we would expect to ensure that noise mitigation measures are optimised where feasible and that noise impacts are reduced and managed extensively. The noise assessment considers mitigation through the erection of large and extensive noise barriers and it is shown that the positive impact of these measures would only just be perceptible. The financial outlay required for such measures is high and the cost per noise reduction element could be considered as disproportionate. It is still considered that some acoustic barrier should be installed to provide some attenuation for lower level (in height) noise sources. This would be in addition to noise mitigation on the drilling rig site from best practice measures, layout and orientation of noise sources. Noise and, if required, vibration monitoring should be carried out by the applicant. Noise monitoring should be compared against noise limits that are proposed below.

The applicant has carried out a local consultation session and letter drop to inform local residents of potential impacts. This engagement should continue throughout the construction process to inform, respond to complaints and, if necessary, aid any particularly vulnerable residents in arranging respite from noise impacts.

In summary, this section would find this proposal acceptable subject to the following planning conditions being attached to any planning permission.

Prior to the commencement of any development a noise management plan for controlling and containing drilling noise shall be submitted to and agreed by the Local Planning Authority. The plan shall include the following aspects:

- Details of acoustic barriers and other noise attenuation design
- Justification of site layout and orientation of noise sources
- Limiting of drill string tripping out activities from 0730 to 2100 hours
- Phasing of drilling works to avoid weekend working where possible
- Phasing of drilling works to avoid working during the period between Christmas Day and New Year
- Other best practice measures
- Planned duration of drilling operations

The free-field noise levels from drilling operations shall not exceed the levels at the first floor level at properties and at the times as indicated below.

Location	Night Time 23:00hrs to 07:00hrs LAeq 15 minutes dB
Properties on Ludlow Avenue	45
Properties on Lynbrook Road	59
Properties on Lyncroft Close	59

Prior to the commencement of any development a noise monitoring plan shall be submitted to and agreed by the Local Planning Authority. The monitoring shall allow the comparison of noise against the agreed limits and the findings reported to the LPA within 48 hours of completion of the monitoring.

Prior to the commencement of any development a noise communication plan for informing residents and responding to any noise complaints shall be submitted to and agreed by the Local Planning Authority. The plan shall include a provision for arranging respite to noise impacts for any vulnerable residents.

Lighting
Prior to its installation details of the location, height, design, and luminance of any proposed lighting shall be submitted to and approved in writing by the Local Planning Authority. The details shall ensure the lighting is designed to minimise the potential loss of amenity caused by light spillage onto adjoining properties. The lighting shall thereafter be installed and operated in accordance with the approved details.

Reason: To minimise the nuisance and disturbances to neighbours (and the surrounding area)

Contaminated Land Officer:
No objection subject to the following comments. A Phase I Preliminary Risk Assessment has been produced for the site which shows a limited risk from contamination to the proposed development.

If any contamination is encountered, care should be taken during the drilling not to create pathways into underlying soils and groundwater (the borehole shall be cased off as per the method statement, especially in the upper strata).

There are differing accounts with regards to ground gas risks within the documentation provided in support of the planning application. However the Phase I Preliminary Risk Assessment states that: “the presence of hydrocarbons in the Sherwood Sandstone is not predicted by GEL or the drilling contractor (but has been encountered in similar geological settings)”. Therefore, as hydrocarbons have been encountered in similar situations, we will

require a robust risk assessment prior to development commencing which will detail how nearby receptors will be protected from any gas migration from lower strata. Although gas monitoring is proposed by the drilling operatives, if significant quantities of explosive or asphyxiant gases are released then we would require a firm methodology for how this is proposed to be dealt with, in order to protect public health.

As such, conditions are recommended in respect of:

Prior to drilling activities commencing:

a) A Risk Assessment shall be carried out to assess potential risks from ground gases.
b) If the Risk Assessment identifies that protective measures/actions are required, then a protection scheme shall be submitted to, and approved by, the Local Planning Authority (LPA) and shall be implemented.

After the drilling stage of the development and prior to first operation of the geothermal plant:

c) If protective measures/actions are required, a Site Completion Statement detailing the protective measures/actions involved in the development shall be submitted to, and approved in writing by, the LPA.

REASON RCLC9
To ensure the development is suitable for its end use and the wider environment and does not create undue risks to site users or neighbours during the course of the development and having regard to policy BE.6 of the Crewe & Nantwich Borough Council Local Plan.

INFORMATIVE NCLC1
The applicant is advised that they have a duty to adhere to the regulations of Part 2A of the Environmental Protection Act 1990, the National Planning Policy Framework 2012 and the current Building Control Regulations with regards to contaminated land. If any unforeseen contamination is encountered during the development, the Local Planning Authority (LPA) should be informed immediately. Any investigation / remedial / protective works carried out in relation to this application shall be carried out to agreed timescales and approved by the LPA in writing. The responsibility to ensure the safe development of land affected by contamination rests primarily with the developer.

Nature Conservation:
The application site, which consists almost entirely of an existing car park, is located in close proximity to Valley Brook. It is however elevated above the brook and is quite wooded which would partly mitigate any potential disturbance of wildlife including bats associated with lighting and noise. Such impacts would be likely to be limited to the construction phase of the development. The application site is also located far enough away from the bank of the brook for there to not be any impacts on species such as water voles (if the were present).

The application site is of negligible value for great crested newts and the nearest ponds are isolated from the development, so based upon knowledge of the site it is not anticipated that there would be any significant impacts on this species.

There are no active badger setts on or adjacent to the site, there are however signs of badgers being active along the banks of valley brook immediately adjacent to the site. As badgers can excavate new setts in a short time scale it is recommended that if planning

consent is granted a condition should be attached requiring a detailed badger survey to be undertaken and submitted to the LPA prior to the commencement of the development.

It is not anticipated that it is necessary to remove any vegetation as part of the proposals however, as a precaution it is suggested that if planning consent is granted the following condition should be attached:

Prior to the removal of any vegetation or the demolition or conversion of buildings between 1st March and 31st August in any year, a detailed survey shall be carried out to check for nesting birds. Where nests are found in any building, hedgerow, tree or scrub or other habitat to be removed (or converted or demolished in the case of buildings), a 4m exclusion zone shall be left around the nest until breeding is complete. Completion of nesting shall be confirmed by a suitably qualified person and a further report submitted to and approved in writing by the Local Planning Authority before any further works within the exclusion zone take place.

Reason: To safeguard protected species in accordance with the NPPF.

Landscape:
Broadly agree with the identified overall significance of impacts for the MMU Campus, Residential areas, Valley Brook Corridor and Crewe Business Park and also agree that there would be no significant landscape or visual effects as a result of the proposed development.

Environment Agency (EA): Further to the submission of a Flood Risk Assessment, we are now able to remove our previous objection to the above application.

We can confirm its acceptance of the analysis and conclusions of the Assessment; in that the development is considered appropriate and in accordance with national planning policy requirements. No additional flood protection or mitigation measures are considered necessary.

United Utilities (UU):
In accordance with the NPPF and Building Regulations, the site should be drained on a separate system with foul draining to the public sewer and surface water draining in the most sustainable way. No objections are raised subject to the following conditions: -

- no development approved by this permission shall commence until a scheme for the disposal of foul and surface waters for the entire site has been submitted to and approved in writing by the Local Planning Authority.

- surface water must drain separate from the foul and no surface water will be permitted to discharge directly or indirectly into existing foul or combined public sewerage systems.

- Any surface water draining to the public surface water sewer must be restricted to a maximum pass forward flow that mimics the existing site run off.

Reason: To ensure a satisfactory form of development and to prevent an undue increase in surface water run off and to reduce the risk of flooding.

Crewe Town Council:
The Town Council welcomes the introduction of non-polluting energy sources into the town, but would like further consideration to be given to measures to mitigate the short term noise impacts on local residents during 24 hour drilling operations. If the application is approved, it should be accompanied by a condition requiring close and careful community consultation as recommended in section 8 of the Planning Noise Assessment submitted with the application.

REPRESENTATIONS:

Neighbour notification letters were sent to all adjoining occupants and a site notice erected.

1 letter of objection has been received raising the following issues:

- Noise impacts on sensitive receptors including the nearby school associated with drilling process, especially given that 24 hour drilling is proposed.
- Above ground apparatus/structure would have a detrimental effect on the visual appeal of the area.
- Potential for the shaft to effect the water table, especially River Waldron, which already floods Macon Meadows several times a year.

1 letter of support has been received making the following comments:

- This is a good example of sustainable, green technology that we should all support
- The impact is minimal, and local residents and business will benefit.

Manchester Metropolitan University (MMU) also support the proposal; making the following comments:

- The university welcomes the opportunity to be part of a prestigious renewable energy demonstrator project and are pleased this new innovative technology is demonstrated on their campus;
- Could provide learning and research platform for schools, colleges, students and the local community;
- Could put Cheshire and MMU at the forefront of supporting the UK in meeting its future energy needs.

APPRAISAL:

The key issues are:

- Principle of developing deep geothermal
- Impacts on amenity
- Control of environmental pollution
- Highway impacts

- Landscape and visual impacts
- Seismic risks
- Impact on proposal on nature conservation interests
- Heritage

Principle of Development

The proposed development should be considered against the National Planning Policy Framework (NPPF) which identifies that in assessing and determining development proposals, local planning authorities should apply the presumption in favour of sustainable development.

There are three dimensions to sustainable development: economic, social and environmental. These dimensions give rise to the need for the planning system to perform a number of roles:

an environmental role – contributing to protecting and enhancing our natural, built and historic environment; and, as part of this, helping to improve biodiversity, use natural resources prudently, minimise waste and pollution, and mitigate and adapt to climate change including moving to a low carbon economy

an economic role – contributing to building a strong, responsive and competitive economy, by ensuring that sufficient land of the right type is available in the right places and at the right time to support growth and innovation; and by identifying and coordinating development requirements, including the provision of infrastructure;

a social role – supporting strong, vibrant and healthy communities, by providing the supply of housing required to meet the needs of present and future generations; and by creating a high quality built environment, with accessible local services that reflect the community's needs and support its health, social and cultural well-being; and

These roles should not be undertaken in isolation, because they are mutually dependent.

Economic and Social Sustainability

The core planning principles in the NPPF include proactively driving and supporting sustainable economic development to deliver the homes, business, infrastructure and thriving local places that the country needs; and encouraging the use of renewable resources (for example, by the development of renewable energy (paragraph 17). Planning should operate to encourage and not act as an impediment to sustainable growth. Therefore significant weight should be placed on the need to support economic growth through the planning system (Paragraph 19).

The NPPF states that planning plays a key role in helping shape places to secure radical reductions in greenhouse gas emissions, minimising vulnerability and providing resilience to the impacts of climate change, and supporting the delivery of renewable and low carbon energy and associated infrastructure. This is central to the economic, social and environmental dimensions of sustainable development.

Paragraph 97 of NPPF emphasises that in order to help increase the use and supply of renewable and low carbon energy, local planning authorities should:

- have a positive strategy to promote energy from renewable and low carbon sources;
- design their policies to maximise renewable and low carbon energy development while ensuring that adverse impacts are addressed satisfactorily, including cumulative landscape and visual impacts;
- consider identifying suitable areas for renewable and low carbon energy sources, and supporting infrastructure, where this would help secure the development of such sources;
- support community-led initiatives for renewable and low carbon energy, including developments outside such areas being taken forward through neighbourhood planning; and
- identify opportunities where development can draw its energy supply from decentralised, renewable or low carbon energy supply systems and for co-locating potential heat customers and suppliers.

It emphasises that when determining planning applications, local planning authorities should:

- not require applicants for energy development to demonstrate the overall need for renewable or low carbon energy and also recognise that even small-scale projects provide a valuable contribution to cutting greenhouse gas emissions; and
- approve the application if its impacts are (or can be made) acceptable.

There is further guidance within the Planning Practice Guidance which states that whilst the NPPF explains that all communities have a responsibility to help increase the use and supply of green energy, but this does not mean that the need for renewable energy automatically overrides environmental protections and the planning concerns of local communities. As with other types of development, it is important that the planning concerns of local communities are properly heard in matters that directly affect them.

Equally policy NE19 states that proposals for the generation of power from renewable energy sources will be permitted where the development would cause no significant harm to the character and appearance of the surrounding area; there are no highway impacts; no unacceptable impacts on the amenities of neighbouring residential occupiers by reason of noise, disturbance, pollution, visual intrusion or traffic generation; and the proposal includes effective measures to safeguard features or areas of particular landscape or nature conservation interest.

The Government has set an overall renewable energy target to generate 20% of all national energy from renewable sources by 2020 and 40% by 2050 (Energy White Paper 2003); and is committed to delivering new renewable energy technologies to meet its overarching renewable energy targets. The 2009 Renewable Energy Strategy (RES) sets out the

Government's intention to explore the potential for a deep geothermal energy sector in the UK.

It is noted that the Government is also prioritising the development of heat-only deep geothermal projects. In the Government's strategic framework for heat, it identifies the development of district heating networks, as an important part of the transition to low carbon heating, and deep geothermal as a potential heat source for those networks. Practical support and funding is also provided to encourage the deployment of heat networks, including through the work and funding of the Heat Networks Delivery Unit.

In respect of these points, the applicants highlight the benefits that the scheme presents; in respect of:

- enables the use of geothermal heat as a low emission, renewable heating solution for the University buildings, reducing energy demand from conventional sources
- has the potential to provide long-term secure, base-load energy and greenhouse gas reductions at the site;
- delivers renewable deep geothermal heat at low cost and low risk in a short timeframe;
- would initially supply approximately 1GWh per annum of renewable heat to four buildings on the Campus followed by further connections to additional buildings to supply a total of 2GWh per annum;
- for every one unit of electricity used by the pump, approximately 50 units of thermal energy can be delivered at the surface. The associated Carbon savings would be significant;
- puts Cheshire East at the forefront of deep geothermal heat development;
- Construction of the scheme would generate 15 full time equivalent jobs.

On the basis of the above considerations, subject to all environmental and amenity impacts being satisfactorily addressed, the scheme is considered to accord with the approach of the NPPF and CNBLP policy NE.19.

Environmental Sustainability

Pollution Control and Water Resources

The NPPF states that to prevent unacceptable risks from pollution, planning decisions should ensure that new development is appropriate for its location. The effects of pollution on health, the natural environment or general amenity and the potential sensitivity of the area to adverse effects from pollution should be taken into account. The site should be suitable for its use, taking account of ground conditions and land instability.

CNBLP policy NE17 states that all development should ensure that measures are taken to prevent, reduce or minimise pollution. Development proposals will not be permitted which are likely to lead to any increase in surface water, ground water or air pollution. Similarly policy BE.1 does not support development that would lead to an increase in air, noise or water pollution insofar as this might have an adverse effect in other uses of land. Policy BE.4

requires there to be adequate drainage arrangements in place which do not cause any environmental problems as a result of the ultimate discharge; and proposals should not lead to an adverse impact on water resources in terms of their quantity, supply or ecological features they support. Development should not be permitted unless practicable and effective measures are taken to treat, contain or control any contamination (policy BE.6)

The Phase 1 preliminary risk assessment summarises detailed geological characteristics underlying the drilling site, including the status of ground gas conditions and ground water. A conceptual site model and preliminary risk assessment have been completed to assess the risks posed to receptors at the site resulting from the proposed drilling works, operation of the geothermal well and decommissioning of the well.

It identifies potential sources of contamination to include fuels used during drilling works; hydrocarbon gases; and mineralised/saline water abstracted during testing and operation. A range of contaminant pathways are also identified including direct contact with contamination, lateral flow of contaminants over ground surface, vertical infiltration, uncontrolled release of fluids during drilling and migration of gasses to the ground surface.

The Phase 1 assessment identifies that multiple measures are embedded in the design of the proposed well to break any pathway for contamination or mitigate any potential to risk to the environmental and human health impact. An impermeable membrane will be placed across the drilling site to contain all site drainage in a sump and contain any spills of drilling fluids, abstracted water or fuel should any occur. Excavated soils will be handled as potentially contaminated and disposed of off site at a licensed facility, and during drilling any stockpiled material arisings would be damped down to reduce the risks to users of the Campus during dry and windy conditions. The well design and integrity (including requirements for monitoring including gas) will also be reviewed by an Independent Well Examiner (IWE). It is noted that the drilling and well construction will be regulated by the range of health and safety requirements/legislation which are applied to the onshore oil and gas industry and regulated by the Health & Safety Executive (HSE). Additionally the well will be drilled and constructed in accordance with an Environment Agency Groundwater Investigation Consent which controls the depth, drilling methods and limits the quantity of groundwater that can be abstracted.

The Phase 1 assessment identifies a number of pollutant linkages resulting from ground gases which may exist at depth, and which may flow to the surface as a result of drilling. The risk of this is considered to be moderate but there is a low likelihood of this occurring. Gas monitoring by drilling operatives at the well head is proposed during the drilling. The assessment identifies that if gas is detected during drilling, cementing sections of the casing is recommended to reduce the flow of gas towards the surface along this pathway. The adequacy of the cementing work would be subject to inspection by the IWE and any subsequent recommendations implemented.

If gas is detected during drilling, the assessment recommends that shallow gas monitoring wells are installed between the geothermal well and the adjacent buildings. These wells would be monitored following completion of the works for a period to be agreed with the Environmental Health Officer. A ground gas risk assessment would then be completed using the gas monitoring data and the results and recommendations provided the Council. This risk assessment for the decommissioned well would be updated following completion of the

drilling works. On the basis of the outlined mitigation, the assessment has identified no significant residual risks.

The Contaminated Land Officer advises that if any contamination is encountered, care should be taken during the drilling not to create pathways into underlying soils and groundwater and the borehole should be cased off as per the recommendations in the assessment, especially in the upper strata. They also note that the Phase I assessment identifies that whilst hydrocarbons are not predicted to be encountered, it has been encountered in similar geological settings. Therefore, the Contaminated Land Officer requires a robust risk assessment to be undertaken prior to development commencing to detail how nearby receptors will be protected from any gas migration from lower strata. Although gas monitoring is proposed by the drilling operatives, if significant quantities of explosive or asphyxiant gases are released then the Contaminated Land Officer would require a firm methodology detailing how this would be dealt with, in order to protect public health. As such conditions are recommended in respect of securing a ground gas risk assessment prior to any drilling commencing; and where necessary, a protection scheme to be submitted and implemented, along with a site completion statement. Subject to securing such conditions the scheme is considered acceptable in respect of impacts of contaminated land.

Drainage and water resources

An impermeable membrane will be placed across the drilling site to contain all site drainage in a temporary on-site sump and contain any spills of drilling fluids, abstracted water or fuel should any occur. All rainwater collected would be drained into the existing combined sewerage system. Any spillage or accidental release of fluids during the construction phase collected in the sump would be removed from site by tanker vehicles, for off-site treatment or disposal. Risk of spillages and accidental release of drilling fluids would be minimised by rigorous site management, including toolbox talks for all staff, and the deployment of purpose-designed spill kits (the use of which would be an integral component of site induction briefings). No objections are raised from United Utilities subject to the imposition of conditions in respect of securing a scheme for foul and surface water disposal.

In respect of impact on water resources, the drilling operations will fall under a range of consents regulated by the Environment Agency. The well will be drilled and constructed in accordance with an Environment Agency (EA) Groundwater Investigation Consent which controls the depth, drilling methods and limits the quantity of groundwater that can be abstracted. The consent allows for the construction of the borehole, and testing by abstraction of groundwater at a rate not exceeding 7.2m3/hr with a maximum abstracted volume of 20m3 in one day. The scheme will also require an abstraction licence as it will be abstracting more than 20 cubic metres of water a day. An Environmental Permit (for a groundwater activity) will also be required to discharge the water back to the borehole once it has passed through the heat exchanger. Depending on the heat characteristics of the well, a small proportion of water is rejected and not recirculated back into the well. This water is sourced from the formation surrounding the well and is therefore likely to have elevated mineral content and salinity. Such activities would be controlled by the Environment Agency under a groundwater abstraction licence. The water would be disposed offsite to an appropriately permitted facility or discharge to foul sewer under a sewerage undertakers consent. With regards to the impacts on groundwater, the EA raise no concerns.

On the basis of securing the above planning conditions and given the controls in place under other environmental legislation, it is considered that the scheme accords with the approach of the NPPF and policy NE.17, BE.1, BE.4 and BE.6 of CNBLP.

Flood risk

Part of the application site is located within flood zone 3 on the Environment Agency's flood risk maps due to its location adjacent to Valley Brook which is land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%) in any year.

The NPPF seeks to direct development away from areas at highest risk, but where development is necessary, making it safe without increasing flood risk elsewhere. A sequential, risk-based approach should be applied whereby more vulnerable development types are preferentially placed in areas at lowest risk of flooding. Development should not be permitted if there are reasonably available sites appropriate for the proposed development in areas with a lower probability of flooding. If, following application of the Sequential Test, it is not possible for the development to be located in zones with a lower probability of flooding, the Exception Test can be applied if appropriate. For the Exception Test to be passed:

- it must be demonstrated that the development provides wider sustainability benefits to the community that outweigh flood risk, informed by a Strategic Flood Risk Assessment where one has been prepared; and

- a site-specific flood risk assessment must demonstrate that the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.

Both elements of the test will have to be passed for development to be permitted.

When determining planning applications, local planning authorities should ensure flood risk is not increased elsewhere and only consider development appropriate in areas at risk of flooding where, informed by a site-specific flood risk assessment following the Sequential Test, and if required the Exception Test, it can be demonstrated that:

- within the site, the most vulnerable development is located in areas of lowest flood risk unless there are overriding reasons to prefer a different location; and

- development is appropriately flood resilient and resistant, including safe access and escape routes where required, and that any residual risk can be safely managed, including by emergency planning; and it gives priority to the use of sustainable drainage systems.

Policy NE20 of CNBLP also states that flood prevention proposals for new development, including the raising of land, in the indicative flood plain as shown on the proposals map, will only be permitted where: the proposal is supported by a flood risk assessment with appropriate flood prevention and mitigation measures; the proposal would not result in extensive and unacceptable culverting; the proposal would not create or exacerbate flooding elsewhere; and it does not adversely affect the integrity of, or prevent access for maintenance purposes to, a water course or underground services; in

determining applications for development and reviewing the local plan, the borough council will apply the risk based approach through a sequential test of the potential risk of flooding.

The Flood Risk Assessment (FRA) identifies that the application site is not at risk of surface water flooding from sources other than Valley Brook; and no other potential sources of flooding (e.g. tidal, reservoirs, canals) have been identified. The risk of ground water being brought to the surface by the drilling or operation of the borehole has been fully assessed and mitigated by the construction method and final design of the borehole as identified above.

In terms of the sequential approach advocated in the NPPF, due to the non-residential nature of the development, the scheme overall is likely to be considered 'less vulnerable' in terms of flood risk. The FRA identifies that the borehole and associated equipment in location would be fully sealed. All mechanical and electrical equipment at this site would be fully submersible in line with its operational requirements. As such the continual operation of the borehole would not be vulnerable to flooding and would suffer no negative impact should the site be fully inundated. The infrastructure is considered to be fully water-compatible. The FRA identifies that the water sensitive elements of the proposal (the heat exchangers) would be located outside of the floodplain.

The heat exchanger for the borehole would be located remotely in the Valentine Building, outside of Flood Zone 3. The Valentine Building is within Flood Zone 2 on the EA Flood Maps for planning. However the more detailed flood risk maps in the Crewe and Nantwich Strategic Flood Risk Assessment identify the building as being located in Flood Zone 1.

The FRA identifies that there is a minor risk that the above ground infrastructure or temporary works/plant might disrupt floodplain flows locally if a flood occurred; but the impacts on flood level would be very localised. To mitigate this risk, it is recommended that the infrastructure is located away from any obvious flowpaths/low points, on the highest ground available within the car park. Such measures can be secured by planning condition.

The Environment Agency consider that the FRA is acceptable and the development is considered appropriate and in accordance with national planning policy requirements. No additional flood protection or mitigation measures are considered necessary. On this basis and subject to conditions to secure the recommendations of the FRA, the scheme is considered acceptable and accords with the approach of the NPPF and policy NE20 of CNBLP.

Noise

NPPF states that planning policies and decisions should aim to:

- avoid noise from giving rise to significant adverse impacts on health and quality of life as a result of new development;
- mitigate and reduce to a minimum other adverse impacts on health and quality of life arising from noise from new development, including through the use of conditions;
- recognise that development will often create some noise and existing businesses wanting to develop in continuance of their business should not have unreasonable restrictions put on them because of changes in nearby land uses since they were established.

Policy BE.1 of CNBLP states that new development should be compatible with surrounding land uses and should not prejudice the amenity of occupiers of adjacent property due to noise impacts.

The noise assessment identifies that noise levels without mitigation comply with relevant daytime thresholds but are in excess of night time and evening accepted thresholds and could give rise to potentially significant effects. Mitigation to address such impacts are identified, namely:

- 5m high solid acoustic fence along the north and east site perimeter.
- The above option plus acoustically absorbent equipment noise barriers around each section of plant (i.e. 6m barrier for the drilling rig, 4m barrier for the generator, and 3m barrier for the mud pumps)
- Perimeter fence barrier plus acoustic cladding panels built round and part-enclosing the shale shakers (5m barrier with no cantilever / lid); drill head section (12m barrier with no cantilever / lid); main drilling rig section (6m barrier with a 0.75m cantilever at 45 degrees); mud pumps (3m barrier, with a 2m cantilever lid overhang at 60 degrees); and generators (4m barrier with a 2m cantilever lid overhang at 60 degrees).

The noise assessment considers that these measures represent very onerous and costly degrees of mitigation which would be unusual, particularly for such a short term, temporary project as the drilling proposal. It identifies that with the inclusion of the mitigation, noise levels would exceed the night time noise criteria at the surrounding dwellings, although only by a small amount in Ludlow Avenue. Due to the site geometry, it considers that the benefits of even extensive mitigation using barriers are relatively limited given the distances to the surrounding dwellings and the presence of the university buildings which serve to reflect noise from the plant back towards the dwellings to the north of the proposed site.

In view of the short duration of drilling (17 days), the noise assessment considers that a higher maximum night time noise level could be acceptable, subject to the operator implementing best practicable means of working and close and careful community liaison. This follows the World Health Organisation's (WHO) Night Noise Guidelines for Europe and the assessment concludes that achieving this may be challenging, but in view of the duration of the works, the potentially short period during which this level may be exceeded may be seen as acceptable for a few days, with careful and appropriate community engagement, when balanced against the long term environmental benefits provided by the resulting low carbon energy source that would be created.

The Environmental Health Officer advises that drilling rigs of this scale are high level noise sources which can cause annoyance due to the night time operations and the relative inability to mitigate the range of noise sources on a rig; and the predicted night time noise levels at properties on Lynbrook Road and Lyncroft Close would be in excess of the normally accepted levels by a significant margin; although the two drilling periods of 5 days and 12 days are relatively short for an operational of this scale.

In order to make these impacts acceptable, the Environmental Health Officer expects the proposal to ensure that noise mitigation measures are optimised where feasible and that

noise impacts are reduced and managed extensively. The officer notes that the positive impact of the identified mitigation measures would only just be perceptible and the financial outlay required for such measures is high and the cost per noise reduction element could be considered as disproportionate. Despite this and the conclusions of the noise assessment, the Environmental Health Officer advises that some acoustic barriers should be installed to provide some attenuation for lower level (in height) noise sources. This would be in addition to noise mitigation on the drilling rig site from best practice measures, layout and orientation of noise sources. Noise and, if required, vibration monitoring should also be carried out by the applicant and this should be compared against noise limits established by planning condition.

The applicant has carried out a local consultation session and letter drop to inform local residents of potential impacts. The Environmental Health Officer considers that this engagement should continue throughout the construction process to inform, respond to complaints and, if necessary, aid any particularly vulnerable residents in arranging respite from noise impacts.

Overall therefore, the Environmental Health Officer advises that the proposal would be acceptable subject to imposition of planning conditions:

- A Noise Management Plan to be submitted and approved prior to the commencement of development; detailing:
  - Details of acoustic barriers and other noise attenuation design
  - Justification of site layout and orientation of noise sources
  - Restriction of drill string tripping out activities from 0730 to 2100 hours
  - Phasing of drilling works to avoid weekend working where possible, and the period between Christmas Day and New Year
  - Other best practice measures
  - Planned duration of drilling operations

- Set noise levels to be achieved at Lyncroft Close, Lynbrook Road and Ludlow Avenue for the period of 2300 to 0700 hours
- Noise monitoring plan to be submitted allowing for comparison of noise against the agreed limits and the findings reported to the LPA within 48 hours of completion of the monitoring
- Noise communication plan to be submitted for approval detailing measures for informing residents and responding to any noise complaints; and provision for arranging respite to noise impacts for any vulnerable residents.

On the basis of securing the provisions identified above, and given the views of the Environmental Health Officer, on balance it is not considered that there are sufficient grounds to warrant refusal of the scheme due to noise impacts in this instance.

<u>Impact on nature conservation interests</u>

Policy NE9 of CNBLP does not permit development which would have an adverse impact on protected species or their habitats. Likewise NPPF requires new development to ensure there are no adverse direct or indirect impacts on nature conservation assets and where possible net gains to biodiversity are secured.

The application site is located on an area of hardstanding used as a car park within the campus site. Approximately 13m to the north/northeast of the site is a woodland corridor containing Valley Brook which is separated from the site by an area of amenity grass. The application site is elevated above the brook and Nature Conservation Officer advises that the woodland aligning the brook would partly mitigate any potential disturbance of wildlife including bats associated with lighting and noise arsing from the development; and impacts would be limited to the construction phase of the development. Given the distance of the site from the banks of the brook, should any water voles be present there are no likely impacts anticipated.

The Nature Conservation Officer advises that the application site is of negligible value for great crested newts and the nearest ponds are isolated from the development; as such it is not anticipated that there would be any significant impacts on this species.

No active badger setts were observed on or adjacent to the site; however there are signs of badgers being active along the banks of valley brook immediately adjacent to the site. As badgers can excavate new setts in a short time scale the Nature Conservation Officer advises that planning conditions should be secured to require a detailed badger survey to be undertaken and submitted to the LPA prior to the commencement of the development. In order to protect nesting birds a planning condition is recommended for detailed survey for nesting birds prior to the removal of any vegetation. No objections are raised by the Nature Conservation Officer and as such the scheme is considered to accord with policy NE9 of CNBLP and the approach of the NPPF.

Landscape and visual impacts

New development should not prejudice the amenity of the occupiers of adjacent property by reason of (amongst others) visual intrusion (CNBLP policy BE1) whilst the requirements of policy NE19 are noted in respect of ensuring against significant impacts on the amenities of neighbouring residential occupiers by reason of (amongst others) visual intrusion.

In terms of the potential for effects on the landscape and the visual amenity of local receptors, the Landscape Appraisal identifies that during construction there would be slight adverse effects on the University Campus and River Corridor. Views at residential receptors and the footpath from north east, south east and south west would have a slight to moderate adverse impact during the construction works; however due to the short term and temporary nature of the construction programme, no significant landscape or visual effects are predicted as a result of the proposed development during construction. Once operational, the proposed development is assessed as having a negligible effect on the character of the local landscape and on all identified receptors; and a negligible effect of receptors enjoying the setting of the Grade II Listed Delany Building. Overall no significant landscape or visual effects are predicted as a result of the proposed development. The landscape officer broadly agrees with the identified overall significance of impacts for the nearby receptors and also agrees that

there would be no significant landscape or visual effects as a result of the proposed development. No objections are raised by the officer.

Whilst it is accepted that there would be some moderate adverse impacts generated during the construction phase due to the erection of the drilling equipment and associated infrastructure, this is temporary and short term and on completion there would be no significant landscape or visual impacts. The Environmental Health Officer recommends that the details of lighting to be installed on site is approved prior to its installation to ensure that it minimises the potential loss of amenity caused by light spillage onto adjoining properties. This could be secured by planning condition. On balance therefore, the scheme is considered to be acceptable and complies with the overall approach of NPPF and CNBLP.

Highway impacts

The development is predicted to generate a maximum of 16 two way movements to the site during the construction period. The Transport Statement identifies that the daily construction traffic movements would make a negligible contribution to existing traffic flows on the local highway network. The swept-path analysis identifies that all vehicles, including the drilling rig unit, would be able to access the application site without damaging exiting buildings or infrastructure; and the site will be accessible to all delivery vehicles, using the main entrance to the Campus from the Electra Way/Crewe Road roundabout. In addition, a negligible impact is identified on the highway network associated with the permanent, operational infrastructure of the proposed development. The Highways Officer advises that the construction works should take place outside of term time to avoid disruption to the college traffic movements. In response the applicant has clarified that the works are proposed over the winter term break when there are no college vehicles present on site. The timing of works could be controlled by means of a planning condition. Overall the Highways Officer does not consider that the proposal will create any highway problems on the public highway network and no objections are raised.

On this basis the scheme is considered to accord with policies BE1 of CNBLP which does not support proposals which would generate such levels of traffic that the development would prejudice the safe movement of traffic on surrounding roads or have an adverse impact on neighbouring uses; and NPPF which states that development should only be prevented or refused on traffic grounds where the residual cumulative impacts of development are severe.

Seismic risk and subsidence

Whilst no seismic hazard assessment has been submitted in support of the planning application; the applicant has submitted the following information in respect of the risk of the proposed drilling works and subsequent operation of the heat plant leading to induced seismicity. They advise that the proposed development would involve drilling a 2 km vertical well of almost identical construction to a well drilled at Southampton in the 1980s and that drilled at Newcastle Science Central in 2011. Neither project has been associated with any induced seismicity. The vertical well at this site would not re-inject water under pressure which is often associated with induced seismicity. Furthermore, the flow rates used at this site would be one tenth of that used at the Southampton project. During testing, no hydraulic stimulation of the well (hydro-fracking) would be required and therefore there would be no risk of induced seismicity during the drilling or testing phases.

The proposed single well system is not the same as other geothermal projects that require multiple wells (one injection and one abstraction). The single well system does not drill directional wells and does not require high flow rates that are reinjected into the ground at significant depth under pressure. It is the re-injection of fluids under pressure (whether during operation or stimulation) that can induce seismic events. As the proposed system does neither, the applicant considers that there is no seismic risk.

Government guidance (DECC) in respect of seismic risks from deep geothermal activity advises that it is very unlikely that micro-seismic events resulting from deep geothermal schemes would cause any damage. For deep geothermal EGS projects, where there is a need to enhance permeability, micro-seismic events can be produced during reservoir stimulation (which is only short term); however deep geothermal projects utilising hot sedimentary aquifers are very unlikely to create seismicity as stimulation is typically not required. There is no national planning policy guidance in respect of seismic risks associated with deep geothermal energy schemes; however the advice of DECC is noted and in the absence of any concerns raised by consultees, the scheme is considered to be acceptable.

In respect of risk of subsidence the Government advises that re-injection of extracted water is an integral part of deep geothermal heat projects which counteracts the reduction in pressure through removal of water and mitigates against the risk of subsidence. No concerns have been raised by consultees over the potential for risk of subsidence.

Safety and decommissioning

Although strictly only relevant to hydrocarbon wells and not geothermal wells, the applicant and drilling contractor advise that they will adhere to the requirements of the Borehole Sites and Operations Regulations 1995 (BSOR) and the Installations and Wells (Design and Construction, etc) Regulations 1996 (DCR). The applicant has notified the HSE of their intention to drill and construct the proposed well. The IWE has been appointed to assess the well design and well integrity. Any measures and recommendations made by the well examiner will be implemented. Works will proceed with notification of the HSE and involvement of the Independent Well Examiner as required by BSOR and DCR.

The proposed well is intended to be used for a period of approximately 50 years. The well will be abandoned in accordance with the requirements at the time of abandonment. Abandonment of geothermal wells is currently not subject to specific regulations; however it is a requirement of Installations and Wells (Design and Construction, etc) Regulations 1996 that the well operator must design and construct the well with abandonment in mind and that the well is abandoned in such a way that there can be no unplanned release of fluids so far as reasonably practicable. The IWE will review abandonment proposals as part of the well design.

Heritage

The application site is located approximately 172m from the Grade II Listed Delany Building on the MMU campus; and separated by a range of other university buildings. In view of this, the Conservation Officer does not consider that there would be any impacts on the setting of the listed building. Whilst there is potential for impacts assocaited with vibration, the advice of

the Conservation Officer is that these are unlikely to be of any significance and do not require any further consideration. The proposal is therefore considered acceptable in terms of its impact to heritage assets and accords with the approach of the NPPF.

Response to Objections

The representations of the members of the public have been given careful consideration in the assessment of this application and the issues raised are addressed within the individual sections of the report.

PLANNING BALANCE

Taking account of Paragraph 14 of the NPPF there is a presumption in favour of the sustainable development unless there are any adverse impacts that *significantly and demonstrably* outweigh the benefits.

The proposal would satisfy the economic and social sustainability roles by enabling the use of geothermal heat as a low emission, renewable heating solution for the University buildings, reducing energy demand from conventional sources. It would provide long-term secure, base-load energy and would provide a valuable contribution to cutting greenhouse gas emissions and present carbon savings. It would also deliver renewable deep geothermal heat at low cost and low risk in a short timeframe. These benefits would accord with the Framework's core planning principles and renewable energy provisions, which indicate that the delivery of renewable, low carbon energy is central to the economic, social and environmental dimensions of sustainable development.

In respect of environmental sustainability, multiple measures are embedded in the design of the proposed well to mitigate any potential to risk from pollution to the environmental and human health; and a ground gas risk assessment could be secured to ensure nearby receptors are protected against gas migration. Adequate drainage arrangements would be in place to protect water quality and impacts on water resources associated with water abstraction would be controlled by relevant environmental legislation regulated by the Environment Agency. Additionally the drilling activities would be regulated by a range of health and safety requirements/legislation.

The development adheres to the sequential approach to flood risk with the water sensitive elements of the proposal located outside of the floodplain; and no adverse impact on nature conservation are anticipated. Likewise no adverse impacts are anticipated on the local highway network or to heritage assets.

Some moderate adverse impacts on landscape and visual amenity are anticipated for the construction phase, however this is temporary and short term, and on completion there would be no significant adverse landscape or visual impacts. With regards to noise impacts from the scheme, the predicted night time noise levels would in some cases be in excess of the normally accepted levels by a significant margin; although would only be carried out for relatively short periods of 5 and 12 days. A range of mitigation is also recommended by the Environmental Health Officer which would address to some degree the noise impacts to nearby receptors. The impacts in respect of noise, landscape and visual amenity must be balanced accordingly.

On the basis of the above and in respect of paragraph 14 of the NPPF, it is considered that the short term temporary adverse effects of the scheme are significantly and demonstrably outweighed by the long term social and economic planning benefits created in terms of the provision of renewable, low carbon energy. Accordingly it is recommended for approval subject to conditions.

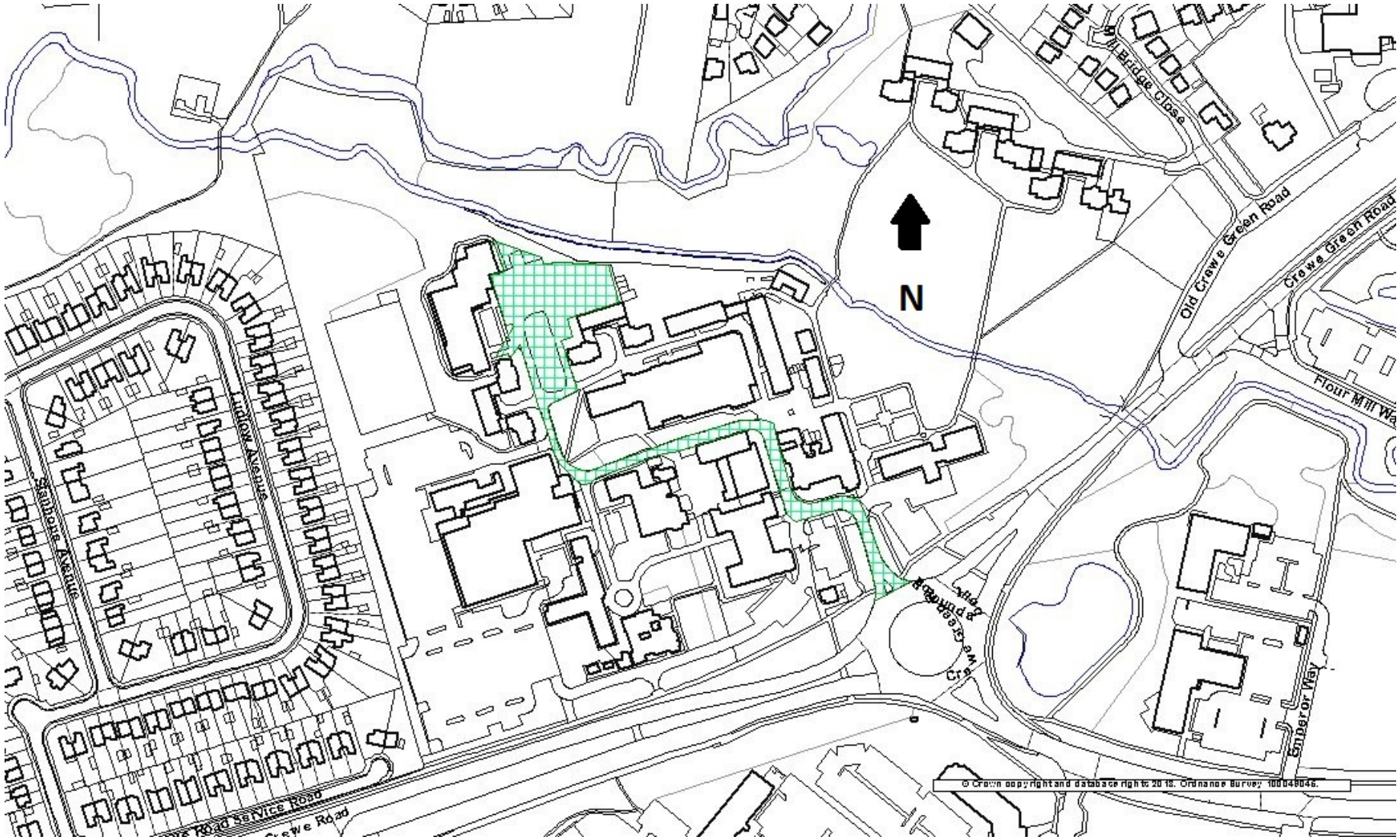
RECOMMENDATION

That the application be approved subject to the imposition of planning conditions in respect of:

1. **Commencement of development**
2. **Approved plans**
3. **Noise management plan**
4. **Noise levels**
5. **Noise monitoring plan**
6. **Noise communication plan**
7. **Lighting scheme**
8. **Ground gas risk assessment and mitigation**
9. **Detailed badger survey**
10. **Nesting bird survey**
11. **Restricted vehicle movements in term time**
12. **Implementation of flood risk mitigation**
13. **Scheme for foul and surface water disposal and details of surface water drainage**
14. **Removal of all construction infrastructure on completion of construction works**
15. **Limit on number of vehicle movements**
16. **Best practical means for control of dust**
17. **Control of mud on highway**
18. **Limits on timing of construction works (aside from drilling operations)**

In the event of any changes being needed to the wording of the Committee's decision (such as to delete, vary or add conditions/informatives/planning obligations or reasons for approval/refusal) prior to the decision being issued, the Principal Planning Manager has delegated authority to do so in consultation with the Chairman of the Strategic Planning Committee, provided that the changes do not exceed the substantive nature of the Committee's decision.

Should this application be the subject of an appeal, authority be delegated to the Principal Planning Manager in consultation with the Chairman of the Strategic Planning Committee to enter into a planning agreement in accordance with the S106 Town and Country Planning Act to secure the Heads of Terms for a S106 Agreement.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