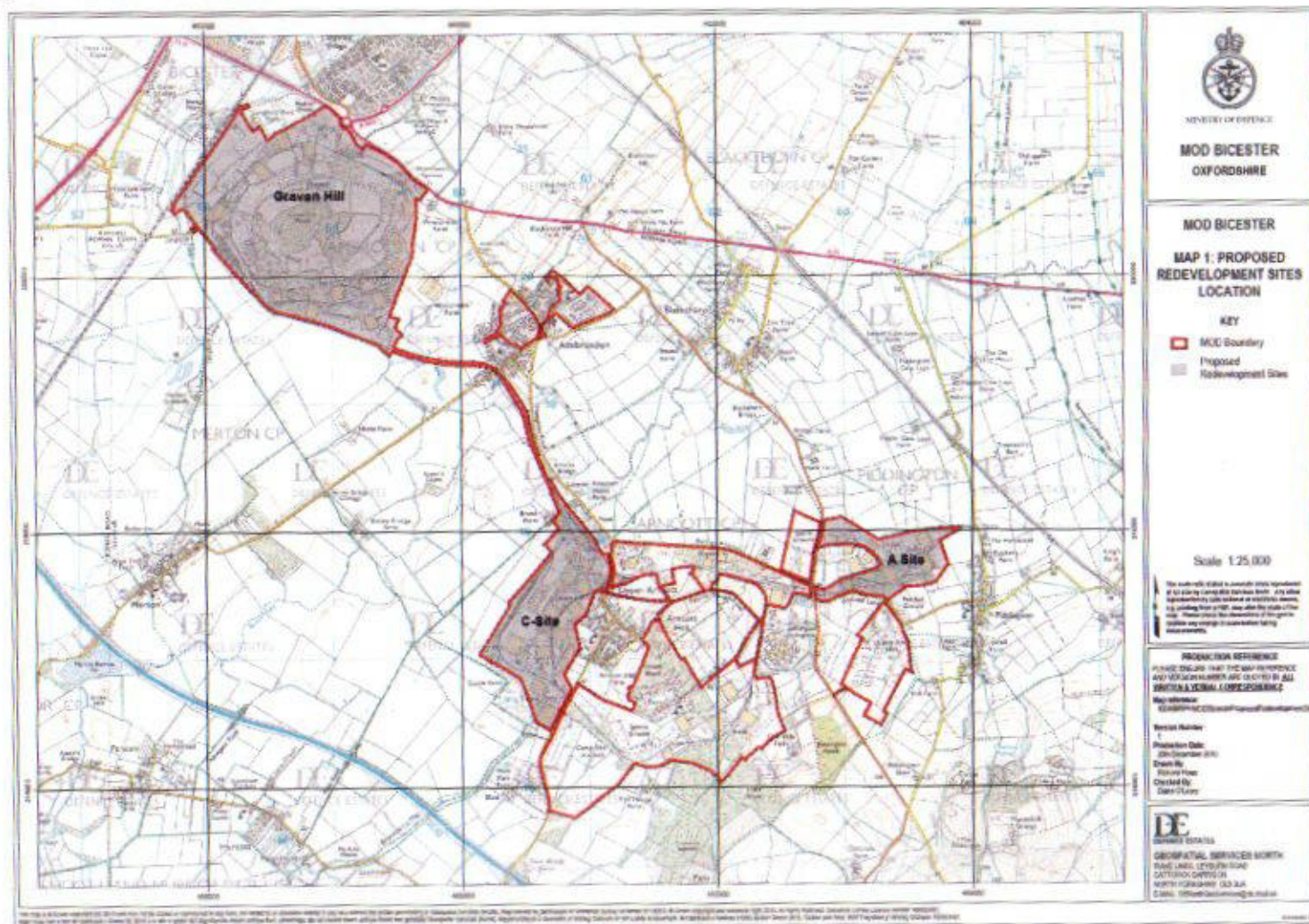


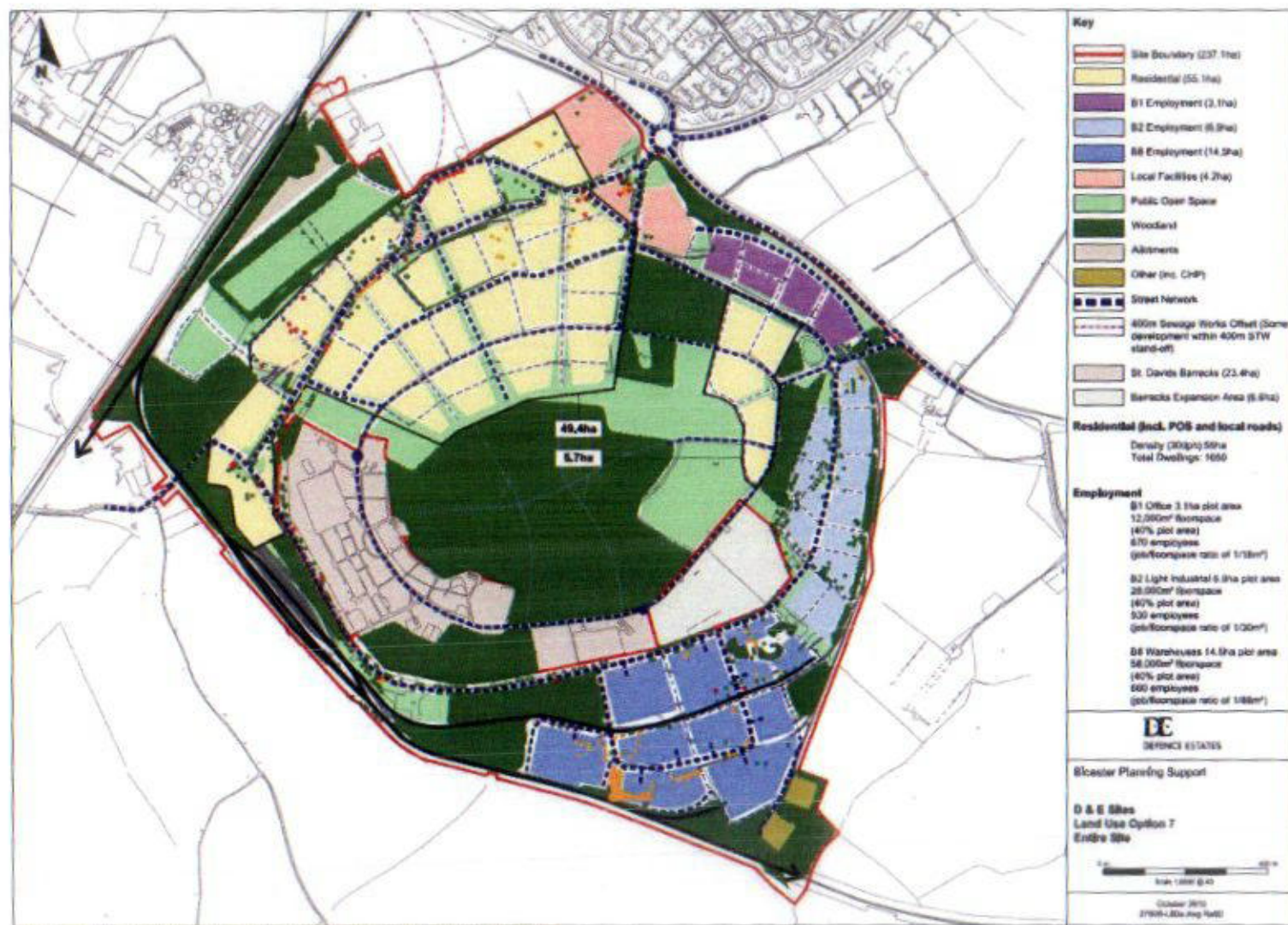
Annex A: Site Location Map



Annex B: Proposed Master plan A-site

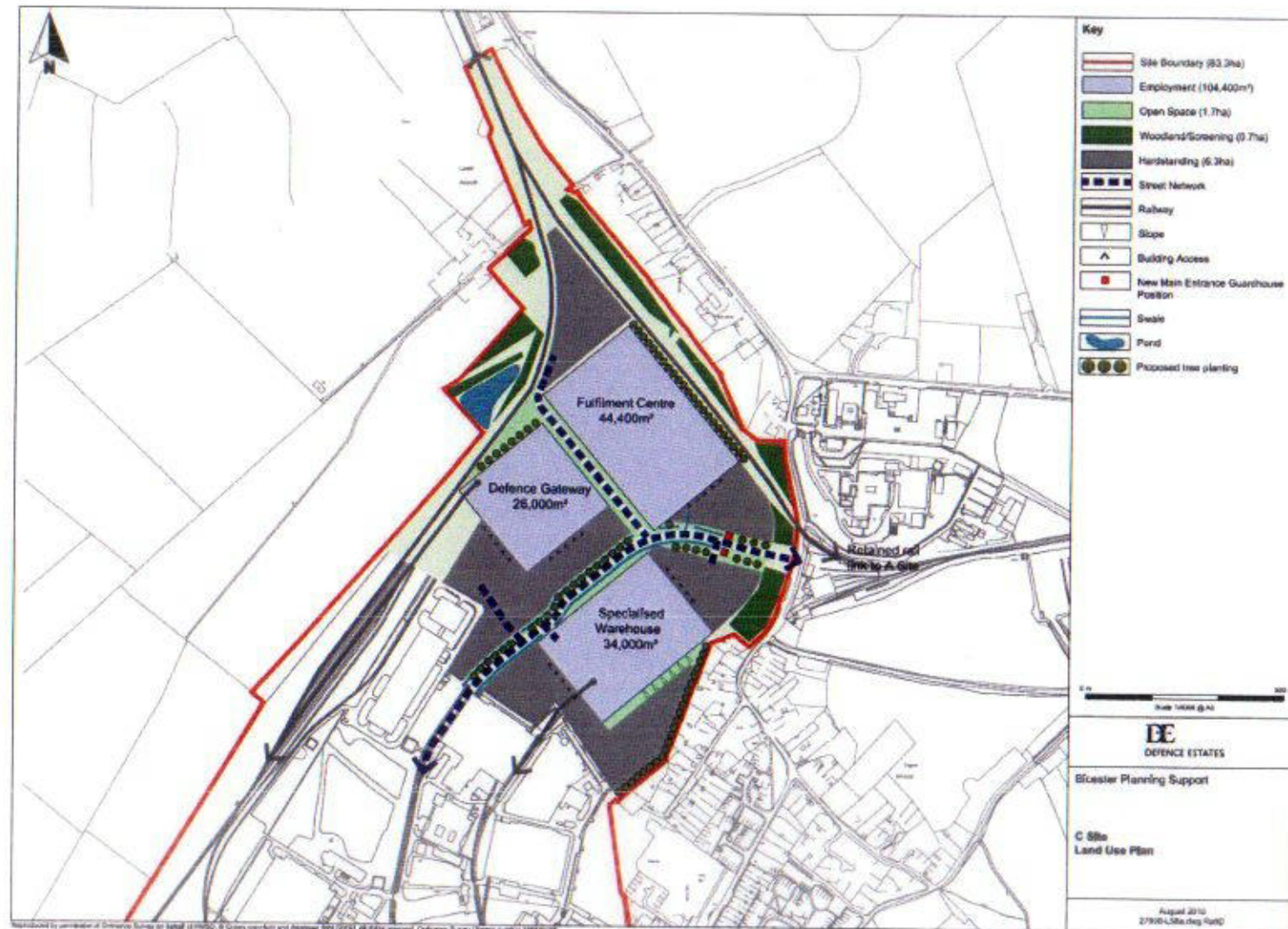


Annex C: Proposed Master plan Graven Hill site



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Annex D: Proposed Master plan C-site



Annex E: Sustainability Appraisal for the Future Defence Storage & Distribution Programme; development of A, C, D & E sites of MOD Bicester

The MOD logistics function is dispersed in nature; dispersed across a number of sites around the UK, dispersed across a number of sites in Bicester and dispersed within those Bicester sites due the design principles that MOD adhered to at the point of construction (the 1940's). The logistics function includes storage, distribution and maintenance MOD stockholdings.

It is the MOD's intention to rationalise its logistics footprint from a number of sites across Bicester and the UK to a single site within Bicester (specifically C-site). This will allow and require disposal of other sites within Bicester with planning consent to realise the necessary value to allow this rationalisation.

This sustainability appraisal seeks to explore the impact of the rationalisation of MOD activities onto C site and the resulting development that will take place on sites sold for redevelopment. It also seeks to identify measures to mitigate and even enhance the local environment.

Redevelopment of MOD brown field surplus land into a community developed around sustainable principles including work school and amenity provision within walking distance, also within walking distance of Bicester town centre. Areas of employment land will retain rail connectivity to create a green hub for commercial intermodal storage and distribution activities. Redevelopment will also improve the visual appeal of the site giving Bicester a more appealing appearance.

Impacts & mitigation will be discussed in terms of the three different elements of this project

1. MOD activity; refers to the impact of changes to MOD's operations by consolidating activity on one site within Bicester, and the action that follows from these changes;
2. Employment development; refers to the impact of selling sites A and D assuming redevelopment as employment sites, and
3. Residential development; refers to the impact of selling E site assuming redevelopment as a residential settlement.

Annex E: Sustainability Appraisal for the Future Defence Storage & Distribution Programme; development of A, C, D & E sites of MOD Bicester

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THEME A: TRAVEL & TRANSPORT

Overall sustainability objective: Minimise amount of travelling required, particularly via roads and private cars.

Sub-objectives:

- To reduce the need to travel, especially by road;
- To improve the fuel efficiency of vehicle fleet and encourage opportunities for safe walking and cycling;
- To reduce noise, vibration and fumes from transport and prevent habitat loss due to new transport infrastructure; and
- To promote a transport system that provides choice, minimises environmental harm and reduces congestion.
- To design new developments that promote the use of public transport and other greener forms of transport e.g. walking, cycling etc.

POTENTIAL ISSUES	COMMENTARY & LIKELY IMPACT	MITIGATION & ENHANCEMENT OPPORTUNITIES
Change in fuel efficiency and emission levels from vehicles.	MOD activity: 80% of MOD's stock is transported by road. The remainder is transported by rail using MOD's own rail infrastructure and the national rail network	Reduced footprint of logistics activity onto one site will reduce traffic around Bicester and allow more efficient use of journeys around the UK for collection and delivery of stock. The MOD has identified that better use of its rail infrastructure could allow a greater proportion of routine stock movements to be carried out by rail.
	Employment development: development of sites A and D for B8, B2 and B1 uses will increase the number of private cars and lorries on the roads in Bicester	The impact can be mitigated by retaining rail connectivity into D site and on to A site to allow redevelopment as a rail connected hub, which the Dept of Transport advise is much-needed in the South East of England.
	Residential development: development of E site for c2000 houses will increase the number of private cars in the area	The site can be designed to minimise the need for car travel by inclusion of footpaths, cycle paths, connection to the National Cycle Network. Furthermore, the site is within walking distance to the town centre minimising the need for car travel into an already congested Bicester town, whilst increasing the footfall and therefore viability. Also within walking distance is the Bicester Town Railway station which will allow convenient use of public transport to destinations further afield.
Change in volume of commuting or travelling to clients and facilities.	MOD activity: consolidation of MOD activity onto one site, which is rail connected to Marchwood Military Port and close to Brize Norton, the number of trips required to gather supplies will be reduced both nationally and locally within Bicester.	Maximise use of rail where appropriate.
	Employment development: as a result of more employment in the area, there is likely to be an increase in travel around the town of Bicester however, the need to commute further afield will be reduced due to the job	More efficient use of journeys through better information about stock usage patterns (arising from an improvement to the IT infrastructure).

POTENTIAL ISSUES	COMMENTARY & LIKELY IMPACT	MITIGATION & ENHANCEMENT OPPORTUNITIES
	opportunities created within the town	
	Residential development: There will be an increased volume of private cars on the roads around Bicester as a result of the residential development, simply because the population will increase.	However, by providing employment land within 10 minutes walking distance of homes, the number of cars commuting relative to an average residential development will be significantly less. Bulk delivery schedules for construction traffic could be organised to minimise trips and deliveries arranged for off-peak hours.
Change in freight distance covered if engaging with different suppliers or procuring/disposing of different quantities.	MOD activities: suppliers will only have to deliver stock to a single point meaning they can schedule trips to be most efficient.	Trip scheduling to maximise efficiency
Change in transport mode for commuting or travelling to clients or facilities.	MOD activities: reduced, more efficient trips to sites for deliveries as different items won't be distributed from different locations.	Develop and implement a green travel plan. Encourage the use of public transport. Improve transport links through the layout and design of the new development. Liaise with Local Authorities and transport providers on choice, timings of routes, alternative access and bus/train stops. Incorporate safe routes, storage areas and showers/changing facilities for walkers/cyclists into the design and layout of the development. Develop incentives for car sharing, particularly work journeys and commuting. Make use of video-conferencing and e-mail instead of travelling.
Change in levels of congestion on local roads or at access points.		Undertake assessment or monitoring of travel patterns to understand local baseline levels and impacts of proposal.
Other travel and transport issues.		

Impact	A Major positive impact	B Minor positive impact	C No impact	D Minor negative impact	E Major negative impact
Short Term					X
Long Term				X	

THEME B: WATER

Overall sustainability objective: Reduce total water consumption, maximise efficiency of use and encourage reuse whilst minimising the risks of water pollution and flooding.

Sub-objectives:

- To safeguard fresh water resources and water quality at a time when pressures from climate change and demand are likely to increase;
- To safeguard the health and productivity of inland waters and seas;
- To maintain and enhance marine and coastal water quality;
- To reduce the threat of persistent or diffuse pollutants to the environment and human health;
- To prevent injury, distress and avoid or reduce property damage caused by all types of flooding;
- To ensure our waters are clean enough to sustain healthy use by wildlife and communities; and
- To design water efficient and flood resilient developments.

POTENTIAL ISSUES	COMMENTARY & LIKELY IMPACT	MITIGATION & ENHANCEMENT OPPORTUNITIES
Response to all types of flood risk	MOD activity: site not in the flood plain. Localised flooding due to issues with drainage system and site layout.	Consolidation on a single site will allow significant rationalisation of water & waste water infrastructure reducing leakage. Site design can mitigate localised flooding issues. Opportunity for use of SUDS; appropriate use being considered as part of the environmental baselining work.
	Employment development: site not in flood plain	New site layout/design will necessitate new water & waste water infrastructure reducing leakage. Site design can mitigate localised flooding issues. Opportunity for use of SUDS; appropriate use being considered as part of the environmental baselining work.
	Residential development: site not in flood plain	Site design to include use of SUDS and opportunities to enhance wildlife through natural approach to drainage for the site.
Change in area under hard surfaces / Response to Surface Water management / Connect Surface Water to public sewer	MOD activity & employment development will require large amounts of hardstanding. Also large roof areas will result in large volume of storm water requiring collection	SUDS help promote "natural" approaches to manage floods and surface water drainage, & conserve natural resources. Differentiate SUDS from drainage features, controlled waters and sewers, so as to avoid pollution to controlled waters. Explore opportunities to enhance flood storage capacity, e.g. surface water management plans to limit the peak rate and total volume of discharge of surface water, implement SuDS..
	Residential development; there will be an increase in the impermeable land area.	

POTENTIAL ISSUES	COMMENTARY & LIKELY IMPACT	MITIGATION & ENHANCEMENT OPPORTUNITIES
Change in sedimentation of watercourses e.g. from driving, dredging, soil erosion or construction.	The sites have a number of ponds and some drainage ditches.	Ponds/water features could be designed into the new site layout. Protection of water resources and mitigation can be implemented during construction to minimise/prevent pollution.
Change in number of people and processes consuming/abstracting water.	Consolidation of the MOD footprint is likely to remain the same or increase slightly due to the increased levels of activity. Residential development will increase the demand for clean water	Deployment of water efficient technology and rationalisation of the business will see a reduction in the water consumption of the business as a whole. Deployment of water efficient technology under Code for Sustainable Homes will mitigate impact of residential development.
Change in number of people and processes that discharge waste water.	Consolidation of the MOD footprint is likely to remain the same or increase slightly due to the increased levels of activity. Residential development will increase the volume of waste water	Rationalisation of the business will see a reduction in the waste water produced for the whole business. Options to mitigate increases to be explored as part of the environmental baselining.
Change in the use and installation of water-saving measures.		To be explored as part of the environmental baselining and Code for Sustainable Homes.
Change in number or type of potentially polluting activities or processes on site.	No change anticipated.	MOD site – an Environmental Management System will be in place to address potentially polluting activities.
Other water/drainage issues.		

Impact	A Major positive impact	B Minor positive impact	C No impact	D Minor negative impact	E Major negative impact
Short Term				X	
Long Term				X	

THEME C: ENERGY AND CLIMATE CHANGE

Overall sustainability objective: Minimise total energy consumption and support the use of renewable energy rather than fossil fuel sources, and improve resilience to climate change.

Sub-objectives:

- To improve energy efficiency;
- To promote development and use of renewable energy;
- To prolong the availability of finite fossil fuels;
- To explore secure, diverse supplies of energy at competitive prices that are generated in environmentally acceptable ways; and
- To prepare for the COMMENTARY & LIKELY IMPACTs of a changing climate in order to minimise disruption and take advantage of opportunities.
- Incorporate adaptation features into the design of new developments and refurbishments

POTENTIAL ISSUES	COMMENTARY & LIKELY IMPACT	MITIGATION & ENHANCEMENT OPPORTUNITIES
Change in number of energy consuming personnel on site.	Reduction in overall MOD footprint will lead to more personnel within contained footprint. Surplus estate will be developed for residential or commercial use ultimately resulting in more people drawing energy.	Will result in lower energy consumption by MOD across the estate as a whole. Renewable technology to be considered at the design stage.
Change in number of energy consuming buildings or processes on site.	Intensification of site usage will increase resulting in more energy consuming buildings and processes	Design out energy wastage from buildings. CHP plant, zero carbon homes (via D CLG Code for Sustainable Homes).
Change in amount of energy saving technology installed in facilities.	This will increase as the buildings will be new build which entails greater use of energy saving technology.	Zero carbon homes (via D CLG Code for Sustainable Homes).
Change in balance of renewable/non-renewable energy used.	There will be an opportunity to install in buildings at outset, being more effective & cost-effective than retrofit.	Significant opportunity for photovoltaic cells on extensive roof areas.
Change in opportunity to explore generation of renewable energy or CHP.	Increased demand as a result of intensification of use.	CHP being explored as part of the Masterplanning process.
Change in through-life energy use of equipment.	New buildings will result in better & more data about energy consumption	Use of this data by building management to target efficiencies.

POTENTIAL ISSUES	COMMENTARY & LIKELY IMPACT	MITIGATION & ENHANCEMENT OPPORTUNITIES
Application of Common Minimum Standards, OGC Guide 11 and grading of energy performance.	New equipment will be required to furnish facilities	Procure "A" rated white goods under DEFRA's Energy Labelling Scheme.
Response to risks and potential opportunities posed by climate change as a result of this activity.	Site not in flood plain, no threat from coastal waters. There will be an increased demand for water resources.	Ensure developments are located and designed to incorporate adaptation features. See Table C1.
Management of the vulnerability of the location of new developments to climate change impacts.		Environmental baseline work exploring flood risks, drainage risks/issues, energy & renewable opportunities. Site not in flood plain.
Extent of in-built resilience to climate change into new developments and major refurbishment projects.		Table C1

Table C1: Climate Change Adaptation Impacts and Responses

Potential Impacts of Climate Change	Examples of Possible Adaptation Responses
Planning	
Higher risk of flooding/erosion of susceptible developments in floodplains or coastal margins	Ensure planning takes account of future trends in flooding and coastal erosion. Consider range of options for flood and coastal management, including promoting appropriate and sustainable defences (with the Environment Agency where appropriate) and locating new development away from areas of highest risk (DE GEODE mapping uses EA data on floodplains and coastal margins to create a layer that provides information on river and tidal flooding. Please note that other sources of flooding are not represented).
Hotter drier summers could further increase pressure on water resources	Consider potential water supply/demand issues when siting new development
Emergency planning for severe weather	Ensure emergency procedures and equipment are updated to meet increased risk
Buildings and Infrastructure	
Increased risk of subsidence as soils shrink in hotter drier summers	Plan for preventative and remedial maintenance of existing stock, e.g. consider changes to procedures and inspections to ensure foundations are resilient
Extreme Weather stresses	Improve design scope to minimise brittle failures in infrastructure
Higher risks in floodplains or coastal margins	Consider restricting new development in the floodplain and coastal margins, and relocation or instigating a range of flood-proofing measures or sustainable defence measures for existing properties
Temperature increases affect living / working environment	Use thermal properties of materials to improve cooling and retrofit energy efficient systems
Temperature increases affect living /	Reduce solar heating using recessed windows, roof overhangs and shades

	Retrofit or upgrade energy efficient heating and ventilation
Wetter winters causing damp, condensation and mould problems	Upgrade weatherproofing systems and manage internal environment
Increased rainfall intensity affecting embankments and bridge piers and washing more debris into gullies	Increase monitoring and maintenance of embankments and bridge piers, and increase gully emptying activity
Drier summers increase risk of road subsidence and higher temperatures increase risk of surface damage	Re-examine road structural design. Implement remedial work for existing roads
Natural Environment Awareness	
Climate change influence on species and habitats	Plan for wildlife corridors to allow natural migration. Consider resilience of species in farming and forestry

Impact	A Major positive impact	B Minor positive impact	C No impact	D Minor negative impact	E Major negative impact
Short Term				X	
Long Term		X			

THEME D: NOISE AND VIBRATION

Overall sustainability objective: Minimise noise and vibration disturbance to people and wildlife and stress to historic buildings caused by routine MOD activities.

POTENTIAL ISSUES	COMMENTARY & LIKELY IMPACT	MITIGATION & ENHANCEMENT OPPORTUNITIES
Is there a change in intensity, duration or timing of training activities that may affect people (including recreational visitors) and wildlife?	None	
Change in type of vehicle or weapons used	An increase in the number of vehicles will occur. The types (private cars and HGVs) will not change. Use of rail infrastructure likely to increase.	Noise assessment will be undertaken to quantify impact to allow meaningful consideration.
Change in volume and timing of heavy vehicles on roads, particularly through communities or near historic buildings	An increase in the number of vehicles will occur. The types (private cars and HGVs) will not change. There could be an impact on Arncott village.	Traffic and transport study will establish baseline, model changes and identify improvements to road infrastructure. Traffic management policies to be implemented for HGVs close to village.
Change in noise and vibration from demolition and construction activities	An increase in noise & vibration likely to result from building works	Noise assessment undertaken to quantify impact to allow meaningful consideration.
Is there a likely noise change in recreational use of the estate, e.g. activities such as driving or shooting?	None anticipated	

Impact	A Major positive impact	B Minor positive impact	C No impact	D Minor negative impact	E Major negative impact
Short Term				X	
Long Term				X	

THEME E: AIR QUALITY

Objective:

- To minimise greenhouse gas emissions and pollution of air with gases and particulates.

Sub-objectives:

- To achieve major long term reductions in greenhouse gas emissions; and
- To improve the quality of our air by minimising air pollution by gases and particulate matter.

POTENTIAL ISSUES	COMMENTARY & LIKELY IMPACT	MITIGATION & ENHANCEMENT OPPORTUNITIES
Change in level of CFC/HFC usage	No change anticipated	
Change in amount of dust produced by firing of weapons and explosives, use of vehicles etc.	Temporary dust during to construction activities.	Can be minimised/mitigated by implementation of the Construction Environment Management Plan.
Change in amount of waste incineration or other combustion activities	Possible CHP to generate electricity	Use of clean burn technology
Change in reliance on fossil fuels for energy generation or vehicle use	Possible CHP to generate electricity Increase in vehicular traffic both for construction period and when site is fully operational	Use of clean burn technology. Air quality survey to establish baseline for monitoring of impact on air quality.
Change in production of atmospheric pollutants from industrial processes.	Two or three key buildings on the MOD estate and others on the commercial estate will load directly onto lorries and rail wagons. This could introduce emissions into a working area	Design out risk using industry best practice.
Change in indoor air quality due to different layout or use of materials.	Two or three key buildings on the MOD estate and others on the commercial estate will load directly onto lorries and rail wagons. This could introduction emissions into a working area	Design out risk using industry best practice.

Impact	A Major positive impact	B Minor positive impact	C No impact	D Minor negative impact	E Major negative impact
Short Term				X	
Long Term			X		

THEME F: WASTE

Overall sustainability objective: Minimise resource usage, reduce waste arisings and promote reuse, recycling and recovery.

Sub-objectives:

- To actively support National Waste Management Strategies which require greater emphasis to be placed on waste prevention and reuse and a major reduction in waste going to landfill.
- To manage waste in a more sustainable manner using the requirements of the waste hierarchy (Reduce, Reuse, Recover and Dispose.) and the EU Waste Principles.
- To achieve and exceed wherever possible each of the Sustainable Operations on the Government Estate (SOG) targets and work towards the MOD SD Report and Action Plan objective to recover and recycle more waste than we send to landfill by 2012, thereby working towards becoming a zero waste to landfill organisation.
- To reduce waste through careful planning and procurement (e.g. only buying what is required)
- To promote reuse, recovery and recycling;
- To reduce construction waste and meet the Construction Commitment: Halving Waste to Landfill by 2012
- To reduce the production of hazardous waste and ensure that it is treated responsibly and safely; and
- To reduce the spread of persistent or diffuse pollutants and improve the general management of waste.

POTENTIAL ISSUES	COMMENTARY & LIKELY IMPACT	MITIGATION & ENHANCEMENT OPPORTUNITIES
Waste of resources		
Construction project with potential to produce large amounts of construction or demolition waste.	Moderate increase in waste during construction period.	Contractor KPIs around waste management.
Bad planning or design reducing the opportunity for good waste management.	Increasing the intensity of occupancy on the site will increase the quantity of waste produced long-term	Recycling & reuse designed into buildings and facilities
Change in amount of waste produced (by e.g. more people, different materials).	Increasing the intensity of occupancy on the site will increase the quantity of waste produced long-term	Recycling & reuse designed into buildings and facilities

POTENTIAL ISSUES	COMMENTARY & LIKELY IMPACT	MITIGATION & ENHANCEMENT OPPORTUNITIES
Change in amount of special, controlled, hazardous or radioactive waste produced.	Hazardous waste contained in a single building. May be used more intensively.	Ensure appropriate management and disposal. Examine recycling and disposal options.
Change in opportunity to procure recycled or re-used materials in construction..	Materials will be required for construction therefore the opportunity exists	Contractor KPIs around materials used.
Change in opportunity to increase recycling in operation.	Additional waste will be generated	Plan to include a full range of recycling facilities.
Change in opportunity to send more waste for re-use or recycling.	Additional waste will be generated	Explore opportunities to recycle/re-use waste as near to its source as possible to minimise unnecessary transport impacts and to keep impacts of the project local rather than widespread. Possibility of utilising waste products more efficiently across different elements of Bicester site development.
Changes in waste produced through disposal of redundant equipment and materials.	Additional waste will be generated	Disposal Services Agency (DSA) to explore markets for e.g. reconditioned/refurbished IT and mechanical equipment or vehicles being in the same business unit as JSCS. DSA strategy key to rationalising estate footprint.

Impact	A Major positive impact	B Minor positive impact	C No impact	D Minor negative impact	E Major negative impact
Short Term				X	
Long Term				X	

THEME G: SUSTAINABLE CONSTRUCTION AND THE BUILT ENVIRONMENT

Overall sustainability objective: Minimise development on green sites, and explore refurbishment before choosing construction. Integrate sustainability features at design stage of new buildings and promote the recovery of materials to divert waste from landfill.

Sub-objectives:

- Justification to be given when a decision is taken to procure and construct new facilities rather than to re-use existing facilities.
- To take account of the likely sustainable development (e.g. economic, environmental and social) costs and benefits of construction options as a key issue in decision making.
- To concentrate new development in existing "brownfield" or urban areas rather than "greenfield" or rural sites;
- To ensure land is managed effectively and efficiently and to the highest practicable environmental standards.
- To maximise efficient use of construction materials and promote use of sustainably sourced materials in line with Government policy.
- To ensure that at least 50% of construction waste generated is diverted from landfill and recovered for use on site or disposed of via other routes; and
- The design vision must comply with legislation, be driven by sustainable development (SD) good practice, and be validated by robust environmental methodologies
- New builds and refurbishments must contribute towards sustainability targets while supporting business delivery.

POTENTIAL ISSUES	COMMENTARY & LIKELY IMPACT	MITIGATION & ENHANCEMENT OPPORTUNITIES
Opportunity to influence the design and layout of new buildings and facilities.	MOD: As the efficiency of the logistics operations hinges upon new facilities there will be a requirement for new buildings. Employment: New facilities will be required to develop the employment opportunities on the site Residential: 1650 new dwellings plus supporting infrastructure such as schools and other amenity buildings	MOD: consider where efficiency lies within the logistics processes and what percentage of new build is required to achieve this. Will result in better utilisation of site. Apply the Defence Related Environmental Assessment Methodology (DREAM). MOD will consider what it needs to store in order to avoid waste in terms of process. Employment & residential: Site Master Plan will enable development to be aligned more effectively. More compact, higher utilised development. Congestion and adverse effects (for example, noise) can be mitigated at design stage.
Change in opportunity to improve energy efficiency, reduce carbon emissions and improve user comfort and welfare.	New build, in particular, provides significant opportunity to consider these issues.	Consideration of the integration of passive design: <i>Orientation:</i> High summer sun angles and low winter sun angles on southern exposures while minimising excessive solar gain on east and specifically west exposures from low year-round sun angles. Consider plan depth versus ceiling height. Consider orientation of building/overshadowing. <i>Glazing:</i> sizing/positioning/detailing windows to maximise benefit from the sun while avoiding overheating in summer/heat loss in winter. <i>Thermal Mass:</i> providing sufficiently exposed thermal mass to

POTENTIAL ISSUES	COMMENTARY & LIKELY IMPACT	MITIGATION & ENHANCEMENT OPPORTUNITIES
		<p>store heat from the sun in winter and act as a heat sink for cooling in summer. Benefits of thermal mass are often lost through excessive wall/ceiling/floor coverings. Night purge and thermal mass will improve thermal performance.</p> <p><i>Insulation:</i> specifying high levels of insulation to reduce unwanted heat loss/heat gains through the roof/walls/doors/windows & floors.</p> <p><i>Natural Ventilation:</i> designing clear and robustly controlled air flows through buildings for daytime/night time cooling. Building air-tightness forms a critical component for achieving effective natural ventilation.</p> <p><i>Zoning:</i> providing thoughtful zoning to allow different thermal requirements to be compartmentalised.</p> <p><i>Interior environment:</i> Ensure sufficient natural daylight and task levels for working. Ensure uniformity of daylight distribution. Minimise glare.</p>
Opportunity to refurbish old brownfield facilities rather than new build.	Rationalisation of MOD footprint will result in better use of brownfield land.	Planning consent to build houses on MOD Bicester will alleviate need to build on green field sites in Bicester.
Change in amount of green space developed e.g. playing fields, 'greenfield' areas.	Graven Hill sites are at the foot of Graven Hill which is closed from access to the public	Release of Graven Hill will allow Graven Hill woods and surrounding area to be used for public open space.
Change in use of materials for construction and refurbishment.	New buildings and refurbished buildings offer opportunity to consider these in terms of whole life benefits.	Specification of appropriate materials under the contract.
Disposal of land or buildings.	Disposed land includes warehouse buildings	Disposal sites, reuse of existing warehouses could provide an opportunity to reduce waste and minimise disruption. Shared MOD and community amenity facilities could also avoid the need for some new build.
Changes in how land or buildings are used.		<p>MOD: consider where efficiency lies within the logistics processes and what percentage of new build is required to achieve this. Will result in better utilisation of site.</p> <p>For the MOD and employment sites, reuse of existing warehouses could provide an opportunity to reduce waste and minimise disruption.</p>

Impact	A	B	C	D	E
	Major positive impact	Minor positive impact	No impact	Minor negative impact	Major negative impact
Short Term			X		
Long Term	X				

THEME H: SUSTAINABLE PROCUREMENT

Overall sustainability objective: Ensure that all Departmental procurement (new estate projects e.g. buildings, refurbishments, estate management/facility management contracts etc.) takes full account of Sustainable Development principles and helps meet Sustainable Development targets and objectives.

Sub-objectives:

- To deliver sustainable development through the procurement process;
- To take account of the widespread impacts resulting from procurement decisions and activities; and
- To take a whole-life approach to procurement (by abiding by the principles and following the actions detailed in this theme).

POTENTIAL ISSUES	COMMENTARY & LIKELY IMPACT	MITIGATION & ENHANCEMENT OPPORTUNITIES
Ability to achieve a Whole Life, Value for Money approach (where SD is appropriately weighted as part of VFM considerations).		Rigorously examine statement of need to ensure a sustainable solution is required, to reduce negative impacts and maximise benefits through-life. Ensure procured item/contract will be fit for purpose over lifespan (consider what materials go in, how and whom makes it and disposal options) and is future proofed (e.g. climate change) and pragmatically balances the requirements of cost, impact and performance. Ensure sustainable procurement is addressed within the IAB business case.
Sustainability of a project jeopardised by funding.		Ensure potential issues highlighted through SA are considered and are integrated within cost calculations.
Ensuring minimum standards are achieved in Construction.		Application of Construction Common Minimum Standards, OGC Guide on Achieving Excellence in Construction. Use best practice design e.g. good thermal design to maximise user comfort and save energy. Design stage to incorporate consideration of transit of goods, labour standards, production methods, limit/reduce use of hazardous and non renewable materials and utilise more efficient techniques.
Ensuring environmental minimum standards for products are achieved in the procurement.	Opportunity to achieve this on the redevelopment sites.	Aim to ensure full application of Governments 'Buy Sustainable – Quick Wins'. Specify environmental minimum standards for equipment.

POTENTIAL ISSUES	COMMENTARY & LIKELY IMPACT	MITIGATION & ENHANCEMENT OPPORTUNITIES
Ensuring sufficient opportunities exist for innovative SD (e.g. reduce energy/water consumption, reduce pollution/waste, benefit to local community)		Innovation and best practice encouraged e.g. through contractual incentives. Innovation pursued e.g. reduce energy and water use, reduce pollution and waste, increase use of renewable and recyclable materials.
Ensuring environmental, sustainable development and socio-economic considerations are translated from theoretical level (highlighted from SA), into reality.		Sustainable procurement should be considered at earliest opportunity and considered in parallel with project lifespan. Considerations included within procurement specification and sustainability criteria included in tender process during the Pre Qualification Questionnaire and Invitation to Negotiate/Tender stages and are given appropriate weighting. Integrate specifications within contracts to explicitly incorporate SD e.g. % use of renewable energy, rain water harvesting equipment.
Level of Sustainable Development awareness/training of project team.		Ensure project team and supply chain are well informed with regard to sustainable development and how their constituent roles can achieve this through sustainable procurement.

Impact	A Major positive impact	B Minor positive impact	C No impact	D Minor negative impact	E Major negative impact
Short Term			X		
Long Term		X			

THEME I: GEOLOGY AND SOILS

Overall sustainability objective: Identify, reduce, manage, and mitigate the introduction of threats to soil which can reduce soil extent, diversity or quality.
Sub-objectives:

- To minimise risks to human health and the environment from contaminated land and bring damaged land back into use;
- To protect ground stability and features of geological importance; and
- To minimise soil loss; and
- To maintain and enhance soil quality and protect its function as a substrate for providing food and supporting ecosystems.

POTENTIAL ISSUES	COMMENTARY & LIKELY IMPACT	MITIGATION & ENHANCEMENT OPPORTUNITIES
Change in amount of soil e.g. erosion, deposition.	Foundations for large buildings will result in soil removal.	Use of removed soil elsewhere on the development.
Change in soil quality e.g. contamination, compaction.	As part of the sale of surplus land and redevelopment of retained land, Land Quality Assessments will be undertaken to establish contaminants in the ground	Any remediation will be undertaken as required to allow development, resulting in improved soil quality.
Change in ground stability, e.g. change in occurrence or severity of landslides and subsidence.	Topography of the site is relatively flat so landslides are not a major threat. Soil removal will take place as part of foundation digging.	Removed soil, if appropriate in quality, can be used as part of remediation of other parts of site.
Changes in the features (and possible effects on status) on areas of geological importance e.g. SSSIs / RIGS.	No SSSIs or conservation designations on sites but there are several in the vicinity that will be considered.	Relationship with local SSSIs/RIGS will be monitored to ensure no detrimental impact.
Change in risks to human health and the environment from contaminated land.	As part of the sale of surplus land and redevelopment of retained land, Land Quality Assessments will be undertaken to establish contaminants in the ground	Any remediation will be undertaken as required to allow development, resulting in improved soil quality and removal of risk.
Changes in water drainage or irrigation can cause an accumulation of salt triggering Salinisation. This can have a negative effect on the fertility of soils.	The MOD and employment facilities do not represent a significant threat, however these together with the introduction of residential development will require a full drainage strategy.	Drainage strategy to consider optimum method of drainage. No irrigation required. To be fed into master plan.

POTENTIAL ISSUES	COMMENTARY & LIKELY IMPACT	MITIGATION & ENHANCEMENT OPPORTUNITIES
Over-extraction or loss of valuable geological resources, such as building aggregates.	Not applicable	
Changes to the soil/geology of the area can affect surrounding vegetation or wildlife.		Ecological impact assessment to understand the relationships between the ecological networks and reduce large-scale impacts that remove or damage valuable habitats or other environmental conditions. Engagement with statutory bodies in development of master plan.
Changes in surface strata (and surface vegetation) can affect the rate or occurrence of flooding.	Increased amount of hardstanding, roofs and road surfaces could increase risk of flooding.	Flood risk assessment will evaluate local risk registers and the Environment Agency's flood resources to establish level of posed hazard. Together with topography of the site this will inform the drainage strategy.

Impact	A Major positive impact	B Minor positive impact	C No impact	D Minor negative impact	E Major negative impact
Short Term			X		
Long Term			X		

THEME J: BIODIVERSITY AND NATURE CONSERVATION

Overall sustainability objective: Conserve and, where appropriate, enhance biodiversity as part of estate stewardship, to contribute to the UK commitment to halt the loss of biodiversity by 2010 and afterwards, whilst ensuring the provision of defence capabilities.

Sub-objectives:

- Be an exemplar in the management of designated sites where compatible with military requirements;
- Ensure natural environment requirements and best practice are fully integrated into the estate management;
- Contribute, as appropriate, to the UK Biodiversity Action Plan (and Country Biodiversity Strategies).

POTENTIAL ISSUES	COMMENTARY & LIKELY IMPACT	MITIGATION & ENHANCEMENT OPPORTUNITIES
Change in effect (indirect or direct) on a designated site (particularly SSSI, SPA, SAC or Ramsar site). Sites may be designated for terrestrial or marine habitats, plant, mammal, bird, reptile, amphibian, fish or invertebrate species, as well as geomorphological and geological features.	There are no conservation designations on the site, there are several SSSIs in the vicinity that will be considered,	A Phase 1 habitat survey has been undertaken and several species surveys have been commissioned to identify species present and mitigating steps which could include retention of key trees, pathways, ponds and where this is not possible, appropriate mitigation.
Change in effect on a species of conservation concern (including European or UK Protected Species or local biodiversity action plan species). (eg all bats, badgers, nesting birds, most reptiles and amphibian, water voles, otters, certain rare plants). Protected species occur in many buildings and across the 'built estate'.	There is the possibility that the sites support protected species.	A Phase 1 habitat survey has been undertaken and several species surveys have been commissioned to identify species present and mitigating steps which could include retention of key trees, pathways, ponds and where this is not possible, appropriate mitigation.
Change in site activities or operation that may affect biodiversity and nature conservation.	Increasing intensity of use will affect the area but potential to for enhancements is possible at the design stage.	A Phase 1 habitat survey has been undertaken and several species surveys have been commissioned to identify species present and mitigating steps which could include retention of key trees, pathways, ponds and where this is not possible, appropriate mitigation. In addition implementation of other control such as SuDS has the opportunity to benefit biodiversity.

POTENTIAL ISSUES	COMMENTARY & LIKELY IMPACT	MITIGATION & ENHANCEMENT OPPORTUNITIES
Change in site use (i.e. acquisition or disposal) that may affect biodiversity and nature conservation.	Increasing intensity of use will affect the area but potential to for enhancements is possible at the design stage.	As above
Is there a change in public access or recreation that may affect biodiversity and nature conservation?	Increasing intensity of use will affect the area. Amenity use of Graven Hill may be increased	A Phase 1 habitat survey has been undertaken and several species surveys have been commissioned to identify species present and mitigating steps which could include footpaths that contain use so as not to affect whole wooded area preserving the habitat.
Change in construction or engineering activity that may affect biodiversity and nature conservation.	Protected species if present could be impacted, appropriate mitigation will need to be identified as a result of the survey work currently being undertaken.	A Phase 1 habitat survey has been undertaken and several species surveys have been commissioned o identify species present and mitigating steps which could include retention of key trees, pathways, ponds and where this is not possible, appropriate mitigation.

Impact	A Major positive impact	B Minor positive impact	C No impact	D Minor negative impact	E Major negative impact
Short Term				X	
Long Term		X			

THEME K: HISTORIC ENVIRONMENT

Overall sustainability objective: To protect and where possible enhance the MOD historic environment in recognition that it is an integral part of cultural heritage and the role it plays in supporting defence capability.

Sub-objectives:

- MOD continues to be an exemplar within Government in the management of the heritage assets;
- Protect and maintain our heritage assets for the benefit of our and future generations;
- Manage our heritage assets to reflect the ethos and heritage of MOD and to promote a "sense of place" for those who work on, live on and visit the MOD estate;
- Promote our heritage assets and support public and educational access where possible;
- Work to reduce the heritage assets at risk on the MOD estate.

POTENTIAL ISSUES	COMMENTATRY & LIKELY IMPACT	MITIGATION & ENHANCEMENT OPPORTUNITIES
Chance of activity affecting known heritage assets including their curtilage and setting	Significant redevelopment of estate could impact on heritage assets but unlikely	Survey to establish any heritage assets in order that mitigating measures can be built into plan. Explore opportunities to tie redevelopment into historic environment.
Potential for heritage assets, not previously recorded or identified, affecting the planning for the proposed activity. This can include archaeological remains as well as above surface assets (of local, national and MOD interest).	Due to nature of redevelopment it is unlikely that new assets will be unearthed	On areas of undeveloped land, geophysical surveys will be undertaken to establish the likelihood of assets in order for mitigating steps to be taken.
Establish significance of heritage assets	Due to nature of redevelopment it is unlikely that new assets will be unearthed	In the event of the discovery of assets, an assessment of significance of heritage assets may be required
Change in intensity of training near heritage asset (e.g. driving, firing, digging, noise, vibration) & location of project impacting on landscape or heritage/historic significance of site.	There will be a complete elimination of training in the area.	

POTENTIAL ISSUES	COMMENTATRY & LIKELY IMPACT	MITIGATION & ENHANCEMENT OPPORTUNITIES
Design and use of materials of project impacting on landscape or heritage/historic significance	Significant redevelopment of estate could impact on heritage assets but unlikely	Survey to establish any heritage assets in order that mitigating measures can be built into plan. Explore opportunities to tie redevelopment into historic environment.
Change in intensity of construction or engineering works	Significant redevelopment of estate could impact on heritage assets but unlikely	Engage with contractors to ensure best practice in the management and maintenance of heritage assets under MOD stewardship.
Change in maintenance regime affecting condition of historic buildings	Significant redevelopment of estate could impact on heritage assets but unlikely	During construction works, take measures to protect all features of historic interest.
Is there a change in land management regime which may affect the historic environment? e.g. forestry, ploughing, recreation or other third party activity	Significant redevelopment of estate could impact on heritage assets but unlikely	Survey to establish measures that may be necessary
Acquisition or disposal of sites that may have historic environment features or may be of heritage or historical significance	Disposal sites may have limited historic features	Once identified through survey they can be factored in to consideration of appropriate buyer.
Refurbishment or change of use of historic buildings or those with a heritage significance	No historic buildings therefore not applicable.	

Impact	A Major positive impact	B Minor positive impact	C No impact	D Minor negative impact	E Major negative impact
Short Term			X		
Long Term			X		

THEME L: LANDSCAPE AND TOWNSCAPE

Overall sustainability objective: To protect and enhance the character of landscapes and townscapes.

Sub-objectives:

- To ensure that planning and development take account of landscape and townscape issues for both statutory matters (e.g. planning applications) and where development is not specifically covered by statutory directions;
- To protect the landscape/townscape value of features of historic and cultural interest; and
- To contribute to the long-term enhancement of landscape characteristics and quality of life.

POTENTIAL ISSUES	COMMENTARY & LIKELIHOOD	MITIGATION & ENHANCEMENT OPPORTUNITIES
Effects of construction or development in (or immediately adjacent to) National Parks, Areas of Outstanding Natural Beauty or other areas subject to landscape designations.	Redevelopment will see a change in the landscape, however the current warehouses and disused buildings negatively impact the vista.	Topography, landscape and tree surveys will inform considerations of this area, however due to the unattractiveness of the sites currently provision of modern warehousing, removal of disused dilapidated building and development of buildings with lower eaves height (houses) is likely to enhance the vista. A landscape and visual assessment has been undertaken and the results will inform the masterplanning process.
Removal, development and replacement of natural landscape features such as trees, woodlands, hedgerows.	Redevelopment will see a change in the landscape, however the current warehouses and disused buildings negatively impact the vista.	Topography, landscape and tree surveys will inform considerations of this area. New planting will take into consideration species present. Removal of natural features will be avoided where possible and used to enhance the development.
Alterations to the shape of the land through the creation of mounds or depressions.	Unlikely to be required	
The potential to make a significant change within the landscape/townscape through the introduction or removal of new buildings or infrastructure, or changes to existing buildings or infrastructure.		Topography, landscape and tree surveys will inform considerations of this area, however due to the unattractiveness of the sites currently provision of modern warehousing, removal of disused dilapidated building and development of buildings with lower eaves height (houses) is likely to enhance the vista.
The potential to create a visual intrusion into the nightscape e.g. installation of	No significant change expected.	Street lighting will be provided in the appropriate areas. On MOD retained land and employment land there is likely to be little change.

POTENTIAL ISSUES	COMMENTARY & LIKELIHOOD	MITIGATION & ENHANCEMENT OPPORTUNITIES
lighting or floodlighting.		

Impact	A Major positive impact	B Minor positive impact	C No impact	D Minor negative impact	E Major negative impact
Short Term				X	
Long Term		X			

THEME M: HEALTH, SAFETY AND WELL-BEING

Overall sustainability objective: Maximise opportunities to promote healthy, safe and secure environments in which to live and work.

Sub-objectives:

- To reduce the incidence of work days lost due to work related illness and injury.
- To reduce work-related stress, excessive hours and improve the work/life balance
- To promote a healthy and productive working and, where relevant, residential environment; and
- To promote good health and well-being.

POTENTIAL ISSUES	COMMENTARY & LIKELY IMPACT	MITIGATION & ENHANCEMENT OPPORTUNITIES
<p>Change to building or interior layout that could significantly affect health, safety or well-being.</p> <p>Influx of new staff that may be unsure of health, safety or security procedures. Change in organisation roles, responsibilities and work patterns that may significantly affect procedures for health, safety or well-being.</p> <p>Change in staff numbers, workload and work patterns that may affect health or stress levels.</p> <p>Change in use or storage of substances that could significantly affect health, safety or well-being.</p>	<p>Change in layout of sites and buildings</p> <p>Influx of MOD and non-MOD staff, plus residents.</p> <p>Changes to ways of working in terms of shift patterns and expectation of higher productivity</p> <p>Transfer of staff from public sector to private sector under TUPE likely.</p>	<p>New site layout, buildings and processes will need extensive briefing and training to ensure staff are capable of discharging their duties.</p> <p>Wellfare support will be required to support transition from old ways of working to new ways of working including notification of the change and providing chance for staff to air views.</p> <p>Clear line management will be needed to ensure staff know what is expected of them and how they are doing to minimise stress. A clear feedback loop will need to be defined to ensure points of stress are identified and tackled/managed.</p> <p>Access to public open space for those working on the employment site will enhance opportunity for work-life balance.</p>
<p>Change in equipment, processes, activities, external climate that could significantly affect</p>	<p>Changes to processes & equipment will be required to make logistics more efficient</p>	<p>The equipment is likely to be safer (due to more modern design features) however there remains a risk if staff operate equipment without appropriate training. Therefore full training of new processes and equipment will be essential to mitigate</p>

POTENTIAL ISSUES	COMMENTARY & LIKELY IMPACT	MITIGATION & ENHANCEMENT OPPORTUNITIES
health, safety or well-being.		this risk.
Change to exterior layout that could significantly affect health, safety or well-being	Current estate has limited walk ways and extensive railways and sidings.	Opportunity to design out rail-people interface and road-people interface can be taken as part of redeveloped master plan.

Impact	A Major positive impact	B Minor positive impact	C No impact	D Minor negative impact	E Major negative impact
Short Term			X		
Long Term		X			

THEME N: COMMUNITIES AND SOCIAL VALUES

Overall sustainability objective: Promote MOD as a good neighbour which works with local communities to minimise disturbance and maximise positive social impacts.

Sub-objectives:

- To minimise disruption and nuisance to communities and local environments;
- To maximise opportunities for partnership-working, public involvement in decision making and access to environmental information; and
- To encourage community involvement and volunteering by the MOD.

POTENTIAL ISSUES	COMMENTARY & LIKELY IMPACT	MITIGATION & ENHANCEMENT OPPORTUNITIES
Change in local environmental quality experienced by communities (e.g. noise, litter, traffic).	Due to mixed use development at Graven Hill an increased number of facilities and activity will become available to the community	Master plan will seek to improve neighbourhood design, e.g. incorporate green/open spaces both on and near MOD sites. Traffic and noise surveys will be undertaken to determine possible effects of redevelopment so that mitigating actions can be identified. Enhancement of the area is possible due to the opportunity for a well-connected site that makes use of the natural landscape and environment to enhance the desirability of the site.
Change in opportunity for community involvement (e.g. volunteering, community-support roles).	Not applicable	
Change in opportunity for consultation, partnership working and information on the estate and its activities.	Not applicable	
Change in land use that will affect estate tenants, other landowners or casual users.	Change in land use will affect tenants on C site and the wider community	A programme of consultation with tenants, statutory consultees and the wider public will be implemented.

Impact	A Major positive impact	B Minor positive impact	C No impact	D Minor negative impact	E Major negative impact
Short Term			X		
Long Term	X				

THEME O: INFRASTRUCTURE AND AMENITIES

Overall sustainability objective: To support the welfare, cultural, recreational and infrastructure needs of military and civilian communities.

Sub-objectives:

- To contribute to the well-being of society of facilitating public access when this can be integrated with safety, security and operational requirements; and
- To ensure that local utilities and social infrastructure is able to support MOD presence.

POTENTIAL ISSUES	COMMENTARY & LIKELY IMPACT	MITIGATION & ENHANCEMENT OPPORTUNITIES
Is there a likely change in numbers of personnel and families requiring access to welfare, social or recreational facilities?	Likely increase in the number of workers in the area during the day requiring amenities	Design the overall master plan to include appropriate level of amenity facilities.
Is there a likely change in provision of facilities for welfare, social or recreation on site?	Likely increase in amenity provision on sites, improving situation for MOD and non MOD staff. This will include minimal numbers of service personnel.	Take opportunities to provide shared public/MOD facilities to increase viability.
Is there a likely change in impact on local utilities, amenities and infrastructure?	Increased pressure on local utilities and infrastructure across all three elements of the site.	Undertake a study into the impact of MOD redevelopment on transport, education and other infrastructure/amenity provision as a basis on which to negotiate Section 106 contributions.
Is there a likely change in public rights of way or highways in the project area?	Likely increase in public access across surplus land. Increased use of existing rights of way also likely.	Opportunity to improve connectivity from & via MOD's surplus land to Bicester town centre.
Is there likely to be any change to statutory open access designation in the project area (Countryside and Rights of Way Act 2000 / Land Reform [Scotland] Act 2003) or a change in permissive (granted) access?	None expected.	

Impact	A Major positive impact	B Minor positive impact	C No impact	D Minor negative impact	E Major negative impact
Short Term			X		
Long Term	X				

THEME P: ECONOMY AND EMPLOYMENT

Overall sustainability objective: Maintain and encourage a strong, diverse and stable economy with rewarding employment opportunities open to all.

Sub-objectives:

- To promote a strong, stable and diverse economy, with fair and open trade, whilst respecting the environment;
- To create conditions which promote sustained levels of employment;
- To provide job opportunities that are rewarding and develop skills, equality and opportunity for all; and
- To raise employees' awareness and understanding of sustainable development.

POTENTIAL ISSUES	COMMENTARY & LIKELY IMPACT	MITIGATION & ENHANCEMENT OPPORTUNITIES
Change in number of jobs and related high value added economic activity.	Increase in number of jobs on both MOD and employment land.	Carry out a more detailed study on local and regional suppliers, customers, employees and other stakeholders.
Change in opportunity for business creation and growth.	Increased employment space for private sector to occupy space in Bicester..	There may be an attraction for defence suppliers to establish their base immediately next to the defence gateway.
Short term adjustment costs / benefits resulting from decision (e.g. temporary increase in unemployment or need to retrain workforce).	No impact of this nature anticipated	
Improvement in quality / availability of local amenities and infrastructure, or vice versa.	Increase in number of jobs on both MOD and employment land.	Opportunity to build a mixed use development which is largely self contained and reduces the amount of out-commuting in Bicester with an appropriate level of amenity to create a desirable mixed use development.
Change in activity or land use that may affect livelihood of estate tenants and commercial users.	Current leaseholders on C site will be required to move out of buildings which MOD will need to use.	Opportunity to locate tenants on the new employment development benefiting the overall viability of the development.
Change in opportunity for training and skills provision.		Identify opportunities for skill development and transfer, from discrete projects to longer term secondments and apprentices.

POTENTIAL ISSUES	COMMENTARY & LIKELY IMPACT	MITIGATION & ENHANCEMENT OPPORTUNITIES
Change in opportunity to raise employee awareness and understanding of sustainable development.	Opportunity presented by influx of new people	Design opportunities for awareness into the development.
Major Relocations, Ministerial commitments and activities of a unique, novel or contentious nature.		
Economic Effects		The simple economic effects questionnaire, as detailed within JSP 507, should be completed in order to assess economic impacts.
Other economy and employment issues.		

Impact	A Major positive impact	B Minor positive impact	C No impact	D Minor negative impact	E Major negative impact
Short Term			X		
Long Term	X				