

## Appendix A: Erith Western Gateway evidence baseline

The Erith Western Gateway is a collection of sites in the north of Erith town centre and adjacent to the River Thames, totalling some 7.65 hectares. The area incorporates a mixture of land uses in a number of ownerships. It is characterised by buildings of varying ages and designs, interspersed between areas of open space, hard standing and vacant land. The area displays a unique topography resulting from the development and quarrying of the land, as it slopes down towards the river. The importance of elements of this area in the historic development of the town is recognised through the designation of the riverside, along the line of the High Street as a conservation area. The location of Erith Western Gateway is shown in Map 1 below.

Map 1: Location of Erith Western Gateway



Numerous assessments have been carried out to support a future development of the Erith Western Gateway in a comprehensive manner. These include:

- Ecological assessment
- Air quality assessment
- Archaeology and cultural heritage assessment
- Townscape and visual assessment
- Ground conditions assessment
- Hydrology assessment
- Arboricultural assessment
- Daylight and sunlight assessment
- Noise Assessment

While these assessments have been prepared to predict the effects of a future development of the site, they contain valuable information on the baseline situation both within the site and the surrounding environment. This baseline information is presented in this Appendix. The baseline information will feed into the sustainability appraisal objectives as outlined in Table 1 below.

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Baseline Condition	Sustainability Appraisal Objective Contributed To
Ecology	Biodiversity
Air quality	Air quality, Climate change
Archaeology and cultural heritage	Cultural heritage
Townscape and visual	Landscapes townscapes and open spaces, quality of surroundings
Ground conditions	Land water and soil
Hydrology	Land water and soil, flood risk
Arboriculture	Landscapes townscapes and open spaces, biodiversity
Daylight and Sunlight	Quality of surroundings
Noise	Quality of surroundings

Table 1: Baseline categories and Sustainability Appraisal objective contributed to

Full copies of the assessments can be made available on request.

### Ecology

An ecological appraisal of the site was carried out by Waterman Energy, Environment and Design in March 2010. The assessment outlines the existing ecology within the site and the surrounding area. The site itself is dominated by buildings and hardstanding, with areas of formal amenity planting and the Riverside Gardens formal open space. Natural vegetation is restricted to a small area of dense and scattered scrub and a small area of rough semi-improved grassland in the west of the site. A number of mature and semi-mature trees and a small block of sycamore woodland is also present in the west of the site.

### Habitats

The River Thames Site of Metropolitan Importance for Nature Conservation is situated adjacent to the north eastern boundary of the site. The proximity of this site will be of relevance to any future development, and the ecological assessment recommends measures, including the use of Sustainable Urban Drainage Systems to mitigate potential adverse effects. Owing to the distance of the site to other areas of nature conservation importance, no effects are anticipated on any other sites of nature conservation importance.

The majority of the rest of the site is considered to be of negligible nature conservation value, with the scrub and rough grassland likely to be of value within the context of the site only, and the scattered semi-mature and mature trees are likely to be of local value.

### Species

The rough grassland on the site has the potential to support reptiles and invertebrates, and the buildings and mature trees have the potential to support bats. Their presence should be confirmed as part of planning applications for future development. The areas of dense scrub, trees and dense ornamental planting also have the potential to support nesting birds. The report recommends that their removal should occur outside of nesting seasons, and this requirement can be dealt with through future planning applications.

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The report concludes that no other impacts to habitats or protected species are anticipated as a consequence of development as provided for in the Supplementary Planning Document. The report recommends that compensatory measures such as landscaping and consideration of the use of green roofs on any new or refurbished buildings should be provided for. This recommendation will be borne in mind through the evaluation of the guidance in the Supplementary Planning Document.

### Air quality

An air quality assessment was carried out by Waterman Energy, Environment and Design, which evaluates the likely significant effects of a proposed development on local air quality. It considers effects from dust and road traffic exhaust emissions generated through demolition and construction works, together with road traffic exhaust emissions. This report has been utilised to ascertain the baseline conditions with regard to air quality at the Erith Western Gateway site.

The Manor Road Air Quality Management Area was declared in May 2003 owing to measurements of PM<sub>10</sub> being above national air quality objectives. An Air Quality Action Plan was prepared and published in this regard in July 2006. The whole borough was declared an air quality management area in 2007 as a consequence of exceedances in rates for both nitrogen dioxide (NO<sub>2</sub>) and PM<sub>10</sub> for a number of areas in the borough.

The London Borough of Bexley undertakes air quality monitoring at a number of locations throughout the borough. Recent monitoring at the Erith monitoring site are presented in Table 2 below.

Year	Annual Mean NO <sub>2</sub> Concentration (ug/m <sup>3</sup> )	No Hours NO <sub>2</sub> Hourly Mean >200ug/m <sup>3</sup>	Annual Mean NO <sub>2</sub> Concentration (ug/m <sup>3</sup> )	No. days 24hr mean >50ug/m <sup>3</sup>
2007	36	6	43	124
2008	32	0	32	69
2009	28	0	30	42

Table 2: Air quality monitoring at the Erith monitoring site

The monitoring results in Table 2 above indicate that the NO<sub>2</sub> annual objective of 40ug/m<sup>3</sup> is being met at the Erith site in most recent years. However, the annual mean PM<sub>10</sub> objective was exceeded in 2007 and there are frequent daily exceedances of the mean PM<sub>10</sub> objective. The Erith monitoring location is adjacent to Manor Road, where issues relating to PM<sub>10</sub> have been previously identified.

The London Borough of Bexley also monitoring NO<sub>2</sub> concentration. The diffusion tube monitoring results at roadside locations in close proximity to the site are shown in Table 3 below.

Site Location	Distance (km)	Site Category	2006	2007	2008	2009	Annual Objective
Queens Rd/ James Watt Way	0.2	Roadside	55.3	52.8	50.3	48.4	40
44 Manor Road	0.4	Roadside	47.1	44.6	43.3	41.8	40
69 Manor Road	0.4	Roadside	42.0	46.0	41.0	38.7	40
38 South Road	0.5	Roadside	39.1	40.5	37.1	35.9	40
12 South Road	0.5	Roadside	51.6	55.8	53.8	48.0	40

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<b>Manor Road AQMS at CITB Manor Road</b>	0.7	Roadside	38.1	38.4	34.9	33.4	<b>40</b>
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Table 3: Air quality monitoring results summary

Consistent with the borough being designated as an air quality management area for NO<sub>2</sub>, there are exceedences during recent years at most of the sites.

### Archaeology and cultural heritage

An archaeology and cultural heritage assessment was carried out of the Erith Western Gateway Land by Waterman Energy, Environment and Design Ltd in March 2010. This assessment notes that the local archaeological databases, and other secondary sources, indicate that there is potential for archaeological remains within the site. The key features of archaeological, historic and cultural heritage within the site are summarised below:

#### *Archaeological heritage*

- The site is located in an Archaeological Priority Area, based on high potential for palaeo-environmental remains regarding past climactic conditions, with underlying riverine deposits. A number of significant archaeological discoveries have been made within this deposit sequence.
- There is also limited potential for remains associated with Roman activities within these deposits, given Erith's position as a natural haven. There is strong evidence of quarrying in the west of the site, which is likely to have impacted on any deposits located in the underlying sequence.
- Evidence of early medieval settlement at Erith presents potential for associated remains, which would likely be focussed along the riverside at the junction of the High Street and Bexley Road. This evidence is likely to only be fragmentary.
- The Greater London Sites and Monuments Record (GLSMR) refers to a gun emplacement at Erith at Erith shown on a historic map, but the extensive alterations along the riverside area mean that associated remains are likely to have been removed.
- The Riverside Gardens were previously the site of the Cannon and Glaze flour mills, and this area has limited potential for remains as archaeological investigations were not carried out prior to the demolition of the buildings. River defence work carried out in the early 1980s will have significantly impacted on any remains of the mills, but some may exist within undisturbed areas of the gardens.
- There are tramway sidings located in the west of the site, which have been subject to archaeological investigation, and these may provide further evidence of 19<sup>th</sup> century development through the survival of associated remains outside of the area examined to date.

#### *Historic and cultural heritage*

- The Erith Library building is located in the site. This building was constructed in 1906 and is Grade II listed. As a nationally important building, this library should be retained.
- The Erith Riverside conservation area recognises the historic importance of the part of the site over which it is located, and a number of buildings located within the conservation area date to the 18<sup>th</sup> century.

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- The upper part of the Grade II\* list Christ Church is visible from the site. The views to and from the church should be considered in any future site development.
- There are a number of undesignated cultural heritage assets within the site, which also have historic and architectural merit. The Post Office, former River Policy Headquarters building and associated structures are located within the Erith Riverside conservation area and form of part of the basis of its designated, as 'prominent buildings of local architectural and historic interest'. The Running Horse public house and former town council building on Bexley Road are also considered to be important cultural assets.
- The Erith Riverside gardens has important as an historic asset and as a key component in the layout of the conservation area.

The report concludes that all the structures within the conservation area should be retained, and for buildings that are not retained, a programme of historic building recording would be required. It also notes that given the potential for significant archaeological remains along Erith High Street and Bexley Road, further investigation may be required if these areas are to be significantly affected.

### **Townscape and visual**

The assessment of townscape and visual effects as a result of the demolition, construction and completed development at Erith Western Gateway was undertaken by Waterman Energy, Environment and Design Ltd. The baseline information, outlining the existing townscape and amenity value is relevant to the sustainability appraisal scoping report.

#### ***National character***

The Natural England Countryside Character Map identifies broad character areas at a strategic level for the whole of England. Urban areas were not assessed, but the nature of settlement areas and their landscape context in which they sit are described. Erith is identified in Character Area 112: Inner London, the main characteristics of which include:

- Dense urban development of contrasting styles, layout and vernacular
- Punctuated by large parks and open spaces
- Abundance of street planting, notably the London Plane tree
- The iconic landscape feature of the Thames

This is a generic description, but applies to the site and its wider environment. Specific characteristics are different at the local level, however.

#### ***Regional character***

There are no regional or borough-wide assessments for the London Borough of Bexley. The Waterman assessment does however, characterise the east of London as being dominated by the urban sprawl of greater London, with low-rise suburbs and clusters of tall buildings such as those on the Isle of Dogs, and prominent tall high rise flats. There is a great variety of townscapes as the growth and regeneration of the built form has occurred. Large regeneration areas such as the Isle of Dogs and Olympic Park have removed much of the past historical context. The historic land use of heavy industry along the River Thames is still apparent today and many large industrial areas and features are still prominent in the landscape. Associated with the River Thames there are also large

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areas of low-lying marshland such as Erith and Crayford Marshes, which appear as wild features within the urban sprawl.

### **Local character**

Waterman has undertaken a character assessment of the site and its local environment and has identified townscape character areas (TCAs). The following areas have been identified:

- **TCA1 – Erith Riverside Post War:** This area includes the majority of the site and extends to Compton Place to the south. It can be identified by the 1960s and 1970s architecture that is prevalent throughout. Spaces are well defined with clear areas for residential, recreation and commerce. Building materials are dominated by manufactured brick, wood and prefabricated vernacular, which is most obvious in Carrack and Bosworth House, which are prominent landmarks in the built form. There are more historic buildings among this fabric, including the old library, Erith town hall and the old police station. The Erith Riverside conservation area is located in the north east of the TCA and provides an attractive and well maintained green space within the townscape, with its formal layout and planting. Other areas in the TCA have not been as well maintained and many are now showing signs of neglect and dereliction. The key characteristics of the TCA are:
  - Archetypal 1960s and 1970s planning and architecture
  - Clearly defined areas of space
  - Retail, residential and formal open space and planting
  - Some isolated historical buildings and vacant areas of scrub

Notwithstanding the varying quality of the TCA, the overall sensitivity of the area is considered to be high as a result of the conservation area, green space and historic buildings.

- **TCA2 – Erith Riverside Regenerative:** The area is located to the east and west of the site and can be identified by its larger scale and contemporary form and vernaculars, using stone, glass and steel. There are two sub-areas within the TCA, to the west of the site and to the east. The sub-area to the east of the site is the Erith Riverside shopping centre, and further east is the Morrisons Supermarket. Both of these developments are large, sand coloured brick and glass buildings. The key characteristics of the TCA are:
  - Contemporary new materials and vernacular
  - Large scale and bulk
  - Residential and retail land uses
  - Pedestrian retail streets and gated residential communities

The sensitivity of the character area is considered to be low and reasonably tolerant of substantial change.

- **TCA3 – Erith Industrial:** The industrial areas are located to the west and east of the site and can be easily identified through their industrial land use. The built form is dominated by large, utilitarian and bulky industrial units, and smaller buildings are also present. The units are arranged in a grid-like pattern with its own secure compound and as a consequence permeability to the area is relatively low. The key characteristics of the TCA are:
  - Industrial units and land use

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- Large scale and bulk
- Utilitarian and industrial in nature
- A self contained environment with little connectivity

The sensitivity of this area is considered to be low.

- **TCA4 – Erith Historic Residential:** The residential suburbs of Erith are low rise residential properties consisting of a number of styles and vernaculars. Adjacent to the site, at the historic core of Erith, the majority of the properties are Edwardian terraces, built circa 1910 and identified through their grey brick, white bay windows and clay chimney pots. More contemporary dwellings are located further from the site. The Lesney Park conservation area, to the south west of the site is included in the TCA. The area is designated due to its Edwardian architecture and the attractive feature of Christ Church, the spire of which is a notable landmark within the townscape. The key characteristics of the TCA include:
  - Predominantly Victorian/Edwardian historical residential suburbs of Erith
  - Back to back terrace houses but also newer residential dwellings
  - Low rise and small scale
  - Busy main roads and quieter side streets

The area is considered to have moderate local sensitivity.

The assessment also outlines 18 viewing environments and details the likely receptors within these environments. It then assigns a sensitivity grading, depending on how sensitive views will be to the new development from particular viewpoints. The assessment concludes that this baseline character is likely to continue to exist with small alterations as new development occurs in the overall built form.

### Ground conditions

An assessment of the ground conditions was carried out by RSK Group Plc in March 2010. The report reviews information regarding the historic development of the site, and including the site setting, geology, hydrogeology, borehole records and environmental data. RSK Group have also developed a conceptual model which has highlighted potential pollutant linkages.

The report concludes that given the significant historic development of the Erith Western Gateway site, its size (8.2 ha) and previous excavations, it is likely that shallow Made Ground may be present across the majority of the site and specifically in areas of former industry/commercial activity, resulting in the presence of olfactory contaminated soils. To confirm this, the report recommends further intrusive investigations in a number of locations across the site. In terms of the sustainability appraisal baseline the potential for contamination is relevant to the land water and soil objective, and will be borne in mind when undertaking the assessment of issues and options and the emerging Supplementary Planning Document.

### Hydrology

An assessment of the water environment of the Erith Western Gateway was carried out by Entec, which is principally concerned with the hydrology and hydrogeology within the site and its immediate surroundings.

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The site slopes relatively steeply from Erith town centre toward the River Thames and Riverside gardens. It is located along the Erith reach of the tidal River Thames. The bedrock geology of the site is Chalk overlain with Taplow Gravel drift deposits. It is largely urban, comprised with artificial and made ground, which makes it unlikely that much of the original soil is still present and may decrease the natural leaching potential in the area.

Groundwater vulnerability mapping shows the site is overlaying with a highly permeable major aquifer, coinciding with the Chalk bedrock. The area does not fall within a Groundwater Source Protection Zone. The Water Framework Directive Current Quantitative Quality classification of groundwater within the site area is described as 'poor' and current chemistry quality is classified as 'poor'. The Environment Agency has classified the groundwater of the site as 'At Risk' of failing to meet standards set under the Water Framework Directive as a result of diffused source pollution, water abstraction and flow regulation.

The tidal River Thames has been identified as being a source of flood risk to the site. Modelling has been carried out of the site to calculate the broad, which is located along the southern wall of the Wharf, adjacent to the western end of the Riverside Gardens. The western half of the site and the northern site boundary benefit from flood defences located along the River Thames margin. The flood defences along this reach of the River Thames currently provide a 1 in 1000 standard of protection. There is however, a residual tidal flood risk posed, and modelling demonstrates that the northern part of the site may be affected in the event of a breach. Anecdotal evidence suggests that the surface water drainage system may be ineffective through design, particularly during intense rainfall events.

The report further outlines potential receptors and potential effects for consideration during the design of future development of the site.

### Arboriculture

An arboricultural survey was carried out of the Erith Western Gateway site by Waterman Energy, Environment and Design Ltd in March 2010. The survey focussed on the area between Stonewood Road in the west, Queens Road in the south, Cross Street, Bexley Road and Erith High Street in the east and the River Thames in the north. The survey included an investigation of species, height, size, age and condition of trees within the survey area, and the trees were then graded according to their relative value.

The survey confirmed the presence of 59 individual trees and 33 tree groups, compiling a variety of different species in a wide range of growing conditions, ranging from street trees and planted specimens within public parks in the northern and eastern part of the site. One tree in the area is subject to a tree protection order (TPO) and the trees within the public parks along Erith High Street and surrounding the Running Horses Pub are located within the Erith Riverside conservation area and are also protected from damage, pruning or removal without prior approval from the Council.

The majority of the surveyed trees were in good condition, with only two noted as being dead or in decline and recommended for removal. Four trees were classified as Category A (trees of high quality or value), eight were assessed as Category B (moderate quality and value) and the remaining 78 trees and groups were assessed as Category C. The trees make an important contribution to the area which will be considered under the landscapes townscapes and open spaces sustainability appraisal objective.

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### Daylight and sunlight

A daylight and sunlight baseline evaluation was carried out by Savills Commercial Ltd in March 2010. A technical analysis was carried out in six representative properties within the area to ascertain whether they complied with relevant guidance. A broader evaluation was also carried out of the whole site to provide an indication of whether the redevelopment of the site will occur in a manner that can achieve compliance with relevant sunlight and daylight guidance. The report then outlines levels of massing that can be achieved throughout the site, whilst still ensuring access to appropriate levels of sunlight and daylight.

The conclusion notes that the most sensitive areas are those adjacent to Walnut Tree Road and the corner of Bexley Road and Erith High Street, where residential properties are currently located. It recommends that the suggested parameters for building should be built into any guidance for the future development of the site. Access to sunlight and daylight is a relevant consideration in terms of the quality of surroundings sustainability appraisal objective, and this will be borne in mind in the consideration of the emerging Supplementary Planning Document.

### Noise

An evaluation of noise and vibration has been carried out by Waterman Energy, Environment and Design Ltd, which outlines useful baseline information for the sustainability appraisal. Noise monitoring was carried out in March 2010 in locations representing both existing potentially sensitive receptors in the vicinity of the Erith Western Gateway site and potentially significant receptors that may be established within the site. The noise monitoring locations selected are outlined in Table 4.

Reference	Location
LT1	Northern site boundary adjacent to Bronze Age Way
LT2	Former swimming baths on Erith High Street
LT3*	Bexley Road
ST1	22 Stonewall Road
ST2	1-19 Coral Heights
ST3	Queen Street
ST4	Stone Court
ST5	Queens Road

Table 4: Noise monitoring sites

\* Measurements completed with CRTN shortened measurement procedure

The evaluation considers potential effects of noise levels for the areas of the Erith Western Gateway site that are likely to accommodate residential uses. It does this through consideration of the potential noise effects in terms of the levels specified in PPG24. It also modelled potential for background noise from potential future site development.

The baseline surveys were carried out between 24-26 March 2010. The baseline long term noise measurements represent the existing noise environment that is likely to continue regardless of the development of the Erith Western Gateway site, and these are presented in Table 5 below.

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Location	Monitoring Period	$L_{Aeq,T}^*$	$L_{A10,T}^*$	$L_{A90,T}^{*+}$	$L_{Amax}^{\#}$
LT1	Daytime (0700-2300)	57.5	59.5	45.3	85.9
	Nighttime (2300-0700)	54.4	57.3	38.1	78.9
LT2	Daytime (0700-2300)	54.1	56.4	45.5	86.1
	Nighttime (2300-0700)	52.1	54.0	45.9	76.8
LT3	Daytime (0700-2300)	61.4	64.6	49.7	85.4
	Nighttime (2300-0700)	60.3	63.2	40.1	87.7

**Table 5: Baseline Long-term noise measurements**

\* CRTN Shortened measurement procedure

# Maximum monitored noise level during survey period

+ Minimum monitored noise level during survey period

The baseline short term noise measurements represent the existing noise environment within the Erith Western Gateway site. This environment is likely to change as a consequence of the redevelopment of the site, and these are presented in Table 6.

Location	Monitoring Period	$L_{Aeq,T}$	$L_{A10,T}$	$L_{A90,T}$	$L_{Amax}$
ST1	Daytime (0700-2300)	60.2	62.7	53.1	76.7
	Nighttime (2300-0700)	49.4	53.2	43.8	62.2
ST2	Daytime (0700-2300)	52.3	54.5	48.1	68.3
	Nighttime (2300-0700)	39.1	39.8	36.1	65.0
ST3	Daytime (0700-2300)	60.5	63.3	52.3	84.2
	Nighttime (2300-0700)	51.0	54.2	43.3	69.9
ST4	Daytime (0700-2300)	57.0	60.6	44.9	74.6
	Nighttime (2300-0700)	41.9	43.7	37.1	63.6
ST5	Daytime (0700-2300)	72.2	73.9	63.7	91.1
	Nighttime (2300-0700)	60.4	62.4	43.0	73.2
ST6	Daytime (0700-2300)	58.6	59.7	53.4	69.3
	Nighttime (2300-0700)	58.0	58.2	57.7	58.8

**Table 6: Baseline Short-term measurements**

Noise levels on and in the vicinity of the site ranged between 54.1 and 72.2dB $_{LAeq,T}$  during the daytime period. The highest monitored noise levels were associated with the road traffic noise from Queens Road (A206).

During the night-time monitoring period, monitored noise levels ranged between 39.1 and 60.4 dB $_{LAeq,T}$ . Noise levels during the night time period were noted to be typically lower than those experienced during the daytime as a result of reduced traffic flows on the surrounding traffic network. Road traffic remained the prevalent noise source during this period however, with the highest monitored levels being adjacent to the A206. In addition to the road traffic noise, the noise from the existing EDF substation was audible at all locations during the nighttime period.

The report concludes that there is the potential for minor to moderate adverse effects from noise on the future residential development of the site. To mitigate against this, it recommends that future residential development should comply with British Standards BS8233 in terms of 'good' and 'reasonable' acoustic environments for residential properties as follows:

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- 30 to 40 dB  $L_{Aeq}$  for daytime inside living areas
- 30 to 35 dB  $L_{Aeq}$  and less than 10 to 15 events which exceed 45 dB  $L_{max}$  measured inside bedrooms at night
- 50 to 55 dB  $L_{Aeq}$  in gardens or on balconies or other open spaces used for relaxation and recreation.

The baseline noise levels and associated mitigation recommendations are relevant to the quality of surroundings objective. They will be borne in mind during the evaluation of the emerging Supplementary Planning Document.