Appendix: A

BEaR Project Site Selection Methodology Report

BEaR Project Site Selection Report.

When the Integrated Waste Treatment Project was initiated it was immediately evident that a site would be required for any facility to be built. A detailed site selection project was launched, involving two consultants as well as internal and external consultees.

Part 1

The initial group of reports was undertaken by Terrance O'Rourke (TOR) Ltd. Their role was to undertake a two stage assessment study to assist the County Council, as the Waste Disposal Authority, with planning matters associated with the preparation of its Joint Municipal Waste Management Strategy (JMWMS).

Stage 1

Stage one of the study was to undertake a spatial analysis of Bedfordshire, to identify potential planning and environmental constraints and opportunities. The findings of stage one were used to consider the relative merits of three potential spatial development scenarios based on the provision of one (Option 1), two (Option 2) or three (Option 3) new Integrated Waste Management Facilities (IWMF's) in the county.

When undertaking the spatial analysis study, TOR gave consideration to current and emerging national and regional policy framework. These frameworks were designed to guide the location of new waste treatment facilities to ensure that waste management is undertaken in the most sustainable and practical way. The National Waste Strategy 2000 identifies the key guiding principles. These guiding principles are set out in Planning Policy Guidance (PPG) Note 10 *'Planning and Waste Management'* and have been reflected in the methodology adopted for the spatial analysis.

The findings of this initial report showed that there was no compelling reason to reject any of the spatial development scenarios. It did however state that Option 1, requiring the development of a single IWMF in the north of the county close to Bedford was likely to represent the most suitable spatial development option. Option 2, was shown to have merit but is likely to require the development of a second IWMF in green belt land, a major planning constraint, which would significantly increase planning risk. Option 3 held a similar risk element to Option 2.

Stage 2

Stage 2 of the study was undertaken in light of the findings of Stage 1 with the specific aim of identifying and appraising all potential sites for IWMF within the three constituent Borough and District Council authority areas. Sites were identified by a number of means thereby ensuring that all potential IWMF sites were included. The following sources of information were used:

- Minerals & Waste Local Plans
- Local Development Plans

- Environment Agency Data
- Industrial Stakeholder Consultation
- Economic Development Officers

A long list of 95 potential sites was created; this was then subjected to a 3 step sieving exercise to eliminate those sites considered unsuitable for waste management.

Step 1 Sieve

Sieve 1 was used to eliminate sites that were clearly inappropriate for future IWMF use. Sites were eliminated if they failed to meet any of the following seven tests:

- Physical Availability – unsuitable physical characteristics.
- Proximity to sensitive receptors – i.e. residential, schools, country parks.
- Poor accessibility – suitability of local road networks.
- Proximity to optimum IWMF locations – Minimizing tonnage kilometerage.
- Site size – Minimum size increased to 1.5 hectares.
- BLMWLP Policy W7 – Sites should accord with policy W7.
- Green Belt – waste management uses are not suitable for green belt.

This first sieving process reduced the long list of 95 sites to a medium list of 30 sites.

Step 2 Sieve

Following the step 1 desktop based appraisal the remaining 30 sites were visited by TOR. At each site consideration was given to the following planning and environmental issues:

- Access & highways.
- Existing & former land uses.
- Site context & potential sensitive receptors.
- Landscape sensitivity and potential for visual impact.
- Potential opportunities for energy recovery/CHP.
- Potential for nature conservation interest.
- Previously developed restored or Greenfield land.

This process led to a further 13 sites being dropped from the process. The remaining 17 sites went on to the final sieving step.

Step 3 Sieve

The third step of the sieving process involved a detailed comparative site appraisal being carried out whereby each of the short listed sites were tested against a set of 12 planning, environmental and operational criteria, to assess their suitability to accommodate an IWMF. The 12 criteria were:

Operational Criteria

- Proximity to other waste related facilities.

- Potential to re-use existing waste infrastructure.
- Proximity to the strategic road network and site access.
- Potential for CHP/district heating or materials re-use.

Planning and Environmental Criteria

- Proximity to optimum IWMF locations.
- Compatibility with planning policy.
- Proximity to sensitive receptors.
- Potential impact on ecological, geological or archaeological interest.
- Landscape/townscape sensitivity.
- Potential for re-use of previously developed land.
- Proximity to areas liable to flooding.
- Proximity to Air Quality Management Areas (AQMA)

The outcome of this sieving stage was a list of 10 *'preferred'* sites. Seven sites were dropped during the comparative site appraisal as they either scored poorly or are subject to certain key constraints that indicate that an IWMF would not be deliverable or justifiable in terms of relevant planning policy.

Supplementary Sites

In response to the industrial stakeholder consultation carried out during the preparation of the stage 2 Site Identification and Appraisal Report, 6 additional sites were put forward as potential IWMF locations. Due consideration was given to these additional sites to ensure that the process was comprehensive and robust. All 6 sites were tested against the same sieving methodology used in the Stage 2 report and an additional supplementary report was completed. Four of the six sites were rejected at the Step 1 sieve and one at the Step 2 sieve. The final site made it through the step 3 sieve but was deemed to be less suitable than the existing preferred sites due to a number of reasons that were documented.

Part 2

Consultees

The second group of reports were undertaken by Entec UK, appointed technical consultants for the Integrated Waste Treatment Project. Entec's first task was to gather baseline information on the sites. This process initially involved the creation of a list of consultees in discussion with the Council:

- The Highways Agency
- The Countryside Agency
- The Environment Agency
- English Heritage
- English Nature
- Civil Aviation Authority
- Network Rail

In addition to the above, views were sought from a number of departments within Bedfordshire County Council, including the Waste Planning Authority, Transportation, and Environment Departments.

In general terms it was considered that whilst the consultation responses provided some useful information and a starting point, there was not sufficient information to enable the sites to be ranked in order of preference. It was agreed that a more detailed assessment process was required to undertake this exercise.

Site Visits

Entec's next task was to undertake site visits to determine the condition and nature of the site and surrounding land uses. Particular attention was paid to issues such as the proximity of sensitive land uses and major roads and the likely vehicular access issues. In addition each site was also visited by Entec's landscape architect and where possible an Ecologist, to gather baseline information.

Assessment Criteria

Entec's next task was to develop the criteria that would be used to assess the sites. The starting point for this process was the Regional Sustainable Development Framework for the East of England (RSDF). The main objectives of the East of England RSDF are as follows:

- To achieve sustainable development and prosperity;
- To deliver more sustainable pattern of location and development;
- To protect and maintain our most valuable regional assets;
- To reduce our consumption of fossil fuels;
- To achieve a more equitable sharing of the benefits of prosperity;
- To use natural resources, both finite and renewable, as efficiently as possible;
- To minimise our production of by-products or wastes;
- To avoid using the global environment to underwrite our own unsustainable way of life;
- To revitalise town centres to promote a return to sustainable urban living.

Whilst these objectives covered a broad range of sustainability topics and issues it was felt that they were too broad to demonstrate clear differences between each of the 10 sites. In addition, many of the objectives were not considered to be relevant to waste management.

The following 4 stage process was undertaken to develop a series of objectives that would be more relevant to the assessment of the sites identified by Terence O'Rourke utilising relevant criteria from RSDF where applicable:

Stage 1: Assessment of RSDF objectives

The first stage in the process was to identify the objectives and indicators that were not considered to be relevant to waste management and would therefore not be useful in assessing the sites. RSDF objectives were colour coded, those coded red were discounted from further consideration.

Stage 2: Amendment of Objectives and Indicators

The Stage 1 assessment highlighted some of the objectives and indicators colour coded green required further amendment to make them more relevant to assessment of waste management sites.

Stage 3: Additional Criteria

It was noted that the RSDF objectives and indicators did not contain many of the criteria used by Entec in previous site selection exercises. Additional criteria were added at this stage to provide a more comprehensive assessment framework.

Stage 4: Further Rationalisation and grouping of Criteria

The process identified in stage 1 – 3 resulted in the identification of 61 appraisal criteria. It was agreed that this was too many to undertake an effective appraisal process. Further analysis was undertaken resulting in the identification of a list of 32 appraisal criteria. It was considered that this list of criteria provided a good basis for assessing the social, economic and environmental aspects of the remaining sites.

The Appraisal Matrix

The Appraisal Matrix was developed by Entec from previous appraisal exercises. In order to rank the relative performance of each site against the appraisal criteria a numerical scoring system was developed. A score of between 2 and 10 was allocated for each according to whether it performed very well or badly against the criteria. Lower scores indicated a poorer performance against the criteria.

In addition to the scoring system, the appraisal criteria were also weighted according to their relative importance. The higher the weighting, the more relative importance attached to the particular criteria. Highly weighted criteria were generally those that were considered to be fundamental to the success of the development, or those which it would be difficult to mitigate against if sites performed badly against them. These criteria included issues such as land acquisition considerations, or issues relating to the physical development of the site. The range of weightings applied was 1 to 100. The weightings were generated by Entec and reviewed by the workshop.

The Appraisal Workshop

The appraisal of the 10 potential sites for the IWMF took place at a workshop session. The purpose of the session was to score each site according to its performance against the appraisal criteria. The workshop was attended by the following key internal consultees from the Council, including representatives

from Waste Management, Planning, Transport and Environmental departments.

- John Gilford, Head of Waste Management Bedfordshire County Council
- David Bevan; Bedfordshire County Council
- Ben Finlayson; Bedfordshire County Council
- Andrew Brown, Bedfordshire County Council
- Clive Beckett, Bedfordshire County Council
- Sarah Blussley, Bedfordshire County Council
- Brian Hamilton, Entec UK Ltd
- James Gleave, Entec UK Ltd
- Kate Proctor Entec UK Ltd

Scores were allocated according to the criteria attached to the scoring system. The application of this scoring system was to a large extent based on the expertise of the group and in some cases subjective judgement. Entec considers that this method of assessment reflected that by its nature, sustainability appraisal is a qualitative process that relies on the expertise of key stakeholders.

It was agreed that there was a need to revisit those criteria relating to Ecology, Bio-diversity, Landscape and Cultural Heritage. These were to be reviewed by BCC's Environment Department and Entec's Landscape Architect and Ecologist, and revised scorings applied. After workshop session, there then followed a further review and modification of the scores by Entec in the light of further research.

Applying the Weightings and Achieving the Rankings

The rankings for each site were calculated in the following manner:

- The appraisal score for each site was multiplied by the weighting to achieve a final weighted score for each site against each criteria.
- All un-weighted and weighted scores were added for all criteria.
- Sites were ranked according to their performance against each other.

Once a ranking had been assigned to each site the initial site selection process was complete and a ranked site list was created.

The Ranked Site List

Un-weighted Scores			Weighted Scores			
Site	Score	Variance	Site	Score	Variance	Difference
1	200	100%	1	10420	100%	Unchanged
2	198	99%	2	9820	94%	Unchanged
3	196	98%	3	9670	93%	Unchanged
4	186	93%	6	9180	88%	+2
5	182	91%	4	9060	87%	-1

6	180	90%	8	9040	87%	+2
7	178	89%	5	8760	84%	-2
8	172	86%	9	8520	82%	+1
9	166	83%	7	8260	79%	-2
10	158	79%	10	7450	71%	Unchanged

Site 1 = Rookery Pit South
Site 8 = Brogborough Landfill