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Appendix 11.5: K3 as consented Ecological Mitigation Report

Wheelabrator Kemsley (K3 Generating Station) and Wheelabrator Kemsley North (WKN)Waste to Energy Facility DCO

September 2019 -Submission Version **PINS ref: EN010083**

KEMSLEY SUSTAINABLE ENERGY PLANT, KENT

ECOLOGICAL MITIGATION REPORT

April 2016

Our Ref: JSL2110_871a

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CONTENTS

1 INTRODUCTION

1.1 RPS Ecology was commissioned by Wheelabrator Technologies Inc. (WTI) to carry out a reptile translocation exercise on land adjacent to the present DS Smith Paper Mill, Kemsley, Kent following the grant of planning permission for a new Sustainable Energy Plant (SEP) was in March 2012 (planning application number SW/10/444). The planning permission is subject to a Section 106 agreement that required the developer to, *inter alia,* implement a Relocation Scheme as set out in the Ecological Mitigation and Management Plan (EMMP) prepared by RPS in 2011. A previous survey for reptiles undertaken by RPS in 2009 and 2010 to inform the SEP planning application and the accompanying Environmental Statement (ES) had found 'low' populations of Slow-worm *Anguis fragilis*, Common lizard *Zootoca vivipara* and Grass snake *Natrix natrix* present (RPS 2011).

1.2 The EMMP was produced in consideration of the ecological issues identified on site during surveys to inform the ES for the SEP, including the translocation of the reptile population and its long term survival through a considered habitat management plan covering the next 5 years. This includes a plan covering both the development site area and the adjacent previous landfill area (Figure 1.1).

1.3 The EMMP highlighted the site's ability to retain the current reptile population on site within the SEP redline boundary and land adjacent to it. To this end, a dedicated, newly-created receptor area was defined within the redline boundary. Additional reptile habitat would be available in land adjacent to the receptor site (including the landfill area) which would be enhanced to make it more suitable.

1.4 Habitat creation was to include planting of scrub habitat, hibernacula creation, grassland creation and bare ground areas.

1.5 In addition to the reptiles present, a population of annual beard-grass *Polypogon monspeliensison*, a species listed on the citation for the nearby Swale Ramsar site and considered to be Nationally Scarce was also found on site. This was to be translocated to within suitable areas within the receptor site.

1.6 To facilitate access to the SEP site, an additional planning application was submitted in 2012 to create a new access road and an expansion of the existing DS Smith trailer park. Planning permission (planning application number SW/12/1001) was granted in November 2012. This application required a large area of scrub clearance and smaller areas of grassland. The grassland had been surveyed for reptiles as part of the application and only very low numbers of animals were found to be present.

1.7 The s106 agreement requires written confirmation to be obtained from Kent County Council that the Relocation Scheme has been 'satisfactorily implemented'. This report provides details of the work undertaken in accordance with the EMMP to confirm that the Relocation Scheme has been satisfactorily implemented, and to ensure that the reptile population and annual beard-grass were moved in a sensitive manner and in accordance with best practice. It also provides details of the final site preparation works undertaken on site with respect to both the SEP and access road.

2 METHODS AND RESULTS

Habitat creation

2.1 Recommendations were made in the EMMP for enhancement of habitats on site as a whole including the receptor site and the adjacent former landfill site before the translocation of reptiles could be started.

2.2 Habitat creation recommendations included establishment of grassed and scrub areas, and construction of open/bare ground, and reptile hibernacula. The purpose of these recommendations was to recreate existing habitat which will be lost during development of the SEP plant and provide both reptiles and birds with suitable foraging and nesting habitat.

2.3 Each habitat as per the EMMP was set out as an individual management objective including its creation and long-term management to be implemented by the SEP consortium and is to be reviewed in five years from commencement of construction on site.

2.4 All habitat creation was undertaken a season in advance of the translocation works commencing to enable the new habitat to establish successfully.

Grassed areas

2.5 During September 2011 (i.e. outside of the breeding bird season), selected areas of scrub and tall ruderal vegetation within the receptor area were removed by hand with a brushcutter under supervision of an Ecological Clerk of Works (ECoW).

2.6 At the same time strips of species-poor grassland on the former landfill area were cleared using strimmers in a two stage process as described in the EMMP.

2.7 These open areas were then treated with a herbicide to eliminate unwanted regrowth and later (October 2011) reseeded with a tussock-forming species-rich grassland mix.

2.8 The aim of this habitat creation was to create a mosaic type habitat more diverse in structure than the grassland previously present on the landfill to encourage reptile foraging. It is also beneficial to invertebrates on site.

2.9 These grassland habitats have since been managed as per the requirements in the EMMP.

Open/bare ground

2.10 Also in September 2011, areas of open/bareground were created to the east of the site both within the receptor area and the areas connecting this to the former landfill area. Bare open areas were created by hand-strimming into existing vegetation to ground level under supervision as described above.

2.11 Bare open areas are important for reptiles to utilise as basking areas during the day and also important to particular invertebrates and birds.

2.12 Approximately 0.5 ha of bare ground were created in these areas as per the EMMP. These areas have subsequently been re-cleared of vegetation as grassland etc. regrows.

Scrub

2.13 In December 2011, along the track to the north and east of the landfill area, additional scrub planting was completed to increase existing scrub density and to compensate for the loss of large areas of scrub on the development site.

2.14 Species comprised hawthorn, blackthorn, and dog rose. This has begun to establish since and will, in time, provide additional refuge for reptiles as well as nesting birds.

Reptile hibernacula

2.15 In September 2011 a total of five reptile hibernacula were created along the track to the north of the landfill area, to the east of the site, and within the receptor area itself.

2.16 During translocation, a further two hibernacula were constructed to the east of the development site as numbers of animals captured increased to ensure that sufficient hibernation/shelter habitat was available.

2.17 These were constructed as per the EMMP using surplus rubble from the development area and were built under supervision of an ECoW.

Mitigation

Reptile translocation

Receptor site establishment

2.18 The receptor site was established in 2011, as described above, under supervision of an ECoW. At the same time, approximately 2 km of reptile-proof fencing (herpetosure) was installed around the SEP site, including the receptor site, in order to isolate the area. The fencing was installed to the specification prescribed in the EMMP and under supervision of an ECoW. See Figure 2.1 for the layout of the fencing. To aid capture, the site was divided with drift fencing into six compartments (Areas A-F).

2.19 An area larger than the redline boundary for the SEP was cleared of reptiles (as shown on Figure 2.1) as the landforms on the site pre-clearance (areas of temporary rubble storage created by DS Smith as part of on-going works on the wider paper mill site) meant that it was impossible to install an effective reptile fence line through the rubble piles. This additional land is also to be used during the construction of the SEP for laydown/site compounds, etc. under permitted development rights and as such, will be restored to grassland habitat, as per the grassland establishment on the landfill (i.e. re-seeded with a tussock-forming mix), post construction. However, subject to planning permission being granted for an Incinerator Bottom Ash Aggregate facility, this area would potentially be developed. If this is the case, a suitable permanent mitigation plan will be established with respect to the reptiles present.

2.20 Any debris/rubbish was hand picked as much as possible inside and along the edges of the receptor site. In addition, outside and inside boundary fence lines were hand strimmed of tall vegetation to prevent reptiles climbing back out the receptor site and onto the development site.

Site establishment

2.21 Artificial refugia comprising 0.5 m^2 roofing felts were placed in suitable habitat around the development site (excluding within the receptor site) on the 20th April 2012 at a spacing of approximately 2-5 m. Suitable reptile habitat on site totalled approximately 6.3 ha. A total of 645 sheets were placed in these areas creating a refuiga density of greater than 102/ha.

Translocation

2.22 After allowing a period for the refugia to "bed in", the translocation exercise was started on the 30th April 2012 with the aim of trapping for a minimum of 60 suitable days.

2.23 Because reptile activity is heavily weather-dependent, trapping only occurred during suitable conditions when they were likely to be active and basking, i.e. temperature between 10 and 20°C, little or no wind and little or no rain. Hot, dry days were avoided (reptiles have no need to bask under such weather) as were those too cold/wet for animals to be active.

2.24 Any animals caught were sexed and recorded and placed into a reptile bag (pillow case) held within a bucket to ensure animals were kept in a dark, secure environment prior to release at the receptor site.

2.25 Animals were released at the receptor site on the same day of capture. They were released into and adjacent to hibernacula and under artificial refugia placed specifically for this purpose within the receptor site.

2.26 Once the newly-created grassland habitat on the landfill site had begun to establish suitably, the fencing running along the south of the receptor area (adjacent to the former landfill) was opened up during May 2012. This was to increase the amount of suitable habitat for translocated reptiles to disperse into, i.e. allowed them to move out of the receptor site into the newly-created habitat on the landfill.

2.27 Trapping was continuous (except a few days unsuitable for weather) and continued throughout the summer until the capture data indicated that the rate of capture had started to decrease. This took 125 trapping days to occur in all areas.

2.28 However, after the initial 60 trapping days, once numbers began to decrease in each section, selective clearance of habitat on site was undertaken under ECoW supervision. Areas B and C yielded the fewest number of animals. They comprised mostly long grass and tall ruderal vegetation. In July 2012 these areas were selectively cleared by use of hand strimming vegetation to 20 cm and then, after 24 hours to give time for any animals present to move away, to ground level with any arisings removed. Clearance was undertaken from the centre of the site outwards to force any remaining animals towards the retained habitat along the fence lines and islands created in these sections. Refugia were then relocated into this retained habitat so that targeted trapping efforts could be focused on a smaller area.

2.29 These two areas were deemed clear on 6th and 14th August 2012, respectfully, following five suitable days with no captures and all remaining reptile habitat was removed under ECoW supervision.

2.30 Sections A, D, E and F comprised a mosaic of long grass habitat and scrub as well as numerous spoil piles of discarded rubble and old construction debris. Once numbers had begun to

decrease here, in August 2012, islands of habitat were created via strimming, as per for Areas B and C to concentrate capture efforts with trapping continuing.

2.31 Once capture rates had begun to decrease further additional habitat areas were cleared in September 2012.

2.32 Once five days with no captures had been achieved in Area E (on the 4th October 2012), areas of rubble etc. were destructively searched via mechanical methods under supervision of an ECoW. This focused on areas where reptiles could be sheltering such as existing rubble/rubbish piles/areas of soil (rabbit burrows etc). Rubble was carefully removed from sections where possible or spread about within the sections to destroy sheltering opportunities for reptiles. Any animals were removed into the receptor areas. Refugia trapping continued alongside in the compartments where five days clear had not been achieved.

2.33 The remaining three trapping compartments (A, D and F) continued to yield animals throughout the 2012 season. Therefore, on the basis that it would not be possible to distinguish a genuine depletion of the population from animals going into hibernation, trapping for 2012 ceased on 30th October.

2.34 Trapping re-commenced in 2013 as soon as weather conditions allowed. Given the very cold spring of 2013, this wasn't until the 22nd April. Five suitable days with no captures under refugia were rapidly achieved in Area F with no captures from the start of trapping on the 22nd until the 27th April when a destructive search of the habitats (undertaken as for Area E) was started to clear the few remaining animals.

2.35 Areas A and D continued to yield animals (albeit at a much reduced rate) until five days clear were achieved on the 5th May and 6th June, respectively, when a destructive search of both was undertaken as for Area E.

2.36 In total, across the whole site trapping/destructive search occurred during 178 suitable days in 2012/13 before the site was declared clear of reptiles.

2.37 In total, 2,784 animals were moved during the translocation. Table 2.1 provides a breakdown of the capture data.

Table 2.1. Summary reptile capture data

	Adults	Juveniles	Total
Number of Slow-worms	702	873	1,575
Number of Common lizard	663	527	1,190
Grass Snakes	3	16	19

Post translocation works

2.38 Once the development site was declared clear of reptiles, the herpetasure reptile fence surrounding the development was maintained and monitored by DS Smith on at least a monthly basis to ensure continued integrity.

2.39 The vegetation within 1 m of both the exterior and interior of the reptile fence was strimmed and sprayed with a suitable herbicide under ECoW supervision once the DS Smith monitoring noted it becoming more than 30 cm tall (i.e. a similar size to the fence line). This was to prevent animals from attempting to recolonise the site.

2.40 To discourage any animals from moving back in, should a breach have occurred in the fence, and maintain an ecologically-sterile development site pre construction, in January of 2014, 2015 and 2016 (i.e. pre breeding bird season), any plant re-growth was removed from within the area of the site cleared of reptiles via a tracked dozer to remove the top 2 cm of soil.

Annual beard-grass translocation

2.41 Annual beard-grass was found to be present on the development site during initial surveys undertaken to inform the Environmental Statement of the SEP. Due to its rarity, the EMMP provided a method for it to be translocated in order to ensure its continued occurrence in the area.

2.42 A re-survey of the site was undertaken by an experienced botanist on the 2nd August 2012 to map the location of this species. Two small patches were identified (see Figure 2.2). These areas were marked out with spray paint so that the plants could be identified later once they had set seed.

2.43 Seed was collected from the plants on the 28th August 2012 and stored in a suitable container and kept refrigerated until spread on the receptor site on the 23rd October 2012.

Final habitat clearance works

2.44 In early 2016 (from mid-February until early-April), prior to main works starting on site (anticipated late May 2016), the final areas of remaining scrub/grassland habitat were cleared from both within the main development site and along the access road corridor (see Figure 2.3). This included a narrow strip of scrub/grassland along the southern site boundary adjacent to the former landfill, scrub along the ditch to the west of the site and dense scrub along the proposed access road.

2.45 All scrub was cleared by hand using chainsaws under ECoW supervision to check for bird nests/reptiles as appropriate. No reptiles or active bird nests were found.

2.46 Areas of grassland were strimmed in two stages in suitable weather conditions when reptiles were known to be active. The first stage was a cut to 15 cm high and then, 24 hours later, to ground level to enable any reptiles present to move into retailed surrounding habitats. Strimming was directional towards retained habitat (i.e. the receptor site/landfill or surrounding retained grassland). Subsequently, any areas of rubble etc., revealed by the scrub clearance, were destructively searched under ECoW supervision. This yielded four adult common lizards in total.

2.47 Areas of reptile exclusion fence that had surrounded the site were also realigned to enable the final development to begin with any fence extraction occurring under ECoW supervision. This included between the main development site and the access road to the north and along the southern site boundary. A new length of reptile fence was installed along the access road, once scrub clearance had occurred to prevent reptiles within the grassland external to the site from entering during the development works.

2.48 As the majority of the landfill (those areas outwith the new habitat creation) is maintained as short-mown grassland (as per the terms of the Environment Agency's licence) and is therefore considered to be unsuitable reptile habitat. As such, during this re-alignment, reptile fencing was only installed to ensure animals within the habitat creation could not re-enter the development site (Figure 2.3).

Ditch clearance

2.49 The ditches adjacent to the site access road and to the eastern site boundary were cleared of vegetation to facilitate development works (although both will be restored and significantly enhanced as per the approved ditch buffer zone management plan RPS 2013). Prior to works, a final check of accessible habitat for the presence of water vole *Arvicola amphibious* was made by the ECoW. No evidence of water vole or other burrowing mammals was found and therefore vegetation clearance (mainly scrub) progressed as described above.

Marsh harrier protection

2.50 Included within the EMMP were details with respect to the protection of marsh harrier *Circus aeruginosus* using a large reedbed to the north of the development site. This included the provision of a closed-board wooden panel fence along the northern main development boundary to provide a visual screen to ensure harriers were not disturbed by large numbers of humans moving on site. Such a fence was erected in March 2016. It was extended along the eastern boundary of the site access road, albeit using demolition netting rather than wood to provide the screen which still provides a suitable barrier but is not as durable since this section of fence will only be required for the first six months of construction while the access road and associated works are constructed.

2.51 The fencing along the northern development boundary will remain *in situ* for the duration of construction. The fencing along the access road will be removed once it is no longer required.

2.52 There will be no direct entry of the Kemsley reedbed by people or machinery as a result the proposed SEP. The need to mitigate any indirect affects arising from disturbance from activities during both construction and operation of the proposed SEP will be dependent upon whether Marsh Harrier nest in the reedbed, the stage of breeding that the Marsh Harrier has reached (nest building, sitting on eggs or feeding chicks) and the nature of the activity. The following activities will not occur within the distances listed of the nest site in the event that Marsh Harrier is found breeding in the Kemsley reedbed during construction:

2.53 Activities that only involve the movement of vehicles will take place more than:

1. Nest building 100 m
2. Eggs 100 m
3. Chicks 50 m

2.54 Activities that involve people outside of vehicles and construction activities such as excavation, concrete pouring and assembly:

1. Nest building 200 m

2. Eggs 200 m

3. Chicks 100 m

2.55 Given that the harrier fencing will screen such activities within the main development site, this is aimed at preventing the any development activities occurring between the development redline boundary and the edge of the reedbed.

3 CONCLUSIONS

3.1 Planning permission for the development of a Sustainable Energy Plant on a site adjacent to Kemsley Paper Mill required the implementation of an ecological mitigation and management plan.

3.2 Following habitat creation works in the various receptor sites, the reptile component of this strategy was implemented between April 2012 and June 2013 with a total of 2,784 animals (1,368 adults) moved into the receptor area and the adjacent former landfill site over the course of 178 suitable trapping days. Final habitat clearance was undertaken during February to March 2016.

3.3 Clearance of habitat along the ditch to the west of the development site and to the east of the access road was undertaken during February to March 2016 under ECoW supervision. No evidence of water vole was found prior to clearance works.

3.4 The site is now considered clear of ecology constraints and ready for development to take place; all works were undertaken according as per the EMMP and, as such, conform to the requirements of the S106 agreement.

3.5 All fence lines currently in place should be maintained throughout development to ensure no additional ecology issues develop during the development process.

3.6 Post development, significant new areas of habitat will be created to complement those created as part of the mitigation process. This includes grassland, scrub and wetland habitats to provide substantial new foraging/nesting etc. for birds, reptiles and invertebrates.

4 REFERENCES

RPS (2011) *Kemsley SEP, Kemsley Paper Mill: Ecology Mitigation and Management Plan*. RPS unpublished report.

RPS (2013) *Kemsley SEP, Kemsley Paper Mill: Ditch Buffer Zone Management Plan.* RPS unpublished report.

FIGURE 1.1

Areas of habitat creation

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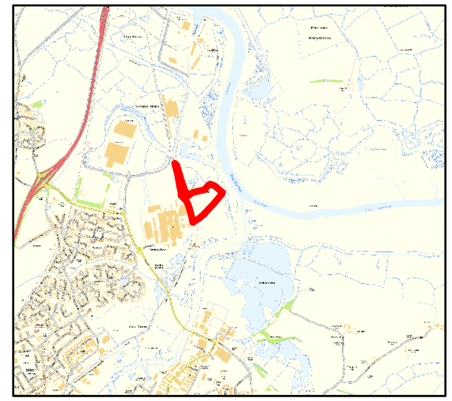

Legend

- Development boundary
- Reptile receptor site
- Areas of habitat creation (2012)
- Bare ground
- Grassland
- Scrub

Rev	Description	Date	Initial	Checked

Lakesbury House, Hiltingbury Road, Chandlers Ford,
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Client: Wheelabrator Technologies Inc

Project: Kemsley Sustainable Energy Plant, Kent

Title: Areas of Habitat Creation

Status	Drawn By	PM/Checked By
For Information	HK	NB
Job Ref	**Scale @ A3**	**Date Created**
JSL2110	1:4,000	APRIL '16

Figure Number: **1.1**

Rev: -

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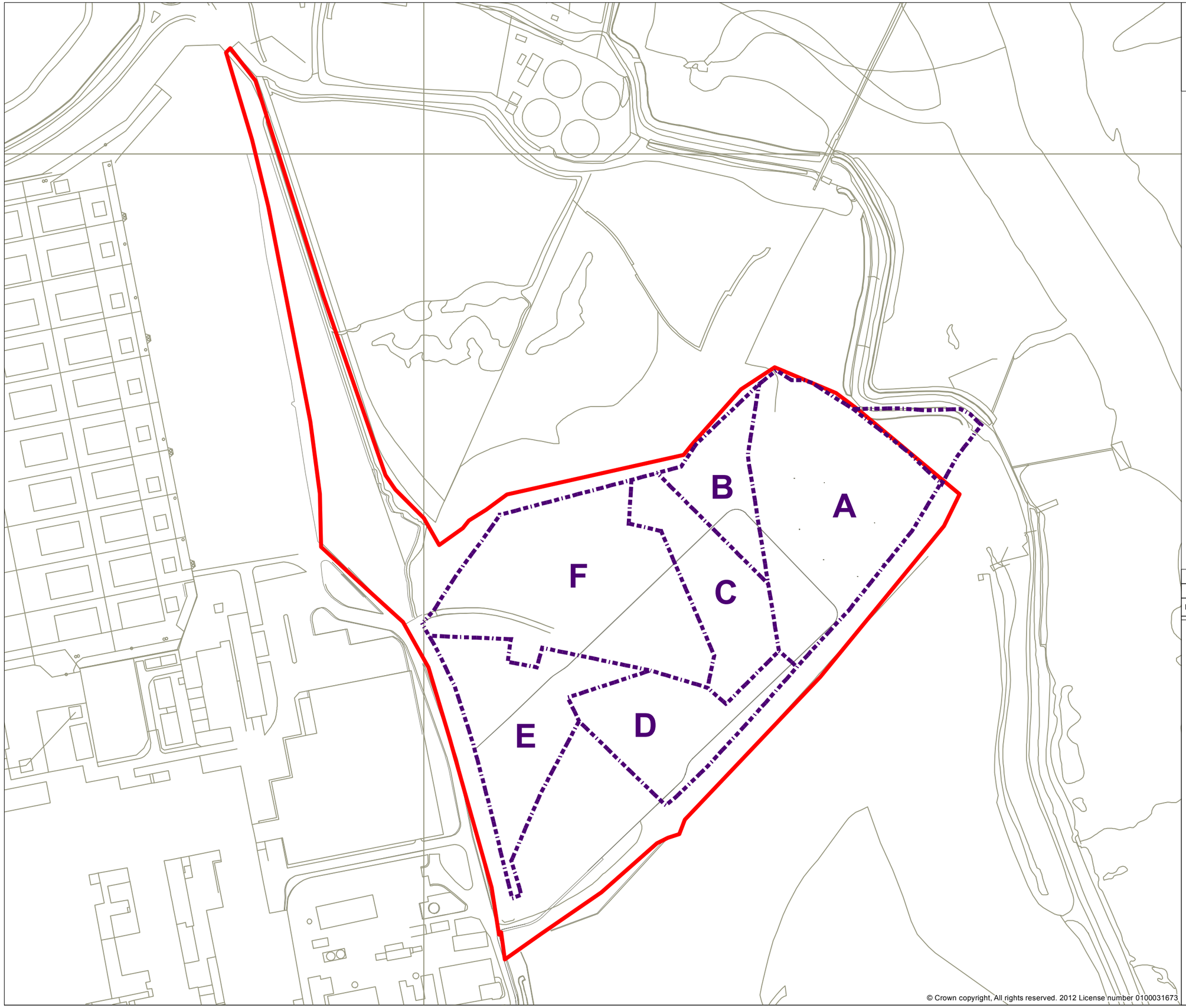
FIGURE 2.1

Location of reptile fencing



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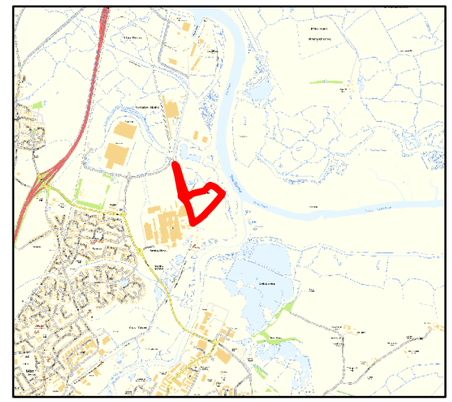

Legend

- Development boundary
- Location of reptile fencing 2012

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Project: Kemsley Sustainable Energy Plant, Kent

Title: Location of Reptile Fencing 2012

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FIGURE 2.2

Location of annual beard-grass translocation

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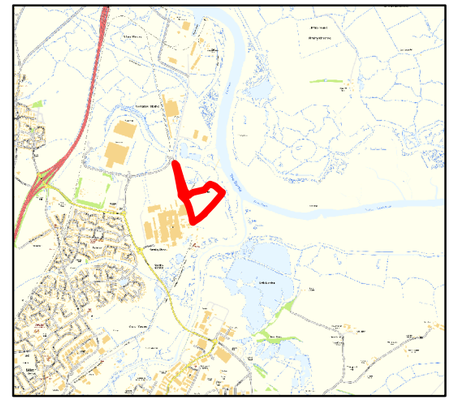

Legend

- Development boundary
- Location of Annual beard-grass

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Title: Location of Annual beard-grass

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FIGURE 2.3

Final habitat clearance 2016

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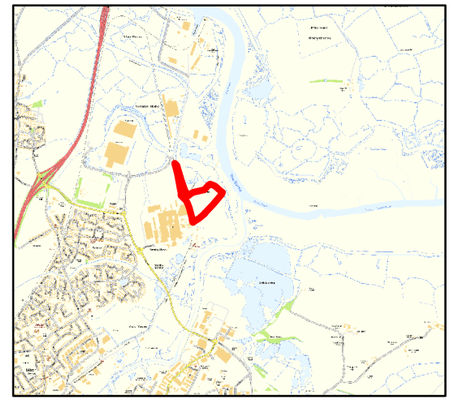

Legend

- Reptile fence re-alignment 2016
- Development boundary
- Areas cleared in 2016
- Areas of habitat creation (2012)

Rev	Description	Date	Initial	Checked

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Client: Wheelabrator Technologies Inc

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Title: Final Habitat Clearance 2016

Status	Drawn By	PM/Checked By
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Figure Number		**Rev**
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