

**JERSEY TTSD
GREEN WASTE COMPOSTING
STAGE 1 SITES ASSESSMENT REPORT**

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MANAGEMENT SUMMARY

The States of Jersey intends to replace the existing windrow composting facility that is processing green waste with one or more facilities using enclosed composting technology to minimise emissions of odour and bio-aerosols to the environment. It is also necessary to re-locate the existing green waste reception and shredding facility at La Collette since the site is required for development of the EfW (energy from waste) project. The domestic green waste reception needs to be relocated away from La Collette due to the potential risk of a vapour cloud explosion from the fuel storage depot close by. Due to the time scales for the EfW project, it may be necessary to relocate these existing facilities to temporary sites before permanent sites can be found and developed. This evaluation process has been carried out for the location of permanent rather than temporary facilities.

A large number of state owned and privately owned sites were put forward as potential sites for composting and/or reception of green waste. In view of the large number of potential sites already put forward for assessment, a decision was made to not look for additional privately owned sites that had not been volunteered by their owners with a view to acquiring them through compulsory purchase if they were found to be the most suitable. This report details the initial process of screening out the sites that are unlikely to be suitable leaving the sites that merit more detailed assessment.

A total of 18 privately owned sites and 11¹ state owned sites were assessed on the basis of the following main criteria:

- 1) The location of the site within the Island Planning Zones.
- 2) Vehicular access to the site.
- 3) Proximity to sensitive receptors for the purposes of bio-aerosols risks.
- 4) Useable site area.

The current Refuse Handling Plant and Resource Recovery Centre (RRC) at Bellozanne were not included in the list of potential sites considered in Stage 1 assessment as these sites are not available until the EfW project is completed. However, these offer a potential location for public and commercial green waste reception facilities and may be included in the RRC relocation review at the appropriate time.

The following table lists which sites are recommended for further assessment.

Site No.	Site Location
Private Sites	
1	Field 1364, Trinity
4	Field 506A, Grouville
10	Field 1061A, 1061, 1062, St John
11	Field 188, St Lawrence
12	Fields 712, 713, 715, St Peter
18	Field 1122, St Helier

¹ 12 sites if sites S11A and S11B are counted as separate sites

Site No.	Site Location
States Sites	
1	Field 298, St Peter
2	Field 1491, St Helier
4	Field 827, Trinity
5	La Collette Industrial Zone, St Helier
6	La Collette Leisure Zone, St Helier
11A	Fields 1277, 1278, St Helier
11B	Fields 1276, 1274, St Helier

Of the sites not being progressed, 10 were eliminated in Stage 1A for being located within the Green Zone and therefore not suitable under Policy C5 of the Island Plan. Should no suitable location be identified amongst the sites that have been passed for further assessment, then these Green Zone sites may be re-visited if they have not already been eliminated on grounds of poor vehicular access.

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Reviewer

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1 INTRODUCTION

The States of Jersey intends to replace the existing windrow composting facility that is processing green waste with one or more facilities using enclosed composting technology to minimise emissions of odour and bio-aerosols to the environment. It is also necessary to re-locate the existing green waste reception and shredding facility at La Collette since the site is required for development of the EfW (energy from waste) project. The domestic reception facility also needs to be relocated away from La Collette due to the potential risk of a vapour cloud explosion occurring from the fuel storage depot close by.

A large number of state owned and privately owned sites were put forward as potential sites for composting and/or reception of green waste. This report details the initial process of screening out the sites that are unlikely to be suitable leaving the sites that merit more detailed assessment.

2 STAGE 1A SCREENING

2.1 Methodology

An advertisement was placed for private land owners to come forward with potential sites on which green waste composting and/or reception facilities could be located. This advertisement generated responses for 18 potential sites. There were also a further 11 potential state owned sites previously identified.

The advertisement requested a list of information (see Appendix A) that should be supplied for all potential sites. TTSD also compiled an identical set of information for each of the state owned sites.

In the light of the large response, a decision was made to not look for additional privately owned sites that had not been volunteered by their owners with a view to acquiring them through compulsory purchase (if necessary) and if they were found to be the most suitable. Assessment and purchase of sites without the consent/co-operation of the owners is likely to be difficult, time consuming, unpopular and should only be considered as a last resort.

Representatives from Jersey Transport and Technical Services Department (TTSD), the Planning & Building Services Department (PBSD) and Bابتie Fichtner undertook initial screening visits to all potential sites (11 state owned sites and 18 private sites). Additional information was also provided by some private site owners during the visits. The primary purpose of these visits was to identify which of these potential sites were highly unlikely to be suitable for the location of green waste composting or reception facilities and which sites should be passed through to the next stage of assessment.

2.2 Results

Summary results of the visit and stage 1 screening exercise are presented in the following table.

Site No.	Site Location	Passed to Stage 2?	Comments/Main Reasons for Rejection
Private Sites			
1	Field 1364, Trinity	Yes	The site is located in Countryside Zone (C6) and Water Pollution Safeguard Area (NR1). The site is potentially suitable for both reception and compost processing.
2	Disused glasshouses on land south of field 661C, St Saviour	No	The site is located in Countryside Zone (C6). Vehicular access is poor with current access via a vehicle storage facility. It will be very difficult to install new access due to the steep slope to the surrounding roads.
3	Existing poly-tunnels on Field 724, St Saviour	No	The site is located in Countryside Zone (C5). Vehicular access is poor with current access from one track road which would need to be changed from two way flow to a one way system. Bends and junctions are also difficult to negotiate.
4	Field 506A, Grouville	Yes	The site is located in Countryside Zone (C6). The site is potentially suitable for reception facilities only and not for compost processing or shredding facilities.
5	Land South of Field 543A, St Martin	No	The site is located in Countryside Zone (C6). Vehicular access is poor and there are steep slopes to the surrounding narrow roads.
6	Fields 254, B31, Trinity	No	The site is located in the Green Zone (C5) and Water Pollution Safeguard Area (NR1). The nearest neighbour is a house to the North with the lawn on the site boundary. Visual impact is high as existing screening is not adequate.
7	Fields 652 & 652A, Trinity	No	The site is located in the Green Zone (C5). There are residential properties on the site boundary. There is a coastal footpath to the West of the site and little screening in place.
8	Field 901, St John	No	The site is located in the Green Zone (C5). There is a coastal footpath on the site boundary. Visual impact is high.
9	Field 141, Trinity	No	The site is located in the Green Zone (C5) and Water Pollution Safeguard Area (NR1). The site is slightly sloping.

Site No.	Site Location	Passed to Stage 2?	Comments/Main Reasons for Rejection
10	Field 1061A, 1061, 1062, St John	Yes	The site is located in the Countryside Zone (C6) and Water Pollution Safeguard Area (NR1). It will be necessary to check that vacant possession is possible due to the existing residents on site. The site is potentially suitable for reception facilities, but not for compost processing.
11	Field 188, St Lawrence	Yes	The site is located in the Countryside Zone (C6) and Water Pollution Safeguard Area (NR1). Availability of the site depends on the current occupants being able to relocate to an alternative site. The site is potentially suitable for both reception and compost processing.
12	Fields 712, 713, 715, St Peter	Yes	The site is located in the Countryside Zone (C6), Water Pollution Safeguard Area (NR1), Airport Public Safety Zone (TT34) and Airport Noise Zone (TT33). The site is potentially suitable for both reception and compost processing.
13	Fields 1712 & 1716, St Ouen	No	The site is located in the Green Zone (C5) and St. Ouen's Bay Planning Framework (C7). Visual impact is high due to a lack of screening. There are potential archaeological remnants.
14	Fields 1791 & 1789, St Ouen	No	The site is located in the Green Zone (C5), St. Ouen's Bay Planning Framework (C7) and Water Pollution Safeguard Area (NR1). There are potential archaeological issues.
15	Fields 1783, 1784, 1785, 1786, 1827 & 1828, St Ouen	No	The site is located in the Green Zone (C5), St. Ouen's Bay Planning Framework (C7) and Water Pollution Safeguard Area (NR1). There are potential archaeological remnants.
16	Field 249B, D & E, St Peter	No	The site is located in a Zone of Outstanding Character (C4), St Ouen's Bay Planning Framework (C7), Airport Public Safety Zone (TT34) and Airport Noise Zone (TT33).
17	Field 1265, St Helier (St. Helier Parish Depot)	No	The site is located in the Countryside Zone (C6) and Water Pollution Safeguard Area (NR1). The site is split into two separate unconnected plots, with neither plot having the minimum required area of 500 m ² .
18	Field 1122, St Helier	Yes	The site is located in the Countryside Zone (C6) and Water Pollution Safeguard Area (NR1). The site is potentially suitable for reception facilities, but not for compost processing.

Site No.	Site Location	Passed to Stage 2?	Comments/Main Reasons for Rejection
States Sites			
1	Field 298, St Peter	Yes	The site is located in the Countryside Zone (C6) and Water Pollution Safeguard Area (NR1). The site is potentially suitable for reception facilities, but not for compost processing.
2	Field 1491, St Helier	Yes	The site is located in the Countryside Zone (C6). There are a number of residential properties close to the site boundary. The site is potentially suitable for reception facilities, but not for compost processing.
3	Field 1489, St Helier	No	The site is located in the Countryside Zone (C6). There is no existing vehicular access. It will be very difficult to create new vehicular access due to the steep slope and the distance to the main road.
4	Field 827, Trinity	Yes	The site is located in the Countryside Zone (C6) and Water Pollution Safeguard Area (NR1). There may be a restrictive covenant in place. The implications of the covenant will need to be established. The site is potentially suitable for both reception and compost processing.
5	La Collette Industrial Zone, St Helier	Yes	The site is currently a proposed site for industry (IC7) and Safety Zone for Hazardous Installation (NR13). It also forms part of the East of Albert Plan. Domestic reception facilities are not acceptable on this site due to proximity of the fuel storage facility (with the associated risk of a vapour cloud explosion). The site is potentially suitable for both commercial green waste reception and compost processing.
6	La Collette Leisure Zone, St Helier	Yes	The site is currently land for marine leisure and recreation (TR6) and a Safety Zone for Hazardous Installation (NR13). It also forms part of the East of Albert Plan. Domestic reception facilities are not acceptable on this site due to proximity of the fuel storage facility (with the associated risk of a vapour cloud explosion). The site is potentially suitable for both commercial green waste reception and compost processing.
7	Land to East of Field 589, St Martin	No	The site is located in a Zone of Outstanding Character (C4).

Site No.	Site Location	Passed to Stage 2?	Comments/Main Reasons for Rejection
8	Fields 867 & 869, St Ouen	No	The site is located in the Green Zone (C5).
9	Field 819, St John	No	The site is located in the Green Zone (C5). There are known contamination issues associated with this site (refer to the Environment Department).
10	Field 688, St Brelade	No	The site is in a Zone of Outstanding Character (C4).
11A	Fields 1277, 1278, St Helier	Yes	The site is located in the Countryside Zone (C6) and Water Pollution Safeguard Area (NR1). The site is potentially suitable for reception only.
11B	Fields 1276, 1274, St Helier	Yes	The site is located in the Countryside Zone (C6) and Water Pollution Safeguard Area (NR1). The site is potentially suitable for compost processing, but the available site is small.

Ten of the remaining sites not recommended for further assessment have been put on a reserve list and may be re-visited if the sites passed for further assessment are found to be unsuitable. These reserve sites are those that would have passed stage 1A screening but for their location within the Green Zone. Sites located in the Green Zone were considered to be unsuitable as under Policy C5 of the Island Plan:

“Proposals for new developments which must occur outside the built-up area will only be permitted in the Green Zone where it is demonstrated that there are no suitable alternative sites available in the Countryside Zone”

3 STAGE 1B – SCREENING ON BASIS OF BIOAEROSOL SAFETY & SITE AREA

3.1 Methodology

The likely footprint requirements for each type of facility were estimated (see Appendix B) and consideration given to minimum separation of significant bio-aerosol sources to sensitive receptors to ascertain the likely suitability of each site for the following facilities. Minimum recommended site footprints are given in the following table. It is recommended that sites with a useable area less than the recommended minimum should not be considered for the corresponding type of facility.

For the processing sites, the minimum values are those estimated based on using tunnel technology giving an average footprint requirement. The minimum footprint requirements based on technologies requiring the least area were not used as this would severely restrict the choice of technology.

Minimum Footprint Requirements for Different Types of Facilities	
Facility Type	Minimum Site Area, m²
Compost Treatment Facility	
Full capacity processing and all reception	10,000
Full capacity processing, no reception	7,500
Full capacity processing and commercial reception	10,000
Full capacity processing and domestic reception	9,000
One third capacity processing and all reception	6,000
One third capacity processing, no reception	5,500
Green Waste Reception Sites	
Single site, domestic	1,000
Multiple sites, domestic	500
Single site, commercial	1,000
Single site, combined	1,300
Single site, combined, shred	2,500

3.2 Results

The “Sites-Facilities” matrix in Appendix F shows the types of facilities that could potentially be located at each site.

Comments on each site follows:

- 1) Private Site 1 – Field 1364, Trinity. The field is located in the Countryside Zone (C6) and Water Pollution Safeguard Area (NR1). This site can potentially fit all reception and processing facilities. There is a potential impact of noise, smell, dust etc. to a neighbouring residential property located on the north boundary of the field.
- 2) Private Site 4 – Field 506A, Grouville. The site is located in the Countryside Zone (C6) and is in horticultural use. This site cannot accommodate shredding or composting facilities due to the limited area and proximity of sensitive receptors. The site may be able to accommodate reception facilities but is far from ideal due to a number of residential properties very close to the boundary. The site location is also less convenient in the East of the Island.
- 3) Private Site 10 – Fields 1061A, 1061, 1062, St John. The site is located in the Countryside Zone (C6) and Water Pollution Safeguard Area (NR1). It is nominally a large site which includes a large vacant modern agricultural shed and staff accommodation, but only a small portion of the area is usable due to the proximity of sensitive receptors. Reception and shredding facilities could be accommodated on this site. Although the remaining non-excluded area is approximately 6,900 m² only about 4,000 m² of it is usable due to the awkward shape. The non excluded area is therefore not sufficient to accommodate a composting facility but reception facilities could be considered.
- 4) Private Site 11 – Field 188, St Lawrence. The site is located in the Countryside Zone (C6) and Water Pollution Safeguard Area (NR1). The site is potentially large enough to accommodate all reception and processing facilities but availability is dependent on relocation of the existing British Show Jumping operation to another location.
- 5) Private Site 12 – Fields 712, 713, 715, St Peter. The site is located in the Countryside Zone (C6), Water Pollution Safeguard Area (NR1), Airport Public Safety Zone (TT34) and Airport Noise Zone (TT33). The site is potentially large enough to accommodate all reception and processing facilities but is inside an airport crash zone.
- 6) Private Site 17 – Field 1265, St Helier. The site is located in the Countryside Zone (C6) and Water Pollution Safeguard Area (NR1). This site could potentially accommodate reception facilities but access would be through a neighbouring commercial/industrial site. The feasibility/legality of using this access will need to be established.
- 7) Private Site 18 – Field 1122, St Helier. The site is located in the Countryside Zone (C6) and Water Pollution Safeguard Area (NR1). This site could potentially accommodate reception facilities but access is via a single track road which would need to be upgraded. The cost and feasibility of road upgrade needs to be established.
- 8) States Site 1 – Field 298, St Peter. The site is located in the Countryside Zone (C6) and Water Pollution Safeguard Area (NR1). This site is large enough to accommodate combined domestic and commercial reception. The site could potentially also accommodate shredding on the West side of the site but this would require a new access on the North East side of the site.
- 9) States Site 2 – Field 1491, St Helier. The site is located in the Countryside zone (C6). There are a number of residential properties close to the site boundary. The site is potentially suitable for reception facilities, but not for compost processing.

- 10) States Site 4 – Field 827, Trinity. The site is located in the Countryside Zone (C6) and Water Pollution Safeguard Area (NR1). In view of comments from the bio-aerosols consultant (Dr Toni Gladding) a 50m exclusion zone for the proposed dairy (as for residential and commercial receptors) has been applied. On this basis, there is potentially enough space left to accommodate all waste reception and processing facilities on site. If need be, the reception facilities could be located within the 50m exclusion zone around the proposed dairy as reception of un-shredded green waste is not regarded as a major bio-aerosols source (although nuisance is still a consideration).
- 11) States Site 5 – La Collette Industrial Zone. The La Collette reclamation site is a proposed site for industry (IC7) and a safety zone for hazardous installation (NR13). It also forms part of the East of Albert Plan, currently being progressed by the Waterfront Enterprise Board. The site is large enough to accommodate all processing and shredding facilities but new domestic reception facilities cannot be located at La Collette due to the proximity of the fuel storage facilities, following completion of an assessment into the risk of a vapour cloud explosion at La Collette.
- 12) States Site 6 – La Collette Leisure Zone. The La Collette reclamation site is a proposed site for marine leisure and recreation (TR6) and a safety zone for hazardous installation (NR13). It also forms part of the East of Albert Plan, currently being progressed by the Waterfront Enterprise Board. The site is potentially large enough to accommodate all processing and shredding facilities but new domestic reception facilities cannot be located at La Collette due to the proximity of the fuel storage facilities, following completion of an assessment into the risk of a vapour cloud explosion at La Collette.
- 13) States Site 11 – Fields 1277, 1278, 1274, 1276, St Helier. The site is located in the Countryside Zone (C6) and Water Pollution Safeguard Area (NR1). There are two large plots separated by a public access road. Due to the presence of a number of residential properties around the site boundary, only a small proportion of the area on both plots is not within 50m of a receptor. The remaining area is also irregular in shape and difficult to utilise efficiently. The Northern plot can accommodate reception and shredding facilities. The Southern plot could potentially accommodate a small composting facility to process part of the annual green waste arisings but this would need to be confirmed by a site specific layout to confirm that the facilities can fit within the shape.

Based upon the Stage 1A and 1B assessment, the conclusion is that the following sites merit further investigation as potential sites, for the listed uses:

- 1) Full size composting facilities that can process all green waste arisings with or without reception facilities attached. These are sites P1, P11, P12, S4, S5, and S6.
- 2) Partial sized composting facilities that can process at least one third of the green waste arisings but not all of it. The only site in this category is S11. If this site is to be used for composting only part of the available green waste then it will be necessary to compost the remaining green waste on another site listed in category 1 above. The economic implications of composting only part of the available green waste on a category 1 site even though it is sufficiently large to accommodate processing of all green waste will be considered at a later stage in the assessment process.
- 3) Reception sites without composting facilities attached. These sites are P4, P10, P17, P18, S1, S2 and S11.

4 CONCLUSIONS & RECOMMENDATIONS

- 1) A total of 18 privately owned sites and 11 state owned sites were assessed on the basis of the following main criteria:
 - a) The location of the site within the Island Planning Zones.
 - b) Vehicular access to the site.
 - c) Proximity to sensitive receptors for the purposes of bio-aerosols risks.
 - d) Useable site area.
- 2) The following table lists which sites are recommended for further assessment. The table below is subject to confirmation from the sites owners that the boundaries have been correctly interpreted by TTSD. Ten of the remaining sites not recommended for further assessment have been put on a reserve list and may be re-visited if the sites passed for further assessment are found to be unsuitable. These reserve sites are those that would have passed stage 1A screening but for their location within the Green Zone.

Site No.	Site Location	Passed to Stage 2?	Potential Use	
			Reception	Processing
1	Field 1364, Trinity	Yes	Yes	Yes
2	Land south of field 661C, St Saviour	No		
3	Field 724, St Saviour	No		
4	Field 506A, Grouville	Yes	Yes	Yes
5	Land South of Field 543A, St Martin	No		
6	Fields 254, B31, Trinity	No		
7	Fields 652 & 652A, Trinity	No		
8	Field 901, St John	No		
9	Field 141, Trinity	No		
10	Field 1061A, 1061, 1062, St John	Yes	Yes	No
11	Field 188, St Lawrence	Yes	Yes	Yes
12	Fields 712, 713, 715, St Peter	Yes	Yes	Yes
13	Fields 1712 & 1716, St Ouen	No		
14	Fields 1791 & 1789, St Ouen	No		
15	Fields 1783, 1784, 1785, 1786, 1827 & 1828, St Ouen	No		
16	Field 249B, D & E, St Peter	No		
17	Field 1265, St Helier	Yes	Yes	No
18	Field 1122, St Helier	Yes	Yes	No

Site No.	Site Location	Passed to Stage 2?	Potential Use	
			Reception	Processing
1	Field 298, St Peter	Yes	Yes	Yes
2	Field 1491, St Helier	Yes	Yes	No
3	Field 1489, St Helier	No		
4	Field 827, Trinity	Yes	Yes	Yes
5	La Collette Industrial Zone, St Helier	Yes	Comm. only	Yes
6	La Collette Leisure Zone, St Helier	Yes	Comm. only	Yes
7	Land to East of Field 589, St Martin	No		
8	Fields 867 & 869, St Ouen	No		
9	Field 819, St John	No		
10	Field 688, St Brelade	No		
11A	Fields 1277, 1278, St Helier	Yes	Yes	No
11B	Fields 1276, 1274, St Helier	Yes	No	Partial

Appendix A Advertisement for Private Sites

Expressions of Interest are sought from landowners who would be interested in providing land, under a sale, long-term lease, or partnership arrangement for the construction and operation of an “In-vessel” Composting Facility or Facilities and / or, reception points for green waste (garden waste).

A modern enclosed or “In-vessel” Composting Facility or Facilities is one of the main facilities required by the Solid Waste Strategy approved by the States of Jersey in July 2005.

Expressions are sought subject to the following criteria:

- The option of constructing more than one enclosed in-vessel compost facility or green waste reception site will be considered. The land requirement for multiple facilities will be proportionately lower. However, the minimum area requirement for submission of a valid Expression of Interest will be 500 square metres for a garden waste reception facility.
- **Alternatively**, the land should be of sufficient area to provide for the construction of a new single “In-Vessel” Composting Facility of approximately 6,500 square metres (70,000 square feet; 1.6 acres; 3.6 vergées), with a further 20% of this area (1,300 square metres) for provision of landscaping or screening.
- The land must be suitable for the safe access and egress of heavy goods vehicles from a main road and for public vehicles where public waste reception is proposed
- The land should be a sufficient distance from any residential property or other sensitive use.
- The land should preferably be in a location where there is direct access to mains water and electricity.
- The land should preferably be in a location that has close access to mains drainage.
- The land would be the subject of a planning application prior to the final selection.
- The land must not be subject to any form of restrictive covenant to development.

Further particulars may be obtained from: The Director - Waste Strategy Projects, Transport & Technical Services Department, PO Box 412, States Offices, South Hill, St Helier, Jersey JE4 8UY, (Telephone 01534 448690)].

Please send applications of Expression of Interest to Transport & Technical Services Department, PO Box 412, States Offices, South Hill, St Helier, Jersey JE4 8UY]. The closing date for applications is 31st January 2006. Applications should be clearly marked “Expression of Interest for Compost Site.”

Appendix B Site Footprint Estimation

B.1 Factors Affecting Site Footprint Requirements

The footprint requirements for a complete working site depend on a number of key factors including:

- 1) Composting technology. For the purposes of estimating footprint requirements the composting technologies offered for the project, in expressions of interest from contractor/suppliers in response to an OJEC advertisement, have been put into the following categories:
 - a) Tunnel composting such as those offered by WTT, Linde, Christiaens, SRS and CRS. Clamp systems should also have similar footprint requirements.
 - b) Hall composting such as those offered by Earth Tech and New Earth Solutions.
 - c) Vessel composting such as those offered by Andar/Rotocom and Bioganix.
 - d) Container composting such as those offered by Alpheco (through Edmund Nuttall) and Vital Earth
 - e) Vertical systems such as those offered by VCU.
- 2) Site specific conditions such as the shape of the available plot and the access arrangements. The percentage of space that cannot be usefully employed for equipment or buildings will depend on a combination of the plot shape, access arrangements and to some extent also the technology employed.

B.2 Single Site for All Processing

B.2.1 Including All Reception and Shredding

B.2.1.1 Tunnel Composting Technology

- 1) A preliminary site layout was developed (see drawing S0870-023 A1) based on the following key assumptions.
 - a) That annual average processing capacity is 15,800 tonnes/year.
 - b) That the “in-vessel” composting technology will be tunnels.
 - c) That the seasonal peaking factor (ratio of tonnage in peak month to average month) is 1.5.
 - d) That all input waste will be composted in tunnels for a total of 4 weeks in 2 stages.
 - e) That 80% of the compost product exiting the tunnels can be immediately dispatched for agricultural use.
 - f) That the remaining 20% of compost product exiting the tunnels will be further matured for another 4 weeks in aerated bays within the post treatment building.
 - g) The site will include all processing and reception facilities.
 - h) There must be at least 30m separation between main process building doors and the covered waste reception area.
 - i) The layout was based on a non site specific rectangular plot and excludes landscaping and any irregular shaped areas outside of this box that may be useable or otherwise.

- 2) The full site area was split into the following categories:
 - a) Area for the “in-vessel” composting technology
 - b) Area for compost maturation as required by the solution proposed
 - c) Remaining area that would be required regardless of technology employed including:
 - i) Weighbridge
 - ii) Office and staff/visitor car parking
 - iii) Waste reception, storage and pre-treatment.
 - iv) Product storage, post-treatment and dispatch.
 - v) Ancillaries and bio-filters.
 - vi) Roads and vehicle turning space.
 - vii) Unused areas within the rectangular site due to imperfect packing of plant and equipment.

Some of these areas are not completely independent of technology employed but the differences should be relatively minor compared to the overall site area.

B.2.1.1 Other Composting Technologies

Indicative layouts and footprint requirements were provided by some technology suppliers with their expressions of interest in the project but each supplier based their estimates on a different set of assumptions, some of which are not stated. It is therefore not appropriate to simply use these estimates directly to compare the different technologies. There is also publicly available information on footprint requirements for different technologies but the value of this information is also limited due to the use of widely differing assumptions and project specific factors.

The following methodology was therefore used by Fichtner to estimate the likely footprint requirements of the different types of technologies.

- 1) Area for the “in-vessel” composting technology. This area is based on information supplied by the technology suppliers by measuring approximate scaled layouts where necessary. Where appropriate, the measured/given area was adjusted to a processing capacity of 15,800 tonnes/year and peaking factor of 1.5 by assuming that area is proportional to processing capacity. Proportional scaling may not be strictly correct due to edge effects but the error introduced should be relatively small.
- 2) Area for compost maturation.
 - a) Hall composting systems already include for maturation within the hall so no additional maturation area is required.
 - b) Container and vertical composting technology suppliers proposed to carry out maturation using the “in-vessel” technology so that no additional maturation area is required.
 - c) For the vessel systems, the maturation residence time indicated by the technology supplier was used by Fichtner to estimate the area by assuming that area required is proportional to residence time.
 - d) The cage system technology supplier indicated a maturation period of 4 weeks which should require approximately the same area as that for the tunnel composting system.

The following table summarises the results of the footprint estimates for different types of technologies.

Main Site Areas – Processing On A Single Site							
Technology		Tunnels	Hall	Vessels	Containers	Cage	Vertical
Capacity		15,800	15,800	15,800	15,800	15,800	15,800
Peak factor		1.5	1.5	1.5	1.5	1.5	1.5
IVC Technology area	m ²	1,964	3,300	660	3,279	882	1,250
Maturation area	m ²	304	inc	1,444	inc	304	inc
Other areas	m ²	7,902	7,902	7,902	7,902	7,902	7,902
Site area	m²	10,170	11,202	10,006	11,181	9,088	9,152
		100%	110%	98%	110%	89%	90%
Remove domestic + commercial reception	m ²	-2,365	-2,365	-2,365	-2,365	-2,365	-2,365
Site no public + commercial reception + shred	m²	7,805	8,837	7,641	8,816	6,723	6,787
Remove domestic reception	m ²	0	0	0	0	0	0
Site no domestic reception	m²	10,170	11,202	10,006	11,181	9,088	9,152
Remove commercial reception	m ²	-900	-900	-900	-900	-900	-900
Site no commercial reception	m²	9,270	10,302	9,106	10,281	8,188	8,252

The following comments can be made:

- 1) The choice of technology has a relatively small impact on the overall site footprint requirements.
- 2) The area required for composting and maturation account for only a small proportion of the total site area.
- 3) The requirement for at least 30m separation between main process building doors and the covered reception area significantly increases the length of site roads, wasted space and overall site area.

B.2.2 Excluding Domestic Reception, Commercial Reception and Shredding

If the domestic and commercial waste reception facilities are located on a separate site(s) then a significant reduction in area can be achieved. Some of the area reduction is due to removal of some of the space required for waste reception but it is mainly due to removal of roads and wasted space required for 30m separation of the covered reception from process building doors due to bio-aerosol risks.

B.2.3 Excluding Domestic Reception

Excluding only domestic waste reception means that commercial waste reception is still required. Whilst there is a slight reduction in the number of unloading positions required the turning areas remain the same. The reduction in site area is not significant.

B.2.4 Excluding Commercial Reception

Excluding commercial waste reception should allow the depth of the reception area to be reduced and the right hand site boundary to be moved approximately 10m to the left.

B.3 Multiple Sites for Processing

B.3.1 Including All Reception & Shredding

The site area for processing one third of the total annual arising of 15,800 tonnes/year has been estimated using the following methodology:

- 1) It is assumed that the composting and maturation areas will be proportional to processing capacity.
- 2) The covered reception area is reduced to an area of 35m x 25m.
- 3) One third of the reception/pre-treatment building and post-treatment building is assumed to be proportional to processing capacity for areas related to storage of wastes or products. The remaining 2/3^{rds} of these two buildings is assumed to be vehicle manoeuvring and equipment space which should be relatively independent of processing capacity.
- 4) The area of the bio-filter is assumed to be proportional to processing capacity.
- 5) The area for plant, equipment and buildings (including canopied reception area) was estimated for the large single site. The above assumptions were used to estimate the area for plant, equipment and buildings (including canopied reception area) for the smaller (1/3rd capacity site).
- 6) It is assumed that the full site area is proportional to the area for plant, equipment and buildings and reception area.

The results of the estimates are presented in the following table.

Main Site Areas - One Third Capacity							
Technology		Tunnels	Hall	Vessels	Containers	Cage	Vertical
Capacity	tpa	5,267	5,267	5,267	5,267	5,267	5,267
Peak factor		1.5	1.5	1.5	1.5	1.5	1.5
Technology area	m ²	655	1,100	220	1,093	294	417
Maturation area	m ²	185	inc	481	inc	101	inc
Other areas	m ²	5,353	5,353	5,353	5,353	5,353	5,353
Site area	m ²	6,192	6,453	6,054	6,445	5,748	5,769
		100%	104%	98%	104%	93%	93%
Remove domestic and commercial reception	m ²	-548	-548	-548	-548	-548	-548
Site, no reception	m ²	5,644	5,905	5,506	5,897	5,200	5,221

B.3.2 Excluding Domestic Reception, Commercial Reception and Shredding

Due to the need to having minimum turning areas for delivery vehicles, there would be little reduction in site area if either domestic or commercial reception of waste is excluded.

If both domestic and commercial reception is excluded, then the percentage reduction in site area is assumed to be the same as for the full capacity plant.

B.4 Separate Waste Reception

The following steps were involved in estimating the area requirements for waste reception.

- 1) Waste delivery vehicle numbers was provided by TTSD for 3 half days in 2005 and two full days in 2007 (see Appendices C.1 and C.2).
- 2) Data provided by TTSD indicates that the annual green waste arising in 2005 was approximately 11,360 tonnes/year compared to the design capacity of 15,800 tonnes/year for the new facility. The green waste arisings for 2007 is not yet known. The surveyed vehicle numbers were increased proportionally to reflect the higher design capacity. It has also been assumed that the 2007 green waste arisings is 11,360 tonnes/year.
- 3) The adjusted quarterly hourly data was used to calculate the rolling hourly vehicle numbers and hence the peak hourly vehicle numbers for each day.
- 4) The hourly vehicle numbers were multiplied by the average unloading times (4.9 minutes for domestic vehicles and 8.2 minutes for commercial vehicles) provided by TTSD to give equivalent unloading times for each rolling hour for domestic vehicles, and commercial vehicles (see Appendices C.3 and C.4). These equivalent unloading times are then divided by 60 minutes/hour to give the number of vehicles that need to be able to unload simultaneously (see table below).

Survey date	Tuesday	Wednesday	Saturday	Tuesday	Wednesday
Survey day	18/10/2005	19/10/2005	22/10/2005	27/03/2007	28/03/2007
Peak Hour Equivalent Unload Times					
Domestic + Commercial	476	229	513	440	471
Domestic	224	47	353	197	285
Commercial	298	229	160	263	275
Number of Vehicles Unloading Simultaneously					
Peak - combined	7.9	3.8	8.5	7.3	7.9
Peak - domestic	3.7	0.8	5.9	3.3	4.7
Peak - commercial	5.0	3.8	2.7	4.4	4.6

- 5) From the above table the following sizing criteria is recommended:
- a) For a single site to take all domestic and commercial deliveries, the facility should be designed to be able to unload 9 vehicles simultaneously.
 - b) For a single site to take all domestic deliveries only, the facility should be designed to be able to unload 6 vehicles simultaneously.
 - c) For a single site to take all commercial deliveries only, the facility should be designed to be able to unload 5 vehicles simultaneously.

Note that these results are very approximate due to the limited survey data available and the assumptions that have been necessary. It is still necessary to allow for some vehicle queuing in case the facilities cannot cope. In the event that excessive vehicle numbers are regularly encountered at particular times or particular days, at least some of the users will learn to avoid known peak periods thereby helping to reduce long term problems.

The results of the estimates are presented in the following table.

Main Site Areas – Reception Sites				
Separate Waste Reception Facilities	Length	Width	Area	No of Sites
	m	m	m ²	
Single site - domestic - small skips	42	25.5	1,071	1
Single site - domestic - large skips	42	32.0	1,344	1
Multiple sites - domestic			500	2 to 3
Single site - commercial	37	28.0	1,036	1
Single site - combined domestic and commercial	37	42.5	1,275	1
Single site - combined domestic, commercial, shred	70	42.5	2,575 ²	1

Note that these areas do not include site offices, staff parking, and queuing of delivery vehicles (although some queuing space is inherent in some of the layouts). It is assumed that no weighbridges will be required at any of the reception sites.

² Excludes unused area 17.5m x 35m

B.4.1 Single Site for Domestic Reception

Two example layouts for a single site to accept all domestic green waste are provided in drawings 0871-018 A1 and 0871-042 A1. Both layouts allow up to 6 vehicles to unload simultaneously.

- 1) Drawing 0871-018 A1 assumes the use of smaller skips with a capacity of approximately 9 m³ each.
- 2) Drawing 0871-042 A1 assumes the use of larger skips with a capacity of 36 m³ which will significantly reduce the number of skip wagon journeys between the reception facility and the processing facility.

B.4.2 Multiple Sites for Domestic Reception

To estimate the minimum footprint required for reception of at least part of the Island's domestic green waste two example layouts using a footprint of 500 m² were produced as follows (refer to drawings 871-017 A1 and 871-041 A1):

- 1) Option 1 (drawing 871-017 A1) allows space for 4 skips and up to 2 vehicles to unload simultaneously. This layout is based on a typical civic amenity site traffic flow system which requires minimal vehicle manoeuvring. Turning space for the skip wagons is limited. If we assume the average unloading times remain the same as for the existing reception facility then 3 such sites will be required to cope with the total domestic green waste arisings for Jersey. Not having to reverse into position prior to unloading will help to reduce the time spent on site but having to climb up steps to unload into skips will increase the time for unloading.
- 2) Option 2 (drawing 871-041 A1) allows space for up to 7 skips and up to 5 vehicles to unload simultaneously. Vehicles will need to turn and reverse prior to unloading. The turning space for the different vehicles will be shared which will have traffic flow, safety and manning implications. There is no space for vehicle queuing. The vehicle manoeuvring arrangement will be similar to the existing waste reception facility. This layout may mean that only 2 such sites will be required to cope with the total domestic waste arisings for Jersey but is not recommended due to site traffic and safety implications.

The above layouts show that 500 m² is likely to be the minimum area required for reception of domestic green waste. Smaller plots will mean significantly more sites resulting in excessive staffing costs. Sites that are not staffed are likely to result in problems with litter, health and safety and the quality of green waste collected.

The advertisement for expressions of interest by private land owners to propose sites for green waste reception specified a minimum area of 500 m².

B.4.3 Single Site for Commercial Reception

An example layout for a single site to accept and shred all commercial green waste is provided in drawing 0871-020 A1. The site footprint is 28 m x 37 m = 1,036 m². Up to 6 vehicles could unload simultaneously but the vehicles would share the same turning area. A dividing wall is proposed to enable vehicles to continue unloading one half of the site whilst a bulk vehicle is being load on the other half. The layout is very confined.

It is assumed that shredding will not take place on site. If shredding is required, the need to keep a minimum distance of 30m between the shredder and the reception facility will significantly increase the site footprint.

B.4.4 Combined Domestic + Commercial Reception + Shredding

An example layout for a single site to accept and shred all domestic and commercial green waste is provided in drawing 0871-019 A1. The overall site area is approximately 75 m x 50 m = 3,750 m² but approximately 750 m² of this area is not used. There is also some scope for further reducing the site area by eliminating the strip at the bottom of the site which is intended for ease of movement of the loading shovel. Up to 9 vehicles (only 5 shown) could unload simultaneously but the vehicles would share the same turning area.

The inclusion of shredding significantly increases the site footprint due to the requirement for a 30m separation from the unloading area but will increase bulk density (and hence number of bulk loads) prior to transporting to the processing facility.

An estimate of the number of skips involved can be made using the following assumptions:

- 1) From historical vehicle data in years 2003 to 2005, the number of deliveries vehicles in a peak day is approximately 230% of the number in an average day. It is assumed that this ratio is also applicable to waste volumes.
- 2) Data from bulk density trials for another project suggests that the bulk density of unshredded green waste is approximately 300 to 450 kg/m³ for unshredded green waste and approximately 600 kg/m³ for shredded green waste although conservative design calculations tend to use a lower figure.
- 3) Annual waste arising of 15,800 tonnes.

On this basis, a peak day would require transport of approximately 7 large skips (36 m³ capacity each) of unshredded waste or 5 skips of shredded waste. Use of this size of skips will depend on the ability of the roads to and from the site to cope with the associated vehicles. Smaller skips would mean more journeys.

It is assumed that no weighbridge will be required on site.

B.5 Expansion Area for Kitchen Waste

The Jersey Waste Strategy envisages the possibility of future kerbside collection of kitchen waste for composting. There is likely to be significant cost savings if the kitchen waste is also composted in the same facility as the proposed green waste composting facility. The following assumptions have been made regarding the composting of kitchen waste.

- 1) The Waste Strategy envisages approximately 17,000 tonnes/year of kitchen waste arisings. For the purposes of this exercise we have assumed that up to 50% of the arisings will be collected for composting. UK experience suggests that significantly less than 50% will be collected so the 50% assumption is conservative for the purposes of estimating area requirements.
- 2) Unlike green waste there should be very little seasonal variation for kitchen waste.
- 3) Kitchen waste is generally very wet making it very difficult to compost without the addition of bulking material such as cardboard or green waste. The green waste could be collected with the kitchen waste at the kerbside or mixed together at the composting facility.
- 4) In the UK, it is normal for at least some of the separately collected green waste to be composted separately from the kitchen waste in less expensive windrow composting sites. Windrow composting is not acceptable in the long term in Jersey so there would be very little cost benefit in separate composting of green waste and kitchen waste.

- 5) The area requirements will depend on the ratio of mature PAS100 grade compost compared to less mature agricultural grade compost which in turn depends on market demands. For the purposes of this exercise, TTSD would like to assume that all of the additional tonnage will be composted to PAS100 grade product. The area required for compost maturation will be significantly increased.

Layout drawing 0871-024 A1 shows an approximate layout for complete reception and processing of 15,800 tonnes/year of green waste and 8,500 tonnes/year of kitchen waste on a single site based on the use of tunnel composting technology. The overall site area requirement is 12,700 m².

B.6 Outline Layout Drawings

871-017.A1	Partial Domestic Reception - Vehicle Drive by
871-018.A1	Domestic Reception - Small Skips
871-019.A1	Domestic Reception + Commercial Reception + Shredding
871-020.A1	Commercial Reception - Outline layout
871-023.A1	Single Site Composting – Green Waste Only
871-024.A1	Single Site Composting – Green + Kitchen Waste
871-041.A1	Partial Domestic Reception - Vehicle Reverse
871-042.A1	Domestic Reception – Large Skips

The above drawings are provided at the end of the report.

Appendix C Green Waste Vehicle Data

C.1 Domestic Vehicle Numbers in Each Quarter Hour

Domestic Vehicle Numbers in Each Quarter Hour					
Start Time	Tuesday	Wednesday	Saturday	Tuesday	Wednesday
	18/10/2005	19/10/2005	22/10/2005	27/03/2007	28/03/2007
07:30	0	0	0	1	1
07:45	1	0	0	1	2
08:00	3	0	1	2	3
08:15	2	0	11	2	1
08:30	1	0	2	1	1
08:45	1	0	6	0	4
09:00	2	0	6	0	1
09:15	4	0	5	1	5
09:30	10	2	6	8	4
09:45	10	3	9	3	1
10:00	7	1	16	3	12
10:15	6	1	20	3	10
10:30	5	1	7	4	9
10:45	12	1	9	3	11
11:00				5	8
11:15				5	9
11:30				8	10
11:45				3	7
12:00				5	4
12:15				6	4
12:30				6	1
12:45				6	5
13:00				2	8
13:15				5	8
13:30				6	2
13:45				5	4
14:00				4	3
14:15				5	7
14:30				7	6
14:45				7	7
15:00				5	8
15:15				10	8
15:30				4	2

C.2 Commercial Vehicle Numbers in Each Quarter Hour

Commercial Vehicle Numbers in Each Quarter Hour					
Start Time	Tuesday	Wednesday	Saturday	Tuesday	Wednesday
	18/10/2005	19/10/2005	22/10/2005	27/03/2007	28/03/2007
07:30	13	10	0	7	10
07:45	7	6	0	6	5
08:00	5	1	4	5	1
08:15	1	3	4	1	2
08:30	1	1	2	3	0
08:45	2	1	4	2	4
09:00	3	2	4	0	2
09:15	6	3	2	9	6
09:30	9	2	3	2	2
09:45	2	2	4	0	2
10:00	3	1	2	3	1
10:15	8	3	4	1	3
10:30	3	2	4	1	1
10:45	0	5	1	3	1
11:00				2	1
11:15				0	2
11:30				3	3
11:45				1	3
12:00				2	2
12:15				1	3
12:30				2	4
12:45				3	5
13:00				2	3
13:15				2	1
13:30				5	2
13:45				2	5
14:00				3	6
14:15				3	2
14:30				4	10
14:45				4	1
15:00				6	8
15:15				6	5
15:30				7	5

C.3 Design Domestic - Equivalent Unloading Time in Rolling Hours

Domestic Vehicle Data – Adjusted To Design Capacity					
Start Time	Number of Vehicles x Average Unload Time for Rolling Hours (minutes)				
	Tuesday	Wednesday	Saturday	Tuesday	Wednesday
07:30	41	0	81	41	47
07:45	47	0	95	41	47
08:00	47	0	136	34	61
08:15	41	0	169	20	47
08:30	54	0	129	14	75
08:45	115	14	156	61	95
09:00	176	34	176	81	75
09:15	210	41	244	102	149
09:30	224	47	346	115	183
09:45	190	41	353	88	217
10:00	203	27	353	88	285
10:15				102	258
10:30				115	251
10:45				142	258
11:00				142	230
11:15				142	203
11:30				149	169
11:45				136	108
12:00				156	95
12:15				136	122
12:30				129	149
12:45				129	156
13:00				122	149
13:15				136	115
13:30				136	108
13:45				142	136
14:00				156	156
14:15				163	190
14:30				197	197
14:45				176	169

C.4 Design Commercial - Equivalent Unloading Time in Rolling Hours

Commercial					
Start Time	Number of Vehicles x Average Unload Time for Rolling Hours				
	(minutes)				
	Tuesday	Wednesday	Saturday	Tuesday	Wednesday
07:30	298	229	92	218	206
07:45	160	126	115	172	92
08:00	103	69	160	126	80
08:15	80	80	160	69	92
08:30	137	80	137	160	137
08:45	229	92	149	149	160
09:00	229	103	149	126	137
09:15	229	92	126	160	126
09:30	252	92	149	69	92
09:45	183	92	160	57	80
10:00	160	126	126	92	69
10:15				80	69
10:30				69	57
10:45				92	80
11:00				69	103
11:15				69	115
11:30				80	126
11:45				69	137
12:00				92	160
12:15				92	172
12:30				103	149
12:45				137	126
13:00				126	126
13:15				137	160
13:30				149	172
13:45				137	263
14:00				160	218
14:15				195	240
14:30				229	275
14:45				263	218

Appendix D Commercial Vehicle Details

Vehicle Survey Over 2 Day Period – February 2006			
Total length (m)	Turning Area (m)	Length of tipped load (m)	Type
5	-	1.5	Cargo transit
5	30	5.5	Skip truck
7	26	4	HIACE - unloaded trailer by hand
4.5	-	3.5	Tipper
4	-	2	Pick-up
3	27	3	HiJet tipper
5	28	4	Tipper
5	17	4.5	Tipper
7	26	3	Escort van & trailer
6	41	5.5	Tipper
6	31	5.5	Tipper
6.1	30	3	TTS 3 way tipper
5	24	3	Tipper
3	19	2	Van
5	35	4	Skip truck
5	22	6	Tipper
5	18.5	3	Tipper
5	30	7	Tipper
5	22	3	Tipper
5	26	3	Tipper
5	13.5	3	Tipper
5	17	2	Tipper
3	25	2	TTS P & G tipper
6	35	4.5	Tipper
6.1	28	7	Tipper
6.5	32	2.5	Van - unloaded by hand
6	30	3.5	TTS P & G tipper + trailer
4	23	2	Van - unloaded by hand
4.5	24	3	Small tractor & trailer
4.5	23	3	Tipper

8	24	5	Tipper
3.5	-	1	Van - unloaded by hand
3	19.5	3	Pick-up
6	24	5	Van & trailer - unloaded by hand
10	20	4	TTS Tipper + trailer
5	22	3.5	Tipper
6	14.5	3.5	Tipper
7	11	2	Van & trailer
5	-	4	Truck - unloaded by hand
6	20	5	Skip truck
6	-	5	Skip truck
7	22	3.5	Van & trailer - hand pump
8	31	5	Van & trailer - hand pump
8	39	4.5	Van & trailer - hand pump
4	21	1.5	Van
5	28	5	Tipper
6	18	6	Tipper
4	28	1.5	Van
7	15	2	Van & trailer
7	20	2	Van & trailer
5	-	3	Tipper
7	28	4	HIACE - unloaded trailer by hand
5	21.5	3.5	Tipper
5	26	3.5	Small tractor & trailer
6.2	13	4	Tipper
4	20	3	Tipper
7	20	1	HIAB tipper
6.63	20	4	Ronez - short 6 legger

Appendix E Stage 1B Assessment Site Maps

871-034-A2	P1- Field 1364, Trinity
871-035-A4	P4- Field 506A Grouville
871-036-A3	P10- Fields 1061A, 1061 & 1062, St. John
871-037-A2	P11- Field 188, St. Lawrence
871-038-A3	P12 - Fields 712, 713 & 715 St. Peter
871-040-A2	P18 – Field 1122, St. Helier
871-025-A3	S1- Field 298, St. Peter
871-051-A1	S2 – Field 1491, St Helier
871-027-A3	S4- Field 827, Trinity
871-028-A4	S5- La Collette Industrial Zone
871-029-A4	S6- La Collette Leisure Zone
871-043-A4	S11 – Fields 1274, 1276, 1277 & 1278, St. Helier

The above drawings are provided at the end of the report.

Appendix F Stage 1B Sites-Facilities Matrix

Private Sites	P1	P4	P10	P11	P12	P18
	Field 1364	Field 506A	Fields 1061, 1061A, 1062	Field 188	Fields 712, 713, 715	Field 1122
	Trinity	Grouville	St John	St Lawrence	St Peter	St Helier
Processing Sites						
Full capacity processing and all reception	Yes	No	No	Yes	Yes	No
Full capacity processing, no reception	Yes	No	No	Yes	Yes	No
Full capacity processing and commercial reception	Yes	No	No	Yes	Yes	No
Full capacity processing and domestic reception	Yes	No	No	Yes	Yes	No
One third capacity processing and all reception	Yes	No	No	Yes	Yes	No
One third capacity processing, no reception	Yes	No	No	Yes	Yes	No
Waste Reception Sites						
Single site, domestic	Yes	Yes	Yes	Yes	Yes	Yes
Multiple sites, domestic	Yes	Yes	Yes	Yes	Yes	Yes
Single site, commercial	Yes	Yes	Yes	Yes	Yes	Yes
Single site, combined domestic + commercial	Yes	Yes	Yes	Yes	Yes	Yes
Single site, combined, shred	Yes	No	Yes	Yes	Yes	No
Total area	19,090	4,100	19,920	16,900	18,680	3,855
Non zoned area	13,900	0	6,900	16,800	12,900	370
Useful non zoned area	13,900	0	<4,200	16,800	>10,000	<370

State Owned Sites	S1	S2	S4	S5	S6	S11A	S11B
	Field 298	Field 1491	Field 827	La Collette Industrial Zone	La Collette Leisure Zone	Fields 1277, 1278	Fields 1276, 1274
	St Peter	St Helier	Trinity	St Helier	St Helier	St Helier	St Helier
Processing Sites							
Full capacity processing and all reception	No	No	Yes	No	No	No	No
Full capacity processing, no reception	No	No	Yes	Yes	Yes	No	No
Full capacity processing and commercial reception	No	No	Yes	No	No	No	No
Full capacity processing and domestic reception	No	No	Yes	No	No	No	No
One third capacity processing and all reception	No	No	Yes	No	No	No	Yes
One third capacity processing, no reception	No	No	Yes	Yes	Yes	No	Yes
Waste Reception Sites							
Single site, domestic	Yes	Yes	Yes	No	No	Yes	Yes
Multiple sites, domestic	Yes	Yes	Yes	No	No	Yes	Yes
Single site, commercial	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Single site, combined domestic + commercial	Yes	Yes	Yes	No	No	Yes	Yes
Single site, combined, shred	Yes	No	Yes	No	No	Yes	Yes
Total area (m ²)	6,930	1,800	18,190	90,000	120,000	21,610	16,720
Non zoned area (m ²)	2,890	<500	9,400	68,000	115,000	4,970	6,500
Useful non zoned area (m ²)	<2890	<500	9,400	>50,000	>50,000	<4,900	<6,500

Appendix G - Island Plan Policies

Zone of Outstanding Character – Policy C4

The Zone of Outstanding Character gives the highest level of protection, where there is the strongest presumption against development.

Green Zone – Policy C5

The areas designated as Green Zone give a high level of protection and there will be a general presumption against all forms of new development for whatever purpose.

The Minister for Planning & Environment recognises, however, that within this zone there are many buildings and established uses and that to preclude all forms of development would be unreasonable. Thus, the following types of development may be permitted but only where the scale, location and design would not detract from, or unreasonably harm the visually sensitive character and scenic quality of this zone:

- development that has been proven to be in the Island’s interest and that cannot practically be located elsewhere.

Proposals for new developments which must occur outside the built-up area will only be permitted in the Green Zone where it is demonstrated that there are no suitable alternative sites available in the Countryside Zone and wherever possible, new buildings should be sited next to existing ones or within an existing group of buildings.

In all cases, the appropriate tests as to whether a development proposal will be permitted will be its impact on the visually sensitive character of this zone and whether it accords with the principles of sustainability which underwrite the Plan.

For the avoidance of doubt:

1. large scale developments will be strongly resisted, unless they are proven to be in the Island’s interest;

The Planning & Environment Department will require an Environmental Impact Assessment to be carried out for any development likely to have a significant effect on the environment, in accordance with Policy G5.

Countryside Zone – Policy C6

The Countryside Zone gives a high level of protection and there will be a general presumption against all forms of new development for whatever purpose.

The Planning & Environment Department recognises, however, that within this zone there are many buildings and established uses and that to preclude all forms of development would be unreasonable. Thus, the following types of development may be permitted where the scale, location and design would not detract from, or unreasonably harm the character and scenic quality of the countryside:

1. suitable proposals for diversification in the agriculture industry in accordance with Policy C15;

2. development that has been proven to be in the Island's interest and that cannot practically be located elsewhere.

In all cases, the appropriate tests as to whether a development proposal will be permitted will be its impact on the character of this zone and whether it accords with the principles of sustainability which underwrite the Plan. Wherever possible, new buildings should be sited next to existing ones or within an existing group of buildings.

For the avoidance of doubt:

1. large scale developments will be strongly resisted, unless they are proven to be in the Island's interest;

The Planning & Environment Department will require an Environmental Impact Assessment to be carried out for any development likely to have a significant effect on the environment in accordance with Policy G5.

St Ouen's Bay Planning Framework. (C7)

The planning policies set out in the St. Ouen's Bay Planning Framework are adopted by the Minister for Planning & Environment for the purposes of development control and integrated management within the area. The area of St. Ouen's Bay is defined on the Island Proposals Map.

The policy safeguards the permanence and integrity of the St. Ouen's Bay Special Area with policies that protect the area and promote the integrated management of its environment.

Water Pollution Safeguard Area – NR1

Development that would have an unacceptable impact on the aquatic environment, including surface water and groundwater quality and quantity will not normally be permitted.

If a development proposal is within the Water Pollution Safeguard Area, the Jersey New Waterworks Company will be consulted prior to determining the planning application, to ensure the public water supply is not put at risk from pollution.

Airport Public Safety Zone (TT34),

Within the Airport Public Safety Zone, as identified on the Island Proposals Map, development which would lead to an increase in the number of people living and working in the zone will not normally be permitted.

Airport Noise Zone (TT33)

Proposed developments in the vicinity of the Airport will be subject to the following noise Policy for all noise sensitive developments:

Noise Zone	Air noise exposure level (Leq dB(A)) 16hr	Policy for all noise-sensitive development
One	> 72	Development permission will normally be refused, with the exception of airport operational activities.
Two	66 – 72	Development permission will not normally be granted. Where it is considered that permission should be given, for example because there are no alternative quieter sites available (in such instances of extensions to existing dwellings or conversions), conditions will be imposed to ensure a commensurate level of protection.
Noise Zone	Air noise exposure level (Leq dB(A)) 16hr	Policy for all noise-sensitive development
Three	57 – 66	Noise will be taken into account when determining planning applications and, where appropriate, conditions imposed to ensure an adequate level of protection against noise.

Proposed Site for Industry (IC7):

La Collette 2 is designated for industry, storage and warehousing.

Land for Marine Leisure and Recreation (TR6):

The part of La Collette is identified on the Island and Town Proposals Maps for recreation purposes, where there is a presumption against development that would prevent the future use of these sites for recreational purposes.

Safety Zone for Hazardous Installation (NR13)

Consultation with the Health and Safety Inspector on development proposals within safety zones associated with hazardous installations will be required to determine the appropriateness of the development. In all cases, the health and safety of the public will be the overriding consideration. Developments that would conflict with the requirements of health and safety will not be permitted.

Potential Archaeological Issues (G12)

The Minister will normally require an archaeological evaluation to be carried out for development proposals which may affect archaeological remains.

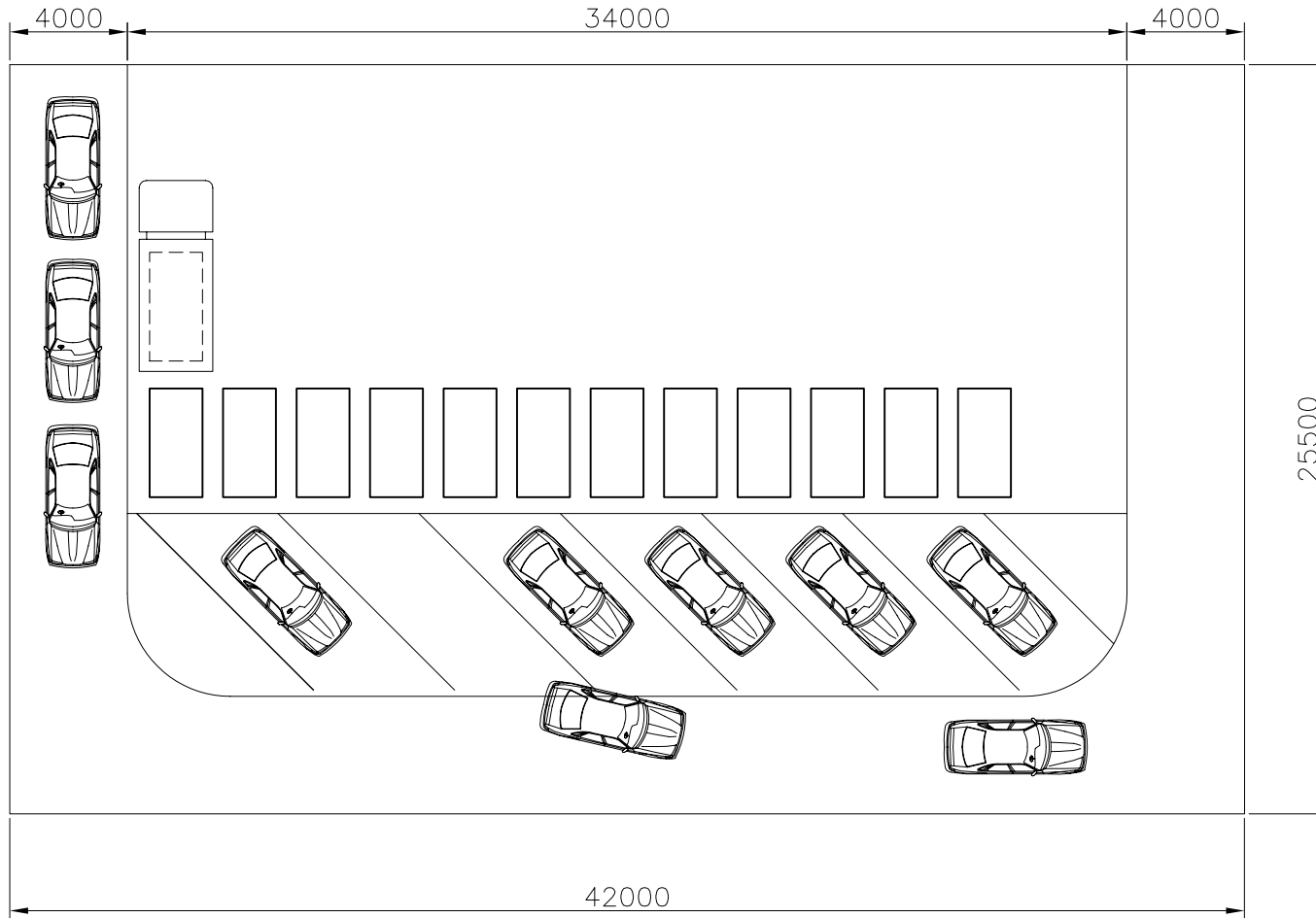
East of Albert Plan

The Waterfront Enterprise Board is currently undertaking a study of the East of Albert Area on behalf of the Minister for Economic Development and discussion on proposal within that area should take place at an early stage.

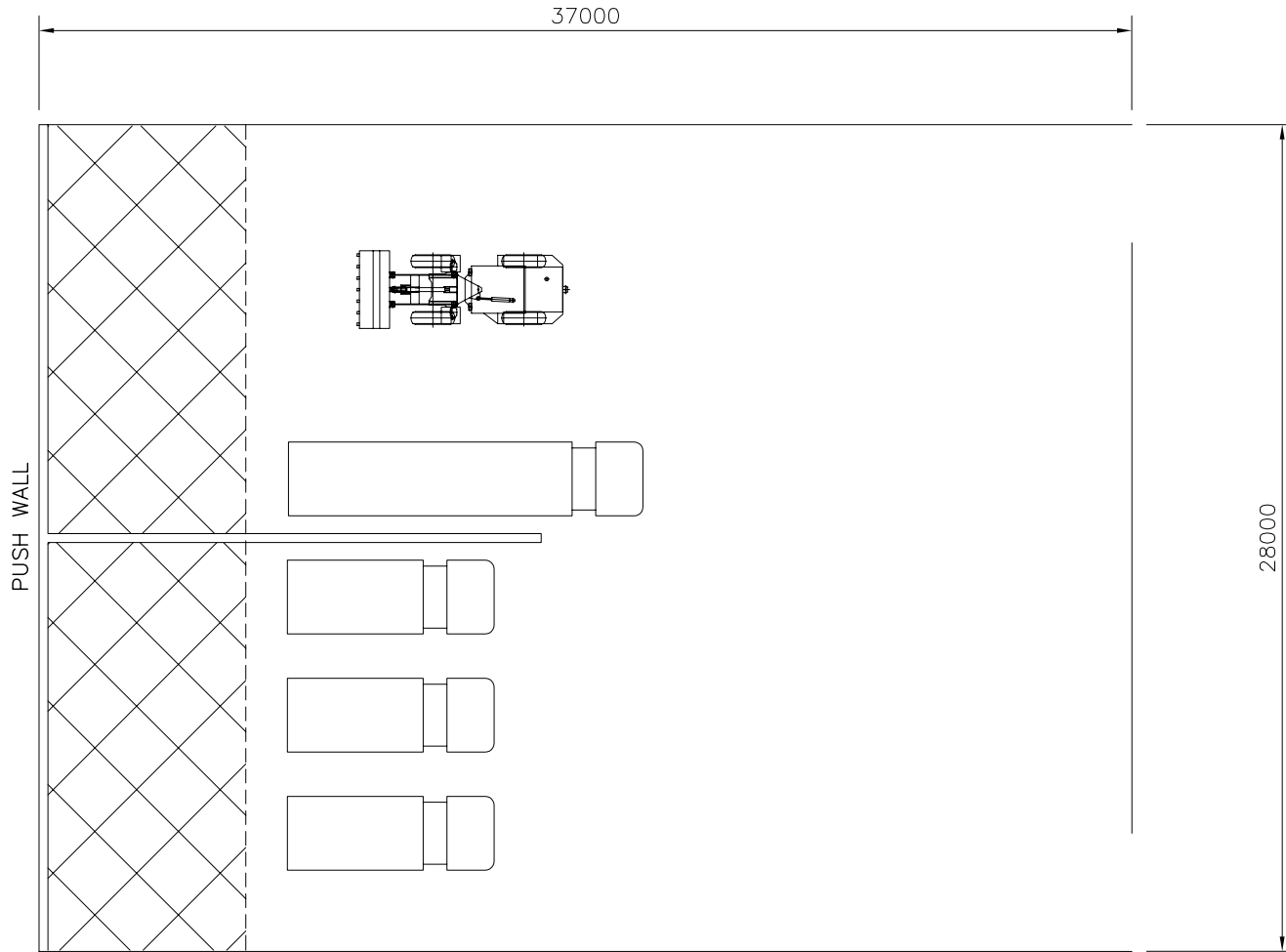
Environmental Impact Assessment (G5)

The Minister for Planning & Environment Department will require that an Environmental Impact Assessment is carried out for developments of a scale, type or location that could have a significant impact on the environment.

Appendix G Layout Drawings & Site Maps



Scale: 1:250 DO NOT SCALE	Original Size A4	Rev. A1	Amendment PRELIMINARY	By RK	Chkd	Date 11.5.07	Client Jersey TTSD	FICHTNER CONSULTING ENGINEERS LIMITED 8 Acorn Business Park, Heaton Lane Stockport, Cheshire SK4 1AS Tel: 0161-476 0032 Fax: 0161-474 0618		
Drawn By: JNE	Date: 11.5.07						Site			
Checked By: ASV	Date: 11.5.07						Project Green Waste Composting			
CAD Ref.: 871-018-A1							Title Domestic Reception Small Skips			
							Office of Issue STOCKPORT	Telephone No. 0161-476 0032	Drawing No. 871-018	Revision A1



Scale: 1:250
DO NOT SCALE

Original Size
A4

Rev.	Amendment	By	Chkd	Date
A1	PRELIMINARY	RK		11.5.07

Drawn By: RK

Date: 11.5.07

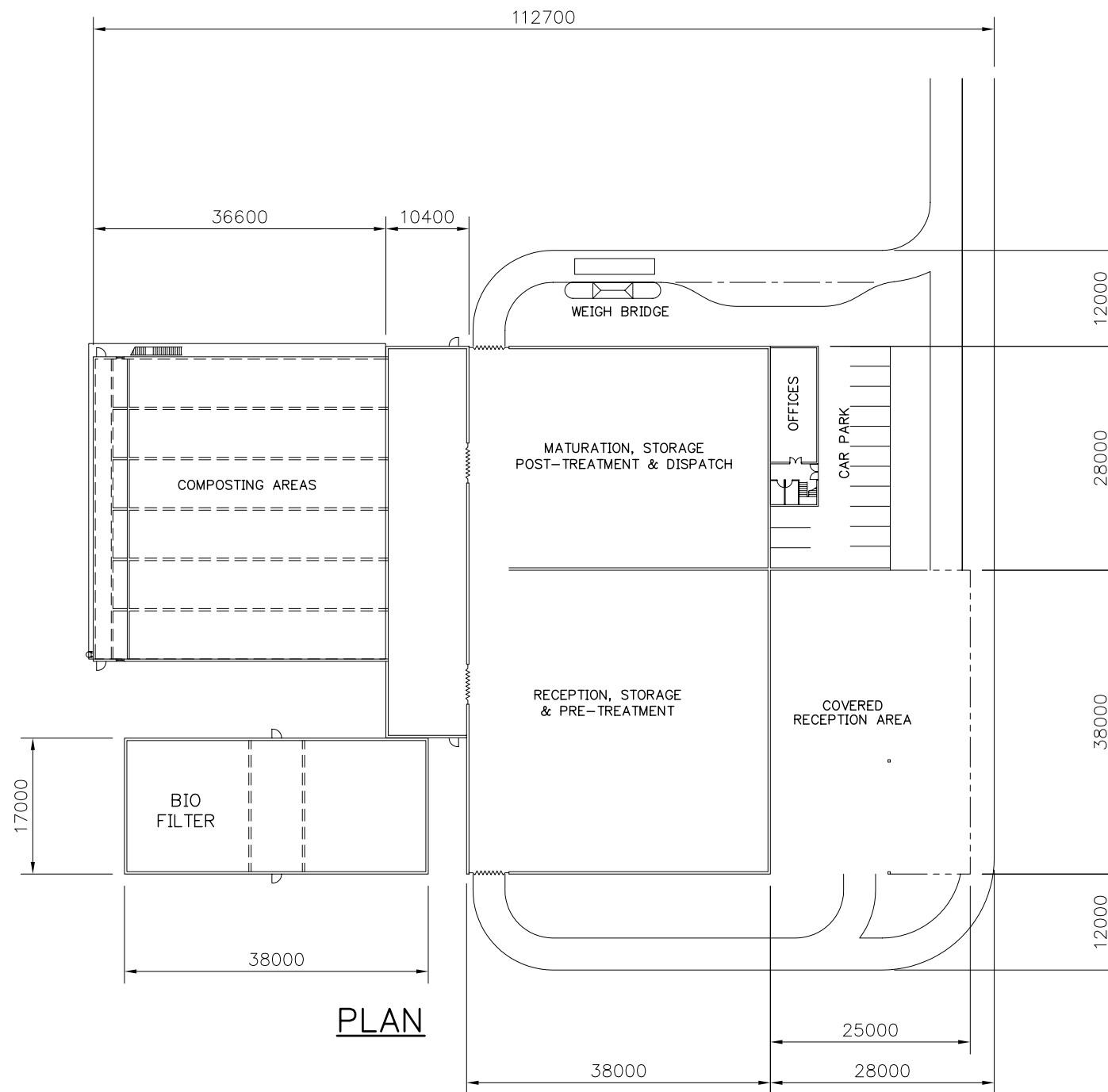
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Date: 11.5.07

CAD Ref.: 871-020-A1

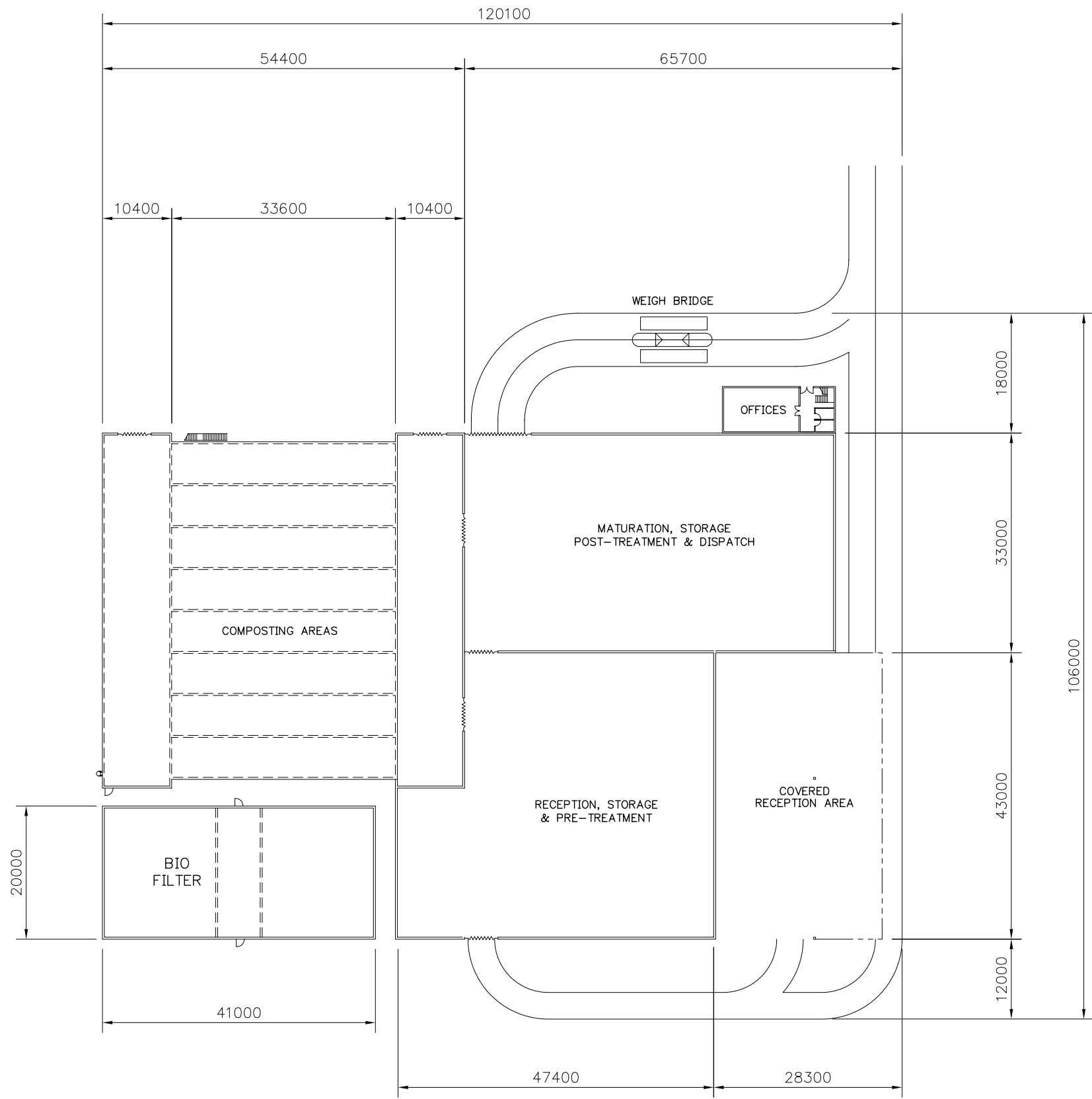
Client Jersey TTSD	
Site	
Project Green Waste Composting	
Title Commercial Reception Outline Layout	
Office of Issue STOCKPORT	Telephone No. 0161-476 0032

FICHTNER	
CONSULTING ENGINEERS LIMITED 8 Acorn Business Park, Heaton Lane Stockport, Cheshire SK4 1AS Tel: 0161-476 0032 Fax: 0161-474 0618	
Drawing No. 871-020	Revision A1



Scale: 1:750 DO NOT SCALE	Original Size A3	Rev. A1	Amendment PRELIMINARY	By RK	Chkd	Date 18.5.07
Drawn By: RK	Date: 18.5.07					
Checked By: ASV	Date: 22-05-07					
CAD Ref.: 871-023-A1						

Client Jersey TTSD		FICHTNER CONSULTING ENGINEERS LIMITED 8 Acorn Business Park, Heaton Lane Stockport, Cheshire SK4 1AS Tel: 0161-476 0032 Fax: 0161-474 0618
Site		
Project Green Waste Composting		
Title Single Site Composting – Green Waste Only Outline Layout		
Office of Issue STOCKPORT	Telephone No. 0161-476 0032	Drawing No. 871-023
		Revision A1

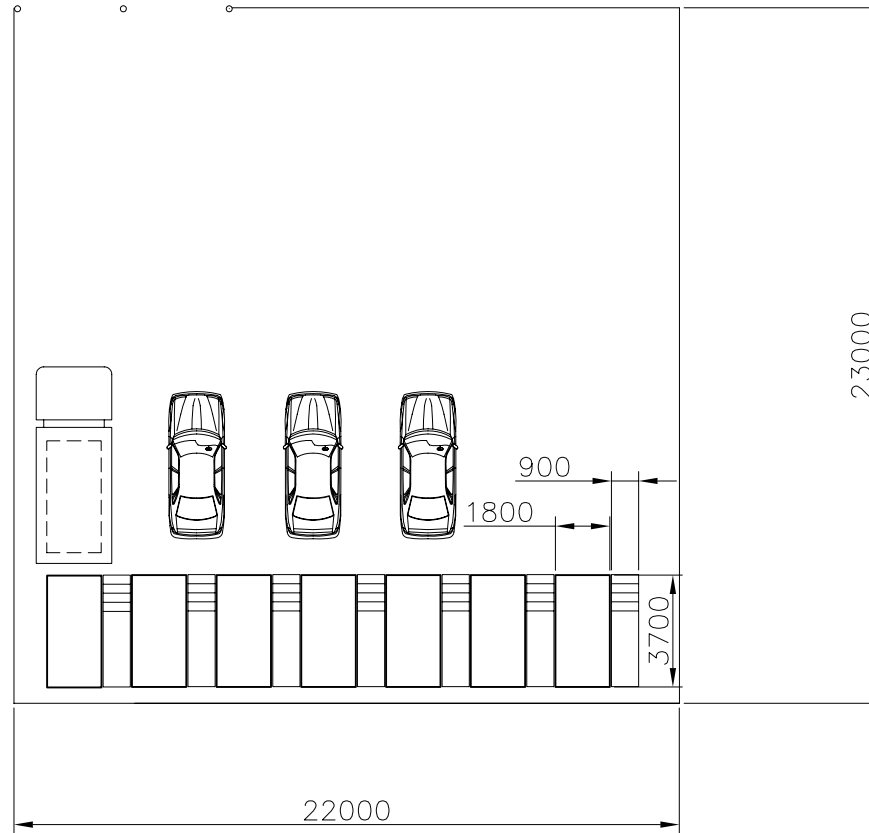


PLAN

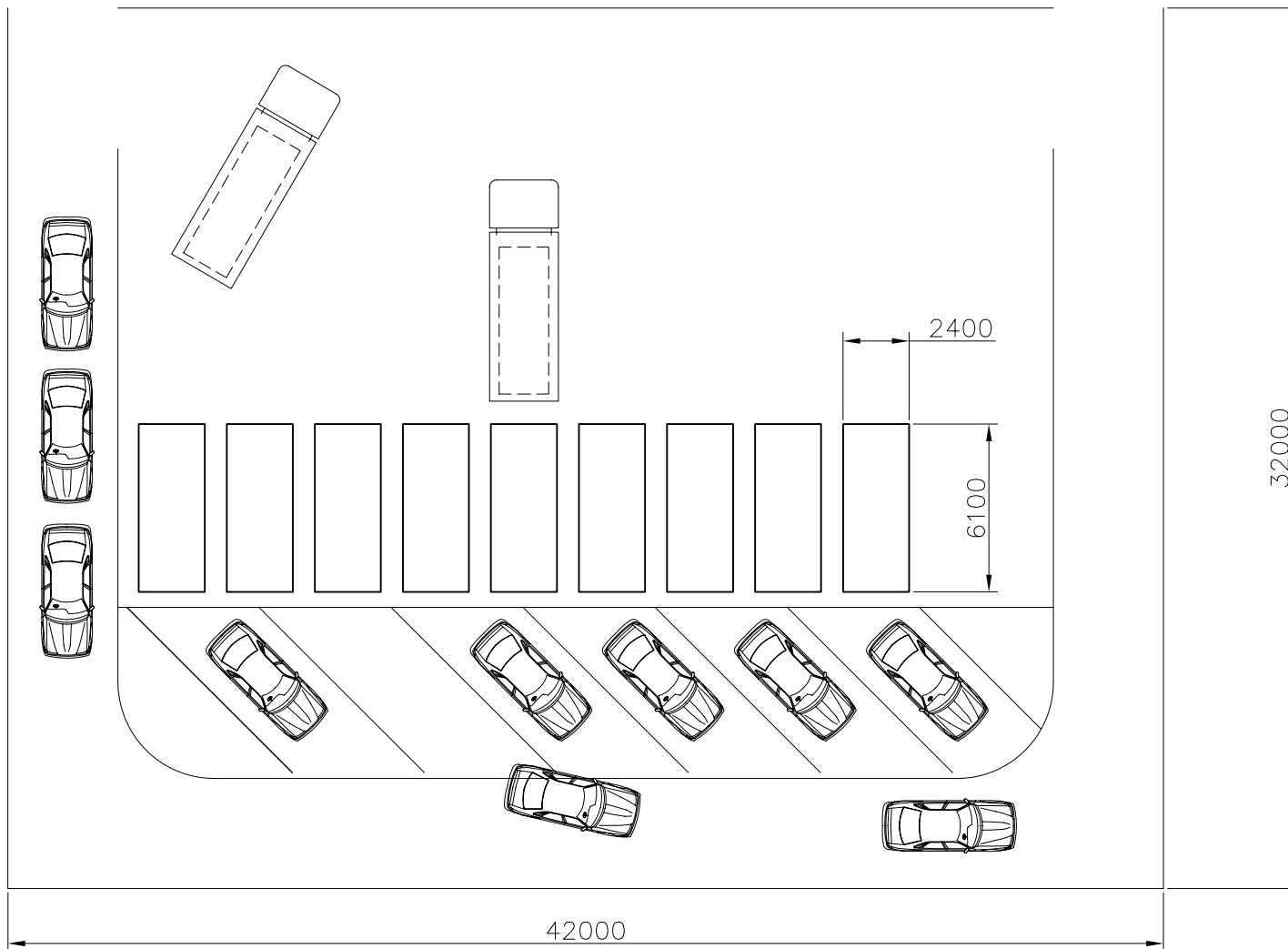
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Drawn By: RK	Date: 18.5.07					
Checked By: ASV	Date: 22.5.07					
CAD Ref.: 871-024-A1						

Client	Jersey TTSD
Site	
Project	Green Waste Composting
Title	Single Site Composting Green + Kitchen Waste
Office of Issue	STOCKPORT
Telephone No.	0161-476 0032

FICHTNER	
CONSULTING ENGINEERS LIMITED 8 Acorn Business Park, Heaton Lane Stockport, Cheshire SK4 1AS Tel: 0161-476 0032 Fax: 0161-474 0618	
Drawing No.	Revision
871-024	A1



Scale: 1:250 DO NOT SCALE	Original Size A4	Rev. A1	Amendment PRELIMINARY	By JNE	Chkd	Date 22.5.07	Client Jersey TTSD	FICHTNER CONSULTING ENGINEERS LIMITED 8 Acorn Business Park, Heaton Lane Stockport, Cheshire SK4 1AS Tel: 0161-476 0032 Fax: 0161-474 0618		
Drawn By: JNE	Date: 11.5.07						Site			
Checked By: ASV	Date: 22.5.07						Project Green Waste Composting			
							Title Partial Domestic Reception Vehicle Reverse			
CAD Ref.: 871-041-A1							Office of Issue STOCKPORT	Telephone No. 0161-476 0032	Drawing No. 871-041	Revision A1

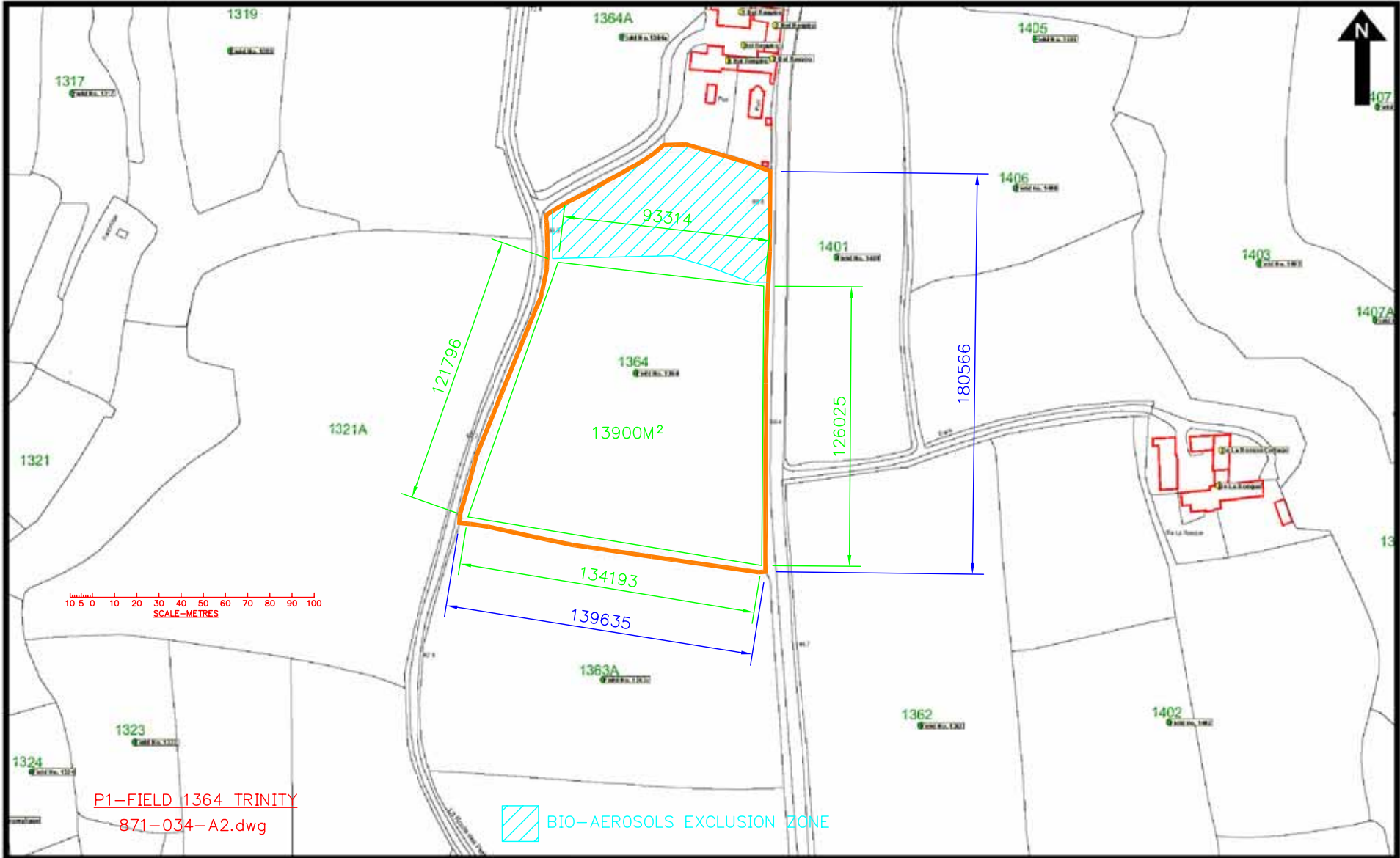


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Checked By: ASV	Date: 11.5.07
CAD Ref.: 871-042-A1	

Rev.	Amendment	By	Chkd	Date
A1	PRELIMINARY	ASV		11.5.07

Client	Jersey TTSD
Site	
Project	Green Waste Composting
Title	Domestic Reception Large Skips
Office of Issue	STOCKPORT
Telephone No.	0161-476 0032

FICHTNER	
CONSULTING ENGINEERS LIMITED 8 Acorn Business Park, Heaton Lane Stockport, Cheshire SK4 1AS Tel: 0161-476 0032 Fax: 0161-474 0618	
Drawing No. 871-042	Revision A1



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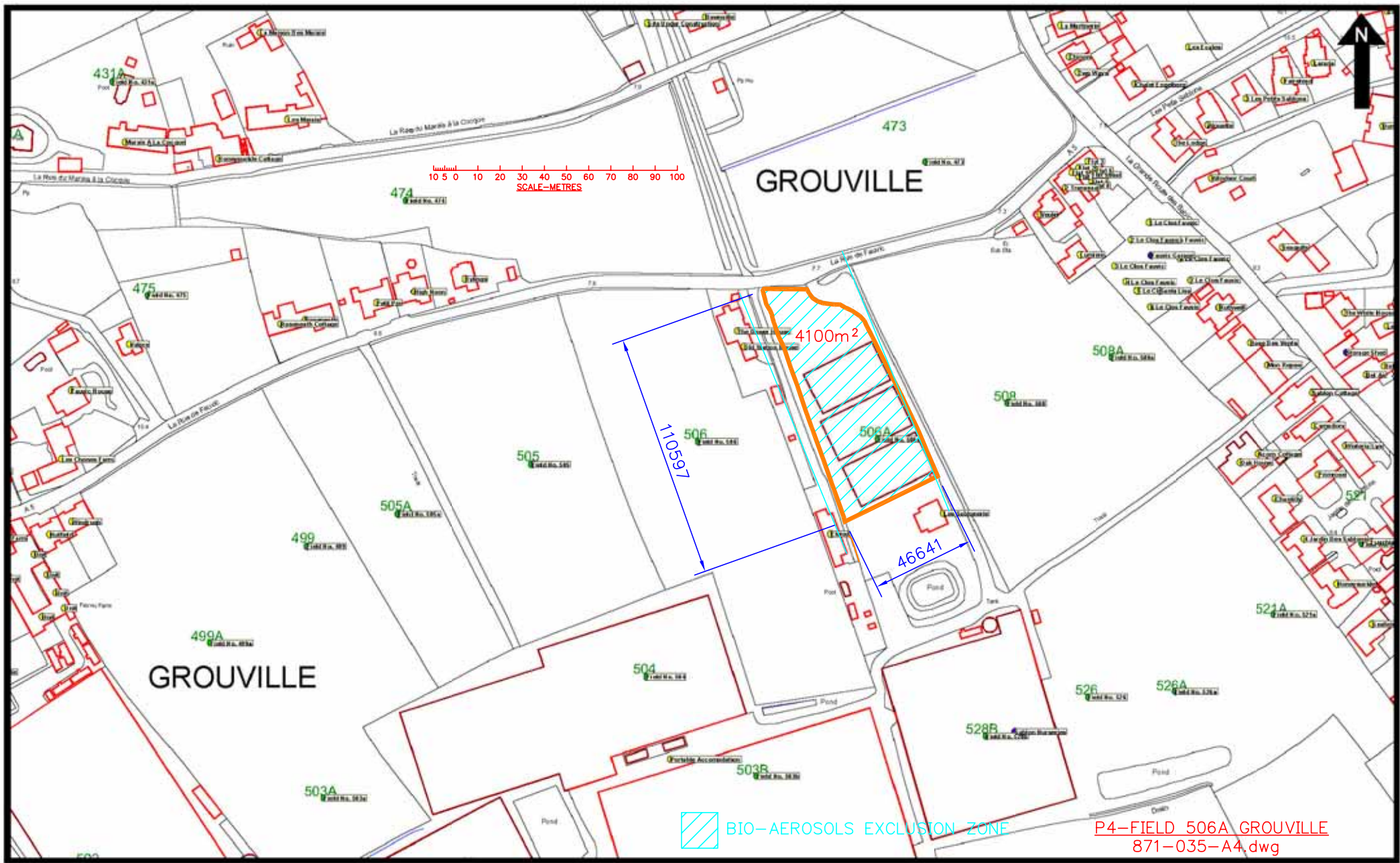
 BIO-AEROSOLS EXCLUSION ZONE

11 April 2007
Scale: 1:2500
mapping@gov.je



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 BIO-AEROSOLS EXCLUSION ZONE

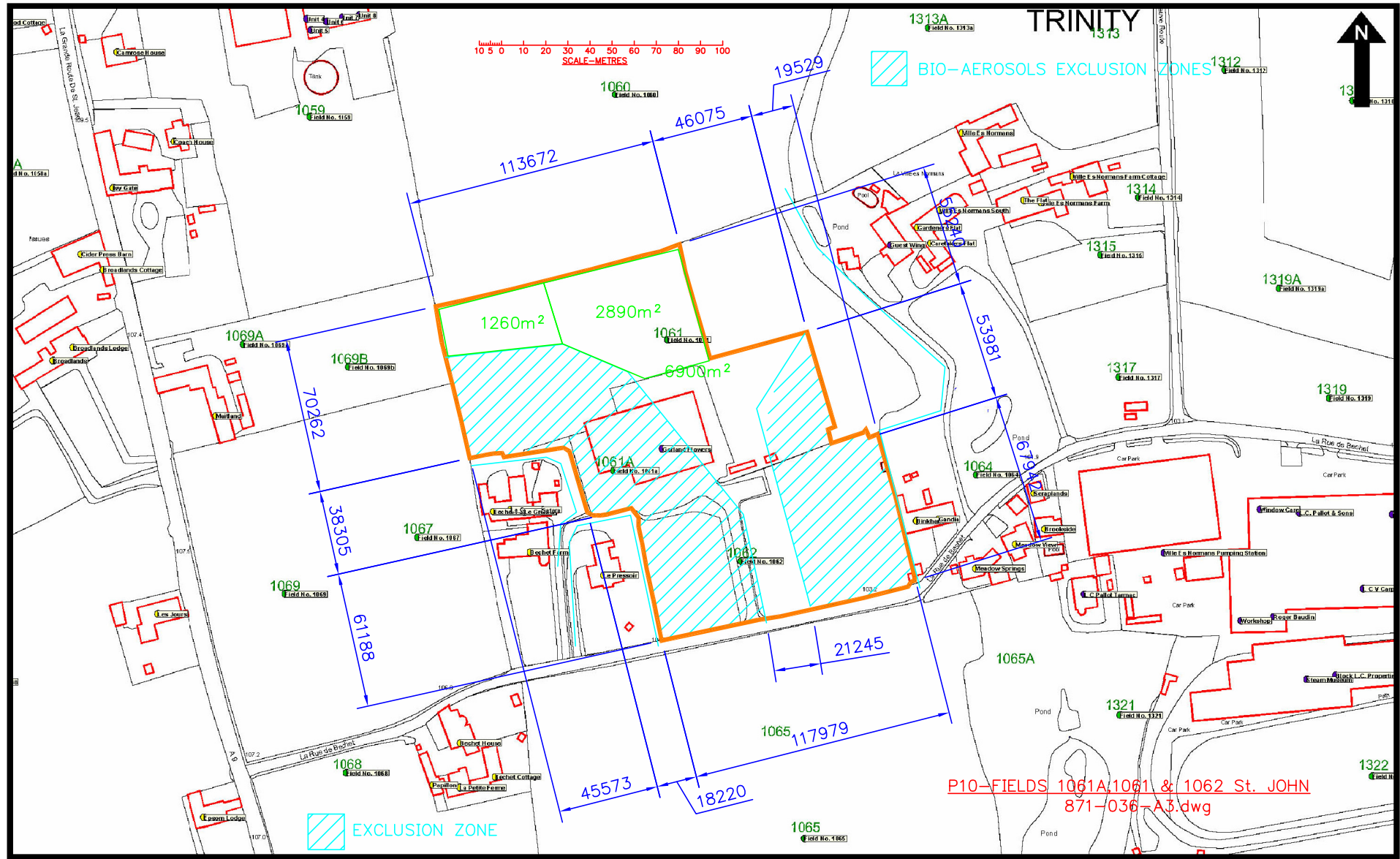
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10 April 2007
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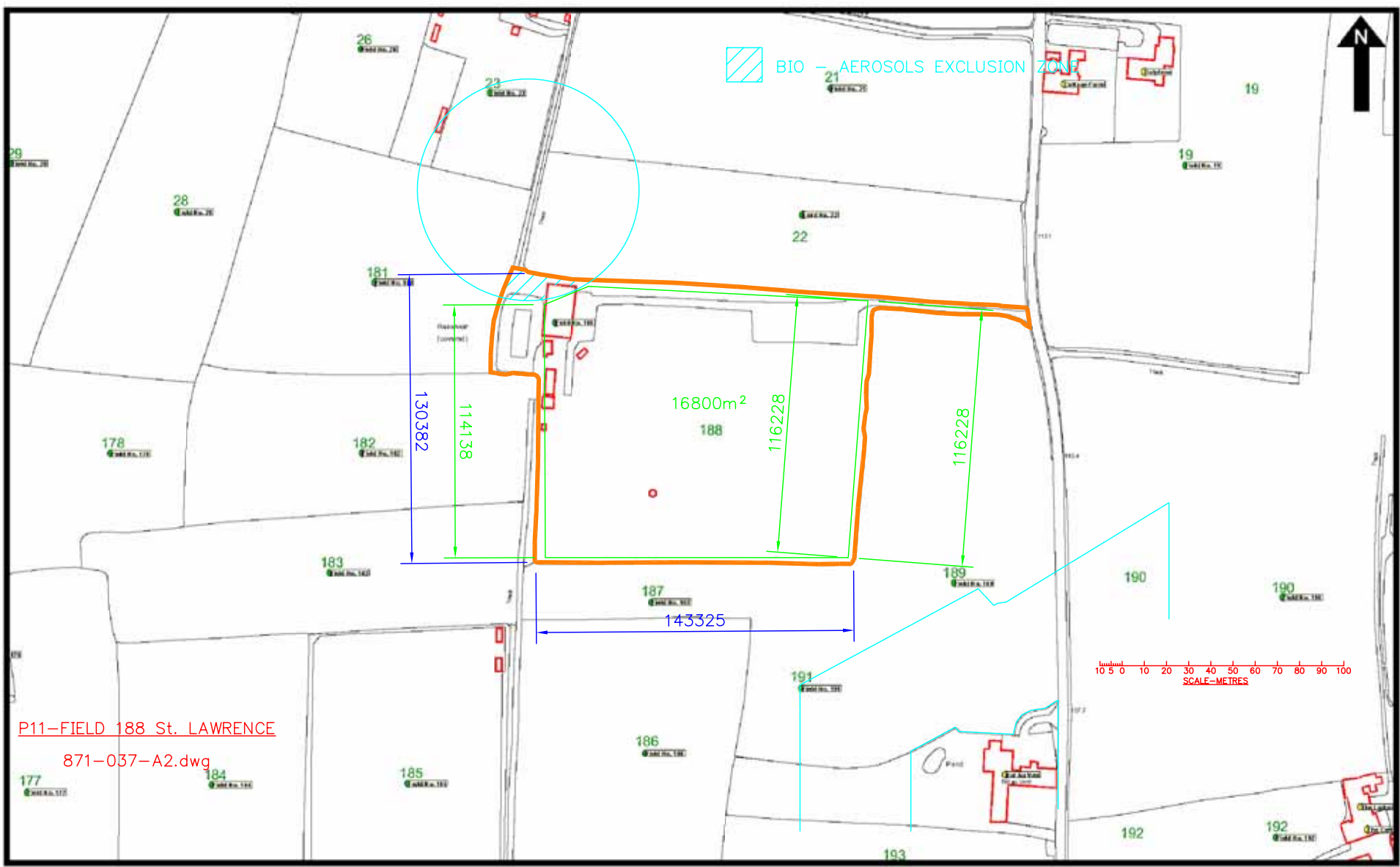


10 April 2007
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States of Jersey



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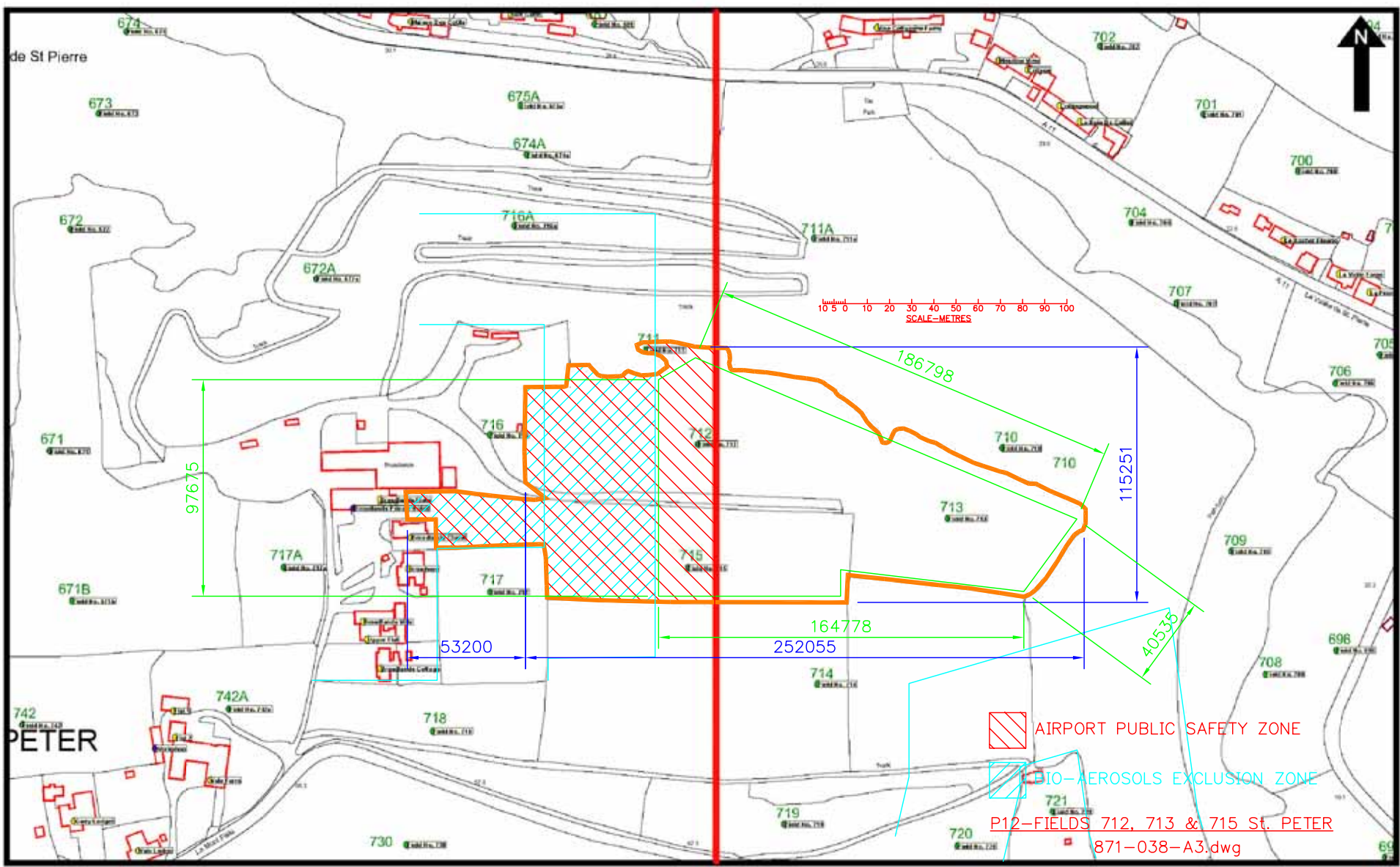
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Scale: 1:2500
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States of Jersey



 AIRPORT PUBLIC SAFETY ZONE

 BIO-AEROSOLS EXCLUSION ZONE

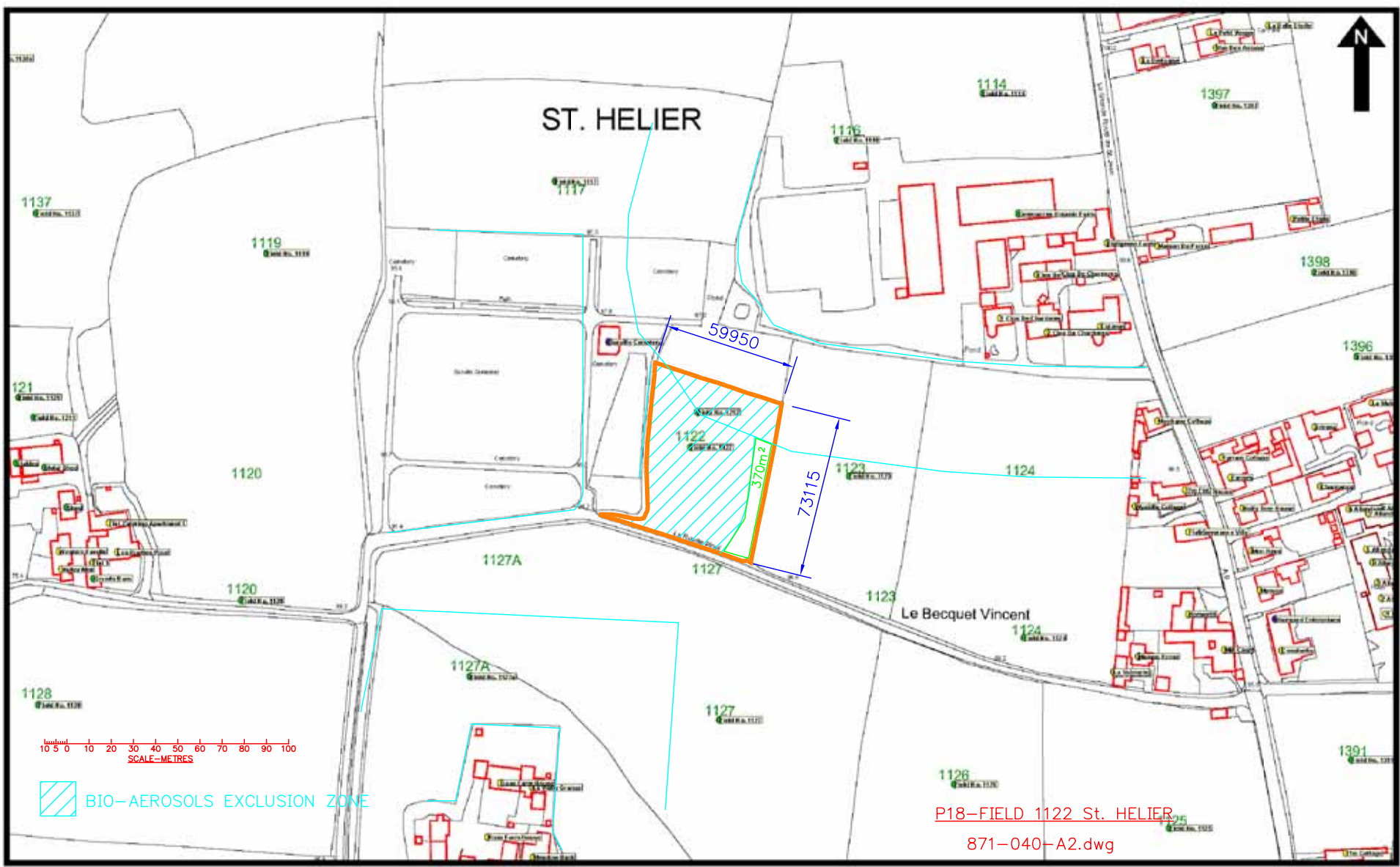
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10 April 2007
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mapping@gov.je



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SCALE-METRES

 BIO-AEROSOLS EXCLUSION ZONE

P18-FIELD 1122 St. HELIER
871-040-A2.dwg

10 April 2007
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mapping@gov.je



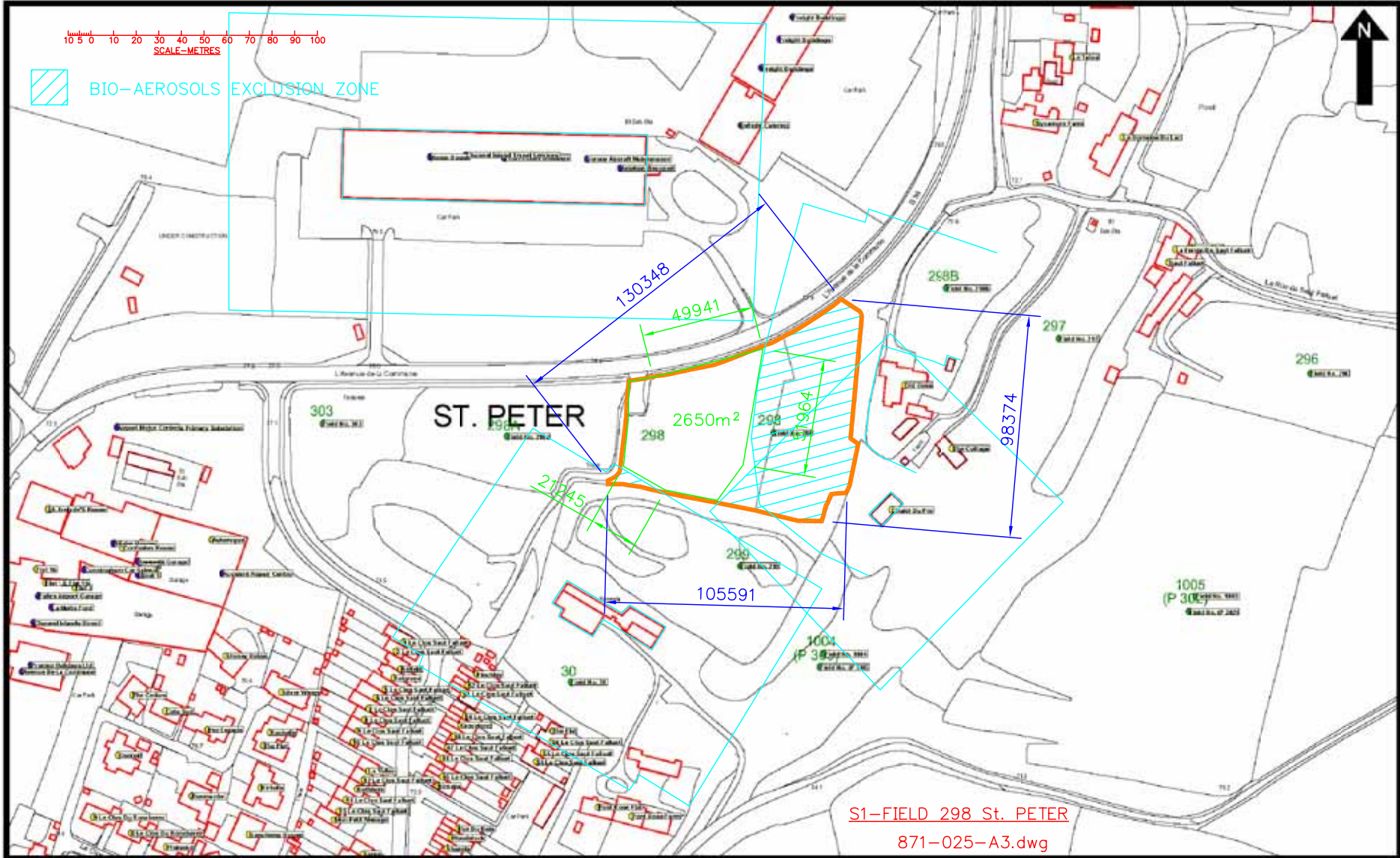
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States of Jersey

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SCALE-METRES



BIO-AEROSOLS EXCLUSION ZONE



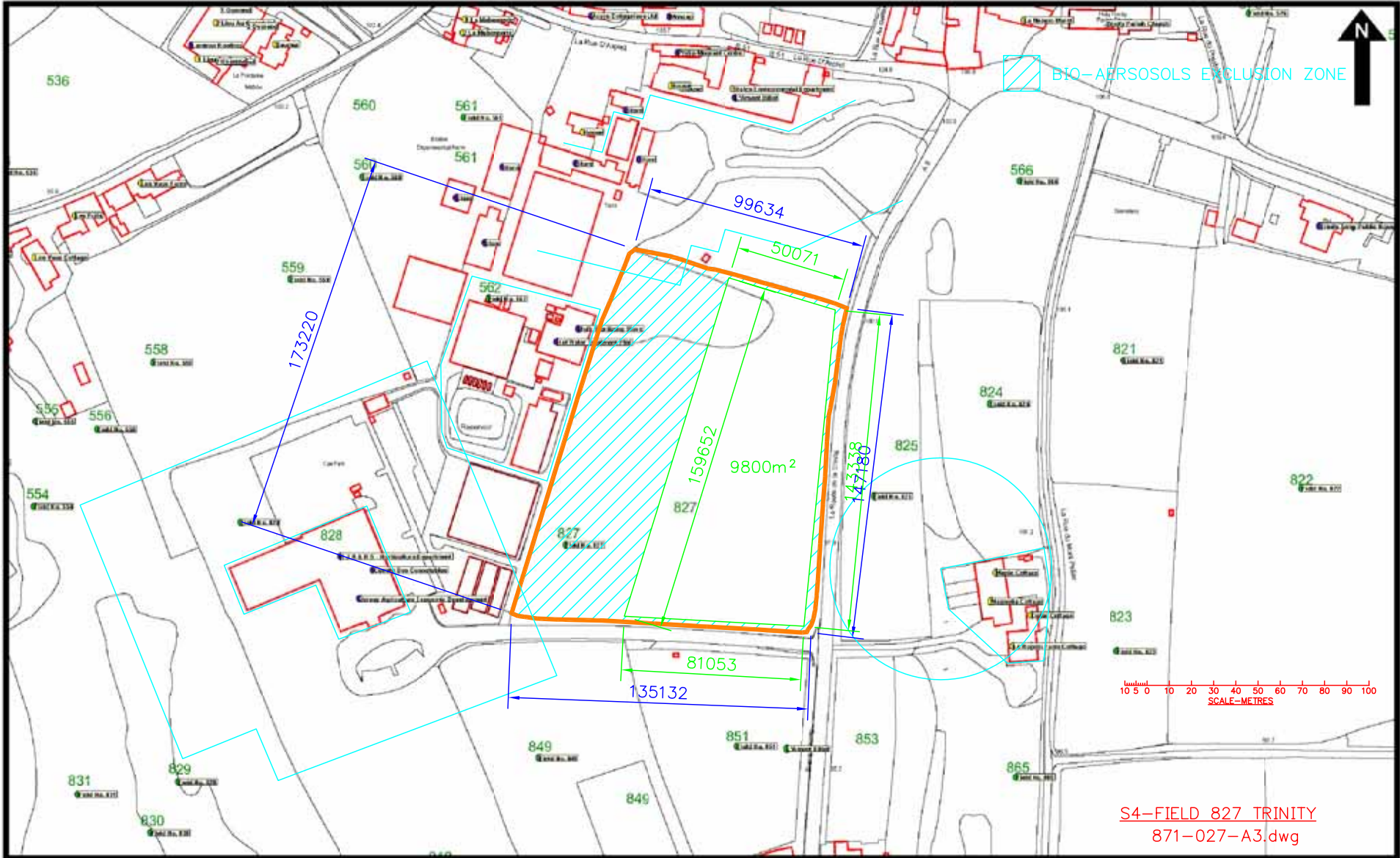
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25 April 2007
Scale: 1:2500
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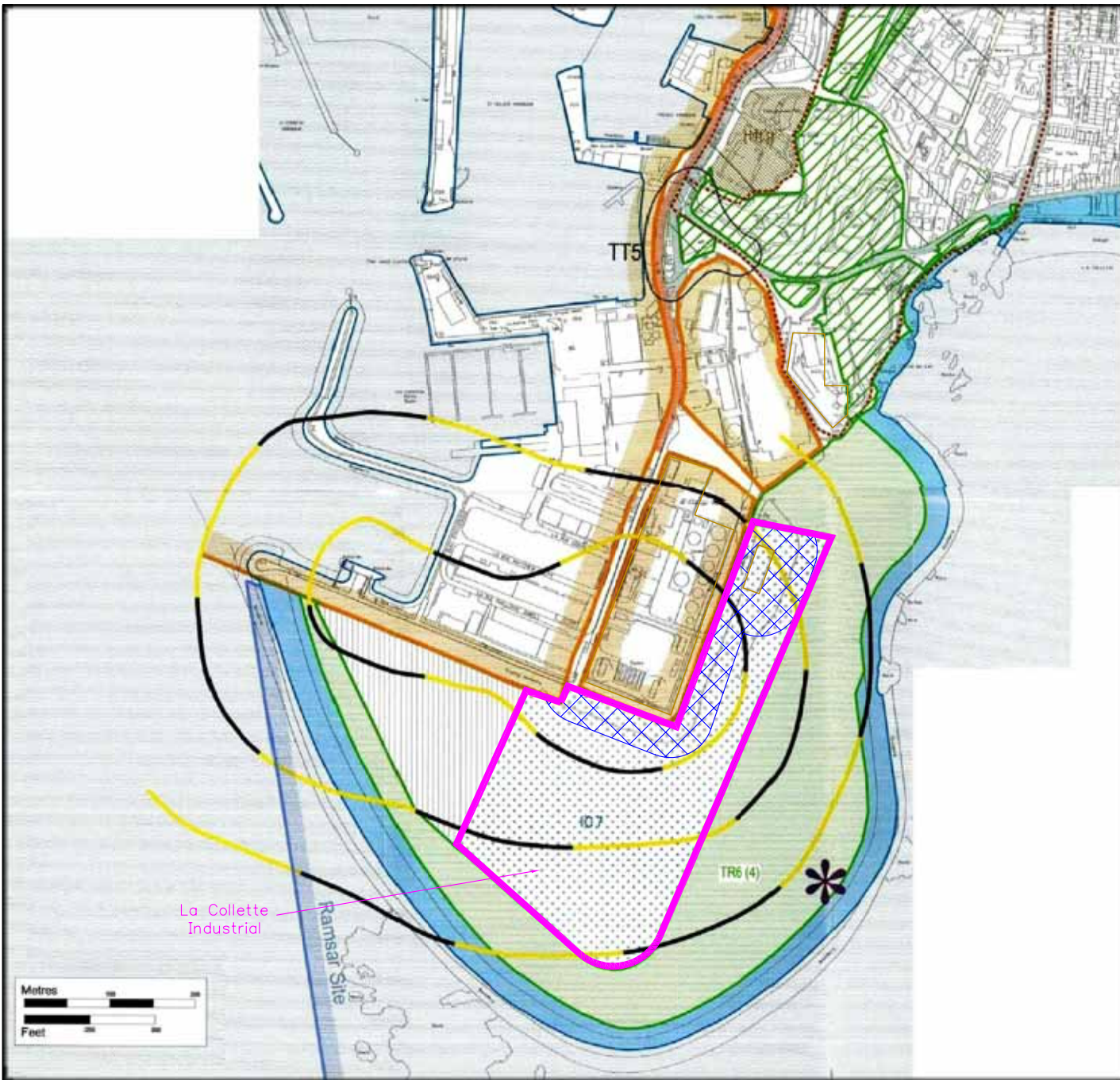
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25 April 2007
Scale: 1:2500
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Drawing No. 2-02/A
Jersey Island Plan 2002
TOWN PROPOSALS MAP
 as approved by the States of Jersey, 11 July 2002

M6 Ramsar Site	IC7 Site Proposed for Industry
TR6 Land for Recreation	Harbour Operational Area
BE6 Action Area	TT3 Island Route Network: Secondary
BE8 Important Open Space	TT5 Primary Route Traffic Studies
BE11 Shoreline Zone	Built-Up Area Boundary
H4 Site Safeguarded for Future Category A Housing Needs	NR10 Off-Loading Facility for Aggregates
TR6 Land for Marine Leisure	NR13 Safety Zone for Hazardous Installation
M1 Marine Protection Zone	

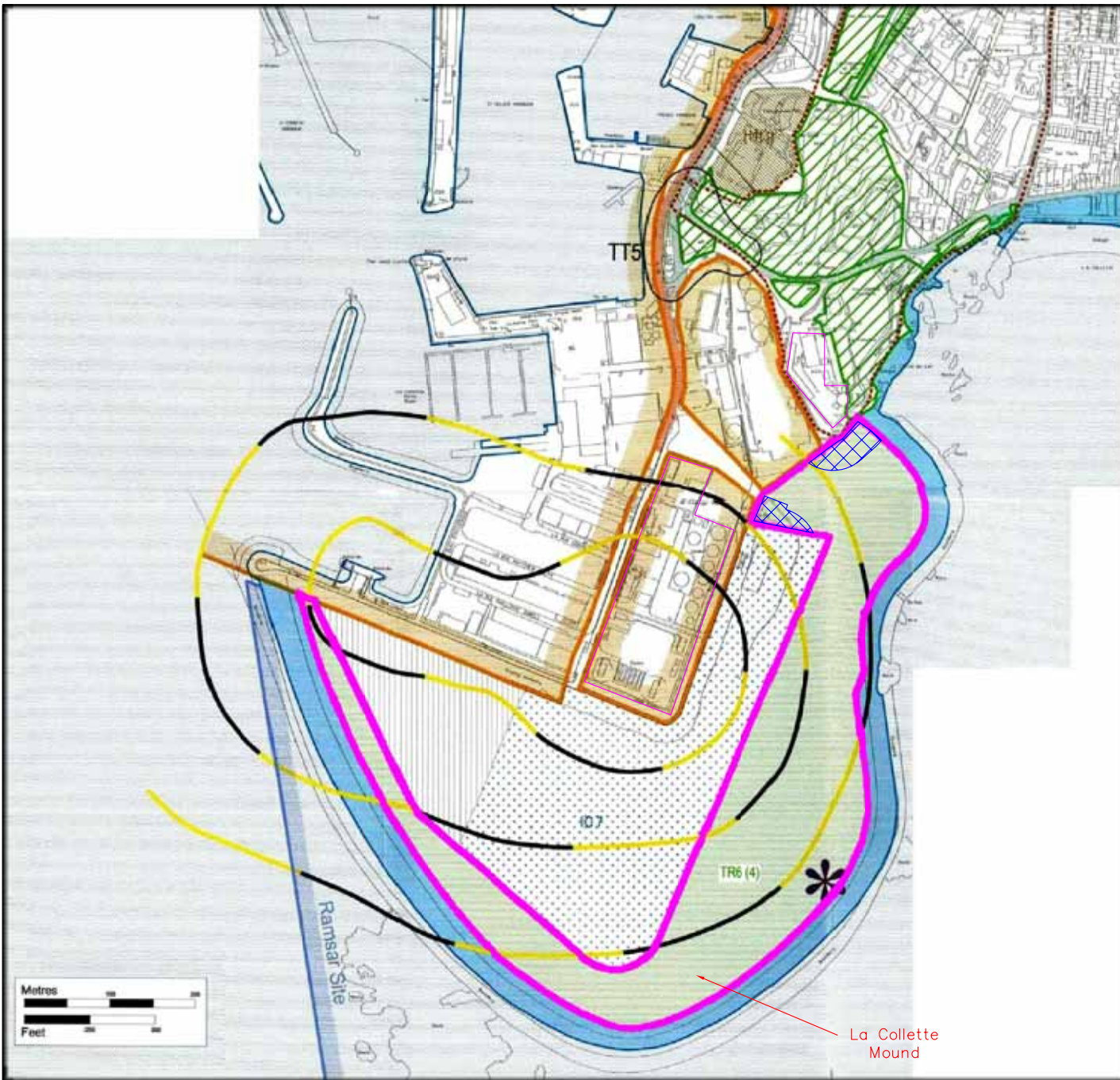
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SITE BOUNDARY

S5 – LA COLLETTE INDUSTRIAL
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La Collette Industrial





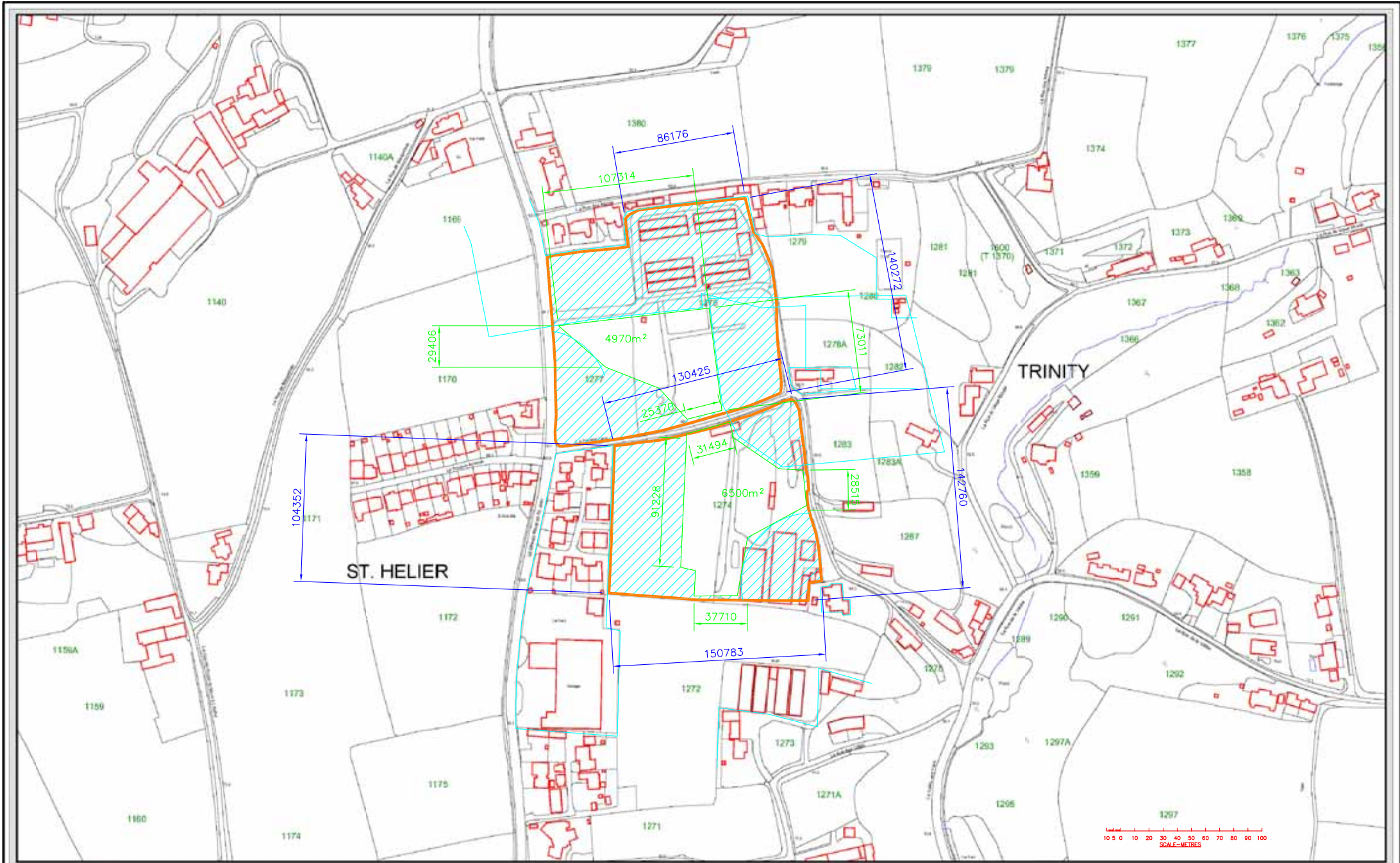
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Jersey Island Plan 2002
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TR6 Land for Marine Leisure	NR13 Safety Zone for Hazardous Installation
M1 Marine Protection Zone	

BIO-AEROSOL EXCLUSION ZONES
 SITE BOUNDARY

S6- LA COLLETTE LEISURE
 871-029-A4.dwg

La Collette Mound



 BIO-AEROSOLS EXCLUSION ZONES