



Eclipse Works, Meare, Glastonbury

---

# Fire Prevention Plan for Waste Wood Operation

Document Reference: 2060A/FPP

April 2016



## Notice

This report was produced by Land & Mineral Management for South West Wood Products Limited for the specific purpose to provide a Fire Prevention Plan for the waste wood treatment operation at Eclipse Works, Meare, Glastonbury

This report may not be used by any person other than South West Wood Products Limited without express permission. In any event, Land & Mineral Management accepts no liability for any costs, liabilities or losses arising as a result of the use of or reliance upon the contents of this report by any person other than South West Wood Products Limited.

## Document Control

Version	Date	Author / Checked by	Change Description
1.	27/01/2016	LJ Binnie	Document created/checked
2.	07/04/2016	LJ Binnie	Amended
3.	22/04/2016	LJ Binnie	Further amendments
4.	25/04/2016	LJ Binnie	Final amendments

## Contact Details:

Author: Lucy Binnie  
tel: 01285 656391 07795143457  
email: [lb@landandmineral.co.uk](mailto:lb@landandmineral.co.uk)  
Web: [www.landandmineral.co.uk](http://www.landandmineral.co.uk)

---

## Contents

<b>1</b>	<b>Overview.....</b>	<b>1</b>
	<b>Operator and Permit.....</b>	<b>1</b>
	<b>Permitted Activities .....</b>	<b>1</b>
	<b>Site Location .....</b>	<b>1</b>
	Sensitive Receptors .....	2
	Wind Direction.....	3
	Consideration of Sensitive Receptors.....	3
	<b>Site Layout Details .....</b>	<b>4</b>
	<b>Site Access and Alternative Emergency Access.....</b>	<b>4</b>
<b>2</b>	<b>Preventing Fires.....</b>	<b>6</b>
	<b>Site Throughput.....</b>	<b>6</b>
	<b>Pile Sizes.....</b>	<b>6</b>
	Separation Distances .....	7
	<b>Waste Storage .....</b>	<b>7</b>
	General Storage .....	7
	Non Wood Waste Storage.....	7
	<b>Recording of Storage Piles Durations .....</b>	<b>8</b>
	<b>Pile Monitoring.....</b>	<b>9</b>
	Trigger Levels .....	9
	Hot Spot Actions.....	10
	Hot Spot Recording and Monitoring.....	10
	<b>Self Heating .....</b>	<b>10</b>
	<b>Contingency Arrangements: Storage and Emergency .....</b>	<b>11</b>
	<b>Seasonality .....</b>	<b>11</b>
	<b>Arson/Vandalism .....</b>	<b>12</b>
	Security .....	12
	<b>Plant and Equipment .....</b>	<b>12</b>
	<b>Infrastructure and Site Inspections.....</b>	<b>14</b>
	<b>Electrical.....</b>	<b>15</b>
	<b>Ignition Sources .....</b>	<b>15</b>
	Hot Working.....	16
	Smoking.....	16

---

<b>Heat and Spark Prevention/Detection</b> .....	<b>16</b>
<b>Gas Bottles and other Flammable Substances</b> .....	<b>17</b>
<b>Fire Watch</b> .....	<b>17</b>
Dust Removal on Plant.....	17
Parking of Plant.....	18
<b>Automatic Fire Detection Systems</b> .....	<b>18</b>
<b>3 Reducing the Impact</b> .....	<b>19</b>
<b>Waste Acceptance</b> .....	<b>19</b>
No acceptance of waste.....	20
<b>Stock Rotation</b> .....	<b>20</b>
<b>Waste Acceptance: Incompatible/hot loads</b> .....	<b>21</b>
<b>Waste Acceptance: Permitted Waste</b> .....	<b>21</b>
<b>Waste Treatment</b> .....	<b>21</b>
<b>Fire Walls</b> .....	<b>22</b>
<b>Quarantine Area</b> .....	<b>22</b>
<b>Suppression Systems inside Buildings</b> .....	<b>23</b>
<b>Firefighting</b> .....	<b>23</b>
Firefighting – General .....	23
Fire Fighting – Zone Strategies.....	23
Fire Fighting – Water .....	24
<i>Initial Response</i> .....	24
<i>Secondary Actions</i> .....	25
<i>Tertiary Actions</i> .....	25
Fire Fighting - Inert Soils.....	26
Firefighting – Movement of Material.....	26
Firefighting Equipment .....	26
Water Supply – Overall Volumes Available.....	27
Anticipated Water Usage .....	27
Fire Water Supply and Containment.....	27
Fire Service .....	28
Controlled Burn.....	29
Reporting.....	29
<b>Training</b> .....	<b>29</b>
<b>Disposal of Fire Residues</b> .....	<b>29</b>

---

## Tables

### Table

Table 1	Sensitive Receptors
Table 2	Storage Pile Details
Table 3	Storage Times
Table 4	Plant and Equipment
Table 5	Summary of Ignition Sources and their Management

## Figures

### Figure

Figure 1	Site Location
Figure 2	Receptors Location
Figure 3	Site Access Routes
Figure 4	Storage Pile Recording

## Drawings

### Title

Site Layout	2060/Site
-------------	-----------

## Appendices

Appendix A	Waste Codes
Appendix B	Environment Agency's Sensitive Receptors Report
Appendix C	Assessment of Movement of Wastes
Appendix D	Probe Details
Appendix E	Contingency Letter
Appendix F	Plant Fire Certificates
Appendix G	Examples of Plant Inspection Sheets
Appendix H	Electrical Maintenance Details
Appendix I	Examples of Schematic Movement of Materials in Fire Scenario
Appendix J	Pump Details
Appendix K	Risk Assessment

---

## Foreword

New permitting requirements have introduced the requirement for a Fire Prevention Plan (FPP) for the waste wood operations at Eclipse. This Fire Plan has been prepared taking into account the current practices and operational constraints at the site together with consideration of various fire guidance documents including WISH guidance 'Reducing Fire Risk at Waste Management Sites' (Waste Industry Safety and Health Forum), Technical Guidance Note 7.01, European Guideline CFPA-E No.32.2014 and Fire Prevention Plans guidance v2 (EAFPP) March 2015. The latter document is currently out to consultation and fire testing is also taking place which is to be taken into account when revising the guidance document.

This document presents a bespoke FPP as it is not possible to produce a FPP with pile sizes as per the EA guidance. The EA guidance is generic to the whole of the waste management industry with minimal consideration of individual sectors. As a dedicated waste wood recycling unit, the operation deals with large volumes as a low value, bulk product. Table 1 of the EA guidance on piles has sizes for processed wood of 150m<sup>3</sup> which does not sit well against operational capacity issues faced by wood recycling operations.

To provide context, processed wood is transported in trailers which hold between 90-110m<sup>3</sup> and so a single stockpile of 150m<sup>3</sup> would not be sufficient to fill two lorry loads. To meet just a single supply contract of 600t/week (a typical contract for South West Wood Products Ltd) would require 14 separate storage piles. To cover a weekly combined throughput of 3,000t would require in excess of 70 storage piles occupying over 1.5 ha (for purposes of scale this would be over two football pitches) without any provision for site infrastructure i.e. roads, weighbridge, quarantine area, processing operations, or even buildings such as offices, stores or maintenance buildings. It is impractical to follow the storage guidance for a high bulk volume product and maintain a viable waste wood recycling operation.

### Fire Service

The Eclipse FPP has been developed in discussion with the local Fire Service to confirm that, whilst pile sizes do not conform to the EAFPP, the measures in the FPP will ensure that any fire event will not result in a burn time of over 3-4hours as required by the EAFPP.

A programme of on-site simulated tests with the Fire Service are planned to confirm this, initially with a test planned for zone 6 and then zone 2 which will take place in the next two months.

The Fire Service will also liaise with SWWP and produce a 'Site Specific Risk Information' package which is the information the Fire Service compile to ensure a safe manner of operation for any firefighting at the site. The SSRI will include alerts that advise the Fire Service officers attending a fire of the site water

---

system, the availability of the machinery and staff of SWWP to assist in a fire event, the need to minimise water usage and also to avoid the use of foam. The Fire Service propose to draft the SSRI within one month.

Further involvement of the Fire Service will be the provision of on-site firefighting training (via their training provider Red One) for site operatives to ensure they are familiar with the correct techniques for firefighting using the on-site equipment including assessment and correct rate of application of water.

# 1 Overview

## Operator and Permit

- 1.1 South West Wood Products Limited (the operator) runs a wood recycling operation at Eclipse Works south of Meare near Glastonbury. The site operates under an environmental permit reference no EPR/YP3297EC allowing the treatment of waste wood for recovery.

## Permitted Activities

- 1.2 The site activities involve the storage and treatment of waste wood with sorting, separation, shredding and chipping for recovery for use as either biofuel, board mill or animal comfort products.
- 1.3 The waste types accepted at the site are non-hazardous waste woods as listed in Appendix A.

## Site Location

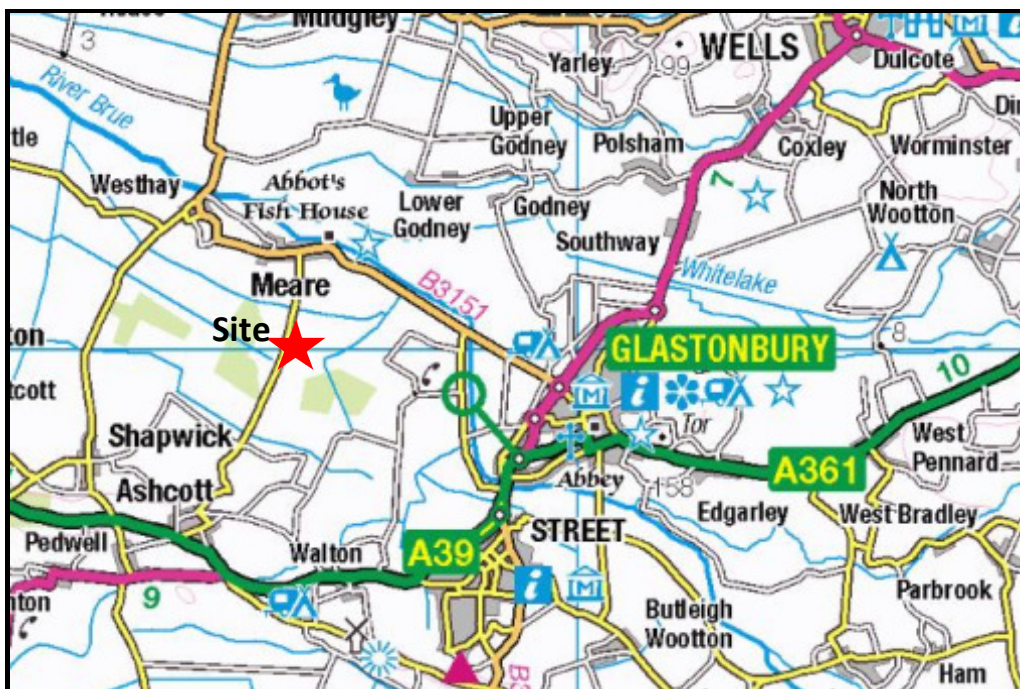
- 1.4 The site address is:

Eclipse Works, Ashcott Road, Meare, Glastonbury, Somerset, BA6 9SU

Grid Reference: ST 453 404

- 1.5 Figure 1 shows the general location of the site which lies to the west of Glastonbury.

**Figure 1: Site Location (nts)**

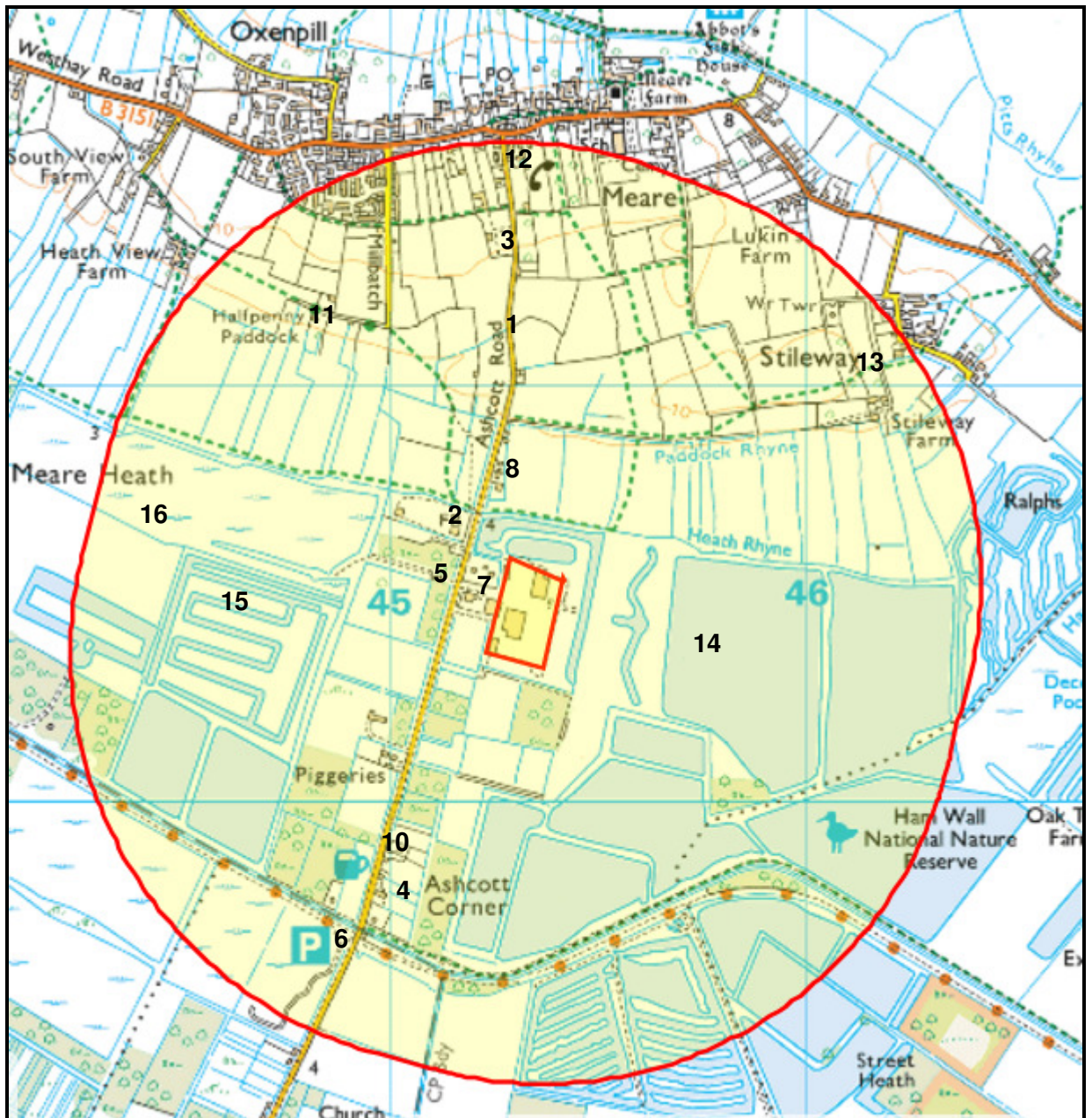




### Sensitive Receptors

1.6 There are a number of sensitive receptors within 1km of the site boundaries. The sensitive receptors include workplaces, residential properties and environmental receptors. These are shown on figure 2 below and listed in table 1 overleaf. Appendix B contains full details of the Environment Agency's Sensitive Receptors Report.

**Figure 2: Receptors Location (nts): Outer red line 1km from site boundary**



**Table 1: Sensitive Receptors**

Receptor: Infrastructure	Direction	Map No.
Local road between Ashcott and Meare	W	1
Receptor: Workplaces	Direction	
Blakeway Stoneworks	NW	2
Middleton Engineering Works	N	3
Receptor: Recreational & Amenity Sites	Direction	
Moorlands Fisheries	NW	5
The Railway Inn	S	6
Ham Wall	S	7
Receptor: Residential Properties	Direction	
Ashcott Road Entrance House	W	8
4 Properties on Ashcott Road	N	9
2 Properties at Railway Inn, Ashcott Corner	S	10
Halfpenny Paddock	NW	11
Meare	N	12
Stileway	NE	13
Receptor: Designated Conservation Sites	Direction	
Ham Wall NNR	E	14
Shapwick Heath SSSI & NNR	W	15
Somerset Levels & Moors SPA & RAMSAR	SW	16

1.7 There are no schools, hospitals and nursing homes within 1km of the site, nor any critical infrastructure which could be adversely impacted by a fire event at Eclipse.

#### Wind Direction

1.8 The prevailing winds for the area from the south west.

#### Consideration of Sensitive Receptors

1.9 There are few receptors in the immediate vicinity of the site, with only a handful of receptors within 500m of the site (see highlighted amber on table 1). All the nearest residential and

workplace receptors are upwind of the site. All these sites will be automatically informed in the event of a fire emergency on the site.

- 1.10 The nearby conservation sites lie to the west, south and east and again up wind of the site. There is no connection between the site and these receptors either with shared accesses or any linkage to drainage, as the site has a contained drainage system.
- 1.11 The 1km radius from the site clips the southern edge of Meare, at approximately 900m from the site, but again upwind of the site. The only receptors which are downwind, i.e. in line of the direction of the prevailing wind, are a few properties in the small hamlet of Stileway which are just on the edge of the 1km limit. In addition the FPP contains extensive measures to prevent an outbreak of fire and procedures to minimise the impact and duration of any fire incident such that there is considered to be a low risk to the residential from any adverse fire impacts.
- 1.12 In the event of a major incident the local media would be used to inform residents on the basis of advice from the Fire Service

### **Site Layout Details**

- 1.13 The site layout plan is attached, reference no 2060/Site. This includes details of the general site layout with the details of buildings, configuration of waste storage areas, access points, drainage arrangements and firefighting equipment. The site is divided into 6 main zones areas:
- Zone 1: C grade unprocessed storage in the northern part;
  - Zone 2: C grade processed storage in the central part;
  - Zone 3: quarantine area on the north eastern side;
  - Zone 4: A and B grade unprocessed storage on the eastern side;
  - Zone 5: A and B processed storage areas to the south west; and,
  - Zone 6: A and B processed fine storage areas to the south east.

### **Site Access and Alternative Emergency Access**

- 1.14 The site itself has two access points onto Ashcott Road, which means there is an alternative access if the main site access is not accessible. The second access point can accommodate

large emergency vehicles. As indicated on plan 2060/Site the area around the site access and secondary access point will be kept clear at all times from any processing and storage operations to ensure full access to the fire store building and unobstructed circulation of emergency vehicles

- 1.15 The normal access route to the site is from the north via Meare and the B3151. An alternative access route is from the south via Ashcott and the A39, see figure 3 below.

**Figure 3: Site Access Routes – Main Route in Red, Alternative Route in Blue (nts)**



## 2 Preventing Fires

### Site Throughput

2.1 The total annual throughput of the site is 150,000t and with a daily maximum input figure of 2000t (for clarity this is comprised of in and out movements of material). The maximum potential amount of storage on site at any one time, in compliance with this FPP, is approximately 10,000t.

### Pile Sizes

2.2 The typical location of the storage piles is shown on drawing no. 2060/Site. Table 2 below details the pile sizes for processed and unprocessed wood. The pile sizes do not comply with the EAFPP guidance but the FPP includes extensive fire prevention measures including monitoring for self heating above and beyond the EAFPP and has a fire fighting strategy to ensure that in the unlikely event of a fire the duration of a fire will not exceed the 3-4 hour burn time of the EAFPP.

**Table 2: Storage Pile Details**

Location	Waste Type	Pile Volume	Dimensions	Storage Duration	Monitoring regime
Zone 1	Unprocessed Grade C	3600m <sup>3</sup>	Windrows 10m x 60m, 6m high	<3 months	Twice daily visual inspection
Zone 2	Processed Grade C	936m <sup>3</sup>	26m x 12m 3m high	<1 week	Twice daily using probe
Zone 3	Quarantine Area	-	10m x 30m	-	-
Zone 4	Unprocessed Grade A & B	2000m <sup>3</sup>	Windrows 10m x 40m, 5m high	<3 months	Twice daily visual inspection
Zone 5	Processed Grade A & B	1000m <sup>3</sup>	10m x 20m, 5m high	<2 weeks	Twice daily using probe
Zone 6	Processed Grade A & B Fines	1000m <sup>3</sup>	10m x 20m, 5m high	<1 month	Twice daily using probe

### Separation Distances

- 2.3 Storage distances are maintained on site in line with the EAFPP guidance to prevent the risk of spread of fire between piles. Where fire walls are not used to separate piles a minimum width of 6m is kept between storage piles. Each Zone has a minimum separation distance of 20 metre between other storage zones in full compliance with the EAFPP guidance.

## Waste Storage

### General Storage

- 2.4 The waste, both processed and unprocessed wood, is stored outside in an extensive open compound and is stored in its loose form. No storage of mixed wastes takes place. The aim is to ensure that the waste is stored in its largest particle size for as long as possible. Therefore processing takes place in response to contracts for the processed material.
- 2.5 Typically 90% of the waste wood stored on site is unprocessed in line with EAFPP guidance.
- 2.6 Table 3 provides the typical maximum storage times for unprocessed and processed wastes. Duration normal operating conditions, no unprocessed material is stored for more than 3 months and no processed material will be storage for more than 1 month, with the largest piles having a very short storage duration of less than one week as detailed in table 2. The proposed storage times are above and beyond the EAFPP guidance and very short storage times for processed materials assist in minimising the risk of fire by self-combustion.

**Table 3: Maximum Storage Times**

Unprocessed Storage Times	Processed Storage Times
Three months. <sup>1</sup>	One month

### Non Wood Waste Storage

- 2.7 Metal waste (both ferrous and non-ferrous) is a 'by-product' is extracted from the wood waste in the course of processing. The quantities of this waste are limited and the material is stored in storage bays located to the south of Zone 1 in line with separation distances, detailed below. The maximum pile sizes for metals will comply with the piles sizes specified in EA FPP v2 and on site storage duration does not exceed 3 months. No pile monitoring is proposed for the metal wastes. The metal wastes are not considered to represent a high fire risk as they is

---

<sup>1</sup>The unprocessed material brought to site has not been subject to storage prior to its transfer to site.

not readily combustible, unlike other scrap metals such as scrap cars, with no risk of associated flammable liquid contamination (oils or fuel tank residues) which could support combustion.

### Recording of Storage Piles Durations

- 2.8 A schematic layout of the unprocessed wood pile in Zone 1 is maintained in the site office on a white board which identifies each pile with a unique reference number. Pile are formed in sequence and details recorded for each pile of the date that storage commenced and the 'out by' date, the maximum storage period, is also recorded. At the end of each week a photograph is taken of the white board and kept as part of the site records. Figure 4 provides an illustration of the operation of the recording system.
- 2.9 A first in, first out (FIFO) system is operated which creates a rolling turnover of the storage piles ensuring no material is stored over 3 months. The operation of this is illustrated in figure 4, the next pile to be created would be C and the next pile due for processing would be F.
- 2.10 The recording of the 'out by' date is to provide a check to ensure material is removed before the maximum storage period. Should the storage records indicate that piles are close to the 'out' date then the import of material to site will be restricted until any backlog is cleared. An assessment of the movement of waste in and out of the site has been provided in Appendix C to confirm there is no ongoing build-up of waste at the site.

**Figure 4: Storage Pile Recording**

<b>Unprocessed Storage Piles: North</b>	<b>w/c 29<sup>th</sup> Feb 2016</b>
<b>Pile A</b> Date in: 24 Feb 2016 Date Out: 24 May 2016	<b>Pile E</b> Date in: Date Out:
<b>Pile B</b> Date in: 29 Feb 2016 Date Out: 29 May 2016	<b>Pile F</b> Date in: 14 Jan 2016 Date Out: 14 April 2016
<b>Pile C</b> Date in: Date Out:	<b>Pile G</b> Date in: 20 Jan 2016 Date Out: 20 April 2016
<b>Pile D</b> Date in: Date Out:	<b>Pile H</b> Date in: 27 Jan 2016 Date Out: 27 April 2015

---

## Pile Monitoring

- 2.11 The EAFPP does not require monitoring for the storage times proposed, however the operator proposes additional monitoring above and beyond the guidance to address additional perceived risk associated with the larger pile sizes and mitigate against possible self-combustion. There is daily monitoring of all stock piles on site. For the unprocessed material, zones 1 and 4, this is done by means of visual inspections conducted at the start and end of the working day.
- 2.12 The site practice is to monitor processed material twice a day with temperature probe at random locations in each processed pile, in recognition that self-heating is created by microbial activity which characteristically takes place in an indiscriminate manner and so any potential self-heating will take place on an 'ad hoc' locational basis within any pile.
- 2.13 Probing is undertaken to ensure the probe can reach to the centre of a pile. A 6m probe has been constructed as an attachment for a telehandler (similar to a bale spike) to allow the probe to be pushed into the centre of a pile, see appendix D. The telehandler has a telescopic reach of up to 10m allowing the probe to be inserted either vertically or horizontally (i.e. from any angle, top or side) into a pile without the need for a site operative to climb onto a pile. The probe has a remote digital readout which automatically records the temperature.
- 2.14 Continuous visual monitoring is provided for across the whole site during the working day as a matter of course with site operatives who, as part of their working routine, are required to note any general observation of signs of material heating immediately to the site manager.
- 2.15 Hots spots identified by general observation will be reported to the site manager who will investigate. Full details of such reports will be maintained even if no cooling actions are deemed necessary.
- 2.16 The results of the all the routine monitoring will be recorded. Recorded measurements taken by the temperature probe identifying changes of increasing temperature will be reported to the Site Manager where the trigger levels are exceeded as per below.

### Trigger Levels

- 2.17 Temperatures recorded at the trigger levels will activate the 'hot spot' actions. The trigger level will initially be set at 65°C. Additionally where the temperature monitored is below the trigger level but there has been an increase of 20°C between monitoring events this will also activate the 'hot spot' actions
-



### Hot Spot Actions

- 2.18 On identifying a hot spot an assessment will be made by the site manager of the relevant stockpile to identify the extent of the hot spot and enable an informed decision as to the remedial actions to be taken to cool the material by the most effective method in as short a time as possible and generating the minimum amount of residues.
- 2.19 All operations in the vicinity of a hot spot will cease and plant be removed from the vicinity until the hot spot has been assessed and where appropriate remediated so there is no fire risk. Where deemed necessary the affected area will be isolated from the rest of the pile and/or other piles moved away.
- 2.20 The preference is to cool material in situ and to use techniques that will produce minimal residues where this can be done safely without increasing fire risk. The methods to cool a hot spot in situ include use of water, turning the pile, or smothering with inert material. The preferred means would involve site operatives using a large shovel to remove material from affected area of the pile, spreading it on the adjacent ground where it does not compromise minimum separation distances – if necessary material in adjacent piles will be temporarily pushed away to create increased separation distances and allow cooling immediately adjacent to the pile.
- 2.21 Regular temperature checking of a hot spot will occur during cooling by use of the temperature probe to confirm the material is cooling and when it has returned to a normal temperature. At this point the cooling actions to cease.
- 2.22 If the cooling actions are not successful such that a hot spot develops into a combustion incident the fire trained site operatives will tackle the fire as detailed in the following section. Should they be unable to safely tackle the fire, then the fire service will be called.

### Hot Spot Recording and Monitoring

- 2.23 Full records will be kept of each hot spot incident, detailing its initial identification to final full remediation. A regular full review of all hot spot incidents will be undertaken by the Site Manager to establish the effectiveness of the fire plan and management system.

### Self Heating

- 2.24 Whilst the site storage times are below the EAFPP requirements there will be regular pile monitoring to identify any self-heating, as detailed above. The aim is to provide early warning with the identification of any self-heating in the storage piles. Preventative action will be

taken to minimise the potential for self-combustion early warning allowing appropriate mitigation measures to be undertaken to cool any material if self-heating is identified.

- 2.25 Whilst the unprocessed wood is not considered to be at risk of self-combustion during the summer months the unprocessed wood is kept damp by regular spraying of water in dry conditions to meet moisture requirements for processing and assisting with keeping dust down. The application of water in this manner will also prevent any heating/combustion of this material that could potentially occur by means of the sun's rays, fragments of glass and fines materials.

### **Contingency Arrangements: Storage and Emergency**

- 2.26 The operator is associated with a larger network of wood recyclers. Agreement has been reached to utilise their sites to divert wood waste to in circumstances that Eclipse cannot accept wood waste either due to site closure during a fire incident or when the site has reached its exceeded storage limits, see appendix E for letter. The nearest sites are South Molton or Meriden.
- 2.27 In the event that storage times are exceeded for the unprocessed material this will be taken for disposal to the nearest suitable facility which is the Viridor site at Dimmer, Dimmer Lane, Dimmer, Castle Cary, Somerset, BA7 7NR.

### **Seasonality**

- 2.28 There is an element of seasonality with both the generation of waste wood and the demand for the wood products. There is a peak to the generation of waste in the summer corresponding to increased construction activity and a peak to the demand for wood products in the winter with heating of buildings. This does see a build-up in the storage of unprocessed wood towards the end of the summer however this is quickly worked through in the autumn with stock rotation procedures ensuring the oldest material is removed first.
- 2.29 An historic assessment of site inputs and output and also current contract obligations is provided in Appendix C. These details confirm that inputs and output levels will not result in a build-up of material in site.

---

## **Arson/Vandalism**

### Security

- 2.30 No members of the public are allowed on site. Only the main access gate is open during working hours which is close to the weighbridge office allowing surveillance of people entering the site.
- 2.31 The site is situated in open countryside but not readily visible from nearby public roads or properties. The site is securely enclosed by a combination of security fencing, railway sleeper walls, bunding and ditching. Surrounding water features, including water-filled old peat workings and rhymes, physically prevent access from the south, north and east.
- 2.32 The CCTV system to be installed at Eclipse will provide continuous monitoring of the site outside working hours. The system involves a series of cameras from a total of 6 locations to provide complete coverage over the whole site see plan 2060/Site.
- 2.33 All cameras have high resolution with colour coverage during the day and mono during the night, with infra red lighting for night time. Each camera will have a motion sensor to detect passive movement in front of the camera, upon detecting movement an alert will be sent to the nominated email addresses/mobile phone to notify the operator and allow live streaming access to the cameras. This will allow an instant assessment of the incident and allow appropriate action to be taken. If appropriate the operator can have attendance on site, of an nominated fire trained operative, within 5 minutes to investigate and instigate any necessary fire procedures.

## **Plant and Equipment**

- 2.34 Mobile plant and equipment at Eclipse is detailed in the table 4 overleaf including its use, fire prevention measures and maintenance arrangements.

**Table 4: Plant and Equipment**

Plant/Equipment	Fire Prevention	Inspection
2 Loading Shovels Hyundai	inbuilt fire detection and suppression systems	Daily Inspection sheet
3 Loading Shovels JCB	inbuilt fire detection and suppression systems	Daily Inspection sheet
Doppstadt AK 635 Shredder	inbuilt fire detection and suppression systems	Daily Inspection sheet
Doppstadt AK 435 Shredder	inbuilt fire detection and suppression systems	Daily Inspection sheet
McCloskey 230 Screener	inbuilt fire detection and suppression systems	Daily Inspection sheet
Finlay 883 Screener	inbuilt fire detection and suppression systems	Daily Inspection sheet
Chieftan 1400 Screener	Portable Hand Held Fire Extinguisher	Daily Inspection sheet
2 Eddy Current Separators	inbuilt fire detection and suppression systems	Daily Inspection sheet
JCB Tele handler	Portable Hand Held Fire Extinguisher	Daily Inspection sheet
Tractor	Portable Hand Held Fire Extinguisher	Daily Inspection sheet
Truck	Portable Hand Held Fire Extinguisher	Daily Inspection sheet
Compressor	Portable Hand Held Fire Extinguisher	Daily Inspection sheet
Diesel Bowser	Portable Hand Held Fire Extinguisher	Daily Inspection sheet

2.35 The automatic suppression systems involve an automatic modular dry chemical fire suppression system which has two components to the suppression system. The first system is a 25lb agent cylinder fitted with an electric control head. An actuation current is provided to the electric control head by linear detection or the operator pushing the fire button on either

---

the internal or external mounted manual actuator. Power to operate the system is drawn from the vehicle battery or provided by a 24hr self-recharging back-up battery inside the control panel. System status is constantly monitored by the control panel and communicated to the operator by visual LED indicators and audible alarm. On activation a dry chemical is discharged through four fixed high capacity fast flow machined brass nozzles in a cone shaped spray pattern. The secondary system is an automatic liquid cooling system with a 2.4 US Gallon liquid agent cylinder is discharged through 2 nozzles. The Amerex liquid cooling system is designed to be used as a secondary agent to reduce the heat in the hazard area and to reduce the possibility of a re-flash of a fire on mobile and self-propelled equipment”

- 2.36 Copies of the installation certificates are provided in Appendix F. All plant and equipment is subject to regular inspection and maintenance in accordance with manufacturer’s recommendations.
- 2.37 The frequency of servicing for all bar the tractor, truck, compressor and diesel bowser exceeds the manufacturer’s recommendations with servicing at every 250 operational hours as opposed to the recommended figure of 500 operational hours. Any defects are recorded and actioned appropriately with full records of all inspection and maintenance works kept by the operator at the site office.

### **Infrastructure and Site Inspections**

- 2.38 A comprehensive and documented inspection regime is operated at the site as per the management system including inspection areas covering machinery, site controls, drainage, waste acceptance, housekeeping matters such as general cleanliness to prevent build-up of litter/dust etc, site buildings and substance handling including looking for any signs of heating or fires.
- 2.39 The site staff upon arriving at site at the start of each working day will inspect the site to ensure that there have been no incidents overnight. The inspection will check the site infrastructure is intact and free from any obstructions and in a clean and tidy condition, including site boundaries and roadways. All waste storage areas will be checked to ensure that the material has not been disturbed. The mobile plant on site will also be checked to ensure it is operational.
- 2.40 Any defects identified by the daily initial site inspection will be rectified by the site staff immediately. Where it is not possible rectify any defects immediately the site will not open

unless normal operating conditions are unaffected i.e. operations can take place without any increased risk of pollution. The site operatives will record details of the inspection, detailing any incidents or problems detailing cause(s) and any remedial measures employed in the site diary. The site operative will report the matter, verbally, to management before the end of the working day.

## Electrical

- 2.41 A schedule is maintained for the regular inspection and maintenance by a certified electrician of all electrical works on site, buildings and plant. Records of inspections and maintenance works are kept by the site operator. Details are provided in Appendices F and H.

## Ignition Sources

- 2.42 Operations on site are designed to keep storage piles and sources of ignition separate. The FPP deals with the management of various ignition sources under separate headings, table 5 provides a summary of ignition sources and how they are managed at Eclipse.

**Table 5: Summary of Ignition Sources and their Management**

Source of Ignition	Prevention/Management
Arson/Vandalism	Site Security measures including CCTV out of hours, location remote from centres of population and access difficult due to condition of surrounding land.
Self Combustion	Storage times for processed material well below EAFPP guidance and monitoring of piles including hot spot action protocol beyond EAFPP guidance.
Plant or equipment failure	Regular full inspection of plant and maintenance beyond manufacturer's specification
Electrical faults	Regular electrical inspections/testing undertaken. No electricians in vicinity of storage areas
Naked lights	None allowed on site, restricted area for smoking for staff provided away from storage areas.
Discarded smoking materials	No fires allowed on site
Hot works	Permit system requiring removal of plant from storage areas and checks after completion of works
Industrial heaters	None used on site

Hot exhausts	Blow down at end of working day with check on cooling an hour later
Open burning (on site or adjacent land)	No fires allowed on site. No burning takes places on surrounding land
Damaged or exposed electrical cables	Regular electrical inspections/testing undertaken. No electrics in vicinity of storage areas
Reactions between incompatible materials	Single waste stream not subject to chemical reactions and waste acceptance procedures ensure no non-permitted/incompatible material is accepted at the site
Neighbouring sites activities	Agricultural operations on surrounding land poses no fire risk
Sparks from Buckets	Site operatives to watch for sparks and initiate procedures if spark starts a fire
Incompatible wastes	Waste acceptance procedures.
Hot loads	Monitoring for hot loads takes place as loads arrive at site with protocol to manage material.

2.43 No naked flames or heating sources are involved in the normal site operations. No heating pipes, electrical fixtures or heaters are located within 10m of any storage areas. No burning is permitted on site.

#### Hot Working

2.44 Hot working takes place on site under a permit system which restricts works to a minimum distance of 10m from any stockpiles and is followed by subsequent fire checks post the hot works.

#### Smoking

2.45 Smoking on site is only permitted in the designated area which is separate from the waste areas located on the western side of the site, see drawing no 2060/Site for location.

### Heat and Spark Prevention/Detection

2.46 All plant exhaust systems have silencers (mufflers) fitted and these are blown out at the end of the working day.

2.47 The loading shovels do not have rubber strips fitted as the ground surface across the site is predominantly compacted mineral/hardcore. The surfacing is such that it does not give rise to the same potential for spark generation that would occur with a metal shovel against a concreted surface. Rubber stripping is not a robust material for the shovel edges on ground

surfaces such as the surface at Eclipse, as it damages easily and is so rendered ineffective in a very short period of time. However plant operatives are briefed to watch for any sparks and should a fire start as a result of a spark this would be instantly detected by the plant operator and, as this would be only a small surface fire, it would be readily extinguished by the hand fire extinguisher held in the plant cab.

### **Gas Bottles and other Flammable Substances**

- 2.48 All gas bottles and other substances such as oils and grease necessary for maintenance works are kept in a lockable container in the maintenance shed see plan 2060/Site away from the waste storage areas. The routine site inspection includes these storage areas.
- 2.49 Diesel for use on site is kept in bunded fuel tanks in the maintenance shed see plan 2060/Site for location, which is separate from the waste storage areas. Fuelling typically occurs at the end of the working day. Refuelling takes using a mobile diesel bowser with plant removed from the working area and away from any storage areas.

### **Fire Watch**

- 2.50 All site employees are briefed to remain vigilant across the site for signs of heating or fires throughout the working day and to specifically check for any signs at the start and end of any breaks or shifts or if moving to new working areas. All staff have hand held radios and can provide an immediate alert on discovering a fire.
- 2.51 The daily site inspection, as detailed previously includes surveillance for any signs of heating or fires. At the end of the working day, an hour after all machinery and plant has been turned off, a further site inspection will be undertaken by the responsible site operative to check for any signs of heating or fires.
- 2.52 As detailed previously the CCTV system provides for a continuous fire watch outside operating hours.

### **Dust Removal on Plant**

- 2.53 When plant is shut down a 'blow out' is undertaken on all operated plant an hour before the end of working to remove any dust or fluff that may have accumulated on the machinery during its operation. An hour after the blow out a further inspection is made of the plant to check the plant has cooled.



---

#### Parking of Plant

- 2.54 At the end of the working day all plant is parked away from operational areas, see plan 2060/Site shows the parking locations for the loading shovels and large Doppstadt. The other processing plant is parked up at night at a minimum distance of 20m from any storage piles and 20m from any other plant item.

#### **Automatic Fire Detection Systems**

- 2.55 Most of the site plant and equipment has automatic fire detection and extinguishing systems as previously detailed. These are subject to regular maintenance and testing in accordance with manufacturer's specification to ensure they are fully functional at all times. When an automatic system is activated the plant will cease operation immediately and if safe to do so will move from the operational area and away from the storage areas. The affected plant will only return to operational use when a complete inspection confirms it is in a suitable condition to do so which includes the full operation of the automatic fire detection system.
- 2.56 The CCTV Camera can provide automatic detection of fires outside working hours with automatic notification to site out of hours contacts for appropriate actions.

### **3 Reducing the Impact**

#### **Waste Acceptance**

- 3.1 All waste arriving at the site is subject to the following waste acceptance procedures operated by the site staff.
- 3.2 Documentation is checked on arrival to ensure an appropriate waste transfer note has been completed. The waste is also visually checked before it is permitted to be unloaded. If the initial check and documentation indicate that the material is allowed under the Permit it is directed to unload. If the material is not permitted or the inspection shows that it contains unpermitted materials for example material not included in the permit, the load is refused and not accepted at the site. A record of any load refused is made in the Site Diary.
- 3.3 The visual inspection is also to assess if there are any signs of the waste 'heating' with steam or smoke. Where the load appears to be heated, before it is accepted to be unloaded it is checked by either a temperature probe to establish if the temperature of the load is elevated. Where there are elevated temperatures the material is directed to the quarantine area for unloading and will be subject to the cooling procedures at the quarantine area. Full details of loads directed to the quarantine area for cooling will be recorded.
- 3.4 Following the initial acceptance, the material is either directed to storage areas either zone 1 or 4 dependant on its grade. The load will be deposited on the ground and a secondary visual inspection will occur. The secondary inspection includes taking a photographic record of the load. The record is also used to grade the load. If the load is found to contain non permitted material the whole load will be rejected and reloaded back onto the vehicle it arrived in to be transported off site. Details of the rejected load will be kept in the Site Diary and management will be informed at the end of each working day.
- 3.5 The following is recorded for each load of waste:
- The vehicle registration number;
  - The haulier's Registration of Carriers registration number; and
  - A Transfer Note showing the waste producer, a description and amount of the waste, the haulier of the waste and the waste's collection point.

3.6 The site records are forwarded each week to the Operator's head offices at Cardiff and are available for inspection by the Environment Agency with reasonable notice. Alternatively information can be supplied on request. Commercial information will be regarded as confidential. Within one month of the end of each quarter details of the waste movements are forwarded to the Environment Agency on the appropriate Environment Agency form.

No acceptance of waste

3.7 In addition to the general waste acceptance procedures outlined above, if at any point during the working day, material will not be accepted onto site in the following conditions:

- Insufficient storage capacity,
- Extreme weather conditions,
- Abnormal site conditions preventing normal working e.g. extreme weather event or fire incident.

3.8 Details of such events will be recorded in the Site Diary.

3.9 The amount of wood accepted onto the site can be up to 2000 tonnes a day. The waste accepted onto site is sourced primarily from waste transfer stations or construction operations or waste from wood operations such as furniture manufacture and has not been subject to extensive periods of storage prior to arrival at site. The typically wood waste accepted at the site has been subject to minimal treatment, no more than initial pre-sorting and pre crushing of the grade of wood, but no treatment such as size reduction by chipping or shredding of the waste has taken place.

### **Stock Rotation**

3.10 Full records are kept of all waste accepted at Eclipse and its storage destination location at the site. The processing operations are programmed to process the oldest waste wood first and accordingly remove the oldest processed stock from site first. The typical layout of storage piles is shown on plan 2060/Site.

3.11 As waste is accepted at the site it is directed to an appropriate area (zone 1 or 4) for unloading based on a chronological system of storage piles.

3.12 Storage in zones 1 and 4, where the longest storage is anticipated as this is unprocessed wood, takes place on the basis of a series windrow with a windrow plan maintained in the site office

which records the windrow locations with an alphabetical numbering of the different locations. For each windrow the date of its creation is recorded. These dates are reviewed at the end of each working week to ensure material complies with storage limits. The material is removed for processing in accordance with the chronological sequence of windrow construction to ensure the oldest material is used first.

- 3.13 The typical storage duration for Zone 2 less than 1 week. The storage time for zones 5 and 6 during normal operating conditions is two weeks and one month respectively.
- 3.14 Records are kept as to when each storage pile of processed material is created and its subsequent removal is based on the oldest pile being removed first. Storage pile details are recorded on an excel sheet covering the location, type of material, date of acceptance or processing, temperature and moisture monitoring and any associated hot spot remediation works. These records are kept at the weighbridge office, up dated and reviewed by the site manager on a daily basis.

#### **Waste Acceptance: Incompatible/hot loads**

- 3.15 The visual inspection is also to assess if there are any signs of the waste 'heating' with steam or smoke. Where the load appears to be heated, before it is accepted to be unloaded it is checked by a temperature probe to establish if the temperature of the load is elevated. Where there are elevated temperatures the material is directed to the quarantine area for unloading and will be subject to the cooling procedures at the quarantine area. Full details of loads directed to the quarantine area for cooling will be recorded.

#### **Waste Acceptance: Permitted Waste**

##### **Waste Treatment**

- 3.16 The processing operations involve the sizing of the waste wood to meet set specifications dependant on the product being made. The extent of the processing depends on the product specification.
- 3.17 The processing in zone 1 is to shred and screen the unprocessed C grade wood. The main processing machinery involved includes loading shovel, shredder, Doppstadt, screener and eddy current. The processed waste is moved directly into the storage areas in zone 2.
- 3.18 No processing takes place in either zone 2 or 3.

3.19 The processing in zone 4 is to shredding the unprocessed A and B grade wood. The main processing machinery involved includes loading shovel, shredder, Doppstadt and eddy current. The processed waste is moved directly into the storage areas in zone 5.

3.20 The semi processed material brought to zone 5 is further processed by screening. The main processing machinery involved includes loading shovel, screener and eddy current. The wood processed to specification is placed into a storage pile in accordance with the storage pile limits. The fines produced in the course of processing are directly moved to Zone 6.

3.21 The process in zone 6 involves a loading shovel, screener and eddy current. The wood processed to specification is placed into a storage pile in accordance with the storage pile limits.

### **Fire Walls**

3.22 Concrete fire walls are to be provided in zone 2 to divide the processed piles. The concrete walls will be >1m higher than the adjacent piles and will be constructed to relevant fire standards.

### **Quarantine Area**

3.23 The quarantine area for the site is located in the north eastern corner of the site, identified as zone 3. The quarantine area is a bare area of ground separate from the operational site areas which is kept clear. The quarantine area is approximately 300m<sup>2</sup>. There is further 10m between the quarantine area and the adjacent storage areas.

3.24 The area is to be used to hold materials including cool heated materials from hot loads directed to the quarantine area or to hold burnt material after a fire. Burning material will not be moved into the quarantine area because of the unacceptable risk to staff and of ignition to other storage areas.

3.25 When the area is used to cool heated material, initially material will be tipped onto the ground and spread over the ground. An assessment will be made of how to cool the material. Options to cool the material include simply spreading out the material, the application of water via a mister or hose/bowser.

3.26 If heated material has been deposited in the quarantine area there will be on going monitoring throughout the working day of the cooling operations and material temperature. At the end of the working day a final assessment will be made and appropriate actions undertaken to

ensure that no material is left outside working hours in a condition that might lead to self-combustion.

- 3.27 Once the material has been cooled sufficiently a further assessment will be made as to the suitability of the cooled material for processing. If it is no longer fit for purpose it will be disposed of at an appropriately permitted site, currently the nearest disposal facility is Viridor at Dimmer, Dimmer Lane, Dimmer, Castle Cary, Somerset, BA7 7NR. If the material is suitable for use it will be returned to an appropriate storage area.
- 3.28 Full records will be maintained of materials brought to the quarantine area including the cooling treatment, monitoring and final removal either as product or for off-site disposal.

### **Suppression Systems inside Buildings**

- 3.29 No waste either processed or unprocessed is stored in buildings at the site.

### **Firefighting**

#### Firefighting – General

- 3.30 Firefighting will be undertaken by site staff when safe to do. On discovering a fire during the working day, the site manager will be directly informed and fire-fighting actions will immediately be brought into action on the affected area. When attending the site out of hours, following an automatic notification from the CCTV system, the attending site representative will assess the situation and appropriate fire-fighting actions with provision to call on additional site staff to attend the site.
- 3.31 In the event of a fire during the working day all site processing operations will cease, no waste will be accepted to the site and all machines must be switched off and moved to a safe location. In the event of a fire outside normal operating times the site will not reopen until it is safe to do so without risk to the environment. Contingency arrangements for the diversion of waste will be activated to redirect any incoming wastes to the other the sites as discussed previously.
- 3.32 Should the emergency services be called out the Site Manager will be responsible for liaising with them on their arrival.

#### Fire Fighting – Zone Strategies

- 3.33 Part of the strategy for fire fighting is to separate non unburned material from a pile should fire break out in that pile to reduce the burn time of a pile so that any fire will not burn longer

than 3-4 hours as per the EAFPP. A fire is likely to start in one part of a pile and with early detection, as provided for, using equipment on site (loading shovels) material can be readily moved from the affected pile to reduce the potential combustible material in the pile and reduce the duration of a combustion event.

3.34 The two largest shovels are to be adapted to be able to operate in heated conditions. All the storage zones have separation distances between the piles in each individual zone and also between different zones, distances in excess of 20m between which will prevent a fire outbreak spreading across the site. In the event a fire started in a pile the loading shovels would push away the unaffected parts of the pile, using separation distances as temporary quarantine areas.

3.35 Where feasible the cleared ground would be used to spread burning/heated material to allow more rapid cooling and reduce the duration of the fire incident. Appendix I has a schematic representation of each zone showing possible material movement in response to a fire in one of the storage piles. Once the material was cooled it would be removed, temporarily to the quarantine area if it is not possible to move directly off site. Any 'moved' material would be returned to a normal pile formation as soon as possible.

#### Fire Fighting – Water

3.36 There are three elements to the site's fire-fighting response using water for suppression.

#### *Initial Response*

3.37 The initial response will be to deploy a tractor and vacuum tanker, with a rain gun attachment. The tank will be continually ready with a full tank of water and also a puncture proof solution in the tyres to ensure no flat tyres. The tractor and tanker is able to access all parts of the site and can be instantly mobilised to the location of a fire incident. The tanker capacity is 2,500 gallons capacity. The pressurised system allows a high volume of water to be discharged in a short period of time over greater distances, both horizontally and vertically, ensuring it can target water to any location. The rain gun mounted attachment is able to rotate over 360°, again highly accessible in allowing delivery of water to all areas of the site. A side valve allows a hose attachment with further flexibility as to fighting a fire with a variable spray ability.

3.38 To fully discharge of the tank of all 2,500 gallons takes 6 minutes, delivering water at a rate of approximately 2,000 litres per minute. The discharge of the hose can be controlled with the nozzle which has a variable flow control allowing water to be applied at a range of rates from a

light spray to drenching. The rate of application of water will be assessed at the point of use to ensure the most effective use of water<sup>2</sup>: spray as opposed to drenching a fire can be a more effective way to quickly extinguish a fire removing the energy from the fires and absorbing heat quicker with the water turning to steam not only putting out a fire quicker but with minimal fire water run off.

- 3.39 The refilling operations are swift, a similar 6 minutes timescale. Therefore once the tanker has discharged its load it will run on a cycle of refilling and discharging as needed for the fire incident in tandem with the other actions outlined below. The diesel pump is a heavy duty centrifugal dewatering pump which can cope with dirty water, allowing recirculation of fire waters.

#### *Secondary Actions*

- 3.40 Whilst the initial tractor and tanker is being deployed the gannet pumps will be set up, see specification details in Appendix J. The location of the fire the pumps will depend on the location of the fire, waters taken from the drainage system or either the north or western lagoon. The pumps are heavy duty, diesel, dewatering pumps able to cope with dirty water. Individually the pumps can deliver 700litres per minute. Variable rate nozzles are available for use with the pumps and approximately 200m of hose, enabling full coverage of the site.

#### *Tertiary Actions*

- 3.41 An umbilical pump system with rain gun using a Wright Rain Mark 2 pump. The pump is mounted and readily moved to the source of water. The pump unit has a hydraulic centrifugal vacuum pump and the pressurised system is capable of delivering a continual supply of high volumes of water (>3000ltr/min) over large distances, up to 90m. The pump is a heavy duty pump which is capable of dealing with dirty water (fire water). A variable rate nozzle and lay flat hose are available for use with the umbilical system.
- 3.42 The staff will continue to apply water to the fire using the above equipment until it is fully extinguished or when, in an emergency situation, the fire service attend site and take over firefighting.

---

<sup>2</sup> Fire Service training will include assessment of the most effective rate of water application.



#### Fire Fighting - Inert Soils

- 3.43 Where there is a small fire which is self-contained with no danger of spreading the preferred means of suppression will be by tipping damp, inert soils to extinguish the fire by means of starving it of oxygen. This method is preferred as it will not create any fire water run-off. Residues will be dealt with appropriately, commentary on the disposal of fire residues is provided below. A stockpile of inert soils for this purpose.

#### Firefighting – Movement of Material

- 3.44 As mentioned in paragraphs 3.33 to 3.35, material will be moved ('pushed' as this is the quickest means) to a safe distance from the fire, >20m to a location where its temporary storage does not compromise access for firefighting purposes or give risk to potential pollution risk. The existing plant on site can move material rapidly with five loading shovels and a telehandler with two 9.5m<sup>3</sup> buckets, one 7.5m<sup>3</sup> buckets, two 5m<sup>3</sup> buckets and one 2m<sup>3</sup> bucket (telehandler attachment). For safety reasons, no burning material will be moved across the site. After a fire burnt material may be removed to the quarantine area if appropriate.

#### Firefighting Equipment

- 3.45 Fire extinguishers and/or automatic fire suppression systems are provided on each item of mobile plant as detailed previously. The location of the firefighting equipment is shown on the accompanying site layout plan, 2060/Site, with the majority of the fire stores kept in the building adjacent to the site access and readily accessible at all times.

- 3.46 The on-site firefighting equipment includes:

- Pump (2 mobile gannet pumps and slurry pump, connects to hose)
- Vacuum Tanker (capacity 2,500gallons)
- Fire hose (75mm) >200m
- Lay flat hose (45mm) >100m
- 4 variable spray hose nozzles
- Loading shovels<sup>3</sup> (x5)
- Telehandler
- Wright Rain pump and umbilical system
- Fire Extinguishers:
  - Weighbridge Office – Water & CO2
  - Welfare building – Powder
  - Maintenance shed – Powder and Foam

---

<sup>3</sup> The two larger shovels have a fire retardant hydraulics as opposed to convention rubber hydraulics to allow the plant to operate in a heated environment, with breathing apparatus for the drivers.

- PPE  
Water – provided in adjacent lagoons
- Inert soils

3.47 All firefighting equipment is subject to a regular inspection and maintenance regime to ensure it is fully operational and ready for use at any time. Should an inspection identify any repair or maintenance work this will be undertaken as a matter of priority. All firefighting equipment shall be inspected following its use to ensure it is fully operational and effective. Records are kept of all inspections and maintenance works.

#### Water Supply – Overall Volumes Available

3.48 The lagoon immediately to the north of the site has a supply of 32,590,000 litres of water available for use in firefighting. A further lagoon to the west holds approximately 12,662,000 litres of water available for use in firefighting. The total volume of water, in excess of 45million litres, is considered a sufficient supply for a worst case scenario on site i.e. to provide for the maximum storage volumes<sup>4</sup>. Neither lagoon is connected to any external surface water courses.

#### Anticipated Water Usage

3.49 Whilst the supply of water can match the calculation is based on EA figures, it is not considered that such a water supply would be necessary for several reasons. In the first instance it is wholly unrealistic to anticipate a scenario on the site with every pile on fire given the separation distances, in full accordance with EAFPP, with individual piles and zones all isolated. The separation distances will prevent the spread of fire notwithstanding the fire detection and fighting provisions designed to quickly extinguish any fire event. Additionally the site drainage system has been designed to contain fire waters and fire water will be recirculated to reduce the volume of water. Additionally the fire equipment allows the 'spraying' of water which using lower volumes of water can be more effective in extinguishing a fire.

#### Fire Water Supply and Containment

3.50 Whilst substantial volumes of water for firefighting are available in the adjacent lagoons the drainage provision for the site has been designed to retain and allow the recirculation of fire waters the site with a clay lined cut-off ditch on three sides of the site, north, east and south. As the ground falls across the site towards the ditches all fire waters will run and be contained in the cut-off ditch which has a storage capacity of approximately 1,000,000litres. As the ditch

---

<sup>4</sup> Based on the EA figures for 300m<sup>3</sup> pile burning for 3 hours using 2,000ltrs per minute

will be lined there will be no connection, and therefore there will be no external pollution risk, to ground or surface waters. An additional lagoon is linked to the ditch providing further storage capacity, up to 1,000,000litres. In the unlikely event that fire waters escape this drainage system site is surrounded by further lagoons which would capture this fire waters. These lagoons are not connected to surface watercourses and are clay lined so are not connected to ground water and so provide a further barrier to water pollution from fire waters.

- 3.51 The ditch and associated lagoon is anticipated to hold an amount of water during normal conditions. On initiation of firefighting procedures requiring a water supply the first action will be to close the overspill/sluice to ensure the ditch system is totally contained. Waters for firefighting will initially be taken from the ditch and associated lagoon. With an ongoing fire incident any surplus fire water will run back into the ditch and be recirculated/recycled with the pumps able to cope with dirty water. Should additional water be required, as there will be a 'loss' of water in fighting a fire through evaporation of water and also absorption of water into the wood, the adjacent northern and western lagoons can be used to supplement supply. When sufficient waters build up in the drainage system again, pumping will revert to the drainage system.
- 3.52 Disposal arrangements for fire waters are detailed at the end of this section.
- 3.53 Across the majority of the site surfacing is impermeable with either tarmac or concrete, with the remaining areas being hardstanding. Some areas of the concreting is cracked but it is not appropriate/practical to undertake percolation tests on the site surfacing. However it is not considered fire waters will present an unacceptable risk to ground waters from percolation as during firefighting fire waters will be applied in large volumes similar in nature to an extreme precipitation event when water typically rapidly sheds off the ground surface rather than percolates into the ground.

#### Fire Service

- 3.54 Fighting a major fire would be undertaken by the fire service because of the safety risks to the staff. The Devon & Somerset Fire Service regularly use the site for practise purposes and are familiar with the site layout. The fire service will use their own high volume pumps and hose equipment for firefighting but they have liaised with SWWP and will be able to use SWWP personnel and equipment to help in the movement of material to assist firefighting.

---

### Controlled Burn

- 3.55 South West Wood Products do not proposed to use 'controlled burn' as a firefighting technique at Eclipse as the FPP provides extensive measures in its firefighting strategy to swiftly extinguish any fire. A controlled burn would only take place with prior agreement with the Environment Agency, Fire Service and Public Health England.

### Reporting

- 3.56 All Fire incidents will be fully recorded, including investigation of the cause of the incident and any actions implemented. Full details will be provided to the Environment Agency.

### Training

- 3.57 All staff are fully trained in fire procedures which includes up-date training and routine fire drills. Fire training forms part of the site induction training before staff can commence working on site. All nominated 'firefighting' operatives will have specific training provided by the Fire Service, provided at the site using the firefighting equipment and procedures of the FPP. As per the management system, full records are kept of all training events.
- 3.58 Visitors to the site are made aware of the fire prevention and fighting procedures to ensure they understand their responsibilities.

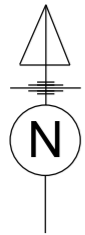
### Disposal of Fire Residues

- 3.59 The burnt material will not be suitable for use as a wood product and will be removed from site to an appropriately permitted disposal site. The used fire waters will be contained in the perimeter ditch and associated lagoon. After a fire incident the quality of the used fire waters will be assessed to its treatment or disposal such that it does not pose any environmental risk, where necessary being removed from site to an appropriately permitted disposal site. Currently the nearest disposal facility able to accept the burnt material and used fire waters is the Viridor site at Dimmer, Dimmer Lane, Dimmer, Castle Cary, Somerset, BA7 7NR.

## Drawings

**Drawing – Site Layout reference 2060/Site**





Grid and Levels to National Grid  
Projection OSTN02 and OSGM02  
Scale Factor = 1



**SURVEY STATIONS**

Name	Easting	Northing	Height
STN1	345279.427	140496.615	3.183
STN2	345247.694	140403.173	2.472
STN3	345167.419	140459.043	2.640

AV	Air Valve	MK-GV	Marker Post (Gas Valve)
BB	Bellisha Beacon	MK-SV	Marker Post (Stop Valve)
BH	Bore Hole	MK-WM	Marker Post (Water Meter)
BL	Litter Bin	MS	Mile Stone
BL	Bollard	MK	Marker Post
BS	Bus Stop	MW	Monitoring Well
BT	Telecom Cover	MYIC	Mercury Telecoms IC
BT CAB	Telecom Cabinet	NPV	No Pipe Visible
CATV	Cable TV Cover	OHC	Overhead Cable
CL	Cover Level	PB	Post Box
CP	Catch Pit	PO	Post
CR	Cable Riser	RE	Rodding Eye
D	Depth in Meters	RNP	Road Name Plate
DR	Down Pipe	RP	Reflector Post
EB	Electricity Box	RS	Road Sign
ECAB	Electrical Cabinet	SA	Soak Away
EIC	Electrical Inspection Cover	SC	Stop Cock (Water)
EOT	End of Trace	SD	Sump Depth
EP	Electricity Pole	SIL	Sill Level
ER	Earth Rod	SL	Soffitt Level
EY	Electricity Cover	SP	Sign Post
FFL	Finished Floor Level	SV	Stop Valve (Water)
FH	Fire Hydrant	THL	Threshold Level
FP	Fence Post	TL	Traffic Light
GP	Gate Post	TL CAB	Traffic Light Cabinet
GPR	Ground Penetrating Radar	TP	Telegraph Pole
GV	Gas Valve	TS	Traffic Sign
GY	Gully	TVIC	Cable TV Inspection Cover
HT	Height	UTL	Unable to Lift
IL	Invert Level	UTS	Unable to Survey
KI	Kerb Inlet	UTT	Unable to Trace
LC	Lamp Column	VP	Vent Pipe
MH	Manhole	WL	Water Level
MK	Marker Post	WM	Water Meter
MK-BT	Marker Post (Telecoms)	WO	Wash Out
MK-FH	Marker Post (Fire Hydrant)		

— 50m — Major Contour  
— 0.25m — Minor Contour (0.25m interval)

**Brunel Surveys Ltd**

UNIT 59, SHRIVENHAM HUNDRED BUSINESS PARK  
WATCHFIELD, SWINDON, WILTSHIRE, SN6 8TZ  
TEL : (01793) 784700 FAX : (01793)784664  
WEB : www.brunelsurveys.com  
Email:admin@brunelsurveys.com



Land and Measured Building Surveyors  
Photomontage, 3D Visualisations and  
Underground Utility Surveyors

**CLIENT**

**Land & Mineral Management**  
Suite 1, Security House  
82c Chesterton Lane  
Cirencester.  
GL1 1YD

**JOB TITLE**

**Proposed Site Layout**  
**Eclipse Works**  
Ashcott Road  
Meare  
Glastonbury  
Somerset  
BA6 9SU

**REVISIONS**

SCALE **A2 Sheet @ 1 to 1250**

DATE **Feb 2016** SURVEYED BY **DS**

DRAWN BY **DS** CHECKED BY **PAH**

DRAWING No.  
**2060/Site**





Eclipse Works, Meare, Glastonbury

---

# Fire Prevention Plan for Waste Wood Operation

## Appendices

Document Reference: 2060A/FPP/APP

April 2016



**Appendix A – Waste Codes**

## Waste Codes Accepted at Eclipse

Waste Code	Description
<b>02</b>	<b>WASTES FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING AND FISHING, FOOD PREPARATION AND PROCESSING</b>
02 01	wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing.
02 01 03	wood and bark only
02 01 07	wood and bark
<b>03</b>	<b>WASTES FROM WOOD PROCESSING AND THE PRODUCTION OF PANELS AND FURNITURE, PULP, PAPER AND PRODUCTION</b>
03 01	wastes from wood processing and the production of panels and furniture
03 01 01	waste bark and cork
03 01 05	sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04
03 03	wastes from pulp, paper and cardboard production and processing
03 03 01	waste bark and wood
<b>15</b>	<b>WASTE PACKAGING</b>
15 01	packaging
15 01 03	wooden packaging
<b>17</b>	<b>CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)</b>
17 02	wood, glass and plastic
17 02 01	wood
17 09	Other construction and demolition waste
17 09 04	mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03 (wood only)
<b>19</b>	<b>WASTES FROM WASTE MANAGEMENT FACILITIES, OFF SITE WASTE WATER TREATMENT PLANTS AND PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION/INDUSTRIAL WASTE</b>
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 07	wood other than that mentioned in 19 12 06
<b>20</b>	<b>MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS</b>
20 01	separately collected fractions
20 01 38	wood other than that mentioned in 20 01 37
20 02	garden and park waste
20 02 01	Biodegradable waste (wood and bark only)

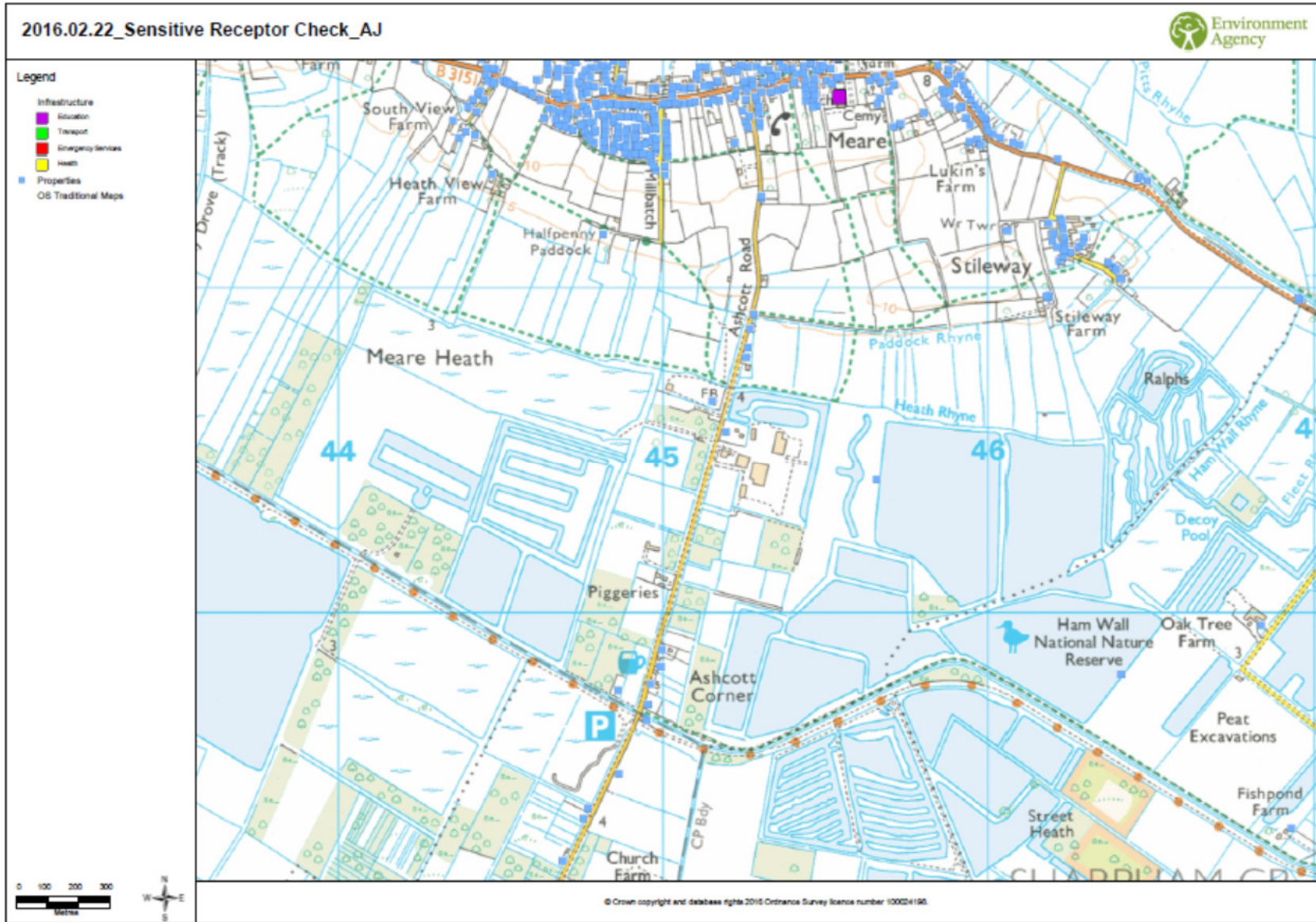
## Appendix B – Environment Agency Sensitive Receptors Report

Organisation	Building Number	Building Name	Thoroughfare	PostTown	Postcode	OS Class	Accuracy	Floor Area (m2)	House Type	Easting	Northing
	85		ASHCOTT ROAD	GLASTONBURY	BA6 9SX	DWELLING	Surveyed	177.133	Det	344992.6	139833.8
	93		ASHCOTT ROAD	GLASTONBURY	BA6 9SX	DWELLING	Surveyed	51.807	Det	344954.8	139715.6
RAILWAY INN	89		ASHCOTT ROAD	GLASTONBURY	BA6 9SX	INN	Surveyed	349.337		344962.2	139780.6
		THE OLD STATION	ASHCOTT ROAD	GLASTONBURY	BA6 9SX	DWELLING	Surveyed	90.27	Det	344951.8	139667.2
		HALFPENNY Paddock	MILLBATCH LANE	GLASTONBURY	BA6 9TD	DWELLING	Surveyed	67.39	Det	344815.7	141164.4
	94		ASHCOTT ROAD	GLASTONBURY	BA6 9ST	DWELLING	Surveyed	94.307	Det	344861.7	139759.9
	79		ASHCOTT ROAD	GLASTONBURY	BA6 9SX	DWELLING	Surveyed	72.368	Det	344997	139884.8
		LOUAN	MILLBATCH LANE	GLASTONBURY	BA6 9TD	DWELLING	Surveyed	145.42	Det	345008.2	141373.7
		SMITHFIELD	MILLBATCH LANE	GLASTONBURY	BA6 9TD	DWELLING	Surveyed	58.396	Det	345006.7	141347.2
		APRIL COTTAGE	MILLBATCH LANE	GLASTONBURY	BA6 9TD	DWELLING	Surveyed	92.701	Det	344976.9	141358.9
		SPRING MEADOW	MILLBATCH LANE	GLASTONBURY	BA6 9TD	DWELLING	Surveyed	113.685	Det	344972.5	141373.3
TOR VIEW KENNELS	41		ASHCOTT ROAD	GLASTONBURY	BA6 9SU	KENNELS	Surveyed	108.574		345254.9	140785.5
				GLASTONBURY	BA6 9SU	PUMPING	Surveyed			345657.8	140407.7
	51		ASHCOTT ROAD	GLASTONBURY	BA6 9SU	DWELLING	Surveyed	97.908	Det	345193.9	140554.2
	37		ASHCOTT ROAD	GLASTONBURY	BA6 9SU	DWELLING	Surveyed	91.62	Det	345267.6	140872.7
	35		ASHCOTT ROAD	GLASTONBURY	BA6 9SU	DWELLING	Surveyed	125.509	Det	345278.6	140917.5
				GLASTONBURY	BA6 9TT	WORKS	Surveyed	356.891		345151.6	140649.8
	39		ASHCOTT ROAD	GLASTONBURY	BA6 9SU	DWELLING	Surveyed	65.16	Det	345261.2	140814
	21		ASHCOTT ROAD	GLASTONBURY	BA6 9SU	DWELLING	Surveyed	74.255	SDet	345302.3	141273.8
	19		ASHCOTT ROAD	GLASTONBURY	BA6 9SU	DWELLING	Surveyed	65.327	SDet	345303.2	141280

OS Class	PostTown	Postcode	Accuracy	Floor Area (m2)	Easting	Northing
	GLASTONBURY	BA6 9SX	Label	42.14	344995.6	139854.3
	GLASTONBURY	BA6 9TT	Label	163.43	344982.2	140117.3
	GLASTONBURY	BA6 9TT	Label	59.907	345002.9	140111
	GLASTONBURY	BA6 9TT	Label	116.729	344994.3	140089.3
	GLASTONBURY	BA6 9TT	Label	28.028	344926	140197
	GLASTONBURY	BA6 9TD	Label	31.476	344841.7	141171.1
	GLASTONBURY	BA6 9TD	Label	51.76	344904.4	141157.8
	GLASTONBURY	BA6 9TD	Label	114.483	344855.7	141209.9
	GLASTONBURY	BA6 9TD	Label	68.375	344850.4	141183.8
	GLASTONBURY	BA6 9TJ	Label	34.141	344751	141205.7
	GLASTONBURY	BA6 9TT	Label	109.213	345006.3	140696.5
PUBLIC CAR PARKING	GLASTONBURY	BA6 9SX	Surveyed		344887.4	139681.7
POND	GLASTONBURY	BA6 9TT	Surveyed		345039.8	140649.7
POND	GLASTONBURY	BA6 9ST	Surveyed		344451.7	140114.5
POND	GLASTONBURY	BA6 9ST	Surveyed		344627.3	140013.4
POND	GLASTONBURY	BA6 9TD	Surveyed		345034.7	141230.9
POND	GLASTONBURY	BA6 9TD	Surveyed		344924.9	141166.5
POST BOX	GLASTONBURY	BA6 9SX	Surveyed		344955.3	139780.9
	GLASTONBURY	BA6 9TT	Label	390.44	345021	140693.5
	GLASTONBURY	BA6 9SX	Label	61.594	344975.4	139753.4
	GLASTONBURY	BA6 9SX	Label	272.508	345015.9	139857
	GLASTONBURY	BA6 9SY	Label	29.97	345008.4	141384.4
	GLASTONBURY	BA6 9TD	Label	25.61	345014.5	141333.6
POND	GLASTONBURY	BA6 9SX	Surveyed		345316.3	140084.1
POND	GLASTONBURY	BA6 9SU	Surveyed		345863.3	140329
POND	GLASTONBURY	BA6 9SX	Surveyed		345902.9	139676.4
POND	GLASTONBURY	BA6 9SX	Surveyed		345622.9	139945.4
POND	STREET	BA16 9SQ	Surveyed		346199.1	140289.3
POND	GLASTONBURY	BA6 9SX	Approximate		345698.4	139699
POND	GLASTONBURY	BA6 9SU	Approximate		345365.9	140572.4
POND	GLASTONBURY	BA6 9SU	Surveyed		345362.9	140600.3

POND	GLASTONBURY	BA6 9SU	Approximate		345581.8	140427
POND	GLASTONBURY	BA6 9SX	Surveyed		345427.2	139771.2
POND	GLASTONBURY	BA6 9SX	Surveyed		345249.6	139828.3
	GLASTONBURY	BA6 9SU	Label	195.512	345258	140757.8
	GLASTONBURY	BA6 9SU	Label	72.079	345227.1	140559.9
	GLASTONBURY	BA6 9TT	Label	204.404	345128.7	140634.7
	GLASTONBURY	BA6 9TT	Label	37.025	345151.8	140637.5
	GLASTONBURY	BA6 9SU	Label	86.77	345272.1	140889.7
	GLASTONBURY	BA6 9SU	Label	44.19	345261.9	140802.7
	GLASTONBURY	BA6 9SU	Label	40.54	345242.2	140547.7
	GLASTONBURY	BA6 9SU	Label	41.665	345241.9	140542.2
	GLASTONBURY	BA6 9SU	Label	51.72	345274.4	140510.5
	GLASTONBURY	BA6 9SU	Label	62.647	345264.4	140517.1
	GLASTONBURY	BA6 9SU	Label	61.296	345265.1	140533.7
	GLASTONBURY	BA6 9SU	Label	145.407	345267	140555.6
	GLASTONBURY	BA6 9SU	Label	344.613	345201.1	140496.2
	GLASTONBURY	BA6 9SU	Label	89.82	345229.4	140466.9
	GLASTONBURY	BA6 9SU	Label	151.885	345232.9	140485.9
	GLASTONBURY	BA6 9SU	Label	576.796	345249.6	140466.1
	GLASTONBURY	BA6 9SU	Label	3130.741	345296.9	140432.8
	GLASTONBURY	BA6 9SU	Label	581.54	345247.8	140378.8
	GLASTONBURY	BA6 9SU	Label	159.196	345302.9	141032.5
	GLASTONBURY	BA6 9SU	Label	171.483	345309.3	141009.9
	GLASTONBURY	BA6 9SU	Label	102.674	345321.8	141012.5
	GLASTONBURY	BA6 9SH	Label	68.305	346161.7	140929.3
	GLASTONBURY	BA6 9SU	Label	329.677	345236.1	141318
	GLASTONBURY	BA6 9SU	Label	69.156	345280.5	141322.8
PLAYING FIELD	GLASTONBURY	BA6 9SU	Surveyed		345467.1	141340.4
POND	GLASTONBURY	BA6 9SL	Surveyed		345895.2	141198.3
	GLASTONBURY	BA6 9SU	Label	45.545	345228.8	141415.9
	GLASTONBURY	BA6 9SU	Label	25.724	345416.2	141384.2
	GLASTONBURY	BA6 9SU	Label	43.992	345415	141391.6

	GLASTONBURY	BA6 9SU	Label	1483.843	345231.9	141344.6
	GLASTONBURY	BA6 9ST	Label	245.68	345324.7	141430.2
	GLASTONBURY	BA6 9SU	Label	37.239	345345.7	141301.5





## Appendix C – Assessment of Movement of Wastes

---

## Eclipse: Assessment of Movements of Waste

### Background

1. The Environment Agency's Fire Prevention Plans (EAFPP) version 2, March 2015, looks to Fire Prevention Plans (FPPs) to provide details that their pile management is viable with an assessment of supply and demand. The assessment should include commentary on foreseeable market conditions and where applicable address issues regarding seasonal variation.

### Seasonality

2. The Eclipse operation as a wood recycling operation is influenced to a degree by seasonal factors. Greater levels of waste wood are generated during the spring and summer months when construction levels are highest. This has a mismatch with the period of highest demand for the processed wood product, such as demand from energy plants, in autumn and winter. As a low value, high bulk commodity, to meet the supply/demand challenge a high level of storage is essential.
3. Details of 'in' and 'out' movements of material at Eclipse between January 2015 and February 2016, are provided in the table at the end of this document. This shows the influence of seasonality with the months of April to August (with the exception of July) as having more material accepted to site than leaving but the rest of the year material leaving the site exceeds that brought to site. The summer 'surplus' of unprocessed wood was 'wiped out' during the following 2 months so that by November more material was going out than coming in.
4. The total figure clearly detail that the output<sup>1</sup> of the site exceeded input<sup>2</sup> with no build-up of a surplus material.

### Management

5. A system of recording on the basis of first in and first out (FIFO) is operated for the management of storage piles and is fully detailed in the FPP. The rate of input to the site and storage pile size will typically see stockpiles created within a week. The management of the

---

<sup>1</sup> The table does not detail individual contracts due to issues of commercial confidentiality but can be provided to the EA for their internal scrutiny on request.

<sup>2</sup> The overall figures indicate a greater amount was removed from site than was brought to site. This discrepancy is due to the removal of 'existing' stock.

storage piles limits the date range of the wastes in a single pile i.e. the waste in a single stockpile will have arrived at site in the same one week period. Processing is in response to contract demands with minimal storage times to reduce potential product deterioration. Therefore processed storage stockpiles are stored only for a very short period of time.

### **Market Conditions**

6. South West Wood Limited have been successful in growing their business both in terms of sourcing waste wood and securing contracts for the processed wood having secured new contracts with Stobart Biomass Products Ltd – 150,000 tonnes per year, Norbord have increased SWWP's yearly contract to a minimum of 32,000 tonnes from 25,000 tonnes, Kronospan have increased from 10,000 tonnes to 20,000 tonnes per year, Chipmunk South West Ltd 10,000 tonnes per year.
7. South West Wood Limited current supply contracts require a minimum of 700t/day of processed waste wood during periods of peak demand and shortly this volume will increase to 988 tonnes per day. Notwithstanding storage requirements to address the surplus of supply during the summer months, to ensure continuity of supply operationally (e.g to cover plant breakdown) requires a week's processed storage on site 4940t. It is critical to maintain a constant supply of the processed wood product to power plants to ensure there are no energy security issues. The scale of the operations therefore has a fundamental impact on the storage arrangements which must be of a commensurable scale.
8. At the time of writing, March 2016, the strength of the market is demonstrated by the increasing volumes that the Eclipse Works is handling with January and February 2016 showing an increase in both the material accepted to site and processed material leaving the site. The high throughput means that with the operation of FIFO there is no long term storage of material at the site.

## Eclipse: Site Inputs and Output January 2015 to February 2016

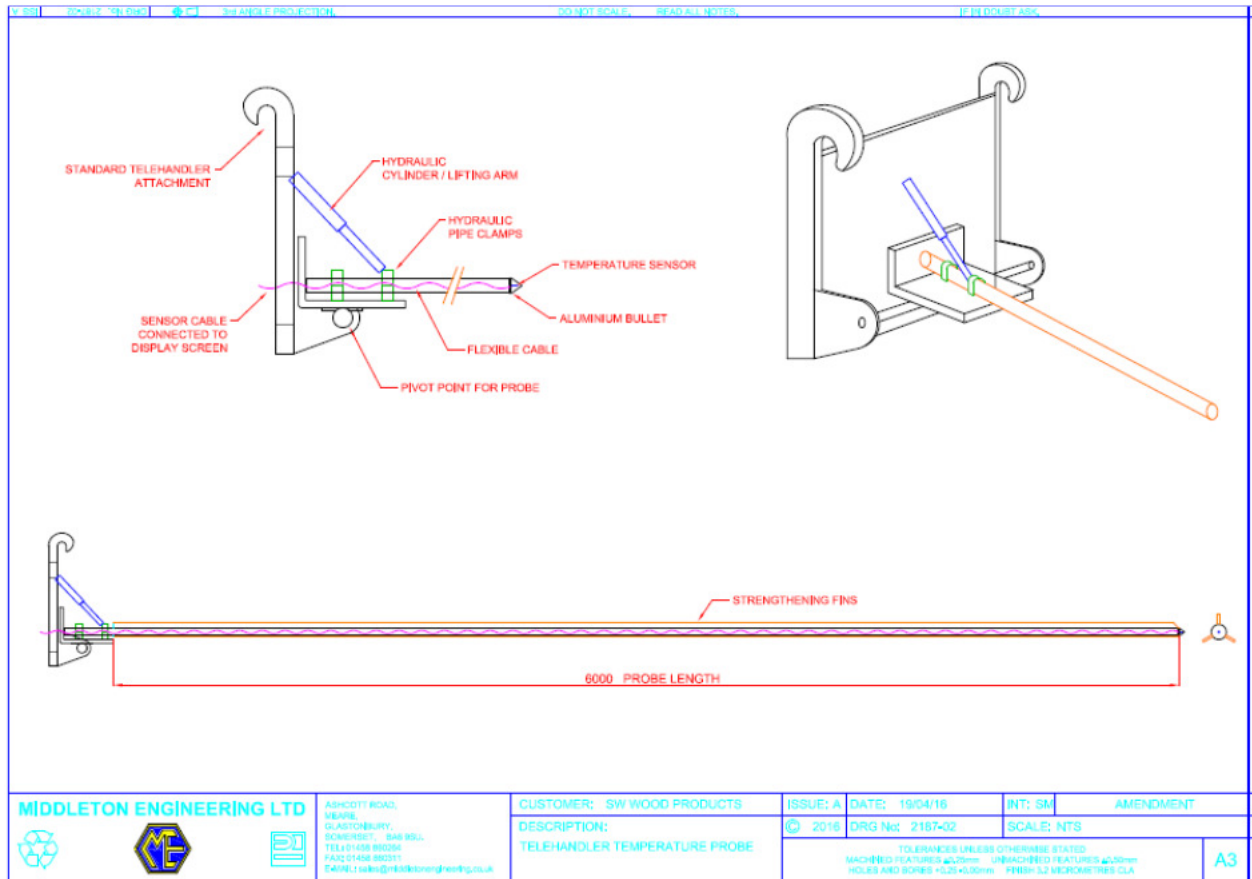
All figures in tonnes

	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16
In	7,846	5,630	5,282	5,369	4,886	5,748	10,542	8,565	10,463	9,515	8,974	7,048	11,676	9,207
Out	8,157	9,018	7,551	4,943	3,760	7,795	8,307	7,701	11,660	10,374	10,653	9,406	12,425	11,686
Net	-311	-3,388	-2,269	425	1,126	-2,047	2,236	864	-1,198	-860	-1,679	-2,358	-749	-2,479

### Totals

In	=	110,751
Out	=	123,436
Net	=	-12,685

**Appendix D – Probe Details**



## Appendix E – Contingency Letter



15<sup>th</sup> February 2016

Tom Dunn,  
Regional Manager,  
South West Wood Products Limited,  
Unit A4,  
Compass Business Park,  
Pacific Way,  
Ocean Park,  
Cardiff,  
CF24 5HL

Dear Tom,

**RE: Fire Management Plan**

Due to South West Wood Products Limited (SWWP) association with A.W. Jenkinson Forest Products (AWJFP), we are in a position to offer potential alternative outlets for both incoming and outgoing waste wood.

AWJFP has a number of long term supply contracts within the UK for the supply of both unprocessed and processed waste wood, which should provide the opportunity to divert waste wood material from the SWWP waste wood processing facilities as part of the SWWP Fire Management Plan. The number and nature of the outlets should mean that they will be available at short notice, regardless of seasonality or market conditions.

Yours sincerely,



Allan Jenkinson

Clifton Moor Clifton Penrith Cumbria CA10 2EY Tel: 01931 712644 Fax: 01931 712641  
[www.awjenkinson.co.uk](http://www.awjenkinson.co.uk)



## Appendix F –Plant Fire Certificates



Amerex Fire International Ltd  
Unit 54 Springvale Industrial Estate  
Cwmbran, Torfaen, NP44 5BD, UK  
Tel : +44 (0) 1633 627000  
Fax : +44 (0) 1633 627005  
VAT Number: GB 790 4196 12

### VFSS Installation Handover Certificate

E-mail: sales@amerexfire.eu Website: www.amerexfire.eu

Order No..... HC 10007 Date: 17/6/15  
Customer..... MC CLOSKEY EQUIPMENT @ SOUTHWEST WOOD PRODUCTS  
Site Address..... MEARE BARASU  
Vehicle Make..... MC CLOSKEY K230  
Model..... K230 Serial No..... 82247 Amerex ID..... 1432

System Automatic  Manual

Agent Cylinder 1	Size 25LB	Serial Number A8845
Agent Cylinder 2	Size 1CE2	Serial Number A3614
Agent Cylinder 3	Size	Serial Number
Agent Cylinder 4	Size	Serial Number
Panel	Type 17308	Serial Number 14-11042

Detection Type Thermostat  Linear

Engine Shutdown Yes  No

Start time 8:00 Finish time 19:00 Total hours 11hrs x 2 men

- Fire System installation carried out as per agreed specification Yes  No
- Fire System familiarisation offer accepted Yes  No
- I accept the Amerex warranty is subject to 6 monthly servicing by an Amerex certified engineer Yes  No
- I have received a Fire System Owners Manual Yes  No
- Vehicle left in condition found - Amerex accept no liability for damage discovered after installation sign off Yes  No

Notes: .....

**Amerex Fire International Ltd:**

Sign..... Print PAUL WARE / GRAHAM KING

**Customer:**

Sign..... Print.....

**Emergency Callout Number +44 (0) 7702 811340**



Amerex Fire International Ltd  
Unit 54 Springvale Industrial Estate  
Cwmbran, Torfaen, NP44 5BD, UK  
Tel : +44 (0) 1633 627000  
Fax : +44 (0) 1633 627005  
VAT Number: GB 790 4196 12

### VFSS Installation Handover Certificate

E-mail: sales@amerexfire.eu Website: www.amerexfire.eu

Order No. .... HC 10156 Date: 14/18/15  
Customer: SOUTH WEST WOOD PRODUCTS  
Site Address: MERRE GLASNBURY  
Vehicle Make: TEREX STALECK  
Model: 883 Serial No: E68950 Amerex ID: VSS 1413

System Automatic  Manual

Agent Cylinder 1	Size ABC 25LR	Serial Number AS118
Agent Cylinder 2	Size TCE 2	Serial Number TBC
Agent Cylinder 3	Size	Serial Number
Agent Cylinder 4	Size	Serial Number
Panel	Type 17308	Serial Number 1502022

Detection Type Thermostat  Linear

Engine Shutdown Yes  No

Start time: 7:30/8:00 Finish time: 8:30/12:00 Total hours: (1:4) 15

Fire System installation carried out as per agreed specification Yes  No

Fire System familiarisation offer accepted Yes  No

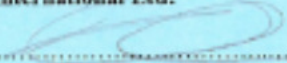
I accept the Amerex warranty is subject to 6 monthly servicing by an Amerex certified engineer Yes  No

I have received a Fire System Owners Manual Yes  No


Vehicle left in condition found - Amerex accept no liability for damage discovered after installation sign off Yes  No

Notes: MODERATE AMOUNT OF FINE WOOD WASTE ON UNDERBAYS BENEATH ENGINE THIS AREA WILL NEED PARTICULAR ATTENTION WHEN BLOWING OUT MACHINE END OF DAY

Amerex Fire International Ltd:

Sign:  Print: PAUL WOOD

Customer:

Sign:  Print: V MOORE

Emergency Callout Number +44 (0) 7702 811340

## Installation Handover Certificate



Customer: Taylor & Braithwaite

File Number: M6097

Job Number: TAYL01/006/001

Customer Ref: 12793

Make: HYUNDAI 760

Type of System: A-2-30-8-1M-SCN-ES-EI

Completion Date: 06/09/2012

Serial Number: 0397

**Ardent Limited** hereby certifies that the installation/supply/commissioning of the system has been carried out in accordance with the specification supplied and that the system has been passed its acceptance tests.

Signed for and on behalf of **Ardent Limited** by:-

Steve Wilkinson

Title: Installation Engineer

Date: 06/09/2012

The Customer hereby certifies that

- The installation/supply/commissioning of the system has been carried out satisfactorily
- Where applicable, all necessary information has been received
- Completion was effected on date stated above
- The operating procedures have been explained and are fully understood by the customer

Signed for and on behalf of the **Customer** by:-

David Lamb

Title: \_\_\_\_\_

Date: 06/09/2012

*D Lamb*

Installation Address  
CLIFTON MOOR, CLIFTON  
CUMBRIA,

Blue Copy: Accounts  
White Copy: Customer  
Pink Copy: Company

**Ardent Limited**  
Unit 3, Becklands Close, Bar Lane,  
Rosedale, Boroughbridge, N. Yorkshire,  
United Kingdom YO81 9NR

Tel: +44 (0)1670 162 5400  
Fax: +44 (0)1670 162 5410  
www.ardent-uk.com

Registered in England No. 2849284  
Registered Office: Unit 3, Becklands Close,  
Bar Lane, Rosedale, Boroughbridge, N. Yorkshire,  
United Kingdom YO81 9NR

## Installation Handover Certificate



Customer: Taylor & Braithwaite

File Number: M6143

Job Number: TAYL01/001/007

Customer Ref: 12798

Make: HYUNDAI 760-9

Type of System: A-2-30-8-1M-SCN-ES-EI

Completion Date: 11/10/2012

Serial Number: 000489

Ardent Limited hereby certifies that the installation/supply/commissioning of the system has been carried out in accordance with the specification supplied and that the system has been passed its acceptance tests.

Signed for and on behalf of Ardent Limited by:-

Brandon Rogers

Title: Installation Engineer

Date: 11/10/2012

The Customer hereby certifies that

- The installation/supply/commissioning of the system has been carried out satisfactorily
- Where applicable, all necessary information has been received
- Completion was effected on date stated above
- The operating procedures have been explained and are fully understood by the customer

Signed for and on behalf of the Customer by:-

Paul Mason

Title: \_\_\_\_\_

Date: 11/10/2012

Installation Address  
DYKE NOOK, SANDFORD  
CUMBRIA,

Blue Copy: Accounts  
White Copy: Customer  
Pink Copy: Company

**Ardent Limited**  
Unit 3, Becklands Close, Bar Lane,  
Rosedale, Boroughbridge, N. Yorkshire,  
United Kingdom YO81 9NR

Tel: +44 (0)1670 162 5400  
Fax: +44 (0)1670 162 5410  
www.ardent-uk.com

Registered in England No: 0943028  
Registered Office: Unit 3, Becklands Close,  
Bar Lane, Rosedale, Boroughbridge, N. Yorkshire,  
United Kingdom YO81 9NR

INV-108225



**ARDENT PROVEN FIRE  
PROTECTION SYSTEMS**

**Installation Handover Certificate**

Customer: A.W. JENKINSON (SCOT JCB) File Number: M6413  
Job Number: SCOT03/001/003  
Customer Ref: 74247  
Make: JCB 437 S/N JC1343700H02063765  
Type of System: A-1-30-6-1M-SCN-ES-E1 SCN C1303-119124  
Completion Date: 02/07/2013 Serial Number: 063765

FIRE SYSTEM INSTALLATION A. LEWIS

**Ardent Limited** hereby certifies that the installation/supply/commissioning of the system has been carried out in accordance with the specification supplied, and that the system has passed its acceptance tests.

Signed for and on behalf of **Ardent Limited** by:-

PATRICK THORNTON Pat Thornton

Title: ENGINEER

Date: 02/07/2013

- The Customer hereby certifies that
- The installation/supply/commissioning of the system has been carried out satisfactorily
- Where applicable, all necessary information has been received
- Completion was effected on date stated above

The operating procedures have been explained and are fully understood by the customer

Signed for and on behalf of the **Customer** by:-

[Signature]

Title: SERVICE SUPERVISOR

Date: 2-7-13

Installation Address  
SCOT JCB


Blue Copy: Accounts  
White Copy: Customer  
Pink Copy: Company

**Ardent Limited**  
Unit 3, Becklands Close, Bar Lane,  
Rosedale, Boroughbridge, N. Yorkshire,  
United Kingdom YO51 5NR

Tel: +44 (0)1770 162 5400  
Fax: +44 (0)1770 162 5410  
www.ardent-uk.com

Registered in England No: 2810624  
Registered Office: Unit 3, Becklands Close,  
Bar Lane, Rosedale, Boroughbridge, N. Yorkshire,  
United Kingdom YO51 5NR

INV: 108726

 **ARDENT PROVEN FIRE PROTECTION SYSTEMS** Installation Handover Certificate

Customer: A W. Jamesons (Scott JCB) File Number: W16414  
Job Number: SCOT0310011004  
Customer Ref: 74247  
Make: JCB 437 SN: C1306-120564  
Type of System: A130.6.144.SCN.E5.E1  
Completion Date: 28/6/13 Serial Number: 2063767

Ardent Limited hereby certifies that the installation/supply/commissioning of the system has been carried out in accordance with the specification supplied, and that the system has passed its acceptance tests.

Signed for and on behalf of Ardent Limited by:-  
Title: Alvin A. Lewis  
Installation Engineer  
Date: 28/6/13

The Customer hereby certifies that  
 The installation/supply/commissioning of the system has been carried out satisfactorily  
 Where applicable, all necessary information has been received  
 Completion was effected on date stated above

The operating procedures have been explained and are fully understood by the customer

Signed for and on behalf of the Customer by:-  
Title: Steve Simpson  
Date: 28.6.13

Installation Address  
Scott JCB  
Carville

Ardent Limited  
Unit 3, Becklands Close, Bar Lane,  
Rosedale, Boroughbridge, N. Yorkshire,  
United Kingdom YO61 3HT

Tel: +44 (0)1770 162 5100  
Fax: +44 (0)1770 162 5410  
www.ardent-uk.com

EN60 606V AC/DC IFTS  
White Copy: Customer  
Pink Copy: Company

Registered in England No: 2842801  
Registered Office: Unit 3, Becklands Close,  
Bar Lane, Rosedale, Boroughbridge, N. Yorkshire,  
United Kingdom YO61 3HT



## Warranty Certificate

Customer Scot JCB LTD. File Number M6505  
M. Brook Rd.  
Kingstun Ind. Est. Job Number SCOT03/001/006  
Carlisle  
CA3 0EU Customer Ref 74295  
 Make JCB 437 312950  
 Type of System H-1-30-6-14-SCA-ES-EI  
 Completion Date 2/10/13.

The components of the Ardent Fire Suppression System supplied, are Warranted by the supplier Ardent Limited to you as the original purchaser for one year from the date of delivery against defects in workmanship and materials.

Ardent Limited will replace or repair any Ardent supplied component which in its opinion is defective and not tampered with or subject to misuse, abuse, exposed to highly corrosive conditions or extreme high temperature provided that:

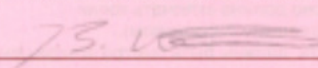
1. The equipment has been serviced and maintained in accordance with the manufacturer's instructions, by authorised service personnel.
2. That written notice of the alleged defect shall be given to Ardent Limited within 30 days after the discovery thereof and prior to the expiration of one year from delivery.
3. Said written notice shall include copies of the monthly inspection reports (by client) and service reports (by Authorised personnel) for the claim to be validated.
4. Should Ardent Limited so instruct, such defective article or part is promptly returned to Ardent Limited.

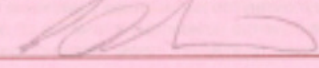
For repairs, parts and service of the Ardent System, contact your local Ardent Representative.

For French/German/Russian Translation please see reverse  
 Pour la traduction s'il vous plaît voir au verso  
 Für die Übersetzung siehe Rückseite  
 смотрите перевод на обороте

Signed for and on behalf of Ardent Limited by:-

Signed for and on behalf of the Customer by:-

  
 Title ENGINEER.  
 Date 2/10/13.

  
 Title Service Manager  
 Date 2/10/13

White Copy: Customer  
 Pink Copy: Company  
 Blue Copy: Accounts  
 Yellow Copy: Machine

Ardent Limited  
 Unit 3 Becklands Close, Bar Lane,  
 Rooccliffe, Boroughbridge,  
 North Yorkshire, UK, YO51 9NR

Telephone +44 (0)170 162 5400  
 Facsimile +44 (0)170 162 5410  
 E-mail info@ardent-uk.com  
 Website www.ardent-uk.com



Registered in England No: 05646011  
 Registered Office: Unit 3, Becklands Close,  
 Bar Lane, Rooccliffe, Boroughbridge,  
 North Yorkshire, UK, YO51 9NR





INSTALLATION HANDOVER CERTIFICATE

**Customer Information**

**Name:** South West Wood Products™ Glastonbury  
**Address:** South West Wood Products  
31 Ashcott Road  
Meare  
Glastonbury  
BA6 9SU  
United Kingdom

**Job Information**

**Number:** WO-002809  
**Completion:** 16/10/2015 9:52:57 AM

**Asset Information**

**Name:** M7214  
**System:** A-1-50-8-1-LV53-4-210-E5-EI  
**Make:** Dopstadt  
**Serial No:** 147  
**Model:** 633  
**SCN Serial No:** 200143303197

Ardent Limited hereby certifies that the installation/supply/commissioning of the system has been carried out in accordance with the specification supplied, and that the system has passed its acceptance tests.

Signed for and on behalf of Ardent Limited by :-

The Customer hereby certifies that :-

- The installation/supply/commissioning of the system has been carried out satisfactorily;
- Where applicable, all necessary information has been received;
- Completion was effected on date stated above.

Other Job Notes

The operating procedures have been fully explained and are fully understood by the customer.

Signed for and on behalf of the Customer by :-

**Name:**

**Date:** 16/10/2015 9:52:57 AM

**Ardent Limited**  
Unit 3, Becklands Close, Bar Lane,  
Roedcliffe, Boroughbridge, N. Yorkshire,  
United Kingdom, YO51 9NR

**Tel:** +44 (0)870 162 5400  
**Fax:** +44 (0)870 162 5410  
[www.ardent-uk.com](http://www.ardent-uk.com)

**Registered in England No:** 2843624  
**Registered Office:** Unit 3, Becklands Close,  
Bar Lane, Roedcliffe, Boroughbridge, N.  
Yorkshire, United Kingdom, YO51 9NR

**Appendix E – Inspection Sheets**

**DAILY PLANT CHECK LIST**

Location: SWMP GLASTONBURY		Date: 15.02.2016	Part Number	Machine hours	
Make: CHIEFTAIN		Model: 1450	Serial Number	Total Hours for Week	
Operator's Name: P. Sledge, Row 08		Signature: P. Sledge	Row 08	7505	
<b>DAILY BEFORE START UP:</b>					
Machine hours	Monday	Tuesday	Wednesday	Thursday	Friday
Water Coolant Level	1233	1341	1358	1369	1377
Engine Oil Level	1	1	1	1	1
Hydraulic Oil Level	1	1	1	1	1
Transmission Oil Level	1	1	1	1	1
Any Leaks oil/water	1	1	1	1	1
Radiator Blown out	1	1	1	1	1
Check the roller teeth are tight and in place	1	1	1	1	1
Check all conveyors are tracking correctly	1	1	1	1	1
Check all bearings are free from wrappage	1	1	1	1	1
Tyre condition	1	1	1	1	1
Whistle/wheel nuts tight	1	1	1	1	1
Guard/doors secure	1	1	1	1	1
<b>SAFETY CHECKS AFTER START UP:</b>					
Emergency Stops	1	1	1	1	1
Beacon, Horn, Lights and Buzzers	1	1	1	1	1
Reversing alarm if fitted	1	1	1	1	1
<b>END OF SHIFT DAILY:</b>					
Inspect damage (broken parts/etc)	1	1	1	1	1
Remove debris from around engine area	1	1	1	1	1
Grease all bearings	1	1	1	1	1
Check that no objects are jammed in conveyors	1	1	1	1	1
<b>ANY OTHER COMMENTS:</b>					
Hours Left Services			7559		
Next Service Due			7809		
SOUTH WEST WOOD PRODUCTS LTD GLASTONBURY SITE					

**DAILY PLANT CHECK LIST**

Location: <b>SWWP GLASTONBURY</b>	Date: <b>15.02.2016</b>	Plant Number	Machine hours			
Name: <b>HCB</b>	Model: <b>437#7</b>	Serial Number	Totals Hours for Week			
Operator Name: <b>EDUARDO PEREIRA</b>		Signature: <i>Edo</i>	<b>8616</b>			
<b>DAILY BEFORE START UP:</b>	<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>	<b>Saturday</b>
Machine Hours	8488	8202	8215	8238	8253	8247
Water Coolant Level	/	/	/	/	/	/
Engine Oil Level	/	/	/	/	/	/
Hydraulic Oil Level	/	/	/	/	/	/
Transmission Oil Level	/	/	/	/	/	/
Air Leaks air/water	/	/	/	/	/	/
Radiator Blown out	/	/	/	/	/	/
Check the rotor teeth are tight and in place	/	/	/	/	/	/
Check all conveyors are tracking correctly	/	/	/	/	/	/
Check all bearings are free from wrappage	/	/	/	/	/	/
Tyre condition	/	/	/	/	/	/
Wheels/wheel nuts tight	/	/	/	/	/	/
Guardfloors secure	/	/	/	/	/	/
<b>SAFETY CHECKS AFTER START UP:</b>						
Emergency Stops	/	/	/	/	/	/
Beacon, Horn, Lights and Buzzers	/	/	/	/	/	/
Reversing alarm if fitted	/	/	/	/	/	/
<b>END OF SHIFT DAILY:</b>						
Impact damage (broken parts/etc)	/	/	/	/	/	/
Remove debris from around engine area	/	/	/	/	/	/
Grease all bearings	/	/	/	/	/	/
Check that no objects are jammed in conveyors	/	/	/	/	/	/
<b>ANY OTHER COMMENTS:</b>	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 5px auto;"> <p>Hours Last Services <b>8116</b></p> <p>Next Service Due <b>8616</b></p> </div>					
<b>SOUTH WEST WOOD PRODUCTS LTD</b> <b>GLASTONBURY SITE</b>						

## Appendix H – Electrical Maintenance Details



 07787 418 953

Tom Dunn  
South West Woods  
Eclipse Works  
Ashcott Road  
Meare  
Nr. Glastonbury  
Somerset  
BA6 9SU

REF: Electrical works

Dear Tom

As you are well aware, we are currently undertaking electrical works to the site at Meare to ensure a high level of electrical safety to BS7671. Whilst most of the sites electrical installation has now been disconnected, the remaining install is going through upgrades to the latest 18<sup>th</sup> edition AMD3.

Kind regards

Sam Canniford

Ablelec Ltd - Bridles, 2 Watery Lane, Stoke St. Mary, Taunton, Somerset, TA3 5BX

Website : [www.ablelec.co.uk](http://www.ablelec.co.uk)

Vat Reg. No. 453 8608 29

## Appendix I – Schematic Movement of Materials

## Schematic Movement of Materials in Fire Scenario

### Zone 1

Figure 1: Initial Movement Away From Fire Area

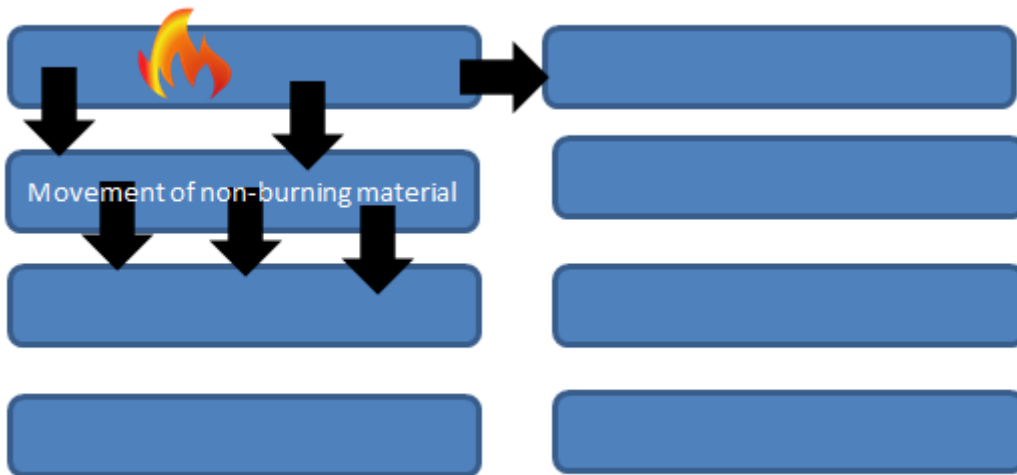
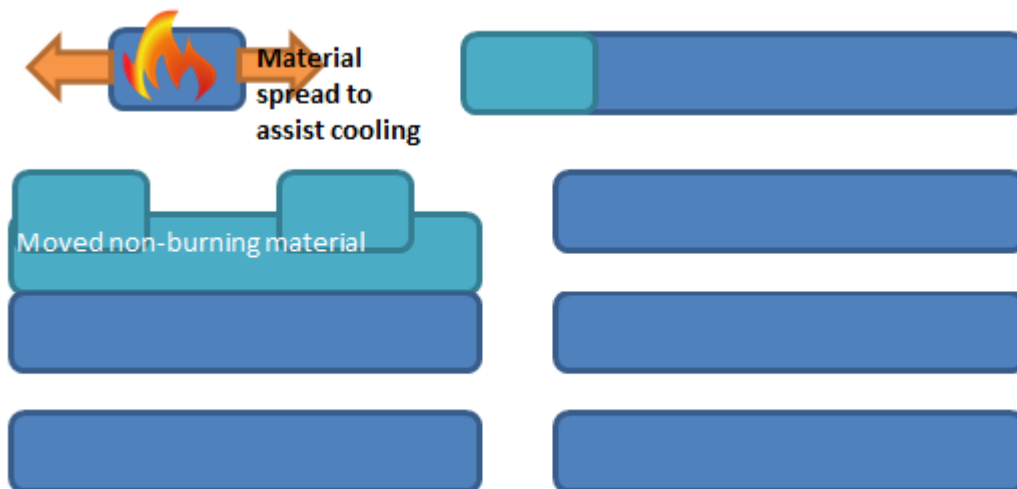


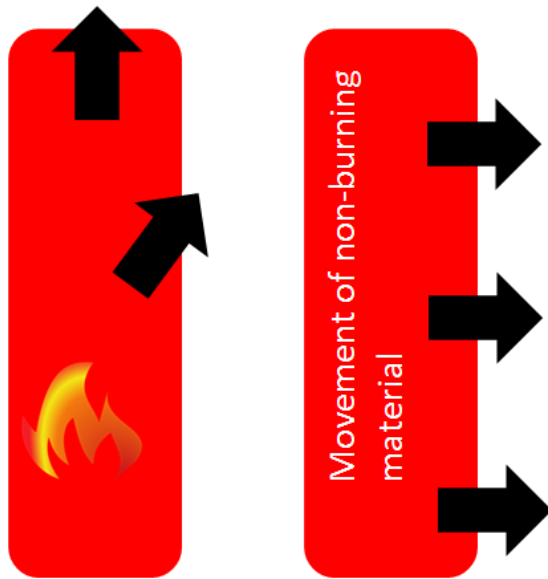
Figure 2: Movement For Cooling



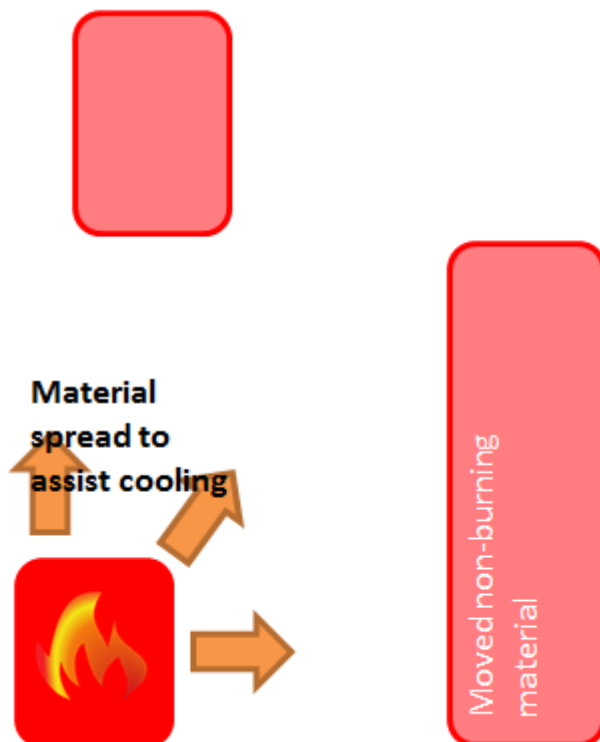


## Zone 2

**Figure 3: Initial Movement Away From Fire Area**



**Figure 4: Movement For Cooling**



## Zone 4

Figure 5: Initial Movement Away From Fire Area

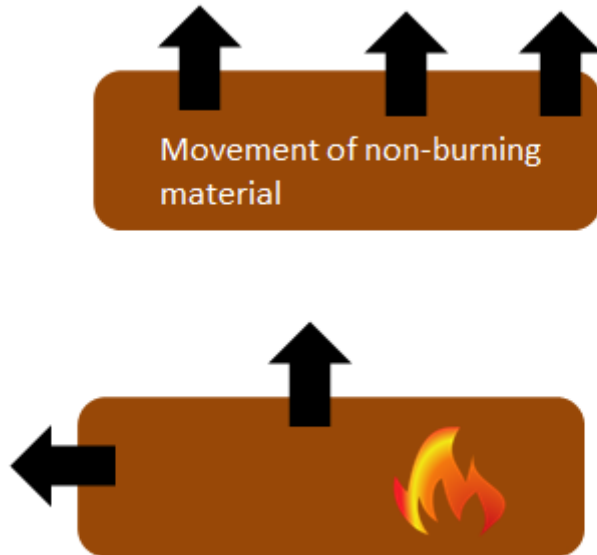
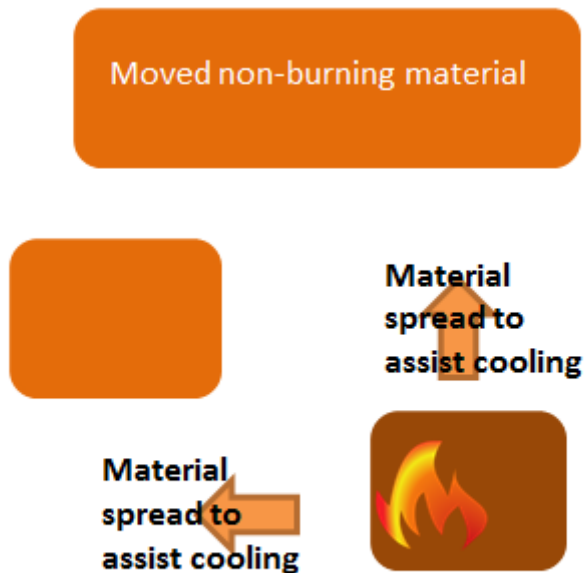
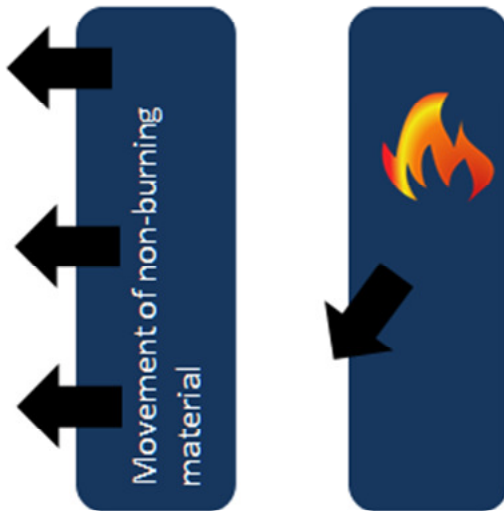


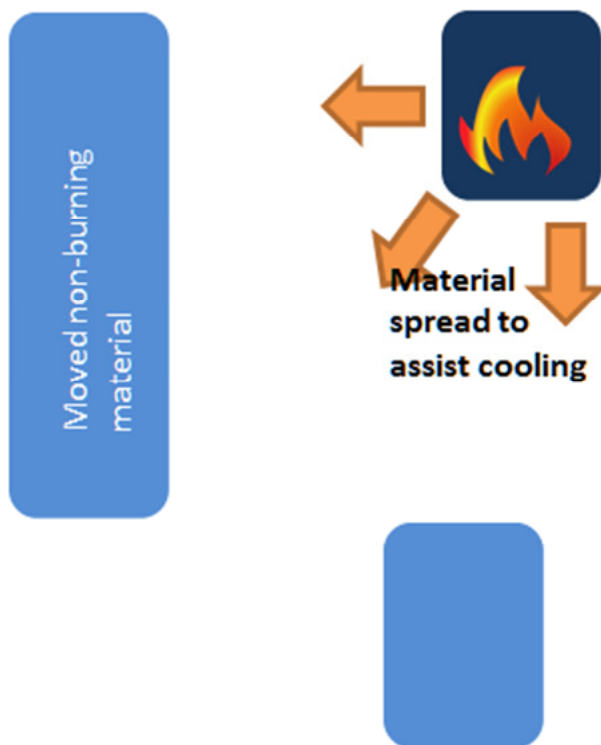
Figure 6: Movement For Cooling



**Figure 7: Initial Movement Away From Fire Area**

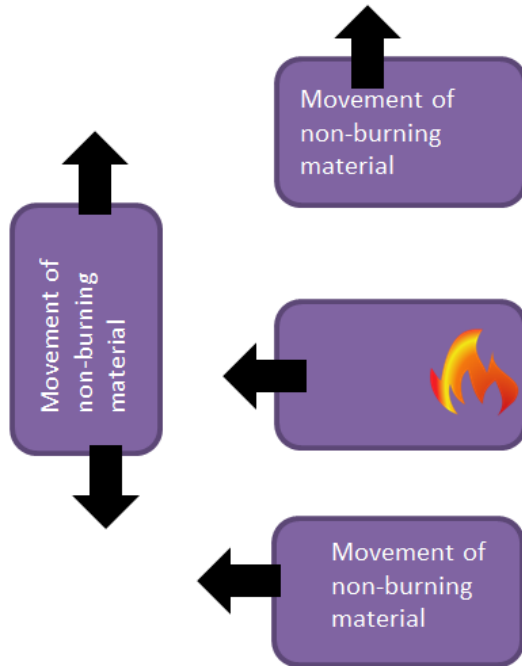


**Figure 8: Movement For Cooling**

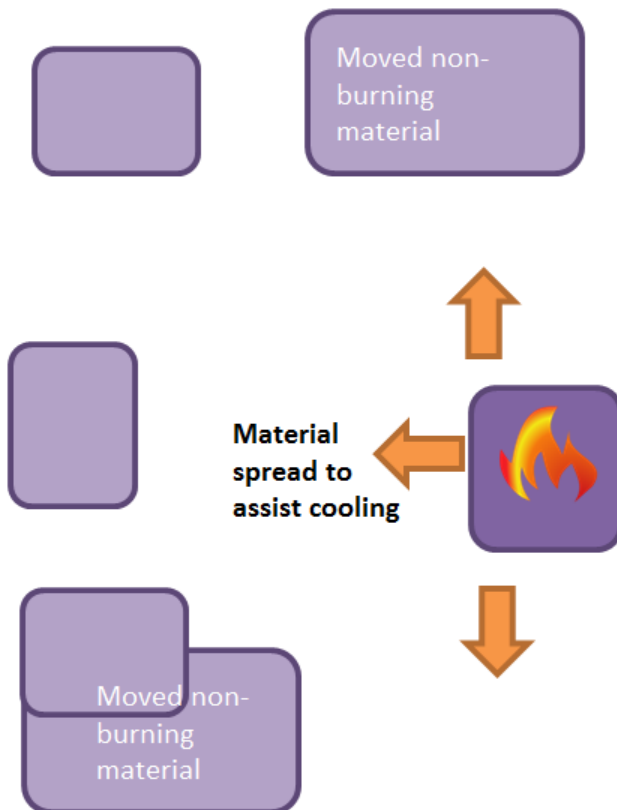


**Zone 6**

**Figure 9: Initial Movement Away From Fire Area**



**Figure 10: Movement For Cooling**



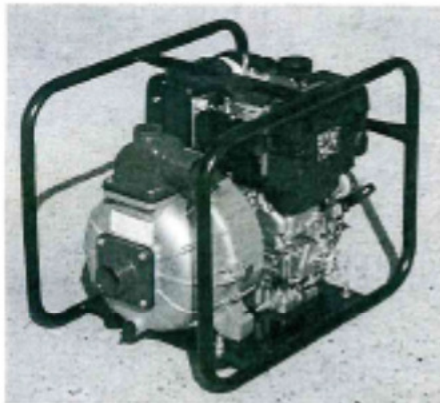
## Appendix J – Pump Details



Unit 2 North Way, Walworth Business Park, Andover, Hants SP10 5AZ, UK  
 Tel: (44) 1264 332004 Fax: (44) 355399  
 email: enquiries@pumpsets.com Website: www.pumpsets.com

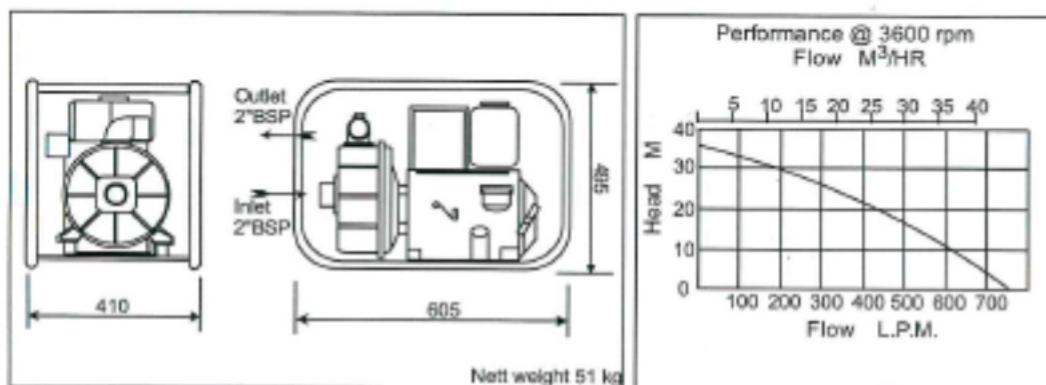
**ATALANTA GANNET 251**  
 2" x 2" Portable Self Priming Centrifugal Trash Pump  
 with  
 Lombardini 15LD225 Diesel Engine

Heavy Duty Dewatering – Desludging - Raw Water Supply – General Purpose Pumping



- Aluminium Casing with Cast Iron Wearing Parts
- Rigid Monobloc Design
- Solids Handling to 25 mm Ø
- Integral Non Return Valve
- Self Priming to 7 m
- Carbon/Carbide Mechanical Seal
- Easy Maintenance with One Tool (Hexagon Wrench Supplied)
- Course Suction Hose Filter/Clip Included
- Removable Screwed Cast Iron BSP Male Connections
- Steel Roll Over Frame with Anti-Vibration Mounts/ Pre-Drilled Mounting Holes.
- Many Options Including – Spares Kits – Hoses – Trolley – Quick Couplings – Case Packing

Powered by a Lombardini lightweight industrial air cooled single cylinder diesel engine model 15LD225 developing 3.5 kW at a nominal 3600 rpm complete with recoil start, (optional **E** – 12 volt electric start), 3 litre 3 hr. fuel tank, silencer, throttle, dry type air, oil and fuel filters. Set is supplied with Pump and Engine Operating and Instruction Manuals.



## Umbilical Pump Systems

### Rain Gun

Hydraulically operated, fitted with centrifugal system for disposal of slurry under wet conditions. The rain gun can spread slurry over a distance of 295ft (90m) and is able to rotate through 360°



### DCI Umbilical Arm

Suitable for use with umbilical slurry spreading systems

### Hydraulic Vacuum Pump

Available in lieu of a standard pump or in combination with PTO driven centrifugal pump



### Rain Gun

Optional up/down movement

# WRIGHT RAIN/FARROW

## MK.2 H3, H3W, H4 & H4W

### tractor pumps for clear water

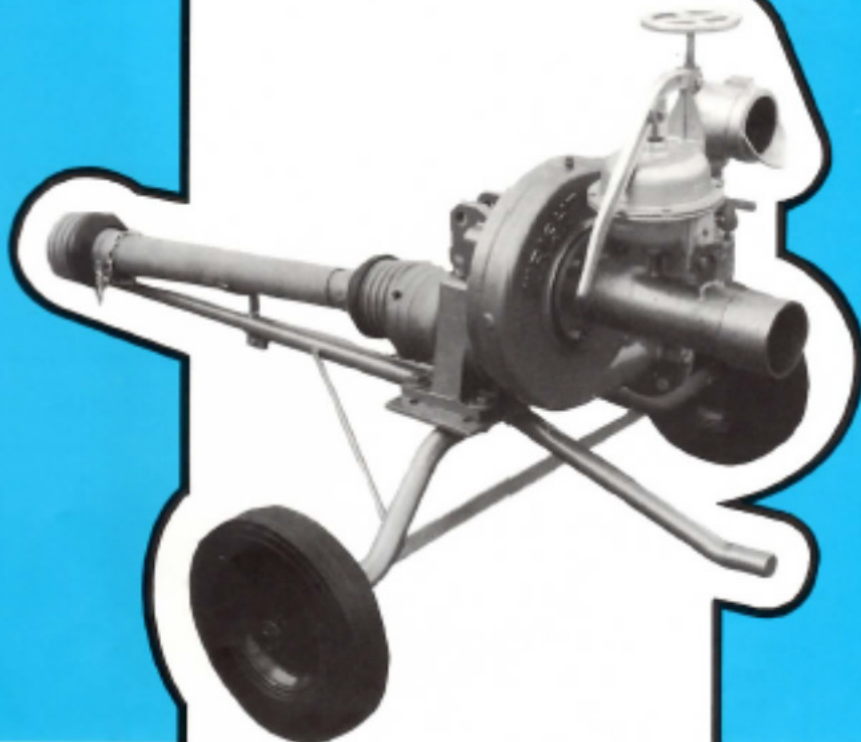
The Wright Rain Mark 2 medium head tractor powered pumps incorporate a single stage centrifugal pump driven through a 1:4 ratio speed increasing gearbox.

Duty range of the H3 Mk.2 is 150-450 Imp. gpm (40-122m<sup>3</sup>/hr) at 262-332 ft. hd. (80-102 metres) and is suitable for medium to high static lift sprinkler schemes.

Duty range of the H4 Mk.2 is 237-670 Imp. gpm (66-156m<sup>3</sup>/hr) at 266-342 ft. hd. (81-105 metres) and is suitable for larger schemes with medium to high static lift, or for operating with irrigation hoses/reeels where low static lifts are involved.

Both pumps are mounted on a common cast iron gearbox. The gearbox is rated to accept 80bhp input. The 1.1 litre (1.94 pints) capacity oil bath ensures ample lubrication.

The robustly constructed gearbox contains two gears and shafts running in heavy duty taper roller bearings adjustable for end float. The integral gear on the output shaft and the splined mating gear on the input shaft are helical cut for quiet, efficient running.





## SPECIFICATIONS

### MK.2 H3 (TRACTOR MOUNTED)

Type: Single stage.  
 Standard impeller diameter: 343mm (13.5").  
 Horse-power range: 20-80bhp (15-60kw).  
 Gearbox ratio: 1:4-11.  
 Gearbox oil capacity: 1.1 litre (1.94pts).  
 Gearbox oil multigrade: 20/50.  
 Suction: To BS4504 (table 16): 100mm stubbed & flanged.  
 Discharge: To BS4504 (table 16): 80mm flanged.  
 Base for three point linkage: Category I or II.  
 Universal shaft to fit tractor spline: 35mm (1 3/8").  
 Guard for universal shaft.

### MK.2 H4 (TRACTOR MOUNTED)

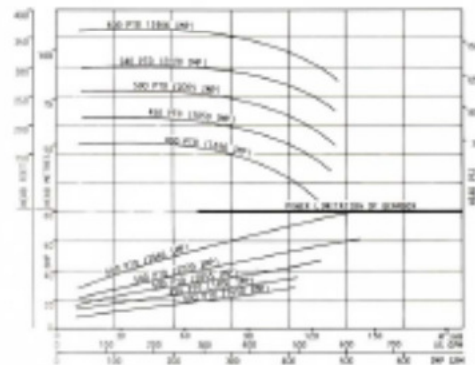
Type: Single stage.  
 Standard impeller diameter: 381mm (15.0").  
 Horse-power range: 20-80 Bhp (15-60kw).  
 Gearbox ratio: 1:4-11.  
 Gearbox oil capacity: 1.1 litre (1.94pts).  
 Gearbox oil multigrade: 20/50.  
 Suction: To BS4504 (table 16): 125mm stubbed and flanged.  
 Discharge: To BS4504 (table 16): 100mm flanged.  
 Base for three point linkage: Category II.  
 Universal shaft to fit tractor spline: 35mm (1 3/8").  
 Guard for universal shaft.

### OPTIONAL EXTRAS

Wright Rain diaphragm priming pump.  
 Wright Rain suction extension (with mounting for priming pump and plain end for aluminium suction pipe).  
 Wright Rain pump delivery valve (combined delivery/check valve).  
 65mm (2 1/2") diameter pressure gauge.  
 Wright Rain aluminium footvalve.  
 Wright Rain basket strainer.  
 Complete range of suction and delivery fittings available.

## PERFORMANCE CURVES

### Type H3



### MK.2 H3W & H4W (TROLLEY MOUNTED)

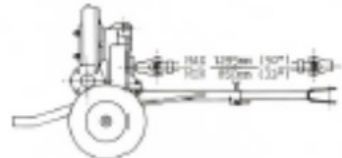
Two wheel trolley with tractor towing eye hitch and two 100mm x 405mm wheels and axle.  
 An adjustable universal shaft and shaft guard are included with the two wheel trolley mounted pump.

## INSTALLATIONS

### Type MK.2 H3 & H4

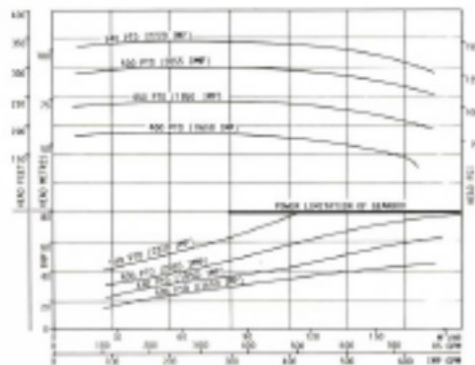


### Type MK.2 H3W & H4W



Both the three-point linkage and the trolley should be adjusted so that the pump input shaft, and the tractor pto shaft are level and parallel and the pto shaft therefore runs straight. The maximum shaft angular misalignment should not in any circumstances exceed 7 1/2° on each joint as shown. For trolley mounting the maximum fully extended length of the universal shaft is 1256mm (50") and the minimum fully closed running length is 850mm (33").

### Type H4



We have a policy of continual review of the design and specification of our products and for this reason descriptions and information given in this publication are intended to give only a general idea of our products at the time of printing. Our products are sold on our Standard Conditions of Sale, a copy of which will be supplied on request, and this publication is not intended to form part of any Contract with us or to be a warranty, express or implied of the specification or performance of the products described.



# Wright Rain

**Wright Rain Limited**  
**Planned Irrigation**  
 Ringwood, Hampshire, BH24 1PA, England  
 Telephone: Ringwood (04254) 2251  
 Telegrams: Wrightrain, Ringwood. Telex: 41206



B&S 2m 11.84 A.147

**Appendix K – Risk Assessment**

## ENVIRONMENTAL FIRE RISK ASSESSMENT FOR THE WOOD RECYCLING OPERATIONS AT ECLIPSE WORKS

**Produced By:** LMM

**Date:** 25<sup>th</sup> April 2016

**Notes:** No critical infrastructure (main roads or other communication routes) or community facilities lie within 1km of the site. As a result it is not necessary to risk assess these impacts.

The site operates under an Environmental Permit and a Fire Prevention Plan (FPP). The measures set out in the FPP as management and mitigation provide the justification in each scenario for the residual risk criteria applied. The FPP identifies and minimises fire and associated risks of pollution, with measures for fire prevention, detection, firefighting procedures and pollution control measures covering site storage, processing operations, maintenance, accidents, incidents, non-conformances. Fire detection (monitoring during operational hours and outside operational hours) and prevent measures minimise likelihood of fire and firefighting procedures designed for swift extinguishment of fire. Separation distances prevent spread of fire.

<b>Source</b>	<b>Receptor</b>	<b>Harm</b>	<b>Pathway</b>	<b>Probability of Exposure</b>	<b>Consequence</b>	<b>Magnitude of Risk</b>	<b>Justification for Magnitude</b>	<b>Risk Management</b>	<b>Residual Risk</b>
Smoke	Local human population	Respiratory irritation, illness, nuisance and loss of amenity	Air transport then deposition	Low	Medium	Low	Smoke has potential to cause nuisance but nearest local residents adjacent to site are upwind of prevailing wind.	FPP which includes measures to ensure no burn of over 3-4 hours to minimise exposure.	Low
	Protected sites: Ham Wall, Shapwick Heath & Somerset Levels and Moors	Smothering, disturbance of habitat	Air transport then deposition	Medium	Low	Low	Conservation interests of wetland habitat would not be affected by smoke. Impact on birds would be temporary for duration of event.	FPP and as above	Very low

Fire waters	Local human population	Contamination/pollution	Direct run-off from site across ground surface, via surface water drains, ditches etc. then abstraction.	Low	Low	Low	Site is not on a major aquifer nor are there any abstraction points in the vicinity of site	FPP Contained drainage system detailed in FPP with no connection to external surface water courses. Fire fighting measures to minimise use of fire water.	Very Low
Fire waters	Protected sites: Ham Wall, Shapwick Heath & Somerset Levels and Moors	Contamination/pollution with deterioration	Spillages and contaminated firewater by direct run-off from site and via surface water	Low	Medium	Low	Polluted waters would affect wetland interest, but no direct contact from site to external water courses and firefighting procedures to minimise fire water residue.	FPP As above.	Low
Fire	Local human population	Injury to staff, firefighters	Combustion event through arson, self combustion or accidental ignition	Low	Medium	Low	Site is open yard reducing risk to fire fighters and site operatives.	FPP Site security reduce risk of unauthorised access. Site operatives trained in fire measures. Fire Service has assessed FPP measures	Low

Fire / Thermal Radiation	Protected sites: Ham Wall, Shapwick Heath & Somerset Levels and Moors	Loss, deterioration	Combustion event through arson, self-combustion or accidental ignition	Low	Medium	Low	Protected Sites are separated from site by water bodies which would prevent spread of fire.	Protected Sites remote from site to not be directly affected	Very Low
--------------------------	---	---------------------	--	-----	--------	-----	---	--	----------





Eclipse Works, Meare, Glastonbury

---

# Fire Prevention Plan for Waste Wood Operation

## Appendices

Document Reference: 2060A/FPP/APP

April 2016



**Appendix A – Waste Codes**



## Waste Codes Accepted at Eclipse

Waste Code	Description
<b>02</b>	<b>WASTES FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING AND FISHING, FOOD PREPARATION AND PROCESSING</b>
02 01	wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing.
02 01 03	wood and bark only
02 01 07	wood and bark
<b>03</b>	<b>WASTES FROM WOOD PROCESSING AND THE PRODUCTION OF PANELS AND FURNITURE, PULP, PAPER AND PRODUCTION</b>
03 01	wastes from wood processing and the production of panels and furniture
03 01 01	waste bark and cork
03 01 05	sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04
03 03	wastes from pulp, paper and cardboard production and processing
03 03 01	waste bark and wood
<b>15</b>	<b>WASTE PACKAGING</b>
15 01	packaging
15 01 03	wooden packaging
<b>17</b>	<b>CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)</b>
17 02	wood, glass and plastic
17 02 01	wood
17 09	Other construction and demolition waste
17 09 04	mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03 (wood only)
<b>19</b>	<b>WASTES FROM WASTE MANAGEMENT FACILITIES, OFF SITE WASTE WATER TREATMENT PLANTS AND PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION/INDUSTRIAL WASTE</b>
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 07	wood other than that mentioned in 19 12 06
<b>20</b>	<b>MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS</b>
20 01	separately collected fractions
20 01 38	wood other than that mentioned in 20 01 37
20 02	garden and park waste
20 02 01	Biodegradable waste (wood and bark only)

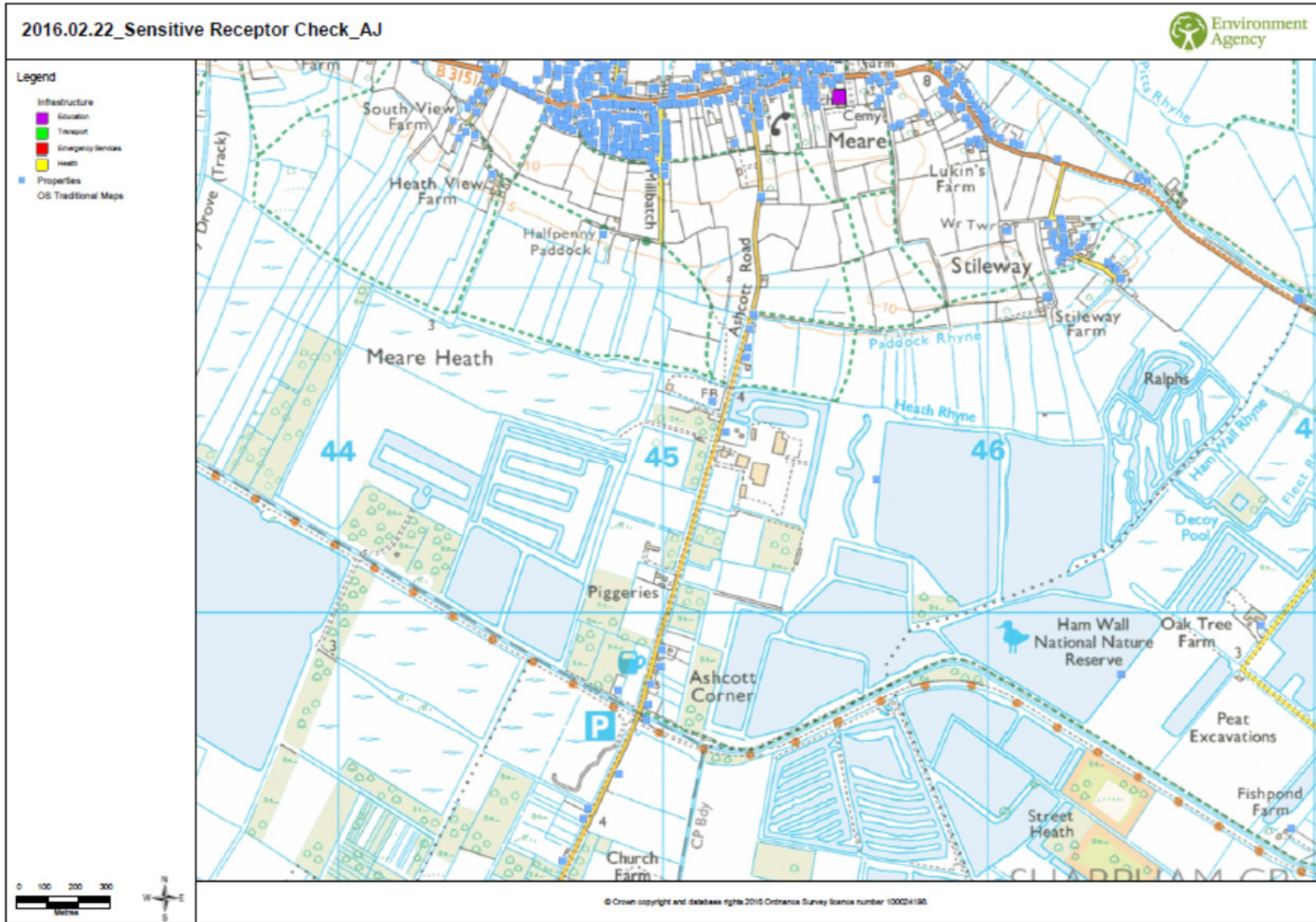
## Appendix B – Environment Agency Sensitive Receptors Report

Organisation	Building Number	Building Name	Thoroughfare	PostTown	Postcode	OS Class	Accuracy	Floor Area (m2)	House Type	Easting	Northing
	85		ASHCOTT ROAD	GLASTONBURY	BA6 9SX	DWELLING	Surveyed	177.133	Det	344992.6	139833.8
	93		ASHCOTT ROAD	GLASTONBURY	BA6 9SX	DWELLING	Surveyed	51.807	Det	344954.8	139715.6
RAILWAY INN	89		ASHCOTT ROAD	GLASTONBURY	BA6 9SX	INN	Surveyed	349.337		344962.2	139780.6
		THE OLD STATION	ASHCOTT ROAD	GLASTONBURY	BA6 9SX	DWELLING	Surveyed	90.27	Det	344951.8	139667.2
		HALFPENNY Paddock	MILLBATCH LANE	GLASTONBURY	BA6 9TD	DWELLING	Surveyed	67.39	Det	344815.7	141164.4
	94		ASHCOTT ROAD	GLASTONBURY	BA6 9ST	DWELLING	Surveyed	94.307	Det	344861.7	139759.9
	79		ASHCOTT ROAD	GLASTONBURY	BA6 9SX	DWELLING	Surveyed	72.368	Det	344997	139884.8
		LOUAN	MILLBATCH LANE	GLASTONBURY	BA6 9TD	DWELLING	Surveyed	145.42	Det	345008.2	141373.7
		SMITHFIELD	MILLBATCH LANE	GLASTONBURY	BA6 9TD	DWELLING	Surveyed	58.396	Det	345006.7	141347.2
		APRIL COTTAGE	MILLBATCH LANE	GLASTONBURY	BA6 9TD	DWELLING	Surveyed	92.701	Det	344976.9	141358.9
		SPRING MEADOW	MILLBATCH LANE	GLASTONBURY	BA6 9TD	DWELLING	Surveyed	113.685	Det	344972.5	141373.3
TOR VIEW KENNELS	41		ASHCOTT ROAD	GLASTONBURY	BA6 9SU	KENNELS	Surveyed	108.574		345254.9	140785.5
				GLASTONBURY	BA6 9SU	PUMPING	Surveyed			345657.8	140407.7
	51		ASHCOTT ROAD	GLASTONBURY	BA6 9SU	DWELLING	Surveyed	97.908	Det	345193.9	140554.2
	37		ASHCOTT ROAD	GLASTONBURY	BA6 9SU	DWELLING	Surveyed	91.62	Det	345267.6	140872.7
	35		ASHCOTT ROAD	GLASTONBURY	BA6 9SU	DWELLING	Surveyed	125.509	Det	345278.6	140917.5
				GLASTONBURY	BA6 9TT	WORKS	Surveyed	356.891		345151.6	140649.8
	39		ASHCOTT ROAD	GLASTONBURY	BA6 9SU	DWELLING	Surveyed	65.16	Det	345261.2	140814
	21		ASHCOTT ROAD	GLASTONBURY	BA6 9SU	DWELLING	Surveyed	74.255	SDet	345302.3	141273.8
	19		ASHCOTT ROAD	GLASTONBURY	BA6 9SU	DWELLING	Surveyed	65.327	SDet	345303.2	141280

OS Class	PostTown	Postcode	Accuracy	Floor Area (m2)	Easting	Northing
	GLASTONBURY	BA6 9SX	Label	42.14	344995.6	139854.3
	GLASTONBURY	BA6 9TT	Label	163.43	344982.2	140117.3
	GLASTONBURY	BA6 9TT	Label	59.907	345002.9	140111
	GLASTONBURY	BA6 9TT	Label	116.729	344994.3	140089.3
	GLASTONBURY	BA6 9TT	Label	28.028	344926	140197
	GLASTONBURY	BA6 9TD	Label	31.476	344841.7	141171.1
	GLASTONBURY	BA6 9TD	Label	51.76	344904.4	141157.8
	GLASTONBURY	BA6 9TD	Label	114.483	344855.7	141209.9
	GLASTONBURY	BA6 9TD	Label	68.375	344850.4	141183.8
	GLASTONBURY	BA6 9TJ	Label	34.141	344751	141205.7
	GLASTONBURY	BA6 9TT	Label	109.213	345006.3	140696.5
PUBLIC CAR PARKING	GLASTONBURY	BA6 9SX	Surveyed		344887.4	139681.7
POND	GLASTONBURY	BA6 9TT	Surveyed		345039.8	140649.7
POND	GLASTONBURY	BA6 9ST	Surveyed		344451.7	140114.5
POND	GLASTONBURY	BA6 9ST	Surveyed		344627.3	140013.4
POND	GLASTONBURY	BA6 9TD	Surveyed		345034.7	141230.9
POND	GLASTONBURY	BA6 9TD	Surveyed		344924.9	141166.5
POST BOX	GLASTONBURY	BA6 9SX	Surveyed		344955.3	139780.9
	GLASTONBURY	BA6 9TT	Label	390.44	345021	140693.5
	GLASTONBURY	BA6 9SX	Label	61.594	344975.4	139753.4
	GLASTONBURY	BA6 9SX	Label	272.508	345015.9	139857
	GLASTONBURY	BA6 9SY	Label	29.97	345008.4	141384.4
	GLASTONBURY	BA6 9TD	Label	25.61	345014.5	141333.6
POND	GLASTONBURY	BA6 9SX	Surveyed		345316.3	140084.1
POND	GLASTONBURY	BA6 9SU	Surveyed		345863.3	140329
POND	GLASTONBURY	BA6 9SX	Surveyed		345902.9	139676.4
POND	GLASTONBURY	BA6 9SX	Surveyed		345622.9	139945.4
POND	STREET	BA16 9SQ	Surveyed		346199.1	140289.3
POND	GLASTONBURY	BA6 9SX	Approximate		345698.4	139699
POND	GLASTONBURY	BA6 9SU	Approximate		345365.9	140572.4
POND	GLASTONBURY	BA6 9SU	Surveyed		345362.9	140600.3

POND	GLASTONBURY	BA6 9SU	Approximate		345581.8	140427
POND	GLASTONBURY	BA6 9SX	Surveyed		345427.2	139771.2
POND	GLASTONBURY	BA6 9SX	Surveyed		345249.6	139828.3
	GLASTONBURY	BA6 9SU	Label	195.512	345258	140757.8
	GLASTONBURY	BA6 9SU	Label	72.079	345227.1	140559.9
	GLASTONBURY	BA6 9TT	Label	204.404	345128.7	140634.7
	GLASTONBURY	BA6 9TT	Label	37.025	345151.8	140637.5
	GLASTONBURY	BA6 9SU	Label	86.77	345272.1	140889.7
	GLASTONBURY	BA6 9SU	Label	44.19	345261.9	140802.7
	GLASTONBURY	BA6 9SU	Label	40.54	345242.2	140547.7
	GLASTONBURY	BA6 9SU	Label	41.665	345241.9	140542.2
	GLASTONBURY	BA6 9SU	Label	51.72	345274.4	140510.5
	GLASTONBURY	BA6 9SU	Label	62.647	345264.4	140517.1
	GLASTONBURY	BA6 9SU	Label	61.296	345265.1	140533.7
	GLASTONBURY	BA6 9SU	Label	145.407	345267	140555.6
	GLASTONBURY	BA6 9SU	Label	344.613	345201.1	140496.2
	GLASTONBURY	BA6 9SU	Label	89.82	345229.4	140466.9
	GLASTONBURY	BA6 9SU	Label	151.885	345232.9	140485.9
	GLASTONBURY	BA6 9SU	Label	576.796	345249.6	140466.1
	GLASTONBURY	BA6 9SU	Label	3130.741	345296.9	140432.8
	GLASTONBURY	BA6 9SU	Label	581.54	345247.8	140378.8
	GLASTONBURY	BA6 9SU	Label	159.196	345302.9	141032.5
	GLASTONBURY	BA6 9SU	Label	171.483	345309.3	141009.9
	GLASTONBURY	BA6 9SU	Label	102.674	345321.8	141012.5
	GLASTONBURY	BA6 9SH	Label	68.305	346161.7	140929.3
	GLASTONBURY	BA6 9SU	Label	329.677	345236.1	141318
	GLASTONBURY	BA6 9SU	Label	69.156	345280.5	141322.8
PLAYING FIELD	GLASTONBURY	BA6 9SU	Surveyed		345467.1	141340.4
POND	GLASTONBURY	BA6 9SL	Surveyed		345895.2	141198.3
	GLASTONBURY	BA6 9SU	Label	45.545	345228.8	141415.9
	GLASTONBURY	BA6 9SU	Label	25.724	345416.2	141384.2
	GLASTONBURY	BA6 9SU	Label	43.992	345415	141391.6

	GLASTONBURY	BA6 9SU	Label	1483.843	345231.9	141344.6
	GLASTONBURY	BA6 9ST	Label	245.68	345324.7	141430.2
	GLASTONBURY	BA6 9SU	Label	37.239	345345.7	141301.5



## Appendix C – Assessment of Movement of Wastes

---

## Eclipse: Assessment of Movements of Waste

### Background

1. The Environment Agency's Fire Prevention Plans (EAFPP) version 2, March 2015, looks to Fire Prevention Plans (FPPs) to provide details that their pile management is viable with an assessment of supply and demand. The assessment should include commentary on foreseeable market conditions and where applicable address issues regarding seasonal variation.

### Seasonality

2. The Eclipse operation as a wood recycling operation is influenced to a degree by seasonal factors. Greater levels of waste wood are generated during the spring and summer months when construction levels are highest. This has a mismatch with the period of highest demand for the processed wood product, such as demand from energy plants, in autumn and winter. As a low value, high bulk commodity, to meet the supply/demand challenge a high level of storage is essential.
3. Details of 'in' and 'out' movements of material at Eclipse between January 2015 and February 2016, are provided in the table at the end of this document. This shows the influence of seasonality with the months of April to August (with the exception of July) as having more material accepted to site than leaving but the rest of the year material leaving the site exceeds that brought to site. The summer 'surplus' of unprocessed wood was 'wiped out' during the following 2 months so that by November more material was going out than coming in.
4. The total figure clearly detail that the output<sup>1</sup> of the site exceeded input<sup>2</sup> with no build-up of a surplus material.

### Management

5. A system of recording on the basis of first in and first out (FIFO) is operated for the management of storage piles and is fully detailed in the FPP. The rate of input to the site and storage pile size will typically see stockpiles created within a week. The management of the

---

<sup>1</sup> The table does not detail individual contracts due to issues of commercial confidentiality but can be provided to the EA for their internal scrutiny on request.

<sup>2</sup> The overall figures indicate a greater amount was removed from site than was brought to site. This discrepancy is due to the removal of 'existing' stock.



storage piles limits the date range of the wastes in a single pile i.e. the waste in a single stockpile will have arrived at site in the same one week period. Processing is in response to contract demands with minimal storage times to reduce potential product deterioration. Therefore processed storage stockpiles are stored only for a very short period of time.

### **Market Conditions**

6. South West Wood Limited have been successful in growing their business both in terms of sourcing waste wood and securing contracts for the processed wood having secured new contracts with Stobart Biomass Products Ltd – 150,000 tonnes per year, Norbord have increased SWWP's yearly contract to a minimum of 32,000 tonnes from 25,000 tonnes, Kronospan have increased from 10,000 tonnes to 20,000 tonnes per year, Chipmunk South West Ltd 10,000 tonnes per year.
7. South West Wood Limited current supply contracts require a minimum of 700t/day of processed waste wood during periods of peak demand and shortly this volume will increase to 988 tonnes per day. Notwithstanding storage requirements to address the surplus of supply during the summer months, to ensure continuity of supply operationally (e.g to cover plant breakdown) requires a week's processed storage on site 4940t. It is critical to maintain a constant supply of the processed wood product to power plants to ensure there are no energy security issues. The scale of the operations therefore has a fundamental impact on the storage arrangements which must be of a commensurable scale.
8. At the time of writing, March 2016, the strength of the market is demonstrated by the increasing volumes that the Eclipse Works is handling with January and February 2016 showing an increase in both the material accepted to site and processed material leaving the site. The high throughput means that with the operation of FIFO there is no long term storage of material at the site.

## Eclipse: Site Inputs and Output January 2015 to February 2016

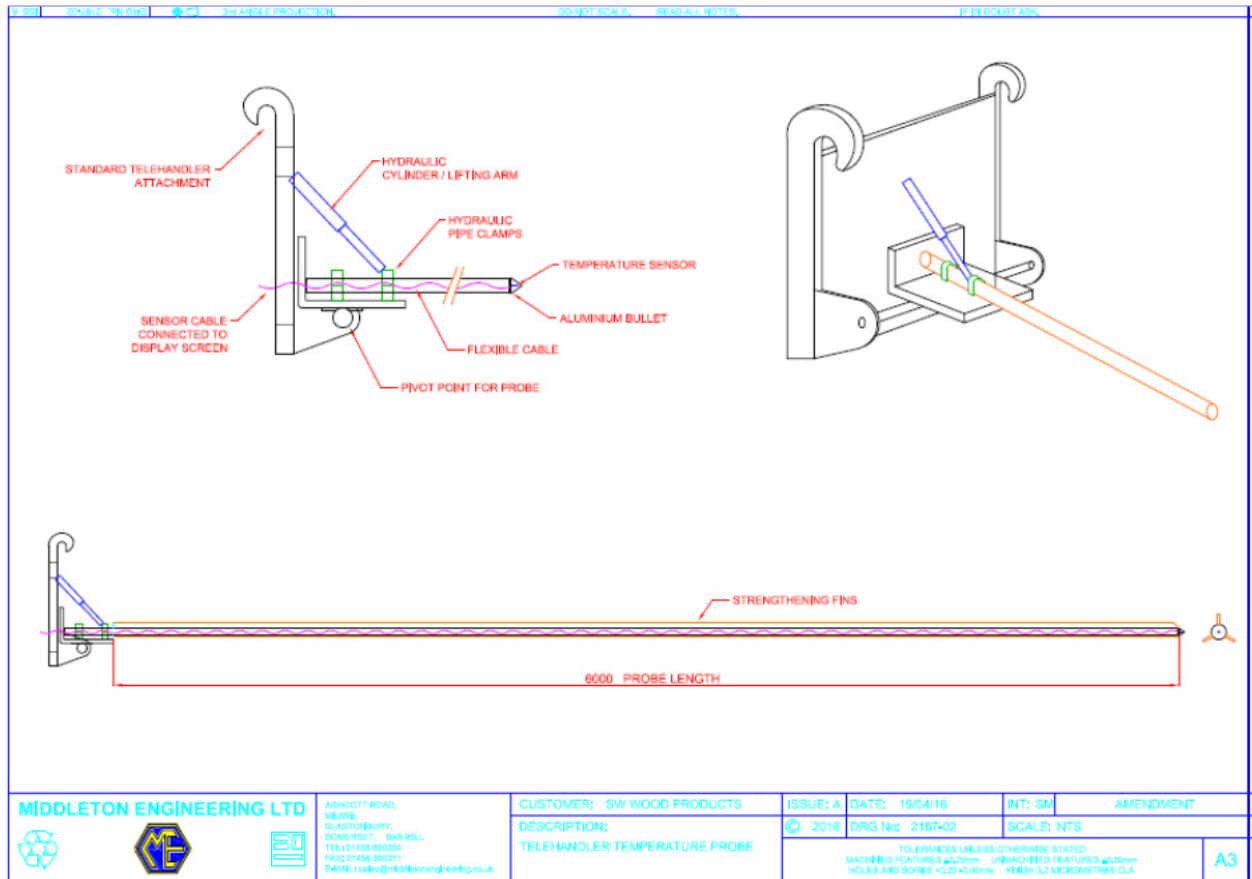
All figures in tonnes

	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16
In	7,846	5,630	5,282	5,369	4,886	5,748	10,542	8,565	10,463	9,515	8,974	7,048	11,676	9,207
Out	8,157	9,018	7,551	4,943	3,760	7,795	8,307	7,701	11,660	10,374	10,653	9,406	12,425	11,686
Net	-311	-3,388	-2,269	425	1,126	-2,047	2,236	864	-1,198	-860	-1,679	-2,358	-749	-2,479

### Totals

In	=	110,751
Out	=	123,436
Net	=	-12,685

**Appendix D – Probe Details**



MIDDLETON ENGINEERING LTD



ASHCOTT ROAD,  
 MEARE,  
 GLASTONBURY,  
 SOMERSET, BA4 9SL,  
 TEL: 01458 860304  
 FAX: 01458 860311  
 EMAIL: sales@miltonengineering.co.uk

CUSTOMER: SW WOOD PRODUCTS

DESCRIPTION:  
 TELEHANDLER TEMPERATURE PROBE

ISSUE: A

DATE: 19/04/16

INT: SM

AMENDMENT

© 2016

DRG No: 2167-02

SCALE: NTS

TOLERANCES UNLESS OTHERWISE STATED:  
 MACHINED FEATURES  $\pm 0.25\text{mm}$  UNMACHINED FEATURES  $\pm 0.50\text{mm}$   
 HOLES AND BORES  $+0.25 +0.50\text{mm}$  FINISH 3.2 MICROMETRES CLA

A3

## Appendix E – Contingency Letter



15<sup>th</sup> February 2016

Tom Dunn,  
Regional Manager,  
South West Wood Products Limited,  
Unit A4,  
Compass Business Park,  
Pacific Way,  
Ocean Park,  
Cardiff,  
CF24 5HL

Dear Tom,

**RE: Fire Management Plan**

Due to South West Wood Products Limited (SWWP) association with A.W. Jenkinson Forest Products (AWJFP), we are in a position to offer potential alternative outlets for both incoming and outgoing waste wood.

AWJFP has a number of long term supply contracts within the UK for the supply of both unprocessed and processed waste wood, which should provide the opportunity to divert waste wood material from the SWWP waste wood processing facilities as part of the SWWP Fire Management Plan. The number and nature of the outlets should mean that they will be available at short notice, regardless of seasonality or market conditions.

Yours sincerely,



Allan Jenkinson

Clifton Moor Clifton Penrith Cumbria CA10 2EY Tel: 01931 712644 Fax: 01931 712641  
[www.awjenkinson.co.uk](http://www.awjenkinson.co.uk)

## Appendix F –Plant Fire Certificates



Amerex Fire International Ltd  
Unit 54 Springvale Industrial Estate  
Cwmbran, Torfaen, NP44 5BD, UK  
Tel : +44 (0) 1633 627000  
Fax : +44 (0) 1633 627005  
VAT Number: GB 790 4196 12

### VFSS Installation Handover Certificate

E-mail: sales@amerexfire.eu Website: www.amerexfire.eu

Order No..... HC 10007 Date: 17/6/15  
Customer..... MC CLOSKEY EQUIPMENT @ SILVEST WOOD PRODUCTS  
Site Address..... MEARE BARASU  
Vehicle Make..... MC CLOSKEY K230  
Model..... K230 Serial No..... 82247 Amerex ID..... 1432

System Automatic  Manual

Agent Cylinder 1	Size 25LB	Serial Number A8845
Agent Cylinder 2	Size 1CE2	Serial Number A3614
Agent Cylinder 3	Size	Serial Number
Agent Cylinder 4	Size	Serial Number
Panel	Type 17308	Serial Number 14-11042

Detection Type Thermostat  Linear

Engine Shutdown Yes  No

Start time 8:00 Finish time 19:00 Total hours 11hrs x 2 men

- Fire System installation carried out as per agreed specification Yes  No
- Fire System familiarisation offer accepted Yes  No
- I accept the Amerex warranty is subject to 6 monthly servicing by an Amerex certified engineer Yes  No
- I have received a Fire System Owners Manual Yes  No
- Vehicle left in condition found - Amerex accept no liability for damage discovered after installation sign off Yes  No

Notes: .....

**Amerex Fire International Ltd:**

Sign..... Print PAUL WARE / GRAHAM KING

**Customer:**

Sign..... Print.....

**Emergency Callout Number +44 (0) 7702 811340**





Amerex Fire International Ltd  
Unit 54 Springvale Industrial Estate  
Cwmbran, Torfaen, NP44 5BD, UK  
Tel : +44 (0) 1633 627000  
Fax : +44 (0) 1633 627005  
VAT Number: GB 790 4196 12

### VFSS Installation Handover Certificate

E-mail: sales@amerexfire.eu Website: www.amerexfire.eu

Order No. .... HC 10156 Date: 14/18/15  
Customer: SOUTH WEST WOOD PRODUCTS  
Site Address: MERRE GLASNEBURY  
Vehicle Make: TEREX STALECK  
Model: 883 Serial No: E68950 Amerex ID: VSS 1443

System Automatic  Manual

Agent Cylinder 1	Size	ABC 25LR	Serial Number	AS118
Agent Cylinder 2	Size	ICE 2	Serial Number	TBC
Agent Cylinder 3	Size		Serial Number	
Agent Cylinder 4	Size		Serial Number	
Panel	Type	17308	Serial Number	1502022

Detection Type Thermostat  Linear

Engine Shutdown Yes  No

Start time: 7:30/8:00 Finish time: 8:30/12:00 Total hours: (1:4) 15

Fire System installation carried out as per agreed specification Yes  No

Fire System familiarisation offer accepted Yes  No

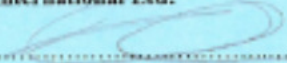
I accept the Amerex warranty is subject to 6 monthly servicing by an Amerex certified engineer Yes  No

I have received a Fire System Owners Manual Yes  No


Vehicle left in condition found - Amerex accept no liability for damage discovered after installation sign off Yes  No

Notes: MODERATE AMOUNT OF FINE WOOD WASTE ON UNDERBAYS BENEATH ENGINE THIS AREA WILL NEED PARTICULAR ATTENTION WHEN BLOWING OUT MACHINE END OF DAY

Amerex Fire International Ltd:

Sign:  Print: PAUL WOOD

Customer:

Sign:  Print: V MOORE

Emergency Callout Number +44 (0) 7702 811340

## Installation Handover Certificate



Customer: Taylor & Braithwaite

File Number: M6097

Job Number: TAYL01/006/001

Customer Ref: 12793

Make: HYUNDAI 760

Type of System: A-2-30-8-1M-SCN-ES-EI

Completion Date: 06/09/2012

Serial Number: 0397

**Ardent Limited** hereby certifies that the installation/supply/commissioning of the system has been carried out in accordance with the specification supplied and that the system has been passed its acceptance tests.

Signed for and on behalf of **Ardent Limited** by:-

Steve Wilkinson

Title: Installation Engineer

Date: 06/09/2012

The Customer hereby certifies that

- The installation/supply/commissioning of the system has been carried out satisfactorily
- Where applicable, all necessary information has been received
- Completion was effected on date stated above
- The operating procedures have been explained and are fully understood by the customer

Signed for and on behalf of the **Customer** by:-

David Lamb

Title: \_\_\_\_\_

Date: 06/09/2012

*D Lamb*

Installation Address  
CLIFTON MOOR, CLIFTON  
CUMBRIA,

Blue Copy: Accounts  
White Copy: Customer  
Pink Copy: Company

**Ardent Limited**  
Unit 3, Becklands Close, Bar Lane,  
Rosedale, Boroughbridge, N. Yorkshire,  
United Kingdom YO81 9NR

Tel: +44 (0)1670 162 5400  
Fax: +44 (0)1670 162 5410  
www.ardent-uk.com

Registered in England No. 2849284  
Registered Office: Unit 3, Becklands Close,  
Bar Lane, Rosedale, Boroughbridge, N. Yorkshire,  
United Kingdom YO81 9NR

## Installation Handover Certificate



Customer: Taylor & Braithwaite

File Number: M6143

Job Number: TAYL01/001/007

Customer Ref: 12798

Make: HYUNDAI 760-9

Type of System: A-2-30-8-1M-SCN-ES-EI

Completion Date: 11/10/2012

Serial Number: 000489

**Ardent Limited** hereby certifies that the installation/supply/commissioning of the system has been carried out in accordance with the specification supplied and that the system has been passed its acceptance tests.

Signed for and on behalf of **Ardent Limited** by:-

Brandon Rogers

Title: Installation Engineer

Date: 11/10/2012

The **Customer** hereby certifies that

- The installation/supply/commissioning of the system has been carried out satisfactorily
- Where applicable, all necessary information has been received
- Completion was effected on date stated above
- The operating procedures have been explained and are fully understood by the customer

Signed for and on behalf of the **Customer** by:-

Paul Mason

Title: \_\_\_\_\_

Date: 11/10/2012

Installation Address  
DYKE NOOK, SANDFORD  
CUMBRIA,

Blue Copy: Accounts  
White Copy: Customer  
Pink Copy: Company

**Ardent Limited**  
Unit 3, Becklands Close, Bar Lane,  
Rosedale, Boroughbridge, N. Yorkshire,  
United Kingdom YO81 9NR

Tel: +44 (0)1670 162 5400  
Fax: +44 (0)1670 162 5410  
www.ardent-uk.com

Registered in England No: 0943028  
Registered Office: Unit 3, Becklands Close,  
Bar Lane, Rosedale, Boroughbridge, N. Yorkshire,  
United Kingdom YO81 9NR

INV-108225



**Installation Handover Certificate**

Customer: A.W. JENKINSON (SCOT JCB) File Number: M6413  
Job Number: SCOT03/001/003  
Customer Ref: 74247  
Make: JCB 437 S/N JC1343700H02063765  
Type of System: A-1-30-6-1M-SCN-ES-E1 SCN C1303-119124  
Completion Date: 02/07/2013 Serial Number: 063765

FIRE SYSTEM INSTALLATION A. LEWIS

**Ardent Limited** hereby certifies that the installation/supply/commissioning of the system has been carried out in accordance with the specification supplied, and that the system has passed its acceptance tests.

Signed for and on behalf of **Ardent Limited** by:-

PATRICK THORNTON Pat Thornton

Title: ENGINEER  
Date: 02/07/2013

- The Customer hereby certifies that
- The installation/supply/commissioning of the system has been carried out satisfactorily
- Where applicable, all necessary information has been received
- Completion was effected on date stated above

The operating procedures have been explained and are fully understood by the customer

Signed for and on behalf of the **Customer** by:-

[Signature]

Title: Service Supervisor  
Date: 2-7-13


Installation Address  
SCOT JCB

Blue Copy: Accounts  
White Copy: Customer  
Pink Copy: Company

**Ardent Limited**  
Unit 3, Becklands Close, Bar Lane,  
Rosedale, Boroughbridge, N. Yorkshire,  
United Kingdom YO51 5NR  
Tel: +44 (0)1770 162 5400  
Fax: +44 (0)1770 162 5410  
www.ardent-uk.com

Registered in England No: 2510624  
Registered Office: Unit 3, Becklands Close,  
Bar Lane, Rosedale, Boroughbridge, N. Yorkshire,  
United Kingdom YO51 5NR

INV: 108726

 **ARDENT PROVEN FIRE PROTECTION SYSTEMS** Installation Handover Certificate

Customer: A W. Jamesons (Scott JCB) File Number: W16414  
Job Number: SCOT0310011004  
Customer Ref: 74247  
Make: JCB 437 SN: C1306-120564  
Type of System: A130.6.114.SCN.E5.E1  
Completion Date: 28/6/13 Serial Number: 2063767

Ardent Limited hereby certifies that the installation/supply/commissioning of the system has been carried out in accordance with the specification supplied, and that the system has passed its acceptance tests.

Signed for and on behalf of Ardent Limited by:-  
Title: Alvin A. Lewis  
Installation Engineer  
Date: 28/6/13

The Customer hereby certifies that  
 The installation/supply/commissioning of the system has been carried out satisfactorily  
 Where applicable, all necessary information has been received  
 Completion was effected on date stated above

The operating procedures have been explained and are fully understood by the customer

Signed for and on behalf of the Customer by:-  
Title: Steve Simpson  
Date: 28.6.13

Installation Address  
Scott JCB  
Carville

Ardent Limited  
Unit 3, Becklands Close, Bar Lane,  
Rosedale, Boroughbridge, N. Yorkshire,  
United Kingdom YO61 3HT

Tel: +44 (0)1773 162 5400  
Fax: +44 (0)1773 162 5410  
www.ardent-uk.com

EN60 602V AC/DC IFTS  
White Copy: Customer  
Pink Copy: Company

Registered in England No: 2842801  
Registered Office: Unit 3, Becklands Close,  
Bar Lane, Rosedale, Boroughbridge, N. Yorkshire,  
United Kingdom YO61 3HT



## Warranty Certificate

Customer <u>Scot JCB LTD.</u>	File Number <u>M6505</u>
<u>M. Brook Rd.</u>	Job Number <u>SCOT03/001/006</u>
<u>Kingstun Ind. Est.</u>	Customer Ref <u>74295</u>
<u>Carlisle</u>	
<u>CA3 0EU</u>	
Make <u>JCB 437</u>	<u>312950</u>
Type of System <u>H-1-30-6-1A-SCA-ES-EI</u>	
Completion Date <u>2/10/13.</u>	

The components of the Ardent Fire Suppression System supplied, are Warranted by the supplier Ardent Limited to you as the original purchaser for one year from the date of delivery against defects in workmanship and materials.

Ardent Limited will replace or repair any Ardent supplied component which in its opinion is defective and not tampered with or subject to misuse, abuse, exposed to highly corrosive conditions or extreme high temperature provided that:

1. The equipment has been serviced and maintained in accordance with the manufacturer's instructions, by authorised service personnel.
2. That written notice of the alleged defect shall be given to Ardent Limited within 30 days after the discovery thereof and prior to the expiration of one year from delivery.
3. Said written notice shall include copies of the monthly inspection reports (by client) and service reports (by Authorised personnel) for the claim to be validated.
4. Should Ardent Limited so instruct, such defective article or part is promptly returned to Ardent Limited.

For repairs, parts and service of the Ardent System, contact your local Ardent Representative.

For French/German/Russian Translation please see reverse  
 Pour la traduction s'il vous plaît voir au verso  
 Für die Übersetzung siehe Rückseite  
 смотрите перевод на обороте

Signed for and on behalf of Ardent Limited by:-

Signed for and on behalf of the Customer by:-

[Signature]  
 Title ENGINEER.  
 Date 2/10/13.

[Signature]  
 Title Service Manager  
 Date 2/10/13

White Copy: Customer  
 Pink Copy: Company  
 Blue Copy: Accounts  
 Yellow Copy: Machine

Ardent Limited  
 Unit 3 Becklands Close, Bar Lane,  
 Rooccliffe, Boroughbridge,  
 North Yorkshire, UK, YO51 9NR

Telephone: +44 (0)170 162 5400  
 Facsimile: +44 (0)170 162 5410  
 E-mail: info@ardent-uk.com  
 Website: www.ardent-uk.com



Registered in England No: 05646011  
 Registered Office: Unit 3, Becklands Close,  
 Bar Lane, Rooccliffe, Boroughbridge,  
 North Yorkshire, UK, YO51 9NR



INSTALLATION HANDOVER CERTIFICATE

**Customer Information**

**Name:** South West Wood Products™ Glastonbury  
**Address:** South West Wood Products  
31 Ashcott Road  
Meare  
Glastonbury  
BA6 9SU  
United Kingdom

**Job Information**

**Number:** WO-002809  
**Completion:** 16/10/2015 9:52:57 AM

**Asset Information**

**Name:** M7214  
**System:** A-1-50-8-1-LV53-4-210-E5-EI  
**Make:** Dopstadt  
**Serial No:** 147  
**Model:** 633  
**SCN Serial No:** 200143303197

Ardent Limited hereby certifies that the installation/supply/commissioning of the system has been carried out in accordance with the specification supplied, and that the system has passed its acceptance tests.

Signed for and on behalf of Ardent Limited by :-

The Customer hereby certifies that :-

Other Job Notes

- The installation/supply/commissioning of the system has been carried out satisfactorily;
- Where applicable, all necessary information has been received;
- Completion was effected on date stated above.

The operating procedures have been fully explained and are fully understood by the customer.

Signed for and on behalf of the Customer by :-

**Name:**

**Date:** 16/10/2015 9:52:57 AM

**Ardent Limited**  
Unit 3, Becklands Close, Bar Lane,  
Roedcliffe, Boroughbridge, N. Yorkshire,  
United Kingdom, YO51 9NR

**Tel:** +44 (0)870 162 5400  
**Fax:** +44 (0)870 162 5410  
[www.ardent-uk.com](http://www.ardent-uk.com)

**Registered in England No:** 2843624  
**Registered Office:** Unit 3, Becklands Close,  
Bar Lane, Roedcliffe, Boroughbridge, N.  
Yorkshire, United Kingdom, YO51 9NR

## Appendix E – Inspection Sheets



DAILY PLANT CHECK LIST

Location: SWMP GLASTONBURY		Date: 15.02.2016	Part Number	Machine hours	
Make: CHIEFTAIN		Model: 1450	Serial Number	Total Hours for Week	
Operator's Name: P. Sledge, Row 08		Signature: P. Sledge	Row 08	7505	
<b>DAILY BEFORE START UP:</b>					
Machine hours	Monday	Tuesday	Wednesday	Thursday	Friday
Water Coolant Level	1233	1241	1258	1269	1277
Engine Oil Level					
Hydraulic Oil Level					
Transmission Oil Level					
Any Leaks oil/water					
Radiator Blown out					
Check the roller teeth are tight and in place					
Check all conveyors are tracking correctly					
Check all bearings are free from wrappage					
Tyre condition					
Whistle/wheel nuts tight					
Guard/doors secure					
<b>SAFETY CHECKS AFTER START UP:</b>					
Emergency Stops					
Beacon, Horn, Lights and Buzzers					
Reversing alarm if fitted					
<b>END OF SHIFT DAILY:</b>					
Inspect damage (broken parts/etc)					
Remove debris from around engine area					
Grease all bearings					
Check that no objects are jammed in conveyors					
<b>ANY OTHER COMMENTS:</b>					
Hours Left Services			7559		
Next Service Due			7809		
SOUTH WEST WOOD PRODUCTS LTD GLASTONBURY SITE					

DAILY PLANT CHECK LIST

Location: SWWP GLASTONBURY	Date: 15/02/2016	Plant Number	Machine hours					
Name: HCB A	Model: 437#T	Serial Number	Totals Hours for Week					
Operator Name: EDUARDO RIVERA	Monday 8:48	Signature: <i>Edo</i>	Tuesday 8:02	Wednesday 8:15	Thursday 8:38	Friday 8:53	Saturday 8:47	Sunday
DAILY BEFORE START UP:								
Machine Hours								
Water Coolant Level	/	/	/	/	/	/	/	/
Engine Oil Level	/	/	/	/	/	/	/	/
Hydraulic Oil Level	/	/	/	/	/	/	/	/
Transmission Oil Level	/	/	/	/	/	/	/	/
Air Leaks air/water	/	/	/	/	/	/	/	/
Radiator Blown out	/	/	/	/	/	/	/	/
Check the rotor teeth are tight and in place	/	/	/	/	/	/	/	/
Check all conveyors are tracking correctly	/	/	/	/	/	/	/	/
Check all bearings are free from wrappage	/	/	/	/	/	/	/	/
Tyre condition	/	/	/	/	/	/	/	/
Wheels/wheel nuts tight	/	/	/	/	/	/	/	/
Guardfloors secure	/	/	/	/	/	/	/	/
<b>SAFETY CHECKS AFTER START UP:</b>								
Emergency Stops	/	/	/	/	/	/	/	/
Beacon, Horn, Lights and Buzzers	/	/	/	/	/	/	/	/
Reversing alarm if fitted	/	/	/	/	/	/	/	/
<b>END OF SHIFT DAILY:</b>								
Impact damage (broken panels/etc)	/	/	/	/	/	/	/	/
Remove debris from around engine area	/	/	/	/	/	/	/	/
Grease all bearings	/	/	/	/	/	/	/	/
Check that no objects are jammed in conveyors	/	/	/	/	/	/	/	/
<b>ANY OTHER COMMENTS:</b>	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 5px auto;"> <p>Hours Last Services 8116</p> <p>Next Service Due 8616.</p> </div>							
SOUTH WEST WOOD PRODUCTS LTD GLASTONBURY SITE								

## Appendix H – Electrical Maintenance Details



 07787 418 953

Tom Dunn  
South West Woods  
Eclipse Works  
Ashcott Road  
Meare  
Nr. Glastonbury  
Somerset  
BA6 9SU

REF: Electrical works

Dear Tom

As you are well aware, we are currently undertaking electrical works to the site at Meare to ensure a high level of electrical safety to BS7671. Whilst most of the sites electrical installation has now been disconnected, the remaining install is going through upgrades to the latest 18<sup>th</sup> edition AMD3.

Kind regards

Sam Canniford

Ablelec Ltd - Bridles, 2 Watery Lane, Stoke St. Mary, Taunton, Somerset, TA3 5BX

Website : [www.ablelec.co.uk](http://www.ablelec.co.uk)

Vat Reg. No. 453 8608 29

## Appendix I – Schematic Movement of Materials

## Schematic Movement of Materials in Fire Scenario

### Zone 1

Figure 1: Initial Movement Away From Fire Area

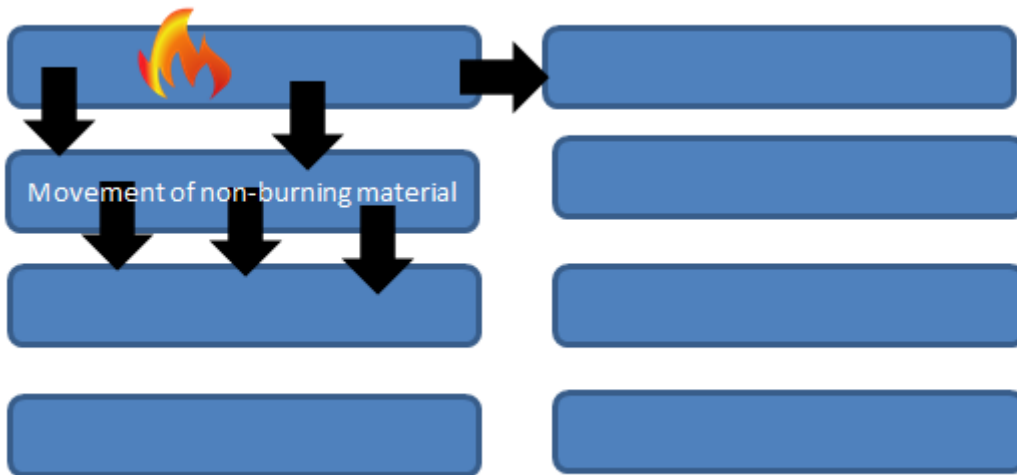
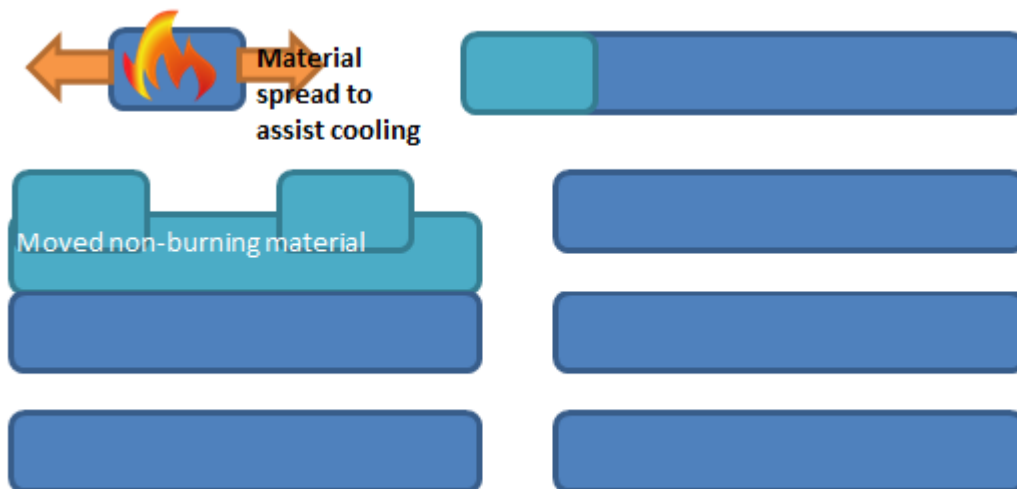
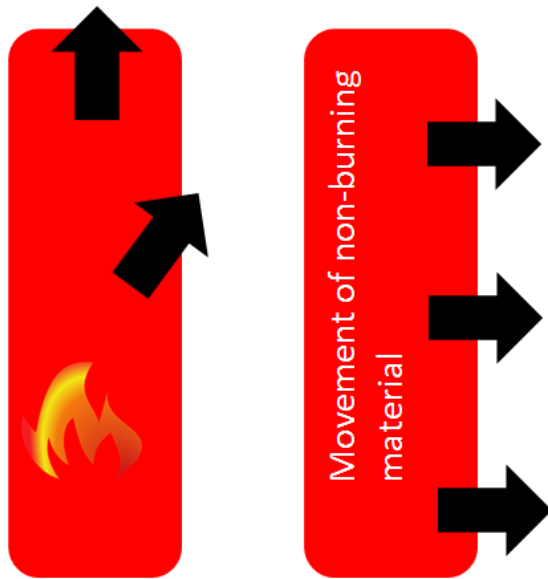


Figure 2: Movement For Cooling

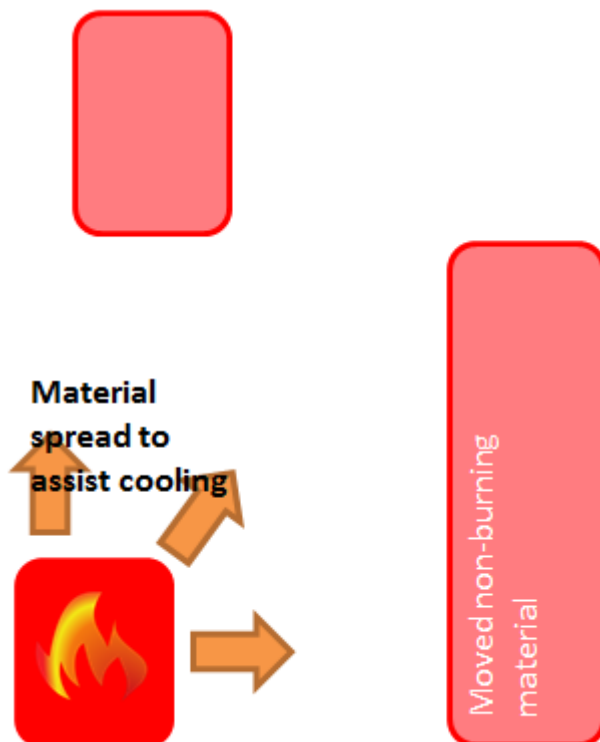


## Zone 2

**Figure 3: Initial Movement Away From Fire Area**



**Figure 4: Movement For Cooling**



## Zone 4

Figure 5: Initial Movement Away From Fire Area

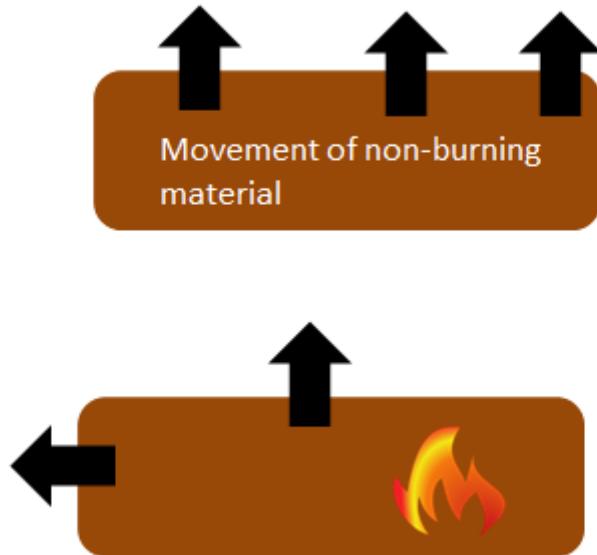
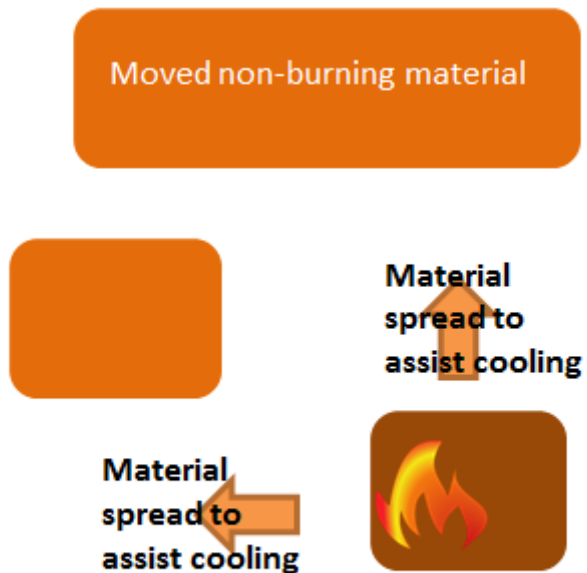
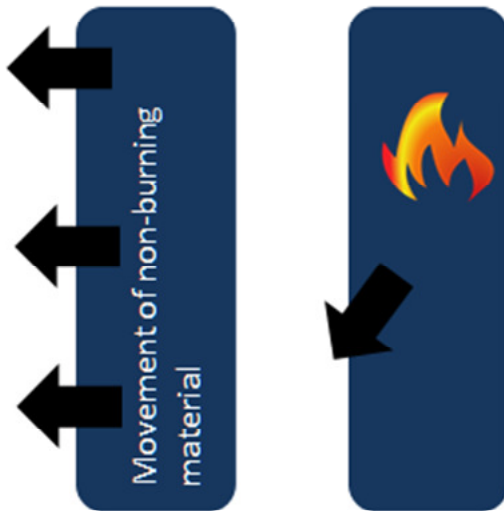


Figure 6: Movement For Cooling

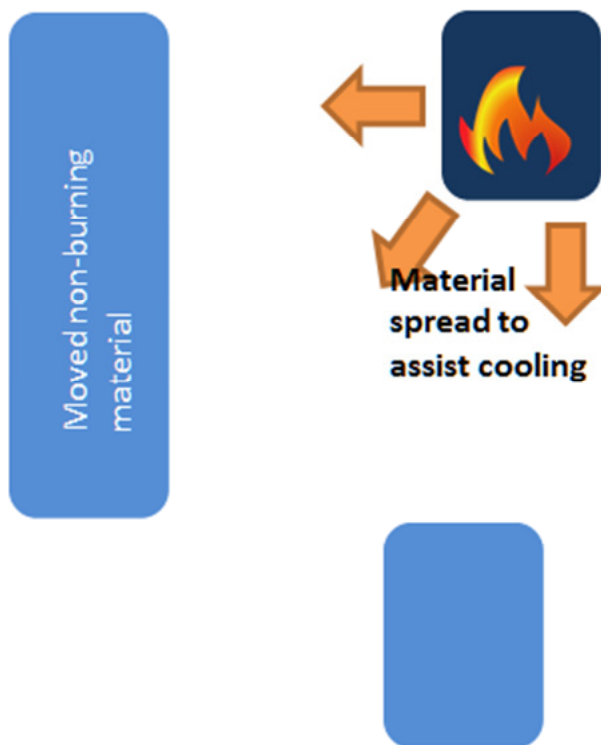




**Figure 7: Initial Movement Away From Fire Area**

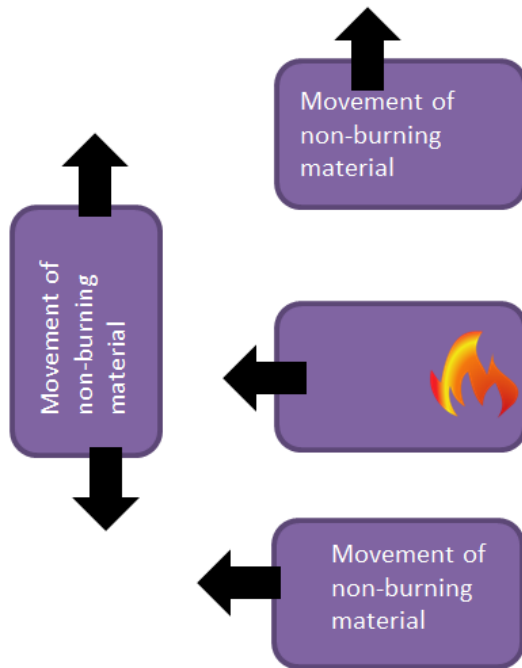


**Figure 8: Movement For Cooling**

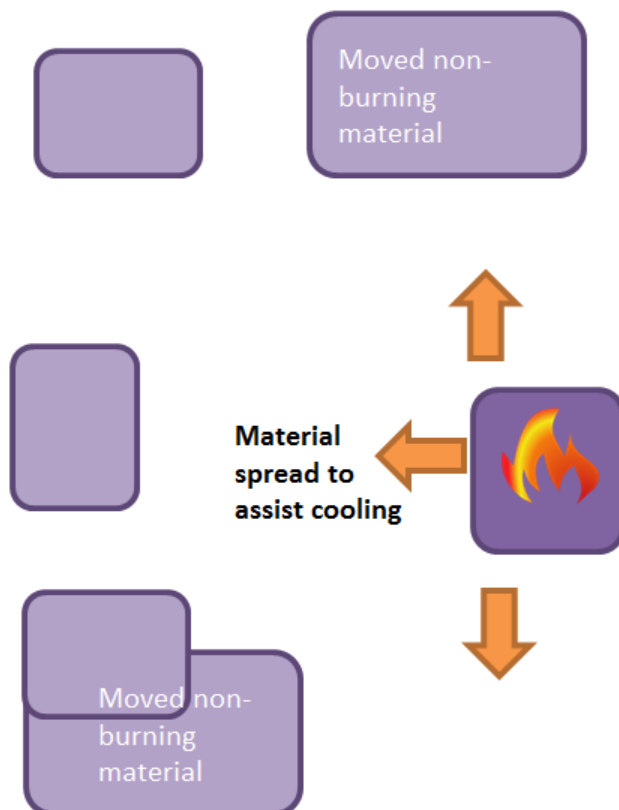


**Zone 6**

**Figure 9: Initial Movement Away From Fire Area**



**Figure 10: Movement For Cooling**



## Appendix J – Pump Details



Unit 2 North Way, Walworth Business Park, Andover, Hants SP10 5AZ, UK  
 Tel: (44) 1264 332004 Fax: (44) 355399  
 email: enquiries@pumpsets.com Website: www.pumpsets.com

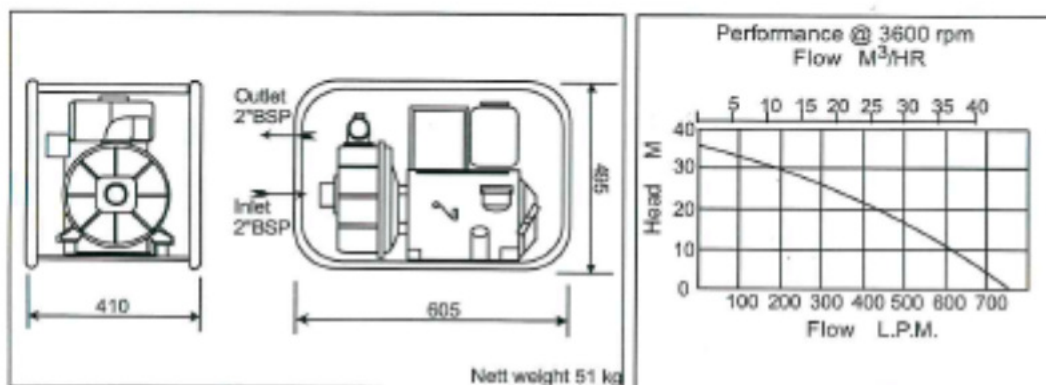
**ATALANTA GANNET 251**  
 2" x 2" Portable Self Priming Centrifugal Trash Pump  
 with  
 Lombardini 15LD225 Diesel Engine

Heavy Duty Dewatering – Desludging - Raw Water Supply – General Purpose Pumping



- Aluminium Casing with Cast Iron Wearing Parts
- Rigid Monobloc Design
- Solids Handling to 25 mm Ø
- Integral Non Return Valve
- Self Priming to 7 m
- Carbon/Carbide Mechanical Seal
- Easy Maintenance with One Tool (Hexagon Wrench Supplied)
- Course Suction Hose Filter/Clip Included
- Removable Screwed Cast Iron BSP Male Connections
- Steel Roll Over Frame with Anti-Vibration Mounts/ Pre-Drilled Mounting Holes.
- Many Options Including – Spares Kits – Hoses – Trolley – Quick Couplings – Case Packing

Powered by a Lombardini lightweight industrial air cooled single cylinder diesel engine model 15LD225 developing 3.5 kW at a nominal 3600 rpm complete with recoil start, (optional **E** – 12 volt electric start), 3 litre 3 hr. fuel tank, silencer, throttle, dry type air, oil and fuel filters. Set is supplied with Pump and Engine Operating and Instruction Manuals.



## Umbilical Pump Systems

### Rain Gun

Hydraulically operated, fitted with centrifugal system for disposal of slurry under wet conditions. The rain gun can spread slurry over a distance of 295ft (90m) and is able to rotate through 360°



### DCI Umbilical Arm

Suitable for use with umbilical slurry spreading systems

### Hydraulic Vacuum Pump

Available in lieu of a standard pump or in combination with PTO driven centrifugal pump



### Rain Gun

Optional up/down movement

# WRIGHT RAIN/FARROW

## MK.2 H3, H3W, H4 & H4W

### tractor pumps for clear water

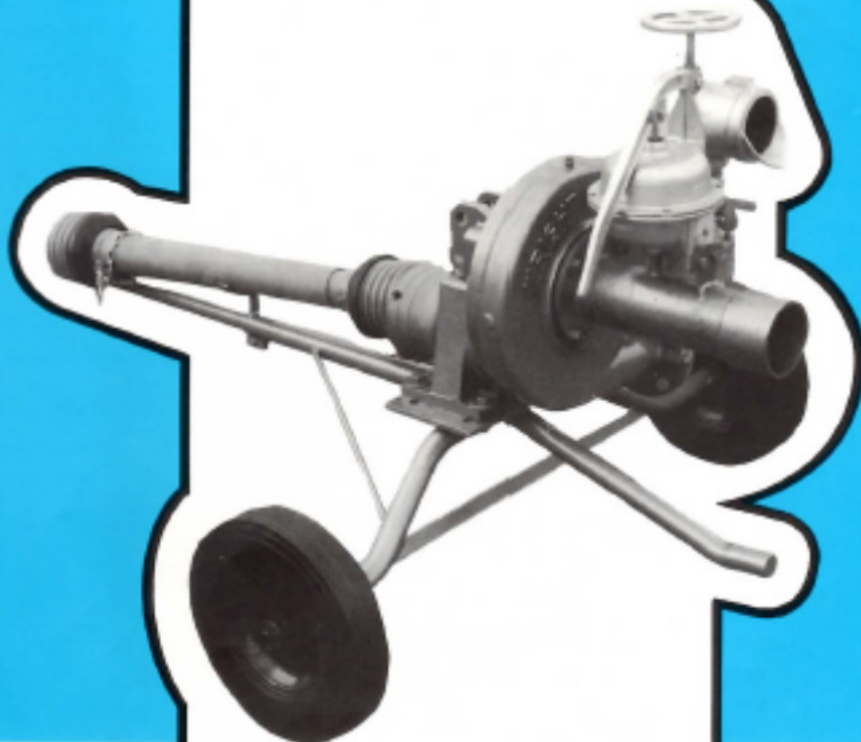
The Wright Rain Mark 2 medium head tractor powered pumps incorporate a single stage centrifugal pump driven through a 1:4 ratio speed increasing gearbox.

Duty range of the H3 Mk.2 is 150-450 Imp. gpm (40-122m<sup>3</sup>/hr) at 262-332 ft. hd. (80-102 metres) and is suitable for medium to high static lift sprinkler schemes.

Duty range of the H4 Mk.2 is 237-670 Imp. gpm (66-156m<sup>3</sup>/hr) at 266-342 ft. hd. (81-105 metres) and is suitable for larger schemes with medium to high static lift, or for operating with irrigation hoses where low static lifts are involved.

Both pumps are mounted on a common cast iron gearbox. The gearbox is rated to accept 80bhp input. The 1.1 litre (1.94 pints) capacity oil bath ensures ample lubrication.

The robustly constructed gearbox contains two gears and shafts running in heavy duty taper roller bearings adjustable for end float. The integral gear on the output shaft and the splined mating gear on the input shaft are helical cut for quiet, efficient running.



## SPECIFICATIONS

### MK.2 H3 (TRACTOR MOUNTED)

Type: Single stage.  
 Standard impeller diameter: 343mm (13.5").  
 Horse-power range: 20-80bhp (15-60kw).  
 Gearbox ratio: 1:4-11.  
 Gearbox oil capacity: 1.1 litre (1.94pts).  
 Gearbox oil multigrade: 20/50.  
 Suction: To BS4504 (table 16): 100mm stubbed & flanged.  
 Discharge: To BS4504 (table 16): 80mm flanged.  
 Base for three point linkage: Category I or II.  
 Universal shaft to fit tractor spline: 35mm (1 1/4").  
 Guard for universal shaft.

### MK.2 H4 (TRACTOR MOUNTED)

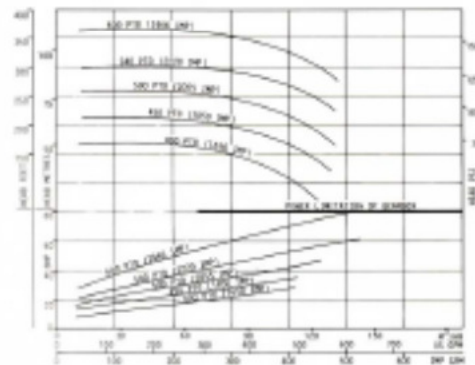
Type: Single stage.  
 Standard impeller diameter: 381mm (15.0").  
 Horse-power range: 20-80 Bhp (15-60kw).  
 Gearbox ratio: 1:4-11.  
 Gearbox oil capacity: 1.1 litre (1.94pts).  
 Gearbox oil multigrade: 20/50.  
 Suction: To BS4504 (table 16): 125mm stubbed and flanged.  
 Discharge: To BS4504 (table 16): 100mm flanged.  
 Base for three point linkage: Category II.  
 Universal shaft to fit tractor spline: 35mm (1 1/4").  
 Guard for universal shaft.

### OPTIONAL EXTRAS

Wright Rain diaphragm priming pump.  
 Wright Rain suction extension (with mounting for priming pump and plain end for aluminium suction pipe).  
 Wright Rain pump delivery valve (combined delivery/check valve).  
 65mm (2 1/2") diameter pressure gauge.  
 Wright Rain aluminium footvalve.  
 Wright Rain basket strainer.  
 Complete range of suction and delivery fittings available.

## PERFORMANCE CURVES

### Type H3



### MK.2 H3W & H4W (TROLLEY MOUNTED)

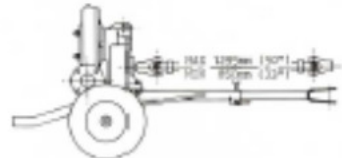
Two wheel trolley with tractor towing eye hitch and two 100mm x 405mm wheels and axle.  
 An adjustable universal shaft and shaft guard are included with the two wheel trolley mounted pump.

## INSTALLATIONS

### Type MK.2 H3 & H4

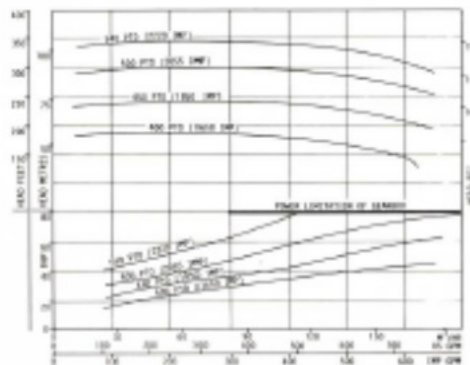


### Type MK.2 H3W & H4W



Both the three-point linkage and the trolley should be adjusted so that the pump input shaft, and the tractor pto shaft are level and parallel and the pto shaft therefore runs straight. The maximum shaft angular misalignment should not in any circumstances exceed 7 1/2° on each joint as shown. For trolley mounting the maximum fully extended length of the universal shaft is 1256mm (50") and the minimum fully closed running length is 850mm (33").

### Type H4



We have a policy of continual review of the design and specification of our products and for this reason descriptions and information given in this publication are intended to give only a general idea of our products at the time of printing. Our products are sold on our Standard Conditions of Sale, a copy of which will be supplied on request, and this publication is not intended to form part of any Contract with us or to be a warranty, express or implied of the specification or performance of the products described.



# Wright Rain

**Wright Rain Limited**  
**Planned Irrigation**  
 Ringwood, Hampshire, BH24 1PA, England  
 Telephone: Ringwood (04254) 2251  
 Telegrams: Wrightrain, Ringwood. Telex: 41206



B&S 2m 11.84 A.147

## Appendix K – Risk Assessment



## ENVIRONMENTAL FIRE RISK ASSESSMENT FOR THE WOOD RECYCLING OPERATIONS AT ECLIPSE WORKS

**Produced By:** LMM

**Date:** 25<sup>th</sup> April 2016

**Notes:** No critical infrastructure (main roads or other communication routes) or community facilities lie within 1km of the site. As a result it is not necessary to risk assess these impacts.

The site operates under an Environmental Permit and a Fire Prevention Plan (FPP). The measures set out in the FPP as management and mitigation provide the justification in each scenario for the residual risk criteria applied. The FPP identifies and minimises fire and associated risks of pollution, with measures for fire prevention, detection, firefighting procedures and pollution control measures covering site storage, processing operations, maintenance, accidents, incidents, non-conformances. Fire detection (monitoring during operational hours and outside operational hours) and prevent measures minimise likelihood of fire and firefighting procedures designed for swift extinguishment of fire. Separation distances prevent spread of fire.

<b>Source</b>	<b>Receptor</b>	<b>Harm</b>	<b>Pathway</b>	<b>Probability of Exposure</b>	<b>Consequence</b>	<b>Magnitude of Risk</b>	<b>Justification for Magnitude</b>	<b>Risk Management</b>	<b>Residual Risk</b>
Smoke	Local human population	Respiratory irritation, illness, nuisance and loss of amenity	Air transport then deposition	Low	Medium	Low	Smoke has potential to cause nuisance but nearest local residents adjacent to site are upwind of prevailing wind.	FPP which includes measures to ensure no burn of over 3-4 hours to minimise exposure.	Low
	Protected sites: Ham Wall, Shapwick Heath & Somerset Levels and Moors	Smothering, disturbance of habitat	Air transport then deposition	Medium	Low	Low	Conservation interests of wetland habitat would not be affected by smoke. Impact on birds would be temporary for duration of event.	FPP and as above	Very low

Fire waters	Local human population	Contamination/pollution	Direct run-off from site across ground surface, via surface water drains, ditches etc. then abstraction.	Low	Low	Low	Site is not on a major aquifer nor are there any abstraction points in the vicinity of site	FPP Contained drainage system detailed in FPP with no connection to external surface water courses. Fire fighting measures to minimise use of fire water.	Very Low
Fire waters	Protected sites: Ham Wall, Shapwick Heath & Somerset Levels and Moors	Contamination/pollution with deterioration	Spillages and contaminated firewater by direct run-off from site and via surface water	Low	Medium	Low	Polluted waters would affect wetland interest, but no direct contact from site to external water courses and firefighting procedures to minimise fire water residue.	FPP As above.	Low
Fire	Local human population	Injury to staff, firefighters	Combustion event through arson, self combustion or accidental ignition	Low	Medium	Low	Site is open yard reducing risk to fire fighters and site operatives.	FPP Site security reduce risk of unauthorised access. Site operatives trained in fire measures. Fire Service has assessed FPP measures	Low

Fire / Thermal Radiation	Protected sites: Ham Wall, Shapwick Heath & Somerset Levels and Moors	Loss, deterioration	Combustion event through arson, self-combustion or accidental ignition	Low	Medium	Low	Protected Sites are separated from site by water bodies which would prevent spread of fire.	Protected Sites remote from site to not be directly affected	Very Low
--------------------------	---	---------------------	--	-----	--------	-----	---	--	----------

