Fire prevention plan for permit numbers:

EPR/EBFB3101UXA0 01– Waste treatment facility

Located at:
Former airfield
Land off A372 Westonzoyland

Section 1 - Overview of the site

This section details what activities are undertaken at the site, the layout of the site and any infrastructure and the environment around the site detailing the sensitive receptors.

Overview of the site		
Key contacts	Nick Towens Director	07968 378704
	Graham Carrington Company secretary, fire marshall and first aider.	07817 409377
	Andy Read Yard manager, Fire marshall and first aider	07968 805135
	Rebecca Bomers Environment Manager	07709 320836
	Dave Fry Engineer	07802 337202
Activities	Westonzoyland is primarily a waste treatment site and the following activities take place: • Crushing hardcore to produce aggregate in line with WRAP Protocol • Screening top soil • Screening road planings to create aggregate in line with WRAP Protocol • Chipping / shredding wood to create product for biomass • Chipping / shredding green waste for off-site composting Of these material types, only the wood and green materials are deemed combustible.	
Location Plan and sensitive	Sensitive receptors for the site include water abstractions, boreholes, residential areas, a road, watercourses and a SSSI.	

receptors review	These are shown in the maps below. Groundwater maps  Envirocheck_Weston zoyland_EC_A_Conte Full report and authority contact details  Envirocheck_Weston zoyland_EC_A_Datas General maps  Envirocheck_Weston zoyland_EC_A_SiteSe If a fire breaks out on site, the Environment Agency must be informed in all circumstances. The prevailing South-West wind direction is away from all sensitive receptors, with the exception of the A372 road. If the amount of smoke produced is likely to adversely affect road users, the police must be informed by dialling 999. In the unlikely event that smoke is directed towards the caravan site, to the South-East of the site, or the nearby farm house to the North-West of the site, the on duty manager will elect a representative to knock on doors to inform residents of the fire. Key contact details: Authority contact details including Environment Agency, Natural England, Councils and Public Health can be found in above report. The contacts in the table below are to be contacted if advised by the Environment Agency that groundwaters / abstractions are likely to be compromised:

	Map	**Item on Map**	**Type of sensitive receptor**	**Contact details**
	General	7, 8 & 9	Water abstraction	Mr R Wheaton Springway Farm, Westonzoyland, TA7 0JS 01297 678152 07970654978
	General	10	Water abstraction	Mr Bawden Manor Farm Main Road Westonzoyland TA7 0LZ 01278 691564
	General	12	Water abstraction	Burdenham Farm Westonzoyland TA7 0JB 01278 691280
Site Plan	Plan reference SCR.SLP.WZ.2017 shows: • No hazardous materials are kept on site. • Concrete impermeable surface location. • Processing area and containment system – also where mobile plant is stored overnight and the quarantine area if needed. • Storage bays for each material type, including covered bays. • Fire hydrant location and size • Emergency access/egress routes			

Section 2 - Preventing fires

This section reviews the risks there are on site and what procedures there are in place to minimise them. It needs to review all activities on site and cover when the site is operational and not operational.

<table>
<tr><th colspan="2">Preventing fires</th></tr>
<tr><td>Pile sizes / volumes and dimension</td><td>Combustible waste materials on site consist of green waste and wood – whole pieces and chipped; it arrives whole and then gets treated by shredding.

Fire Prevention Plan guidance state the following maximum storage volumes:

Table 1. Maximum pile sizes. Taken from Environment Agency guidance on Fire Prevention Plans, dated Nov 2016.
<table>
<tr><th>Waste Type</th><th>Loose and more than 150mm</th><th>30 to 150mm or baled</th><th>Less than 30mm</th></tr>
<tr><td>Wood</td><td>750m3</td><td>450m3</td><td>300m3</td></tr>
<tr><td>Green waste</td><td>750m3</td><td>450m3</td><td>450m3</td></tr>
</table>

The maximum storage volume for wood and green waste at the Westonzoyland site is 600m3. Each bay has storage for 150m3 and this figure is based on the size of the bays, which are 6 metres wide, 10 metres deep and 2.5 metres high for ‘Waste-In’, or 12 metres wide, 5 metres deep and 2.5 metres high for ‘Waste-Out’. There are two bays for ‘Waste-In’, one for wood and one for Green materials. There are two bays for ‘Waste-Out’, one for wood and one for Green materials. This equates to 150m3 (per bay) x 4 (numbers of bays) = 600m3.

These pile sizes are way below the maximum amounts stated in the guidance.</td></tr>
<tr><td>Storage duration</td><td>Guidance states that waste stored for longer than 3 months needs additional measures put in place; Waste is not kept in any bay for longer than seven working days.

Waste rotation has been considered and deemed not necessary. This is because the waste wood / green waste is shredded a minimum of once per week. When the waste is shredded the whole bay gets emptied, so the most disparity in age of the waste is seven days. Waste is not stored before arrival at the Westonzoyland site.

After treatment, waste is kept for a maximum of seven days. This is for commercial reasons as the material is sold-on and</td></tr>
</table>

	also to create capacity for more incoming material. The added advantage of waste leaving site asap ensures that the seven day maximum storage time is never breeched. In addition, the bays for storing any combustible waste are covered, in order to shade the materials to minimise external heating.
Monitoring	The latest guidance from the Environment Agency states that additional measures need to be taken and procedures in place if wastes are stored in the maximum pile sizes for three months or more. Waste stored at Westonzoyland is stored for substantially less than three months in stock piles considerably smaller than the maximum sizes permitted. For out of hours monitoring, there is security personnel based on sight when the site is not operational during night time hours or non-working days. Towens also have a 24hr stockpile heat monitoring system in place, which sends an alarm to designated staff mobile phones if the core temperature reaches a level where action is needed to cool the material down.
Actions to limit self-heating	The storage times and pile sizes are vastly below the limits stated in recent guidance, therefore drastically reducing the risk of self-combustion of materials.
Arson or vandalism	When the site is non-operational there is security personnel based on the site. The security personnel have a copy of this procedure, as well as the contact numbers of key staff and emergency services. They keep a fire extinguisher at site to stop small scale fires from taking hold and spreading.
Plant and equipment	All plant and equipment is maintained in-line with manufacturers recommendations as well as planned routine maintenance and recording as part of the company's Environment Management System, which is in-line with ISO 14001:2015.
Infrastructure and site inspections	The site is well maintained and procedures, documentation and recording information is all done in accordance with the company's Environment Management System, which is in-line with ISO14001:2015. This includes maintenance procedures, for example to minimise the build-up of dust, fluff and litter around the site as well as the checking the integrity of walls and drainage.

Electrical faults	There is no electric on-site.
Ignition sources	Sources of ignition should be kept at least 6m away from any combustible or flammable materials. Sources, such as heating pipes, industrial heaters should have documented procedures for their safe use. Procedures should be in place for staff and contractors when undertaking hot working such as welding or cutting. Smoking should only be undertaken in designated areas. No smoking is allowed on-site. No heating pipes, industrial heaters etc are kept or used on site. No hot works take place on-site.
Heat and spark prevention	Mobile plant are kept in the isolated processing area overnight so no risk of hot exhausts igniting the materials.
Gas and other flammable items	Fuel is kept on-site in a 250 litre fully bunded tank. This is kept next to the top soil shed, well away from any material processing or storage.
Smoke/heat/flame detectors	Towens have a 24 hour heat monitoring system in place, provided and maintained by PreventIT Systems. This sends an alarm to designated staff mobile phones if the stock piles reach a level where action is needed to cool them down.
Training – staff and visitors	Site personnel are trained on preventing fires and also on the use of fire extinguishers. There are all given a tool box talk by the site manager before being allowed to work on-site. Training is refreshed annually and recorded on the company's training matrix. Only Towens staff are routinely admitted on-site. Any visitors will need to pre-book and confirm that they have read the emergency site procedures before access to the site is granted. All visitors will be accompanied at all times by a member of the Towens team.

Section 3 - Management and storage of waste

This section details the waste acceptance, treatment and storage of waste on site. Justification needs to be given for how waste will be managed depending on the location and scale of the site/operation detailed in section 1. Justification should be from an environmental perspective rather than financial.

Management and storage of waste	
Waste acceptance – incompatible/hot loads	Towens operate an Environment Management system in-line with the requirements of iso14001:2015. This management system contains written procedures on all aspects of waste acceptance, including waste acceptance and incompatible waste such as hot loads and subsequent quarantine procedures. However, the majority of materials taken to the site will have already passed through a Towens transfer station. Therefore, the likelihood and risk of unacceptable waste arriving at site is extremely low.
Waste acceptance – permitted waste	Waste will initially arrive in a skip at one of Towens transfer stations located in Weston-Super-Mare, Clutton or Middlezoy, where it will be sorted into waste streams; Skips are rented for a maximum of 10 days so wastes are no older than this. Once sorted it is transferred on the same or the next day to the Westonzoyland site for further processing as detailed in the 'Activities' section above.
Waste treatment	Green waste and wood will be chipped and shredded. To allow the cooling down before stockpiling, it is put into the bays in shallow layers of no more than 50cm deep, to aid the rapid cooling of the material. It has been found that an increased moisture content can heighten the risk of fire so the material is kept under a roof to prevent wetting by rain / dust suppression system Heat detection is in place, as described above.
Waste storage – separation distances	The 'Material storage In' bays are 6 metres wide, 10 metres deep and 2.5 metres high. The 'Material storage Out' bays are 12 metres wide, 5 metres deep and 2.5 metres high. The bays for storing green waste and wood waste are both covered. Each bay is separated by a 50cm thick concrete wall. Bays at opposing ends of the storage for both in and out materials have been designated for green and wood material, thus giving a separation distance of at least 30 metres, far more than the 6 metres recommended in the guidance.

Quarantine area	The quarantine area is the processing area, which has got a contained drainage system. The size of the quarantine area is 20m x 20m x 0.30 m, which equates to 120m3 of storage. Guidance stipulates that the quarantine must hold at least 50% of the largest waste pile. The largest waste pile is 150m3. Therefore the quarantine area exceeds the recommended volumes.
Contingency	If the site is closed for any reason, no materials will be taken to the site until it re-opens.

Section 4 - Fire fighting strategy

As with section 2 and 3 there should be a strategy in place for a worst case scenario. There needs to be consideration of how to tackle a fire to prevent harm to the sensitive receptors previously identified.

Fire fighting strategy	
Active fire fighting	Townes operate an Environment Management System in-line with requirements of ISO14001:2015. This includes dealing with fires on site. In summary: A small fire will be extinguished by staff who are trained to fight small fires using firefighting equipment, such as fire extinguishers. The pile will be spilt apart (if possible) using the loading shovel of mobile plant to isolate the fire by moving unburnt material away from the flames into an isolation (quarantine) area. The fire, if not extinguished by an extinguisher will be covered in soil to starve the fire of oxygen. The soil will be put on the fire using a loading shovel of mobile plant equipment. If the above has not worked, the emergency fire service will be called. Any firefighting run-off will be directed to the full retention water tank located on-site under the isolation area. Once the fire has been extinguished and the heat has left the material, the remaining material will be sent for composting.
Controlled burn	A controlled burn is the last resort after all other methods have been tried. It is anticipated that the fire would burn out in under four hours, due to the small size of the stock piles. The only materials that would are clean wood and green waste, which produces a clean smoke. The risk to human health, bearing in mind the prevailing wind direction and nearby receptors, is very low.

Access to site	The FRS are able to gain access to the site in all hours. If the site is not operational, a security guard will be on site at all times. The security guard will keep a copy of this plan as well as all contact details for key staff and emergency numbers. He also keeps copies of all plans and relevant procedures that can then be given to the fire service. The site is able to be accessed from three different entry / exit points as shown on plan SCR.SLP.WZ.2017 Typical FRS access requirements are shown in the table below: **Table 2. Typical FRS vehicle access requirements. Taken from WISH 'WASTE 28, Reducing fire risk at waste management sites, April 2017'** Type of FRS appliance / Min width of road (metes) / Min width of gateway (metres) / Min clearance height (metres) / Min weight restriction (tonnes) Water tender / 3.7 / 3.2 / 3.7 / 12.5 High reach vehicle / 3.7 / 3.2 / 4.0 / 24 Access / Egress is above and beyond the FRS requirements. The largest Townes vehicle, an artic lorry can access the site with ease and this is 50000kg vehicle (50 tonnes), way above the highest specification for a fire service vehicle.

Section 6 - Fire fighting water

With active fire fighting a large volume of water will be required and then need to be managed and disposed off safely.

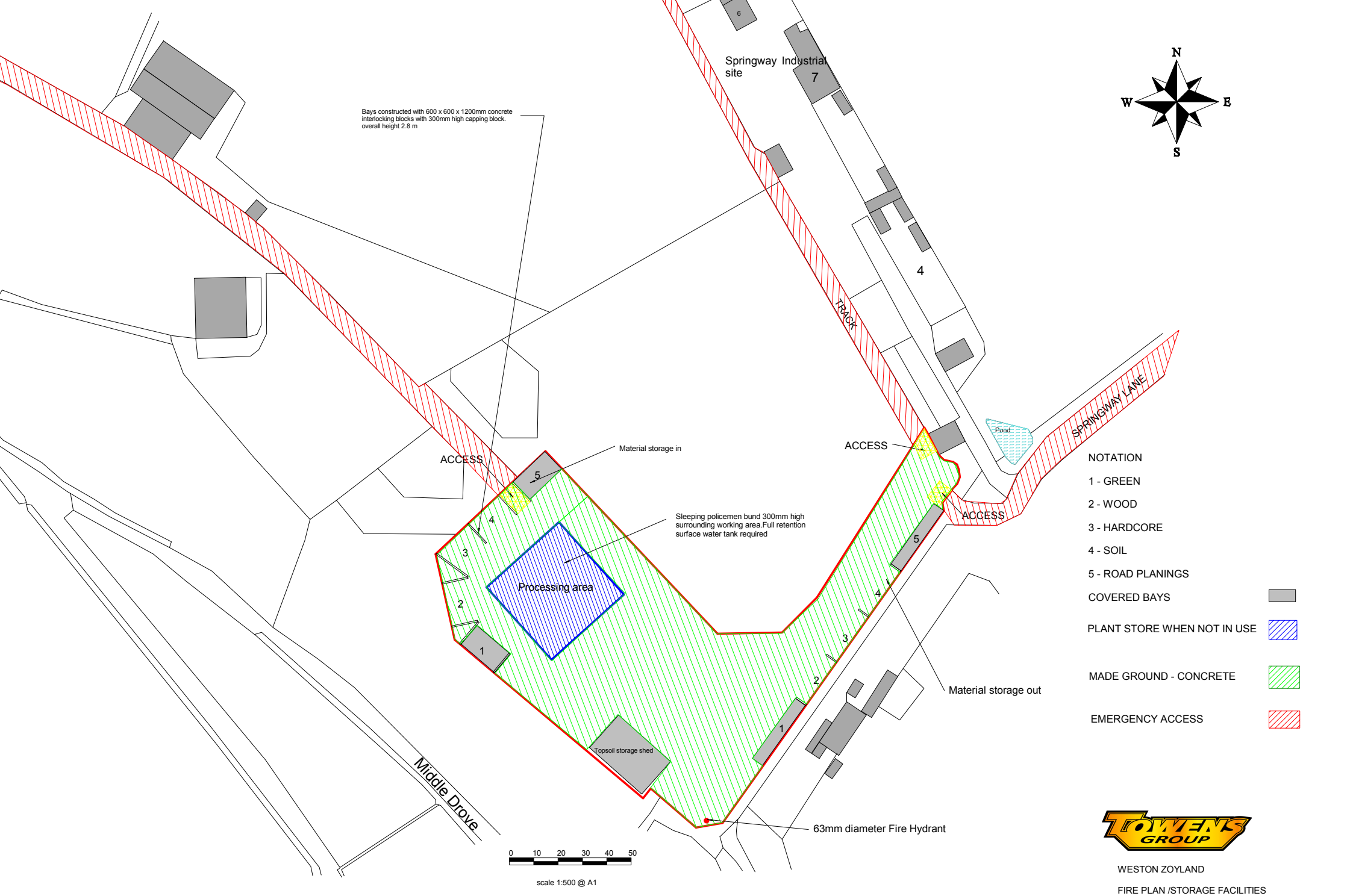
Fire fighting water	
Access to water	The site is served by a 63mm diameter hydrant, connected direct to a Wessex Water main supply. The hydrant will deliver a minimum flow rate of at least 1500 litres per minute. Environment Agency guidance states that "As a benchmark, you'll need a water supply of at least 2,000 litres a minute for a minimum of 3 hours for a 300 cubic metre pile of combustible material. You should use these figures to accurately scale the amount of water needed depending on the pile sizes on site". Using this guidance, the amount of water required in the above

	scenario to extinguish 300m3 is 360000 litres. The maximum pile size at Westonzoyland is 150m3 so this would require 180000 litres. Based on a flow rate of 1500 litres / minute this would take 120 minutes (2 hours). However, in reality, this much water wouldn't be needed as the water runoff would be contained in a full retention tank and therefore could be reused.
Managing fire water	Based on the above calculations, a maximum of 180000 litres of water may be used to extinguish the fire. In reality, this amount would be much less as the water can be contained in the full retention water tank (30000ltr capacity), which includes a sediment trap / filter, so the water could be reused. If the water is above and beyond the capacity of the 30000 litre tank and cannot be reused, Towens maintain a fleet of road sweepers and bowsers that can easily be deployed to the site to capture water. This water would then be taken to the permitted facility at Avonmouth.

Section 7 - Recovery plan - post incident

With active fire fighting a large volume of water will be required and then need to be managed and disposed off safely.

Recovery plan - post incident	
Fire water disposal	Fire water will be taken to the permitted water treatment facility located in Avonmouth
Burnt material	The only combustible materials are clean wood and green waste. The ash produced from burning this material can be recycled with garden waste for composting.
Diverting incoming waste	No waste will be sent to the site until operational.
Financial contingency	The recovery phase for a site this small and with such small piles, is deemed to be short and localised to: • Repair to bay walls • Repair to impermeable surface • Clean out of containment tank. All of the above can be done in-house by Towens and so the costs of recovery are deemed superficial.



TOWENS GROUP

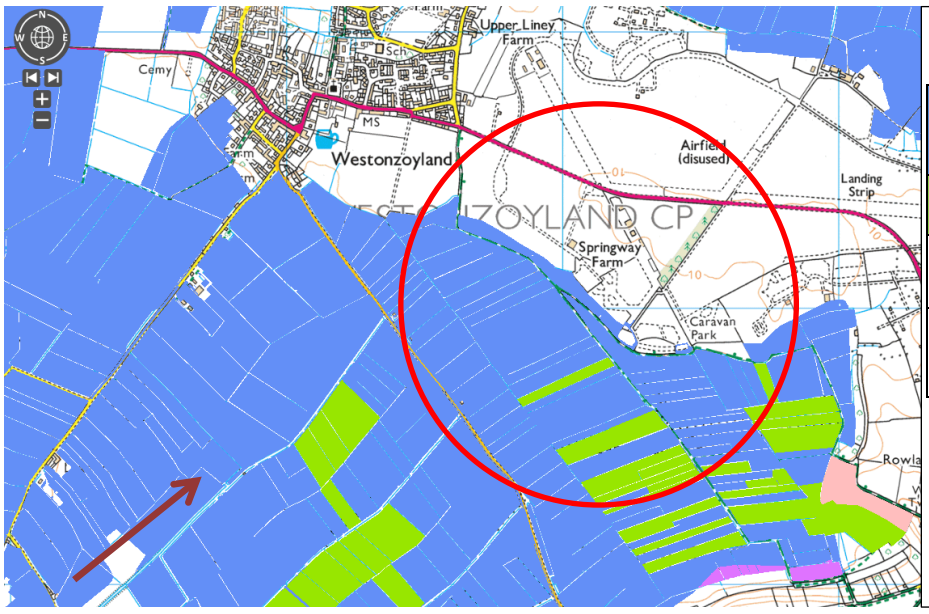
WESTON ZOYLAND

FIRE PLAN /STORAGE FACILITIES

DWG NO: SCR.SLP.WZ.2017

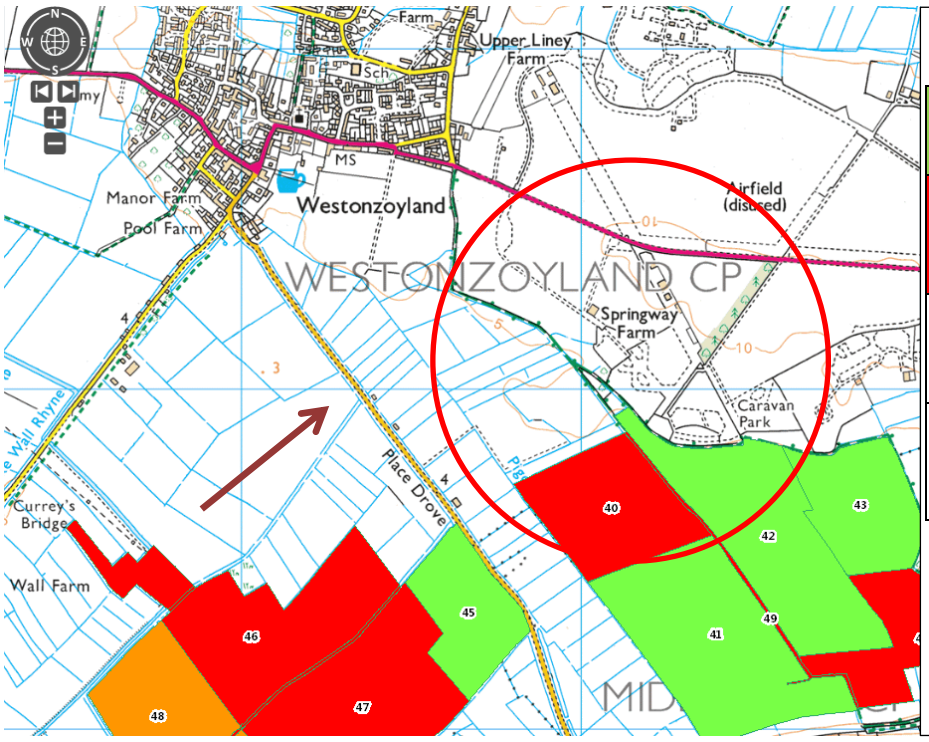
Sensitive receptors to accompany Fire Prevention Plan (FPP.WZ.2018)

Habitats



Key

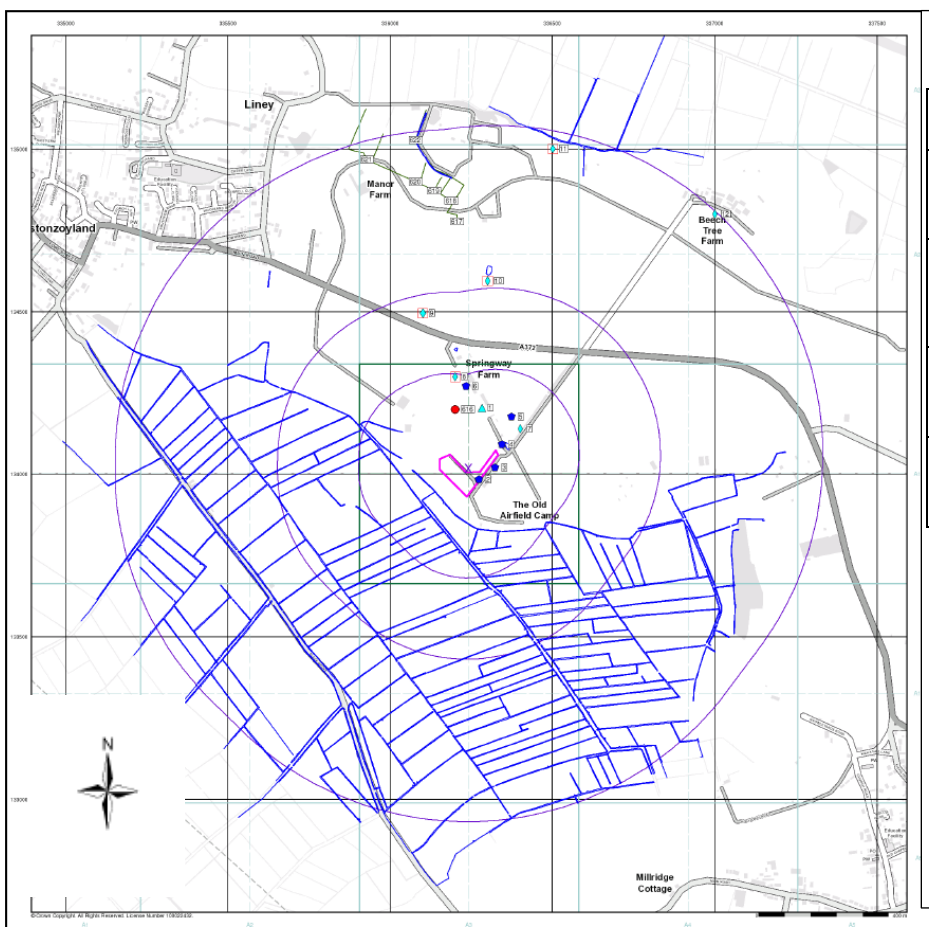
	Priority habitat – Coastal and floodplain grazing
	Priority habitat – Lowland meadows
	1 km radius around operational site
	Prevaliing wind direction



Key

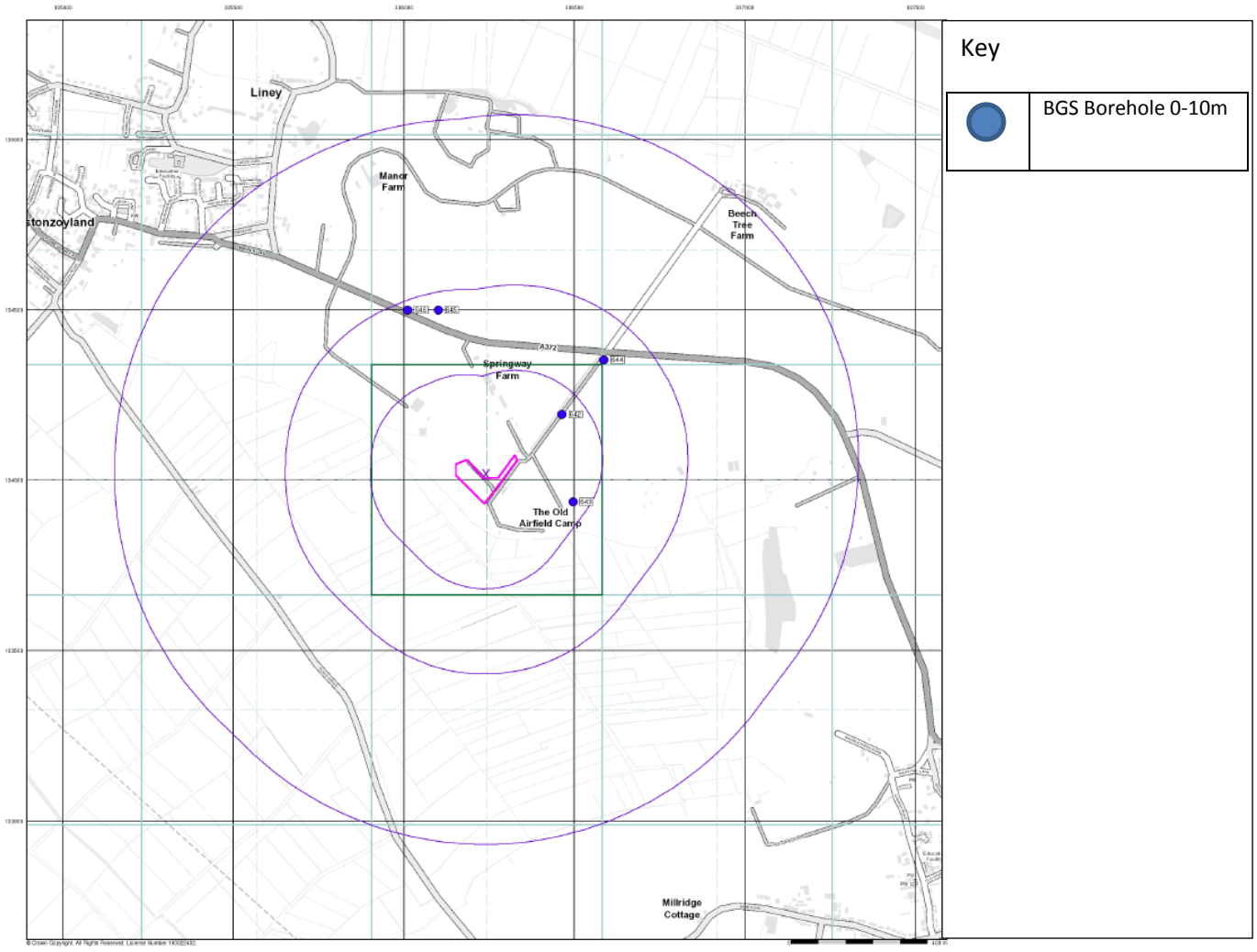
	Langmead and Weston SSSI - Favourable
	Langmead and Weston SSSI – unfavourable declining
	1 km radius around operational site
	Prevaliing wind direction

Waterways, Abstractions, Boreholes

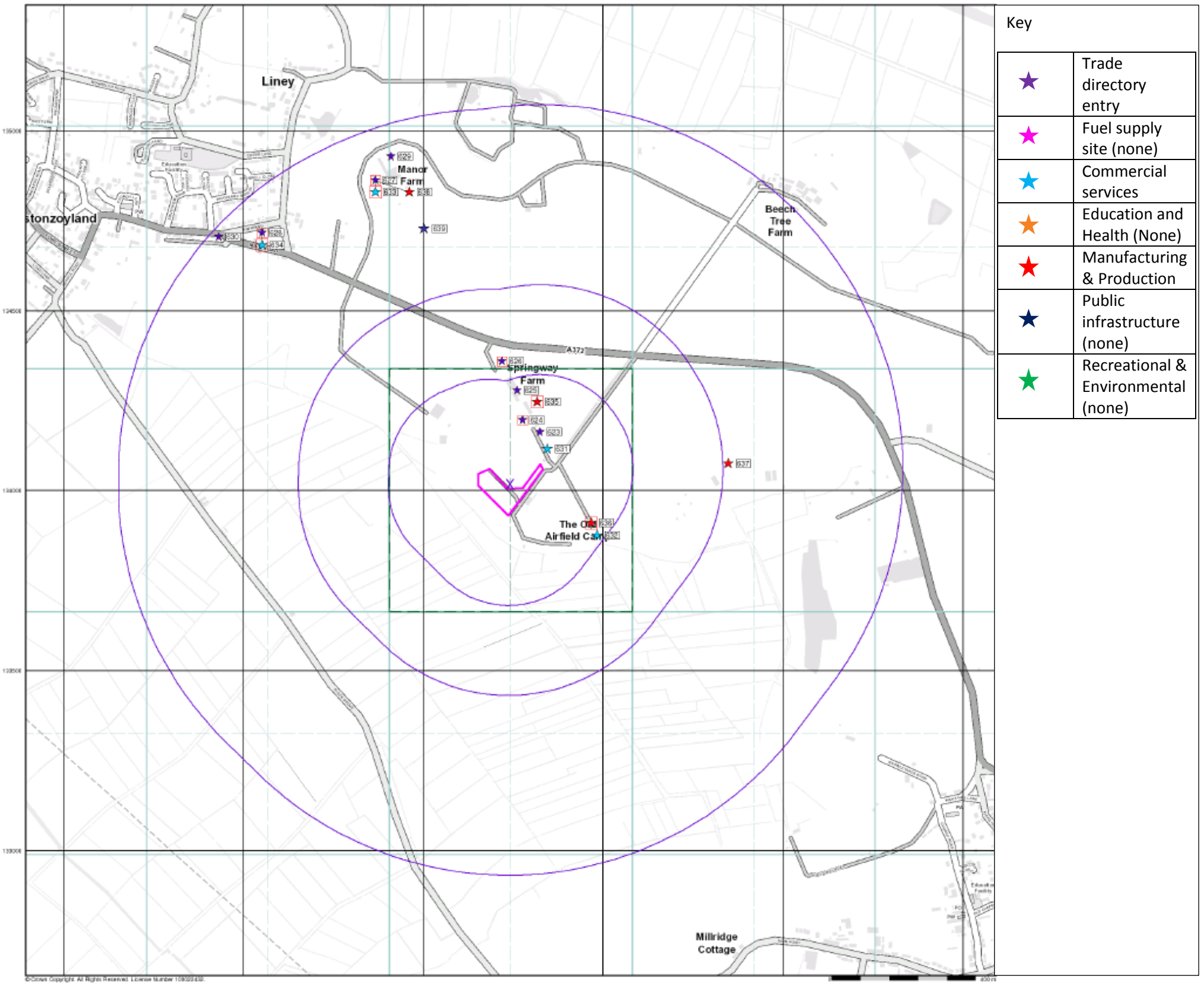


Key

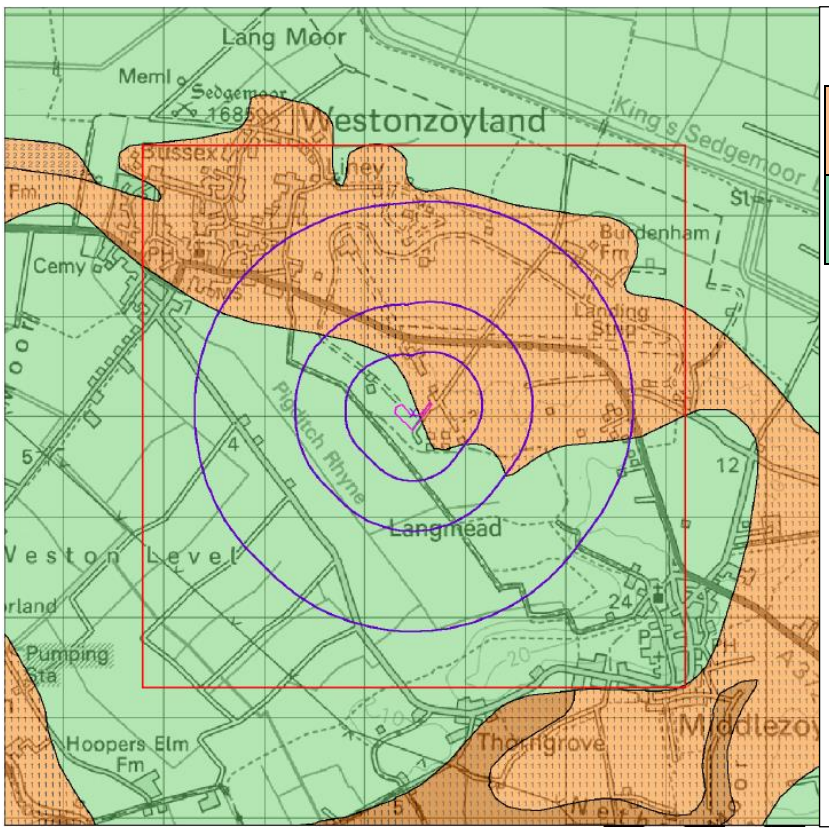
	Water abstraction
	Substantiated pollution incident register
	Local authority pollution prevention control
	Licensed waste management facility
	River network or water feature



Points of interest – Commercial premises, Fuel supply, Education & Health, Manufacturing & Production, Recreational & Environmental

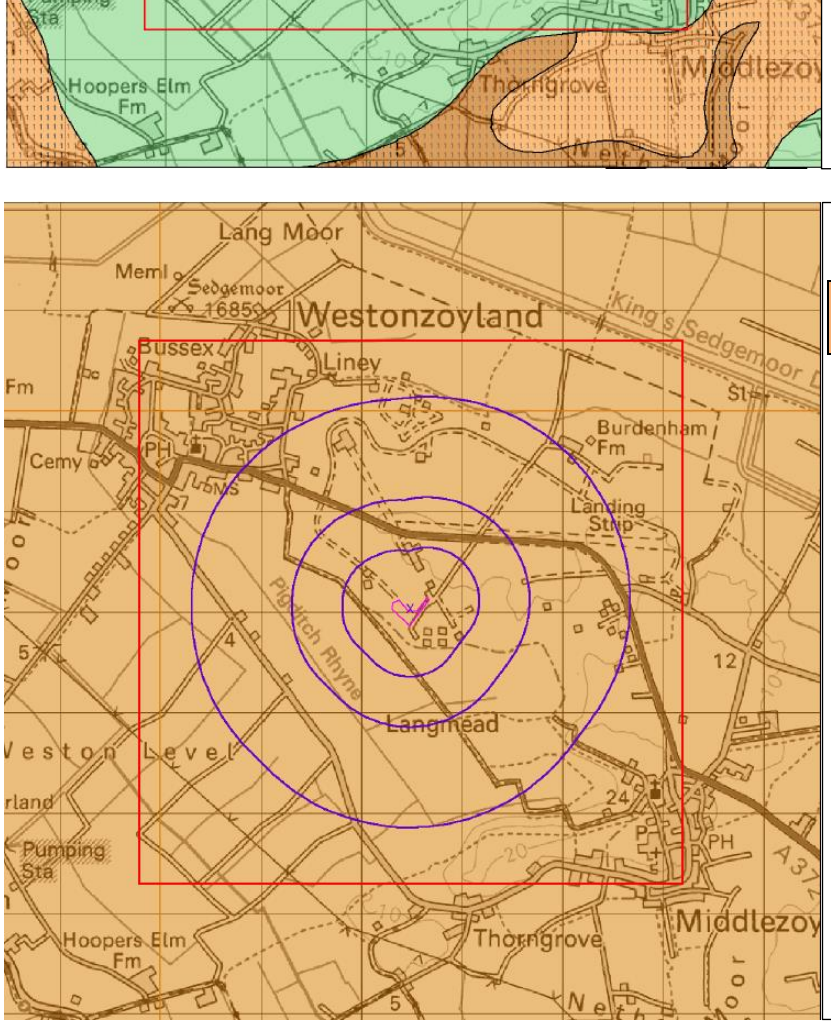


Groundwater, Aquifers and Source Protection Zones



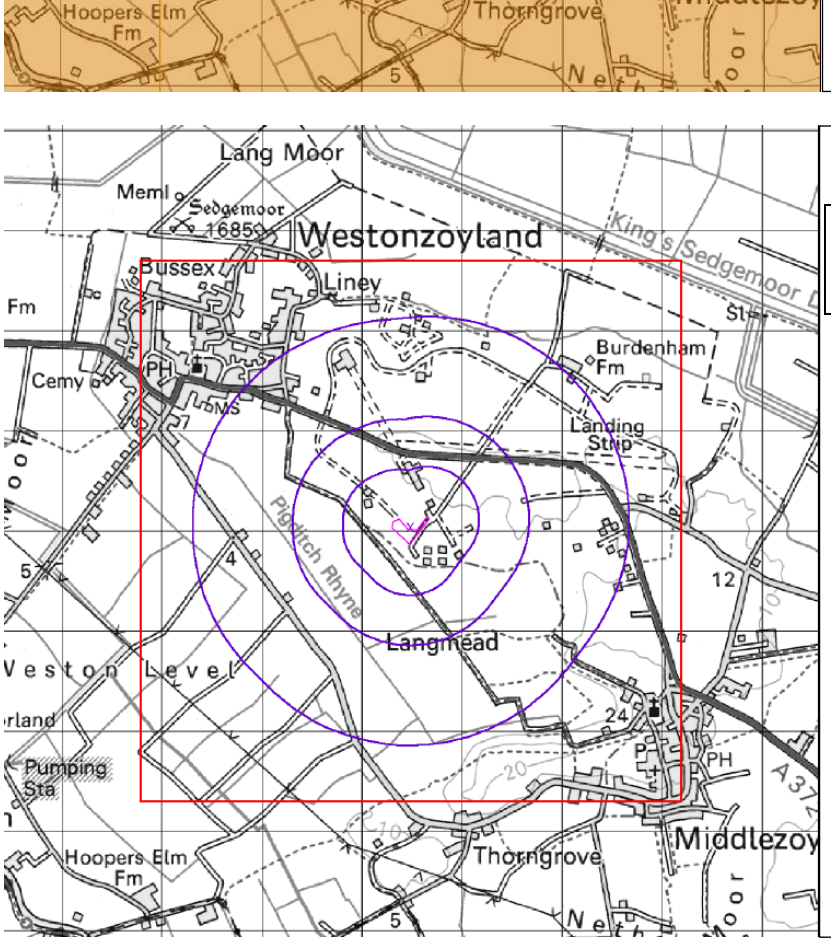
Key

	Minor Aquifer (intermediate (I) 1,2
	Non Aquifer (Negligibly Permeable)



Key

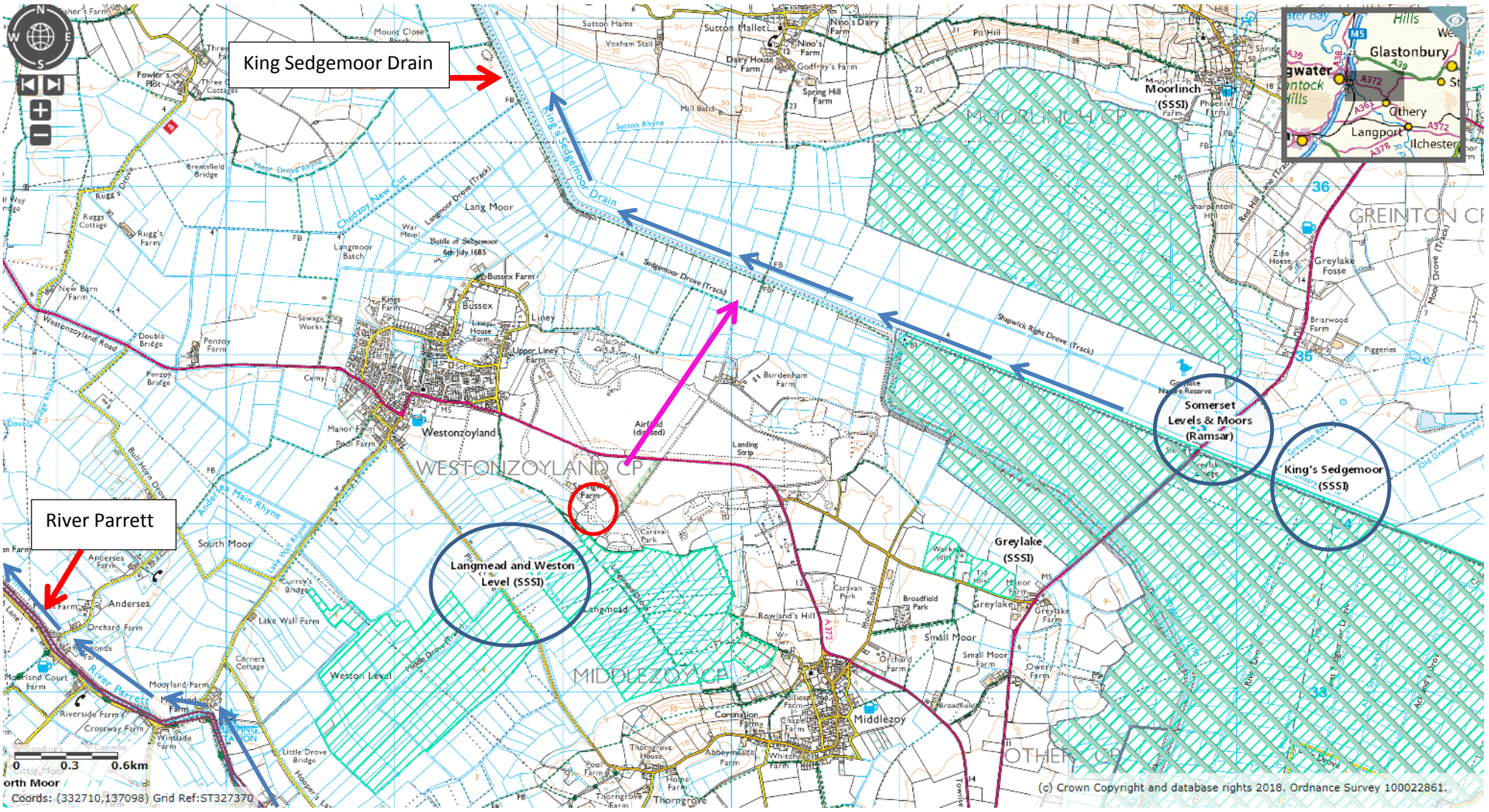
	Secondary B Aquifer



Key

	No Source protection zones

Land gradient and Water flow

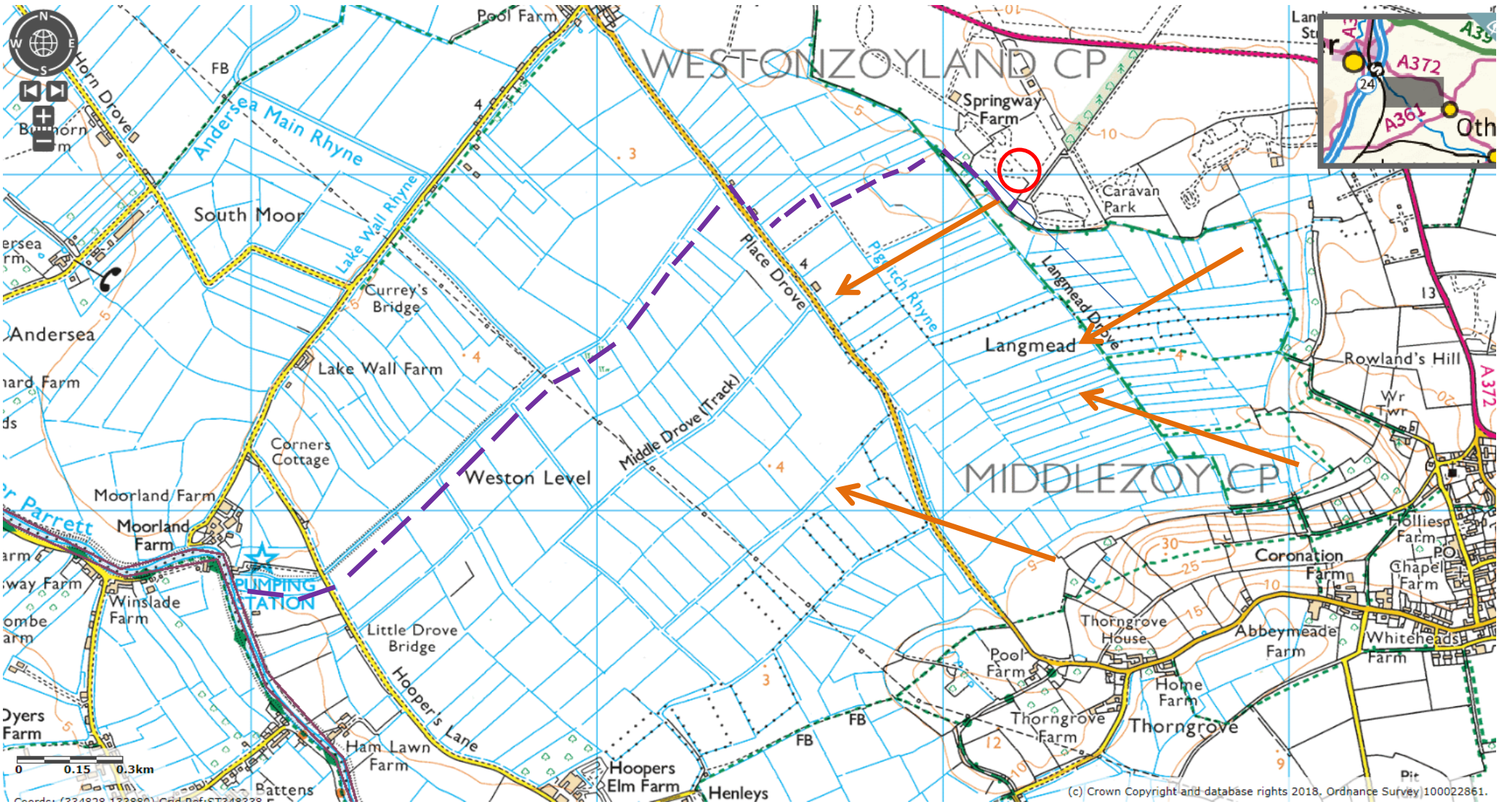


= SSSI & RAMSAR SITES

= PREDOMINANT WIND DIRECTION

= PROPOSED TOWENS SITE

= DIRECTION OF FLOW. NB. ALL FLOWS FROM THE PROPSED TOWENS SITE ARE AWAY FROM THE RAMSAR. THERE IS NO WATER PATHWAY FROM TOWNES SITE TO RAMSAR SITE.



= PROPOSED TOWENS SITE

= DIRECTION OF LAND GRADIENT

= FLOW OF WATER FROM PROPSED TOWENS SITE. BASED ON LAND GRADIENT AND NEEAREST MAIN RHYNES.