Appendix 2 – Bespoke risk assessment schedule

Data and information				Judgement				Action (by permitting)	
Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
What is at risk? What do I wish to protect?	**What is the agent or process with potential to cause harm?**	**What are the harmful consequences if things go wrong?**	**How might the receptor come into contact with the source?**	**How likely is this contact?**	**How severe will the consequences be if this occurs?**	**What is the overall magnitude of the risk?**	**On what did I base my judgement?**	**How can I best manage the risk to reduce the magnitude?**	**What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).**
Ripple Lake and the Napps Local Wildlife Site (LWS) Ripple Brook LWS Ripple Meadow LWS River Severn LWS Queenhill Brickpit LWS Mythe Composite Site (Gloucester Key Wildlife Site) Mythe Railway (Gloucester Key Wildlife Site) Brockeridge Common (Gloucester Key Wildlife Site)	Spillage of liquids, contaminated rainwater runoff from waste e.g. containing suspended solids, contaminated surface water and/or groundwater. Surface water/groundwater level changes/ derogation.	Harm to protected species through surface water/groundwater contamination, nutrient enrichment, smothering, disturbance etc. Acute effects: oxygen depletion, fish kill and algal blooms. Deterioration of water quality.	Surface water runoff from site to the receptor *via* other surface water features. Groundwater pathway *via* superficial aquifer between site and receptor. Transport of contaminants by surface water/groundwater.	Low	Low	**Low**	Permitted waste types are inert and have very low contamination potential. Closest environmental site (Ripple Lake and the Napps LWS) adjacent to the west of the excavation area Phases 1 to 9 area. The Quantitative Hydrogeological Risk Assessment completed as part of the Hydrogeological Risk Assessment (see Hydrogeological Risk Assessment Report (Appendix Giv of Environmental Permit application)) demonstrates that there will be no detrimental impact on the local hydrogeological or hydrological environment resulting from the activity.	Implementation of Site Operation, Waste Acceptance Criteria (Appendix Giii of Environmental Permit application), Site Equipment and Maintenance Procedure (EMS Procedure 14), Group Emergency Response Plans, Environmental Contingency Plan (EMS Procedure 15), Procedure for Vehicle Oil/Fuel Leaks (EMS Procedure 4), Spillages of Fuel and Chemicals & other Hazardous or Environmentally Damaging Substances (Emergency Response Procedure 2) in accordance with Environmental Management System (Appendix B of Environmental Permit application). A side slope Artificial Geological Barrier will be constructed on a phased basis in excavation area Phases 1 to 9 in order to provide protection to soil, groundwater and surface water at least equivalent to that resulting from an attenuation barrier/liner with a minimum thickness of 1.0m and a maximum permeability of 1 x 10^{-7}m/sec. The Triassic Branscombe Mudstone Formation of the Mercia Mudstone Group underlying the site forms an adequate natural basal geological barrier. During site operations, excavation area Phases 1 to 9 will have a clay cut-off installed to separate the excavation area from the surrounding sand and gravel aquifer. Groundwater interception ditches will be installed around the perimeter of the excavations to route intercepted groundwater in the eastern perimeter to the	Very Low

Appendix 2 – Bespoke risk assessment schedule

Data and information				Judgement				Action (by permitting)	
Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
What is at risk? What do I wish to protect?	**What is the agent or process with potential to cause harm?**	**What are the harmful consequences if things go wrong?**	**How might the receptor come into contact with the source?**	**How likely is this contact?**	**How severe will the consequences be if this occurs?**	**What is the overall magnitude of the risk?**	**On what did I base my judgement?**	**How can I best manage the risk to reduce the magnitude?**	**What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).**
								western perimeter *via* the north and south, as groundwater would flow pre-development. Up-gradient and down-gradient monitoring of groundwater levels to ensure groundwater interception ditches are performing as designed *i.e.* no groundwater truncation. During site operations, direct rainfall and surface water runoff within the excavation area Phases 1 to 9 will be managed in accordance with the approved Bow Farm Surface Water Drainage Scheme report (GWP Report No. 240707), prepared separately to discharge Condition 20 of Planning Permission Number 19/000048/CM (Worcestershire County Council). The Surface Water Drainage Scheme report is included as an Appendix of the Hydrogeological Risk Assessment (Appendix Giv of this Environmental Permit application). There will be no direct discharge of water associated with the Environmental Permit activities from the site into any local surface water receptors. See also Environmental Setting and Site Design (Appendix Gii of Environmental Permit application) and Hydrogeological Risk Assessment (Appendix Giv of Environmental Permit application).	

Appendix 2 – Bespoke risk assessment schedule

Data and information				Judgement				Action (by permitting)	
Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
What is at risk? What do I wish to protect?	**What is the agent or process with potential to cause harm?**	**What are the harmful consequences if things go wrong?**	**How might the receptor come into contact with the source?**	**How likely is this contact?**	**How severe will the consequences be if this occurs?**	**What is the overall magnitude of the risk?**	**On what did I base my judgement?**	**How can I best manage the risk to reduce the magnitude?**	**What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).**
Protected woodland Priority Habitat Inventory – Deciduous Woodland Priority Habitat Inventory – Traditional Orchards	Releases of particulate matter (dusts) and micro-organisms (bioaerosols). Contaminated surface water and/or groundwater. Surface water/groundwater level changes/ derogation. Direct contact of site plant with trees.	Habitat health affected through dust exposure, surface water/groundwater level changes or surface water/groundwater contamination. Direct tree damage/death through contact with site plant.	Air transport then deposition. Transport of contaminants by surface water/groundwater. Direct contact with site plant.	Medium	Very Low	**Low**	Permitted waste types are inert and have very low contamination potential. The closest designated areas of Priority Habitat Inventory – Deciduous Woodland are adjacent to the west of the Phases 1 to 9 excavation area (the prevailing wind direction is from the southwest) and are therefore unlikely to be affected by dust, although there are designated areas to the east of this excavation area too. Also, there is potential for activities to produce dust from movement of vehicles and tipping operations especially in dry and also windy weather. The closest designated areas of Priority Habitat Inventory – Traditional Orchards are 230m east of the proposed processing plant and access road area. Dust emissions will be managed in accordance with the Dust Emissions Management Plan (Appendix J of Environmental Permit application). The Quantitative Hydrogeological Risk Assessment completed as part of the Hydrogeological Risk Assessment (Appendix Giv of Environmental Permit application) demonstrates that there will be no detrimental impact on the local hydrogeological or hydrological environment resulting from the activity. There is a standoff from the site boundary to the working area, *i.e.* no operation of site plant beyond the site boundary. This standoff provides for tree root protection areas around existing trees on or near to the site. There is no risk of damage to woodland resulting from the operation of site plant.	Implementation of Site Operation, Waste Acceptance Criteria (Appendix Giii of Environmental Permit application), Site Equipment and Maintenance Procedure (EMS Procedure 14), Group Emergency Response Plans, Environmental Contingency Plan (EMS Procedure 15), Procedure for Vehicle Oil/Fuel Leaks (EMS Procedure 4), Spillages of Fuel and Chemicals & other Hazardous or Environmentally Damaging Substances (Emergency Response Procedure 2) in accordance with Environmental Management System (Appendix B of Environmental Permit application). Implementation of Dust Emissions Management Plan (Appendix J of Environmental Permit application). A side slope Artificial Geological Barrier will be constructed on a phased basis in excavation area Phases 1 to 9 in order to provide protection to soil, groundwater and surface water at least equivalent to that resulting from an attenuation barrier/liner with a minimum thickness of 1.0m and a maximum permeability of 1 x 10^{-7}m/sec. The Triassic Branscombe Mudstone Formation of the Mercia Mudstone Group underlying the site forms an adequate natural basal geological barrier. During site operations, excavation area Phases 1 to 9 will have a clay cut-off installed to separate the excavation area from the surrounding sand and gravel aquifer. Groundwater interception	Very Low

Appendix 2 – Bespoke risk assessment schedule

Data and information				Judgement				Action (by permitting)	
Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
What is at risk? What do I wish to protect?	**What is the agent or process with potential to cause harm?**	**What are the harmful consequences if things go wrong?**	**How might the receptor come into contact with the source?**	**How likely is this contact?**	**How severe will the consequences be if this occurs?**	**What is the overall magnitude of the risk?**	**On what did I base my judgement?**	**How can I best manage the risk to reduce the magnitude?**	**What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).**
								ditches will be installed around the perimeter of the excavations to route intercepted groundwater in the eastern perimeter to the western perimeter *via* the north and south, as groundwater would flow pre-development. Up-gradient and down-gradient monitoring of groundwater levels to ensure groundwater interception ditches are performing as designed *i.e.* no groundwater truncation. During site operations, direct rainfall and surface water runoff within the excavation area Phases 1 to 9 will be managed in accordance with the approved Bow Farm Surface Water Drainage Scheme report (GWP Report No. 240707), prepared separately to discharge Condition 20 of Planning Permission Number 19/000048/CM (Worcestershire County Council). The Surface Water Drainage Scheme report is included as an Appendix of the Hydrogeological Risk Assessment (Appendix Giv of this Environmental Permit application). There will be no direct discharge of water associated with the Environmental Permit activities from the site into any local surface water receptors. See also Environmental Setting and Site Design (Appendix Gii of Environmental Permit application) and Hydrogeological Risk Assessment (Appendix Giv of Environmental Permit application).	

Appendix 2 – Bespoke risk assessment schedule

Data and information				Judgement				Action (by permitting)	
Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
What is at risk? What do I wish to protect?	**What is the agent or process with potential to cause harm?**	**What are the harmful consequences if things go wrong?**	**How might the receptor come into contact with the source?**	**How likely is this contact?**	**How severe will the consequences be if this occurs?**	**What is the overall magnitude of the risk?**	**On what did I base my judgement?**	**How can I best manage the risk to reduce the magnitude?**	**What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).**
Priority Habitat Inventory - Coastal and Floodplain Grazing Marsh	Spillage of liquids, contaminated rainwater runoff from waste e.g. containing suspended solids, contaminated surface water and/or groundwater. Surface water/groundwater level changes/ derogation. Releases of particulate matter (dusts) and micro-organisms (bioaerosols).	Habitat health affected through dust exposure, surface water/groundwater level changes or surface water/groundwater contamination. Harm to protected species through surface water/groundwater contamination, nutrient enrichment, smothering, disturbance etc.	Surface water runoff from site to the habitat *via* other surface water features. Groundwater pathway *via* superficial aquifer between site and the habitat. Transport of contaminants by surface water/groundwater. Air transport then deposition.	Medium	Low	**Low**	Permitted waste types are inert and have very low contamination potential. The closest habitat is located in the western part of the site (adjacent to the northeast of Flexible Working Area B and *c.* 125m to the west of the excavation area Phases 1 to 9). The prevailing wind direction is from the southwest and is therefore unlikely to be affected by dust, although there is potential for activities to produce dust from movement of vehicles and tipping operations especially in dry and also windy weather. The low-lying area of Flexible Working Area B, which the habitat is situated next to, will only be excavated seasonally during non-high flow periods of the river. Restoration of Flexible Working Areas A and B will be to wetlands and water features using only site derived mineral waste (silts and clays) and will have a final landform below pre-extraction ground levels. The potential for impact from dust will be minimised and managed in accordance with the mitigation measures set out in the Dust Emissions Management Plan (Appendix J of Environmental Permit application). The Quantitative Hydrogeological Risk Assessment completed as part of the Hydrogeological Risk Assessment (see Hydrogeological Risk Assessment Report (Appendix Giv of Environmental Permit application)) demonstrates that there will be no detrimental impact on the local hydrogeological or hydrological environment resulting from the activity.	Implementation of Site Operation, Waste Acceptance Criteria (Appendix Giii of Environmental Permit application), Site Equipment and Maintenance Procedure (EMS Procedure 14), Group Emergency Response Plans, Environmental Contingency Plan (EMS Procedure 15), Procedure for Vehicle Oil/Fuel Leaks (EMS Procedure 4), Spillages of Fuel and Chemicals & other Hazardous or Environmentally Damaging Substances (Emergency Response Procedure 2) in accordance with Environmental Management System (Appendix B of Environmental Permit application). Implementation of Dust Emissions Management Plan (Appendix J of Environmental Permit application). A side slope Artificial Geological Barrier will be constructed on a phased basis in excavation area Phases 1 to 9 in order to provide protection to soil, groundwater and surface water at least equivalent to that resulting from an attenuation barrier/liner with a minimum thickness of 1.0m and a maximum permeability of 1 x 10^{-7}m/sec. The Triassic Branscombe Mudstone Formation of the Mercia Mudstone Group underlying the site forms an adequate natural basal geological barrier. During site operations, excavation area Phases 1 to 9 will have a clay cut-off installed to separate the excavation area from the surrounding sand and gravel aquifer. Groundwater interception	Very Low

Appendix 2 – Bespoke risk assessment schedule

Data and information				Judgement				Action (by permitting)	
Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
What is at risk? What do I wish to protect?	**What is the agent or process with potential to cause harm?**	**What are the harmful consequences if things go wrong?**	**How might the receptor come into contact with the source?**	**How likely is this contact?**	**How severe will the consequences be if this occurs?**	**What is the overall magnitude of the risk?**	**On what did I base my judgement?**	**How can I best manage the risk to reduce the magnitude?**	**What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).**
								ditches will be installed around the perimeter of the excavations to route intercepted groundwater in the eastern perimeter to the western perimeter *via* the north and south, as groundwater would flow pre-development. Up-gradient and down-gradient monitoring of groundwater levels to ensure groundwater interception ditches are performing as designed *i.e.* no groundwater truncation. During site operations, direct rainfall and surface water runoff within the excavation area Phases 1 to 9 will be managed in accordance with the approved Bow Farm Surface Water Drainage Scheme report (GWP Report No. 240707), prepared separately to discharge Condition 20 of Planning Permission Number 19/000048/CM (Worcestershire County Council). The Surface Water Drainage Scheme report is included as an Appendix of the Hydrogeological Risk Assessment (Appendix Giv of this Environmental Permit application). There will be no direct discharge of water associated with the Environmental Permit activities from the site into any local surface water receptors. See also Environmental Setting and Site Design (Appendix Gii of Environmental Permit application) and Hydrogeological Risk Assessment (Appendix Giv of Environmental Permit application).	

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Data and information				Judgement				Action (by permitting)	
Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
What is at risk? What do I wish to protect?	**What is the agent or process with potential to cause harm?**	**What are the harmful consequences if things go wrong?**	**How might the receptor come into contact with the source?**	**How likely is this contact?**	**How severe will the consequences be if this occurs?**	**What is the overall magnitude of the risk?**	**On what did I base my judgement?**	**How can I best manage the risk to reduce the magnitude?**	**What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).**
Priority Habitat Inventory - Good quality semi-improved grassland	Spillage of liquids, contaminated rainwater runoff from waste e.g. containing suspended solids, contaminated surface water and/or groundwater. Surface water/groundwater level changes/ derogation. Releases of particulate matter (dusts) and micro-organisms (bioaerosols).	Habitat health affected through dust exposure, surface water/groundwater level changes or surface water/groundwater contamination. Harm to protected species through surface water/groundwater contamination, nutrient enrichment, smothering, disturbance etc.	Surface water runoff from site to the habitat *via* other surface water features. Groundwater pathway *via* superficial aquifer between site and the habitat. Transport of contaminants by surface water/groundwater. Air transport then deposition.	Low	Very Low	**Low**	Permitted waste types are inert and have very low contamination potential. The habitat is located *c.* 250m to the east of the Phases 1 to 9 excavation area. The prevailing wind direction is from the southwest and therefore there is potential for the habitat to be impacted upon by dust generated from the permitted activities unless appropriate mitigation and management measures are implemented. Also, there is potential for activities to produce dust from movement of vehicles and tipping operations especially in dry and also windy weather. The potential for impact from dust will be minimised and managed in accordance with the mitigation measures set out in the Dust Emissions Management Plan (Appendix J of Environmental Permit application). The Quantitative Hydrogeological Risk Assessment completed as part of the Hydrogeological Risk Assessment (see Hydrogeological Risk Assessment Report (Appendix Giv of Environmental Permit application)) demonstrates that there will be no detrimental impact on the local hydrogeological or hydrological environment resulting from the activity.	Implementation of Site Operation, Waste Acceptance Criteria (Appendix Giii of Environmental Permit application), Site Equipment and Maintenance Procedure (EMS Procedure 14), Group Emergency Response Plans, Environmental Contingency Plan (EMS Procedure 15), Procedure for Vehicle Oil/Fuel Leaks (EMS Procedure 4), Spillages of Fuel and Chemicals & other Hazardous or Environmentally Damaging Substances (Emergency Response Procedure 2) in accordance with Environmental Management System (Appendix B of Environmental Permit application). Implementation of Dust Emissions Management Plan (Appendix J of Environmental Permit application). A side slope Artificial Geological Barrier will be constructed on a phased basis in excavation area Phases 1 to 9 in order to provide protection to soil, groundwater and surface water at least equivalent to that resulting from an attenuation barrier/liner with a minimum thickness of 1.0m and a maximum permeability of 1 x 10^{-7}m/sec. The Triassic Branscombe Mudstone Formation of the Mercia Mudstone Group underlying the site forms an adequate natural basal geological barrier. During site operations, excavation area Phases 1 to 9 will have a clay cut-off installed to separate the excavation area from the surrounding sand and gravel aquifer. Groundwater interception	Very Low

Appendix 2 – Bespoke risk assessment schedule

Data and information				Judgement				Action (by permitting)	
Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
What is at risk? What do I wish to protect?	**What is the agent or process with potential to cause harm?**	**What are the harmful consequences if things go wrong?**	**How might the receptor come into contact with the source?**	**How likely is this contact?**	**How severe will the consequences be if this occurs?**	**What is the overall magnitude of the risk?**	**On what did I base my judgement?**	**How can I best manage the risk to reduce the magnitude?**	**What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).**
								ditches will be installed around the perimeter of the excavations to route intercepted groundwater in the eastern perimeter to the western perimeter *via* the north and south, as groundwater would flow pre-development. Up-gradient and down-gradient monitoring of groundwater levels to ensure groundwater interception ditches are performing as designed *i.e.* no groundwater truncation. During site operations, direct rainfall and surface water runoff within the excavation area Phases 1 to 9 will be managed in accordance with the approved Bow Farm Surface Water Drainage Scheme report (GWP Report No. 240707), prepared separately to discharge Condition 20 of Planning Permission Number 19/000048/CM (Worcestershire County Council). The Surface Water Drainage Scheme report is included as an Appendix of the Hydrogeological Risk Assessment (Appendix Giv of this Environmental Permit application). There will be no direct discharge of water associated with the Environmental Permit activities from the site into any local surface water receptors. See also Environmental Setting and Site Design (Appendix Gii of Environmental Permit application) and Hydrogeological Risk Assessment (Appendix Giv of Environmental Permit application).	

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Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
What is at risk? What do I wish to protect?	**What is the agent or process with potential to cause harm?**	**What are the harmful consequences if things go wrong?**	**How might the receptor come into contact with the source?**	**How likely is this contact?**	**How severe will the consequences be if this occurs?**	**What is the overall magnitude of the risk?**	**On what did I base my judgement?**	**How can I best manage the risk to reduce the magnitude?**	**What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).**
Priority Habitat Inventory - Lowland Dry Acid Grassland	Spillage of liquids, contaminated rainwater runoff from waste e.g. containing suspended solids, contaminated surface water and/or groundwater. Surface water/groundwater level changes/ derogation. Releases of particulate matter (dusts) and micro-organisms (bioaerosols).	Habitat health affected through dust exposure, surface water/groundwater level changes or surface water/groundwater contamination. Harm to protected species through surface water/groundwater contamination, nutrient enrichment, smothering, disturbance etc.	Surface water runoff from site to the habitat *via* other surface water features. Groundwater pathway *via* superficial aquifer between site and the habitat. Transport of contaminants by surface water/groundwater. Air transport then deposition.	Very Low	Very Low	**Very Low**	Permitted waste types are inert and have very low contamination potential. The habitat is located *c.* 830m to the south of the site and is therefore unlikely to be affected by dust (the prevailing wind direction is from the southwest), although there is potential for activities to produce dust from movement of vehicles and tipping operations especially in dry and also windy weather. Dust emissions will be managed in accordance with the Dust Emissions Management Plan (Appendix J of Environmental Permit application). The Quantitative Hydrogeological Risk Assessment completed as part of the Hydrogeological Risk Assessment (see Hydrogeological Risk Assessment Report (Appendix Giv of Environmental Permit application)) demonstrates that there will be no detrimental impact on the local hydrogeological or hydrological environment resulting from the activity.	Implementation of Site Operation, Waste Acceptance Criteria (Appendix Giii of Environmental Permit application), Site Equipment and Maintenance Procedure (EMS Procedure 14), Group Emergency Response Plans, Environmental Contingency Plan (EMS Procedure 15), Procedure for Vehicle Oil/Fuel Leaks (EMS Procedure 4), Spillages of Fuel and Chemicals & other Hazardous or Environmentally Damaging Substances (Emergency Response Procedure 2) in accordance with Environmental Management System (Appendix B of Environmental Permit application). Implementation of Dust Emissions Management Plan (Appendix J of Environmental Permit application). A side slope Artificial Geological Barrier will be constructed on a phased basis in excavation area Phases 1 to 9 in order to provide protection to soil, groundwater and surface water at least equivalent to that resulting from an attenuation barrier/liner with a minimum thickness of 1.0m and a maximum permeability of 1 x 10^{-7}m/sec. The Triassic Branscombe Mudstone Formation of the Mercia Mudstone Group underlying the site forms an adequate natural basal geological barrier. During site operations, excavation area Phases 1 to 9 will have a clay cut-off installed to separate the excavation area from the surrounding sand and gravel aquifer. Groundwater interception	Very Low

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Data and information				Judgement				Action (by permitting)	
Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
What is at risk? What do I wish to protect?	**What is the agent or process with potential to cause harm?**	**What are the harmful consequences if things go wrong?**	**How might the receptor come into contact with the source?**	**How likely is this contact?**	**How severe will the consequences be if this occurs?**	**What is the overall magnitude of the risk?**	**On what did I base my judgement?**	**How can I best manage the risk to reduce the magnitude?**	**What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).**
								ditches will be installed around the perimeter of the excavations to route intercepted groundwater in the eastern perimeter to the western perimeter *via* the north and south, as groundwater would flow pre-development. Up-gradient and down-gradient monitoring of groundwater levels to ensure groundwater interception ditches are performing as designed *i.e.* no groundwater truncation. During site operations, direct rainfall and surface water runoff within the excavation area Phases 1 to 9 will be managed in accordance with the approved Bow Farm Surface Water Drainage Scheme report (GWP Report No. 240707), prepared separately to discharge Condition 20 of Planning Permission Number 19/000048/CM (Worcestershire County Council). The Surface Water Drainage Scheme report is included as an Appendix of the Hydrogeological Risk Assessment (Appendix Giv of this Environmental Permit application). There will be no direct discharge of water associated with the Environmental Permit activities from the site into any local surface water receptors. See also Environmental Setting and Site Design (Appendix Gii of Environmental Permit application) and Hydrogeological Risk Assessment (Appendix Giv of Environmental Permit application).	

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Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
What is at risk? What do I wish to protect?	**What is the agent or process with potential to cause harm?**	**What are the harmful consequences if things go wrong?**	**How might the receptor come into contact with the source?**	**How likely is this contact?**	**How severe will the consequences be if this occurs?**	**What is the overall magnitude of the risk?**	**On what did I base my judgement?**	**How can I best manage the risk to reduce the magnitude?**	**What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).**
Priority Habitat Inventory - Lowland Meadows	Spillage of liquids, contaminated rainwater runoff from waste e.g. containing suspended solids, contaminated surface water and/or groundwater. Surface water/groundwater level changes/ derogation. Releases of particulate matter (dusts) and micro-organisms (bioaerosols).	Habitat health affected through dust exposure, surface water/groundwater level changes or surface water/groundwater contamination. Harm to protected species through surface water/groundwater contamination, nutrient enrichment, smothering, disturbance etc.	Surface water runoff from site to the habitat *via* other surface water features. Groundwater pathway *via* superficial aquifer between site and the habitat. Transport of contaminants by surface water/groundwater. Air transport then deposition.	Low	Very Low	**Low**	Permitted waste types are inert and have very low contamination potential. The habitat is located *c.* 300m to the east of the Phases 1 to 9 excavation area. The prevailing wind direction is from the southwest and therefore there is potential for the habitat to be impacted upon by dust generated from the permitted activities unless appropriate mitigation and management measures are implemented. Also, there is potential for activities to produce dust from movement of vehicles and tipping operations especially in dry and also windy weather. The potential for impact from dust will be minimised and managed in accordance with the mitigation measures set out in the Dust Emissions Management Plan (Appendix J of Environmental Permit application). The Quantitative Hydrogeological Risk Assessment completed as part of the Hydrogeological Risk Assessment (see Hydrogeological Risk Assessment Report (Appendix Giv of Environmental Permit application)) demonstrates that there will be no detrimental impact on the local hydrogeological or hydrological environment resulting from the activity.	Implementation of Site Operation, Waste Acceptance Criteria (Appendix Giii of Environmental Permit application), Site Equipment and Maintenance Procedure (EMS Procedure 14), Group Emergency Response Plans, Environmental Contingency Plan (EMS Procedure 15), Procedure for Vehicle Oil/Fuel Leaks (EMS Procedure 4), Spillages of Fuel and Chemicals & other Hazardous or Environmentally Damaging Substances (Emergency Response Procedure 2) in accordance with Environmental Management System (Appendix B of Environmental Permit application). Implementation of Dust Emissions Management Plan (Appendix J of Environmental Permit application). A side slope Artificial Geological Barrier will be constructed on a phased basis in excavation area Phases 1 to 9 in order to provide protection to soil, groundwater and surface water at least equivalent to that resulting from an attenuation barrier/liner with a minimum thickness of 1.0m and a maximum permeability of 1 x 10^{-7}m/sec. The Triassic Branscombe Mudstone Formation of the Mercia Mudstone Group underlying the site forms an adequate natural basal geological barrier. During site operations, excavation area Phases 1 to 9 will have a clay cut-off installed to separate the excavation area from the surrounding sand and gravel aquifer. Groundwater interception	Very Low

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Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
What is at risk? What do I wish to protect?	**What is the agent or process with potential to cause harm?**	**What are the harmful consequences if things go wrong?**	**How might the receptor come into contact with the source?**	**How likely is this contact?**	**How severe will the consequences be if this occurs?**	**What is the overall magnitude of the risk?**	**On what did I base my judgement?**	**How can I best manage the risk to reduce the magnitude?**	**What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).**
								ditches will be installed around the perimeter of the excavations to route intercepted groundwater in the eastern perimeter to the western perimeter *via* the north and south, as groundwater would flow pre-development. Up-gradient and down-gradient monitoring of groundwater levels to ensure groundwater interception ditches are performing as designed *i.e.* no groundwater truncation. During site operations, direct rainfall and surface water runoff within the excavation area Phases 1 to 9 will be managed in accordance with the approved Bow Farm Surface Water Drainage Scheme report (GWP Report No. 240707), prepared separately to discharge Condition 20 of Planning Permission Number 19/000048/CM (Worcestershire County Council). The Surface Water Drainage Scheme report is included as an Appendix of the Hydrogeological Risk Assessment (Appendix Giv of this Environmental Permit application). There will be no direct discharge of water associated with the Environmental Permit activities from the site into any local surface water receptors. See also Environmental Setting and Site Design (Appendix Gii of Environmental Permit application) and Hydrogeological Risk Assessment (Appendix Giv of Environmental Permit application).	

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Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
What is at risk? What do I wish to protect?	**What is the agent or process with potential to cause harm?**	**What are the harmful consequences if things go wrong?**	**How might the receptor come into contact with the source?**	**How likely is this contact?**	**How severe will the consequences be if this occurs?**	**What is the overall magnitude of the risk?**	**On what did I base my judgement?**	**How can I best manage the risk to reduce the magnitude?**	**What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).**
Woodpasture and Parkland BAP Priority Habitat	Spillage of liquids, contaminated rainwater runoff from waste e.g. containing suspended solids, contaminated surface water and/or groundwater. Surface water/groundwater level changes/ derogation. Releases of particulate matter (dusts) and micro-organisms (bioaerosols).	Habitat health affected through dust exposure, surface water/groundwater level changes or surface water/groundwater contamination. Harm to protected species through surface water/groundwater contamination, nutrient enrichment, smothering, disturbance etc.	Surface water runoff from site to the habitat *via* other surface water features. Groundwater pathway *via* superficial aquifer between site and the habitat. Transport of contaminants by surface water/groundwater. Air transport then deposition.	Low	Very Low	**Low**	Permitted waste types are inert and have very low contamination potential. The nearest habitat is located *c.* 60m to the north of the proposed processing plant and access road area. The prevailing wind direction is from the southwest) and therefore there is potential for the habitat to be impacted upon by dust generated from the permitted activities unless appropriate mitigation and management measures are implemented. Also, there is potential for activities to produce dust from movement of vehicles and tipping operations especially in dry and also windy weather. Other locations of designated Woodpasture and Parkland BAP Priority Habitat are to the west of the site (closest is *c.* 500m away), beyond the River Severn. Therefore, these areas are unlikely to be affected by dust, as they are upwind of the site, and are not hydraulically connected to the site. The potential for impact from dust will be minimised and managed in accordance with the mitigation measures set out in the Dust Emissions Management Plan (Appendix J of Environmental Permit application). The Quantitative Hydrogeological Risk Assessment completed as part of the Hydrogeological Risk Assessment (see Hydrogeological Risk Assessment Report (Appendix Giv of Environmental Permit application)) demonstrates that there will be no detrimental impact on the local hydrogeological or hydrological environment resulting from the activity.	Implementation of Site Operation, Waste Acceptance Criteria (Appendix Giii of Environmental Permit application), Site Equipment and Maintenance Procedure (EMS Procedure 14), Group Emergency Response Plans, Environmental Contingency Plan (EMS Procedure 15), Procedure for Vehicle Oil/Fuel Leaks (EMS Procedure 4), Spillages of Fuel and Chemicals & other Hazardous or Environmentally Damaging Substances (Emergency Response Procedure 2) in accordance with Environmental Management System (Appendix B of Environmental Permit application). Implementation of Dust Emissions Management Plan (Appendix J of Environmental Permit application). A side slope Artificial Geological Barrier will be constructed on a phased basis in excavation area Phases 1 to 9 in order to provide protection to soil, groundwater and surface water at least equivalent to that resulting from an attenuation barrier/liner with a minimum thickness of 1.0m and a maximum permeability of 1 x 10^{-7}m/sec. The Triassic Branscombe Mudstone Formation of the Mercia Mudstone Group underlying the site forms an adequate natural basal geological barrier. During site operations, excavation area Phases 1 to 9 will have a clay cut-off installed to separate the excavation area from the surrounding sand and gravel aquifer. Groundwater interception	Very Low

Appendix 2 – Bespoke risk assessment schedule

Data and information				Judgement				Action (by permitting)	
Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
What is at risk? What do I wish to protect?	**What is the agent or process with potential to cause harm?**	**What are the harmful consequences if things go wrong?**	**How might the receptor come into contact with the source?**	**How likely is this contact?**	**How severe will the consequences be if this occurs?**	**What is the overall magnitude of the risk?**	**On what did I base my judgement?**	**How can I best manage the risk to reduce the magnitude?**	**What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).**
								ditches will be installed around the perimeter of the excavations to route intercepted groundwater in the eastern perimeter to the western perimeter *via* the north and south, as groundwater would flow pre-development. Up-gradient and down-gradient monitoring of groundwater levels to ensure groundwater interception ditches are performing as designed *i.e.* no groundwater truncation. During site operations, direct rainfall and surface water runoff within the excavation area Phases 1 to 9 will be managed in accordance with the approved Bow Farm Surface Water Drainage Scheme report (GWP Report No. 240707), prepared separately to discharge Condition 20 of Planning Permission Number 19/000048/CM (Worcestershire County Council). The Surface Water Drainage Scheme report is included as an Appendix of the Hydrogeological Risk Assessment (Appendix Giv of this Environmental Permit application). There will be no direct discharge of water associated with the Environmental Permit activities from the site into any local surface water receptors. See also Environmental Setting and Site Design (Appendix Gii of Environmental Permit application) and Hydrogeological Risk Assessment (Appendix Giv of Environmental Permit application).	

Appendix 2 – Bespoke risk assessment schedule

Data and information				Judgement				Action (by permitting)	
Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
What is at risk? What do I wish to protect?	**What is the agent or process with potential to cause harm?**	**What are the harmful consequences if things go wrong?**	**How might the receptor come into contact with the source?**	**How likely is this contact?**	**How severe will the consequences be if this occurs?**	**What is the overall magnitude of the risk?**	**On what did I base my judgement?**	**How can I best manage the risk to reduce the magnitude?**	**What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).**
Non-fish Protected Species – Code 2	Releases of particulate matter (dusts) and micro-organisms (bioaerosols). Noise from permitted activities. Spillage of liquids, contaminated rainwater runoff from waste e.g. containing suspended solids, contaminated surface water.	Habitat and species' health affected through dust exposure. Excessive noise causing species migration away from the local area. Harm to protected species through surface water/groundwater contamination, nutrient enrichment, smothering, disturbance, etc. Acute effects: oxygen depletion, fish kill and algal blooms. Deterioration of water quality.	Air transport of particulates, then deposition. Habitats and nests near to the vicinity of the site becoming disturbed by noise from the site. Surface water runoff from site to receptor locations. Transport of contaminants by surface water.	Low	Low	**Low**	The identified potential receptors are located *c.* 200m southeast of the site entrance/exit and *c.* 410m east of excavation area Phases 1 to 9. The prevailing wind direction is from the southwest and therefore there is potential for the receptors to be impacted upon by dust generated from the permitted activities unless appropriate mitigation and management measures are implemented. Also, there is potential for activities to produce dust from movement of vehicles and tipping operations especially in dry and also windy weather. The potential for impact from dust will be minimised and managed in accordance with the mitigation measures set out in the Dust Emissions Management Plan (Appendix J of Environmental Permit application). Noise emissions will be managed in accordance with the Noise Impact Assessment and Management Plan (Appendix K of Environmental Permit application). The Quantitative Hydrogeological Risk Assessment completed as part of the Hydrogeological Risk Assessment (see Hydrogeological Risk Assessment Report (Appendix Giv of Environmental Permit application)) demonstrates that there will be no detrimental impact on the local hydrogeological or hydrological environment resulting from the activity. The receptors are east of the site and are therefore situated up-groundwater gradient of the site. The receptors are	Implementation of Site Operation, Waste Acceptance Criteria (Appendix Giii of Environmental Permit application), Site Equipment and Maintenance Procedure (EMS Procedure 14), Group Emergency Response Plans, Environmental Contingency Plan (EMS Procedure 15), Procedure for Vehicle Oil/Fuel Leaks (EMS Procedure 4), Spillages of Fuel and Chemicals & other Hazardous or Environmentally Damaging Substances (Emergency Response Procedure 2) in accordance with Environmental Management System (Appendix B of Environmental Permit application). Implementation of Noise Impact Assessment and Management Plan (Appendix K of Environmental Permit application). Implementation of Dust Emissions Management Plan (Appendix J of Environmental Permit application). Measures will be implemented to protect any species reliant on nearby waterbodies/watercourses. The Phases 1 to 9 excavation area will have topsoil bunds built around the perimeter of the excavation extents to minimise surface water runoff from leaving the site during the operational phase. A side slope Artificial Geological Barrier will be constructed on a phased basis in excavation area Phases 1 to 9 in order to provide protection to soil, groundwater and surface water at least equivalent to that resulting from an attenuation	Very Low

Appendix 2 – Bespoke risk assessment schedule

Data and information				Judgement				Action (by permitting)	
Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
What is at risk? What do I wish to protect?	**What is the agent or process with potential to cause harm?**	**What are the harmful consequences if things go wrong?**	**How might the receptor come into contact with the source?**	**How likely is this contact?**	**How severe will the consequences be if this occurs?**	**What is the overall magnitude of the risk?**	**On what did I base my judgement?**	**How can I best manage the risk to reduce the magnitude?**	**What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).**
							unlikely to be impacted on by transport of contaminants by groundwater.	barrier/liner with a minimum thickness of 1.0m and a maximum permeability of 1 x 10^{-7}m/sec. The Triassic Branscombe Mudstone Formation of the Mercia Mudstone Group underlying the site forms an adequate natural basal geological barrier. During site operations, excavation area Phases 1 to 9 will have a clay cut-off installed to separate the excavation area from the surrounding sand and gravel aquifer. Groundwater interception ditches will be installed around the perimeter of the excavations to route intercepted groundwater in the eastern perimeter to the western perimeter *via* the northern and southern boundaries of the excavation Phases 1 to 9 area, as groundwater would flow pre-development. Up-gradient (east) and down-gradient (west) monitoring of groundwater levels to ensure groundwater interception ditches are performing as designed *i.e.* no groundwater truncation. During site operations, direct rainfall and surface water runoff within the excavation area Phases 1 to 9 will be managed in accordance with the approved Bow Farm Surface Water Drainage Scheme report (GWP Report No. 240707), prepared separately to discharge Condition 20 of Planning Permission Number 19/000048/CM (Worcestershire County Council). The Surface Water Drainage Scheme report is included as an Appendix of the Hydrogeological Risk Assessment (Appendix Giv of	

Appendix 2 – Bespoke risk assessment schedule

Data and information				Judgement				Action (by permitting)	
Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
What is at risk? What do I wish to protect?	**What is the agent or process with potential to cause harm?**	**What are the harmful consequences if things go wrong?**	**How might the receptor come into contact with the source?**	**How likely is this contact?**	**How severe will the consequences be if this occurs?**	**What is the overall magnitude of the risk?**	**On what did I base my judgement?**	**How can I best manage the risk to reduce the magnitude?**	**What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).**
								this Environmental Permit application). There will be no direct discharge of water associated with the Environmental Permit activities from the site into any local surface water receptors. See also Environmental Setting and Site Design (Appendix Gii of Environmental Permit application) and Hydrogeological Risk Assessment (Appendix Giv of Environmental Permit application).	
Fish Protected Species – Bullhead (*Cottus gobio*)	Spillage of liquids, contaminated rainwater runoff from waste e.g. containing suspended solids, contaminated surface water and/or groundwater. Rainwater pumped from the excavation, potentially turbid by surface water runoff from the waste, into surface water management system – discharge of clarified runoff *via* infiltration basin.	Harm to protected species through surface water/groundwater contamination, nutrient enrichment, smothering, disturbance, etc. Acute effects: oxygen depletion, fish kill and algal blooms. Deterioration of water quality.	Surface water runoff from site to receptor location – Ripple Brook (east). Groundwater pathway *via* superficial aquifer between site and receptor location. Transport of contaminants by surface water/groundwater.	Low	Low	**Low**	Permitted waste types are inert and have very low contamination potential. The Quantitative Hydrogeological Risk Assessment completed as part of the Hydrogeological Risk Assessment (see Hydrogeological Risk Assessment Report (Appendix Giv of Environmental Permit application)) demonstrates that there will be no detrimental impact on the local hydrogeological or hydrological environment resulting from the activity.	Implementation of Site Operation, Waste Acceptance Criteria (Appendix Giii of Environmental Permit application), Site Equipment and Maintenance Procedure (EMS Procedure 14), Group Emergency Response Plans, Environmental Contingency Plan (EMS Procedure 15), Procedure for Vehicle Oil/Fuel Leaks (EMS Procedure 4), Spillages of Fuel and Chemicals & other Hazardous or Environmentally Damaging Substances (Emergency Response Procedure 2) in accordance with Environmental Management System (Appendix B of Environmental Permit application). Implementation of Dust Emissions Management Plan (Appendix J of Environmental Permit application). The Phases 1 to 9 excavation area will have topsoil bunds built around the perimeter of the excavation extents to minimise surface water	Very Low

Appendix 2 – Bespoke risk assessment schedule

Data and information				Judgement				Action (by permitting)	
Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
What is at risk? What do I wish to protect?	**What is the agent or process with potential to cause harm?**	**What are the harmful consequences if things go wrong?**	**How might the receptor come into contact with the source?**	**How likely is this contact?**	**How severe will the consequences be if this occurs?**	**What is the overall magnitude of the risk?**	**On what did I base my judgement?**	**How can I best manage the risk to reduce the magnitude?**	**What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).**
								runoff from leaving the site during the operational phase. A side slope Artificial Geological Barrier will be constructed on a phased basis in excavation area Phases 1 to 9 in order to provide protection to soil, groundwater and surface water at least equivalent to that resulting from an attenuation barrier/liner with a minimum thickness of 1.0m and a maximum permeability of 1 x 10^{-7}m/sec. The Triassic Branscombe Mudstone Formation of the Mercia Mudstone Group underlying the site forms an adequate natural basal geological barrier. During site operations, excavation area Phases 1 to 9 will have a clay cut-off installed to separate the excavation area from the surrounding sand and gravel aquifer. Groundwater interception ditches will be installed around the perimeter of the excavations to route intercepted groundwater in the eastern perimeter to the western perimeter *via* the northern and southern boundaries of the excavation Phases 1 to 9 area, as groundwater would flow pre-development. Up-gradient (east) and down-gradient (west) monitoring of groundwater levels to ensure groundwater interception ditches are performing as designed *i.e.* no groundwater truncation that might impact on the Ripple Brook to the east. During site operations, direct rainfall and surface water runoff within the excavation area Phases 1 to 9 will be managed in	

Appendix 2 – Bespoke risk assessment schedule

Data and information				Judgement				Action (by permitting)	
Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
What is at risk? What do I wish to protect?	**What is the agent or process with potential to cause harm?**	**What are the harmful consequences if things go wrong?**	**How might the receptor come into contact with the source?**	**How likely is this contact?**	**How severe will the consequences be if this occurs?**	**What is the overall magnitude of the risk?**	**On what did I base my judgement?**	**How can I best manage the risk to reduce the magnitude?**	**What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).**
								accordance with the approved Bow Farm Surface Water Drainage Scheme report (GWP Report No. 240707), prepared separately to discharge Condition 20 of Planning Permission Number 19/000048/CM (Worcestershire County Council). The Surface Water Drainage Scheme report is included as an Appendix of the Hydrogeological Risk Assessment (Appendix Giv of this Environmental Permit application). There will be no direct discharge of water associated with the Environmental Permit activities from the site into any local surface water receptors. See also Environmental Setting and Site Design (Appendix Gii of Environmental Permit application) and Hydrogeological Risk Assessment (Appendix Giv of Environmental Permit application).	
Fish Protected Species – European Eel (*Anguilla anguilla*) migratory route	Spillage of liquids, contaminated rainwater runoff from waste e.g. containing suspended solids, contaminated surface water and/or groundwater. Rainwater pumped from the excavation, potentially turbid by surface water runoff from the waste, into surface water	Harm to protected species through surface water/groundwater contamination, nutrient enrichment, smothering, disturbance, etc. Acute effects: oxygen depletion, fish kill and algal blooms. Deterioration of water quality.	Surface water runoff from site to migratory routes – Ripple Brook (east) and River Severn (west). Groundwater pathway *via* superficial aquifer between site and migratory routes. Transport of contaminants by surface water/groundwater.	Low	Low	**Low**	Permitted waste types are inert and have very low contamination potential. The Quantitative Hydrogeological Risk Assessment completed as part of the Hydrogeological Risk Assessment (see Hydrogeological Risk Assessment Report (Appendix Giv of Environmental Permit application)) demonstrates that there will be no detrimental impact on the local hydrogeological or hydrological environment resulting from the activity.	Implementation of Site Operation, Waste Acceptance Criteria (Appendix Giii of Environmental Permit application), Site Equipment and Maintenance Procedure (EMS Procedure 14), Group Emergency Response Plans, Environmental Contingency Plan (EMS Procedure 15), Procedure for Vehicle Oil/Fuel Leaks (EMS Procedure 4), Spillages of Fuel and Chemicals & other Hazardous or Environmentally Damaging Substances (Emergency Response Procedure 2) in accordance with Environmental Management System (Appendix B of Environmental Permit application).	Very Low

Appendix 2 – Bespoke risk assessment schedule

Data and information				Judgement				Action (by permitting)	
Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
What is at risk? What do I wish to protect?	**What is the agent or process with potential to cause harm?**	**What are the harmful consequences if things go wrong?**	**How might the receptor come into contact with the source?**	**How likely is this contact?**	**How severe will the consequences be if this occurs?**	**What is the overall magnitude of the risk?**	**On what did I base my judgement?**	**How can I best manage the risk to reduce the magnitude?**	**What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).**
	management system – discharge of clarified runoff *via* infiltration basin.							Implementation of Dust Emissions Management Plan (Appendix J of Environmental Permit application). The Phases 1 to 9 excavation area will have topsoil bunds built around the perimeter of the excavation extents to minimise surface water runoff from leaving the site during the operational phase. A side slope Artificial Geological Barrier will be constructed on a phased basis in excavation area Phases 1 to 9 in order to provide protection to soil, groundwater and surface water at least equivalent to that resulting from an attenuation barrier/liner with a minimum thickness of 1.0m and a maximum permeability of 1 x 10^{-7}m/sec. The Triassic Branscombe Mudstone Formation of the Mercia Mudstone Group underlying the site forms an adequate natural basal geological barrier. During site operations, excavation area Phases 1 to 9 will have a clay cut-off installed to separate the excavation area from the surrounding sand and gravel aquifer. Groundwater interception ditches will be installed around the perimeter of the excavations to route intercepted groundwater in the eastern perimeter to the western perimeter *via* the northern and southern boundaries of the excavation Phases 1 to 9 area, as groundwater would flow pre-development. Up-gradient (east) and down-gradient (west) monitoring of groundwater levels to ensure groundwater interception ditches are performing as designed	

Appendix 2 – Bespoke risk assessment schedule

Data and information				Judgement				Action (by permitting)	
Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
What is at risk? What do I wish to protect?	**What is the agent or process with potential to cause harm?**	**What are the harmful consequences if things go wrong?**	**How might the receptor come into contact with the source?**	**How likely is this contact?**	**How severe will the consequences be if this occurs?**	**What is the overall magnitude of the risk?**	**On what did I base my judgement?**	**How can I best manage the risk to reduce the magnitude?**	**What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).**
								i.e. no groundwater truncation that might impact on the Ripple Brook to the east. During site operations, direct rainfall and surface water runoff within the excavation area Phases 1 to 9 will be managed in accordance with the approved Bow Farm Surface Water Drainage Scheme report (GWP Report No. 240707), prepared separately to discharge Condition 20 of Planning Permission Number 19/000048/CM (Worcestershire County Council). The Surface Water Drainage Scheme report is included as an Appendix of the Hydrogeological Risk Assessment (Appendix Giv of this Environmental Permit application). There will be no direct discharge of water associated with the Environmental Permit activities from the site into any local surface water receptors. See also Environmental Setting and Site Design (Appendix Gii of Environmental Permit application) and Hydrogeological Risk Assessment (Appendix Giv of Environmental Permit application).	