

Data and information										Control and Mitigation Measures	
Outlet	Hazard	Receptor	Pathway	Potential Harm	Probability of exposure	Consequence	Magnitude of risk	Justification for Magnitude		Risk management	Residual risk
Which outlet does the hazard relate to?	What is the agent or process with potential to cause harm?	What is at risk? What do I wish to protect?	How might the receptor come into contact with the hazard?	What are the harmful consequences if things go wrong?	How likely is this contact? (with no mitigation measures)	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?
All	Elevated levels of total suspended solids (silt)	Receiving receptors (Leiston Drain, Upstream Leiston Drain, Sizewell Belts tributary of Sizewell Drain, IDB drain DRN163G0101, Sizewell foreshore, North Sea) Groundwater Designated / statutory protected areas (including Sizewell Marshes SSSI) Wildlife (including protected species, if present)	1. Through inadequate construction of site drainage system (not built in accordance with design requirements) or higher than anticipated levels of rainfall (water volumes too high for systems to cope with). 2. Through direct contact, e.g. collapse of stockpiles on site, topsoil stripping entering open excavations 3. Run-off from haul roads / access routes, including use of sweeper tip systems. 4. Through inadequate SuDS maintenance 5. Failure of treatment systems	Contamination of local watercourses and potential impacts to aquatic species. Reduced capacity of receiving watercourses due to build up of sediment (potentially leading to flooding instances).	High	Medium	High	High probability of exposure as construction activities likely to increase mobilised levels of suspended solids / silt. Medium consequence due to impact of suspended solids on receptors (e.g., decreased oxygen levels in watercourses)	Site drainage systems to manage surface water run-off will be constructed in accordance with design requirements. These have taken into consideration aspects such as rainfall return periods (including climate change allowance), catchment area sizes and contaminants that may be present. The site drainage system is designed to capture, store and convey surface water run-off and groundwater (in some cases) to positive outlets for discharging to watercourse where infiltration is not suitable. It is also designed to provide initial settlement of suspended solids. Routine monitoring and maintenance of site drainage systems and SuDS features will take place. Any issues identified with drainage systems, or discharging / dewatering activities, will be escalated to site management level. Specific monitoring and maintenance requirements will be communicated to contractors as necessary and incorporated into any relevant EMS / construction related documentation. Weather conditions will be monitored daily on site; if changes are required to be made to the use of site drainage systems due to adverse conditions these will be addressed and the EA notified (where any impact is likely on the proposed discharging activities). Stockpiles to be located in designated areas, away from sensitive receptors and potential receptor pathways. To be managed in accordance with construction industry best practice (e.g., height limitations, use of silt prevention measures). Drainage systems will be in place around the perimeter of all stockpiles to capture surface water run-off from the stockpiles. Sweeper tip operations to take place within a bunded area with controlled drainage outlets that can be closed off to prevent outflow of contaminated spill water. Interceptors may be installed in the case of permanent access routes. Any treatment systems utilised will be maintained in accordance with manufacturer instructions. Requirements will be briefed to relevant personnel and training on operation of treatment plants to be provided where required. Any faulty / damaged equipment to be repaired or replaced as soon as practicable. Where higher levels of suspended solids are identified, for example through monitoring / sampling, discharging to cease until cause of issue identified. Tankering to be undertaken only if required.	Low	
EO1, DWO1	Presence of contaminants in baseline groundwater (not added to discharge) being introduced to receiving surface waters  <i>Please also refer to the separate Groundwater Risk Assessment and Surface Water Pollution risk assessments undertaken)</i>	Receiving watercourses (where groundwater is proposed to be discharged e.g., Leiston Drain) and ground (Sizewell Foreshore)	1. Groundwater may be encountered during certain activities. Baseline groundwater data has shown some elevated concentrations of certain substances which may not be present in the receiving watercourses. If not removed from the effluent stream there is the potential for contaminants to enter receiving watercourses.	Contamination of marine environment / local watercourses. Potential impacts to aquatic species if present.	High	Medium	High	Substances identified already present in baseline groundwater. Low quantities of groundwater to be discharged. Discharge will be temporary and diluted by surface water.	The contaminants identified as present in baseline groundwater are naturally occurring. Baseline groundwater data was used to complete a Surface Water Pollution Risk Assessment to support this activity (see Appendix M to the technical supporting document). This identified the parameters that may be present in the baseline groundwater that differ to the composition of the receiving watercourse. Further modelling is therefore anticipated to be undertaken by the Environment Agency during the permit determination period (as per the GOV.UK guidance on surface water pollution risk assessments ) which may introduce specific treatment requirements if for example any additional parameter limits are set in the permit. Volumes of groundwater are not expected to be significant and the discharges will, in most cases, be diluted with treated surface water run-off. Treatment measures will be incorporated as necessary. These will ultimately be dependent on any limits set in the permit. Additional sampling may be undertaken specifically where dewatering is taking place within the MCA prior to discharging taking place.	Low	
All (subject to final design)	Concreting activities taking place on site may lead to increased pH in surface water run-off	Receiving receptors (Leiston Drain, Upstream Leiston Drain, Sizewell Belts tributary of Sizewell Drain, IDB drain DRN163G0101, Sizewell Foreshore, North Sea) Designated / statutory protected areas (including Sizewell Marshes SSSI) Wildlife (including protected species, if present)	All run-off will be directed via SuDs to discharge points; however in the event that drainage systems on site fail / are comprised there is a risk of accidental release.  Failure of treatment systems to effectively maintain desired pH levels may lead to discharge of untreated run-off.	Contamination of marine environment / local watercourses. Potential impacts to aquatic species if present.	Medium	Medium	Medium	Concreting activities will be taking place on site in certain areas. These will be temporary however there is the potential for exposure with no mitigation measures.	All concreting related activities to follow industry best practice and to be located away from surface watercourses and any other site drainage aspects (e.g., WMZ basins, swales etc.). Run-off water from areas where concreting is taking place will be subject to pH correction as part of the proposed treatment measures where required. Any proposed treatment measures will take into account the nature and composition of the concretes used on site, including any additives. Sampling / monitoring of pH in discharge streams. Any concrete wash waters will be captured and taken offsite for disposal via a suitable and licensed waste management contractor and facility. These will not be discharged.	Low	
All	Use of coagulants / flocculants in treatment systems (where dosing is identified as being required)	Receiving receptors (Leiston Drain, Upstream Leiston Drain, Sizewell Belts tributary of Sizewell Drain, IDB drain DRN163G0101, Sizewell Foreshore, North Sea) Designated / statutory protected areas (including Sizewell Marshes SSSI) General on-site working areas (where chemicals may be stored) Groundwater (if exposed in excavations) Wildlife (if present) Human health	Accidental release through improper storage / use or malfunction of treatment plants.	Contamination of local watercourses / marine environment. Potential impacts to aquatic species if present. Impact to human health if direct contact with site operatives.	Medium	Medium	Medium	The chemicals are used within the treatment systems themselves.	Chemical dosing agents (coagulants and flocculants) will only be used where necessary (e.g., to aid settlement of finer suspended solids). The inlet level of suspended solids will be monitored such that the coagulation/flocculation chemicals are only added when the influent levels are above preset limits, which will be set based on the required discharge effluent quality to be achieved (in accordance with permit conditions). The chemicals are added on a flow proportional basis to limit the risk of excess dosing and these are then mostly removed with the waste settlement solids that form in the systems. This will mean that residual levels are the same or lower than pre-dosing levels. Sampling of the final discharge effluent will take place, prior to it entering receiving watercourses / Foreshore.	Low	

All	Elevated levels of discharge (in terms of flow rate / volumes)	Receiving receptors (Leiston Drain, Upstream Leiston Drain, Sizewell Belts tributary of Sizewell Drain, IDB drain DRN163G0101, Sizewell Foreshore, North Sea) Designated / statutory protected areas (including Sizewell Marshes SSSI)	1. Through failure of flow control mechanisms 2. Unprecedented level of rainfalls (going beyond climate change allowance) 3. The Marshes water balance is influenced by that of the surrounding watercourses. Therefore increased flows may impact the balance in the nearby Marshland.	Flooding due to receiving watercourses being overwhelmed. Potential for failure of treatment systems on site (inability to cope with increased rainfall volumes) and therefore discharge of untreated water leading to contamination of local watercourses / marine environment. Changes to Sizewell Marshes SSSI water balance	Medium	Low	Medium	The proposed discharging activities will result in changes to receiving watercourses in terms of flow rates / volumes. However these will be temporary.	Discharge flow rates have been designed in accordance with greenfield run-off rates (as agreed at the DCO stage for the proposed development). This will help to ensure that there is no excessive flows of discharge to the receiving environment that could impact water / groundwater levels. The nature of the proposed discharging activities is temporary (during construction only) and will be intermittent (as dependent on rainfall volumes / dewatering activities). Therefore any changes to background water levels will be short-term. Surface water drainage designs have also taken into consideration anticipated maximum discharge volumes to ensure systems can provide sufficient capacity to attenuate run-off / groundwater while also providing initial treatment for parameters such as suspended solids.	Low
DW01 O7	Failure of pumps during dewatering activities	Groundwater SSSI - Sizewell Marshes Site - increased flooding risk (potential to impact machinery, people)	Via infiltration through ground (leaching and lateral migration within groundwater) Direct impact if foundation works are continued without the use of dewatering pumps.	Increased flood risk Excavations fill with water to match groundwater level Migration of contaminants within groundwater may affect background composition	Medium	Low	Medium	There is always a risk of equipment failure. The consequence is considered to be low due to small volumes of dewatering required.	Pumps will be subject to regular inspection and maintenance and any issues escalated to the site management team. If issues are identified, dewatering activities would temporarily cease until replacement equipment is obtained. Alternative options for dewatering will be considered if dewatering needs to continue, e.g., due to rainfall contributing to levels of water requiring to be pumped from exposed excavations.	Low
All	Presence of unexpected contaminants in discharge streams	Receiving receptors (Leiston Drain, Upstream Leiston Drain, Sizewell Belts tributary of Sizewell Drain, IDB drain DRN163G0101, Sizewell Foreshore, North Sea) Groundwater Wildlife (including protected species, if present)	Direct pathway to receiving watercourses / marine environment if present in discharge streams Via infiltration through ground (leaching and lateral migration within groundwater) Wildlife could be affected if present in the area where the discharge is being made.	Contamination of local watercourses / marine environment and potential impacts to aquatic species	Low	Medium	Low	Low risk as background assessments have been completed to identify presence of potential contaminants within surface / groundwater.	Background baseline data has been obtained and used to complete risk assessments required to support permit application. These have involved laboratory analysis for full suites of determinands to identify what parameters / substances are present in the baseline ground and surface water conditions; therefore there should not be any unexpected substances encountered. Furthermore, the risk assessments have taken into consideration where any additional substances may be added to the discharge from construction activities (none anticipated if proposed treatment methods are effective).	Very low
All	Human monitoring / laboratory sampling errors leading to failure to identify out-of-specification discharging and inadequate conditions for sample transport, cross-contamination during sampling	Receiving receptors (Leiston Drain, Upstream Leiston Drain, Sizewell Belts tributary of Sizewell Drain, IDB drain DRN163G0101, Sizewell Foreshore, North Sea) Designated / statutory protected areas (including Sizewell Marshes SSSI) Wildlife (including protected species, if present)	1. Through human error during on-site monitoring procedures including failure for cause to be identified (due to breakdown in communication or failure to follow any relevant management system procedures). 2. Through laboratory sampling error when analysing collected samples from site.	Contamination of local watercourses / marine environment and potential impacts to aquatic species	Medium	Medium	Medium	Regular monitoring and sampling will be undertaken which should identify any errors.	Any personnel required to undertake physical sampling and monitoring on site (in relation to the proposed discharging activities) will have received relevant training and will be considered competent to undertake the required tasks. Any issues with sampling / monitoring equipment will be reported and escalated as per on site procedures and suitable alternative equipment located. Issues will be reported to the Environment Agency as required (by permit conditions). UKAS-accredited laboratories will be used, where required, for testing of samples. Refer to Section 7 of the supporting permit application document for further detail.	Very low
AD6 O6a, O6b, O6c, O8a)	Potential for contaminants to enter drainage system from highway / BR19 e.g., during use of construction plant or from third-party vehicle accidents, spills / pollution incidents on the highway	Receiving receptors (Upstream Leiston Drain, Leiston Drain) Drainage infrastructure itself Wildlife (including protected species, if present)	Via the permanent surface water drainage system which is to be used during construction and operation of the highway (once built).	If spills or other pollution incidents were to occur on the highway / bridleway, these could result in pollution to the watercourse that the drainage system discharges too (the Leiston Drain) Impacts to aquatic species (if present)	Low	Medium	Low	Dependent on incidents occurring, which are not typically expected to occur under normal conditions on the highway / bridleway.  Highway drainage does not require permitting under normal circumstances.	It is being proposed to discharge construction surface water run-off / groundwater from the AD6 phase of works to the permanent highway and bridleway drainage system that will be built first. Once the highway and bridleway themselves are complete, the drainage system will also accept run-off from these areas; therefore there is a small chance that any contaminants from these areas could impact the final discharge to watercourse. To mitigate this, SuDS measures such as filter drains and swales are being implemented as part of the permanent drainage system design (in accordance with CIRIA methodology) which will offer a level of protection against the ingress of highway contaminants. Furthermore, during the construction period, additional treatment systems will be used where necessary (e.g. settlement systems to help reduce suspended solids). Regular monitoring and sampling is expected to be required as part of the environmental permit conditions; this would be translated into site specific monitoring arrangements and procedures. This is expected to include checking for visible oil / grease which would indicate any potential contamination to the receiving watercourse. All reasonable steps to identify, stop and mitigate the potential for ingress of contaminants from the highway / bridleway run-off will be taken. A risk remains that pollution could be caused from third-party incidents (beyond the control of SZC), however the potential for these to occur and the chance of contaminants reaching the watercourse would depend on the severity and extent of the incident itself, therefore the residual risk has remained 'low'.	Low
All	Use and storage of fuel / oil (e.g., from refuelling of vehicles, plant and equipment)	Receiving receptors (Leiston Drain, Upstream Leiston Drain, Sizewell Belts tributary of Sizewell Drain, IDB drain DRN163G0101, Sizewell Foreshore, North Sea) Designated / statutory protected areas (including Sizewell Marshes SSSI) Wildlife (including protected species, if present) Groundwater	1. Accidental release either directly to watercourse (overland flow) or through site drainage systems if not contained. 2. Spills could percolate through soil to groundwater or enter via exposed routes such as excavations. 3. Run-off from haul roads / access routes 4. Run-off from vehicle parking / HGV areas	Contamination of local watercourses / marine environment and potential impacts to aquatic species,	Low	High	Medium	Fuel and oil will be used during construction activities. Therefore there is a risk of spills / leaks occurring.	The use of hydrocarbon traps will be considered as part of the treatment train for the outfalls. Visual inspection of the water management zone basins and receiving watercourses (where accessible) will be undertaken to check for visible sheen / smells as evidence of hydrocarbon contamination. It is anticipated that contractors will utilise appropriate containment in accordance with relevant legislation and guidance for storage of fuel and oil (e.g., in line with Code of Construction Practice, with 110% capacity, double bunded storage tanks, designated refuelling areas etc.). Specific measures will be detailed in relevant construction-related documentation. This can be provided to the Environment Agency upon request. This will be reviewed by SZC Ltd prior to any works commencing on site. It is expected that a fuel bowser will be used for refuelling. Where possible, this will remain in a static position in a designated area within the site compound, away from watercourses / exposed ground. Suitable spill equipment will be available at all times. Vehicles are to be refuelled in designated areas - to be located at least 10 m away from surface watercourses / pathways. Locks should be fitted to all fuel storage tanks to prevent unauthorised access. Interceptors / oil water separators will be implemented in certain areas on site.	Low

All	Use of chemicals / hazardous substances in construction activities / operational processes	Receiving watercourses (Leiston Drain, Upstream Leiston Drain, Sizewell Belts tributary of Sizewell Drain, IDB drain DRN163G0101, Sizewell foreshore, North Sea) Designated / statutory protected areas (including Sizewell Marshes SSSI) Wildlife (including protected species, if present) Groundwater Site operatives (human health)	1. Accidental release either directly to watercourse (overland flow) or through site drainage systems if not contained. 2. Spills could percolate through soil to groundwater or enter via exposed routes such as excavations.	Contamination of local watercourses / marine environment and potential impacts to aquatic species. Potential harm to human health through exposure / contact.	Low	High	Medium	Chemicals and / or other hazardous substances may be used during construction activities; therefore there is a risk of spills / leaks occurring.	Use of chemicals to be minimised and, if possible, avoided. Any chemicals and or other hazardous substances that are required to be used during construction activities to be kept in suitable, secure containment in designated areas on site (ideally located away from any watercourses, exposed ground or other possible pathways (such as drainage systems) to receptors). Areas outside of or on the edge of the floodplain to be used for storage where possible. Specific measures to be detailed in contractor environmental management related documentation. COSHH requirements will be adhered too and suitable spill equipment will be made available.	Low
All	Generation and storage of construction-related wastes (including both hazardous and non-hazardous, liquids and solids)	Receiving receptors (Leiston Drain, Upstream Leiston Drain, Sizewell Belts tributary of Sizewell Drain, IDB drain DRN163G0101, Sizewell Foreshore, North Sea) Designated / statutory protected areas (including Sizewell Marshes SSSI) Wildlife (including protected species, if present) Groundwater Site operatives (human health)	1. Accidental release e.g., leaks or spills of liquid wastes due to unsuitable containment, escape of waste during emptying of containers / transfers or movement of waste on site 2. Through direct contact if physically enters watercourse 3. Percolation through soil to groundwater (liquid wastes only) or via exposed routes such as excavations. 4. Release of waste mobilised during a flood event.	Contamination of physical environment (including watercourses / Sizewell foreshore and statutory protected sites). Potential harm to human health through exposure to hazardous wastes.	Low	Medium	Low	Consequence will ultimately be dependent on type of wastes however only minimal amounts of liquid wastes expected to occur during initial construction works.	All construction related wastes will be stored in suitable containment in designated areas on site. Specific waste management procedures will be implemented and adhered too. These will be reviewed and approved in accordance with SZC EMS requirements, as required. Wastes will be segregated and maintained in accordance with legal requirements and the Waste Hierarchy, which will be followed on site. Waste containment will be located away from pathways to receptors wherever possible (e.g., away from watercourses, drains, SuDS features). Skips will be removed from working areas on a regular basis to reduce risk of litter / escape of waste on site.	Very low
All	Unauthorised site access / vandalism impacting treatment and discharging activities	Receiving receptors (Leiston Drain, Upstream Leiston Drain, Sizewell Belts tributary of Sizewell Drain, IDB drain DRN163G0101, Sizewell Foreshore, North Sea) Designated / statutory protected areas (including Sizewell Marshes SSSI) Wildlife (including protected species, if present) Groundwater (if exposed for example in excavations) Site Operatives On site drainage / treatment infrastructure Surrounding residents	1. Through direct physical contact if target subject to vandalism. 2. Through accidental damage during unauthorised site access. Potential for damage to discharge treatment equipment or infrastructure (such as WMZ basins, SuDS) used as part of on site drainage systems if directly impacted by acts of vandalism or forced site entry. 3. Human health via inhalation, dermal contact.	If site drainage / treatment infrastructure is damaged, this could lead to discharge of contaminated effluent leading to pollution of receiving receptors and potential impacts on wildlife.	Low	Medium	Low	Low probability of exposure as site drainage infrastructure / treatment systems themselves not anticipated to be directly targeted by acts of vandalism or unauthorised site access.	Suitable security measures and arrangements are to be implemented on site. This may include the following: - Boundary security fencing to prevent unauthorised entry - Controlled access points - CCTV surveillance - Chemicals and fuels securely stored (locked) In the event that a vandalism event is experienced on site, the Police would be contacted and emergency clean-up contractors (if required). If a vandalism event results in pollution to the watercourses, or other form of environmental pollution, the Environment Agency would be notified and further action undertaken as necessary. The Police would be contacted in the event of a vandalism incident on site.	Very low
All	Flooding on site (parts of the site within Flood Risk Zones).	On-site surface water / groundwater drainage infrastructure and treatment systems Receiving receptors (Leiston Drain, Upstream Leiston Drain, Sizewell Belts tributary of Sizewell Drain, IDB drain DRN163G0101, Sizewell Foreshore, North Sea) Nearby human receptors (where present) Wildlife (where present)	Direct pathway - floodwaters causing mobilisation of contaminants (such as silt) or even plant, equipment and machinery depending upon the severity.	1. Blockage of drainage systems and reduced effectiveness of SuDS methods (e.g., overflow of attenuation basins) 2. Reduced capacity of receiving watercourses due to blockages (off-site) or build up of sediment 3. Periods of heavy and/or prolonged rainfall overwhelming site drainage system. Receiving watercourses may also breach banks if flooding is severe. Could lead to contamination of receiving watercourses and potential impacts on aquatic species (where present).	Low	High	Medium	Parts of the site are located within flood risk zones. Some higher risk areas than others.	Designs for the surface water drainage systems on site have taken into consideration the 1 in 100 year + climate change allowance (20% or 40%) rainfall event. Systems such as WMZ basins are expected to be constructed in accordance with design requirements, therefore they will be built to hold certain quantities of rainfall prior to treatment and discharge. Weather conditions will be monitored daily on site and discharging / dewatering arrangements managed accordingly.	Low
All	Fire and fire water run-off	On-site surface water / groundwater drainage infrastructure and treatment systems Receiving receptors (Leiston Drain, Upstream Leiston Drain, Sizewell Belts tributary of Sizewell Drain, IDB drain DRN163G0101, Sizewell Foreshore, North Sea) Nearby human receptors (where present)	If fire were to occur on site, the proposed discharging activities could be affected by: 1. Direct damage from physical contact with fire (to treatment systems for example) which could lead to uncontrolled / untreated discharges off-site. 2. Contamination of site drainage infrastructure and receiving watercourses from collection of fire water run-off.	Discharge pipes / treatment systems may become damaged or destroyed. Contaminated fire water run-off could enter watercourse if not managed. Fuel and chemicals also present on site which could enter watercourse if impacted by fire (i.e. leaks)	Low	High	Medium	In the event of a fire, fire services may be required need to use water and other chemicals to bring the fire under control. If this is not properly contained on site, it could enter the site drainage system and therefore receiving watercourses.	Measures will be in place on site to prevent the risk of fire occurring. These will be detailed in the appropriate construction-related documentation and approved by the SZC Site Compliance Team. In the event of a fire, the local Fire Service would be contacted. The majority of site run-off is directed to WMZ basins, which would therefore enable the run-off to be held and then tankered off-site. Discharging activities would cease in the event of a fire. Where run-off is not directed to WMZ basins (for example in the case of AD6), every possible measure will be undertaken to limit the extent of contaminated fire water run-off from entering local watercourses. An emergency clean-up contractor will be in place and will be contacted where necessary.	Low
EO1 (TMO)	Interaction of animals / general public with outlet pipe	General public Wildlife (if present) Structure of physical pipe outfall	The diameter of the TMO pipeline may be up to 500mm wide. The outlet will be located within publicly accessible land, giving opportunity for animals or members of the public to enter.	Members of the public, pets, or wildlife may become trapped within the pipeline. Damage accidentally caused to pipeline.	Low	High	Medium	The risk to human life.	A safety grille or flap will be added to the outfall to remove the possibility of entry.	Low

All	Infiltration of run-off to ground	Groundwater Nearby watercourses Designated / statutory protected areas (including Sizewell Marshes SSSI) Wildlife (including protected species, if present)	Via percolation through soil / sub-soil to groundwater Saturated ground conditions / permeable surfaces may lead to run-off entering nearby watercourses and / or designated sites such as Sizewell Marshes Direct contact with sediment laden run-off may impact wildlife.	Where infiltration has been proven to be viable on site; some treated run-off will be infiltrated to ground via a series of SuDS. If SuDS systems do not provide adequate treatment, there is a risk of contamination to receptors.	Medium	Medium	Medium	Infiltration will take place across the site in certain areas however the run-off is not expected to be contaminated.	Prevention of contamination from chemicals and fuels will be done at source, using bunds and other methods for preventing spills and leaks entering the surface water system SuDS will be used to treat surface water to reduce the concentration of hydrocarbons, metals and TSS Where necessary interceptors will be used to further limit the risk of contamination from hydrocarbon, metals and TSS The infiltration systems will be designed for the 100yr+CC storm event, flooding may occur during events of greater intensity but at this stage the effect of dilution from the greater water volume will limit the impact of contamination to the SSSI and other downstream receptors	Low
All outlets connected to a WMZ basin	Contamination of discharge water with polymers used in the sludge treatment process (as part of SuDS maintenance for WMZ basins)	Receiving receptors (Leiston Drain, Upstream Leiston Drain, Sizewell Belts tributary of Sizewell Drain, IDB drain DRN163G0101, Sizewell Foreshore, North Sea) Designated / statutory protected areas (including Sizewell Marshes SSSI) Wildlife (including protected species, if present) Groundwater	Failure of the sludge treatment process leading to polymer contaminated water being returned to the basins then passing through surface water treatment plant and into the environment through the discharge.	Contamination of coastal waters and surface water leading to poor water quality and wildlife impacts.	Low	Medium	Low	The introduction of polymers to the discharge has the potential to harm the environment.	During operation of the sludge removal process a skilled operator will be continually monitoring the process. Any issues with the treatment process will be captured early and managed on site. The polymer is added at a very dilute concentration and any leak would take a long time before significant levels of polymer were to escape. However, the polymer is delivered at roughly 50% active and transported in 1,000 litre IBC's, these IBC's should be stored on a bund in case of spillage or damage to the container.	Low
			Trace levels of polymer in water being returned to the basins then passing through surface water treatment plant and into the environment through the discharge.	Contamination of coastal waters and surface water leading to poor water quality and wildlife impacts.	Low	Low	Low	The introduction of polymers to the discharge has the potential to harm the environment, although in this case the levels would be negligible.	The treated water would only have trace levels present, this would be further diluted when the water is returned to the basin for additional dilution and treatment. However, the polymer is delivered at roughly 50% active and transported in 1,000 litre IBC's, these IBC's should be stored on a bund in case of spillage or damage to the container.	Low
DW01, O6a, O6b, O6c, O8a	Where dewatering of groundwater may take place, there is the potential for land contamination to be found.	Receiving receptors (Leiston Drain, Upstream Leiston Drain, Sizewell Belts tributary of Sizewell Drain, IDB drain DRN163G0101, Sizewell Foreshore, North Sea) Designated / statutory protected areas (including Sizewell Marshes SSSI) Wildlife (including protected species, if present) Groundwater Site staff	If contaminated land is encountered during construction activities such as dewatering / digging, if not properly contained, this could escape and enter site drainage systems, exposed groundwater in excavations or directly (via overland mobilisation) in local surface watercourses. Human health could be impacted if site operatives were to be in contact with contaminated land.	Pollution to surface watercourses / groundwater. Potential impacts to wildlife (if present). Human health impacts	Low	Medium	Low	Monitoring for contaminated land / groundwater will take place (visually) during any earthworks or dewatering activities.	There is a Control of Contaminated Land and Groundwater procedure as part of the SZC EMS which details how any contaminated land or groundwater that is encountered should be managed. This includes what action to take and who is ultimate responsibility for ensuring safe removal of the contamination off-site (or as otherwise agreed with the relevant environmental regulators).	Very low
All	Use of lighting	Wildlife; Local residents						N/A - Proposed discharging activities do not require the use of lighting.		
All	Noise and vibration	Wildlife; Site staff; General public; Local residents	N/A - The proposed water discharging activities are not anticipated to have a significant effect on noise levels from the site. Note that some outlets may be served by pumping which may contribute to site levels of noise and vibration, however, this is considered to be negligible in context of the noise and vibration associated with the other activities on site. Noise control measures for the wider site activities will be addressed in construction related environmental management system documentation.							
All	Odour	Wildlife; Site staff; General public; Local residents	N/A - Installation / operation of the proposed water discharging and treatment activities is not anticipated to result in any odorous emissions (activities not inherently odorous).							
All	Dust	Wildlife; Site staff; General public; Local residents	N/A - Installation / operation of the proposed water discharging and treatment activities is not anticipated to result in the creation of airborne dust.							