

Checklist – Marine dredging and land-based disposal application information

The following checklist provides guidance on the level of information required by the EPA to undertake an assessment of the dredge proposal. For higher-risk proposals, more detailed information may be required.

The checklist is divided into five parts:

- **Applies to** – what activities associated with the dredge campaign will be considered in EPA’s assessment.
- **Assessment criteria** – EPA’s expectations on what the information provided by the applicant needs to demonstrate.
- **Resources** – web-based material that can be used to help inform and guide applicants.
- **Minimum information required** – for the EPA to undertake a risk assessment of the environmental impacts associated with a proposed dredge campaign. Evidence will need to be provided to support your response.
- **Additional information required if** – further information may be required under specified circumstances.

The majority of this information will be required by the EPA during the assessment of the DA for the proposed dredge campaign, or if a DA is not required, in the DMP.

* denotes information required at the development application stage if it is referred to the EPA for an assessment. If known, all information can be provided at the DA stage as this may speed up the assessment of the licence and DMP.

Variations between information provided for the DA and DMP are acceptable provided the demonstrated environmental outcomes are the same or better and are consistent with the conditions of approval for other agencies including development approval.

General information

Applies to	<ul style="list-style-type: none"> • Deployment, installation, and decommissioning/removal of dredge equipment including machinery, silt curtains, geobags, pipes, pumps, etc. • Construction of bunds, coffer dams, dewatering ponds, etc. • Operation of dredge and other associated vessels and equipment such as booster pumps. • Spoil management, placement and/or disposal and removal which considers the composition of the spoil. • Washdown and maintenance of equipment and machinery. • Refuelling of plant and equipment. • Storage, handling, disposal and spill response of chemicals and fuels. • Movement of equipment including trucks (drag-out).
Assessment criteria	<ul style="list-style-type: none"> • The need for future maintenance dredging has been considered. • All reasonable and practicable measures are undertaken to minimise or prevent the potential for environmental harm that may result from dredging and the management and disposal of spoil. • Best available technology economically achievable (BAT) is used when planning a dredge campaign. • Social and economic implications are considered.

Resources	<ul style="list-style-type: none"> • Nature Maps • Enviro Data SA • Location maps (tide locations, industry, water courses, stormwater drains, etc.) • National Pollution Inventory (data on pollutant emissions) • Reef life survey data 	
Minimum information required – Overall scope of dredging		Provided
<p>Provide aerial photographs and a scaled map of the dredge and spoil placement site and surrounds which shows:</p> <ul style="list-style-type: none"> • location and area to be dredged and location where spoil is to be stockpiled, dewatered and/or disposed; • supporting structures; • on-land storage locations including infrastructure, fuel storage and refuelling locations; • vehicle or vessel entry, exit and manoeuvring areas; • spoil placement, disposal or dewatering area; • approximate location of mean high/low water mark; • bathymetry/land contours; • stockpiles of waste; • location of sensitive receivers including residents, businesses, public facilities (eg housing, schools playgrounds, hospitals, sporting facilities, jetties, aquaculture, commercial fishing grounds), etc¹; • location and nature of sensitive vegetation (eg mangroves, seagrass, reefs, reeds), watercourses (including estuaries, wetlands, channels), or marine waters located within 500 m of the sites² that will be used for the dredge campaign (dredging, dewatering, stockpiling of spoil). Include methodology and data sources for the collection of this information; • location of marine reserves, sensitive habitats and protected areas such as marine parks, national parks, conservation areas, fish habitat areas, salt marshes, dunes, bird and mammal colonies, cultural areas, shipwrecks etc; • method of drainage and direction of stormwater flow passing over or leaving the site, all stormwater discharge points and any proposed stormwater infrastructure; • approximate north point. 		<input type="checkbox"/> *
<p>What is the purpose of the dredging (eg construction of boat ramp, laying of pipe, improve water flows, etc)?</p>		<input type="checkbox"/> *
<p>Is the application for capital dredging (site has never been dredged) or maintenance dredging (site has previously been dredged)?</p>		<input type="checkbox"/> *

¹ For further information refer to the [Evaluation distances for effective air quality and noise management](#), [Interface between land uses position statement](#), [Air quality and the South Australian Planning System position statement](#), and [Noise and the South Australian planning system position statement](#).

² May be greater than 500 m for high risk dredge campaigns where potential impacts are likely to extend beyond this distance.

Have alternative options been considered (eg sites with deeper waters, use of other already established shipping channels, other locations) and if so, why were these disregarded?	<input type="checkbox"/> *
What is the economic and social impact if dredging does not occur?	<input type="checkbox"/> *
What is the likelihood that the dredged area will require maintenance dredging? If so, how often? Have you considered ways to reduce frequency of maintenance dredging? What is the evidence to support your response?	<input type="checkbox"/>
What are the environmental values at the dredge site and location where the spoil will be treated, placed, disposed (eg ecological, recreational, conservation, etc)?	<input type="checkbox"/> *
What dredge equipment and infrastructure will be used and why have they been selected and considered best practice for the required dredging campaign? This includes but not limited to: <ul style="list-style-type: none"> the type of dredge; support equipment such as barges, trucks, fuel storage, pumps; structures including pipes, dewatering infrastructure (geobags, ponds, coffer dams, silt curtains, etc). 	<input type="checkbox"/> *
Describe how the equipment and/or structures will be deployed on site and removed once the campaign has been completed.	<input type="checkbox"/>
When do you propose to dredge and how long will the dredging go for (from establishment of equipment to decommissioning of site)? Are there any critical timeframes for the commencement or completion of the campaign the EPA needs to be aware of and if so what are they and why?	<input type="checkbox"/> *
What are the proposed operating hours/days and what is the proposed timing for the works (time of year and length of campaign)? Are there any impacts that need to be considered with respect to the time when the dredging needs to be undertaken (eg recreational users, breeding or migratory periods of birds/animals, spawning, recruitment or growth periods of plants or animals) – if so what are they and how have these been addressed?	<input type="checkbox"/> *
How will access to the dredging site and spoil placement site be achieved, eg installation of platforms, traffic movement across beaches, etc? How will this be undertaken in a manner that minimises impact to the surrounding environment (both aquatic and terrestrial)?	<input type="checkbox"/> *
How large and deep is the dredge footprint and what is the maximum volume of spoil that needs to be removed? Will there be any circumstances that may alter the predicted volume of spoil to be removed and if so what are they and how will this be managed?	<input type="checkbox"/> *
What is the composition and nature of the spoil (assessed from samples taken to the proposed dredge extent and depth) that is to be removed from the dredge site, eg sediment size (percentage of clay/silts), organic matter including beach wrack and live seagrass, contaminants including hazardous substances and plastics, acid sulfate soils? How has this influenced the selection of dredging methods and equipment? Further guidance on this is presented in Sediment analysis .	<input type="checkbox"/> *
How will removed spoil will be managed (consider the waste management hierarchy) with respect to: <ul style="list-style-type: none"> contamination (metals, acid sulfate soils, toxicants) and/or other materials (plastics) if applicable; transportation to dewatering site or disposal location; dewatering (if applicable) and methods for the reduction of fines prior to discharge; location of disposal/stockpile/placement site on land and how sand drift will be minimised if applicable; storage times and footprint (width and height) for stockpiles of spoil on the site; 	<input type="checkbox"/> *

<ul style="list-style-type: none"> • end fate of material (eg used for construction element of project and beach replenishment, reuse, disposed to waste facility and at sea) and the application of the waste management hierarchy in determining this. <p>How has the composition of spoil been considered in determining the appropriate methodologies for the above?</p>	
<p>Is the dredge area and spoil placement site frequented by significant fauna (eg birds, whales, dolphins, reptiles, etc) and if so, what are they and at what frequency?</p>	<input type="checkbox"/> *
<p>What is the nature of the site where vehicle movement will be undertaken (dirt, cement, etc)? How frequent will vehicle movement be if there is the potential for dust impacts or drag-out?</p>	<input type="checkbox"/>
<p>Provide verification of other approvals including Development Approval. If a DA was not required, evidence will need to be provided to the EPA (eg letter from the relevant planning authority)?</p>	<input type="checkbox"/>

Water quality

<p>Applies to</p>	<ul style="list-style-type: none"> • Placement and/or construction of infrastructure such as bunds, silt curtains, coffer dams, dredge, working platforms, hardstand areas. • Removal of spoil during dredging (mobilisation of sediment and overflow of water). • Dewatering of spoil and discharge of fines into waters. • Placement of spoil in waters or on land adjacent waters. • Transport of spoil into containment structures (eg ponds, geobags).
<p>Assessment criteria</p>	<ul style="list-style-type: none"> • All reasonable and practicable measures are implemented to minimise impacts to water quality and sensitive habitats. • Composition of spoil is known (contaminants and sediment characteristics). • Appropriate dredge equipment and timeframes are selected to minimise impacts on water quality and the aquatic environment. • Turbidity plumes are minimised and will not impact sensitive habitats. • Recreational (eg swimming), commercial and recreational fishing, and aquaculture values are not compromised. • Supernatant water is treated in a manner to minimise impacts to the receiving environment (water quality, flora and fauna). • Waste management hierarchy has been considered for the management and discharge of wastewater from dewatering of spoil. • Water quality monitoring will identify and manage impacts. • Impacts from spills and leaks from infrastructure and equipment (eg pipelines, fuel hoses, bunds, dredge machinery, dewatering infrastructure) are prevented.

Resources	<ul style="list-style-type: none"> • WAMSI Characterisation of dredge plumes • WAMSI Dredging science node reports • WaterConnect • National Water Quality Guidelines • National assessment guidelines for dredging NAGD • EPA Position Statement: Water quality and the SA Planning System • Best practice erosion and sediment control 	
Minimum information required – Water quality		Provided
What is the predicted duration of dredging (actual removal of spoil)?		<input type="checkbox"/> *
Identify any potential water quality impacts that may occur when dredging is undertaken and describe how these will be managed.		<input type="checkbox"/> *
What is the ambient water quality (oxygen, turbidity, pH) of the dredge area and spoil placement site where dewatering or disposal will occur relevant to the time of year for the dredge campaign?		<input type="checkbox"/>
What is the distance to and composition of vegetation and/or aquatic flora/reef present at and adjacent the dredge site and spoil placement site where impacts may occur?		<input type="checkbox"/> *
What is the wave energy, tides and current flows present at the dredge site and spoil placement site? Specify where this information sourced from.		<input type="checkbox"/>
How will potential turbidity plumes that may result from dredging and any associated activity (eg installation of bunds, silt curtains, ponds) be managed, monitored and minimised? <ul style="list-style-type: none"> • Are there any natural barriers to minimise the spread of turbidity? • Are there any circumstances which may prevent the use of the selected equipment (eg sediment composition, weather conditions, etc)? • Provide evidence for the effectiveness of the proposed mitigation measures in relation to the nature of the dredge site. 		<input type="checkbox"/> *
Additional information required if ...		Provided
Spoil contains a portion of fine sediments (~ more than 1% clays/silts) AND/OR Dredge spoil volume is greater than 100,000 m ³ and duration of dredge campaign is greater than 8 weeks.	Provide hydrodynamic modelling and sediment deposition modelling to predict the fate and degree of turbidity plumes that may occur at any locations where water quality may be impacted at the dredge, dewatering or disposal site. Modelling must consider local conditions and 'worst case scenarios' including the potential for resuspension of sediments and maximum dredge volumes.	<input type="checkbox"/> *
Sensitive habitat is located or potentially within the turbidity plume that may result from dredging and/or dewatering of spoil AND/OR	What monitoring will be undertaken to demonstrate there are no impacts to the flora and fauna which may result from poor water quality (eg turbidity, low oxygen) from dredging and/or dewatering? What will the ALARM and	<input type="checkbox"/>

Organic matter is present in spoil.	HOLD triggers be? For further guidance on developing a water quality monitoring program, please refer to the Water Quality Monitoring section.	
Area is used by swimmers and other recreational users OR Complaints have occurred or are likely to occur due to poor water quality.	How will the community be consulted and how will complaints be managed?	<input type="checkbox"/>
Supernatant water from dewatering of spoil is discharged directly or indirectly into the aquatic environment.	<p>What are the potential volumes, flow rates, and duration for dewatering/overflow?</p> <p>How will supernatant or overflow water be treated to reduce turbidity prior to discharge (eg function of sediment ponds, filtration, swales, hoppers, use of flocculants, use of excavators at discharge point)?</p> <p>Where will supernatant water be discharged to?</p> <p>How will spillages and breakages from dewatering infrastructure be managed (eg bunds, geobags)?</p> <p>What is the composition and nature of the discharge water (eg nutrient load, fine clay particles, discoloration)?</p> <p>What monitoring will be undertaken to ensure that discharged water does not exceed triggers? Refer to the Water Quality Monitoring section for further guidance on monitoring.</p>	<input type="checkbox"/> *
Fill material is being used to construct bunds, hardstand areas, working platforms	<p>What is the volume and composition (including sediment size) of fill that will be used and where is it sourced from?</p> <p>Does the fill meet the EPA Waste Derived Fill standard?</p> <p>How will it be managed to ensure it does not result in impacts to quality of any waters (surface waters and stormwater)?</p> <p>How will the fill be removed once dredging has been completed?</p>	<input type="checkbox"/>
For landbased sites used for dewatering or stockpiling – the potential for flooding or high rainfall (greater than 10 mm over a 24-hour period) during the dredge campaign.	How will stormwater runoff at the spoil placement location or dredge area (inland), be managed to prevent sediment being transported into any waters in the event of high rainfall (contingencies?).	<input type="checkbox"/>
The dredge site is located within 1 km of an aquaculture facility (either land-based pump-ashore or marine farms) Aquaculture Public Register or shellfish harvesting area SA Shellfish Quality Assurance Program (SASQAP) .	Identify potential impacts to the aquaculture facility or growing areas and how these can be managed.	<input type="checkbox"/>

Noise

Applies to	<ul style="list-style-type: none"> • Movement of all vessels and vehicles used during the campaign. • Use of dredge and dewatering equipment. • Pumps and generators. • Anchoring. 	
Assessment criteria	<ul style="list-style-type: none"> • Noise does not cause nuisance to neighbouring properties and meets the legislated noise levels and timeframes. • Complaints from the community will be appropriately addressed. • Minimal impact to marine megafauna. 	
Resources	<ul style="list-style-type: none"> • EPA Guideline: Construction noise • EPA Guideline: Noise • EPA Position Statement: Noise and the Planning System • EPA Guideline: Evaluation distances for effective air quality and noise management • DPTI underwater noise guidelines • DPTI Management of Noise and Vibration: Construction and Maintenance Activities 	
Minimum information required – Noise		Provided
What noisy equipment will be used on the proposed sites during the dredge campaign and where will the equipment be placed in relation to the sensitive receivers (these can include residents, schools, business, recreational facilities, etc)?		<input type="checkbox"/> *
What are the operating times of the noisy equipment and how long will noisy equipment be used for throughout the dredge campaign?		<input type="checkbox"/> *
Is the site known to be frequented by marine megafauna (eg dolphins, whales, etc)? If so how often? Can the timing of the dredge campaign be changed to avoid impacts?		<input type="checkbox"/>
Further information required if ...		Provided
Noise is likely to be heard by sensitive receivers (less than 300 m away) but duration of noise is less than 2 weeks	How will complaints be dealt with?	<input type="checkbox"/> *
Noise is likely to be heard by sensitive receivers (less than 300 m) however: Noisy equipment use is not continuous AND/OR Duration of the dredge campaign is greater than 2 weeks.	What mitigation measures are being used on site to minimise the impacts of noise to sensitive receivers (eg insulating noisy equipment, operating hours, etc) Describe how you will consult with sensitive receivers that may be potentially impacted? How will any complaints be resolved?	<input type="checkbox"/> *
Noisy equipment is operating almost continuously over a 24-hour period for over a week and can be heard by sensitive receivers (less than 300 m).	Provide justification why the works need to occur over a 24-hour period. Provide an acoustic report to identify the level of noise impacts to sensitive receivers that are located in close proximity to the sources of noise.	<input type="checkbox"/> *

	<p>What mitigation measures are being used on site to minimise the impacts of noise to sensitive receivers (eg insulating noisy equipment, operating hours, etc)?</p> <p>Describe how you will consult with sensitive receivers that may be potentially impacted? How will any complaints be resolved?</p>	
Dredge area is frequently visited by recreational users who may be impacted by noised (amenity value).	How will recreation users be advised of adverse noise that will be experienced during dredging?	<input type="checkbox"/>
Dredge campaign is undertaken in an area frequently visited by marine megafauna or will occur within the whale migration season or within the Adelaide Dolphin Sanctuary	Describe what mitigation measures will be undertaken to avoid noise impacts on marine megafauna (eg marine mammal observer, timing of dredging activities, etc).	<input type="checkbox"/> *

Air quality (dust, fumes and odour)

Applies to	<ul style="list-style-type: none"> Storage of construction material for coffer dams, dewatering ponds and bunds. Removal, transport and stockpiling/storage of spoil (fine sediments, organic matter, acid sulfate soils). Construction of coffer dams, dewatering ponds and bunds. Dewatering of spoil. Movement of site-based vehicles and equipment. 	
Assessment criteria	<ul style="list-style-type: none"> Potential dust or odour emissions meets the appropriate criteria. Dust, odour or fumes does not cause nuisance or impacts to human health. Complaints from the community will be appropriately addressed. 	
Resources	<ul style="list-style-type: none"> EPA Position Statement: Air quality and the SA Planning System EPA Guideline: Evaluation distances for effective air quality and noise management EPA Guideline: Ambient air quality assessment 	
Minimum information required – Air quality		Provided
What are the potential sources of dust (eg stockpiles of spoil, vehicle movement, materials used to construct bunds/coffer dams) or odour (eg beach wrack, acid sulfate soils, anoxic soils) on site? What is the distance between these sources and sensitive receivers?		<input type="checkbox"/> *
How long will potential sources of odour be present for?		<input type="checkbox"/> *
Further information required if ...		Provided
Sensitive receivers located within 300 m of materials that may generate dust or odour. AND/OR	<p>What is the prevailing wind direction (this will indicate where dust or odour plumes are likely to travel)?</p> <p>How will complaints be monitored, managed and resolved?</p>	<input type="checkbox"/> *

Area where dust or odour may be present is used by recreational visitors (eg fishers, playgrounds, beach goers, etc).		
Spoil contains organic matter, sulfate soils or is anoxic and is likely to generate odour.	<p>Where will odorous materials be placed on site and what is the distance between these materials and sensitive receivers?</p> <p>How will spoil comprising of odorous material be transported and disposed and how will spillages or ruptures (eg from pipes, geobags) be prevented or contained if they occur?</p>	<input type="checkbox"/> *
Potential for odour and or dust likely to be present for over a week.	<p>How will community be consulted/engaged regarding dust and odour, and what information will be provided during this process?</p> <p>How will dust and/or odour events be monitored and/or mitigated? What are the contingencies if dust and/or odour events on site become significant?</p> <p>Have other options been considered to minimise the potential for dust and/or odour? If so, what are these and why were they not adopted?</p>	<input type="checkbox"/> *

Waste

Applies to	<ul style="list-style-type: none"> • Placement and/or construction of infrastructure and decommissioning of any sites associated with the dredging activity (dredge location, location of spoil placement, storage of infrastructure, etc) which generates waste such as plastics, building materials, storage containers, etc). • Storage and disposal of any waste that is generated as part of the dredge campaign. • Management of spoil. • Spoil treatment and or disposal if spoil is contaminated.
Assessment criteria	<ul style="list-style-type: none"> • Waste management hierarchy is applied. • Waste is handled, transported, stored and/or disposed in a manner that does not cause contamination of land or waters that may result from spillage or leakage. • Waste is segregated, managed, transported and disposed of appropriately depending on the type of waste, eg to a licensed waste facility, council kerbside collection, recycling facility. • A licensed waste transporter is used if the material to be disposed includes a listed waste. • Wastes are appropriately stockpiled on site.
Resources	<ul style="list-style-type: none"> • EPA Standard for the production and use of waste derived fill • Guideline for stockpile management: Waste and waste derived products for recycling and reuse • Current criteria for the classification of waste—including Industrial and Commercial Waste (Listed) and Waste Soil

Minimum information required – Waste		Provided
What is the nature and volumes of wastes (other than spoil) that are likely to be generated at the sites?		<input type="checkbox"/> *
How and where will the different waste types generated on site will be stored, stockpiled and/or disposed including how the management hierarchy has been applied?		<input type="checkbox"/> *
If spoil is to be reused, does it meet EPA standards for Waste derived fill or Waste derived soil enhancer ? Provide evidence.		<input type="checkbox"/>
Demonstrate how waste (including waste spoil) will be disposed of appropriately (eg closure plan, waste transport/disposal certificate)?		<input type="checkbox"/> *
Further information required if (waste)...		Provided
Spoil is contaminated with significant levels of waste materials (plastics, rubbish, etc).	What are the management arrangements to prevent contamination of land or waters during dredging/storage/dewatering/stockpiling of spoil? How will wastes present in the spoil be managed, extracted and disposed of?	<input type="checkbox"/> *
Spoil does not meet the WDF standard.	How will spoil be disposed of (includes transport, treatment and final disposal location)	<input type="checkbox"/>
Waste storage area is located near the aquatic environment or stormwater system.	How will waste be stored to prevent it from entering these waters?	<input type="checkbox"/>
Location where waste will be stored is regularly used by recreational users, eg jetties, boat ramps, etc and commercial industry (eg Port River, large marinas).	Describe how waste will be managed to minimise the impact to users.	<input type="checkbox"/>

Hazardous substances

Applies to	<ul style="list-style-type: none"> • Equipment maintenance including refuelling, use of hydrocarbons, chemicals, lubricants, etc. • Washdown of equipment. • Construction of coffer dams and/or bunds. • Removal and placement of contaminated spoil during dredging and dewatering.
Assessment criteria	<ul style="list-style-type: none"> • No spillages of contaminants or spillages can be contained. This includes the use of fuels. • Land and waters do not become toxic to aquatic or terrestrial organisms. • Acid sulfate soils and potential acid sulfates are not disturbed or managed appropriately during dredging, dewatering and placement of spoil. See • Hazardous substances (such as fuel) and contaminated material are handled, used, stored, transported and disposed to ensure no environmental harm or spread of contaminants to land or waters.

Reference Material	<ul style="list-style-type: none"> • National Assessment Guidelines for Dredging • Current criteria for the classification of waste • Standard for the production and use of waste derived fill • Water Quality Australia – acid sulfate soils • The University of Adelaide: The acid sulfate soils centre • EPA Guideline: Site contamination - acid sulfate soil materials • EPA Guideline: Bunding and spill management • EPA Guideline: Wastewater lagoon construction (for contaminated spoil) • DPTI Guideline for the assessment of acid sulfate soils 	
Minimum information required – Hazardous substances		Provided
What is the potential for spoil or substrate to be used for construction of coffer dams, dewatering ponds or bunds to be contaminated with hazardous substances including heavy metals, petroleum products, pathogens (eg <i>e-coli</i>) and acid sulfate soils based on previous history, current nature and use of dredging site, desktop analysis, mapping and/or observations?		<input type="checkbox"/>
What is the potential for the dredge site and dewatering location to be contaminated? Consider: <ul style="list-style-type: none"> • current and historical use of site (eg boat launching, marina, industrial use, residential, discharges); • stormwater runoff; • agricultural runoff. 		<input type="checkbox"/> *
Has there been any historical spills of hazardous substances at the location? If so, what was the nature and extent of these spills?		<input type="checkbox"/>
Where will fuel, lubricants and other hazardous substances be stored on site? What are the volumes of fuels that will be stored on site? How will potential spillages or leaks be contained?		<input type="checkbox"/>
Where will equipment maintenance (including oil changes, wash-down areas) and refuelling take place? How often will this need to occur? How will spills or leakages be contained?		<input type="checkbox"/>
Further information required if ...		Provided
High potential for hazardous substances to be present in spoil or dewatering location or bund/coffer dam material based on information collected in Level 1 (eg site is an industrial port, historical evidence of spills, mapping shows presence of acid sulfate soils).	Undertake analysis of sediments for the presence of contaminants in dredge location AND/OR dewatering location AND/OR material that will be used to construct bund/coffer dams.	<input type="checkbox"/> *
Sediment analysis of dredge or dewatering site shows contamination (eg metals, acid sulfate soils, fuels, PFAS, etc).	How will contaminated spoil be managed with respect to stockpiling, disposal, dewatering, leakage, etc in a manner to prevent contamination of land or waters (including surface, groundwater and stormwater), such as bunding?	<input type="checkbox"/> *
Acid sulfate soils is present at the dredge site or dewatering site.	How will the disturbance of acid sulfate soils be managed and minimised during the dredging process and spoil placement? Can disturbance be avoided altogether. If not	<input type="checkbox"/> *

	why? How will acid sulfate soils be disposed of or neutralised?	
Refuelling and equipment maintenance is undertaken on land however, spillages of fuels, lubricants, etc has the potential to reach waters (this includes surface waters, groundwater and stormwater) based on their location and slope of the land.	Describe how leakages of fuel and or lubricants will be prevented and contained on land (eg bunding, spill kits, etc).	<input type="checkbox"/>
Refuelling takes place over waters (eg in the marine environment).	How will potential spills during refuelling be prevented and in the event of a spill, how will it be contained (eg marine spill kits that contain appropriate materials (including booms) to contain and clean hydrocarbon spills, drip containers, staff training, etc)? Are the proposed arrangements appropriate for the location of the refuelling site and volume of fuels that will be used?	<input type="checkbox"/>
Flocculants used during dewatering.	<p>How will flocculants be stored and contained?</p> <p>Is the flocculant MSDS suitable for use in sensitive aquatic environments? Provide evidence.</p> <p>What is its ecological toxicity levels and how will this be managed? The MSDS must state the product is non-toxic to aquatic organisms and does not accumulate in the environment.</p> <p>How will the settled sediment post flocculation be managed and disposed of?</p>	<input type="checkbox"/>