Port of Umm Qasr Yard 5 Terminal Development Project Environmental and Social Risk Register - REV02												
Topic	Reference	Potential Event, Impact Scenario or Situation	Is further information needed to assess this issue.	Relevant Project Phase	Likelihood of Occurrence	Severity of Occurrence	Assessment Value	Rank	Potential Consequences for Project if Unmitigated	Mitigation Measures	Residual Impact	Risk to ESIA completion or Project Viability if Mitigated
Land Quality	ES1	Impairment of soil quality and productivity due to loss, degradation, deterioration or pollution from the project landtake and construction activities.	No	Construction	3	1	3	7	Negligible as already an unused brownfield site with no alternative use scenario.	None Required. Site is designated for such use and has no other beneficial use or value at present.	None	None.
	ES2	Contamination of soils and groundwater from the deposition of contaminated dredgings.	No	Construction	2	5	10	2	Significantly disruptive as BMT could be obligated to remove this material at major cost and disruption to programme.	CQA Programme with adequate pre-emptive sediment sampling and a sediment management plan to ensure contaminated sediments are screened out.	Negligible.	None.
	ES3	Contamination of soils by spillages, leaks and poor materials management.	No	All	2	4	8	3	Moderately disruptive as could require some localised clean up and remediation causing programme delays.	IS014001 Managed Facility with trained personnel, spill kits and secondary containment systems around all spillable materials.	Negligible.	None.
Surface Water Resources	ES4	Alteration of hydrology due to the development changing site surface and landform.	No	Operation	1	2	2	8	Negligible as this is an arid region and a flat dry site with no hydrological features adjacent to a large marine basin. Any stormwater discharge as a result of a hard surface site will be easily accommodated by the receiving water body.	Fully engineered integrated stormwater management system shedding stormwater cleanly and efficiently to the basin.	None.	None.
	ES5	Effects on surface water hydrology as a result of decommissioning and removal of controlled drainage features.	No	Decommissioning	1	2	2	8	Negligible as there are no surface water features on the site and stormwater drainage from a decommissioned site would still flow to the dock basin or soakaway.	Managed demolition and decommissioning plan that would leave drainage systems intact.	None.	None.
Water Quality	ES6	Polluting discharges from site activities affecting water quality (e.g. from sediment run-off, fuel spills, untreated wastewaters, etc)	Yes	All	2	3	6	4	Moderately disruptive impact as severe sediment run-off and polluting discharges could require a cessation of activities to remedy the issue and prevent further losses.	The site will operate under an ISO14001 EMS & have secondary containment systems in place plus any wastewater discharges will go through a treatment plant to a permitted discharge.	Negligible.	None.
Groundwater	ES7	Potential for construction activities to affect groundwater levels and flows by intercepting or diverting groundwater with major in-ground structures or preventing groundwater recharge by sealing the site surface.	Yes	Construction	3	1	3	7	Negligible impact on the project as the groundwater beneath the site is believed to be contiguous with the dock basin and not likely to be significantly modified by the site activities or structures.	Installation of groundwater drainage and pressure relief systems will manage groundwater movement. Groundwater recharge will be prevented by surfacing but the groundwater body is saline and not a resource so not considered an impact.	Negligible.	None.
	ES8	Potential for spillages and leaks from site activities affecting groundwater quality.	No	All	2	3	6	4	Moderately disruptive as contamination of groundwater could transfer to the dock basin and clean-up works would be expected which could have significant costs and cause operations disruption.	IS014001 Managed Facility with trained personnel, spill kits and secondary containment systems around all spillable materials.	Negligible.	None.
Biodiversity	ES9	Direct permanent or temporary damage to ecologically designated areas and species on site or near-by sites from construction plant and equipment and site earth-moving activities.	No	Construction	1	4	4	6	Minor consequences as the project site is not directly adjacent to IBA.	Considerate construction practices under a Construction Environmental Management Plan should avoid impacts on near-by IBA.	Negligible.	None.
	ES10	Direct permanent or temporary loss of and damage to non-designated habitats and species on site and near-by. This includes impacts on habitats themselves (especially watercourse and riparian habitat) and also Impacts on species using those habitats.	No	Construction	1	2	2	8	None, the site has no ecological value.	The ESIA baseline surveys have demonstrated that the site and basin are highly disturbed & ecologically insignificant so no mitigation measures beyond good environmental management are necessary.	None.	None.
	ES11	Temporary (short and long-term) indirect disturbance of or damage to habitats and species on or immediately adjacent to the scheme (includes noise, dust and waterborne pollutants).	No	Construction	1	2	2	8	None, the adjacent sites have no ecological value.	The ESIA baseline surveys have demonstrated that the site and basin are highly disturbed & ecologically insignificant so no mitigation measures beyond good environmental management are necessary.	None.	None.
	ES12	Disturbance of designated and non-designated habitats from operational activities and related emissions. This includes impacts on habitats themselves (especially watercourse and riparian habitat) and also Impacts on species using those habitats.	No	Operation	1	3	3	7	None, the site has no ecological value.	The ESIA baseline surveys have demonstrated that the site and basin are highly disturbed & ecologically insignificant so no mitigation measures beyond good environmental management are necessary.	None.	None.
	ES13	Permanent or temporary loss of or damage to designated and non-designated habitats or resident species during demolition and decommissioning works.	No	Decommissioning	1	1	1		None, the site has no ecological value.	The ESIA baseline surveys have demonstrated that the site and basin are highly disturbed & ecologically insignificant so no mitigation measures beyond good environmental management are necessary.	None.	None.
Traffic and Transport	ES14	Congestion and RTA's associated with construction traffic	No	Construction & Decommissioning	3	3	9	3	Major risk of project disruption if vehicles cannot efficiently access and egress the site due to congestion or delays.	Implementation of a detailed traffic management plan and route planning programmes under the direction of a traffic & transportation manager.	None	None.
	ES15	Congestion and RTA's associated with HGV movements	Yes	Operation	3	5	15	1	Major risk of project disruption if vehicles cannot efficiently access and egress the site due to congestion or delays.	Implementation of a detailed traffic management plan and route planning programmes under the direction of a traffic & transportation manager.	Moderate	None.
	ES16	Congestion & Collision Risk associated with Vessels	Yes	Operation	2	4	8	3	Major risk of project disruption if vessels cannot access berth due to collision damage or congestion.	Implementation of vessel planning, management and communications systems and close liaison with Port Management and maritime agencies.	Negligible.	None.

Noise and Vibration	**ES17**	Construction noise from plant, equipment & traffic causing nuisance to local residents.	No	Construction	3	2	6	4	Small risk of temporary disruption if noise and vibration cause local nuisance issues that the authorities require abatement actions for which take time to implement.	Application of Construction Environmental Management Plan and use of modern noise abated equipment where available.	None.	None.
	ES18	Operational noise from plant & equipment, vessels and HGV's.	No	Operation	3	2	6	4	Small risk of temporary disruption if noise and vibration cause local nuisance issues that the authorities require abatement actions for which take time to implement.	Application of Construction Environmental Management Plan and use of modern noise abated equipment on site where available and environmental noise protocols for vessels (no unnecessary use of horns, minimal running of engines when not required, avoidance of maintenance activities during night time hours - where practicable).	Negligible.	None.
	ES19	Noise from plant, equipment & traffic during demolition and decommissioning works causing nuisance to local residents.	No	Decommissioning	2	2	4	6	Small risk of temporary disruption if noise and vibration cause local nuisance issues that the authorities require abatement actions for which take time to implement.	Application of Construction Environmental Management Plan and use of modern noise abated equipment where available.	None	None.
Air Quality	**ES20**	Emission of dust from vehicle, plant & earth moving activities during construction and demolition/decommissioning works.	No	Construction & Decommissioning	3	3	9	3	Small risk of temporary disruption if air quality issues cause local nuisance issues that the authorities require abatement actions for which take time to implement.	Application of Construction Environmental Management Plan and use of modern fuel efficient and air filtered equipment where available and dust suppression and management techniques (damping down, wheel washes, extraction systems, sheeting, etc).	None.	None.
	ES21	Release of particulates, Sox, NOx, VOCs from vehicle & equipment exhausts.	No	All	3	2	6	4	Small risk of temporary disruption if air quality issues cause local nuisance issues that the authorities require abatement actions for which take time to implement.	Application of Construction Environmental Management Plan and use of modern fuel efficient and air filtered equipment where available and dust suppression and management techniques (damping down, wheel washes, extraction systems, sheeting,	Negligible.	None.
	ES22	Release of particulates, Sox, NOx, VOCs from vessels.	No	Operation	3	2	6	4	Potentially significant risk of disruption is non-compliant vessels are prohibited from entering the port due to emissions.	Encouragement of vessel operators to send more modern emission controlled vessels, liaison with Maritime authorities to keep abreast of plans for vessel prohibition notices and vessel management procedures encouraging non-essential running of engines where practicable.	Negligible.	None.
Waste Management	**ES23**	Increasing pressure on local waste facilities from rapid generation of large volumes of waste.	No	All	2	4	8	3	Potentially significant disruption if either wastes accumulate on the site or off-site disposal logistics become complex and expensive.	During construction there should be a Site Waste Management Plan to pre-emptively identify likely waste streams and how they will be managed with a view to minimising waste generation and finding suitable environmentally acceptable options for unavoidable waste. The operational facility should have a Waste Management Plan and dedicated waste management zone as part of its ISO14001 EMS that should include identification of wastes streams and off-site management options	Moderate.	None.
	ES24	Irresponsible or illegal off-site waste disposal.	No	All	2	3	6	4	Significant financial and reputational risk if such poor practice occurs as this can result in enforcement penalties, clean-up actions and reputational damage (which could affect customer willingness to use the facility).	The operational facility should have a Waste Management Plan and dedicated waste management zone as part of its ISO14001 EMS that should include identification of wastes streams and off-site management options and include requirement to only utilise duly authorised waste vendors and consider auditing waste vendors facilities periodically. A full record should be kept of all wastes. Receipt of vessel based wastes should be discouraged/prohibited.	None.	None.
	ES25	Poor on-site management of wastes leading to localised ground contamination and air pollution from open burning.	No	All	2	2	4	6	Significant financial and reputational risk if such poor practice occurs as this can result in enforcement penalties, clean-up actions and reputational damage (which could affect customer willingness to use the facility).	The site Waste Management Plan and ISO14001 EMS should include procedures for responsible waste management practices, prohibition of open air burning and provision of dedicated, actively managed and secure and contained waste management areas.	None.	None.
Sediment	**ES26**	Mobilisation of entrained contamination in sediment and increased contaminated sediment loading to water during dredging campaign.	No	Construction	2	3	6	4	Significant disruption risk to project if the dredging campaign causes significant environmental damage and could thus potentially be prohibited.	Pre-emptive sampling and testing of the sediment along with a Construction Environmental Monitoring programme during dredging works should enable the risks to be fully understood and monitored, with appropriate actions such as bubble curtains and silt screens being applied where necessary.	None.	None.
	ES27	Contamination of sediment in the dock basin from pollutants released in site run-off & spillages	No	All	2	2	4	6	Small risk of disruption whilst activities leading to this occurrence are investigated and rectified.	The site will operate under an ISO14001 EMS & have secondary containment systems in place plus any wastewater discharges will go through a treatment plant to a permitted discharge.	Negligible.	None.
	ES28	Improper disposal of discarded sediment during dredging campaign.	Yes	Construction	2	4	8	3	Significant disruption to the dredging campaign and project costs if sediment is not disposed of with full approval of authorities.	Contractors should obtain full written consent from relevant authorities for sediment disposal and such activities should be periodically audited during the dredging campaign.	None.	None.
	ES29	Irritation/social distress from environmental disturbance.	No	All	1	2	2	8	There is a significant disruption risk to the project if social engagement issues are not properly and carefully managed. Iraq is a socially volatile place with a stressed impoverished population, tribal, religious and	The development process and future operations include the provision of a Stakeholder Engagement Plan and Environmental & Social Management Plan. Implicit in these will be the designation of a Stakeholder or Community Liaison Officer (recruited locally), communications system and monitoring		None.
	ES30	Population influx displacing local people.	No	All	1	3	3	7				None.
	ES31	Failure to deliver heightened community expectations.	No	All	3	2	6	4				None.
	ES32	Human rights violations (including child labour, modern slavery and unsafe working practices).	No	All	1	4	4	6				None.
	ES33	Degraded cultural and social practices.	No	All	1	3	3	7				None.
	ES34	Inequalities in pay and health and safety conditions causing tension between local and foreign workers.	No	All	3	2	6	4				None.

Socio-Economics & Culture	ES35	Increased pressure on local social services & amenities from increased population.	No	All	2	2	4	6	sectarian tensions, high unemployment and poor educational culture. Flash points. strikes, blockades and violence can occur rapidly amongst much of the population. Poor employment or work practices, discrimination, lack of respect for cultural/tribal/religious issues could result in negative feelings and aggression towards the project and its management leading to a temporary cessation of activities and safety and security concerns.	programme. BMT should also have in place detailed HR policies and practices to ensure appropriate hiring, training and working practices are adhered to. The company should also consider some form of community support and engagement in terms of educational, sport or health programmes or facilities. These 'Good Neighbour' policies are an appropriate way to mitigate against resentment and backlash from disaffected members of the local community. Furthermore all employees should work within a recognised accredited Safety Management System.	Moderate.	None.
	ES36	Damage or destruction of any cultural or religious sites.	No	Construction	1	5	5	5				None.
	ES37	Tensions between security forces protecting facility and local people, e.g. preventing fishermen travelling to their boats.	No	All	2	3	6	4				None.
	ES38	Resentment between employed and unemployed locals.	No	Operation	2	3	6	4				None.
	ES39	Distortion of prices of local goods and services disadvantaging local people compared to port employees.	No	Operation	2	2	4	6				None.
	ES40	Heightened risk of terrorism, kidnapping, piracy and banditry and increased social tensions and ethnic conflict as a result of: project, and project employees, representing a political, economic and cultural target.	No	All	2	5	10	2				None.
	ES41	Loss of jobs and economic downturn associated with closure of the facility.	No	Decommissioning	1	2	2	8				None.
Landscape and Visual	ES42	Visual impacts during construction from equipment, construction traffic and activities, dust clouds, spoil heaps, elements under construction, excavations etc	No	Construction	1	1	1	9	Low risk of disruption to the project as the area is already a large industrial port with the views dominated by cranes, warehouses, other port infrastructure and vessels. There is already a considerable amount of construction work taking place in the vicinity.	Other than dust suppression, which is picked up under social and air quality management issues there are no specific mitigation measures for this issue.	None.	None.
	ES43	Changes to land cover and landform inconsistent with the landscape as a result of site development.	No	Operation	1	1	1	9	Negligible risk of disruption as the site is brownfield area in the middle of a well established port and there is no landscape value to the area which is flat coastal desert plain.	None Applicable.	None.	None.
	ES44	Visual impacts during operation from equipment, maintenance and operational activities, and the presence of the infrastructure during operation.	No	Operation	1	1	1	9	Low risk of disruption to the project as the area is already a large industrial port with the views dominated by cranes, warehouses, other port infrastructure and vessels.	None Applicable, other than a well run site with good housekeeping which would be normal practice.	None.	None.
	ES45	Visual impacts during decommissioning from decommissioning traffic, equipment, and activities	No	Decommissioning	1	1	1	9	Negligible risk of disruption as the site is brownfield area in the middle of a well established port and there is no landscape value to the area which is flat coastal desert plain.	None Applicable.	None.	None.
	ES46	Changes to land cover and landform inconsistent with the landscape, for example, derelict structures or disturbed land not fully restored.	No	Decommissioning	1	1	1	9	Negligible risk of disruption as the site is brownfield area in the middle of a well established port and there is no landscape value to the area which is flat coastal desert plain.	None Applicable.	None.	None.
Conflict & Security	ES47	Deterioration of the security situation leaving the facility vulnerable to attack or cut off from transport networks.	No	Operation	2	5	10	2	Significant risk of disruption and cessation of all port activities.	The facility should have a detailed and regularly updated security plan covering all such possibilities and including provisions for securing the site access, safe zones for personnel and where necessary evacuation plans.	Moderate	None.
	ES48	Strike & blockade by local tribes as a retaliation for deemed unfair actions on the site.	No	All	2	5	10	2	Significant risk of disruption and cessation of site activities while situation resolved.	This is dealt with under the Stakeholder Engagement Plan and ESMP	Moderate	None.
	ES49	Security breaches at the site leading to vandalism, theft & infrastructure damage or sabotage.	No	All	2	3	6	4	Potentially significant disturbance of site operations could occur if adequate site security is not established.	Implementation of an ISPS Compliant port security programme and quick response team.	Negligible.	None.
	ES50	Discovery of Explosive Remnants of War (ERW) during earthworks or dredging.	No	Construction	1	3	3	7	Moderate risk of disruption whilst affected areas are cleared.	The development site should have been provided with a clearance certificate and the site is being built up with new materials rather than excavated, but there is a possibility of ERW being present in the dredged material so there should be a watching brief over debris arising from the dredging works and the dredging risk assessments should include consideration of this possibility.	None.	None.
Natural Hazards	ES51	Climate Change related flooding causing property damage and release of pollutants	No	All	1	4	4	6	Significant risk of disruption if operational site becomes flooded and pollutants are released from for example fuel tanks being lifted or electrical problems disabling safety systems.	The primary mitigation is in the design and construction to ensure that the site formation level is at a suitably robust elevation to take account of future flood risk levels associated with climate change impacts.	Moderate.	None.
	ES52	Earthquake causing property damage and release of pollutants	No	All	1	5	5	5	Significant risk of disruption if critical site infrastructure is damaged and unusable until it is repaired.	The design parameters for the port infrastructure should include a seismic risk assessment and design of critical infrastructure to an appropriate standard to remain competent during seismic events.	Moderate.	None.
	ES53	Severe storms causing fires & structural damage	No	All	2	3	6	4	Potentially significant disruption if a severe storm could compromise site infrastructure and associated lightening strikes could start fires.	Site Emergency response and evacuation plan coupled with trained emergency response and fire fighting crews and equipment and lightening earthing equipment on critical buildings.	Moderate	None.
	ES54	Sandstorms impacting port operations affecting safety and equipment.	No	All	3	2	6	4	Potentially significant short-term disruption to operations requiring cessation of activities and clean-up of depsoited sand.	Implementation of site based response protocols when severe sandstorms are predicted.	Moderate>	None.

IMPACT ASSESSMENT MATRIX			Consequence Score				
			Negligible or Transient Impact	Low Impact or Short-Term	Moderate Impact or Medium Term	High Impact or Long-Term	Severe or Permanent
		Score	1	2	3	4	5
Likelihood of Occurrence Score	Will Definitely Occur if adequate management controls, technical measures or policy measures are not applied.	3	3	6	9	13	15
	Could occur during project lifetime under certain circumstances whether or not adequate controls are applied or if applied controls fail.	2	2	4	6	8	10
	Highly unlikely to occur or improbable under normal circumstances.	1	1	2	3	4	5