

Annexure 10 – Initial desktop threat ratings based on expert workshops

Table 1. Desktop threats for construction phase activity rating

DESKTOP THREAT RATINGS FOR CONSTRUCTION PHASE ACTIVITIES											
Sector	Land use / activity	Water Quantity - volumes of flow	Water Quantity - patterns of flow	Sedimentation and turbidity	Water Quality - Increased inputs of nutrients	Water quality - Increased organic contaminants	Water Quality - Increased metal contaminants	Water quality – changes in acidity (pH)	Water quality – concentration of salts (salinization)	Water temperature	Water quality – pathogens
Agriculture	Forestry/timber	L	VL	L	L	VL	L	N/A	N/A	N/A	N/A
	Nurseries and tunnel farming operations	L	VL	M	L	L	L	N/A	N/A	N/A	VL
	Dryland commercial cropland - Annual rotation	L	VL	H	L	M	VL	VL	VL	N/A	VL
	Dryland commercial cropland - infrequent rotation	L	VL	H	L	M	VL	VL	VL	N/A	VL
	Irrigated commercial cropland	L	VL	H	H	M	L	VL	L	N/A	VL
	Subsistence cultivation	L	VL	L	VL	VL	L	VL	VL	N/A	VL
	Extensive livestock grazing operations	VL	VL	L	VL	VL	VL	N/A	N/A	N/A	VL
	Intensive livestock grazing operations	VL	VL	M	L	VL	L	N/A	N/A	N/A	L
	Concentrated livestock operations	L	VL	H	L	VL	L	N/A	VL	N/A	L
	Sludge dams associated with concentrated livestock operations	VL	VL	M	N/A	VL	L	N/A	N/A	N/A	L
	Aquaculture or marine culture	L	VL	M	N/A	VL	L	N/A	N/A	N/A	L
Agriculture (worst case)	L	VL	H	H	M	L	VL	VL	N/A	L	
Industry	High-risk Chemical industries	VL	L	VH	VL	M	M	N/A	N/A	L	VL
	Chemical storage facilities	VL	L	VH	VL	M	M	N/A	N/A	L	VL
	Drum/container reconditioning	VL	L	VH	VL	VL	L	N/A	N/A	L	VL
	Paper, pulp or pulp products industries	VL	L	VH	VL	M	L	N/A	N/A	L	VL
	Petroleum works	VL	L	VH	VL	M	L	N/A	N/A	L	VL
	Breweries/distilleries	VL	L	VH	VL	L	L	N/A	N/A	L	VL
	Cement/concrete works	VL	L	VH	VL	L	L	M	N/A	VL	VL
	Ceramic works	VL	L	VH	VL	L	L	N/A	N/A	VL	VL
	Medium-risk Chemical industries	VL	L	VH	VL	M	L	N/A	N/A	VL	VL
	Dredging works	VL	L	H	N/A	VL	L	N/A	N/A	VL	VL
	Electricity generation works	VL	L	VH	VL	VL	L	N/A	N/A	VL	VL
	Timber milling or processing works	VL	L	VH	VL	VL	L	N/A	N/A	VL	VL
	Livestock processing operations	VL	L	VH	VL	VL	L	N/A	N/A	VL	L
	Industries processing livestock derived products	VL	L	VH	VL	VL	L	N/A	N/A	VL	L
Composting facilities	VL	L	M	VL	VL	L	N/A	N/A	VL	L	
Industry (worst case)	VL	L	VH	VL	M	M	M	N/A	L	L	
Mixed-use/Commercial/Retail/Business	Core Mixed-use	VL	L	H	VL	VL	M	N/A	N/A	VL	VL
	Medium Impact Mixed-use	VL	L	H	VL	VL	L	N/A	N/A	VL	VL

DESKTOP THREAT RATINGS FOR CONSTRUCTION PHASE ACTIVITIES

Sector	Land use / activity	Water Quantity - volumes of flow	Water Quantity - patterns of flow	Sedimentation and turbidity	Water Quality - Increased inputs of nutrients	Water quality - Increased organic contaminants	Water Quality - Increased metal contaminants	Water quality – changes in acidity (pH)	Water quality – concentration of salts (salinization)	Water temperature	Water quality – pathogens
	Low Impact Mixed-use	VL	L	H	VL	VL	L	N/A	N/A	VL	VL
	Multi Purpose Retail and Office	VL	L	H	VL	VL	L	N/A	N/A	VL	VL
	Petrol station / Fuel depot	VL	L	H	VL	VL	L	N/A	N/A	VL	VL
	Maintenance and repair facilities	VL	L	H	VL	VL	L	N/A	N/A	VL	VL
	Offices	VL	L	H	VL	VL	L	N/A	N/A	VL	VL
	Mixed-use/Commercial/Retail/Business (worst case)	VL	L	H	VL	VL	M	N/A	N/A	VL	VL
Civic and Social	Government and municipal	VL	VL	H	VL	VL	L	VL	N/A	VL	VL
	Place of worship	VL	VL	M	VL	VL	L	VL	N/A	VL	VL
	Education	VL	VL	H	VL	VL	L	VL	N/A	VL	VL
	Cemetary	VL	VL	VL	VL	VL	L	N/A	N/A	VL	VL
	Health and Welfare	VL	VL	H	VL	VL	L	N/A	N/A	VL	VL
	Civic and Social (worst case)	VL	VL	H	VL	VL	L	VL	N/A	VL	VL
Residential	Residential Low impact / Residential only	VL	VL	M	VL	VL	L	VL	N/A	VL	VL
	Residential Medium Impact	VL	VL	H	VL	VL	L	VL	N/A	VL	VL
	High density urban• Residential High Impact	VL	L	VH	VL	VL	L	L	N/A	VL	VL
	Resort	VL	L	H	VL	VL	L	L	N/A	VL	VL
	Hotel	VL	L	H	VL	VL	L	L	N/A	VL	VL
	Informal settlements	VL	L	M	VL	VL	M	VL	N/A	VL	VL
	Residential (worst case)	VL	L	VH	VL	VL	M	L	N/A	VL	VL
Open space	Parks and gardens	VL	VL	L	L	VL	L	N/A	N/A	VL	VL
	Sports fields	H	VL	VH	L	VL	L	N/A	N/A	VL	VL
	Golf courses - fairways	H	VL	VH	L	VL	L	N/A	N/A	VL	VL
	Golf courses - tee boxes and putting greens	M	VL	M	L	VL	L	N/A	N/A	VL	VL
	Maintained lawns and gardens	M	VL	M	VL	VL	L	N/A	N/A	VL	VL
	Open space (worst case)	H	VL	VH	L	VL	L	N/A	N/A	VL	VL
Transportation infrastructure	Paved roads	VL	L	VH	N/A	VL	M	M	N/A	N/A	N/A
	Unpaved roads	VL	L	VH	N/A	VL	L	VL	N/A	N/A	N/A
	Paved trails	N/A	VL	M	N/A	N/A	VL	L	N/A	N/A	N/A
	Unpaved tracks and trails	N/A	VL	M	N/A	N/A	VL	N/A	N/A	N/A	N/A
	Parking lots	VL	L	VH	N/A	N/A	L	L	N/A	N/A	VL
	Airport - runways and taxiways	VL	M	VH	N/A	N/A	L	M	N/A	N/A	VL
	Railway	VL	L	H	N/A	N/A	L	VL	N/A	N/A	VL
	Transportation infrastructure (worst case)	VL	M	VH	N/A	VL	M	M	N/A	N/A	VL

DESKTOP THREAT RATINGS FOR CONSTRUCTION PHASE ACTIVITIES											
Sector	Land use / activity	Water Quantity - volumes of flow	Water Quantity - patterns of flow	Sedimentation and turbidity	Water Quality - Increased inputs of nutrients	Water quality - Increased organic contaminants	Water Quality - Increased metal contaminants	Water quality - changes in acidity (pH)	Water quality - concentration of salts (salinization)	Water temperature	Water quality - pathogens
Service infrastructure	Above-ground communication/power (electricity) infrastructure	N/A	VL	H	N/A	VL	L	L	N/A	N/A	VL
	Below-ground communication/power (electricity) infrastructure	N/A	VL	H	N/A	VL	L	VL	N/A	N/A	VL
	Hazardous waste disposal facility	VL	L	VH	N/A	M	M	VL	N/A	VL	VL
	General solid waste disposal facility	N/A	L	VH	N/A	M	L	VL	N/A	VL	VL
	Sewage treatment works	VL	L	H	L	L	L	L	N/A	VL	VL
	Sludge dams associated with concentrated livestock operations	VL	L	VH	VL	VL	L	VL	N/A	VL	VL
	Pipelines for transportation of hazardous substances	VL	VL	M	N/A	M	L	VL	N/A	VL	VL
	Pipelines for the transportation of waste water	VL	VL	M	N/A	M	L	VL	N/A	VL	VL
	Service infrastructure (worst case)	VL	L	VH	L	M	M	L	N/A	VL	VL
Mining	Prospecting (all materials)	N/A	VL	H	N/A	N/A	L	N/A	N/A	VL	VL
	High -risk mining operations	L	L	VH	VL	M	M	VL	L	L	VL
	Moderate-risk mining operations	L	L	VH	VL	M	L	VL	L	L	VL
	Low-risk mining operations	VL	L	VH	VL	L	L	VL	L	L	VL
	Plant and plant waste from mining operations - high risk activities	L	L	VH	VL	M	M	L	L	L	VL
	Plant and plant waste from mining operations - moderate risk activities	L	L	VH	VL	L	L	L	L	L	VL
	Plant and plant waste from mining operations - low risk activities	VL	L	VH	VL	L	L	VL	L	VL	VL
	Moderate-risk quarrying operations	VL	L	VH	VL	VL	L	VL	VL	VL	VL
	Low-risk quarrying operations	VL	L	VH	VL	VL	L	VL	VL	VL	VL
	Exploratory drilling	N/A	VL	L	VL	VL	L	VL	N/A	L	VL
Mining (worst case)	L	L	VH	VL	M	M	L	L	L	VL	

Note:

CTR – Construction Threat Rating

OTR – Operation Threat Rating