Risk Assessment Matrix : Proposed Dasberg Dam near Riviersonderend, Western Cape

Phases	Activity	Aspect	Impact	Flow Regime	Physico & Chemical (Water Quality)	Habitat (Geomorph + Vegetation)	Biota	Severity	Spatial scale	Duration	Consequence	Frequency of activity	Frequency of impact	Legal Issues	Detection	Likelihood	Significance	Risk Rating	Control Measures	Borderline LOW MODERATE Rating Classes	Type Watercourse	Confidence
Construction	Site clearing and construction of the dam	Clearing of wetland vegetation and earth moving activities within the unchannelled valley bottom	Loss of seasonal and temporary wetland habitat	5	5	5	5	**5**	1	4	10	1	5	5	1	**12**	**120**	**M**	The impact will occur regardless of the implmentation of mitigation measures	N/A	Unchannelled valley bottom wetland (PES Category C and moderate EIS)	100%
Construction	Site clearing and construction of the dam	Indiscriminate movement of vehicles and personnel, dumping of excavated materials	Disturbance of wetland habitat up and downstream of the dam, compaction of wetland soils and alien vegetation proliferation	2	1	2	1	**1,5**	1	1	**3,5**	1	2	5	1	**9**	**31,5**	**L**	Refer to all mitigaiton measures listed within the Freshwater Impact Assessment Report compiled by EnviroSwift dated April 2017	N/A	Unchannelled valley bottom wetland (PES Category C and moderate EIS)	80%
Construction	Site clearing and construction of the dam	Clearing of vegeation and earth moving activities compacting soil	Increased stormwater runoff and erosion and sedimentation of wetland habitat downstream of the dam	2	1	2	1	**1,5**	1	1	**3,5**	1	2	5	1	**9**	**31,5**	**L**	Refer to all mitigaiton measures listed within the Freshwater Impact Assessment Report compiled by EnviroSwift dated April 2017	N/A	Unchannelled valley bottom wetland (PES Category C and moderate EIS)	90%
Construction	Site clearing and construction of the dam	Leakage of fuel from vehicles and runoff of cement	Water quality impairment	1	1	1	1	**1**	1	1	**3**	1	1	5	1	**8**	**24**	**L**	Refer to all mitigaiton measures listed within the Freshwater Impact Assessment Report compiled by EnviroSwift dated April 2017	N/A	Unchannelled valley bottom wetland (PES Category C and moderate EIS)	90%
Operational phase	Pumping of fresh water into the dam	Accumulation of fresh water within the dam and inundation of habitat	Alteration of the hydrological regime of areas directly upstream of the dam	5	5	5	5	**5**	1	4	**10**	5	5	5	1	**16**	**160**	**M**	The impact will occur regardless of the implmentation of mitigation measures	N/A	Unchannelled valley bottom wetland (PES Category C and moderate EIS)	100%
Operational phase	Discharge of brakish water into areas downstream of the dam and release of bottom water from the dam	Concentration of flows at discharge points	Erosion and incision of wetland habitat at discharge points. Alteration of the present hydrological regime immidately downstream of the dam.	1	1	2	1	**1,25**	1	1	**3,25**	5	2	5	1	**13**	**42,25**	**L**	Refer to all mitigaiton measures listed within the Freshwater Impact Assessment Report compiled by EnviroSwift dated April 2017	N/A	Unchannelled valley bottom wetland (PES Category C and moderate EIS)	90%
Operational phase	Diversion of brackish water from upstream wetland areas through a pipe below the dam and discharge of the water into the wetland area downstream of the dam.	Accumulation of water at pipe opening in wetland area above the dam	Impediment of flows into wetlands and rivers downstream of the dam.	2	1	1	1	**1,25**	2	1	**4,25**	5	2	5	1	**13**	**55,25**	**L**	Refer to all mitigaiton measures listed within the Freshwater Impact Assessment Report compiled by EnviroSwift dated April 2017	N/A	Not assessed by the wetland assessment, however expected to be East Coast Shale Renosterveld wetland habitat within a PES Category C-D	70%