

APPENDIX 12

Land-Disturbing Pollution Prevention and Mitigation Measures (LD-P2M2) Checklist

ITEM	PAGE	MARK √ - Yes X - No NA - Non Applicable	REMARKS
8.1 PROJECT ACTIVITY AND IMPLEMENTATION			
(a) Phasing plan if relevant	5-100 to 5-101	√	
(b) Project implementation schedule	5-101	√	
(c) Description of the construction activity	5-93 to 5-96	√	
(d) Construction schedule for each major land disturbance complete with timeline or chart for the installations of P2M2s	8-22 to 8-24	√	
(e) Typical method statement for site clearing, cut and fill, excavation of foundation, drilling of borehole, in-stream works and construction of temporary / permanent stream / river crossing and diversion that incorporate the significance elements of pollution prevention and mitigation measures.	7-3 to 7-9 8-11 to 8-24	√ √	
(f) Estimated start date, completion date and stabilization schedule for each major land-disturbing activities or construction activities phases, stages and sequences.	8-22 to 8-24	√	

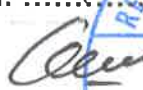
ITEM	PAGE	MARK ✓ - Yes X - No NA - Not Applicable	REMARKS
8.2. Information and Analysis on Project Development			
These information and analysis shall contain the following:			
(a) Weather and rainfall data.	6-4 to 6-6	✓	
(b) Site runoff velocity and flow rate, both pre and during development	7-53 to 7-101 Appendix 9	✓ ✓	
(c) Description of site soil characteristics: i. Soil types ii. Soil test erodibility iii. Soil hydrologic group iv. Dispersible fine clay: Percentage of dispersible material v. Anticipated excavation depth for the proposed land disturbing activity	Appendix 9 Appendix 9 Appendix 9 Appendix 9 —	✓ ✓ ✓ ✓ NA	
(d) Description of adjacent areas, such as streams, lakes, residential areas, and roads that might be affected by the land disturbance.	6-2 to 6-11, 7-2 to 7-3	✓	
(e) List of streams and rivers identified on-site. (Use coding for unnamed streams and rivers).	6-2 to 6-3	✓	
(f) List of receiving streams and rivers. (Use coding for unnamed streams and rivers).	6-2 to 6-3 & 6-7 to 6-11	✓	
(g) List of existing drainage identified on- site.	6-2 to 6-3	✓	
(h) List of P2M2s proposed. Please also make reference to P2M2s Description can be accessed through: https://enviro.doe.gov.my	8-22	✓	

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(i) Identify access roads and other outsourced components (such as mobile batching or premix plant) that are located outside the proximity of the project boundary.	7-2 to 7-3	✓	
(j) Earthworks cut and fill volume.	7-7 to 7-8	✓	
(k) Availability of rocks material.	–	NA	
(l) Biomass management.	8-3 to 8-5	✓	
(m) Solid (construction waste) and domestic waste management.	8-8 to 8-9 & 8-32 to 8-33 & 8-60 to 8-63	✓	
(n) Spill Prevention and Control from fuel and chemical use or storage.	8-10 to 8-11 & 8-41 to 8-44	✓	
(o) Hazardous Waste Management.	8-61 to 8-63	✓	
(p) Soil loss prediction using the Universal Soil Loss Equation (USLE), sediment yield calculation using Modified Universal Soil Loss Equation (MUSLE) and runoff estimation for pre, during and post development accounted for both with and without the implementation of LDP2M2s. All of the data and parameters used in the calculations shall be measured or rationally determined, and identified. If secondary sources are used, they shall be clearly identified.	7-32 to 7-39	✓	
(q) Calculation of proposed sediment trap/basin based on drainage area disturbed and projected runoff flow direction from each disturbed land segment that will drain into the proposed sediment trap/basin.	8-25 to 8-27 Appendix 13	✓	

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8.3. Map of site plan with the existing site conditions (pre-development).			
(I) Site map which refers to:			
(a) Topography survey map showing:			
i. Contours	6-129	✓	
ii. Elevation	6-129	✓	
iii. Slopes	6-129	✓	
(b) Geological Terrain Mapping (if relevant).	—	NA	
(c) Erosion risk map.	7-192	✓	
(d) Drainage pattern showing:		✓	
i. Delineation of watercourses.	5-106,		
ii. Delineation of natural drainage depression.	6-130 to 6-134		
iii. Flow path and direction for the different drainage areas.			
iv. Marks and labels of drainage area (s) or drainage divides.			
(II) Land use showing:			
i. Trees.	1-19, 6-129,	✓	
ii. Vegetation area.	6-149		
iii. Roads and infra-structures (inclusive of drainage system).			
iv. Buildings.			
v. Utilities.			
(III) Adjacent within 150 metres from Project Site:			
i. Watercourses (Flowing into or from site)	1-20, 5-106,	✓	
ii. Roads and infra-structures (inclusive of drainage system).	6-130 & 7-190		
iii. Buildings and utilities.			
iv. Vegetation area.			
(IV) Use map scale and size of:			
i. 1:500 for area less than 20 hectares;		✓	A3 and A1 Size
ii. 1: 1000 for area more than 20 hectares			Plan is used
iii. Size: A3 or A1.			

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8.4. Map of Site Development Plan			
(a) Depict the existing contour and proposed level.	6-129 & 7-191	√	
(b) Indicate the total site area.	5-104 & 5-105	√	
(c) Indicate the total disturbance area with line showing the area to be disturbed.	7-191	√	
(d) Show the cut and fill area.	7-191	√	
(e) Show the direction of the proposed earthworks movement.	8-86 & 8-87	√	
(f) Mark the limit of disturbance of each of the phase construction.	8-86 & 8-87	√	
(g) Identify and mark the temporary or permanent stream or river crossing.	—	NA	
(h) Identify and mark the temporary or permanent stream or river diversion.	8-86 & 8-87	√	
(i) Identify and mark on-site temporary access or construction or haul road	8-86 & 8-87	√	
(j) Identify and mark site office area.	8-86 & 8-87	√	
(k) Identify and mark stockpile areas.	8-86 & 8-87	√	
(l) Identify and mark temporary preservation of existing vegetation.	—	NA	
(m) Identify and mark permanent preservation of existing vegetation.	—	NA	
(n) Identify and mark material staging area or equipment storage area.	8-86 & 8-87	√	
(o) Identify and mark workshop/ maintenance or engineering work area.	8-86 & 8-87	√	
(p) Identify and mark generators set and/ or motorized equipment area.	—	NA	
(q) Identify and mark Vehicle and Equipment Washing Facility.	8-86 & 8-87	√	

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(r) Identify and mark petroleum-based material/refueling, chemicals and skid tank area.	8-86 & 8-87	√	
(s) Identify and mark schedule waste storage area.	8-86 & 8-87	√	
(t) Identify and mark workers camp location.	8-86 & 8-87	√	
(u) Identify and mark sanitary facilities location.	8-86 & 8-87	√	
(v) Identify and mark batching plant location.	—	NA	
(w) Identify and mark concrete wash P2M2 location.	8-87	√	
(x) Identify and mark spoil (unsuitable material) area or disposal area.	—	NA	
(y) Identify and mark borrow area.	—	NA	
(z) Identify and mark the location(s) of all proposed P2M2s application.	8-87	√	
(aa) Identify and mark all of the designated point(s) of water discharge and also any other potential point(s) of water discharge to off-site drainage ways.	8-86 & 8-87	√	
(bb) Provide the GPS location (WGS 84) of the construction ingress/egress and all designated point(s) of water discharge for the site.	8-86 & 8-87	√	- Final Discharge of the Project Site
(cc) Use map scale and size of : i. 1:500 for area less than 20 hectares; ii. 1: 1000 for area more than 20 hectares iii. Size: A3 or A1.		√	A3 and A1 Size Plan is used

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