Erosion and Sediment Control Sub-Plan

Cross River Rail – Rail, Integration and Systems Alliance

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Document Approval

Rev	Date	Prepared By	Reviewed By	Approved By	Remarks
A	28/06/19	UNITY – Environment Manager	UNITY – Delivery Manager		IFR
B	24/10/19	UNITY – Environment Manager	UNITY – Delivery Manager		IFR
C	02/12/19	UNITY – Environment Manager	UNITY – Delivery Manager	UNITY – Environment Manager	IFU
00	24/01/20	UNITY – Environment Manager	UNITY – Delivery Manager	UNITY – Environment Manager	IFU
01	26/07/20	UNITY – Senior Environmental Advisor	UNITY – Environment Manager		IFR
02	07/09/20			UNITY – Environment Manager	IFU
03	26/08/21	UNITY – Senior Environmental Advisor	UNITY – Environment Manager		IFR
04	07/10/21			UNITY – Environment Manager	IFU
Signature:				[redacted]	

Plan Control

This Erosion and Sediment Control Sub-Plan (the plan) has been developed for the Cross River Rail – Rail, Integration and Systems Project.

Approvals, Revisions and Amendments

Plan approval is in accordance with Section 4.1.2 of the Construction Environmental Management Plan (C-EMP).

Plan reviews and updates is in accordance with Section 7 and Section 8.1 of the C-EMP.

Revision Details

Revision	Remarks
A	Final C-EMP for Review and endorsement by the Environmental Monitor
B	Plan update to incorporate of comments from the Independent Environment Monitor dated 30 September 2019
C	Plan update to incorporate of comments from the Independent Environment Monitor dated 04 November 2019
00	Plan updated to include Hold Point process for unrestricted endorsement
01	6 monthly review and updated to incorporate changes linked to RfPC-7 and Updated O-EMP The update does not include new or additional Relevant Project Works
02	Issued for use
03	Issued for review to the IEM 6 monthly review and update to incorporate • changes linked to RfPC-11 • addition of the Southern Area Scope of Works (Dutton Park and Buranda)
04	Issued for Use

1 Purpose of this Plan

This sub-plan has been prepared to comply with:

- Coordinator-General's Conditions of Approval – Appendix 1 – Part C:
  - Conditions 15(a) and 15(b)
  - Condition 17(d)
  - Condition 18
- Final Outline-Environmental Management Plan (O-EMP) – Outline Erosion and Sediment Control Plan.

Component	Details
Environmental Outcome(s)	• Project water quality objectives are consistent with the frameworks established by the *Environmental Protection (Water) Policy 2009* (EPP (Water)) or *Qld Water Quality Guidelines* in relation to background conditions • Discharge of surface water and groundwater from RIS Works aim to achieve the relevant water quality objectives established for the project, in order to protect the environmental values of receiving waters • Project works must be designed and implemented as far as reasonably practicable to not worsen afflux or cause the redirection of uncontrolled surface water flows, including stormwater flows, outside of worksites during construction • An erosion and sediment control sub-plan that is consistent with the *Guidelines for Best Practice Erosion and Sediment Control (International Erosion Control Association, 2008)* and the Department of Transport and Main Roads' *Technical Standard MRTS51 – Environmental Management* must be submitted as part of the C-EMP • Construction activities should minimise soil erosion and sedimentation and avoid adverse impacts on the environmental values of receiving waters • Avoid or manage impacts from soil erosion and sedimentation from project works on the environmental values of the Brisbane River and other waterways within the project corridor.
Relevant Area	Site wide Key areas: • Mayne Yard and associated Enoggera/Breakfast Creek • Northern area in vicinity of Victoria Park and associated sensitive receptor York's Hollow • Moorooka Station and Clapham Yard and associated sensitive receptor Moolabin Creek and Rocky Water Holes Creek • Rocklea Station and associated sensitive receptor of Rocky Water Holes Creek • Salisbury Station and associated sensitive receptor of Stable Swamp Creek.
Relevant Works / Activities	• Vegetation clearing • Earthworks: – Topsoil Strip – Trenching and spoil excavation – Remove and replace of unsuitable material – Temporary stockpiling of spoil and imported fill material • Temporary and permanent drainage works • Works in water, such as piling for bridge structures • Dewatering activities • Rehabilitation and revegetation
Performance Criteria	• The project does not result in soil erosion beyond the boundaries of worksites; soil erosion within the worksite is rectified as soon as practicable after a rainfall event to prevent the release of sediment offsite • Soil erosion and sediment control plans are implemented and maintained for each worksite in accordance with the guidelines for *Best Practice Erosion and Sediment*

Component	Details
	Control (International Erosion Control Association, 2008) and DTMR's *Technical Standard MRTS52 Erosion and Sediment Control* • Runoff and discharges from worksites are consistent with project environmental objectives established in accordance with the *Qld Water Quality Guidelines* and do not negatively affect the background conditions of the receiving waters • During construction, water quality is monitored and reported in accordance with the Water Quality Management Sub-Plan, and Construction Environmental Monitoring Program included within the C-EMP • To the extent that is reasonable and practicable and relevant to the work area, construction activities and work sites do not worsen afflux for a one-in-five year AEP flood event or greater on the floodplain of any waterways or overland flow paths • To the extent that is reasonable and practicable, construction activities, including any temporary works and spoil placement, do not cause flood water to be redirected over other private property • For surface and in stream works, potential impacts on construction worksites associated with inundation by tributary or creek flooding (from stormwater during a 2 year ARI rainfall event and flood waters during a 5 year ARI rainfall event) will be managed through development and implementation of a Flood Management Plan.
Sustainability	Dis-1
Mitigation Measure	• Erosion and Sediment Control Plans (ESC-P) are developed for all areas, including temporary worksites by a Suitably Qualified Person (SQP) and are included in the Workpacks and the SEPs • ESC-Ps are developed taking into consideration Best Practice Management Guidelines (BPMs) Principles as detailed in: – IECA manuals – MRTS 52 • ESC-Ps must detail – The Erosion Hazard of the proposed disturbance, using soil loss prediction tools such as RUSLE – Types and sizing of the preferred controls – The relevant design performance criteria for the controls to be implemented – Guidance notes on the staging of installation and minimum maintenance requirements – The relevant drawings inclusive of the progressive plans detailing the types and location of controls to be installed • Selection of Erosion and Sediment Control (ERSED) measures takes into consideration the site constraints to prevent: – Project footprint creep that would affect existing operational activities – Increase of impact to other environmental and heritage values • The ESC-Ps clearly state the Rainfall Design Criteria of each ERSED measure to be installed to support effective and timely assessment of compliance of each measure, particularly following a rain event that may have resulted in an offsite discharge • Implement the site-specific ESC-Ps • Prior to the Relevant Project Works commencing the Site Specific ESCP prepared by a Suitably Qualified Person is provided to the Environmental Monitor with sufficient notice to demonstrate compliance with Conditions 4c(ii) and 18. • The Relevant Project Works are not authorised to commence until the detail required under Condition 18a has been provided. • Review and update site-specific ESC-P prior to significant changes to drainage flow or sediment treatment locations (e.g. Type 2 sediment traps), to manage any new potential environmental risks • Implement all reasonable and practical measures to control flow velocities that prevent soil erosion along drainage paths • Where safe to do so, divert surface water runoff around the perimeter of work areas as much as possible

Component	Details
	• Select appropriate treatment measures for the lining of temporary diversion drains that minimise or prevent erosion and sedimentation • The installation of drainage and erosion and sediment control measures considers site conditions and risk, based on but not limited to: – Natural and constructed drainage patterns – Proximity to water features such as waterways, soil types and erodibility potential – Latent conditions, such as shallow groundwater, contaminated soils and ASS, which would prevent or limit the use of sediment basins (whether traditional or high efficiency) – Slope – Seasonal rainfall frequency and intensity together with the construction schedule – Locations of temporary stockpile areas in relation to flow paths – Location of sources of potential contaminants (such as hazardous substances storage areas) in relation to flow paths • Review the construction schedule to identify key areas where duration and magnitude of disturbance exposure could be limited • Key personnel, such as site supervisors and earthworks team, are adequately trained in the installation and maintenance of ERSED measures • ERSED structures are monitored for compliance during weekly inspections with non-compliances or actions to address ineffective capability or capacity recorded in the Environment Action Register. • ERSED measures remain in place and are maintained to ensure effectiveness until the area has been stabilised following completion of construction • Trapped waters proposed to be released to the receiving environment are: – Tested prior to release – Released under an internal dewatering permit (*Permit to Dewater*) approved by the Environmental Team.
Monitoring	Monitoring is undertaken in accordance with the Construction Monitoring Program (Attachment 4 of the C-EMP).
Reporting	Reporting is undertaken in accordance with Section 8.2 of the C-EMP.
Corrective Action	Management of corrective actions is undertaken as per Section 6 of the C-EMP.
Auditing	As per Section 7 of the C-EMP.