

BHP South Jimblebar Flood Bund and Diversion Channel
Customer : BHP

SJB Creek Diversion Bund

Reference.: BHP WAIO Standards SPEC-000-C-00105 Earthworks, SOW-960-C-12039/2
 Construction Dwgs(960-C-13667, 960-C-13668, 960-C-13669) Construction Method Statement

Limits: All earthworks involved with SJB Diversion

Scope: Earthworks for Diversion Drain

SO = Superintending Officer or his Representative;
 HP = Hold Points, beyond which work cannot proceed without release by SO
 RP = Review Point, requires an Inspection by the SO before proceeding with next stage of work
 PM = Project Manager; FM = Foreman; LH = Leading Hand

RP/ HP	Item No.	Description of Work Activity	Applicable Standard	Acceptance Criteria	Frequency	Records	Action Respon.
HP	1	Ensure that sufficient survey information is available for set out. Establish the correct line and level for excavation and earthworks. Survey pegs to include PEAHR and Construction Boundary. Excavated Material (from Drain Diversion) as Common Fill material for Diversion Bund – approved by BHP	SPEC-000-C-00105/16 Section 5.2 & 5.3 SOW-960-C-12039/2 Section 3.3.6 Drawings 960-C-13667 960-C-13668 960-C-13669	BHP excavation permit Survey Data provided by BHP	Prior to commencing	CL_SJB Diversion Bund	FM/Surv
HP	2	Clearing, grubbing and stripping of all vegetation, stumps and roots along the footprint of the Creek Diversion Bund Where topsoil material identified (between 100mm and 300mm depth), strip, load and haul to nominated stockpile areas, no higher than 2.0m	SPEC-000-C-00105/16 Section 5.2 & 5.3 SOW-960-C-12039/2 Section 3.3.6 Drawings 960-C-13667 960-C-13668 960-C-13669	Clear and grub to min 300mm depth below natural surface Where stumps/roots are larger than 200mm girth, Clear and grub 600mm Clear between 100mm - 300mm topsoil depth	Prior to Excavation	CL_SJB Diversion Bund	PE / FM
HP	3	Remove unsuitable material encountered at finished sub grade level and replace with approved fill material. Company representative and Engineer to inspect the bottom of the excavation and approve the placement of fill material. Unsuitable foundation to be boxed out 0.3m minimum and replaced with A4 select fill	SOW-960-C-12039/2 Section 3.3.7	Visual Inspection Proof Roll	Prior to fill placement	CL_SJB Diversion Bund	PE / FM
HP	4	The upper 300 mm below the subgrade shall be scarified by tyning, adding water as necessary, to achieve \pm 2% modified OMC and compacted over every point on the surface, operating in the dynamic mode unless instructed otherwise by the Company Representative. A minimum of 95% MMDD shall be achieved with no visual heaving after rolling.	SPEC-000-C-00105/16 Section 10.6 SOW-960-C-12039/2 Section 3.3.7	Rip, Condition and Compact existing subgrade Proof Roll Compaction to be 95% MMDD and \pm 2% OMC	Prior to fill placement	CL_SJB Diversion Bund	PE / FM

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Job No. 20053

Approved: HSEQ Mgr

BHPBIO Purchase Order No.4510048339

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Nov-20

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	5	Ensure that the material from BHP Billiton's material stockpiles comply with the Specification or BHP approved: <u>Encapsulated Material (Middle of Bund)</u> BHP Approved Fill Material generally as per Section 11.2.13.2 SPEC 000-C-00105, be non-dispersive (Emerson class number 5 or higher), have permeability $k < 10\text{m/d}$ (may be deemed to comply if a minimum of 10% fines is present) and is not gap graded <u>A4 Clayey Gravel (Outside of Bund)</u> Blending of designated borrow material (A4, gap graded) with Sandy CLAY (CL) material sourced from separate borrow is required to improve the grading Indicatively a ratio of 0.2 Sandy CLAY to 0.8 GRAVEL - subject to trial Maximum particle size shall remain within specified limits;	SPEC-000-C-00105/16 'SOW-960-C-12039/2 Section 3.3.7 Project Drawings 960-C-13666_0 960-C-13667_0 960-C-13668_0 960-C-13669_0 960-C-13672_0 960-C-13674_0 960-C-13680_0	Material testing to meet Scope and Specification Approval by BHP for use	Prior to placement of fill	CL_SJB Diversion Bund	PE / FM
HP	6	Place and compact approved fill material along length of Bund for Drain Detail Type 1, Type 2 and Type 3 Material to be type C1 General Fill or A4 Select Fill as directed by Company Representative Compaction process -Moisture condition, place and compact in 300mm lifts with 12-19T padfoot roller with vibrating mode up to design levels specified in Drawings -Proof Roll & Compaction Testing	Project Drawings 960-C-13667_0 960-C-13668_0 960-C-13669_0 960-C-13672_0 960-C-13674_0 960-C-13680_0	Place and Compact moisture conditioned type C1 General Fill or A4 Select Fill Proof Roll Compaction to be 95% MMDD and +/- 2% OMC	Prior to final trim	CL_SJB Diversion Bund	PE / FM
	7	For Guide Bund Install Bidim A34 geofabric in areas where overexcavated for placement of Rip Rap rock Install Riprap rock protection on the Inlet and Outlet apron as shown on construction drawing	Project Drawings 960-C-13667_0 960-C-13668_0 960-C-13669_0 960-C-13672_0	Riprap placed as shown on Dwg Geotextile type Bidim A34 below riprap	On completion of excavation for Rip Rap	CL_SJB Diversion Bund	PE / FM
HP	8	Trim and finish tops of earthworks to specified tolerances - Evenly grade changes between design levels and existing ground level - Smoothly finished surface with no ruts or disturbances - Trim to final levels as shown on contract drawings	C-00105 Sect 16 SOW-960-C-12039/2 Project Drawings	RL top of earthworks = + 25mm Various cross sections	After excavation, placement of fill and Rip Rap	CL_SJB Diversion Bund	PE / FM
	9	Carry out an as-built survey and submit data to BHP	SPEC-000-C-00105/16 Section 11.4	Within specified tolerances	On Completion	CL_SJB Diversion Bund	PE / FM