Fulton Hogan	Inspection and Test Plan – Geotextile Materials	Doc ID: R63-GEO-ITP

Client: Iluka Resources Limited	**Prepared By: Simon Welsh**	
Project: Public Roads Upgrade	**Reviewed By: Joshua Kliemnt**	**Date: 11/11//2024**
Construction Process: Geotextile Materials	**Approved By: Simon Jaworksi**	**Date: 11/11//2024**
Specifications: ETS100, 101, 102		
Structure / Component:		

Lot No: Lot Details: Lot size/Quantity: Date:

Item No.	Task/Activity Description	Inspection/Test				HP/ WP/ AP/ IP/ TP/ SCP	Responsibility	Checked by:			
		Frequency	Acceptance Criteria	Reference Documents	Inspection / Test Method	Record of conformity			TfNSW	Fulton Hogan	PV	Date
1	Preliminary											
1.01	General Material Requirements	Per Supplier	▪ **Woven geotextiles** filaments interlaced in two sets, mutually at right angles. One set must be parallel to the longitudinal direction of geotextile. ▪ **Nonwoven geotextiles** filaments bonded by needle punching, heat or chemical bonding processes. ▪ Geotextiles must be free of flaws which may have an adverse effect on the physical & mechanical properties of the geotextile. ▪ Geotextiles must be stabilised against ultraviolet radiation to achieve a retained strength of at least 50% after 500 hours of test exposure, when tested as per AS 3706.11. ▪ Geotextiles may be manufactured under controlled conditions from recycled materials and must conform to the requirements of TfNSW R63, be identified as such on the Certificate of Compliance (refer R63.2.5), and must be homogeneous with respect to content of recycled material.	R63.2.1		Suppliers Documentation / Verification Checklist	IP	Site Engineer				
1.02	Confirm site specific details then select Geotextile Type: ☐ Type G1 ☐ Type G2 ☐ Type G3 ☐ Type G4 ☐ Type G5 ☐ Type G6	Per Supplier / Per Type	▪ **Type G1**: **Separation under/within the Embankments (unsaturated ground**) to prevent mixing of dissimilar soil types during construction appropriate for unsaturated soils where CBR > 3) ▪ **Type G2**: **Separation under/within the Embankments (saturated ground)** to prevent mixing of dissimilar soil types in saturated conditions in working platform/bridging layer applications for subgrade soils where CBR ≤ 3 and where filtration is not a critical function ▪ **Type G3: Trench drains, edge drains, counterfort drains and drainage layers**. To provide the combined functions of separation and filtration ▪ **Type G4: Drainage and separation behind retaining structures including Rock filled mattresses and joints of pipes and arches**. To provides the combined functions of separation and filtration. ▪ **Type G5: Under Rock Armour Revetment Layer in Embankments.**	R63.2.2, Table R63/A.1, R63/E1 & Design dwgs		Verification Checklist	IP	Site Engineer				

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			▪ **Type G6: *Behind carriageway concrete pavement base layers.*** To provide separation from concrete base/ lean mix sub-base layers and abutting unbound verge material									
1.03	Confirm if the Geotextile Strength Class is suitable for its intended application: Class: ☐A ☐B ☐C ☐D ☐E	Each Type	▪ Verify geotextiles for applications of separation and/or filtration meet the relevant Strength Class requirements of Table R63/E.2. ▪ Ensure geotextile survivability requirements consider the subgrade condition against which the geotextile will be placed, fill material particle size, fill placement and construction process.	R63.2.2.1, Table R63/E2, Table R63/E1 & R63/A.1	AS 1289.3.6 .1	Verification Checklist	IP	Site Engineer				
1.04	Confirm the Geotextile Filtration Class is suitable for its intended application Class: ☐1 ☐2 ☐3 ☐4 ☐5	Each Type	Verify the Geotextile meets the relevant filtration requirements of Table R63/E.1 for each application.	R63.2.2.2 & Table R63/E1		Verification Checklist	IP	Site Engineer				
1.05	Obtain manufacturer's product certification documentation	Each Batch	Manufacturer / Supplier to provide a Certificate of Compliance that geotextile complies with all requirements of TfNSW R63 for its specified usage together with NATA endorsed test reports not more than 12 months' old.	R63.2.5		Compliance Certificate	AP	Site Engineer				
1.06	Submission of product certification	Each Type	Submit Certificate of Compliance from the Supplier, & nominate where each strength and filtration class will be used. The Principal will consider submitted documents and may inspect geotextile or direct further action, such as site sampling & testing in accordance with TfNSW R63 Clause 2.4 *prior to authorising the release of the Hold Point*.	R63.2.5.2		Hold Point	HP	Site Engineer				
2.0	Delivery & Storage											
2.01	Inspect supplied items upon delivery	Each Delivery	▪ **Geotextile must be delivered to the site at least 14 days prior to commencement of installation**. ▪ The protected geotextile rolls must be clearly labelled showing manufacturer, type of geotextile and batch number identification number.	R63.3.3 & R63.3.2		Receival Inspection Checklist	IP	Site Engineer				
2.02	Protect delivered materials from water and UV radiation	Each Delivery	▪ Geotextiles must be stored under protective cover or wrapped with a waterproof, opaque UV protective sheeting to avoid any damage prior to installation.	R63.3.1		Verification Checklist	IP	Site Foreman				

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			▪ Geotextiles must not be stored directly on the ground or in any manner in which they may be affected adversely by heat, dirt or damage. ▪ Method of storage must be in accordance with recommendations set by the manufacturer.									
3.0	Site Sampling & Testing											
3.01	Sampling and testing requirements	1/10,000 then 1/20,000 m² Each Batch	▪ Control testing to be carried out on each batch of geotextile delivered to site to ensure conformity of properties specified in Tables R63/E.1 & R63/E.2. ▪ Testing must include the mean weight of the geotextile, determined as per AS 3706.1 & AS 2001.2.13. ▪ *Geotextiles which has not been verified by site sampling & testing to prove compliance with strength & filtration requirements must not be used in the Works.*	R63.2.4.1 & R63.2.4.2	AS.3706 Cl.2 to Cl. 5 Inc., & AS 2001.2.13	Verification Checklist	IP	Site Engineer				
3.02	Sampling of Geotextile on site	Per Site Test	Notify the Principal of location, date and time of sampling and person sampling.	R63.2.4 & R63/E		Witness Point	WP	Site Engineer				
3.03	Procedure for sampling & testing process	Per Test	▪ Approx. 15m² is cut from each geotextile sample roll, but not within 2m of start or end of the roll. *Where directed, provide samples to the Principal.* ▪ Mark sample in accordance with TfNSW R63.2.4.3 ▪ Ensure testing of geotextile sample will be done at an approved NATA registered laboratory accredited for the range of tests given in Table R63/E.1 & Table R63/E.2 ▪ Provide associated documentation including geotextile supplier, geotextile type, batch identification, order represented by sample, sample date, roll directional markings, etc., to testing agency for their information, to be reported on or attach to the test reports. ***Not required if Principal accepts the batch is tested and verified from another project and hold point submitted under R63.2.5.2***	R63.2.4.3 & R63.2.4.4		NATA Test Reports / Verification Checklist	TP	Site Engineer				
3.04	Submission of site sampling results	Per Test	Site sampling test results referred to in Clause 2.4 ***at least 14 days prior to placement of geotextile.*** *The Principal will consider submitted test documents verifying conformity of the geotextile with TfNSW R63 and may inspect the geotextile.* *The Principal may require additional testing prior to authorising release of the Hold Point.*	R63.4.1		Hold Point	HP	Site Engineer				

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Final Inspection
The signature below verifies that this ITP has been completed in accordance with the Fulton Hogan's Quality system Procedures and verifies lot compliance with specifications.

Print Name: **Position:** **Signature:** **Date:** / /

Legend:

HP	Hold Point	Work shall not proceed past the HP until released by the Project Verifier	**IP**	Inspection point	Formal Inspection to be done and recorded
HP*	Fulton Hogan Hold Point	Work shall not proceed past the HP* until released by Fulton Hogan	**TP**	Test Point	Product compliance test to be undertaken and recorded/reported
WP	Witness Point	An inspection which must be witnessed by the Project Verifier	**SCP**	Survey conformance point	A qualified surveyor to check product/section/structure and report
AP	Approval Point	Written or verbal approval given by the Project Verifier			

Notes