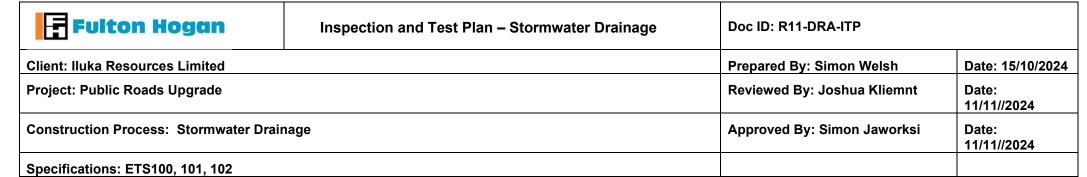


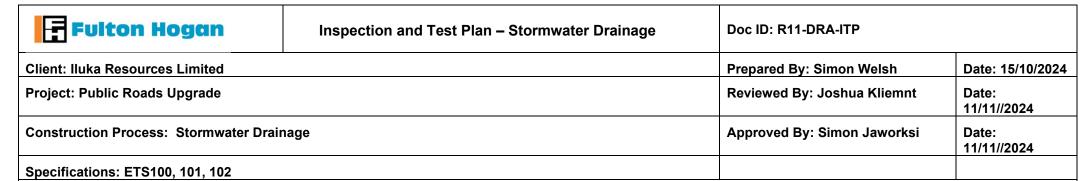
			Inspection/Test						Checke	d/Verified by	y (initial/l	Date):
No.	Task/Activity Description	Frequency	Acceptance Criteria	Reference Documents	Inspection / Test Method	Record of conformity	Туре	Responsibility	TfNSW	Fulton Hogan	PV	Date
1	Preliminaries											
2	Check location of underground and above ground utilities	Per Area	Before You Dig contacted Excavation Permit is obtained	WHSMP		Verification Checklist	IP	Site Engineer				
3	Check the type, size and class of pipes and other drainage structures to be laid Size: Class:	Per Delivery	Supplied items are: To correct spec, class, size and quantity Defect free, safely and securely stored Markings have been made as required Delivered 7 days after casting and concrete has reached specified 28 day strength	R11.2		Verification Checklist	IP	Site Engineer				
4	Supply of precast concrete members subject to traffic and/ or earth pressure loading, and water containing structures with capacity greater than 25,000 Litres	Per Type	Submitted design and manufacturing documentations to the Project Verifier for precast concrete structures which subject to traffic loads and/or earth pressure and water retaining structures with a capacity in excess of 25,000 litres.	R11.2.4.1		Hold Point	HP	Site Engineer		HP		
5	Incorporation into the works any supplied, manufactured drainage product.	Per Lot	Submit a Certificate of Conformity to the Project Verifier 7 days prior to incorporating into the works	R11.2.6		Hold Point	HP	Site Engineer		HP		
6	Verify conformance of BH (bedding & haunch) materials Material Conformance Lot:	G:1/ 50m³ PI:/100m³	Grading limits as per Table 6 in AS 3725 except that ≤12% passing 75µm & PI < 6	R11 3.1.1 R11/L Q6 8.1.1	T201 T109	NATA Test Report	TP	Site Engineer				
7	Verify conformance of SO (side & overlay) materials Material Conformance Lot:	G:1/ 50m³ PI:/100m³	Max size 53mm, grading within limits in Table 7 of AS 3725 and PI >2 and < 12	R11 3.1.2 R11/L Q6 8.1.1	T201 T109 AS 3725	NATA Test Report	TP	Site Engineer				
8	Verify conformance of material Adjacent to Weepholes	Per Delivery	Broken stone or river gravel of max size 53mm and < 5% passing 9.5mm sieve	R11 3.2 R11/L	T201	NATA Test Report	TP	Site Engineer				

Fulton Hogan	Inspection and Test Plan – Stormwater Drainage	Doc ID: R11-DRA-ITP	
Client: Iluka Resources Limited	Prepared By: Simon Welsh	Date: 15/10/2024	
Project: Public Roads Upgrade		Reviewed By: Joshua Kliemnt	Date: 11/11//2024
Construction Process: Stormwater Drain	nage	Approved By: Simon Jaworksi	Date: 11/11//2024
Specifications: ETS100, 101, 102			

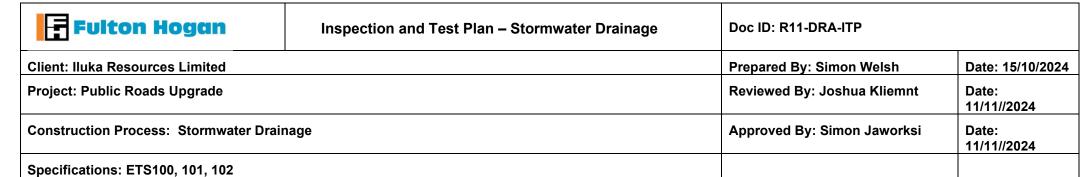
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9	Subsurface drainage pipes	Per Delivery	Provide certificate of compliance accompanied by NATA certified test results in accordance with TfNSW 3552 not more than 6 months old	R11.4.4.5 TfNSW 3552	T1505 T1506	Certificate of Conformity	ΙP	Site Engineer				
10	Inspect supplied items upon delivery	Per Delivery	Supplied items are to correct spec, class, size and undamaged Steel Reinforced Pipes as per CL3.3 & 3.4 of AS4058 Fibre Reinforced Pipe as per CL9 & 10 AS4139	QMP		Receiving Inspection Checklist	IP	Site Engineer				
11	Trenching and Excavation											
12	Construction of each drainage system	Per Lot	structures; the locations and levels of the ends of wing walls and headwalls; and the locations and levels of open drains. Notify PV that set out of drainage system has been completed.	R11.4.1.1		Hold Point	HP	Surveyor		НР		
			If set out is within 5 metres of an environmental sensitive area notify Environmental Manager	G36.4.12		Hold Point	HP	Surveyor			HP	



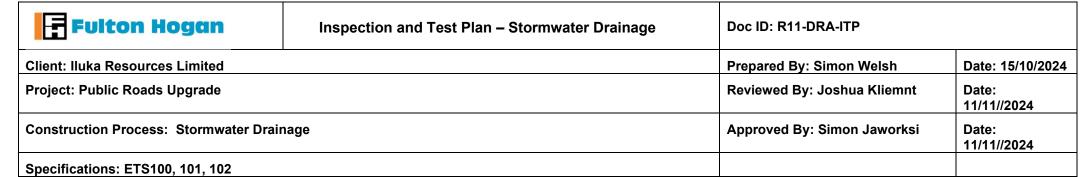
			Inspection/Test									Che	cked/V	erified by	(initial/l	Date):
Item No.	Task/Activity Description	Frequency	Acceptance Criteria	Refere Docum		Inspection / Test Method	Record conform		Туре	Respon	nsibility	TfNS\		Fulton Hogan	PV	Date
			 Width and depth of pipe trench as per AS 3725 and standard drawings, refer to right table 		e Size mm)		num Depth (mm)					m Distance				
			 For other structures, the clear width between structure wall & face of excavation is ≥ 300mm or 	Nominal Internal	Outside Diameter	Bed ⊦	launch Sic	le	Single	•	Mu	ltiple	Single CLSM	Multiple CLSM		
			1/3 height of excavation face, whichever is greater	Diameter	at Collar	х	y z-	у	lc	(Centreline separation)	lc†	(Centreline separation)	lc	lc†		
			Trenches > 1.5m deep are either shored or	375	543	100	165 11	0 4	400	700	450	1000	130	150		
			benched	450	647		195 13		400	800	450	1100	130	160		
			 The excavation is ≤ 50mm beyond the specified 	525	736		220 14		400	800	450	1200	140	170		
			width and depths of the trench	600	831		250 16		400	900	500	1300	140	180		
			For pipes under embankments "Embankment Condition": ambankment is	675 750	926 1017		280 18 305 20	-	400 450	900	500	1400 1500	150 150	190		
	Excavate trench to the		- "Embankment Condition": embankment is	825	1017		325 21		450	1000	500	1600	150	200		
13	underside of bedding to	Per Lot	constructed to a height ≥ 0.7 times the external dia of the pipe above the top of the bed zone, and	900	1197		360 24		450	1100	500	1700	160	210		
13	correct width	Fei Lot	for a min lateral distance past the boundary of the	1050	1391		415 28		450	1200	500	1900	160	220		
	Correct width		trench of 2.5 times the external dia of the pipe	1200	1543	100	465 31	0 4	450	1200	550	2100	170	230		
			- "Trench Condition": Trenches done after the	1350	1708	150	510 34	0 4	450	1300	550	2300	170	240		
			construct of the embankment to the level of the	1500	1937	150	580 38	5 4	450	1500	600	2500	190	280		
			underside of the Selected Material Zone	- 1650	2089	150	625 42		450	1500	600	2700	190	280		
				1800	2267	150	680 36		450	1600	600	2900	200	290		
				2100	2360	150	710 47	0 4	450	1800	600	3200	200	290		
				R11.4.3 MD.R240	-01		Verificat Checkl		IP	Sit Fore						
14	Foundation Compaction	Q6/L	Foundation to be compacted to 95%. (Standard compaction)	R11.4.9.2 R11.4.9.3 Q6 8.1.1		T166	Test Re	port	TP	Sit Engii						
15	Excavation for pipe installation and other drainage structures	Per Lot	Notify the Project Verifier of the anticipated date of completion of excavation and preparation of foundations. Not later than 24 hours, but not earlier than 5 working days.	R11.4.3			Witnes Point		WP	Sit Engii				WP		



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	Remove & replace unsuitable	Where	GDR to provide Geo-report to state that the foundation is suitable or need further treatment Replace with materials from cuttings or conforming									
16	materials, if directed by PV	required Q6/L	material to full depth in 150mm layers and compact to 95% Standard Compaction	R11.4.3 Q6 8.1.1	T166	Test Report	TP	Site Engineer				
17	Replacement of inadequate foundation material.	Where required	Notification to the Project Verifier that inadequate foundation material has been excavated to the extent required.	R11.4.3.3		Witness Point	WP	Site Engineer		WP		
18	Placement of Pipes											
19	Place Bedding	Q6/L	 Bedding placed to a thickness of 100mm for pipes up to 1200mm dia pipes and 150mm for pipes greater than 120mm Bedding compacted to 95% 	R11 R240-01		Verification Checklist	IP	Site Engineer				
20	Install pipes in accordance to manufacturer's instructions and design documentations	Per Lot	 Correct size and class of pipe installed Pipes laid from inlet to outlet with socket laid upstream Pipe support are Type HS3 conforming to AS3725 and MD R240-01 Pipe ends cleaned and rubber rings correctly installed Where grade exceed 20%: anchor blocks provided at 3m spacing max., at bends, junctions and where shown on drawings 100mm dia Subsurface drainage installed at the discharge end of pipes 3m long, laid beside & 100mm above invert level of drainage pipe All joints have rubber rings fitted and pipes butting against each other. Connection to pits in accordance with MD R220-43 	R11.4.4 R240-01 R220-43		Verification Checklist	IP	Site Engineer				



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21	Pit/headwall to pipe connection	Per connectio n	Pit to pipe connections are to be flush along the pit wall, with minimal protrusions or depressions.	CMS 7.8		Verification Checklist	IP	Site Engineer				
22	Verify that completed pipeline against survey marks	■ Per Lot	 Completed pipeline is inline and within ±200mm of location (plan) Invert level are within 20mm of the design level at any point To be checked at each pit and headwall 	R11.5.1 Table R11.4		Survey Report	sc	Surveyor				
23	Construction of Drainage Structures (Other Than Pipes and Box Culverts)											
24	Construction of drainage structures other than pipes and box culverts.	Per Structure	The notification is to be at least 7 days prior to the date of installation work.	R11.4.7.2		Witness Point	WP	Site Engineer		WP		
25	Place bedding layer underneath pit, or plain concrete blinding to headwalls. Ensure correct survey tools have been used to transfer levels, i.e. dumpy level	Per Structure	The bedding materials consists either of: For Precast Pits 50mm layer DGB20 or CLSM; For other than precast a 50mm blinding layer	R11.4.7.2		Verification Checklist	IP	Site Foreman				
26	Install precast drainage structures as specified on design documentations	Per Structure	 Installed within 14days after installation of associated pipes, box culverts or open drains Where drainage structure abuts a structure or concrete pavement, a 10mm wide filler complying with TfNSW 3204 is installed as an isolation joint Subsoil drainage pipe connected to downstream headwalls/pits Lifting holes are sealed Structure is level and plumb 	R11.4.7		Verification Checklist	IP	Site Foreman				



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27	Install Cast In place drainage structures (incl. headwalls and curtain walls) as shown on design documentations R53-GCW Lot No:	Per Structure	 Constructed as per R53-GCW-ITP Backfilled after 14 days of placing the concrete or when the 28 day compressive strength is achieved, whichever achieved earlier Insitu curtain walls at the outer edge of the aprons are only for pipes between 300-1200mm diameter 	R11.4.7 R11.4.7.3		R53-GCW Lots	IP	Site Foreman				
28	Verify that the finished drainage structures are within tolerance, check pipe gaps over joints are within allowance	Per Structure	 Within ± 200 mm longitudinally Within ± 20mm laterally Within ± 20mm of design invert level 	R11.5 Table R11.4		Survey Report	SU	Site Engineer				
29	Install rung ladders if pits are > 600mm deep	Per Pit	 Top of uppermost rung < 600mm below the top of the pit. Top of Bottom Rung is within 300 to 500mm above the invert of the pit. Rung spacing is 300±50mm 	R11.4.7.4		Verification Checklist	IP	Site Engineer				
30	Patch grout around pipes recesses as required	Per Structure	Cementitious grout is placed evenly covering the entire recess of the pipe-pit connections if any	DRA-CMS		Verification Checklist	IP	Site Foreman				
31	Install weepholes in headwalls and wingwalls, if provided	Per Structure	Material placed to height ≥ 450mm above the bottom of the weephole over a plan area ≥ 600mm along the wall by 300mm out from the wall (Located centrally of the weephole) Enclosed it with geotextile filter fabric	R11.4.8 R63		Verification Checklist	IP	Site Foreman				
32	Place scour protection / dissipator, if required	Per Outlet Structure	Scour protection and installation of dissipater completed as details specified in design documentations	Design DWGS		Verification Checklist	IP	Site Foreman				
33	Backfilling											
34	Place and spread haunch, side zone, overlay and backfill, compact and test to specified densities	Per Lot Q6/L	 Backfill placed in 150mm layers and compact to 95% std compaction (102% if within SMZ) Testing frequency refer to Q6/L3.1 (every layer if within SMZ) If stabilised sand used, the materials been vibrated to obtain complete placement & compaction of 	R11.4.9.1 TfNSW Q6 Annexure Q/L Q6 8.1.1	T166 T120 T147	Test Report	TP	Site Engineer				

Fulton Hogan	Inspection and Test Plan – Stormwater Drainage	Doc ID: R11-DRA-ITP	
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Project: Public Roads Upgrade	Reviewed By: Joshua Kliemnt	Date: 11/11//2024	
Construction Process: Stormwater Drain	nage	Approved By: Simon Jaworksi	Date: 11/11//2024
Specifications: ETS100, 101, 102			

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			material under & around pipe and the placed stabilised materials are firm a day after placement. Working time to be noted.									
			 Stabilised sand not exempt from T166 in accordance with R11 									
			 Working times of stabilised sand should be considered (T147) 									
35	CCTV Inspection	Per Line	 CCTV inspection of installed drainage completed after backfill of drainage line but before placement of pavements Video footage and report in accordance with WSA05-2008 	R11.5.2		CCTV Report	IP	Site Engineer				
36	Moving heavy construction plant or vehicles over pipe or box culvert structures.	Per Location	Provide a certificate and verification of protective measures.	R11.4.11		Hold Point	HP	Site Engineer		HP		
37	Covering up of work subject to a conformity verification survey.	Per Lot	Survey Report verifying conformity.	G71.5.6.6	Survey	Hold Point	SU	Surveyor		HP		

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*	FH 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	SU	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	sc	Survey Check	
Notes					