Filepath: BSW - Fulton Hogan/FHICG - External Works/Bellarine Hwy LHTL - Mitre10

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## **Underground Drainage**

Hayden Brett Created Tue, 16 Jan 2024, 3:50 PM (UTC+11)

Subcontractor (if applicable)

ITP Details:	
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Client	Construction Process	Contract Number:	Specifications	Structure / Component	Prepared By	Approved By
Regional Roads Victoria	Underground Storm water Drains		Vicroads Specification Section 173, 175, 205, 210, 290, 304, 702 and 720, VR Code of Practice 500.2	Drainage		

Project Location		
Lot no.		
Lot details		
Lot size/qtys		
Date	Start: -	End: -



Text Legend:

HP	Hold Point	Work shall not proceed past the HP until released by the Superintendent	IP	Inspection point	Formal Inspection to be done and recorded
IHP	SWA Internal Hold Point	Work shall not proceed past the IHP until released by SWA	TP	Test Point	Product compliance test to be undertaken and recorded/reported

WP	Witness Point	An inspection which must be witnessed by the Superintendent	SCP	Survey conformance point	A qualified surveyor to check product/section/structure and report
AP	Approval Point	Written or verbal approval given by the Superintendent			

## 1. Preliminary Works



Task/Activity Description	Acceptance Criteria	Reference Documents	Method & Record of conformity	Responsibility	Signature	Comments
1.1 Obtain MOA and Traffic Management Plans. Ensure Traffic Management Plan is adhered to.	Refer to the VicRoads Traffic Management specification 166	Traffic Mgmt. Plan	Method: Visual Inspection	IHP SWA Project Manager		
Frequency Prior to commencing works			Record: Signed ITP			
1.2 Purchase of pre-cast pits, pipes and end-walls  Frequency Approval prior to placement of order	Refer to Construction Drawings	Vic roads Standard drawings	Method: Review and approval of documentation  Visual inspection	IHP SWA Project Manager		
			Record: Signed ITP			

## 2. Construction works



Task/Activity Description	Acceptance Criteria	Reference Document s	Inspection method & Record of conformity	Responsib ility	Signature	Reports	Photos	Comments
2.1 CONFORMITY WITH DRAWINGS  - The Contractor shall set out the drainage work in accordance with the drawings or as specified.  Frequency:Each lot as required	Prior to commencement of excavation for the culverts the Contractor shall confirm the position of all culverts with the Superintendent.	Vicroads std sec 701.09	Method: Construction Drawings  Record: Signed ITP	IHP SWA Project Manager Site Supervisor				



Task/Activity Description	Acceptance Criteria	Reference Document s	Inspection method & Record of conformity	Responsib	Signature	Reports	Photos	Comments
2.2 CONFORMITY WITH DRAWINGS – The culverts constructed shall be constructed true to line and level  Frequency: Each Lot	Unless specified otherwise the tolerance on location of pipes compared to the design or a change to the design notified in accordance with this clause shall be:  (a) offset of entry pits required to match lines of kerbs or barriers ±20 mm  (b) plan location of pits other than offsets to kerb lines or barriers ±100 mm  (c) invert level of pipes at pits ±50 mm (d) departure from design grade of pipe runs ±10 mm in 10 m provided minimum grade is not less than 1:250	Vicroads std sec 701.09	Method: Construction Drawings  Record: Signed ITP	IHP SWA Project Manager Site Supervisor				
2.3 EXCAVATION  Frequency: Each Lot	For pipe culverts, the width of trench at and below the level of the top of the pipe shall be such that the horizontal clearance from the outside of the pipe to the wall of the trench is within the limits Min 300mm and Max. 600mm	VicRoads Std Specs 701.14	Method: On-site Measurement  Record: Signed ITP & Drainage Checklist	WP Project Engineer Site Supervisor				



Task/Activity Description	Acceptance Criteria	Reference Document s	Inspection method & Record of conformity	Responsib ility	Signature	Reports	Photos	Comments
2.4 CULVERT BEDDING – Bedding material shall be provided and placed for the full width of the trench or, where the culvert is to be placed without trenching, to a width 0.8 m greater than the overall width of the culvert	The compacted thickness of bedding material following any shaping necessary shall be not less than: • 100 mm where D < 1500 mm • 200 mm where D ≥ 1500 mm where D is the nominal pipe diameter or culvert width.	VcRoads Std Specs 701.15	Method: Site Inspection  Record: Signed ITP	WP Project Engineer Site Supervisor				
Frequency:Each Lot								



Task/Activity Description	Acceptance Criteria	Reference Document s	Inspection method & Record of conformity	Responsib ility	Signature	Reports	Photos	Comments
<b>2.5</b> PLACEMENT OF FILLING	(a) Unless the culvert is installed through an existing paved area, selected and ordinary	VcRoads Std Specs 701.18	Method: Site Inspection	WP Project Engineer				
Frequency:Each lot as	backfill shall be placed as							
required	follows under, around, and above the culvert		December Cignod ITD	Site				
	after the sections are		Record: Signed ITP	Supervisor				
	bedded and compacted							
	as specified in Clause 701.15.							
	(I) Culvert Under Area not to be Paved							
	The trench shall be							
	backfilled with selected backfill material to a level							
	0.3 m above the top of							
	the culvert and with							
	ordinary backfill material							
	above that level.							



Task/Activity Description	Acceptance Criteria	Reference Document s	Inspection method & Record of conformity	Responsib ility	Signature	Reports	Photos	Comments
2.6 INSPECTION OF DRAINAGE LINES BENEATH PAVEMENTS  Frequency: Each lot as required	Unless approved otherwise by the Superintendent, all drainage lines constructed beneath pavements shall be inspected, after completion of earthworks to subgrade level and prior to construction of pavement layers, by an independent testing organisation using closed circuit television (CCTV). Reporting of the CCTV inspections shall be in accordance with WSA 05 2013 – Conduit Inspection Reporting Code of Australia, published by Water Services Association of Australia.	VcRoads Std Specs 701.28	Method: Visual inspection  Record: Signed ITP	HP Project Engineer  AP Clients Superinten dent				



Task/Activity Description	Acceptance Criteria	Reference Document s	Inspection method & Record of conformity	Responsib	Signature	Reports	Photos	Comments
2.7 Where required installation of Geofabric or Jute matting and beaching material in swale drains  Frequency:After installation of pipes, pits, end-walls and placement of asphalt wearing coarse	Rock used, should be an assortment of sizes where possible. The smallest rock size must be able to resist dislodgment in peak flows.  Rock shall be placed with a geo-textile liner.	NIL	Method: Visual inspection  Record: Signed ITP	IHP Project Engineer/Si te Supervisor				

## 3. Testing Requirement



Task/Activity Description	Acceptance Criteria	Reference Document s	Inspection method & Record of conformity	Responsib	Signature	Reports	Photos	Comments
3.1 REQUIREMENTS FOR TESTING AND ACCEPTANCE OF COMPACTION AND MOISTURE CONTENT – Bedding and backfill materials shall be placed and compacted in layers not exceeding 150 mm loose thickness.  Frequency:3 per Lot  (A lot shall consist of one layer of bedding or backfill for a culvert	(a) Bedding Bedding shall be compacted to refusal using hand held mechanical equipment. Bedding material which has a swell equal to or greater than 2.5% shall be maintained at a mean moisture ratio of 92% between the completion of rolling and the placement of the overlying layer. (b) Backfill (i) Material of Nominal Size 40 mm or Less After Compaction Backfill material which will have a nominal size after compaction of 40 mm or	Vicroads std sec 701.19	Method: Lab Test  Record: Signed ITP	IHP SWA Project Manager	o.g.na.arc			
length between adjacent pits or endwalls)	less shall be compacted to a mean value of density ratio of not less than 97%. Backfill material which has a swell equal to or greater than 2.5% shall be maintained at a mean moisture ratio of 92% between the completion of rolling and the placement of the overlying layer.  (ii) Material of Nominal Size Greater than 40 mm After Compaction Backfill							



Task/Activity Description	Acceptance Criteria	Reference Document s	Inspection method & Record of conformity	Responsib ility	Signature	Reports	Photos	Comments
	material which will have a nominal size after compaction greater than 40 mm shall be compacted using a grading, mixing, watering and rolling procedure. Backfill material which has a swell equal to or greater than 2.5% shall be maintained at a mean moisture ratio of 92% between the completion of rolling and the placement of the overlying layer.							

Photo and video
Final Inspection Comments
Project Team signature -
Photo and video
Final Inspection Comments
Client Signature -