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Process Step	Criteria/Test Method/Spec	Reference document	Record of conformity	Type of Record	Responsible Position	Acceptance/Comments ☐Completed ☐Not completed
1. Confirm safety barrier type & end treatment [ ] W-Beam [ ] Thrie Beam [ ] Thrie Beam Transition [ ] End Terminal Barrier Label:……	Check design drawing, correct type of barrier, transitions and/or end connection and any additional material component requirements	RF series Design dwgs, R132.2.1	Verification Checklist	IP	Project engineer	
2. Obtain and submit Certificate of Compliance for the barrier systems	☐ Obtain Certificate of Conformance from supplier to R132 Specification and submit to PV Representative at least 7 days prior to proposed use of materials. ☐ For galvanised steel components, include a manufacturer's certificate of compliance certifying the zinc coating mass is in accordance with AS/NZS 4680 requirements, or, for components of proprietary safety barrier systems or devices, the manufacturer's recommendations and any specified TfNSW requirements	R132.2.3 & R132.4.1	Certificate / Verification Checklist	IP	Project engineer	

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3. Verify conformance of proposed safety barrier materials	Verify safety barrier system components are in accordance with R132, design drawings and manufacturer's recommendations: □ Steel components □ Bolts, Nuts & Washers □ Protective treatment □ Curving steel rails □ Plastic members as per manufactures details □ Powder coating complies with AS 4506	R132.2.4, R132.2.6, R132.2.7, R132.2.9, TfNSW Requirements & Design dwgs	Verification Checklist	IP	Project engineer	
4. Verify conformance of delineators & Retro-reflectors materials	□ Delineation unit in accordance with TfNSW STD dwg R0710-18 details □ Retroreflective materials must comply with AS 1906.1 or AS 1906.2 as appropriate	R132.2.8, R132.4.6 & TfNSW dwg R0710-18	Certificate of Compliance	AP	Project engineer	

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5. Inspect guard rail safety barrier items upon delivery	Inspect supplied safety barrier system components are in accordance with R132, design drawings and manufacturer's recommendations and they are not damaged or defective. □ Components shall be marked in text ≤ 20mm high, the following Information: - Manufacture's name - Batch number, or date of manufacture - Strength grade and base metal thickness of the steel rails □ Verify galvanizing is undamaged on curved components.	R132.4.1.1 & R132.2.2	Receival Inspection Checklist	IP	Project engineer	
6. Verify underground & overhead services have been identified	Utilise current Ground Penetration Permit or if new permit is required verify: □ Dial Before You Dig contacted □ As-built for new services available to add to permit □ Working near Overhead Services Permit is obtained	WHSMP	Ground Penetration & Overhead Services Permits	IP	Project engineer and site foreman	

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7. Set out	Verify pegs are in the ground (or paint marks on hard ground) that mark the start and finish points and line of the safety barrier, transition and end treatments inc the line of flare if applicable, prior to commencing construction. Measure offsets for flares from a line parallel to the adjacent lane line.	RF Design dwgs, R132.4.1 & G71	Verification Checklist	IP	Surveyor	
8. Notify PV Representative to inspect set out of safety barrier	Notification that the set out is in accordance with R132 Specification, the Design drawings and manufacturer's recommendations, ≥ 2 full working days before the proposed commencement of installation of posts.	R132.4.1.2	Hold Point	HP	PV/Project engineer	

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Constructing a safety barrier on a road open to traffic	Commence work at the end closest to approaching traffic, except where the barrier connects at its departure end to a fixed object such as the end of a bridge. □ Commission end treatments and transitions at the earliest practicable time. Provide temporary end treatments until the permanent treatment is complete.	R132.4.1.3	Verification Checklist	IP	Project engineer	

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Installation of guard rail posts by post driving	Installation of the posts must comply with the following requirements: □ Posts must be installed to the depth, line and spacing shown on the Design drawings, and to the tolerances in R132.4.5; □ Installation process must not cause any structural damage to the post, including any soil plates attached to the post □ Installation must not cause any damage to the pavement beyond 100 mm from any part of any post, including any soil plate attached to the post; □ When a lateral force of 1 kN is applied in any direction within the top 200 mm of an installed post but before the rail is secured, the movement of the post at ground level must be not more than 3 mm; □ Backfill material around the steel tubes and soil plates of gating leading end treatments,	R132.4.2 R132.4.5 & Manufactures Docs	Verification Checklist	IP	Foreman	

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	must be compacted to a minimum 95% Relative Compaction, measured in accordance with Test Method TfNSW T166; □ Disturbed pavement or ground around a post must be trimmed and compacted to a dense, tight, smooth and sealed condition so that resistance to water penetration is similar to that of the adjacent surface.					

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Excavating holes for post installation where post driving is unsuited	□ Where post is to be installed through a bound pavement layer carry out excavation or pre-boring to achieve a min. hole dia. of 400 mm. Extend hole dia at least within 300 mm of the level of the bottom of the installed post. □ Locate each hole so the post will be positioned centrally or towards the nearest traffic lane in the prebored hole. □ Backfill around posts must be clean, well graded, non-cementitious granular material or material obtained from excavating the post holes, provided any different material types from within a hole are placed to match surrounding layers.	R132.4.2.1	Verification Checklist	IP	Foreman	

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Post construction tolerances	□ Posts installed at correct direction, visually smooth and regular and within tolerance. - height: +/-20mm, - line: +/-20mm in plan view, - verticality (to the ground at the front): +/-15mm at the top, or to manufacturer's recommendations. □ Tolerance on post spacing must be +/-25 mm. The deviation of the top of any post from a straight line joining the tops of the posts on either side must not exceed 10 mm, after allowing for horizontal and vertical curves.	R132.4.5.1 R132.4.5.2 & Figure R132.1	Verification Checklist	IP	Project engineer	
Installation of rails	Guard rails are installed to the posts as per manufactures manual installation information, with correct direction, overlapping, and height as detailed on the manufactures associated technical drawings	Manufactures Docs	Verification Checklist	IP	Project engineer	

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Install end treatments	Install as per manufactures manual installation information and associated technical drawings	Manufactures Docs	Verification Checklist	IP	Project engineer	
Installation of delineators / retro-reflective units	□ Safety barrier delineators are to be spaced to comply with AS 1742.2 or at 20m centres, whichever gives the closer spacing □ As per TfNSW STD dwg R0710-18 mounting plates shall be attached to the inside of the posts using M6x25 hex bolt with nut and washer, or other approved fastening system. □ Arrange delineation units so that drivers approaching from either direction will see only: (a) red retro-reflectors on their left; (b) white retro-reflectors on their right on two-way carriageways; (c) yellow retro-reflectors on their right on one-way carriageways and medians separating traffic in opposing directions	R132.4.6 & TfNSW STD dwg R0710 -18	Verification Checklist	IP	Project engineer	

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Obtain approval for opening of traffic (if applicable)	Submit, at least three clear working days before the proposed exposure of the safety barrier system without fully operational end treatments, full details of your proposals together with a risk assessment of your proposals.	R132.1.4	Hold point	HP	PV/Project engineer	

REVIEW BY PROJECT MANAGER

Have tests passed?	YES/NO	Test Report No: _____	
Is all testing as per specified frequency?	YES/NO		
Are earthworks within location and level tolerances?	YES/NO		
Have all RMS Hold Points been released?	YES/NO		
Any nonconformances?	YES/NO	Sign: _____	For Closed Out: YES/NO
All work has been satisfactorily completed.	YES/NO		

_____ Project Manager _____ Date

Prepared By: **Mohammed Almalome** **Approved By:** _____ **Date Approved** _____

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