

Case Study

Sealed Road Inspection & Remediation Planning

AE Young Engineers was engaged to inspect a **12-kilometre section of sealed road**, assessing **pavement, culverts, and drainage** conditions. A **risk-based assessment** was used to prioritise defects, enabling the road operator to **allocate resources efficiently** for remediation.



Damaged Pavement

Inspection & Safety Considerations

Maintaining **vehicle access** while ensuring **safe inspection procedures** was a key priority. The inspection process included:

- **Job Safety Analysis (JSA)** to identify and mitigate risks.
- **Confined space permits** for culvert inspections.
- **Traffic management planning** to allow safe and uninterrupted road use.

Repair Methodology & Engineering Solutions

To **minimize disruption** to road users, AE Young Engineers developed **strategic repair methodologies**, including:

- ✓ **Temporary bypass roads** to maintain traffic flow.
- ✓ **Staged remediation** to allow progressive repairs without full closures.
- ✓ **Engineered repair solutions** complying with **Australian Standards** and state engineering sign-off requirements.

By combining **detailed assessment, risk prioritization, and strategic remediation planning**, AE Young Engineers provided a **cost-effective and efficient** approach to **road maintenance and infrastructure longevity**.



Damaged Road Shoulder



Fault Number: AR18.1	Area: Culvert 8400	Risk Rating: High	17
Location: CH8400	Component: Culvert.	Inspected by: AY	Audit Date: Jan-24

Description of Fault:	Culvert holding water and showing signs of corrosion.	
Failure Mode:	Failure of CMP.	
Potential Incident:	Culvert failure.	
Severity:	Consequence Type	
	Life altering or long-term / permanent disabling injury or illness to one or more persons	
	Substantial impact to the environment, where recovery of the ecosystem function takes between 1-3 years; infringement notice but prosecution unlikely	
	Between US\$10 million and up to US\$50million AND Moderate impact on the business' ability to meet its financial commitments AND/OR May need to borrow additional case to meet current liabilities	
Likelihood:	Substantial impact lasting greater than 2 months on legal rights or compliance; e.g. State; moderate penalties for breach; reported formally to external authority; significant effort to correct	
	Substantial impact lasting 2-6 months on community reputation, investment attractiveness, social value proposition or ability to access opportunities at a sub-national level e.g. State; significant effort to correct.	
	Likely	Will frequently occur.
Recommended Action:	Clean inlet and outlet side to improve water flow. Inspect culvert once water is removed.	
Action Time Frame:	Prompt Action Required.	



Defect Reporting