



Government of South Australia
Department for Infrastructure
and Transport

WGA

ASSET SUSTAINABILITY STRATEGIES – PORT BONYTHON JETTY REMEDIATION

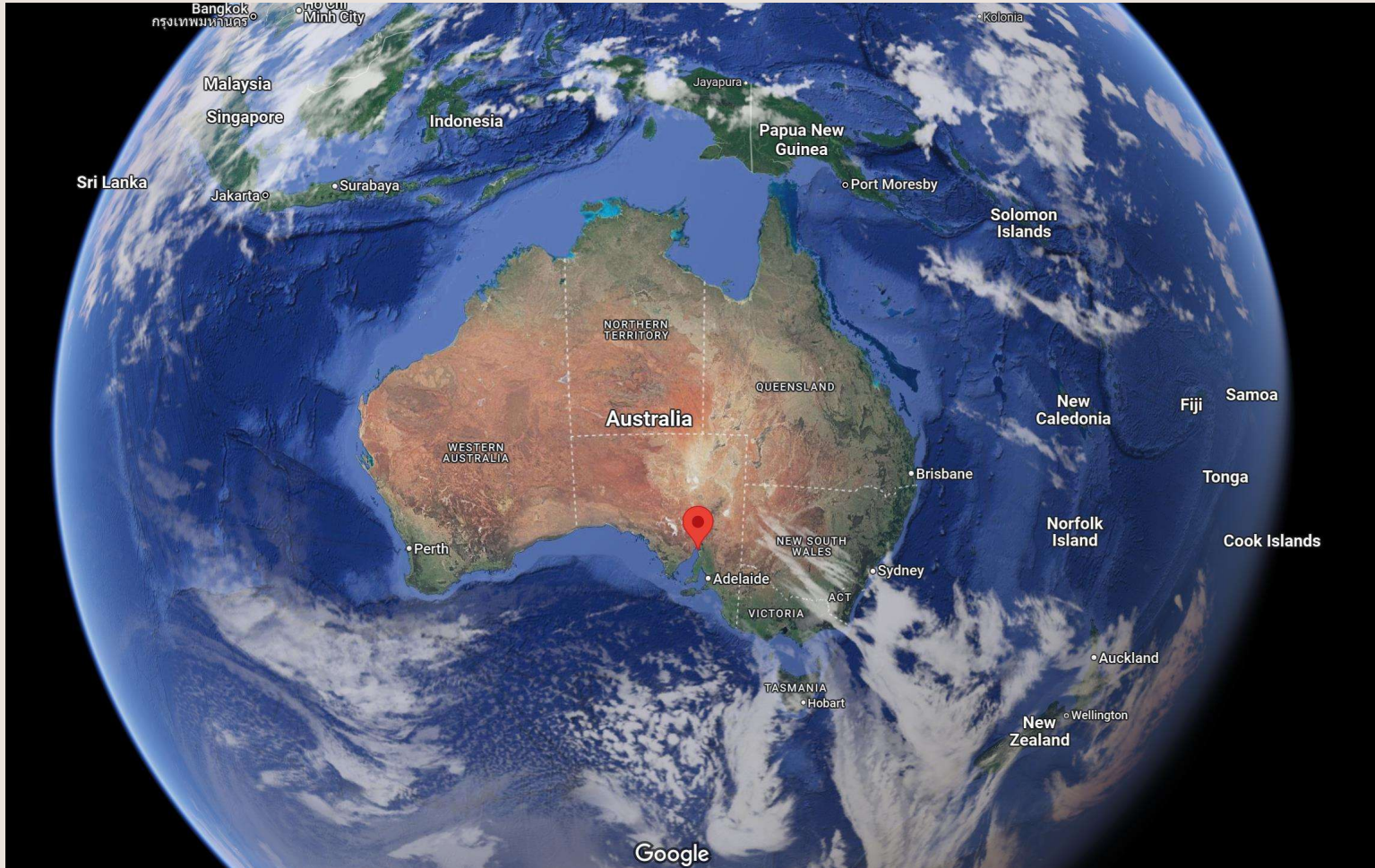
DAVID EWERS (WGA) & SCOTT SNEDDEN (IC)

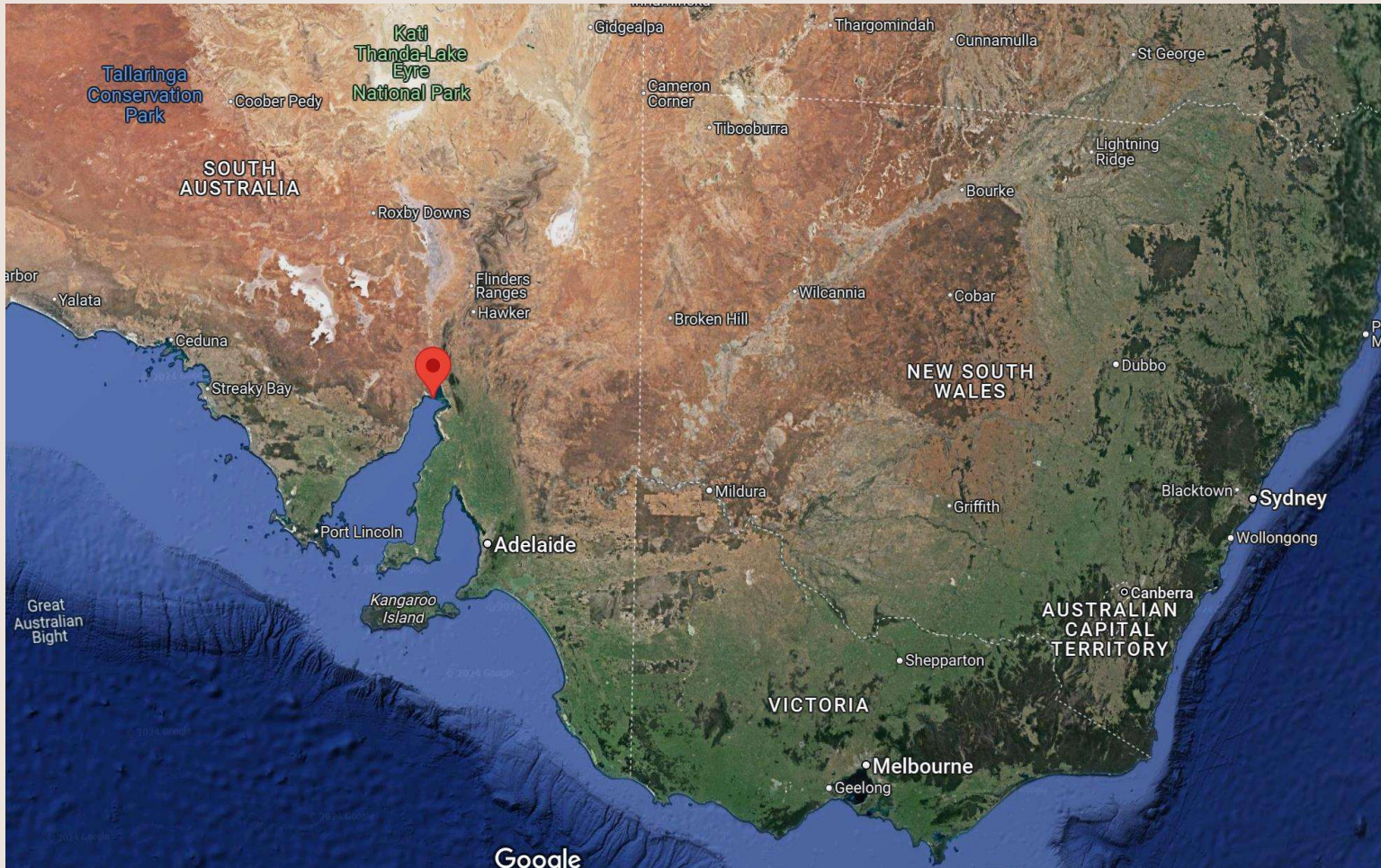
“meeting the needs of the present without compromising the ability of future generations to meet their own needs.”

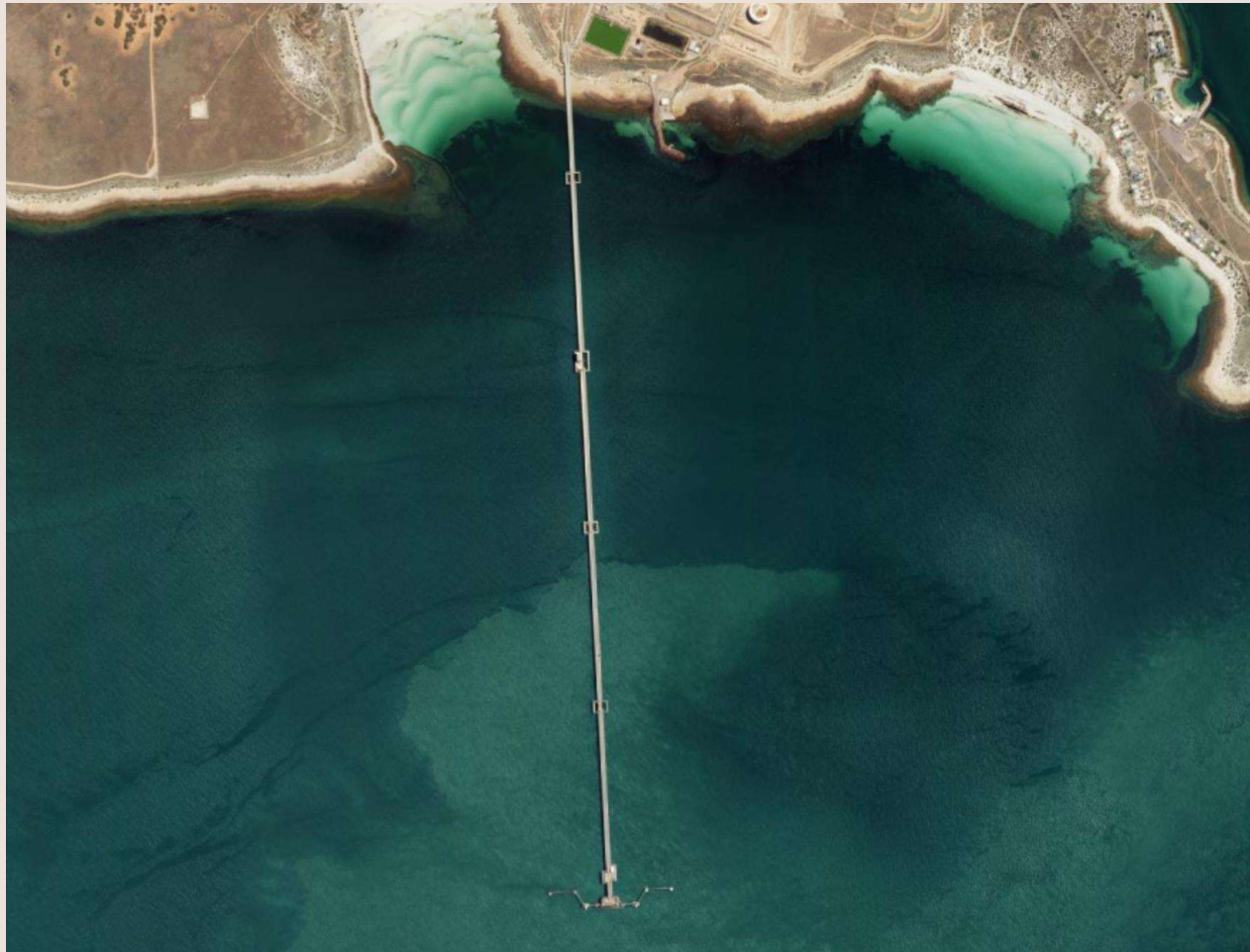
MINIMISING WASTE

REDUCING POLLUTION

CREATING LONG-LASTING EFFICIENT SOLUTIONS

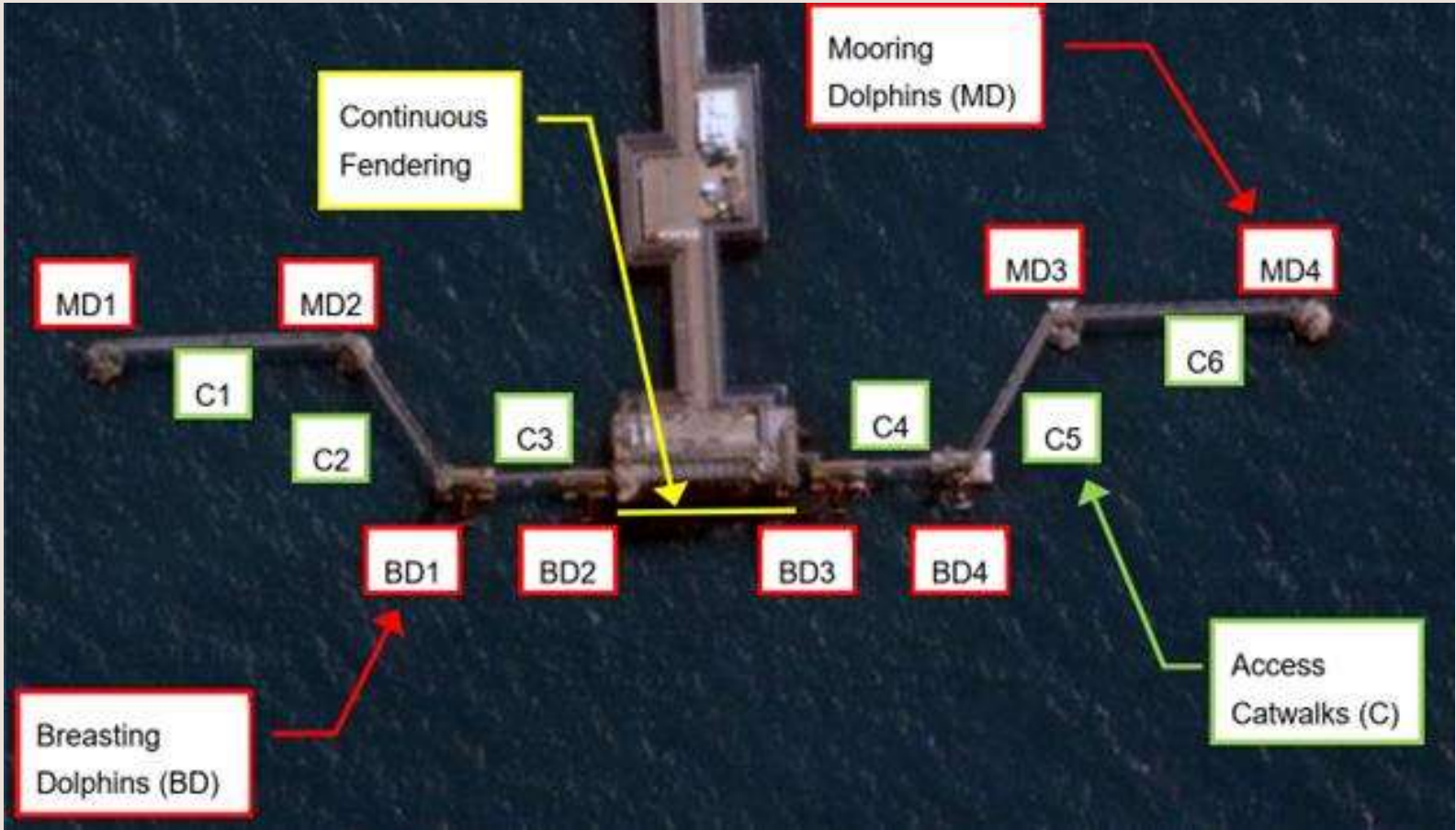


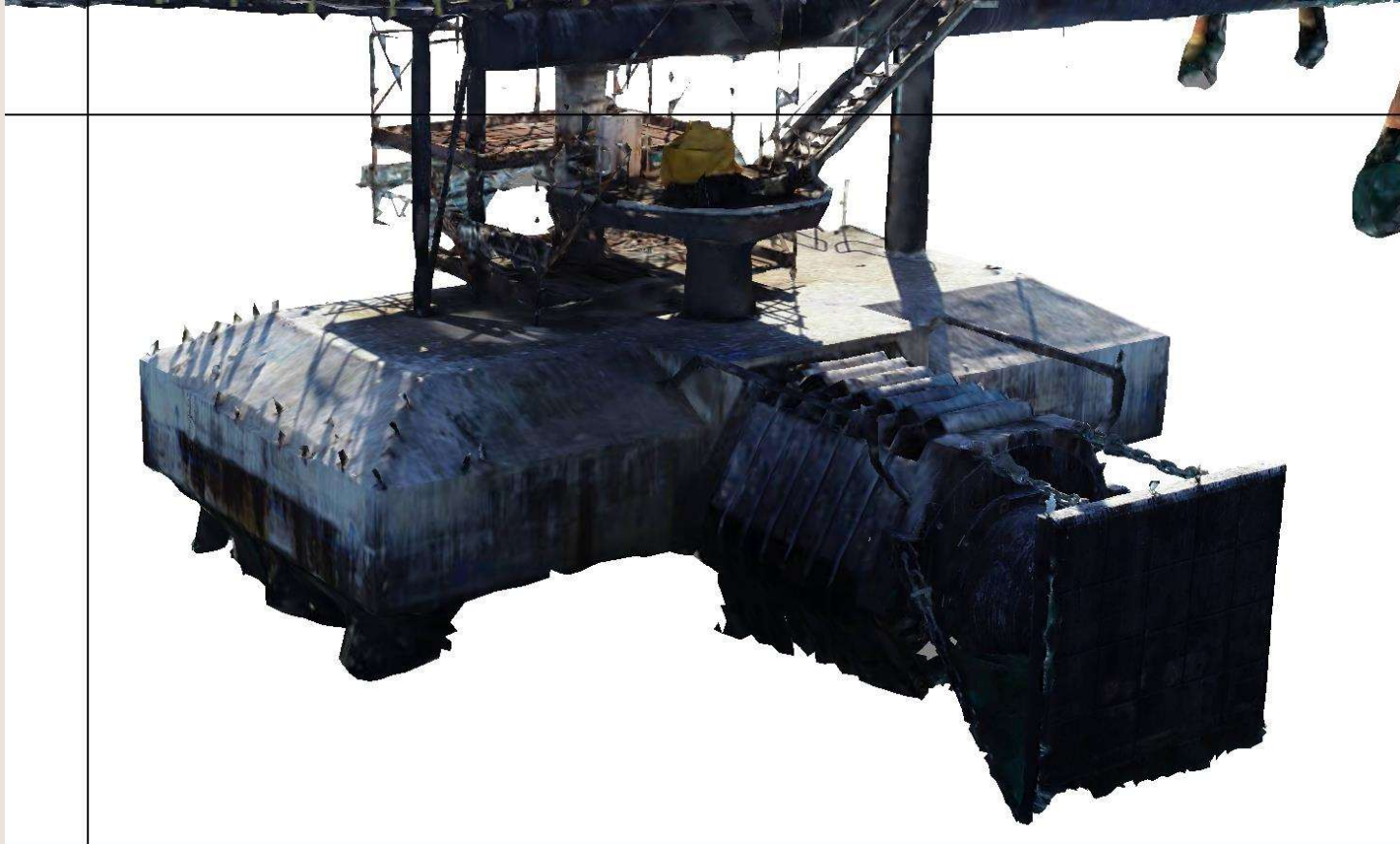




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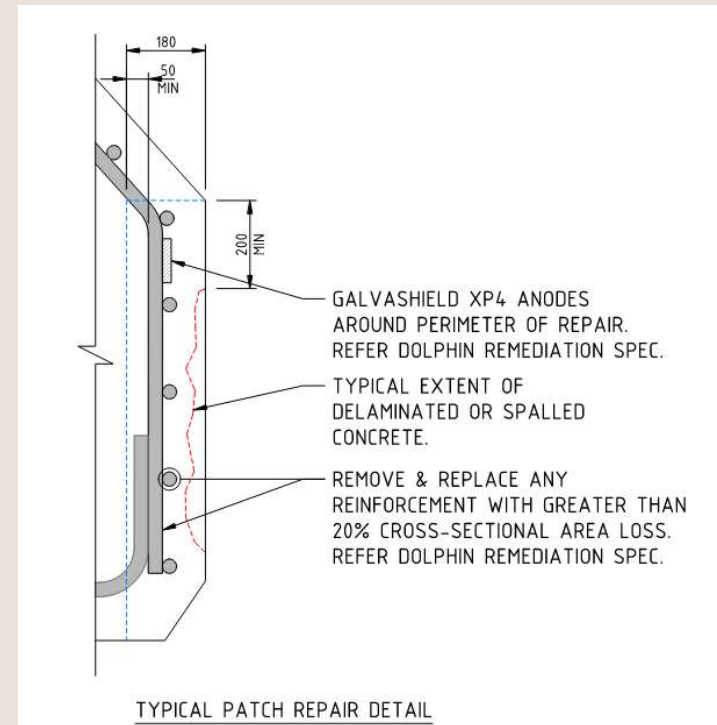




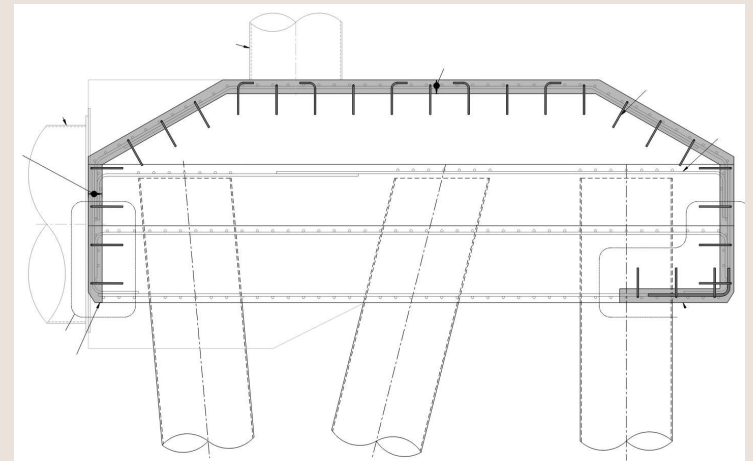
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THE STRATEGY: SHORT TERM SOLUTION = PATCH REPAIR



THE STRATEGY: LONG TERM SOLUTION = FULL “DE-SKINNING”



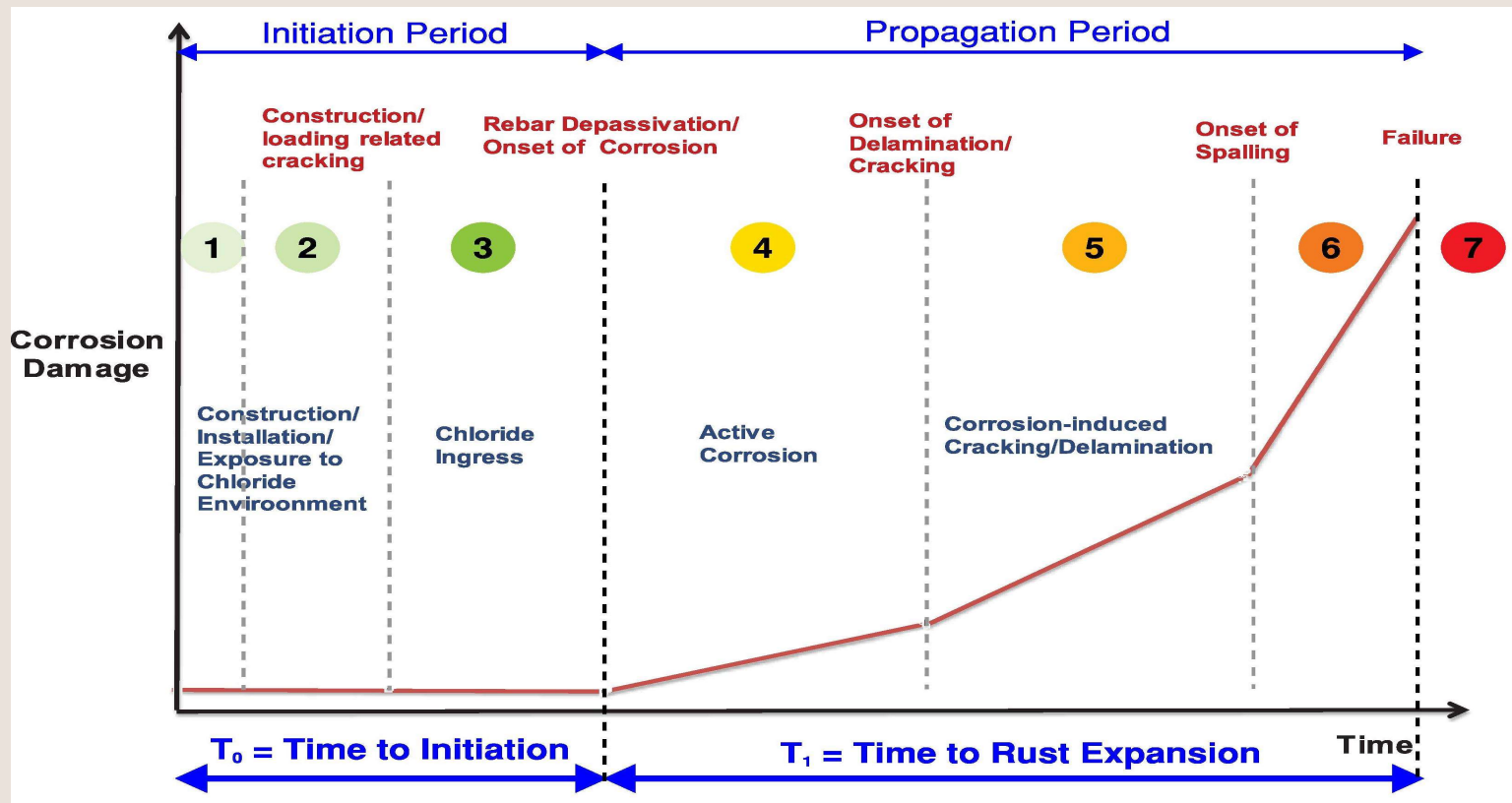
THE STRATEGY: “CONSIDER THE CONTEXT”



THE STRATEGY: FULL LIFECYCLE ANALYSIS



THE DESIGN: CONCRETE MIX



THE DESIGN: CONCRETE MIX

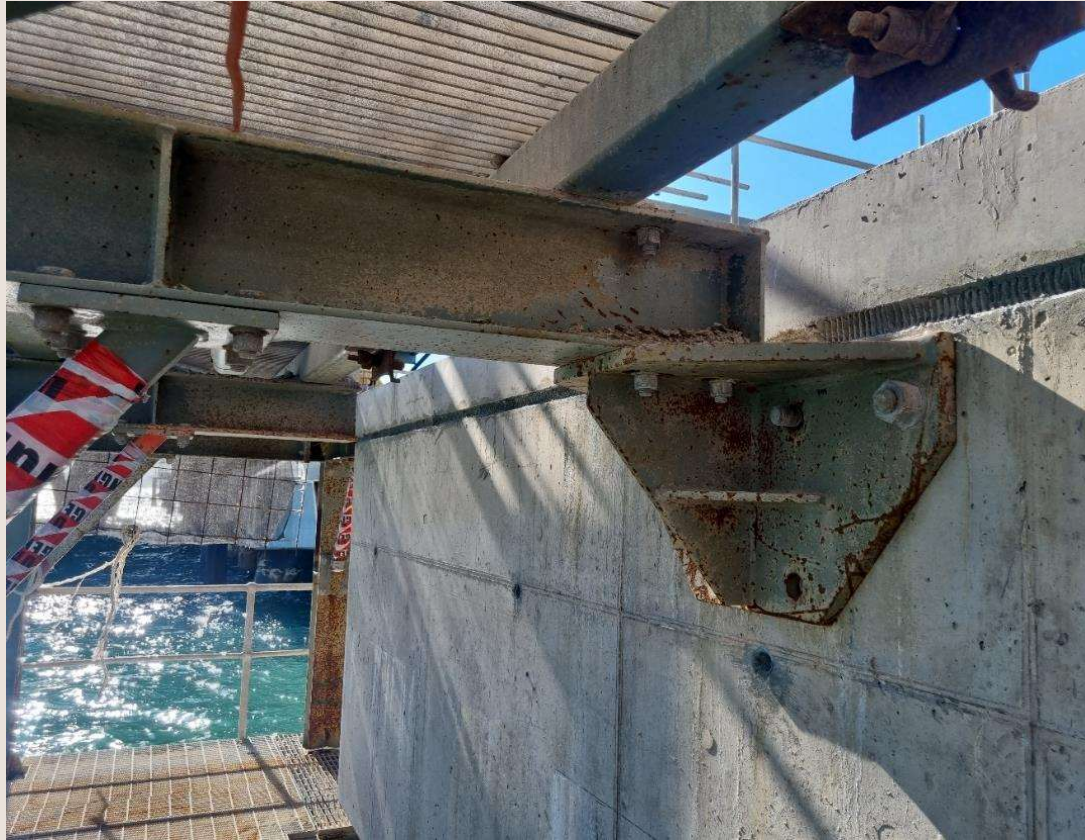
Concrete Mix Design

- Minimum slump 60 mm (to AS 1012.3)
- Maximum slump 220 mm (to AS 1012.3)
- Bleed Zero (to AS 1012.6)
- Minimum cementitious content 420 kg/m³
- Maximum cementitious content 470 kg/m³
- Maximum w/c ratio 0.4
- Maximum shrinkage 600 microstrain at 56 days (to AS 1012.13)
- Maximum chloride ion content 0.2 kg/m³ (to AS 1379)
- Maximum sulphate ion content 5% acid soluble SO₃ by weight of cement (to AS 1379)
- Minimum 7-day strength 32 MPa (AS 1012.9)
- Minimum 28-day strength 50 MPa (AS 1012.9)
- Tensile bond strength to substrate > 0.75 MPa at 28 days (ASTM C 1583)

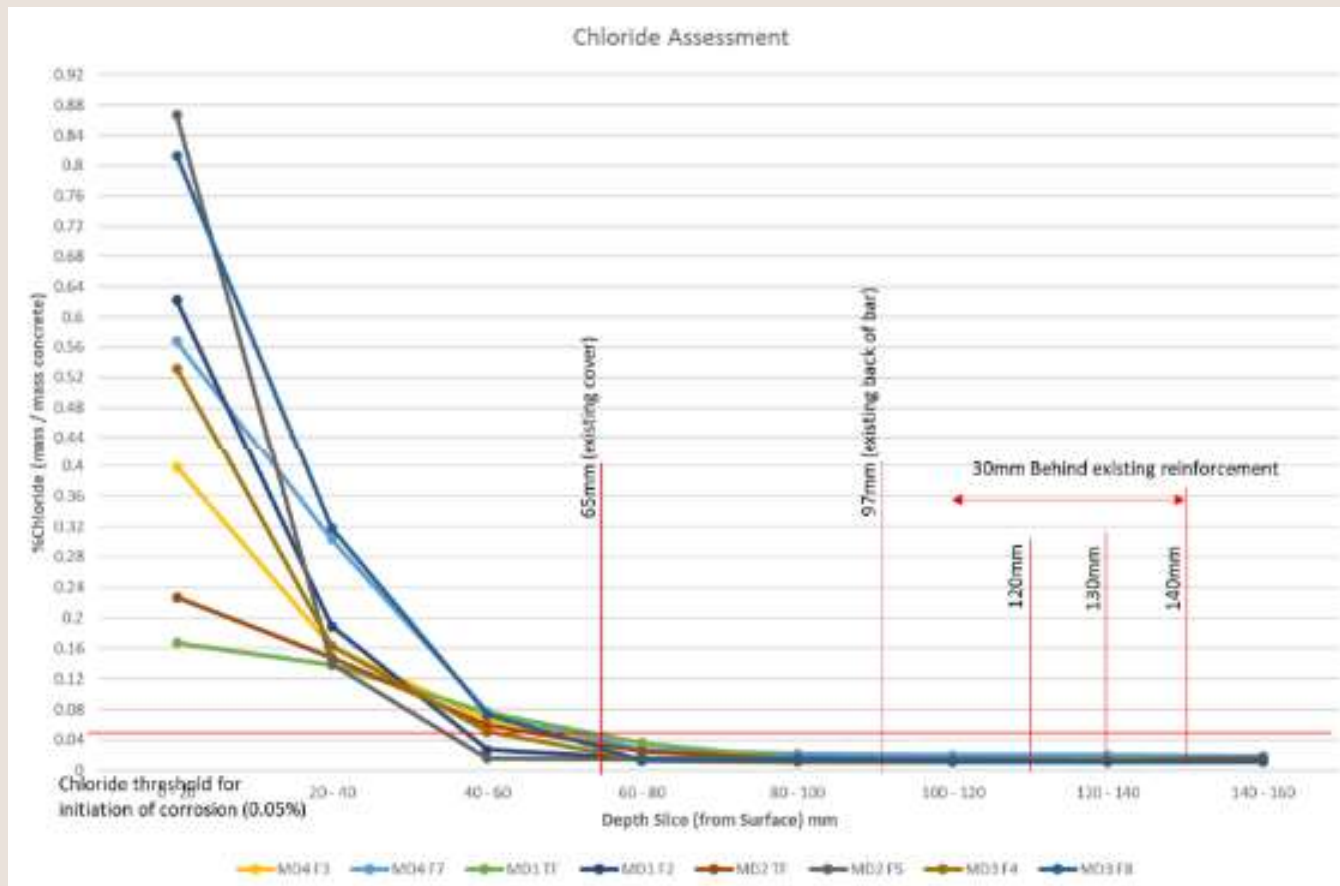
THE DESIGN: DETAILING



THE DESIGN: DETAILING



THE EXECUTION: CHLORIDE LEVELS



THE EXECUTION: CONTROL JOINTS



THE EXECUTION: WORKMANSHIP

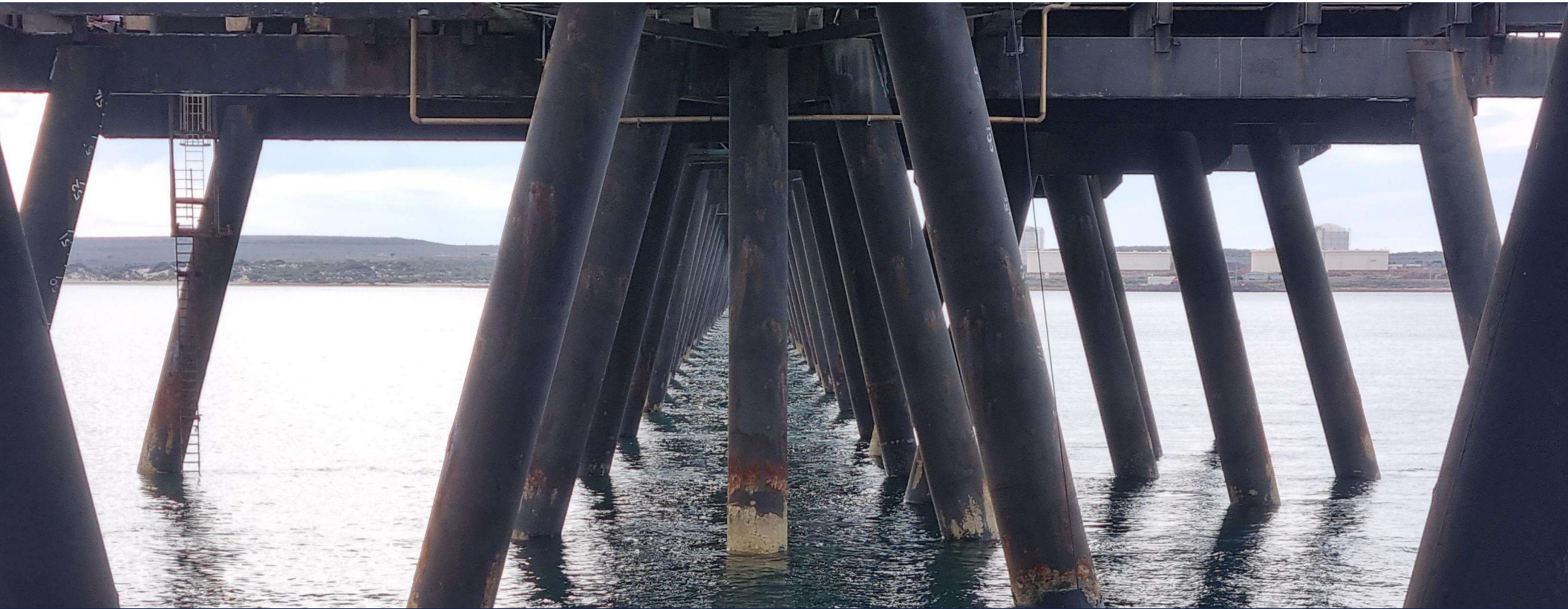


THE EXECUTION: WORKMANSHIP



CONCLUSIONS

- Consider the whole problem AND the whole solution
- Re-use where possible
- Consider the quality of the new product



THANK YOU

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