

- Background
- Delivery Context
- Viewing mitigations as part of a chain
- Future Considerations
- Questions

Managing fauna movement is one of several major drivers the RTA must manage on a project.



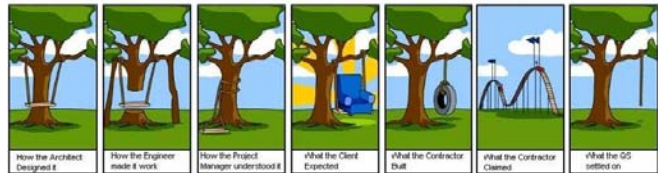


GUIDING PRINCIPLE OF ENVIRONMENTAL MANAGEMENT



Everything is delivered through a contract !
• Refer to contract documentation

Not in the contract it is unreasonable to ask a contractor to carry out the task without a variation to the contract.



THE CONSTRUCTION INDUSTRY EXPLAINED

CONTRACT STYLES



Quality Control Contracts (QC)

Principal carries out testing and "releases".
Little interest in how results were achieved.
Disputes over when, where and how the testing occurred.
Inflexible.

Nb. "Changed early 1990's"

Quality Assurance Contracts (QA)

Emphasis on systems approach & management of total process.
Emphasis on Management commitment.
Contractor tests and assures principal.
Continuous improvement.

CONTRACT TYPES



ALL RTA WORKS FROM MAINTENANCE TO THE LARGEST UPGRADE IS DELIVERED USING ONE OF FIVE TYPES OF CONTRACTS

- Construct only
- Design and Construct
- Design, Construct and Maintain
- Build, Own, Operate and Transfer
- Alliance

DELIVERY CONTEXT



WHY IS THIS IMPORTANT?

Consideration of the provision of stags (derived from trees felled for the project) or the retention of existing trees at appropriate locations within the centre strip between the two carriageways (and protected by safety fencing) to enable gliding species (such as the Squirrel Glider) to traverse the widened roadway, if they so desire.

DELIVERY CONTEXT



RTA - CONTRACT AND DELIVERY CONTEXT - PUBLIC WORKS
PUBLIC WORKS DIVISION OF RTA - 2018
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DELIVERY CONTEXT



VIEWING MITIGATIONS AS PART OF A CHAIN



RTA Project Phases

Development

- » Strategic
- » Concept

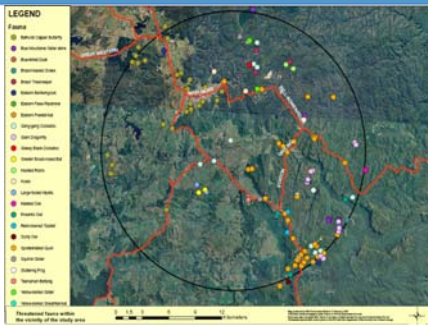
Implementation

- » Property Acquisition
- » Detailed Design
- » Utilities adjustment
- » Construction Stage
- » Operational/ Maintenance Stage

VIEWING MITIGATIONS AS PART OF A CHAIN



STRATEGIC



VIEWING MITIGATIONS AS PART OF A CHAIN



CONCEPT



VIEWING MITIGATIONS AS PART OF A CHAIN



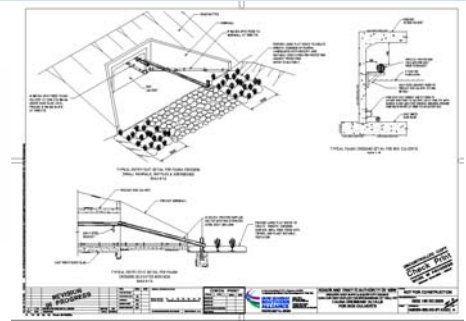
PROPERTY ACQUISITION



VIEWING MITIGATIONS AS PART OF A CHAIN



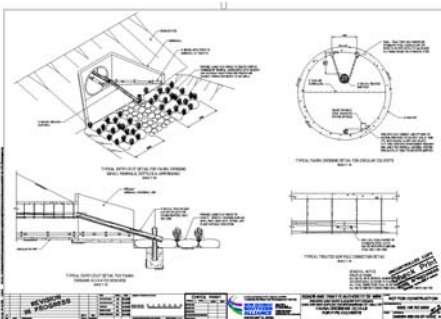
DETAILED DESIGN



VIEWING MITIGATIONS AS PART OF A CHAIN



GOOD DESIGN HAS CONSTRUCTION INPUT.



VIEWING MITIGATIONS AS PART OF A CHAIN



SIMPLY THE BEST CONTROL



VIEWING MITIGATIONS AS PART OF A CHAIN



**UTILITY ADJUSTMENT
& CONSTRUCTION**



VIEWING MITIGATIONS AS PART OF A CHAIN



CONSTRUCTION



VIEWING MITIGATIONS AS PART OF A CHAIN



**FIRST
GENERATION
STRUCTURES**



VIEWING MITIGATIONS AS PART OF A CHAIN



**FIRST
GENERATION
STRUCTURES**



VIEWING MITIGATIONS AS PART OF A CHAIN



**CURRENT
RTA BRIDGE
DESIGN &
CONSTRUCTION**



VIEWING MITIGATIONS AS PART OF A CHAIN



**A MITIGATION'S
CONTEXT TO THE
RECIVAL
ENVIRONMENT IS
CRITICAL**



VIEWING MITIGATIONS AS PART OF A CHAIN



**UNDERSTANDING
CONSTRUCTABILITY
ISSUES ARE CRITICAL TO
SUCCESS**



VIEWING MITIGATIONS AS PART OF A CHAIN



**A CONSTRUCTION
CREW MUST HAVE
A BASIC
UNDERSTANDING
OF WHY THIS
MITIGATION IS
BEING INSTALLED.**



VIEWING MITIGATIONS AS PART OF A CHAIN



**GOOD
MITIGATION
OFTEN DOESN'T
STAND OUT**



VIEWING MITIGATIONS AS PART OF A CHAIN



VIEWING MITIGATIONS AS PART OF A CHAIN



**THE WEAKEST
LINK IN THE
CHAIN**



VIEWING MITIGATIONS AS PART OF A CHAIN



**FENCING IS ONLY AS
GOOD AS THE
MAINTENANCE REGIME.**



VIEWING MITIGATIONS AS PART OF A CHAIN



**PROVISION FOR
FAUNA ON THE
WRONG SIDE OF
THE FENCE
A JUMP DOWN**



VIEWING MITIGATIONS AS PART OF A CHAIN



**CAN BE SET ON
FLAT OR SLOPES**



VIEWING MITIGATIONS AS PART OF A CHAIN



**PUSH THROUGH
STYLE OF
FAUNA RETURN**



VIEWING MITIGATIONS AS PART OF A CHAIN



**A MAJOR
INVESTMENT
DEPENDANT ON
ALL OF THE
OTHER LINKS.**



VIEWING MITIGATIONS AS PART OF A CHAIN



FISH PASSAGE IS AN AREA RTA HAS INCORPORATED INTO MAINSTREAM THINKING



FUTURE CONSIDERATIONS



WHAT IS SUCCESS?

FUTURE CONSIDERATIONS



**Known Structures
Known Species**



FUTURE CONSIDERATIONS



ALL STAKEHOLDERS NEED TO AGREE ON A STANDARD METHOD FOR COSTING ENVIRONMENTAL CONTROLS.



Thank you

