Victorian Disaster Recovery Funding Arrangements

Fact Sheet 2: Cost estimation for essential public assets

* + 1. Introduction

Victoria's Natural Disaster Financial Assistance (NDFA) scheme is available to Delivery Agencies including local councils, Catchment Management Authorities (CMAs) and state agencies, to relieve some of the financial burden that may be experienced following a disaster, in accordance with the Australian Government's Disaster Recovery Funding Arrangements (DRFA).

Under the DRFA, the Australian Government will reimburse the states under an estimates-based model for Reconstruction of Essential Public Assets (REPA) following an eligible disaster. The DRFA specifies that:

‘A critical step in this process is the estimate of the reconstruction cost of the essential public asset and identification of a total project cost. States must develop the estimated reconstruction cost for the reconstruction of an essential public asset comprising eligible state expenditure for construction, design and project management, contingency and cost escalation.’ (DRFA 2018, Section 6.4.3)

This Guideline documents the process adopted by the State of Victoria for developing an estimated reconstruction cost following an eligible disaster and is consistent with the requirements of the DRFA published by the Australian Government.

This Guideline should be read in conjunction with **Guideline 1: Claims and eligibility for essential public assets**

* + 1. Cost elements

The following diagram provides a summary of the components of the estimated reconstruction cost. Consistency in the application of overhead and indirect allowances is crucial across the program of works from both a controls perspective and to ensure auditability.

Figure 1: Breakdown of estimated reconstruction cost



* + - 1. Direct costs

Direct costs may be established through one of the following approaches:

* + - **Market response** – defined scope of works priced by the market for delivery by contractors. The applicable procurement processes must be followed when requesting pricing from the market. The scope of work should be sufficiently developed and designed to minimise increases in cost after the contract is awarded.
		- **Cost estimation** – undertaken using the first principles estimation method. This mechanism requires applicants to customise a first principles build-up of standardised treatments. Where non-standard treatments are required, a first principles or itemised cost estimate can also be estimated using the ‘other’ category of treatments.
			1. Indirect costs

Indirect costs of design and project management must be included in the estimated reconstruction cost. These indirect costs are explained in more detail below:

* + - **Design** – costs will vary widely depending on the complexity of works. Works may vary from simple maintenance style interventions through to complex geotechnical projects. Accordingly, design costs may vary from 0.5 to 15 per cent.
		- **Project management** – costs can vary subject to the ease of procurement, delivery method and complexity of works and includes the overall management of the project from initiation to completion. For example, works delivered by a contractor, adopting a standing offer arrangement, using principle supplied materials will have different project management costs to a custom build with pre-fabrication of time crucial elements of a structure. Accordingly, project management costs may vary from 3 to 5 per cent.
		- **Contract administration –** includes the oversight of the construction works to ensure that all designs and specifications are being adhered to in accordance with the contract and to resolve any technical issues throughout the delivery of the works. Accordingly, contract administration costs may vary from 1.5 to 10 per cent.
			1. Contingency

Recognising the uncertainties in disaster recovery works, including pressures on the workforce, short supplies of materials and difficulty of access, allowance has been made within the DRFA, for the inclusion of reasonable contingency.

‘In estimating reconstruction costs, the states will be required to account for residual risks through the inclusion of a contingency allowance.’ (DRFA 2018, Section 6.5.1)

A streamlined approach for the application of a contingency allowance has been developed through treatment categories and should be varied by region.

Risks vary by treatment type and include:

* + - availability of plant, labour or materials;
		- variable costs of mobilisation and haulage;
		- variable productivities because of a range of lot sizes;
		- variable costs of traffic control; and
		- environmental risks.

In considering the regionally specific risks, the deterministic approach to calculating contingencies can be applied by treatment category as is detailed in the standard deterministic matrix developed for common risk factors, included in *Appendix 2* of *Guideline 2 Cost Estimation*. Typical contingency ranges, correlating to a first principles estimate stage for each treatment category have been provided in the table below.

Table 1: Typical contingency ranges by treatment categories

|  |  |
| --- | --- |
| Treatment category | Typical contingency ranges |
| Unsealed pavements | 24-30% |
| Sealed pavement repairs | 24-30% |
| Clearing and earthworks | 28-34% |
| Road furniture and delineation | 24-34% |
| Concrete | 30-40% |
| Drainage structures | 30-40% |
| Other | 40% |
| Total | 24-40% |

Should a market response be used to establish the estimated reconstruction cost, a lower contingency in the order of 12 to 20 per cent should be considered.

Typical ranges, as outlined below for the different treatment categories may be more suitable (with the exception of complex geotechnical or marine projects). Note that typical contingency by treatment categories at market response/tender stage should be 50% of the ranges at the estimate stage.

Table 2: Typical contingency ranges by treatment categories

|  |  |
| --- | --- |
| Treatment category | Typical contingency ranges (Market Response) |
| Unsealed pavements | 12 - 15% |
| Sealed pavement repairs | 12 - 15% |
| Clearing and earthworks | 14 - 17% |
| Road furniture and delineation | 12 - 17% |
| Concrete | 15 - 20% |
| Drainage structures | 15 - 20% |
| Other | 20% |
| Total | 12 - 20% |

* + - 1. Escalation

Escalation should be allowed for in accordance with the DRFA, which refers to the rates published in the Road Construction Cost Escalation Forecasts (RCCEF) prepared annually by the Australian Government Department of Infrastructure and Regional Development. The DRFA provides for up to three years of escalation to be applied to estimates. Refer to the Guideline for advice on how to apply the cost escalation rate using the cost escalation calculation tool (VT-CEsc).

Escalation should not be applied where a market response is used to develop the estimate.

* + 1. Timeframes for lodgement

Estimates developed via a Works Estimates Package must be submitted to the assessing agency no later than 31 March in the financial year after the eligible disaster occurred, and prior to undertaking the reconstruction works.

* + 1. Further information

For further information, refer to the document *Victorian DRFA Guideline 2: Cost estimation* for essential public assets.

* + - 1. Document details

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* + - 1. Version control

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| Version | Date | Description | Author |
| V1.0 | 12.10.2018 | Issued for IDC review  |  |
| V2.0 | 24.10.2018 | Issued for IDC approval |  |
| V2.1 | 30.10.2018 | Working Document |  |
| V2.2 | 13.01.2019 | Updates to Standard forms and templates |  |
| V2.3 | 31.10.2019 | Update Administering AuthorityMinor updates to Introduction |  |
| V2.4 | 19.04.2021 | Updates to IntroductionUpdates to Indirect CostsUpdates to ContingencyUpdates to EscalationMinor Update to Timeframes for LodgementUpdates to Standard forms and templates |  |
| V3 | 18.10.21 | Update to Guideline name, to maintain consistency with other guideline updates |  |
| V4  | 30.08.21 | Minor edits. Reference changes from EMV to EM Group and Regional Roads Victoria to the Department of Transport |  |
| V5 | 20.12.2023 | Update to reflect change of Administering Authority from Emergency Management Group to Emergency Recovery Victoria |  |

* + - 1. Standard forms and templates

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| --- | --- | --- |
| Item | Description | Form/Doc ID |
| 1 | Victorian DRFA Guideline 3: Cost estimation for essential public assets | GL-3 |
| 2 | Victorian DRFA Fact Sheet 3: Cost estimation for essential public assets | FS-3 |
| 3 | Standard treatment guidelines for cost estimation  | GL-3 App B |
| 4 | Standard Deterministic Risk Matrix – Victoria | GL-3 App C  |
| 5 | Guidance Note 3A | GL-3 App D  |
| 4 | Victorian DRFA Cost estimation tool  | VT-CE |
| 5 | Victorian DRFA Cost Escalation Calculation tool | VT-CEsc |