Strategic Estimating Model - Estimate Release Form

CP256 Version 1.4.0

Capital Expenditure

Scheme Details

Project Name	M6 - A1(M) - Pack VI, Segment 7C,A6 Darling
Type of Estimate Requested	Strategic Estimate
Estimate Ident fica ion Number	1125
Type of Project	New Construction
Primary C assification of Scheme	Bypass
Date of This Estimate Release	31/03/2020
Scheme length	6.982 Km

Category	Scope of Works
New Link Roads	New Link with a D2AP cross section for 2.095km;Total scheme length including new D2AP offline bypass section and widening by 2 lanes 6.982km. No.of structures: 1 underbridge on abandoned ra lways. No.of culverts:2; Demolition of commercial/residenc al buildings:11 no. Cut volumes:77,822 m3 and F ll volumes: 5,310 m3.The earthworks quantit es provided by the Project Team are including for topso l but excluding of capping and the new pavement box.The capping thickness assumed within es imates is 0.3m (0% proportion of capping).Earthworks Stra egy Most Likely Scenar o includes for 80%Acceptable Mater al other than 5A,19%Un-Acceptable Mater al U1A and 1% Un-Acceptable Material U2.Percentage of Re-use the Acceptable Material:100%.Percentage Processed for re-use Un-Acceptable Material:80% Minimum Scenario Includes for 90% Acceptable Material other than 5A,0%Un-Acceptable Mater al U1A and 1% Un-Acceptab e Ma erial U2.Percentage of Re-use the Acceptable Mater al:100%.Percentage Processed for re-use Un-Acceptable Material:100% Maximum Scenario includes for 70% Acceptable Mater al other than 5A,29%Un-Accep able Mater al U1A and 1% Un-Acceptable Material U2.Percentage of Re-use the Acceptable Material:100%.Percentage Processed for re-use Un-Acceptable Mater al:75%.
Widening	.887 Km of widening by an average of 2 new anes. .887 Km of resurfacing existing carriageway by an average of 2 Lanes. .887 Km of New Centre Hardened Reserve Required.
New Junct ons	1 t e-into east Leeds Orbital Route , 1 tie-into A1(M) J and 1 junct on at grade with w dened A6 have been included within estimate.
Junc ion Improvement	
Technology	

Base Cost Estimate & Risk (Q1 2016)

	Min mum	Interim Scheme (Mode) ML	Maximum
Base Estimate	£57,395,625 37	£116,505,535.25	£275,360,695.73
Risk Adjustment	£2,869,781.27	£23,301,107.05	£90,869,029 59
Subtotal	**£60 265 406 64**	**£139 806 642 30**	**£366 229 725 32**

Inflation and Portfolio Risk

	Min mum	Interim Scheme (Mode) ML	Maximum
Inf ation Adjustment	£25,515, 28 00	£132,973, 58.00	£606,835, 7 .00
Portfo io Risk Adjustment	£11,282, 87 00	£27,728,738.00	£ ,65 ,719 00
RET Adjustment Subtotal	£36,797,915 00	£160,702,196.00	£651, 90,193.00
Estimate Out urn	**£97 063 321 64**	**£300 508 838 30**	**£1 017 719 918 32**

Summary of Proposed Scope of Works

PACK VI Scope of Works Includes Segments 7C as follows:
Construction Duration;
Minimum: 22 months
Most Likely: 26 months
Maximum: 0 months

Bespoke Items included such as:
80 000m2of Addit onal eco ogical and landscaping measures,
5.65 ha Re oost on of woodland.
No Pumping Stat ons Included as advised by Project Team.
Archaeology and aftercare allowances have been added within the estimate.

Stage Dates

Normal

	Start	Finish
Pre PCF	05 06/2019	30/05/2020
Stage 1	01 06/2020	30/11/2030
Stage 2	01 12/2030	30/09/2031
Stage 3	01 10/2031	31/12/2033
Stage 4	01 01/203	31/08/203
Stage 5	01 09/203	31/10/2035
Stage 6	01 11/2035	31/12/2037
O (Open to raffic)		01/01/2038

Comments

This range estimate has been produced using an estimating approach (Strategic Estimating Model) that s suitab e for schemes before they enter the Project Control Framework (PCF Stage 0, prior to entry to the Major Projects portfolio). The maturity level of project de inition is low, limited to an outline concept. Guidance from AACE recommends that for schemes of a similar stage of design and maturity an expected range of accuracy around the most likely value wou d be -30% to 50%. Whilst th s estimate does not consider these generic percentage ranges, the gu dance provides a wel of assurance around the range.
Use of SEM to produce an estimate for this scheme has been agreed with the Project Manager in order to provide a high level order of magnitude range estimate of the scheme costs based on the SGARs prov ded by the Project Team. H ghways England Cost P anning has reviewed the SEM model outputs against the proposed design and made top-down adjustments to better ref ect the scope. However, due to the time constraints and level of detail , this approach does not consider the specific design, project and site characteristics that may be avai able. It is likely that mode (most likely) of the estimate could be subject o significant change once the scheme scope, design, schedule and risk basis are specifically considered.
The estimate assumes that all works shown on the supplied design drawings, will be de livered through a Highways England Major Projects to a de livery programme in accordance with the SGAR dates in th s form 300. These SGAR dates have been used to budget time-related costs and inflation. The estimate assumes that the scheme will need to complete a l of the PCF Stages including Stage 0 (Pre-Options), Op ions and Development.
- Es imated costs for the MM-NV Series 100 project overheads and method-rela ed costs have been based on a percentage of estimated direct works cos s, in line w th schemes of a simi ar value and scope from cost in ell gence da a on histor c Highways Eng and schemes.
- The range app ied to the direct works represents the expected variat on of scope and de livery from the most likely position. It does not consider the construction and delivery of an a ternative solution to that proposed by the project team.
- Historical costs are included with the estimate as spend to date 19/02/2020 and it has been provided by the Project Manager.
- Lands and Statutory Undertakers costs are derived from top-down mete ca within the SEM and District Valuer / Third-party lands cost estimates have not been considered.
Estimated lands and SU costs are therefore based on historical norms from histor c Highways England schemes.
- Unscheduled Item Allowance, Project spec fic r sks, Uncer aint es and Portfo io Risk al owances are estimated based on a proport on of the base estimate. This s al gned to HM Treasury Green Book supplementary guidance.
In lation al owance included in the estimate is based on the la est agreed inflation profile .
Where the proposed scheme includes works where the SEM approach is not cons dered su table, other estimating methods have been used, including: i) specific quant ty take-off and pricing of items using Cost Planning's rate libraries; ii) duplicating quantities and rates from previous estimates for sim ilar works produced by Cost Planning.
The direct works costs are bui t-up using the fo lowing drawings and design assumptions provided by
the project team:
- General arrangement plans for each corridor;
- Longitudinal profi es;
- Bulk out and ill earthworks volumes;
-Schedu e of structures (bridges), junctions, retaining walls, tunnels and culverts;
-Minimum,Most likely and Maximum Construction durations;
-Start and end of works dates.
Using the information ava lab e, the estimating team also identified and estimated the costs for any local access structures and demol tion of any con licted commercial/ residential buildings.This estimate assumes that there is asbestos within the commercial/resident al buildings being demolished. Therefore allowances for the disposal of hazardous materia s are included within the cost estimate.
In assuring the cost estimates are suitab e for use by the project team, the costs have been benchmarked against sim lar schemes in scope and complexity. When compared against the estimated costs for the Oxford to Cambr dge study, the A66 Northern Trans Pennine Project and the Manchester
North West Quadrant schemes the cos s for this study converged well.

Approval

Cost Engineer	*Signed* [redacted]	*Name* [redacted]	*Date:* 18.03.2020
Confirmation that the estimate has been produced in accordance w th the MP Cost Estimation Manual and any other relevant guidance. **Estimat ng Manager**	*Signed* [redacted]	*Name* [redacted]	25/03/2020 *Date:*
Confirmation estimate reflects informat on provided and w ll be reported cons stently. **Project Manager**	*Signed* [redacted]	*Name*	25/03/2020
Confirmation for estima e release. **Head of Cost Planning**	*Signed* [redacted]	*Name* [redacted]	*Date* 25/03/2020