

Appendix H – Balfour Beatty Independent Surveyor's Report

**SEMMMS Relief Road
Southern Section – A6 to Airport
Cost Estimate Report – Assessment of construction costs
Design Freeze 4
Prepared by BBMCE
January 2011**

CONTENTS

1.0 Introduction

1.1 Quantities

1.2 Rates

2.0 Measurement Information and Assumptions

2.1 General Items

2.2 Site Clearance

2.3 Fencing & Environmental Barriers

2.4 Road Restraint Systems

2.5 Drainage and Service Ducts

2.6 Earthworks

2.7 Pavements

2.8 Kerbs, Footways and Paved Areas

2.9 Traffic Signs and Road Markings

2.10 Road Lighting Columns and Electrical Works

2.11 Not used

2.12 Communications

2.13 Structures

2.14 Not used

2.15 Not used

2.16 Accommodation Works

2.17 Landscape and Ecology

2.18 Preliminaries

2.19 Design

3.0 Further Notes/explanations

1.0 Introduction

This report provides an updated estimated cost of constructing a new relief road between the existing A6 Buxton Road and Manchester Airport, utilising a section of road that has already been constructed between Woodford Road and Wilmslow Road.

This report gives a contractor's updated assessment on the construction costs for the scheme based on the information supplied with the updated cost summary in Corderoy DF4 estimate and the changes of design and value engineering advised in the email dated 07 January 2011 Huda/Boyle and noted in the relevant sections below.

The estimate is presented in a schedule of costs that total the estimated construction cost of the proposed scheme

1.1 Quantities

The quantities used in this estimate have been either:

- Measured from the drawings, or
- Extracted from schedules provided by SMBC (Earthworks and SMBC structures only)
- Supplied by SMBC as noted in text below.

1.2 Rates

The costs in this schedule are based on Q2 2007 price as requested by SMBC.

2.0 Measurement Information and Assumptions

The following sections refer to the estimate that is included in **Appendix A**.

2.1 General items

BQ10 General Items includes items for Archaeology, Publicity, Traffic Management, Traffic diversions, Security and facilities for the Employer's Agent, i.e. offices, vehicles, mobile phones, progress photos and information boards, (this does not include Employers Agent Fees).

2.2 Site Clearance

The area of the site has been assessed from the drawings and disturbed areas distinguished from mitigation areas. The demolition of two properties at Styal Road has been allowed for.

2.3 Fencing & Environmental Barriers

The length of boundary fence has been measured from the drawings supplied, this includes for a new boundary fence adjacent to the cycle track on the existing A555 section of the road. Allowance for environmental noise barriers has been made for an area of new carriageway adjacent to properties.

2.4 Road Restraint System

In the central reserve for the eastern section of the scheme a 900mm high concrete step barrier (CSB) has been allowed for through the length of the scheme at 50mph and no central reserve barrier through the 40mph section from Styal Road to the Airport.

2.5 Drainage and Service Ducts

Drainage has been considered for the full length of the scheme.

2.6 Earthworks

The earthworks quantities used in the estimate have been extracted from a schedule of quantities supplied by SMBC. This schedule has not been checked or validated by BBMCE as yet. The changes to pavement areas and amendments to the paved area have been included in the revised assessment by SMBC (**DF4 volume summary 061210**).

From drawings supplied by SMBC quantities have been established for re-soil to batters and verges. The scheduled earthworks quantities have been adjusted to reflect this soiling measure.

It is noted that the recommendation to increase the topsoil strip depths from 150mm to 300mm has been adopted by SMBC. This has improved the overall cut/fill balance. The topsoil strip volume has increased but re-soil and landscape bunding could be increased to cater for this and therefore reduce any off site disposal of topsoil.

An allowance of 5% of the total cutting has been allowed to be unacceptable/marginal material for embankment construction, this could be acceptable for use as Class 4 landscape bunding fill.

The road construction depth has now been reduced from 800mm to 700mm. The pavement roadbox is currently 450mm along with an allowance made for a 250mm capping layer throughout.

A 10% allowance to cater for unmeasured earthworks items has been included for.

Considerations that should be adopted to further reduce the earthwork price include:-

A. Construct rail bridges pre-Contract - Removes possessions, reduces programme time, assists in earthwork haul movement. Negates the need for temporary Bailey bridge crossings. Assists site access through the site i.e. movement of materials, fuels, plant and more efficient earthworks overall.

B. Maximise landscape bund capacity in order to reduce off site disposal of acceptable topsoil Class 5A and marginal materials

C. Possible stabilisation of the cut material in-situ and that placed on the embankments as fill could reduce the need to excavate for capping layer and import capping layer material. This could further assist and reduce costs including any surplus material being disposed of offsite. Currently 250mm capping layer has been allowed for within SMBC/Corderoy Assessment. Note: With new pavement specification CBGM sub base may decrease blacktop thickness.

D. Allowance given at tender for the vertical alignment to be plus or minus 300mm to allow some flexibility to attempt to achieve a cut/ fill balance of the earthwork quantities. Will also assist in catering for the surplus structures and drainage arisings generated throughout the scheme.

2.7 Pavements

The pavement depth is as DF3 before, 450mm. The pavement area at the A6 / Semmms junction has been reduced by 6200m² following traffic modelling to scope down the size of the signalised T junction. The pavement area at the Oil Terminal Roundabout has been reduced by 6500m² following traffic modelling to scope the junction down from a RBT to a T junction (both signalised). The areas of pavement construction have been taken from Corderoy's quantity assessment.

2.8 Kerbs, Footways and Paved Areas

For simplicity we have adopted Corderoy's price assessment within this item.

2.9 Traffic Signs and Road Markings

The provision of road markings and road studs has been measured on an approximate basis from the scheme GA drawings.

2.10 Road Lighting Columns and Electrical Works

Originally at DF3 allowance was made for the full length of the scheme. This has now been updated for lighting of the junctions only. The no. of columns has been reduced from 591No.to 400No. as per the Corderoy report. (Ref email dated 10.11.25).

2.11 Not used

2.12 Communications

A nominal allowance of £100,000 has been included under this heading. This is similar to Corderoy's assessment.

2.13 Structures

Estimate allowances for structures area were originally based on the DF3 Structures Schedule supplied by SMBC. The structures have been reviewed by SMBC to reduce the proposed deck area by moving from 'open aspect' multi span bridges to 'closed' single span bridges where possible and we have used the revised Corderoy estimate for the revised bridge deck areas.

- Bridges have been priced based on type, area of deck and location.
- Retaining walls have been based on two lengths one at maximum 3-4 metres height and the other at a maximum 5 metres height. Assumed as an RC construction solution.
- Culverts have been priced on the basis of a 1200 x 1200mm box culvert.

This is taken to be an average until detailed design work can inform required sizes.

The retaining walls have been updated for the deletion of R005 Woodford Recreation Ground Earth retaining wall (bill item 210/2/5 page 36) following further Geotech design.

2.14 Not used

2.15 Not used

2.16 Accommodation Works

An allowance for any necessary accommodation works has been made in the sum of £500,000 for the full length of the scheme.

2.17 Landscape and Ecology

A provisional allowance has been made for general planting work, in the sum of £1,000,000.

2.18 Preliminaries

A percentage figure 25% of the scheme's net construction cost has been included for within the item

2.19 Design

A percentage figure 8% of the scheme's net construction cost has been included for within the item.

3.0 Further Notes/explanations

Contractors Overhead and Profit has been added to the sub-total construction cost figure at 7.5% of the overall net cost. It should be noted that reported figures exclude Value Added Tax, Optimism Bias and Price Escalation.

**SEMMMS – A6 to Airport (Design Freeze 4)
SCHEME COSTS – SUMMARY
BBMCE 2011**

CONSTRUCTION ESTIMATE – APPENDIX A

SEMMMS – A6 to Airport Design Freeze 4 - January 2011

CONSTRUCTION COSTS ESTIMATE SUMMARY – APPENDIX A – Q2 2007

BQ	Description	Estimate £
10	General items	7,584,343
20	Site Clearance	775,124
30	Fencing	719,159
40	Road Restraints	774,438
50	Drainage	8,340,996
60	Earthworks	9,970,125
70	Pavements	12,189,750
80	Kerbs & Footways	3,545,680
90	Signs & Markings	1,015,708
100	Traffic Signal Installations	1,269,000
110	Road Lighting – including electrical work	1,048,412
120	Communications	100,000
130	Bridges	21,958,227
140	Retaining Walls	2,286,102
150	Stream Crossing Culverts	2,143,498
160	Accommodation Works	500,000
170	Landscape & Ecology	1,000,000
180	Preliminaries	18,874,469
190	Design	6,062,008
	SUBTOTAL	£100,157,038
	CONTRACTOR'S FEE @ 7.5%	£ 7,511,778
	<u>ESTIMATED CONSTRUCTION COST Q2 2007</u>	<u>£107,668,816</u>