

Appendix 5 – Low Cost Option NATA Worksheets

The following NATA Worksheets are provided for the Low Cost Option:

Environment

Noise
Local Air Quality
Greenhouse Gases
Landscape
Townscape
Biodiversity
Water Environment
Physical Fitness
Journey Ambience

Safety

Security

Accessibility

Severance

Integration

Passenger Transport Interchange
Land-Use Policy
Other Government Policy

Affordability and Financial Sustainability

No. of households experiencing 'Without Scheme' & 'With Scheme' noise levels (given in dB_{Leq}) in 15th Year After Opening

| | With Scheme | <45 | 45-47.9 | 48-50.9 | 51-53.9 | 54-56.9 | 57-59.9 | 60-62.9 | 63-65.9 | 66-68.9 | 69-71.9 | 72-74.9 | 75-77.9 | 78-80.9 | 81+ |
|-----------------------|-------------|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-----|
| Without Scheme | | | | | | | | | | | | | | | |
| <45 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45-47.9 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 48-50.9 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 51-53.9 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 54-56.9 | | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 57-59.9 | | 0 | 0 | 0 | 0 | 1 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 60-62.9 | | 0 | 0 | 0 | 0 | 0 | 2 | 13 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 63-65.9 | | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 11 | 1 | 0 | 0 | 0 | 0 | 0 |
| 66-68.9 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| 69-71.9 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 72-74.9 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 75-77.9 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 78-80.9 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81+ | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Net Present Value of Noise of Proposal
(60 Year Period)**

£48,002.70

*positive value reflects a **net benefit** (i.e. noise reduction)

Estimated Population Annoyed (Without Scheme):

27.98981723

Estimated Population Annoyed (With Scheme):

26.64156702

**Net Noise Annoyance Change in 15th Year After
Opening (no. of people):**

-1

*positive value reflects an **increase** in people annoyed by noise

Traffic Data Sources:

Traffic data was supplied by Halcrow.

Population Data Sources:

WebTag default of 2.36 per household.

Assumptions:

Design year of 2026. Predicted levels at first floor height.

Assessment scores:

-1

Qualitative Comments:

Traffic flow differences with and without the scheme in place result in little change in noise levels.

Worksheet 1 - Low Cost Option

Environment: Noise - Plan Level

Calculation of Estimated Population Annoyed (EPA) by Noise

| Option Name: Low Cost Year: _____ Mode: _____ | | | | |
|---|---|--|---|--|
| Noise Level (L _{A10, 18hr} dB) | Opening Year | | 15 th Year After Opening | |
| | Estimated Population Exposed – Without scheme | Estimated Population Exposed – With scheme | Estimated Population Exposed – Without scheme | Estimated Population Exposed – With scheme |
| <45 | 0 | 0 | 0 | 0 |
| 45<48 | 0 | 0 | 0 | 0 |
| 48<51 | 0 | 0 | 0 | 0 |
| 51<54 | 0 | 0 | 0 | 0 |
| 54<57 | 14.16 | 11.8 | 7.08 | 9.44 |
| 57<60 | 25.96 | 37.76 | 30.68 | 33.04 |
| 60<63 | 49.56 | 56.64 | 37.76 | 51.92 |
| 63<66 | 37.76 | 21.24 | 49.56 | 28.32 |
| 66<69 | 4.72 | 4.72 | 7.08 | 9.44 |
| 69<72 | 0 | 0 | 0 | 0 |
| 72<75 | 0 | 0 | 0 | 0 |
| 75<78 | 0 | 0 | 0 | 0 |
| 78<81 | 0 | 0 | 0 | 0 |
| 81+ | 0 | 0 | 0 | 0 |

Worksheet 1 - Low Cost Option

Environment: Local Air Quality

| PM₁₀, SUMMARY OF ROUTES: THE AGGREGATED TABLE | 0-50m | 50-100m | 100-150m | 150-200m | 0-200m |
|--|--------------|----------------|-----------------|-----------------|--|
| | (i) | (ii) | (iii) | (iv) | (v=i+ii+iii+iv) |
| Total properties across all routes (min) | 238 | 130 | 199 | 278 | 845 |
| Total properties across all routes (some) | 238 | 130 | 199 | 278 | 845 |
| Do-minimum PM₁₀ assessment across all routes | 4796.211 | 2555.322 | 3877.431 | 5404.543 | Total assessment PM ₁₀ (I): 16633.50698 |
| Do-something PM₁₀ assessment across all routes | 4791.364 | 2557.028 | 3877.645 | 5404.594 | Total assessment PM ₁₀ (II): 16630.63106 |
| Net total assessment for PM₁₀, all routes (II-I) | | | | | -2.875911202 |
| Number of properties with an improvement | | | | | 548 |
| Number of properties with no change | | | | | 0 |
| Number of properties with a deterioration | | | | | 297 |

Reference Sources:

2013 and 2026 traffic flows from the Wycombe Transport Strategy Model produced by Halcrow on behalf of Buckinghamshire County Council, TAG Unit 3.3.3 The Local Air Quality Sub-Objective, (DfT, April 2009)

Quantitative Measures:

548 properties experience an improvement in air quality
297 properties experience a deterioration in air quality
0 properties do not experience any change in air quality.

Assessment Scores:

PM10 = -2.88
NO2 = -16.83

Qualitative Comments:

A greater number of properties experience an improvement in air quality as a result of the development than experience a deterioration.

| | 0-50m (i) | 50-100m (ii) | 100-150m (iii) | 150-200m (iv) | 0-200m (v=i+ii+iii+iv) |
|---|---------------------|---------------------|----------------------|----------------------|--|
| PM₁₀, ROUTE 1. | 55 | 15 | 37 | 41 | 148 |
| cressex rd e of new rd | 55 | 15 | 37 | 41 | 148 |
| Properties (amin) | At 20m: | At 70m: | At 115m: | At 175m: | N/A |
| Properties (asome) | 19.75291 | 19.5213 | 19.45754 | 19.43785 | |
| PM ₁₀ concentration at average point within band for <i>do-minimum</i> (bmin) | At 20m: 19.69229 | At 70m: 19.50363 | At 115m: 19.45169 | At 175m: 19.43565 | N/A |
| PM ₁₀ concentration at average point within band for <i>do-something</i> (bsume) | 1086.41 | 292.8195 | 719.9289 | 796.9517 | Total route assess PM ₁₀ (I): 2896.110274 |
| <i>Do-minimum</i> PM ₁₀ assessment (c = amin*bmin) | 1083.076 | 292.5544 | 719.7125 | 796.8616 | Total route assess PM ₁₀ (II): 2892.204424 |
| <i>Do-something</i> PM ₁₀ assessment (c = asome*bsume) | 148 | 0 | 0 | | -3.905849357 |
| Net total route assessment for PM ₁₀ (II-I) | | | | | |

| | 0-50m (i) | 50-100m (ii) | 100-150m (iii) | 150-200m (iv) | 0-200m (v=i+ii+iii+iv) |
|---|---------------------|--------------------|----------------------|---------------------|--|
| PM₁₀, ROUTE 2. | 55 | 15 | 37 | 41 | 148 |
| cressex rd e of cressex link | 55 | 15 | 37 | 41 | 148 |
| Properties (amin) | At 20m: | At 70m: | At 115m: | At 175m: | N/A |
| Properties (asome) | 19.70088 | 19.50613 | 19.45252 | 19.43596 | |
| PM ₁₀ concentration at average point within band for <i>do-minimum</i> (bmin) | At 20m: 19.64418 | At 70m: 19.4896 | At 115m: 19.44705 | At 175m: 19.4339 | N/A |
| PM ₁₀ concentration at average point within band for <i>do-something</i> (bsume) | 1083.548 | 292.5919 | 719.7431 | 796.8743 | Total route assess PM ₁₀ (I): 2892.757633 |
| <i>Do-minimum</i> PM ₁₀ assessment (c = amin*bmin) | 1080.43 | 292.344 | 719.5407 | 796.7901 | Total route assess PM ₁₀ (II): 2889.104825 |
| <i>Do-something</i> PM ₁₀ assessment (c = asome*bsume) | 148 | 0 | 0 | | -3.652807499 |
| Net total route assessment for PM ₁₀ (II-I) | | | | | |

| | 0-50m (i) | 50-100m (ii) | 100-150m (iii) | 150-200m (iv) | 0-200m (v=i+ii+iii+iv) |
|---|---------------------|---------------------|----------------------|----------------------|--|
| PM₁₀, ROUTE 3. | 73 | 34 | 49 | 96 | 252 |
| marlow rd n of desborough ave | 73 | 34 | 49 | 96 | 252 |
| Properties (amin) | At 20m: | At 70m: | At 115m: | At 175m: | N/A |
| Properties (asome) | 20.66205 | 19.78633 | 19.54526 | 19.47081 | |
| PM ₁₀ concentration at average point within band for <i>do-minimum</i> (bmin) | At 20m: 20.55958 | At 70m: 19.75646 | At 115m: 19.53538 | At 175m: 19.46709 | N/A |
| PM ₁₀ concentration at average point within band for <i>do-something</i> (bsume) | 1508.33 | 672.7354 | 957.718 | 1869.198 | Total route assess PM ₁₀ (I): 5007.980876 |
| <i>Do-minimum</i> PM ₁₀ assessment (c = amin*bmin) | 1500.849 | 671.7197 | 957.2335 | 1868.841 | Total route assess PM ₁₀ (II): 4998.643361 |
| <i>Do-something</i> PM ₁₀ assessment (c = asome*bsume) | 252 | 0 | 0 | | -9.337515846 |
| Net total route assessment for PM ₁₀ (II-I) | | | | | |

| | 0-50m (i) | 50-100m (ii) | 100-150m (iii) | 150-200m (iv) | 0-200m (v=i+ii+iii+iv) |
|---|---------------------|---------------------|----------------------|----------------------|--|
| PM₁₀, ROUTE 4. | 12 | 16 | 17 | 20 | 65 |
| a404 n of handy cross | 12 | 16 | 17 | 20 | 65 |
| Properties (amin) | At 20m: | At 70m: | At 115m: | At 175m: | N/A |
| Properties (asome) | 20.6979 | 19.74907 | 19.48787 | 19.4072 | |
| PM ₁₀ concentration at average point within band for <i>do-minimum</i> (bmin) | At 20m: 20.74823 | At 70m: 19.76374 | At 115m: 19.49272 | At 175m: 19.40902 | N/A |
| PM ₁₀ concentration at average point within band for <i>do-something</i> (bsume) | 248.3748 | 315.985 | 331.2937 | 388.1439 | Total route assess PM ₁₀ (I): 1283.797532 |
| <i>Do-minimum</i> PM ₁₀ assessment (c = amin*bmin) | 248.9788 | 316.2198 | 331.3763 | 388.1804 | Total route assess PM ₁₀ (II): 1284.755278 |
| <i>Do-something</i> PM ₁₀ assessment (c = asome*bsume) | 0 | 0 | 65 | | 0.957746482 |
| Net total route assessment for PM ₁₀ (II-I) | | | | | |

| | 0-50m (i) | 50-100m (ii) | 100-150m (iii) | 150-200m (iv) | 0-200m (v=i+ii+iii+iv) |
|--|---------------------|---------------------|----------------------|----------------------|--|
| PM₁₀, ROUTE 5. | 19 | 24 | 22 | 32 | 97 |
| sports centre access | 19 | 24 | 22 | 32 | 97 |
| Properties (amin) | At 20m: | At 70m: | At 115m: | At 175m: | N/A |
| Properties (asome) | 19.74792 | 19.51984 | 19.45706 | 19.43767 | |
| PM ₁₀ concentration at average point within band for <i>do-minimum</i> (bmin) | At 20m: 20.07085 | At 70m: 19.61398 | At 115m: 19.48822 | At 175m: 19.44937 | N/A |
| PM ₁₀ concentration at average point within band for <i>do-something</i> (b _{some}) | 375.2104 | 468.4762 | 428.0552 | 622.0053 | Total route assess PM ₁₀ (I): 1893.747094 |
| <i>Do-minimum</i> PM ₁₀ assessment (c = amin*bmin) | 381.3462 | 470.7356 | 428.7408 | 622.38 | Total route assess PM ₁₀ (II): 1903.202527 |
| <i>Do-something</i> PM ₁₀ assessment (c = asome*b _{some}) | 0 | 0 | 97 | | 9.45543357 |
| Net total route assessment for PM ₁₀ (II-I) | | | | | |

| | 0-50m (i) | 50-100m (ii) | 100-150m (iii) | 150-200m (iv) | 0-200m (v=i+ii+iii+iv) |
|--|---------------------|---------------------|---------------------|---------------------|--|
| PM₁₀, ROUTE 6. | 24 | 26 | 37 | 48 | 135 |
| a404 n of sports centre | 24 | 26 | 37 | 48 | 135 |
| Properties (amin) | At 20m: | At 70m: | At 115m: | At 175m: | N/A |
| Properties (asome) | 20.59738 | 19.71976 | 19.47817 | 19.40355 | |
| PM ₁₀ concentration at average point within band for <i>do-minimum</i> (bmin) | At 20m: 20.69516 | At 70m: 19.74827 | At 115m: 19.4876 | At 175m: 19.4071 | N/A |
| PM ₁₀ concentration at average point within band for <i>do-something</i> (b _{some}) | 494.3372 | 512.7138 | 720.6922 | 931.3704 | Total route assess PM ₁₀ (I): 2659.113567 |
| <i>Do-minimum</i> PM ₁₀ assessment (c = amin*bmin) | 496.6838 | 513.4549 | 721.0413 | 931.5406 | Total route assess PM ₁₀ (II): 2662.720649 |
| <i>Do-something</i> PM ₁₀ assessment (c = asome*b _{some}) | 0 | 0 | 135 | | 3.607081446 |
| Net total route assessment for PM ₁₀ (II-I) | | | | | |

| NO₂, SUMMARY OF ROUTES: THE AGGREGATED TABLE | 0-50m | 50-100m | 100-150m | 150-200m | 0-200m |
|---|--------------|----------------|-----------------|-----------------|---|
| | (i) | (ii) | (iii) | (iv) | (v=i+ii+iii+iv) |
| Total properties across all routes (min) | 238 | 130 | 199 | 278 | 845 |
| Total properties across all routes (some) | 238 | 130 | 199 | 278 | 845 |
| Do-minimum NO₂ assessment across all routes | 5938.44 | 2982.64 | 4422.79 | 6129.26 | Total assessment NO ₂ (I): 19473.13 |
| Do-something NO₂ assessment across all routes | 5915.72 | 2988.08 | 4423.54 | 6128.96 | Total assessment NO ₂ (II): 19456.3 |
| Net total assessment for NO₂, all routes (II-I) | | | | | -16.83 |
| Number of properties with an improvement | | | | | 548 |
| Number of properties with no change | | | | | 0 |
| Number of properties with a deterioration | | | | | 297 |

Reference Sources: 2013 and 2026 traffic flows from the Wycombe Transport Strategy Model produced by Halcrow on behalf of Buckinghamshire County Council, TAG Unit 3.3.3 The Local Air Quality Sub-Objective, (DfT, April 2009)

Quantitative Measures: 548 properties experience an improvement in air quality
297 properties experience a deterioration in air quality
0 properties do not experience any change in air quality.

Assessment Scores: PM10 = -2.88
NO2 = -16.83

Qualitative Comments: A greater number of properties experience an improvement in air quality as a result of the development than experience a deterioration.

| NO₂, ROUTE 1. cressex rd e of new rd | 0-50m (i) | 50-100m (ii) | 100-150m (iii) | 150-200m (iv) | 0-200m (v=i+ii+iii+iv) |
|---|------------------|------------------|-------------------|-------------------|---|
| Properties (amin) | 55 | 15 | 37 | 41 | 148 |
| Properties (asome) | 55 | 15 | 37 | 41 | 148 |
| NO ₂ concentration at average point within band for <i>do-minimum</i> (bmin) | At 20m: 23.21 | At 70m: 22.39 | At 115m: 22.16 | At 175m: 22.09 | N/A |
| NO ₂ concentration at average point within band for <i>do-something</i> (besome) | At 20m: 22.99 | At 70m: 22.32 | At 115m: 22.14 | At 175m: 22.08 | N/A |
| <i>Do-minimum</i> NO ₂ assessment (<i>c = amin*bmin</i>) | 1276.55 | 335.85 | 819.92 | 905.69 | Total route assess NO ₂ (I): 3338.01 |
| <i>Do-something</i> NO ₂ assessment (<i>c = asome*besome</i>) | 1264.45 | 334.8 | 819.18 | 905.28 | Total route assess NO ₂ (II): 3323.71 |
| Net total route assessment for NO ₂ (II-I) | 148 | 0 | 0 | | -14.3 |

| NO₂, ROUTE 2. cressex rd e of cressex link | 0-50m (i) | 50-100m (ii) | 100-150m (iii) | 150-200m (iv) | 0-200m (v=i+ii+iii+iv) |
|---|------------------|------------------|-------------------|-------------------|---|
| Properties (amin) | 55 | 15 | 37 | 41 | 148 |
| Properties (asome) | 55 | 15 | 37 | 41 | 148 |
| NO ₂ concentration at average point within band for <i>do-minimum</i> (bmin) | At 20m: 23.13 | At 70m: 22.37 | At 115m: 22.15 | At 175m: 22.09 | N/A |
| NO ₂ concentration at average point within band for <i>do-something</i> (besome) | At 20m: 22.92 | At 70m: 22.3 | At 115m: 22.13 | At 175m: 22.08 | N/A |
| <i>Do-minimum</i> NO ₂ assessment (<i>c = amin*bmin</i>) | 1272.15 | 335.55 | 819.55 | 905.69 | Total route assess NO ₂ (I): 3332.94 |
| <i>Do-something</i> NO ₂ assessment (<i>c = asome*besome</i>) | 1260.6 | 334.5 | 818.81 | 905.28 | Total route assess NO ₂ (II): 3319.19 |
| Net total route assessment for NO ₂ (II-I) | 148 | 0 | 0 | | -13.75 |

| NO₂, ROUTE 3. marlow rd n of desborough ave | 0-50m (i) | 50-100m (ii) | 100-150m (iii) | 150-200m (iv) | 0-200m (v=i+ii+iii+iv) |
|---|------------------|------------------|-------------------|-------------------|---|
| Properties (amin) | 73 | 34 | 49 | 96 | 252 |
| Properties (asome) | 73 | 34 | 49 | 96 | 252 |
| NO ₂ concentration at average point within band for <i>do-minimum</i> (bmin) | At 20m: 27.03 | At 70m: 23.54 | At 115m: 22.54 | At 175m: 22.24 | N/A |
| NO ₂ concentration at average point within band for <i>do-something</i> (besome) | At 20m: 26.6 | At 70m: 23.41 | At 115m: 22.5 | At 175m: 22.22 | N/A |
| <i>Do-minimum</i> NO ₂ assessment (<i>c = amin*bmin</i>) | 1973.19 | 800.36 | 1104.46 | 2135.04 | Total route assess NO ₂ (I): 6013.05 |
| <i>Do-something</i> NO ₂ assessment (<i>c = asome*besome</i>) | 1941.8 | 795.94 | 1102.5 | 2133.12 | Total route assess NO ₂ (II): 5973.36 |
| Net total route assessment for NO ₂ (II-I) | 252 | 0 | 0 | | -39.69 |

| NO₂, ROUTE 4. a404 n of handy cross | 0-50m (i) | 50-100m (ii) | 100-150m (iii) | 150-200m (iv) | 0-200m (v=i+ii+iii+iv) |
|---|------------------|------------------|-------------------|-------------------|---|
| Properties (amin) | 12 | 16 | 17 | 20 | 65 |
| Properties (asome) | 12 | 16 | 17 | 20 | 65 |
| NO ₂ concentration at average point within band for <i>do-minimum</i> (bmin) | At 20m: 27.21 | At 70m: 23.22 | At 115m: 22.07 | At 175m: 21.71 | N/A |
| NO ₂ concentration at average point within band for <i>do-something</i> (besome) | At 20m: 27.46 | At 70m: 23.29 | At 115m: 22.1 | At 175m: 21.72 | N/A |
| <i>Do-minimum</i> NO ₂ assessment (<i>c = amin*bmin</i>) | 326.52 | 371.52 | 375.19 | 434.2 | Total route assess NO ₂ (I): 1507.43 |
| <i>Do-something</i> NO ₂ assessment (<i>c = asome*besome</i>) | 329.52 | 372.64 | 375.7 | 434.4 | Total route assess NO ₂ (II): 1512.26 |
| Net total route assessment for NO ₂ (II-I) | 0 | 0 | 65 | | 4.83 |

| NO₂ ROUTE 5. sports centre access | 0-50m (i) | 50-100m (ii) | 100-150m (iii) | 150-200m (iv) | 0-200m (v=i+ii+iii+iv) |
|---|---------------------|------------------------|--------------------------|-------------------------|---|
| Properties (amin) | 19 | 24 | 22 | 32 | 97 |
| Properties (asome) | 19 | 24 | 22 | 32 | 97 |
| NO ₂ concentration at average point within band for <i>do-minimum</i> (bmin) | At 20m: 23.05 | At 70m: 22.34 | At 115m: 22.14 | At 175m: 22.08 | N/A |
| NO ₂ concentration at average point within band for <i>do-something</i> (b _{some}) | At 20m: 24.05 | At 70m: 22.64 | At 115m: 22.24 | At 175m: 22.12 | N/A |
| <i>Do-minimum</i> NO ₂ assessment (<i>c = amin*bmin</i>) | 437.95 | 536.16 | 487.08 | 706.56 | Total route assess NO ₂ (I): 2167.75 |
| <i>Do-something</i> NO ₂ assessment (<i>c = asome*b_{some}</i>) | 456.95 | 543.36 | 489.28 | 707.84 | Total route assess NO ₂ (II): 2197.43 |
| Net total route assessment for NO ₂ (II-I) | 0 | 0 | 97 | | 29.68 |

| NO₂ ROUTE 6. a404 n of sports centre | 0-50m (i) | 50-100m (ii) | 100-150m (iii) | 150-200m (iv) | 0-200m (v=i+ii+iii+iv) |
|---|---------------------|------------------------|--------------------------|-------------------------|---|
| Properties (amin) | 24 | 26 | 37 | 48 | 135 |
| Properties (asome) | 24 | 26 | 37 | 48 | 135 |
| NO ₂ concentration at average point within band for <i>do-minimum</i> (bmin) | At 20m: 27.17 | At 70m: 23.2 | At 115m: 22.07 | At 175m: 21.71 | N/A |
| NO ₂ concentration at average point within band for <i>do-something</i> (b _{some}) | At 20m: 27.6 | At 70m: 23.34 | At 115m: 22.11 | At 175m: 21.73 | N/A |
| <i>Do-minimum</i> NO ₂ assessment (<i>c = amin*bmin</i>) | 652.08 | 603.2 | 816.59 | 1042.08 | Total route assess NO ₂ (I): 3113.95 |
| <i>Do-something</i> NO ₂ assessment (<i>c = asome*b_{some}</i>) | 662.4 | 606.84 | 818.07 | 1043.04 | Total route assess NO ₂ (II): 3130.35 |
| Net total route assessment for NO ₂ (II-I) | 0 | 0 | 135 | | 16.4 |

Worksheet 1 – Low Cost Option Environment: Greenhouse Gases

Proposal Name: Handy Cross Hub, High Wycombe Coachway, Preferred Option

Current Year of Appraisal: 2009

Proposal Opening Year: 2013

Project (Road/Rail or Road and Rail): Road

Overall Assessment

An assessment of the affect that the Coachway scheme would have on Greenhouse Gases was carried out using TUBA with the results providing a benefit of £682,000 discounted over 60 years in 2002 prices. These results can be seen in the Analysis of Monetised Costs and Benefits tables in Chapter 7 of the Handy Cross – High Wycombe Coachway, Major Scheme Business Case Volume 1.

Net present Value of Carbon Emissions of Proposal (£): 682,000*

(60 Year Period)

* This does not allow for any additional emissions due to new bus and coach services associated with the Coachway.

Worksheet 1 – Low Cost Option

Environment: Landscape

| Features | Description | Scale | Rarity | Importance | Substitutability | Impact | Additional Mitigation |
|--------------|--|---|--|--|--|---|--|
| Pattern | Deciduous tree scrubland and individual tree groups enclose the edge of the site. This vegetation lines the roads to the north, south and west. An earth bank surrounds the site as it slopes to the south. Individual trees are scattered within the main body of the site and one large tree group to the west of the site. Telecommunication casts are located along the southern boundary, that are screened by the existing vegetation. | Roads M40 & A404 of regional importance. Trees enclosing site of local importance as a visual screen. | Trees enclosing the edges of the road a common feature in the local landscape. | Trees surrounding the edge of the site of medium importance act as a visual screen from the surrounding roads. Trees within main body have low importance as have a minimal visual and screening effect. | Mature tree planting could be replaced in 10 - 30yrs following existing road verges. | Removal of trees along northern boundary would increase views into the site creating a slight adverse impact. | Retention of trees along the southern boundary. Further tree planting along the central reservation. |
| Tranquillity | The trees along the edge of the site screen the surrounding roadways but a constant traffic noise can still be heard. | Trees enclosing site of local importance as a visual screen. | Tree planting enclosing the edges of the road a common feature in the local landscape. | Trees surrounding the edge of the site of medium importance act as a visual screen from the surrounding roads. | Mature tree planting could be replaced in 10 - 30yrs following existing road verges. | Removal of trees along northern boundary would reduce visual screening and have a slight adverse impact. | Further tree planting along the motorway verge to the south of the site to enhance visual screening. |
| Cultural | Chiltern AONB and M40 motorway to the south, the A404 and school to the north, residential estate to the east and motorway junction to the west. A leisure centre is on site. | M40 & Chiltern AONB of Regional / National importance, the leisure centre is of local importance. | Chiltern AONB a rare feature to the south. Leisure centre & facilities of local importance not rare. | Leisure facilities of medium importance used by local community. | Amenity land lost planned to be replaced off site. | Slight adverse impact due to temporary loss of amenity space. | Replacement tree strategy for death of existing hedge along the northern boundary of the A404. |
| Landcover | Deciduous scrub woodland with rough grassland habitat on the earth banks surrounding amenity grassland. A 10m+ leyland hedge encloses the A404 to the north of the site. Individual trees are scattered within the main body of the site and one large tree group to the west of the site. | Tree planting along site edge of local importance as a visual screen. | Mix of tree species along the roads common to the area. Leylandii hedge to the north of A404 uncommon. | Trees surrounding the edge of the site of Medium Importance act as a visual screen. Trees within main body have low importance as have a minimal visual and screening effect | Mature tree planting could be replaced in 10 - 30yrs following existing road verges. Individual trees and trees group within main body of the site could be replaced in 1-5years with tree planting. | Slight adverse impact as loss of trees will have a negative impact on the extent of enclosure and visual screening along the northern boundary. | Further tree planting along the motorway verge to the south of the site to enhance visual screening. |

| Features | Description | Scale | Rarity | Importance | Substitutability | Impact | Additional Mitigation |
|----------------------|--|---|--|---|--|--|--|
| Summary of character | Tree planting encloses the sloping grassland which forms a visual barrier to the surrounding roads and beyond. | Tree & scrub planting along the edge of the roads screens views to the north, south and west. | Landscape Character common to the local area. Few rare features. | Landscape character low to medium importance. | Mature tree planting could be replaced in 10 - 30yrs following existing road verges. | Slight adverse impact through removal of a number of the trees along the northern boundary. This would have a slightly adverse (negative) impact upon the landscape character as this line is an important feature in the landscape. | Further tree planting along the motorway verge to the south of the site to enhance visual screening. |

Reference Source(s): TAG Unit 3.3.7, The Landscape Sub-Objective, (DfT, April 2009).

Summary assessment score: Neutral

Qualitative comments: The site is located on the periphery of High Wycombe between two roads of strategic importance. The landscape elements such as the earth banks and tree planted verges which surround and enclose the site are common of this landscape character and to this locality. The proposal over time will have limited impact upon the landscape. The removal of the mature trees along the northern boundary will be replaced to enhance the existing tree planting pattern which currently exists. Though it will take time for the new planting to mature they will deliver the same visual impact and enclosure which currently exists. New planting along the southern boundary as part of the proposals will further enhance the sense of enclosure and visual screening which currently exists. Where vegetation needs to be removed along the southern boundary for the proposals the majority of the semi mature trees will be retained and protected. New trees will be planted to reinforce the boundary planting and therefore the removal of existing trees will be mitigated and the sense of enclosure and screening re established over time.

Worksheet 1 – Low Cost Option

Environment: Townscape

| Features | Description | Scale | Rarity | Importance | Substitutability | Changes in do minimum | Impact | Additional Mitigation |
|-----------------|---|---|---|--|--|--|--|--|
| Layout | The site is located on the town periphery bounded by the M40 to the south and the A404 to the north of the site. The development pattern in this area is predominantly coarse grain with large plot areas that are accessed from the A404. | Motorway junction and roads at a regional scale and leisure centre facilities have a local importance. | Larger development plots accessed by A404 common to periphery development. | Low importance at a local level. | Larger plots of open space are unable to be substituted once developed. | Possible development of amenity grassland on site. | Neutral | Further tree planting along the A404 & motorway verge to enhance visual screening. |
| Density and mix | This site is in a low density area with a mix of commercial and residential buildings. The leisure centre (on site) and school (north of the site) have larger settlement plots, the majority of which is amenity grassland. | Built developments e.g. leisure centre, school and open space of local importance. | Larger development plots accessed by A404 common to periphery development. | Low importance at a local level. | Larger plots of open space are unable to be substituted once developed. Current mix can be replicated. | Possible development of amenity grassland on site. | Neutral | Further tree planting along the A404 & motorway verge to enhance visual screening. |
| Scale | The existing buildings within the local area are two-three storeys high. Existing trees which line the existing roads and plot boundaries are similar in height to the existing buildings. | Built developments e.g. leisure centre, school and open space of local importance. | Low storey development common to local area. | Medium importance, buildings have little visual impact on wider landscape. | Low level development can be replicated. | Possible development of amenity grassland on site. | The removal of a number of the mature trees along the northern boundary will have a temporary slight adverse effect upon the scale of the townscape. | Further tree planting along the A404 & motorway verge to enhance visual screening. |
| Appearance | Larger plots of amenity grassland dissected with tree lined main roads that dominate the area. The buildings are late twentieth century brick buildings with exception of the leisure centre which has a modernist design built of glass and concrete with a metal structure. | Built developments e.g. leisure centre, school and open space of local importance. Motorway junction and roads at a regional scale. | Roads dominating the townscape common to periphery development. Leisure centre design not common to local area. | Low Importance at a local level, building forms and material of little importance. | Existing tree lines could be replicated in 10 - 30yrs. Larger plots of open space are unable to be substituted once developed. | Possible development of amenity grassland on site. | Neutral | Further tree planting along the A404 & motorway verge to enhance visual screening. |

| Features | Description | Scale | Rarity | Importance | Substitutability | Changes in do minimum | Impact | Additional Mitigation |
|----------------------|---|---|---|--|---|--|--|--|
| Human interaction | The leisure centre and school are the main attractions in the area attracting the local community to use the facilities. Pedestrian activity focused adjacent the school and residential estate, the wider community access the areas facilities by using the car or public transport | Built developments e.g. leisure centre, school and open space of local importance. Motorway junction and roads at a regional scale. | Public travel to the leisure facilities via cars/ bus, mode of travel common to periphery development. | Medium importance to local community. Leisure centre facility used by local community and access to strategic road networks. | Facilities difficult to substitute as well used by wider community. Extent of pedestrian activity could be increased. | Possible development of amenity grassland on site. | Slight beneficial impact as the new coach station will be an important transport link for the local and wider community. The new proposals will also improve access to the existing facilities and residential estate enhancing pedestrian activity and use of the area. | Further tree planting along the A404 & motorway verge to enhance visual screening. |
| Cultural | There are no traditional or historic features in the existing townscape, the main cultural features are the leisure centre, school and the road networks. | Built developments e.g. leisure centre, school and open space of local importance. Motorway junction and roads at a regional scale. | Mix of some residential and commercial developments common to periphery development. | Low level, local importance. New development with no traditional or historic value. Road network of regional importance. | External leisure centre facilities could be replaced. Loss of mature tree planting along the road would take 10 - 30yrs to replace. | Possible development of amenity grassland on site. | Neutral | Further tree planting along the A404 & motorway verge to enhance visual screening. |
| Land use | The local area is a mix of commercial and residential land uses. There is a leisure centre and amenity land on site and residential development to the east, the A404 and school to the north, and the M40 motorway and motorway junction to the South and West respectively. | Built developments e.g. leisure centre, school and open space of local importance. Motorway junction and roads at a regional scale. | External leisure centre facilities not common to local area. | Medium level, local and regional importance, leisure facilities used by local community, road network of regional importance. | Larger plots of open space are unable to be substituted once developed. External leisure centre facilities could be replaced. | Possible development of amenity grassland on site. | Neutral | Further tree planting along the A404 & motorway verge to enhance visual screening. |
| Summary of character | The site is located on the town periphery adjacent the M40. The townscape is dominated by important road networks. The area is characterised by larger development plots, bordered by tree lines and accessed by the A404. The leisure centre is the main focus with a secondary school (to the north), residential estate (to the east) and a motorway junction (to the south and west of the site). | Built developments e.g. leisure centre, school and open space of local importance. Motorway junction and roads at a regional scale. | Mix of commercial development with some residential segregated by main roads common to periphery development. | Low level local importance. Periphery development, un unified elements separated by the road networks which dominate the area. | Existing tree lines could be replicated in 10 - 30yrs. Larger plots of open space are unable to be substituted once developed. | Possible development of amenity grassland on site. | Removal of trees along the northern boundary of the site will have a temporary slight adverse impact which will change to neutral through the new planting proposals. | Further tree planting along the A404 & motorway verge to enhance visual screening. |

Reference Source(s): TAG Unit 3.3.8, The Townscape Sub-Objective, (DfT, April 2009).

Summary assessment score: Neutral

Qualitative comments: The site is located on the periphery of High Wycombe between two strategic roads the M40 to the south and the A404 to the north. The A404 provides direct access in to High Wycombe town centre and to the existing developments which are located along its route. The local townscape is fragmented, separated by the A404 and the lack of pedestrian streetscape along the road. The dominance of the road network is a common feature in townscapes on the periphery of towns. The new Coachway proposal builds upon this existing character, connecting into the important road network to improve accessibility to this area and to the wider townscape. The new proposals will improve pedestrian activity, improving access for the public to the exiting leisure centre facilities, school and residential estates. As part of the proposals new pavements will be constructed improving pedestrian activity and connectivity between the different developments. New tree planting is also proposed along the northern boundary to ensure the existing townscape scale and character is maintained. Currently the A404 is lined with mature tree planting which is a common feature in the local townscape. As part of the proposals some of the existing mature trees will need to be removed. These will be replaced with new tree planting which will follow the existing tree line to ensure that over time this local feature is retained and enhanced.

Worksheet 1 – Low Cost Option

Environment: Biodiversity

| Features | Description | Scale it matters | Rarity | Importance | Substitutability | Impact | Additional Mitigation |
|---|--|---|--|--|---|--|--|
| Trees | The construction of the Low Cost Option will result in the loss of five mature beech (<i>Fagus sylvatica</i>) trees, a middle-aged plum (<i>Prunus domestica</i>), two mature wild cherry (<i>Prunus avium</i>), 13 mature Norway maples (<i>Acer platanoides</i>), a mature cherry (<i>Prunus species</i>), a middle aged cherry, four middle-aged ginkgo (<i>Ginkgo biloba</i>), a mature oak tree (<i>Quercus robur</i>), and a group of up to ten trees including oak, field maple, ash, beech and cherry. | Local | Taking into account their species and maturity, these trees are common at a local, national and international scale. | Lower value (as defined by Webtag guidance) - The trees are of medium importance at a local scale as they significantly increase the biodiversity within the site, and are likely to support faunal interest such as invertebrate communities and nesting birds. | The trees can be substituted through additional planting. However, generally, trees no older than 3 years are used for planting schemes, and therefore it will take 10 to 30 years for the majority of trees to reach the same level of maturity. | Minor negative -Loss of the trees will reduce the diversity of habitats and overall biodiversity within the site in the medium term. | The loss of 61 trees will be mitigated by the planting of 401 new trees. |
| Semi-improved grassland | The majority of the footprint of the Low Cost Option facility is semi improved, species poor grassland, which is of low value to biodiversity. This habitat does support some common and widespread species. | Local | Common | Negligible - Low value to biodiversity | Man-made habitat, can easily be replaced with similar. | Minor negative. | N/A |
| Slow worm population | The site within which the Low Cost Option facility will be located supports a good population of slow worm (as defined by Froglife (1999)). However the Low Cost Option will only directly impact a small proportion of the suitable habitat available. | National priority for species conservation Biodiversity Action Plan (BAP) and protected by National legislation | Long term monitoring data for slow worm is not available; however anecdotal evidence suggests populations are declining. | Medium - The majority of the footprint of the scheme is locally of low importance for slow worm, however an area of approximately 1600m ² of higher quality slow worm habitat will be lost. Other parts of the grounds of Handy Cross Sports Centre contain larger areas of higher quality habitat. | Replacement slow worm habitat can be created to substitute the existing habitat being lost. | Minor negative – Loss of 1600m ² of slow worm habitat. | Enhancements of remaining slow worm habitat within other parts of the site will be undertaken to increase carrying capacity. This includes creation of: hibernacula, a south facing bank, log and compost piles. Reptile exclusion fencing and trapping out will prevent killing and injury. |
| Bat foraging habitat / lighting impacts | Darker areas under the trees within the footprint of the new Low Cost Option facility were favoured for foraging by common pipistrelles (<i>Pipistrellus pipistrellus</i>) and to a lesser extent by soprano pipistrelles (<i>Pipistrellus pygmaeus</i>). Relocation of the existing sports pitches will result in additional lighting in previously unlit parts of the site, resulting in further loss of pipistrelle foraging habitat. Conversely, noctules (<i>Noctula nyctalus</i>) favoured the flood lit areas around the all-weather sports pitches for foraging. | Local | The habitats being used by bats for foraging are locally common. | Negligible - All species are able to exploit a wide range of habitats for foraging and so the existing bat foraging habitat is considered to be of low importance to the local populations. | New sports pitches will be constructed within the grounds of the sports centre, and will substitute the loss of noctule foraging habitat. New planting will provide replacement pipistrelle foraging habitat in the medium to long term. | Neutral – Loss of bat foraging habitat is unlikely to have an impact on the local population considering the common and widespread occurrence of these habitats in the general area. | New sports pitches will be constructed within the grounds of the sports centre, and will substitute the loss of noctule foraging habitat. New planting around the Low Cost Option facility will provide replacement pipistrelle foraging habitat. Comply with guidance on lighting impacts. |

| Features | Description | Scale it matters | Rarity | Importance | Substitutability | Impact | Additional Mitigation |
|-------------------------|--|--|--|---|---|--|---|
| Bat roosts | Bat species are not likely to roost on site. No evidence of any bat roosts to date, but could be impacted by changes in lighting if present. | National priority for species conservation and protected by National and European legislation. | Common and soprano pipistrelle are globally a species of least concern (IUCN 2009), nationally common (BCT 2006). Both species are common and widespread throughout Buckinghamshire. (www.northbucksbatgroup.org.uk/). | Low / High / Very high (depending on roost status i.e. transitional / maternity) | N/A | Dependent on the results of further surveys. | Complete bat surveys to cover May / June period. |
| Badger foraging habitat | The site is currently used intermittently by badgers for foraging. | Local | Badger foraging habitat is common within the local area. | Negligible – only intermittently used by badgers. Only a small area (approximately 16,000m ²) of low quality badger foraging habitat will be impacted by the proposals. | Species poor grassland habitat easily replaced through enhancements of low quality habitat within the site. | Neutral | Operate “good practice guidelines” for developers during construction period. |

Reference Source(s): The Biodiversity Sub-Objective, TAG Unit 3.3.10, (DfT April 2009); Froglife Advice Sheet 10 (1999); IUCN 2009. IUCN Red List of Threatened Species. Version 2009.2. <www.iucnredlist.org>. Downloaded on 20 November 2009; BCT 2006 The state of the UK’s bats, national population trends 2006; www.northbucksbatgroup.org.uk/ [accessed 20 November 2009]; Natural England 2007. Badgers and development: a guide to best practice and licensing; Bats and single large wind turbines: Joint Agencies interim guidance. Natural England Technical Information Note TIN059 2009

Summary assessment score: Slight adverse

Qualitative comments: The overall ecological value of the scheme footprint is low, as it is dominated by improved grassland with scattered trees. The location of the proposals avoids most of the high quality slow worm habitat within the site, minimising impacts to this species.

Worksheet 1 – Low Cost Option

Water Environment

| Description of Study Area/ Summary of Potential Impacts | Feature | Attributes / services | Quality | Scale | Rarity | Substitut-ability | Importance | Magnitude | Significance |
|--|--|--|---|-------|--------|-------------------|----------------|------------|----------------------|
| Scheme Name: Handy Cross Hub, High Wycombe Coachway Option: Handy Cross Hub – Low Cost Option | | | | | | | | | |
| Study Area: Within 1 km of the option; some water features within 2 km (and beyond) have been considered because of the Chalk aquifer, the Source Protection Zone (SPZ) and lack of watercourses within 1 km. | | | | | | | | | |
| Potential indirect pollution from discharge of runoff to local drainage systems and to ground. | Surface water: River Wye and The Dyke: The Dyke is 1.5 km to north-east. The Wye is 1.75 km to north-east. The Wye flows under the M40 approximately 4 km east of the site. | Water Supply | No licensed abstractions from surface water within study area ² . | Local | Medium | Low | High (assumed) | Negligible | Insignificant |
| | | Chemical Water Quality | Water Framework Directive (WFD) Chemical Quality: Not Yet Assessed ¹ . GQA Chemistry grade A (2008) ¹ . Site within Nitrate Vulnerable Zone (NVZ) ³ . | Local | Medium | Low | High | Negligible | Insignificant |
| | | Transport and Dilution of Waste Products | No consented discharges to surface water within study area. | Local | Medium | Low | Medium | Negligible | Insignificant |
| | | Conveyance of flow and materials | No natural watercourses in immediate vicinity. The Dyke 1.5 km to north-east; Wye 1.75 km to north-east ⁴ . Highways ditches border the site ⁵ . | Local | Medium | Low | Medium | Negligible | Insignificant |
| | | Conveyance of flood flows | No floodplain within site; River Wye has floodplain ¹ . | Local | Medium | Medium | High | Negligible | Insignificant |
| | | Biodiversity | WFD Ecological Quality: Moderate Potential ¹ . General Quality Assessment (GQA) Biology grade C (2008) ¹ . Poor populations of brown trout but Environment Agency have programme for improvement ¹ . | Local | Medium | Low | Medium | Negligible | Insignificant |

| Description of Study Area/ Summary of Potential Impacts | Feature | Attributes / services | Quality | Scale | Rarity | Substitutability | Importance | Magnitude | Significance |
|--|---|--|--|--|----------|------------------|----------------|------------|---------------|
| | | Aesthetics and Cultural Heritage | No assessment of the aesthetic and cultural heritage value of the River Wye and The Dyke required as no impact. | N/A | N/A | N/A | N/A | N/A | N/A |
| | | Recreation | There are footpaths along parts of the River Wye ⁴ . | Local | Medium | Medium | Medium | Negligible | Insignificant |
| Potential indirect pollution from discharge of runoff to local drainage systems and to ground. | Surface water: River Thames & tributary stream near Little Marlow. | Water Supply | No licensed abstractions from surface water within study area ² . | Regional | Medium | Low | High (assumed) | Negligible | Insignificant |
| | | Chemical Water Quality | WFD Chemical Quality: Pass ¹ . GQA Chemistry grade A (2008) ¹ . Site within NVZ ³ . | Regional | Medium | Low | High | Negligible | Insignificant |
| | | Transport and Dilution of Waste Products | No consented discharges to surface water within study area ² . | Regional | Medium | Low | Medium | Negligible | Insignificant |
| | | Conveyance of flows and material | No natural watercourses in immediate vicinity. River Thames 4.5 km to south; tributary of Thames 3.75 km to south ⁴ . | Regional | Medium | Low | Medium | Negligible | Insignificant |
| | | Conveyance of flood flows. | No floodplain within site; River Thames has floodplain ¹ . | Regional | Medium | Medium | Very High | Negligible | Insignificant |
| | | Biodiversity | WFD Ecological Quality: Moderate Potential ¹ . GQA Biology grade A (2008) ¹ . | Regional | Medium | Low | High | Negligible | Insignificant |
| | | Aesthetics and Cultural Heritage | No assessment of the aesthetic and cultural heritage value of the River Thames or tributary required as no impact. | N/A | N/A | N/A | N/A | N/A | N/A |
| | | Recreation | There is a National Trail footpath along the River Thames ⁴ . | Regional | Medium | Medium | High | Negligible | Insignificant |
| Potential pollution from discharges of runoff to | | Groundwater Site is within total | Water supply | Abstraction for public water supply 1.65 km from site near | Regional | Medium | Low | Very High | Minor |

| Description of Study Area/ Summary of Potential Impacts | Feature | Attributes / services | Quality | Scale | Rarity | Substitutability | Importance | Magnitude | Significance |
|---|--|--------------------------|---|----------|--------|------------------|------------|-----------|-------------------------|
| ground. | catchment (Zone III) of SPZ ¹ . | | centre of High Wycombe at NGR 487000, 192700 ² . There is also a source in Wooburn 3.5 km away with associated SPZ and a source in Marlow over 4 km to south with associated SPZ ¹ . On the Environment Agency website, the total catchments for the first two and possibly the third of these sources merge between Marlow and High Wycombe. Consequently, it is not clear whether the site falls within the total catchment for the High Wycombe, Wooburn or Marlow source ¹ . | | | | | | |
| | | Aquifer status | Major Aquifer is important source of water; high vulnerability ² . Site within NVZ ³ . | Regional | Medium | Low | Very High | Minor | Significant |
| | | Groundwater abstractions | No licensed abstractions within 1 km ² . Wycombe District Council (WDC) has no records of private water abstractions within 2 km of the site ⁵ . However, this does not exclude the possibility of private abstractions within 2 km as council records are rarely comprehensive. One licensed abstraction within 2 km (public water supply: see above). No wells marked on 1:25,000 OS map within study area. Well marked 1.4 km to south-west (Hill Green), 2.4 km to south (Merton's Hole Cottage) and 3 km to south-east (Sheepridge) ⁴ . | Local | Medium | Low | High | Minor | Low significance |

| Description of Study Area/ Summary of Potential Impacts | Feature | Attributes / services | Quality | Scale | Rarity | Substitut-ability | Importance | Magnitude | Significance |
|---|------------------------|---|---|-------|--------|-------------------|------------------|------------|---------------|
| | | Transport and dilution of waste products | 5 consented discharges to ground within study area; none on site ² . | Local | Medium | Low | Medium | Minor | Insignificant |
| | Ponds and Lakes | Water Supply | Two ponds marked 0.4 km north of site in school grounds at elevation of 155 m. Pond 1.05 km to south-west by Ragman's Castle at elevation of approx 140 m. Pond 1.5 km south-east by Hard to Find Farm at elevation of approx 127 m ^{2,4} . Not known if any of ponds used for water supply. | Local | Medium | High | Medium (assumed) | Negligible | Insignificant |
| | | Chemical Water Quality | Water quality data is not available for ponds or lakes. | Local | Medium | High | Medium (assumed) | Negligible | Insignificant |
| | | Transport and Dilution of Waste Products | No consented discharges to the ponds or lakes in study area ² . | Local | Medium | High | Low | Negligible | Insignificant |
| | | Conveyance of flood flows, flows and material | No floodplain present in study area. | Local | Medium | High | Low | Negligible | Insignificant |
| | | Biodiversity | Two small ponds in school grounds ² . | Local | Medium | High | Medium (assumed) | Negligible | Insignificant |
| | | Aesthetics and Cultural Heritage | Two small ponds in school grounds ² . Outside site. | N/A | N/A | N/A | N/A | N/A | N/A |
| | | Recreation | Two small ponds in school grounds ² . | Local | Medium | High | Medium (assumed) | Negligible | Insignificant |

Reference Sources: TAG Unit 3.3.11, The Water Environment Sub-Objective, (DfT 2003).

¹ Environment Agency website: <http://maps.environment-agency.gov.uk>;

² Envirocheck Report: Wycombe Coachway/Handy Cross Buckinghamshire (February 2009);

³ Government environmental website: www.magic.gov.uk;

⁴ Ordnance Survey (OS) 1:25,000 mapping.

⁵ M40 Gateway at Handy Cross High Wycombe: Flood Risk Assessment, Mayer Brown Limited, November 2009.

Summary assessment score: Slight Adverse

Qualitative comments: Site is over Major Aquifer and Zone III of SPZ. The site is on high ground (approximately 135 m to 150 m) near a watershed. It appears from OS mapping that the land slopes in a south-easterly direction from the site. Just outside the site boundary, there is an open ditch alongside the A404 and the M40 which receives runoff from these highways⁵. There are understood to be soakaways at locations along this drainage ditch and three overflow pipes which convey excess flows under the M40 to land to the south⁵. The Flood Risk Assessment⁵ suggests that much drainage within the site is likely to be directed to ground (e.g. to soakaways) although some of the drainage (e.g. from the all-weather pitch) is conveyed to the open ditch alongside the M40.

The existing site comprises a mix of permeable areas, hardstanding areas and buildings. A large proportion of rain falling on the permeable areas is likely to percolate through the soil and into the underlying aquifer. The proposed scheme would create a greater proportion of impermeable surfaces and buildings. It is intended that runoff is controlled by appropriately designed Sustainable Drainage Systems (SUDS) or other methods and that it should be feasible not to increase downstream flood risk for flows from a 1% Annual Exceedance Probability (AEP) (i.e. 1 in 100 year return period) event plus 20% allowance for climate change⁵. Potential sources of pollutants during operation include surface water runoff, especially from car-parking areas and spillages from vehicular collisions. Consequently, there would be a risk of pollution from runoff and appropriate pollution control measures should be included in the design of the drainage system. If piling is proposed for buildings, there would be a risk of creating pollutant pathways to groundwater. With appropriate pollution control measures, it should be feasible to reduce the risks to groundwater.

It should be noted that waste transfer sites and a depot are located near the boundary of the site². These could present a risk of pollution.

Assumptions:

Both the River Wye (to the north) and the River Thames (to the south) have been considered in the above table because the direction of groundwater flow and the ultimate fate of runoff from the site is not known at this stage. However, the assessment is based on the assumption that the drainage systems in place in and around the site do not eventually discharge to the Thames or the Wye but discharge to ground.

Worksheet 1 – Low Cost Option**Environment: Physical Fitness**

| Activity Duration per day | Change in Number of People | |
|---------------------------|----------------------------|----------|
| | Pedestrians | Cyclists |
| Less than 30 minutes | More | More |
| Greater than 30 minutes | More | More |

Reference Source(s): TAG Unit 3.3.12, The Physical Fitness Sub-Objective, (DfT, April 2009)

Summary assessment score: Slight Beneficial

Qualitative comments: Only a qualitative assessment of the physical fitness benefits is possible due to the limited availability of quantitative data for future levels for walking and cycling. It is, however, reasonable to suggest that the improvements will increase the level of physical activity, below and above 30 minutes per day, as walking and cycling will be perceived as more attractive and safer options due to the walking and cycling improvements proposed as part of the low cost option.

Worksheet 1 – Low Cost Option

Environment: Journey Ambience

| Factor | Sub-factor | Better | Neutral | Worse |
|-------------------|-----------------------------|--|--|--|
| Traveller Care | Cleanliness | | The cleanliness of the walking, cycling and vehicular routes to the Low Cost Option are not likely to be improved or worsened as a result of the construction of the Coachway. | |
| | Facilities | Improvements to walking/cycling crossing facilities and a new cycle route will be installed on the A404 as part of the Low Cost Option proposals. | | |
| | Information | New signage is to be installed to direct motorists to the Coachway. | | |
| | Environment | | The cleanliness of the route to the Coachway is not likely to be improved or worsened by the construction of the Low Cost Option. | |
| Travellers' Views | | | The presence of a new multi-storey car park and Coachway will result in a neutral affect on the landscape. | |
| Traveller Stress | Frustration | | | Diversion of National Express and regional services on the London - Oxford corridor to serve the low cost option could lead to user frustration. |
| | Fear of potential accidents | The proposed improvements to pedestrian/cycle facilities as a result of the new Low Cost Option should reduce the fear of potential accidents for both pedestrians/cyclists and motorists. | | |
| | Route uncertainty | | | Lack of real time passenger information will reduce the route certainty for passengers. |

Reference Source(s): TAG Unit 3.3.13, The Journey Ambience Sub-Objective, (DfT, April 2009).

Summary assessment score: Neutral

Qualitative comments: The proposed improvements to pedestrian and cycle facilities on the route to the proposed Coachway within the low cost option has the potential to benefit more than 800 people a day however, the lack of real time passenger information could lead to increased traveller stress due to route uncertainty under the low cost option.

Worksheet 1 – Low Cost Option

Security

| Security Indicator | Relative importance (High/Medium/Low) | Without strategy (Poor/Moderate/High) | With strategy (Poor/Moderate/High) |
|--------------------------------------|---------------------------------------|---------------------------------------|------------------------------------|
| Site perimeters, entrances and exits | High | Poor | Moderate |
| Formal surveillance | Medium | Poor | Poor |
| Informal surveillance | High | Moderate | Moderate - High |
| Landscaping | Medium | Poor | High |
| Lighting and visibility | High | Poor | Moderate |
| Emergency call | Low | Poor | Poor |

Reference Source(s): TAG Unit 3.4.2, The Security Sub-Objective, (DfT, April 2009).

Approximate numbers of users affected: Approximately 100 passengers use the current Park and Ride facility, mainly for shopping within the Town Centre. However the vast majority of users of the existing Park and Ride facility travel to the site by car, although the number of pedestrians/cyclists using the route to the new Coachway and existing leisure centre is likely to increase due to the improvements proposed to be carried out to walking/cycling facilities within the low cost option. The results of a survey carried out on 12th March 2009 showed that 858 people currently crossed the A404 Marlow Hill a day however the increase in the number of pedestrians/cyclists using the new pedestrian/cycle facilities has not been quantified.

Overall assessment of impact on Security sub-objective: Moderate

Qualitative comments: The scheme will improve informal surveillance for public transport users using the new Coachway facility, with its proximity to the A404 and business park. It is likely that the scheme will improve informal surveillance for pedestrians and cyclists also as a result of an increase in the number using the new crossing facilities installed as part of the low cost option, rather than the existing subway. The formal nature of the facility will also improve the site perimeters, entrances and exists and landscaping. However there will be little formal surveillance and poorer quality lighting than the preferred option as a result of the basic design of the low cost option.

Worksheet 1: Low Cost Option

Accessibility - Severance

| Change in Severance | Population Affected | | | |
|---------------------|---|-----------------------------------|-------------------|----------------|
| | Sports Centre Staff and Visitors (travelling by foot) | Fair Ridge/ The Spinney/ Foxleigh | Marlow Road South | Total Affected |
| Large negative | | | | |
| Moderate negative | | | | |
| Slight negative | | | | |
| Neutral | | | | |
| Slight positive | c. 39 | c. 276 | c. 73 | c. 388 |
| Moderate positive | | | | |
| Large positive | | | | |

Reference Source(s): TAG Unit 3.6.2, The Severance Sub-objective, (DfT, April 2009); Sports Centre Travel Survey Results, Jacobs (2009); Census Household data for Abbey ward (ONS, 2001).

Assessment Score: Slight Beneficial

Qualitative comments: Approximately 73 residents living on Marlow Road will benefit from reduced severance as access to High Wycombe Sports Centre is made easier, with shortened journeys resulting from the provision of at grade crossing facilities at the southern end of the concourse. For residents of the Fair Ridge housing estate an improvement in facilities will help those who do not wish to use the subway, and reduce their journey length. While the AADT flows on Marlow Hill remain high the significant improvements to pedestrian desire lines by way of controlled crossings and shortened journey length is sufficient to result in a slight beneficial rating. Future users of wider development planned will also benefit from reduced severance.

Worksheet 1 – Low Cost Option**Integration: Passenger Interchange**

| Passenger Interchange Indicator | Without strategy (Poor/Moderate/High) | With strategy (Poor/Moderate/High) |
|--|---------------------------------------|------------------------------------|
| Waiting environment | Poor | Poor |
| Level of facilities | Poor | Poor |
| Level of information | Poor | Moderate |
| Visible staff presence | Poor | Moderate |
| Physical linkage for next stage of journey | Moderate | High |
| Connection time and risk of missing a connection | Moderate | Poor |

Reference Source(s): TAG Unit 3.7.1, The Transport Interchange Sub-Objective (DfT, April 2009).

Approximate numbers of users affected: At present approximately 100 passengers use the current Park & Ride services. This is likely to increase with the low cost option due to the increase in public transport services using the site (i.e local bus services and regional and interurban coach services). The Wycombe Transport Strategy Model calculated 36 passengers will use the Park and Ride in 2013 Do Minimum + Development Scenario AM peak (0800 - 0900) and 45 passengers will arrive in 2026 CS + Development AM peak (0800 - 0900).

Overall assessment of passenger interchange impact (slight/moderate/large positive/negative or neutral): Moderate Beneficial

Qualitative comments: The low cost option will provide a vast improvement on the do minimum situation however, the lower standard of provision due to the removal of the proposed Coachway building and the lower standard of car park design under the low cost option reduces the quality of the passenger interchange compared to the preferred option.

Worksheet 1: Low Cost Option

Integration – Land-Use Policy

| | Land-Use Policies or Proposals |
|-----------------|---|
| Local | Wycombe District Local Plan Wycombe Development Framework (certain policies only) |
| Regional | The Regional Economic Strategy South East Plan (certain policies only) Buckinghamshire Second Local Transport Plan |
| National | The Eddington Transport Study Report Towards a Sustainable Transport System (TaSTS) Delivering a Sustainable Transport System (DaSTS) PPS 1 – Delivering Sustainable Development PPG 2 – Green Belts PPS 7 – Sustainable Development in Rural Areas PPG 13 – Transport PPG 17 – Planning for Open Space, Sport and Recreation Olympics Delivery Authority Travel Plan |

Reference Source(s): TAG Unit 3.7.2 The Land Use Policy Sub-Objective
WDC (2004): *Wycombe District Local Plan to 2011*
WDC (2008): *Wycombe Development Framework*
SEEDA (2006): *Regional Economic Strategy 2006-2016*
GOSE (2009): *The South East Plan*
BCC (2005): *Second Local Transport Plan 2006-2011*
DfT (December 2006): *The Eddington Transport Study Report – A case for action*
DfT (October 2007): *Towards a Sustainable Transport System; Supporting Economic Growth in a Low Carbon World*
DfT (November 2008): *Delivering a Sustainable Transport System: Main Report*
ODPM (2005): *Planning Policy Statement 1 - Delivering Sustainable Development*
DETR (2001): *Planning Policy Guidance 2 – Green Belts*
ODPM (2004): *Planning Policy Statement 7 – Sustainable Development in Rural Areas*
DETR (2001): *Planning Policy Guidance 13 – Transport*
DCLG (2002): *Planning Policy Guidance 17 – Planning for open space, sport and recreation*
ODA (2008): *Olympics Delivery Authority Travel Plan*

Assessment Score: Neutral

Qualitative Comments: The Low Cost Option supports a large number of objectives that can be found in local, regional and national policy, such as increasing accessibility by non-car modes between regional and sub-regional hubs, encouraging the regeneration of High Wycombe town centre, reducing the number of killed and seriously injured casualties on the local and national road network, and maintaining or improving average journey times and journey time reliability around High Wycombe. However the LCO is not compliant with some pertinent South East Plan and Wycombe Development Framework Core Strategy Objectives, such as:

- South East Plan, Policy T8 Improve access and interchanges at hubs, because of the lower quality nature of the proposals.
- Wycombe Development Framework Core Strategy Policy CS 3.
- Wycombe Development Framework Core Strategy Policy CS 4.3.

Affordability and Financial Sustainability (AFS) - Sheet 1 of 3

Local Government Affordability and Financial Sustainability

| Costs | TOTAL (undiscounted) | Breakdown by organisation/budget | |
|--|---------------------------|-----------------------------------|-----------------------------|
| | | Buckinghamshire County Council | Wycombe District Council |
| Investment Costs | | | |
| 2010/11 | 2,656 | 546 | 2,110 |
| 2011/12 | | | |
| 2012/13 | | | |
| 2013/14 | | | |
| 2014/15 | | | |
| TOTAL | 2,656 (1) | 546 | 2,110 |
| Developer and Other Contributions | | | |
| Grant from Central Government | | | |
| Grant to Private Sector | | | |
| Cost to Local Government net of contributions | 2,656 (5)=(1)+(4)-(2)-(3) | 546 | 2,110 |

Public Sector Operations

| Year 1 | Year 5 | Year 10 | Breakdown by organisation/budget | |
|----------------------------|--------------------|---------|-----------------------------------|-----------------------------|
| | | | Buckinghamshire County Council | Wycombe District Council |
| Change in operator costs | 505 (6) | | | 505 |
| Change in operator revenue | 388 (7) | | | 388 |
| NET IMPACT | -117 (8)=(7)-(6) | | | -117 |
| Change in operator costs | 597 (9) | | | 597 |
| Change in operator revenue | 496 (10) | | | 496 |
| NET IMPACT | -101 (11)=(10)-(9) | | | -101 |
| Change in operator costs | 736 (12) | | | 736 |
| Change in operator revenue | 673 (13) | | | 673 |
| NET IMPACT | -63 (14)=(13)-(12) | | | -63 |

Affordability and Financial Sustainability (AFS) - Sheet 2 of 3

Central Government Affordability and Financial Sustainability

| Costs | TOTAL (undiscounted) | | Breakdown by organisation/ budget |
|--|----------------------|-------------------------------|--|
| Investment Costs | | | DfT |
| 2010/11 | 6,385 | | 6,385 |
| 2011/12 | 9,810 | | 9,810 |
| 2012/13 | 3,358 | | 3,358 |
| 2013/14 | | | |
| 2014/15 | | | |
| TOTAL | 19,553 | (15) | 19,553 |
| Developer and Other Contributions | | (16) | |
| Grant to Local Government | | (17) | |
| Grant to Private Sector | | (18) | |
| Indirect Tax Revenues | 93,700 | (19) | 93,700 |
| Cost to Central Government of contributions | 113,254 | (20)=(15)+(17)+(18)-(16)-(19) | 113,254 |
| Operations | | | Breakdown by organisation/ budget |
| Year 1 | | | DfT |
| Change in operator costs | | (21) | |
| Change in operator revenue | | (22) | |
| NET IMPACT | | (23)=(21)-(20) | |
| Year 5 | | | |
| Change in operator costs | | (24) | |
| Change in operator revenue | | (25) | |
| NET IMPACT | | (26)=(24)-(23) | |
| Year 10 | | | |
| Change in operator costs | | (27) | |
| Change in operator revenue | | (28) | |
| NET IMPACT | | (29)=(28)-(27) | |

Appendix 6 – Detailed Cost Estimates for the Preferred Option and Low Cost Option

Table area containing detailed cost estimates for the Preferred Option and Low Cost Option. The table content is not visible in the provided image.



BUCKINGHAMSHIRE COUNTY COUNCIL

HANDY CROSS HUB SCHEME

BUDGET COST ESTIMATE

PREFERRED SCHEME

DECEMBER 2009

DOCUMENT CONTROL SHEET

| | | | |
|---------------------------------|--------------------------------|--------------------|------------------|
| Client: | Buckinghamshire County Council | Project No: | B1279821 |
| Project: | Handy Cross Hub | Ref. No. | Cost Consultancy |
| Document (1), (2) Title: | Budget Cost Estimate | | |

| | Originated by | Checked by | Reviewed by | Approved by |
|---|--------------------------|----------------------------------|---------------------|---------------------|
| ORIGINAL | NAME Shaun Williamson | NAME Steven Hood / Melanie Oh | NAME Steven Hood | NAME Steven Hood |
| DATE 09/12/2009 | SIGNATURE | SIGNATURE | SIGNATURE | SIGNATURE |
| Document status ⁽³⁾ FOR CLIENT REVIEW | | | | |

| | NAME | NAME | NAME | NAME |
|---|-----------|-----------|-----------|-----------|
| REVISION | | | | |
| DATE | SIGNATURE | SIGNATURE | SIGNATURE | SIGNATURE |
| Document status ⁽³⁾ FOR CLIENT REVIEW | | | | |

- (1) 'Documents' means any drawing, report, calculation, specification, etc.
- (2) Where for such as a group of drawings, the checker, the reviewer and the approver have each fulfilled that role for each of the individual items, a single Document control sheet will suffice.
- (3) Eg 'For Client review', 'For construction', 'For information, etc'.

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Notes, Exclusions and Assumptions

Exclusions

1. The costs exclude the following items:

Planning and Building Regulation Fees or charges
Legal fees
Land purchase costs or any compulsory purchase order costs
Interest/funding charges
VAT
Settlements and fees in respect of Rights of Light
Archaeological studies and consequences on construction activities
Environmental and ecological activities - i.e. removal/treatment of knotweed etc.
Site/ground investigation costs and any associated works including Survey Costs (topographical, drainage, traffic etc)
Highway works other than noted in the estimate
Phasing - Although estimate splits into phases, all costs are at same base date and no adjustment has been made to take account of any actual construction phasing
Contaminated material and associated removal or treatment costs
Asbestos and associated removal costs
All other works associated with the business park development around the site, other than such works noted in the estimate
Public toilets to car parks
Air conditioning to terminal building
Inflation (calculated separately within the Financial Case of the MSBC
Restrictions on working methods or additional works required by Environmental Agency
Part 1 Land Compensation Act Claims
Sports equipment associated with the sports pitch
Roof lights to roof structure
Bid for Civil Enforcement Area within the Fair Ridge housing estate
Cost of Ecological enabling works
Cost of orders to initiate C4 cost estimate works by statutory undertakers
Costs associated with satisfying Park Mark accreditation
Allowance for BREEAM to coach terminal and concourse

Assumptions

1. The Pricing Level is at 4th Quarter 2009.
2. No allowance has been made for major sewage/drainage diversions.
3. Allowance has been made for demolition of the existing athletics track and games court only. Jacobs Cost Consultancy have not been able to visit the site to discover the true conditions of the site.
4. The areas and quantities identified within this report have been measured for the sole purpose of preparing this estimate. They should not be relied upon for any other purpose.

Notes, Exclusions and Assumptions (continued)

5. It is assumed that building plot construction costs include costs associated with individual plot external works and incoming services connections.
6. Due to the limited level of information available at this stage, all costs identified within this report are reasonable allowances only.
7. Summary of costs split to assist with funding splits from various parties.
8. Allowance have been made for incoming services to the structures costed within this estimate only. No provision has been made for additional incoming services to support the rest of the business park development. Costs for this element have been received from Keith Dolan on 19/11/2009 by e-mail.
9. Assumed 550 spaces to multistorey carpark as advised by others

Notes

The estimate is based on the following information;

1. The QRA figure provided by the client and derived from risk workshop held on the 18/11/2009
2. An allowance has been made for inflation upto January 2011 (as advised by others)

The estimate is based on the following drawings;

EDCP Design - Coachway and Leisure Centre Landscape and Masterrplan - C378IL005
EDCP Design - Trees Retained and Removed C378WIP001
Markland Klaschka - Existing Site Plan - D1.02
Markland Klaschka - Upper Ground Floor Plan - D2.11
Markland Klaschka - 16.7 Design and Access Statement
Jacobs - Pitch Relocation General Layout - B1279821/GA06/01
Correspondence by Jacobs project management November / December 2009

| Element | £ |
|---|--------------------------------|
| SUMMARY | |
| A Allowance for Coach Terminal and Concourse; including carriageway and associated external works | 4,800,649 |
| Inflation @ 0.0% (to be calculated seperately) | 0 |
| Sub Total (Inclusive of Preliminaries and Inflation) | <u><u>4,800,649</u></u> |
| | |
| B Allowance for Two Storey Car Park; including carriageway and associated external works | 7,641,442 |
| Inflation @ 0.0% (to be calculated seperately) | 0 |
| Sub Total (Inclusive of Preliminaries and Inflation) | <u><u>7,641,442</u></u> |
| | |
| C Ground Level Car Park (Car Park C2); including carriageway and associated external works | 282,210 |
| Inflation @ 0.0% (to be calculated seperately) | 0 |
| Sub Total (Inclusive of Preliminaries and Inflation) | <u><u>282,210</u></u> |
| | |
| D Allowance for Highway works; Including pedestrian crossings, new slip roads and roundabout | 958,238 |
| Inflation @ 0.0% (to be calculated seperately) | 0 |
| Sub Total (Inclusive of Preliminaries and Inflation) | <u><u>958,238</u></u> |
| | |
| E Allowance for New Access Road (East) | 665,850 |
| Inflation @ 0.0% (to be calculated seperately) | 0 |
| Sub Total (Inclusive of Preliminaries and Inflation) | <u><u>665,850</u></u> |
| | |
| F Allowance for New Access Roads (South and West) | 1,625,640 |
| Inflation @ 0.0% (to be calculated seperately) | 0 |
| Sub Total (Inclusive of Preliminaries and Inflation) | <u><u>1,625,640</u></u> |

| Element | £ |
|---|--------------------------|
| G Allowance for Landscaping (Excluding South and West) | 656,420 |
| Inflation @ 0.0% (to be calculated seperately) | 0 |
| Sub Total (Inclusive of Preliminaries and Inflation) | <u>656,420</u> |
| | |
| H Allowance for Landscaping (South and West) | 607,545 |
| Inflation @ 0.0% (to be calculated seperately) | 0 |
| Sub Total (Inclusive of Preliminaries and Inflation) | <u>607,545</u> |
| | |
| I Allowance for Sports Facilities | 965,177 |
| Inflation @ 0.0% (to be calculated seperately) | 0 |
| Sub Total (Inclusive of Preliminaries and Inflation) | <u>965,177</u> |
| | |
| J Allowance for Leisure Centre Car Park | 250,988 |
| Inflation @ 0.0% (to be calculated seperately) | 0 |
| Sub Total (Inclusive of Preliminaries and Inflation) | <u>250,988</u> |
| | |
| K Allowance for Service Diversions, Utilities and Incoming Services | 737,000 |
| Inflation @ 0.0% (to be calculated seperately) | 0 |
| Sub Total (Inclusive of Preliminaries and Inflation) | <u>737,000</u> |
| | |
| Construction Cost Sub Total | <u>19,191,158</u> |
| | |
| QRA figure (figure not shown in this cost estimate) | Nil |
| Professional Fees @ 13% (figure provided by others) | 2,494,851 |
| | |
| OVERALL PROJECT CONSTRUCTION TOTAL (Inclusive of Preliminaries, Inflation and Professional Fees) | <u>21,686,009</u> |

Coachway Terminal, Concourse and Associated External Works

| Element | Quantity | Unit | Rate | Total |
|--|----------|----------------|--------|---------|
| Remediation/Demolition | | | | |
| General Site Clearance | 6,000 | m ² | 5 | 30,000 |
| SUBSTRUCTURE | | | | |
| Allowance for shallow strip foundations and concrete floor slab, including all necessary excavation and disposal | 1,100 | m ² | 125 | 137,500 |
| Allowance for retaining wall structure to rear of concourse; assumed 3m height | 510 | m ² | 350 | 178,500 |
| SUPERSTRUCTURE | | | | |
| Frame | | | | |
| Steel frame | 1,100 | m ² | 210 | 231,000 |
| Roof | | | | |
| Allowance for curved roof; with mid range profile cladding | 1,100 | m ² | 360 | 396,000 |
| Extra over cost for timber slats to underside of roof construction | 1,100 | m ² | 150 | 165,000 |
| Canopy along front elevation and covered ends (assumed 3m overhang) | 654 | m ² | 400 | 261,600 |
| Allowance for glazed feature entrance | 130 | m ² | 1,000 | 130,000 |
| Stairs | | | | |
| Allowance for concrete staircase to carpark | 1 | nr | 20,000 | 20,000 |
| External Walls | | | | |
| Glazed screening to front and side elevations, including supporting frame, glazing, fixings etc; assumed height of elevations 4500mm | 648 | m ² | 400 | 259,200 |
| Blockwork cavity wall with render to both sides to rear elevation | 850 | m ² | 170 | 144,500 |
| Windows and External Doors | | | | |
| High level windows to rear elevation (assumed 500mm high) | 85 | m ² | 400 | 34,000 |
| Escape doors to rear elevation | 4 | nr | 2,000 | 8,000 |
| Pedestrian entrance doors | | nr | | Nil |

| Element | Quantity | Unit | Rate | Total |
|--|----------|----------------|---------|--------------------|
| Allowance for screens to coach bays | 8 | nr | 5,000 | 40,000 |
| Automatic doors to alighting points from concourse | 7 | nr | 15,000 | 105,000 |
| Floor Finishes | | | | |
| Ceramic floor tiles and entrance barrier matting where required inc 75mm screed to ground floor slab | 1,100 | m ² | 100 | 110,000 |
| Accommodation | | | | |
| Allowance for Transport operator office, mess and staff WC; Also travel shop, newsagents and small enclosed waiting area (assumed 20% of concourse area) | 190 | m ² | 1,100 | 209,000 |
| Public toilets (assumed non coin operated) | | item | 25,000 | 25,000 |
| Fittings, Furniture and Equipment | | | | |
| Seats (4nr seats) to alighting points | 5 | nr | 1,800 | 9,000 |
| Litter bins (1 per alighting point) | 5 | nr | 1,000 | 5,000 |
| Poster stands (1 nr per alighting point) | 5 | nr | 2,600 | 13,000 |
| Clocks | | nr | | Nil |
| Signage | | item | 70,000 | 70,000 |
| Bus ticket validators | | item | 13,000 | 13,000 |
| Mechanical Services | | | | |
| Mechanical installations | 190 | m ² | 450 | 85,500 |
| Electrical Services | | | | |
| Electrical Installations | 1,100 | m ² | 150 | 165,000 |
| External lighting installations | 4,900 | m ² | 15 | 73,500 |
| CCTV/Security | | item | 100,000 | 100,000 |
| Real time information | | item | 100,000 | 100,000 |
| 8 person electro hydraulic lift | 1 | nr | 60,000 | 60,000 |
| Allowance for PV cells to roof | | item | 100,000 | 100,000 |
| Builders Work in Connection | | | | |
| Builders work in connection with mechanical and electrical services | | item | 18,788 | 18,788 |
| Service Diversion/Connection Costs | | | | |
| Minor service diversion/connection cost allowance | | item | | refer to utilities |

| Element | Quantity | Unit | Rate | Total |
|--|----------|----------------|---------|-----------|
| External Works | | | | |
| Drainage below ground; including carriageways | 3,500 | item | 15 | 52,500 |
| Concrete carriageways within bus station boundary only | 2,400 | m ² | 125 | 300,000 |
| Landscaping (shrubs, grass, gravel) | 1,650 | m ² | 40 | 66,000 |
| Trees | 11 | nr | 750 | 8,250 |
| Feature tress to coachway | 11 | nr | 1,500 | 16,500 |
| Paving slabs to perimeter of bus shelters | 780 | m ² | 75 | 58,500 |
| Litter bins | 5 | nr | 1,000 | 5,000 |
| Fixed seating - 5 nr in row | 5 | nr | 1,800 | 9,000 |
| Kerb and vehicle stop barriers | 6 | nr | 4,000 | 24,000 |
| Whitelining | 880 | m | 3 | 2,640 |
| Cycle stands | 2 | nr | 1,000 | 2,000 |
| Bollards | 10 | nr | 300 | 3,000 |
| DOT Pedestrian Barrier | 150 | m | 200 | 30,000 |
| Allowance for signalised junctions to coachway | | item | 200,000 | 200,000 |
| Allowance for sub station | | item | 100,000 | 100,000 |
| | | | | 4,174,478 |
| Preliminaries @ 15% (including contractors OH&P) | | | | 626,172 |
| Sub Total | | | | 4,800,649 |

Two Storey Car Park (MSBC Funded)

| Element | Quantity | Unit | Rate | Total |
|--|----------|----------------|---------|-----------|
| REMEDIATION/DEMOLITION | | | | |
| General Site Clearance | 8,930 | m ² | 5 | 44,650 |
| Allowance for cut and fill exercise as advised by EDCO; imported fill material | | item | 200,000 | 200,000 |
| SUBSTRUCTURE | | | | |
| Allowance for shallow strip foundations and concrete floor slab, including all necessary excavation and disposal | 8,930 | m ² | 175 | 1,562,750 |
| SUPERSTRUCTURE | | | | |
| FRAME/UPPER FLOORS | | | | |
| Concrete frame construction; including concrete floors (total floor area) | 17,860 | m ² | 150 | 2,679,000 |
| Reinforced concrete ramps and beams | 110 | m ² | 300 | 33,000 |
| Precast concrete kerbs | 900 | m | 10 | 9,000 |
| STAIRS | | | | |
| Reinforced concrete dogleg stairs; 1.2m wide with painted galvanised metal handrail balustrading and wall handrailing; per storey rise | 3 | nr | 15,000 | 45,000 |
| EXTERNAL WALLS | | | | |
| Cladding panels to perimeter of each level (assuming 3m storey heights) | 1,000 | m ² | 300 | 300,000 |
| Steel crash barriers (assumed one per space, incl ground floor) | 550 | nr | 200 | 110,000 |
| WINDOWS AND EXTERNAL DOORS | | | | |
| Steel single escape doors; including frame and ironmongery | 3 | nr | 1,500 | 4,500 |
| INTERNAL DOORS | | | | |
| Single escape steel doors with vision panel; including frame and ironmongery; to each staircase entrance point | 3 | nr | 2,000 | 6,000 |
| WALL FINISHES | | | | |
| Assume none | | | - | - |

| Element | Quantity | Unit | Rate | Total |
|--|----------|----------------|--------|--------------------|
| FLOOR FINISHES | | | | |
| Assume none | | | - | - |
| FIXTURES AND FITTINGS | | | | |
| White line marking, hatching and miscellaneous lines to car park bays | | item | 15,000 | 15,000 |
| Allowance for general signage and directional signage above floor level | | item | 5,000 | 5,000 |
| Litter bins (1 staircase entrance) | 3 | nr | 1,000 | 3,000 |
| MECHANICAL SERVICES | | | | |
| Allowance for rainwater disposal and upper level slab drainage | 17,860 | m ² | 15 | 267,900 |
| ELECTRICAL SERVICES | | | | |
| General electrical Installations; including mains supply and lighting | 17,860 | m ² | 30 | 535,800 |
| CCTV | 17,860 | m ² | 5 | 89,300 |
| Ticket Machines | 6 | nr | 4,000 | 24,000 |
| Entry / exit barriers | | item | 50,000 | 50,000 |
| Electric charge points 6nr (as advised by the client) | | item | 20,000 | 20,000 |
| Allowance for wind turbines 6kw and solar panels; quotation from Quiet Revoluton | 9 | nr | 40,000 | 360,000 |
| BUILDERS WORK IN CONNECTION | | | | |
| Builders work in connection with mechanical and electrical services | | item | | 46,883 |
| SERVICE DIVERSION/CONNECTION COSTS | | | | |
| Allowance for statutory service diversion/connection costs | | item | | refer to utilities |
| EXTERNAL WORKS | | | | |
| Drainage below ground | 8,930 | m ² | 15 | 133,950 |
| Allowance for petrol interceptor | | item | 25,000 | 25,000 |
| Allowance for feature car park entrance | | item | 75,000 | 75,000 |
| | | | | 6,644,733 |
| Preliminaries @ 15% (including contractors OH&P) | | | | 996,710 |
| Sub total | | | | 7,641,442 |

Ground Level Car Park (Car Park C2)

| Element | Quantity | Unit | Rate | Total |
|---|----------|----------------|------|---------|
| REMEDIATION/DEMOLITION | | | | |
| General Site Clearance | 2,560 | m ² | 5 | 12,800 |
| CAR PARK | | | | |
| Creation of new ground level car park; including breaking out, excavation, disposal, kerbs, lighting etc. | 2,560 | m ² | 70 | 179,200 |
| Signage / road markings | | item | | 10,000 |
| Drainage below ground | 2,560 | m ² | 15 | 38,400 |
| Allowance for petrol interceptor | | item | | 5,000 |
| | | | | 245,400 |
| Preliminaries @ 15% (including contractors OH&P) | | | | 36,810 |
| Sub total | | | | 282,210 |

Highway Works and Adjustments to existing Highways

| Element | Quantity | Unit | Rate | Total |
|---|----------|----------------|--------|----------------|
| Creation of new slip road for bus traffic only; including breaking out, drainage, lighting etc. | 65 | m | 1,500 | 97,500 |
| Creation of new off side right turn for bus traffic only; including breaking out, drainage, lighting etc. | 102 | m | 1,500 | 153,000 |
| Allowance for re-surfacing works to existing A404 | | item | 75,000 | 75,000 |
| DOT Pedestrian Barriers | 60 | m | 200 | 12,000 |
| Signage; 4000 x 3000mm directional signs | 2 | nr | 5,000 | 10,000 |
| Signage / road markings | | item | 25,000 | 25,000 |
| Pedestrian crossings | 7 | nr | 25,000 | 175,000 |
| Landscaping (trees, grass, gravel) | 65 | m ² | 50 | 3,250 |
| Cycleways to A404, including excavaton, sub base, surface course, drainage, lighting etc | 750 | m ² | 110 | 82,500 |
| | | | | 633,250 |
| Allowance for traffic management | | | | 200,000 |
| Preliminaries @ 15% (including contractors OH&P) | | | | 124,988 |
| Sub total | | | | 958,238 |

New Access Road (East)

| Element | Quantity | Unit | Rate | Total |
|---|----------|------|--------|---------|
| Creation of access roads; including breaking out, drainage, lighting etc. | 85 | m | 1,400 | 119,000 |
| Creation of block paved access roads; including breaking out, drainage, lighting etc. | 130 | m | 1,500 | 195,000 |
| Extra over cost for Roundabout | 1 | nr | 75,000 | 75,000 |
| Road widening to north existing access road | 90 | m | 1,500 | 135,000 |
| Street furniture | | item | 15,000 | 15,000 |
| Directional signage | | item | 25,000 | 25,000 |
| Pedestrian Crossings | 6 | nr | 2,500 | 15,000 |
| | | | | 579,000 |
| Preliminaries @ 15% (including contractors OH&P) | | | | 86,850 |
| Sub total | | | | 665,850 |

New Access Road (South and West)

| Element | Quantity | Unit | Rate | Total |
|---|----------|----------------|---------|------------------|
| Creation of spine and access roads; including breaking out, drainage, lighting etc. | 639 | m | 1,400 | 894,600 |
| Creation of block paved access roads; including breaking out, drainage, lighting etc. | 110 | m | 1,500 | 165,000 |
| Road widening to existing A404 and access road | 100 | m | 1,400 | 140,000 |
| Roundabout/Square junction | 1 | nr | 150,000 | 150,000 |
| Street furniture | | item | 15,000 | 15,000 |
| Directional signage | | item | 25,000 | 25,000 |
| Extra over allowance for crossing points | | item | 10,000 | 10,000 |
| Allowance for retaining wall structure adjacent to square junction; assumed 1m height | 40 | m ² | 350 | 14,000 |
| | | | | 1,413,600 |
| Preliminaries @ 15% (including contractors OH&P) | | | | 212,040 |
| Sub total | | | | 1,625,640 |

Landscaping (Excluding South and West)

| Element | Quantity | Unit | Rate | Total |
|--|----------|----------------|------|---------|
| Remediation/Demolition | | | | |
| General Site Clearence | 6,250 | m ² | 5 | 31,250 |
| Removal of existing trees | 70 | nr | 350 | 24,500 |
| Landscaping | | | | |
| Soft Landscaping (shrubs, grass, gravel) | 4,270 | m ² | 40 | 170,800 |
| Trees (large) | 100 | nr | 750 | 75,000 |
| Trees box trees | 54 | nr | 500 | 27,000 |
| Hard landscaping (paving) | 1,980 | m ² | 75 | 148,500 |
| Drainage below ground | 6,250 | m ² | 15 | 93,750 |
| | | | | 570,800 |
| Preliminaries @ 15% (including contractors OH&P) | | | | 85,620 |
| Sub total | | | | 656,420 |

Landscaping (South and West)

| Element | Quantity | Unit | Rate | Total |
|---|----------|----------------|--------|----------------|
| Remediation/Demolition | | | | |
| General Site Clearence | 4,700 | m ² | 5 | 23,500 |
| Removal of existing trees | 18 | nr | 350 | 6,300 |
| Landscaping | | | | |
| Soft Landscaping (shrubs, grass, gravel) | 4,200 | m ² | 40 | 168,000 |
| Trees (large) | 26 | nr | 750 | 19,500 |
| Trees box trees | 146 | nr | 500 | 73,000 |
| Hard landscaping (paving) | 500 | m ² | 75 | 37,500 |
| Pond; including excavation, disposal, tanking etc | | item | 30,000 | 30,000 |
| Drainage below ground | 4,700 | m ² | 15 | 70,500 |
| Allowance for re-location of existing Highway Agency Soakaway | | item | | 50,000 |
| Provisional allowance for upgrading existing foul pumping station | | item | | 50,000 |
| | | | | 528,300 |
| Preliminaries @ 15% (including contractors OH&P) | | | | 79,245 |
| Sub total | | | | 607,545 |

Sports Facilities

| Element | Quantity | Unit | Rate | Total |
|---|----------|----------------|-------|---------|
| Athletics track clearance. | 20,700 | m ² | 10 | 207,000 |
| All-weather sports pitch clearance | 7,242 | m ² | 10 | 72,420 |
| Construction of new all-weather sports pitch; including excvavtion, disposal, kerbs etc | 7,242 | m ² | 60 | 434,520 |
| Galvanised chainlink fence and posts; including gates | 340 | m | 130 | 44,200 |
| Access path | 125 | m ² | 70 | 8,750 |
| Bollards | 2 | nr | 750 | 1,500 |
| Litter bins | 2 | nr | 100 | 200 |
| External lighting; floodlighting | 8 | nr | 2,500 | 20,000 |
| Drainage | 7,242 | m ² | 7 | 50,694 |
| | | | | 839,284 |
| Preliminaries @ 15% (including contractors OH&P) | | | | 125,893 |
| Sub total | | | | 965,177 |

Leisure Centre Car Park

| Element | Quantity | Unit | Rate | Total |
|--|----------|----------------|------|---------|
| CAR PARK | | | | |
| Remodel of existing ground level car park; including new surface course etc. (re-use existing base course) | 3,665 | m ² | 50 | 183,250 |
| Signage / road markings | | item | | 25,000 |
| Landscaping (trees, grass, gravel) | 200 | m ² | 50 | 10,000 |
| | | | | 218,250 |
| Preliminaries @ 15% (including contractors OH&P) | | | | 32,738 |
| Sub total | | | | 250,988 |

Utilities and Services

| Element | Quantity | Unit | Rate | Total |
|--|----------|------|---------|---------|
| Electricity (Scottish and Southern Energy) as email dated 19/11/2009 | | item | 235,000 | 235,000 |
| Fresh Water (Thames Water) as email dated 19/11/2009 | | item | 102,000 | 102,000 |
| Telecommunications (British Telecom) as email dated 19/11/2009 | | item | 400,000 | 400,000 |
| Gas as email dated 19/11/2009 | | item | - | - |
| Cable and Wireless / Virgin Media as email dated 19/11/2009 | | item | - | - |
| Sub total | | | | 737,000 |



BUCKINGHAMSHIRE COUNTY COUNCIL

HANDY CROSS HUB SCHEME

BUDGET COST ESTIMATE

LOW COST OPTION

DECEMBER 2009

DOCUMENT CONTROL SHEET

| | | | |
|---------------------------------|--------------------------------|--------------------|------------------|
| Client: | Buckinghamshire County Council | Project No: | B1279821 |
| Project: | Handy Cross Hub | Ref. No. | Cost Consultancy |
| Document (1), (2) Title: | Budget Cost Estimate | | |

| | Originated by | Checked by | Reviewed by | Approved by |
|---|--------------------------|----------------------------------|---------------------|---------------------|
| ORIGINAL | NAME Shaun Williamson | NAME Steven Hood / Melanie Oh | NAME Steven Hood | NAME Steven Hood |
| DATE 09/12/2009 | SIGNATURE | SIGNATURE | SIGNATURE | SIGNATURE |
| Document status ⁽³⁾ FOR CLIENT REVIEW | | | | |

| | NAME | NAME | NAME | NAME |
|---|-----------|-----------|-----------|-----------|
| REVISION | | | | |
| DATE | SIGNATURE | SIGNATURE | SIGNATURE | SIGNATURE |
| Document status ⁽³⁾ FOR CLIENT REVIEW | | | | |

- (1) 'Documents' means any drawing, report, calculation, specification, etc.
- (2) Where for such as a group of drawings, the checker, the reviewer and the approver have each fulfilled that role for each of the individual items, a single Document control sheet will suffice.
- (3) Eg 'For Client review', 'For construction', 'For information, etc'.

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Notes, Exclusions and Assumptions

Exclusions

1. The costs exclude the following items:

Planning and Building Regulation Fees or charges
Legal fees
Land purchase costs or any compulsory purchase order costs
Interest/funding charges
VAT
Settlements and fees in respect of Rights of Light
Archaeological studies and consequences on construction activities
Environmental and ecological activities - i.e. removal/treatment of knotweed etc.
Site/ground investigation costs and any associated works including Survey Costs (topographical, drainage, traffic etc)
Highway works other than noted in the estimate
Phasing - Although estimate splits into phases, all costs are at same base date and no adjustment has been made to take account of any actual construction phasing
Contaminated material and associated removal or treatment costs
Asbestos and associated removal costs
All other works associated with the business park development around the site, other than such works noted in the estimate
Public toilets to car parks
Air conditioning to terminal building
Inflation (calculated separately within the Financial Case of the MSBC
Restrictions on working methods or additional works required by Environmental Agency
Part 1 Land Compensation Act Claims
Sports equipment associated with the sports pitch
Roof lights to roof structure
Bid for Civil Enforcement Area within the Fair Ridge housing estate
Cost of Ecological enabling works
Cost of orders to initiate C4 cost estimate works by statutory undertakers
Costs associated with satisfying Park Mark accreditation

Assumptions

1. The Pricing Level is at 4th Quarter 2009.
2. No allowance has been made for major sewage/drainage diversions.
3. Allowance has been made for demolition of the existing athletics track and games court only. Jacobs Cost Consultancy have not been able to visit the site to discover the true conditions of the site.
4. The areas and quantities identified within this report have been measured for the sole purpose of preparing this estimate. They should not be relied upon for any other purpose.

Notes, Exclusions and Assumptions (continued)

5. It is assumed that building plot construction costs include costs associated with individual plot external works and incoming services connections.
6. Due to the limited level of information available at this stage, all costs identified within this report are reasonable allowances only.
7. Summary of costs split to assist with funding splits from various parties.
8. Allowance have been made for incoming services to the structures costed within this estimate only. No provision has been made for additional incoming services to support the rest of the business park development. Costs for this element have been received from Keith Dolan on 19/11/2009 by e-mail.
9. Assumed 550 spaces to decked carpark as advised by others

Notes

The estimate is based on the following information;

1. The QRA figure provided by the client and derived from risk workshop held on the 18/11/2009
2. An allowance has been made for inflation upto January 2011 (as advised by others)

The estimate is based on the following drawings;

EDCP Design - Coachway and Leisure Centre Landscape and Masterrplan - C378IL005
EDCP Design - Trees Retained and Removed C378WIP001
Markland Klaschka - Existing Site Plan - D1.02
Markland Klaschka - 16.7 Design and Access Statement
Jacobs - Pitch Relocation General Layout - B1279821/GA06/01
Correspondence by Jacobs project management November / December 2009

| Element | £ |
|---|--------------------------------|
| SUMMARY | |
| A Allowance for Low Cost Bus Shelter; including carriageway and associated external works | 1,566,135 |
| Inflation @ 0.0% (to be calculated seperately) | 0 |
| Sub Total (Inclusive of Preliminaries and Inflation) | <u><u>1,566,135</u></u> |
| | |
| B Allowance for Low Cost Decked Car Park; including carriageway and associated external works | 6,048,023 |
| Inflation @ 0.0% (to be calculated seperately) | 0 |
| Sub Total (Inclusive of Preliminaries and Inflation) | <u><u>6,048,023</u></u> |
| | |
| C Ground Level Car Park (Car Park C2); including carriageway and associated external works | 282,210 |
| Inflation @ 0.0% (to be calculated seperately) | 0 |
| Sub Total (Inclusive of Preliminaries and Inflation) | <u><u>282,210</u></u> |
| | |
| D Allowance for Highway works; Including pedestrian crossings, new slip roads and roundabout | 958,238 |
| Inflation @ 0.0% (to be calculated seperately) | 0 |
| Sub Total (Inclusive of Preliminaries and Inflation) | <u><u>958,238</u></u> |
| | |
| E Allowance for New Access Roads | 2,291,490 |
| Inflation @ 0.0% (to be calculated seperately) | 0 |
| Sub Total (Inclusive of Preliminaries and Inflation) | <u><u>2,291,490</u></u> |
| | |
| F Allowance for Landscaping | 1,263,965 |
| Inflation @ 0.0% (to be calculated seperately) | 0 |
| Sub Total (Inclusive of Preliminaries and Inflation) | <u><u>1,263,965</u></u> |

| Element | £ |
|---|--------------------------|
| G Allowance for Sports Facilities | 965,177 |
| Inflation @ 0.0% (to be calculated seperately) | 0 |
| Sub Total (Inclusive of Preliminaries and Inflation) | <u>965,177</u> |
| | |
| H Allowance for Leisure Centre Car Park | 250,988 |
| Inflation @ 0.0% (to be calculated seperately) | 0 |
| Sub Total (Inclusive of Preliminaries and Inflation) | <u>250,988</u> |
| | |
| I Allowance for Service Diversions, Utilities and Incoming Services | 737,000 |
| Inflation @ 0.0% (to be calculated seperately) | 0 |
| Sub Total (Inclusive of Preliminaries and Inflation) | <u>737,000</u> |
| | |
| Construction Cost Sub Total | <u>14,363,224</u> |
| | |
| QRA figure (figure not shown in this cost estimate) | Nil |
| Professional Fees @ 13% (figure provided by others) | 1,867,219 |
| | |
| OVERALL PROJECT CONSTRUCTION TOTAL (Inclusive of Preliminaries, Inflation and Professional Fees) | <u>16,230,443</u> |

Low Cost Bus Shelters and Associated External Works

| Element | Quantity | Unit | Rate | Total |
|---|----------|----------------|---------|--------------------|
| Remediation/Demolition | | | | |
| General Site Clearence | 6,000 | m ² | 5 | 30,000 |
| Allowance for cut and fill exercise as advised by EDCO; imported fill material | | item | 200,000 | 200,000 |
| SUBSTRUCTURE | | | | |
| Allowance for shallow strip foundations and concrete floor slab, including all necessary excavation and disposal | 30 | m ² | 125 | 3,750 |
| SUPERSTRUCTURE | | | | |
| BUS SHELTERS | | | | |
| Includes all curtain walling to rear elevation, steel frame, glazing, fixings etc, seating, signage, mechanical and electrical installations, roofing | | | | |
| Shelter 1 | 10 | m2 | 1,750 | 17,500 |
| Shelter 2 | 10 | m2 | 1,750 | 17,500 |
| Shelter 3 | 10 | m2 | 1,750 | 17,500 |
| Fittings, Furniture and Equipment | | | | |
| Litter bins (1 per alighting point) | 5 | nr | 1,000 | 5,000 |
| Bus ticket validators | | item | 13,000 | 13,000 |
| Electrical Services | | | | |
| External lighting installations | 5,970 | m ² | 15 | 89,550 |
| CCTV/Security | | item | 100,000 | 100,000 |
| Builders Work in Connection | | | | |
| Builders work in connection with mechanical and electrical services | | item | 6,716 | 6,716 |
| Service Diversion/Connection Costs | | | | |
| Minor service diversion/connection cost allowance | | item | | refer to utilities |

| Element | Quantity | Unit | Rate | Total |
|--|----------|----------------|---------|------------------|
| External Works | | | | |
| Drainage below ground; including carriageways | 2,430 | item | 15 | 36,450 |
| Concrete carriageways within bus station boundary only | 2,400 | m ² | 125 | 300,000 |
| Landscaping (shrubs, grass, gravel) | 1,650 | m ² | 40 | 66,000 |
| Trees | 11 | nr | 750 | 8,250 |
| Feature tress to coachway | 11 | nr | 1,500 | 16,500 |
| Paving slabs to perimeter of bus shelters | 780 | m ² | 75 | 58,500 |
| Litter bins | 5 | nr | 1,000 | 5,000 |
| Fixed seating - 5 nr in row | 5 | nr | 1,800 | 9,000 |
| Kerb and vehicle stop barriers | 6 | nr | 4,000 | 24,000 |
| Whitelining | 880 | m | 3 | 2,640 |
| Cycle stands | 2 | nr | 1,000 | 2,000 |
| Bollards | 10 | nr | 300 | 3,000 |
| DOT Pedestrian Barrier | 150 | m | 200 | 30,000 |
| Allowance for signalised junctions to coachway | | item | 200,000 | 200,000 |
| Allowance for sub station | | item | 100,000 | 100,000 |
| | | | | 1,361,856 |
| Preliminaries @ 15% (including contractors OH&P) | | | | 204,278 |
| Sub Total | | | | 1,566,135 |

Low Cost Decked Car Park

| Element | Quantity | Unit | Rate | Total |
|--|----------|----------------|-----------|--------------------|
| REMEDIATION/DEMOLITION | | | | |
| General Site Clearance | 8,930 | m ² | 5 | 44,650 |
| SUBSTRUCTURE | | | | |
| Allowance for shallow strip foundations, including all necessary excavation and disposal | 8,930 | m ² | 100 | 893,000 |
| SUPERSTRUCTURE | | | | |
| DECKED CAR PARK | | | | |
| Allowance for low cost decked car park for 550 spaces | | item | 3,850,000 | 3,850,000 |
| ELECTRICAL SERVICES | | | | |
| General electrical Installations; including mains supply and lighting | 8,930 | m ² | 30 | 267,900 |
| CCTV | 8,930 | m ² | 5 | 44,650 |
| SERVICE DIVERSION/CONNECTION COSTS | | | | |
| Allowance for statutory service diversion/connection costs | | item | | refer to utilities |
| EXTERNAL WORKS | | | | |
| Drainage below ground | 8,930 | m ² | 15 | 133,950 |
| Allowance for petrol interceptor | | item | | 25,000 |
| | | | | 5,259,150 |
| Preliminaries @ 15% (including contractors OH&P) | | | | 788,873 |
| Sub total | | | | 6,048,023 |

Ground Level Car Park (Car Park C2)

| Element | Quantity | Unit | Rate | Total |
|---|----------|----------------|------|---------|
| REMEDIATION/DEMOLITION | | | | |
| General Site Clearance | 2,560 | m ² | 5 | 12,800 |
| CAR PARK | | | | |
| Creation of new ground level car park; including breaking out, excavation, disposal, kerbs, lighting etc. | 2,560 | m ² | 70 | 179,200 |
| Signage / road markings | | item | | 10,000 |
| Drainage below ground | 2,560 | m ² | 15 | 38,400 |
| Allowance for petrol interceptor | | item | | 5,000 |
| | | | | 245,400 |
| Preliminaries @ 15% (including contractors OH&P) | | | | 36,810 |
| Sub total | | | | 282,210 |

Highway Works and Adjustments to existing Highways

| Element | Quantity | Unit | Rate | Total |
|---|----------|----------------|--------|----------------|
| Creation of new slip road for bus traffic only; including breaking out, drainage, lighting etc. | 65 | m | 1,500 | 97,500 |
| Creation of new off side right turn for bus traffic only; including breaking out, drainage, lighting etc. | 102 | m | 1,500 | 153,000 |
| Allowance for re-surfacing works to existing A404 | | item | 75,000 | 75,000 |
| DOT Pedestrian Barriers | 60 | m | 200 | 12,000 |
| Signage; 4000 x 3000mm directional signs | 2 | nr | 5,000 | 10,000 |
| Signage / road markings | | item | 25,000 | 25,000 |
| Pedestrian crossings | 7 | nr | 25,000 | 175,000 |
| Landscaping (trees, grass, gravel) | 65 | m ² | 50 | 3,250 |
| Cycleways to A404, including excavaton, sub base, surface course, drainage, lighting etc | 750 | m ² | 110 | 82,500 |
| | | | | 633,250 |
| Allowance for traffic management | | | | 200,000 |
| Preliminaries @ 15% (including contractors OH&P) | | | | 124,988 |
| Sub total | | | | 958,238 |

New Access Road (East)

| Element | Quantity | Unit | Rate | Total |
|---|----------|----------------|---------|------------------|
| Creation of access roads; including breaking out, drainage, lighting etc. | 85 | m | 1,400 | 119,000 |
| Creation of block paved access roads; including breaking out, drainage, lighting etc. | 130 | m | 1,500 | 195,000 |
| Extra over cost for Roundabout | 1 | nr | 75,000 | 75,000 |
| Road widening to north existing access road | 90 | m | 1,500 | 135,000 |
| Street furniture | | item | 30,000 | 30,000 |
| Directional signage | | item | 50,000 | 50,000 |
| Pedestrian Crossings | 6 | nr | 2,500 | 15,000 |
| Creation of spine and access roads; including breaking out, drainage, lighting etc. | 639 | m | 1,400 | 894,600 |
| Creation of block paved access roads; including breaking out, drainage, lighting etc. | 110 | m | 1,500 | 165,000 |
| Road widening to existing A404 and access road | 100 | m | 1,400 | 140,000 |
| Roundabout/Square junction | 1 | nr | 150,000 | 150,000 |
| Extra over allowance for crossing points | | item | 10,000 | 10,000 |
| Allowance for retaining wall structure adjacent to square junction; assumed 1m height | 40 | m ² | 350 | 14,000 |
| | | | | 1,992,600 |
| Preliminaries @ 15% (including contractors OH&P) | | | | 298,890 |
| Sub total | | | | 2,291,490 |

Landscaping

| Element | Quantity | Unit | Rate | Total |
|---|----------|----------------|--------|------------------|
| Remediation/Demolition | | | | |
| General Site Clearence | 10,950 | m ² | 5 | 54,750 |
| Removal of existing trees | 88 | nr | 350 | 30,800 |
| Landscaping | | | | |
| Soft Landscaping (shrubs, grass, gravel) | 8,470 | m ² | 40 | 338,800 |
| Trees (large) | 126 | nr | 750 | 94,500 |
| Trees box trees | 200 | nr | 500 | 100,000 |
| Hard landscaping (paving) | 2,480 | m ² | 75 | 186,000 |
| Drainage below ground | 10,950 | m ² | 15 | 164,250 |
| Pond; including excavation, disposal, tanking etc | | item | 30,000 | 30,000 |
| Allowance for re-location of existing Highway Agency Soakaway | | item | | 50,000 |
| Provisional allowance for upgrading existing foul pumping station | | item | | 50,000 |
| | | | | 1,099,100 |
| Preliminaries @ 15% (including contractors OH&P) | | | | 164,865 |
| Sub total | | | | 1,263,965 |

Sports Facilities

| Element | Quantity | Unit | Rate | Total |
|---|----------|----------------|-------|---------|
| Athletics track clearance. | 20,700 | m ² | 10 | 207,000 |
| All-weather sports pitch clearance | 7,242 | m ² | 10 | 72,420 |
| Construction of new all-weather sports pitch; including excvavtion, disposal, kerbs etc | 7,242 | m ² | 60 | 434,520 |
| Galvanised chainlink fence and posts; including gates | 340 | m | 130 | 44,200 |
| Access path | 125 | m ² | 70 | 8,750 |
| Bollards | 2 | nr | 750 | 1,500 |
| Litter bins | 2 | nr | 100 | 200 |
| External lighting; floodlighting | 8 | nr | 2,500 | 20,000 |
| Drainage | 7,242 | m ² | 7 | 50,694 |
| | | | | 839,284 |
| Preliminaries @ 15% (including contractors OH&P) | | | | 125,893 |
| Sub total | | | | 965,177 |

Leisure Centre Car Park

| Element | Quantity | Unit | Rate | Total |
|--|----------|----------------|------|---------|
| CAR PARK | | | | |
| Remodel of existing ground level car park; including new surface course etc. (re-use existing base course) | 3,665 | m ² | 50 | 183,250 |
| Signage / road markings | | item | | 25,000 |
| Landscaping (trees, grass, gravel) | 200 | m ² | 50 | 10,000 |
| | | | | 218,250 |
| Preliminaries @ 15% (including contractors OH&P) | | | | 32,738 |
| Sub total | | | | 250,988 |

Utilities and Services

| Element | Quantity | Unit | Rate | Total |
|--|----------|------|---------|---------|
| Electricity (Scottish and Southern Energy) as email dated 19/11/2009 | | item | 235,000 | 235,000 |
| Fresh Water (Thames Water) as email dated 19/11/2009 | | item | 102,000 | 102,000 |
| Telecommunications (British Telecom) as email dated 19/11/2009 | | item | 400,000 | 400,000 |
| Gas as email dated 19/11/2009 | | item | - | - |
| Cable and Wireless / Virgin Media as email dated 19/11/2009 | | item | - | - |
| Sub total | | | | 737,000 |

Appendix 7 – Independent Surveyor’s Report



HANDY CROSS HUB

REPORT ON THE COST STUDY SUBMITTED BY JACOBS

Prepared by

Gardiner & Theobald LLP

For

BUCKINGHAMSHIRE COUNTY COUNCIL

10 December 2009

CONTENTS

| | | |
|------------|--|--------|
| 1.0 | Requirement for Report | Page 1 |
| | | Page 1 |
| 2.0 | Introduction to Report on Cost Estimate | Page 2 |
| 3.0 | Verification Report | Page 3 |
| 4.0 | Summary of findings and Conclusion. | Page 4 |

Appendices

1.0 Requirement For Report

1.1 Introduction

The purpose of this report is to evaluate the cost feasibility study undertaken by Jacobs. The Department for Transport requires Local Authorities, seeking Central Government Funding for Major Transport Schemes to have capital cost estimates verified by independent surveyors.

2.0 Introduction to Report on Cost Estimate

2.1 The level of information available has not allowed a fully detailed assessment of the quantities nor the rates provided by Jacobs. Consequently all costs are based upon reasonable allowances, benchmarked costs and rates and rates based upon pricing books, as deemed appropriate. The quantities detailed within the report are based drawings detailed at a scale of 1:1000 and as such provide an indication only of the relevant elemental quantities.

2.2 Additionally due to the level of information and the lack of any detailed specifications, the interpretation of the drawings and the expected level of finish can vary considerably between various parties.

3.0 Verification Report

3.1 The following issues have been drawn from the Summary Report:

3.1.1 Each of the work packages within the Summary Page allows for inflation to be added separately. It is questionable whether during the design and procurement / tender period until October 2010, any Tender Price Inflation will effect the indicative construction costs.

3.1.2 Professional fees are deemed excessive. It is understood that professional fees have been expended to date, up to planning stage, and as such the 13% uplift as stated by Jacobs is considered excessive

3.1.3 Jacobs appear to have overlooked the requirement for a cut and fill exercise to be undertaken on the site. EDCO, the consulting engineers, has previously provided a modelled cut and fill calculation. This has been added to the summary using G&T indicative rates for similar works.

3.1.4 It is unfortunate that Jacobs were not able to undertake a measure for the drainage strategy as designed to date. This would have resulted in greater analysis of the drainage costs. Jacobs have thus resorted to mere site area / rate allowances and included drainage costs within their road make up rates. That said the allowances are considered reasonable.



3.2 Further detailed assessments of the cost estimate are provided within the analysis pages, which append this report.

4.0 Summary of findings and Conclusion.

4.1 As stated above an analysis is provided to verify the findings of this report.

4.2 There are differences in the cost plan totals as detailed in the appended analysis. Jacobs have numerous “all-in” rates for work items, which makes any real comparison difficult. Items such as drainage have not been measured, which is disappointing given that a drainage strategy design has been developed and prepared by EDCO. Consequently a direct comparison of the drainage is difficult. Notwithstanding that, the rates and sums allowed by Jacobs would appear to be reasonable, following the amendments made by G&T.

4.3 Several measures and rates have been amended and comments made to verify the amendments made. The resultant comparable sums are therefore:

| |  JACOBS™ |  GT <small>gardiner.theobald</small> | |
|---|--|--|------------------|
| Construction Cost Sub Total | 19,191,158 | 17,516,013 | |
| QRA figure (figure not shown in this cost estimate) | Nil | Excl'd | |
| Professional Fees @ 13% (figure provided by others) | 2,494,851 | 1,751,601 | G&T allow 10% |
| OVERALL PROJECT CONSTRUCTION TOTAL (Inclusive of Preliminaries, Inflation and Professional Fees) | 21,686,009 | 19,267,614 | |

- 4.4** It is therefore G&T recommendation that the cost plan should reflect the level of design information available and as such G&T would recommend that a reasonable cost estimate for the works of £17,516.013 excluding any contingency sum or QRA allowances, plus 10% for Professional fees £1,751,601. Totalling £19,267,614. This differs from Jacobs total of £21,686,009

APPENDICES

Appendix 1
Detailed Cost Plan Analysis

Buckinghamshire County Council
 Handy Cross Hub
 Budget Cost Estimate

Element

£



SUMMARY

| | | |
|---|-------------------------|-------------------------|
| A Allowance for Coach Terminal and Concourse; including carriageway and associated external works | 4,800,649 | 3,778,000 |
| Inflation @ 0.0% (to be calculated seperately) | 0 | n/a |
| Sub Total (Inclusive of Preliminaries and Inflation) | <u>4,800,649</u> | <u>3,778,000</u> |
| | | |
| B Allowance for Two Storey Car Park; including carriageway and associated external works | 7,641,442 | 7,185,134 |
| Inflation @ 0.0% (to be calculated seperately) | 0 | n/a |
| Sub Total (Inclusive of Preliminaries and Inflation) | <u>7,641,442</u> | <u>7,185,134</u> |
| | | |
| C Ground Level Car Park (Car Park C2); including carriageway and associated external works | 282,210 | 256,128 |
| Inflation @ 0.0% (to be calculated seperately) | 0 | n/a |
| Sub Total (Inclusive of Preliminaries and Inflation) | <u>282,210</u> | <u>256,128</u> |
| | | |
| D Allowance for Highway works; Including pedestrian crossings, new slip roads and roundabout | 958,238 | 759,863 |
| Inflation @ 0.0% (to be calculated seperately) | 0 | n/a |
| Sub Total (Inclusive of Preliminaries and Inflation) | <u>958,238</u> | <u>759,863</u> |
| | | |
| E Allowance for New Access Roads | 2,291,490 | 2,182,240 |
| Inflation @ 0.0% (to be calculated seperately) | 0 | n/a |
| Sub Total (Inclusive of Preliminaries and Inflation) | <u>2,291,490</u> | <u>2,182,240</u> |
| | | |
| F Allowance for Landscaping | 1,263,965 | 1,198,818 |
| Inflation @ 0.0% (to be calculated seperately) | 0 | n/a |
| Sub Total (Inclusive of Preliminaries and Inflation) | <u>1,263,965</u> | <u>1,198,818</u> |

Buckinghamshire County Council
Handy Cross Hub
Budget Cost Estimate

| Element | £ | |
|---|--------------------------|--------------------------|
| G Allowance for Sports Facilities | 965,177 | 666,844 |
| Inflation @ 0.0% (to be calculated seperately) | 0 | n/a |
| Sub Total (Inclusive of Preliminaries and Inflation) | <u>965,177</u> | <u>666,844</u> |
| H Allowance for Leisure Centre Car Park | 250,988 | 250,988 |
| Inflation @ 0.0% (to be calculated seperately) | 0 | n/a |
| Sub Total (Inclusive of Preliminaries and Inflation) | <u>250,988</u> | <u>250,988</u> |
| I Allowance for Service Diversions, Utilities and Incoming Services | 737,000 | 1,238,000 |
| Inflation @ 0.0% (to be calculated seperately) | 0 | n/a |
| Sub Total (Inclusive of Preliminaries and Inflation) | <u>737,000</u> | <u>1,238,000</u> |
| Construction Cost Sub Total | <u>19,191,158</u> | <u>17,516,013</u> |
| QRA figure (figure not shown in this cost estimate) | Nil | excluded |
| Professional Fees @ 13% (figure provided by others) | 2,494,851 | 1,751,601 allow 10% |
| OVERALL PROJECT CONSTRUCTION TOTAL (Inclusive of Preliminaries, Inflation and Professional Fees) | <u>21,686,009</u> | <u>19,267,614</u> |

Coachway Terminal, Concourse and Associated External Works

| Element | Quantity | Unit | Rate | Total | Quantity | Unit | Rate | Total | Comments |
|--|----------|----------------|---------|---------|----------|----------------|---------|---------|---|
| Remediation/Demolition | | | | | | | | | |
| General Site Clearance | 6,000 | m ² | 5 | 30,000 | 6,000.00 | m ² | 2.00 | 12,000 | Rate deemed excessive; more realistic at £2 |
| SUBSTRUCTURE | | | | | | | | | |
| Allowance for shallow strip foundations and concrete floor slab, including all necessary excavation and disposal | 1,100 | m ² | 125 | 137,500 | 1,100 | m ² | 100 | 110,000 | rate deemed excessive - more realistic at £100 to £110 |
| Allowance for retaining wall structure to rear of concourse; assumed 3m height | 510 | m ² | 350 | 178,500 | 510 | m ² | 350 | 178,500 | |
| SUPERSTRUCTURE | | | | | | | | | |
| Frame | | | | | | | | | |
| Steel frame | 1,100 | m ² | 210 | 231,000 | 1,100 | m ² | 210 | 231,000 | Deemed reasonable assuming this includes for all the architectural curved and special steels and for foundations of steel columns |
| Roof | | | | | | | | | |
| Allowance for curved roof; with mid range profile cladding | 1,100 | m ² | 360 | 396,000 | 1,100 | m ² | 360 | 396,000 | |
| Extra over cost for timber slats to underside of roof construction | 1,100 | m ² | 150 | 165,000 | 1,100 | m ² | 150 | 165,000 | |
| Canopy along front elevation and covered ends (assumed 3m overhang) | 654 | m ² | 400 | 261,600 | 654 | m ² | 360 | 235,440 | rate deemed excessive - more realistic at £360 |
| Allowance for glazed feature entrance | 130 | m ² | 1,000 | 130,000 | 130 | m ² | 1,000 | 130,000 | |
| Stairs | | | | | | | | | |
| Allowance for concrete staircase to carpark | 1 | nr | 20,000 | 20,000 | 1 | nr | 20,000 | 20,000 | |
| External Walls | | | | | | | | | |
| Glazed screening to front and side elevations, including supporting frame, glazing, fixings etc; assumed height of elevations 4500mm | 648 | m ² | 400 | 259,200 | 648 | m ² | 400 | 259,200 | |
| Blockwork cavity wall with render to both sides to rear elevation | 850 | m ² | 170 | 144,500 | 0 | m ² | 0 | 0 | It is doubtful whether this is required. The architect had previously advised that the terminal would be finished as fair faced concrete, which has already been taken. Additionally rate deemed excessive |
| Windows and External Doors | | | | | | | | | |
| High level windows to rear elevation (assumed 500mm high) | 85 | m ² | 400 | 34,000 | 85 | m ² | 400 | 34,000 | |
| Escape doors to rear elevation | 4 | nr | 2,000 | 8,000 | 4 | nr | 2,000 | 8,000 | |
| Pedestrian entrance doors | | nr | | Nil | | nr | | Nil | |
| Allowance for screens to coach bays | 8 | nr | 5,000 | 40,000 | 8 | nr | 5,000 | 40,000 | |
| Automatic doors to alighting points from concourse | 7 | nr | 15,000 | 105,000 | 7 | nr | 4,500 | 31,500 | Rate Deemed excessive |
| Floor Finishes | | | | | | | | | |
| Ceramic floor tiles and entrance barrier matting where required inc 75mm screed to ground floor slab | 1,100 | m ² | 100 | 110,000 | 1,100 | m ² | 100 | 110,000 | Dependant of spec of tiles |
| Accommodation | | | | | | | | | |
| Allowance for Transport operator office, mess and staff WC; Also travel shop, newsagents and small enclosed waiting area (assumed 20% of concourse area) | 190 | m ² | 1,100 | 209,000 | 190 | m ² | 0 | 0 | |
| Public toilets (assumed non coin operated) | | item | 25,000 | 25,000 | | item | 25,000 | 25,000 | |
| Fittings, Furniture and Equipment | | | | | | | | | |
| Seats (4nr seats) to alighting points | 5 | nr | 1,800 | 9,000 | 5 | nr | 1,800 | 9,000 | |
| Litter bins (1 per alighting point) | 5 | nr | 1,000 | 5,000 | 5 | nr | 1,000 | 5,000 | |
| Poster stands (1 nr per alighting point) | 5 | nr | 2,600 | 13,000 | 5 | nr | 2,600 | 13,000 | |
| Clocks | | nr | | Nil | | nr | | Nil | |
| Signage | | item | 70,000 | 70,000 | | item | 40,000 | 40,000 | Excessive sum |
| Bus ticket validators | | item | 13,000 | 13,000 | | item, | 13,000 | 13,000 | |
| Mechanical Services | | | | | | | | | |
| Mechanical installations | 190 | m ² | 450 | 85,500 | 190 | m ² | 0 | 0 | the allowance of 190m ² for accommodation is deemed excessive and not in line with the designs previously issued. Additionally the rate for the works of £1,100/m ² fit out and £450/m ² for mechanical installations exceeds expectations, especially when additional costs of £25,000 WCs is taken into consideration. |
| Electrical Services | | | | | | | | | |
| Electrical Installations | 1,100 | m ² | 150 | 165,000 | 1,100 | m ² | 75 | 82,500 | |
| External lighting installations | 4,900 | m ² | 15 | 73,500 | 4,900 | m ² | 15 | 73,500 | |
| CCTV/Security | | item | 100,000 | 100,000 | | item | 50,000 | 50,000 | |
| Real time information | | item | 100,000 | 100,000 | | item | 100,000 | 100,000 | |

| Element | Quantity | Unit | Rate | Total | Quantity | Unit | Rate | Total | Comments |
|---|----------|----------------|---------|--------------------|----------|----------------|---------|--------------------|--|
| 8 person electro hydraulic lift | 1 | nr | 60,000 | 60,000 | 1 | nr | 30,000 | 30,000 | excessive sum |
| Allowance for PV cells to roof | | item | 100,000 | 100,000 | | item | 100,000 | 100,000 | |
| Builders Work in Connection | | | | | | | | | |
| Builders work in connection with mechanical and electrical services | | item | 18,788 | 18,788 | | item | 6,188 | 6,188 | |
| Service Diversion/Connection Costs | | | | | | | | | |
| Minor service diversion/connection cost allowance | | item | | refer to utilities | | item | | refer to utilities | |
| External Works | | | | | | | | | |
| Drainage below ground; including carriageways | 3,500 | item | 15 | 52,500 | 3,500 | item | 15 | 52,500 | |
| Concrete carriageways within bus station boundary only | 2,400 | m ² | 125 | 300,000 | 2,400 | m ² | 125 | 300,000 | |
| Landscaping (shrubs, grass, gravel) | 1,650 | m ² | 40 | 66,000 | 1,650 | m ² | 40 | 66,000 | |
| Trees | 11 | nr | 750 | 8,250 | 11 | nr | 750 | 8,250 | |
| Feature tress to coachway | 11 | nr | 1,500 | 16,500 | 11 | nr | 1,500 | 16,500 | |
| Paving slabs to perimeter of bus shelters | 780 | m ² | 75 | 58,500 | 780 | m ² | 75 | 58,500 | |
| Litter bins | 5 | nr | 1,000 | 5,000 | 5 | nr | 1,000 | 5,000 | |
| Fixed seating - 5 nr in row | 5 | nr | 1,800 | 9,000 | 5 | nr | 1,800 | 9,000 | |
| Kerb and vehicle stop barriers | 6 | nr | 4,000 | 24,000 | 6 | nr | 4,000 | 24,000 | |
| Whitelining | 880 | m | 3 | 2,640 | 880 | m | 3 | 2,640 | |
| Cycle stands | 2 | nr | 1,000 | 2,000 | 2 | nr | 1,000 | 2,000 | |
| Bollards | 10 | nr | 300 | 3,000 | 10 | nr | 300 | 3,000 | |
| DOT Pedestrian Barrier | 150 | m | 200 | 30,000 | 150 | m | 200 | 30,000 | |
| Allowance for signalised junctions to coachway | | item | 200,000 | 200,000 | | item | 200,000 | 200,000 | |
| Allowance for sub station | | item | 100,000 | 100,000 | | item | 0 | 0 | This has not been advised as required, costs deemed to be included in Utilities costs. |
| | | | | 4,174,478 | | | | 3,285,218 | |
| Preliminaries @ 15% (including contractors OH&P) | | | | 626,172 | | | | 492,783 | |
| Sub Total | | | | 4,800,649 | | | | 3,778,000 | |

Two Storey Car Park (MSBC Funded)

| Element | Quantity | Unit | Rate | Total | Quantity | Unit | Rate | Total | Comments |
|--|----------|----------------|---------|--------------------|----------|----------------|--------|--------------------|--|
| REMEDIATION/DEMOLITION | | | | | | | | | |
| General Site Clearance | 8,930 | m ² | 5 | 44,650 | 8,930.00 | m ² | 2.00 | 17,860 | is this required as an item; if however deemed appropriate then the rate is excessive |
| Allowance for cut and fill exercise as advised by EDCO; imported fill material | | item | 200,000 | 200,000 | | | | 100,000 | Deemed excessive amount, based upon inert imported fill material. No detail to vack up the lump sum estimate? |
| SUBSTRUCTURE | | | | | | | | | |
| Allowance for shallow strip foundations and concrete floor slab, including all necessary excavation and disposal | 8,930 | m ² | 175 | 1,562,750 | 8,930 | m ² | 175 | 1,562,750 | The overall carpark cost including those highlighted in red equates to a sum of: £5,351,400 which in turn equates to a rate of £9,730 /space is deemed reasonable However the arctiect had advised previously that the frame was to be steel and not as detailed herein, concrete. |
| SUPERSTRUCTURE | | | | | | | | | |
| FRAME/UPPER FLOORS | | | | | | | | | |
| Concrete frame construction; including concrete floors (total floor area) | 17,860 | m ² | 150 | 2,679,000 | 17,860 | m ² | 150 | 2,679,000 | |
| Reinforced concrete ramps and beams | 110 | m ² | 300 | 33,000 | 110 | m ² | 300 | 33,000 | |
| Precast concrete kerbs | 900 | m | 10 | 9,000 | 900 | m | 10 | 9,000 | |
| STAIRS | | | | | | | | | |
| Reinforced concrete dogleg stairs; 1.2m wide with painted galvanised metal handrail balustrading and wall handrailing; per storey rise | 3 | nr | 15,000 | 45,000 | 3 | nr | 15,000 | 45,000 | |
| EXTERNAL WALLS | | | | | | | | | |
| Cladding panels to perimeter of each level (assuming 3m storey heights) | 1,000 | m ² | 300 | 300,000 | 1,000 | m ² | 175 | 175,000 | Rate deemed excessive |
| Steel crash barriers (assumed one per space, incl ground floor) | 550 | nr | 200 | 110,000 | 550 | nr | 200 | 110,000 | |
| WINDOWS AND EXTERNAL DOORS | | | | | | | | | |
| Steel single escape doors; including frame and ironmongery | 3 | nr | 1,500 | 4,500 | 3 | nr | 1,500 | 4,500 | |
| INTERNAL DOORS | | | | | | | | | |
| Single escape steel doors with vision panel; including frame and ironmongery; to each staircase entrance point | 3 | nr | 2,000 | 6,000 | 3 | nr | 2,000 | 6,000 | |
| WALL FINISHES | | | | | | | | | |
| Assume none | | | - | - | | | - | - | |
| FLOOR FINISHES | | | | | | | | | |
| Assume none | | | - | - | | | - | - | |
| FIXTURES AND FITTINGS | | | | | | | | | |
| White line marking, hatching and miscellaneous lines to car park bays | | item | 15,000 | 15,000 | | item | 15,000 | 15,000 | |
| Allowance for general signage and directional signage above floor level | | item | 5,000 | 5,000 | | item | 5,000 | 5,000 | |
| Litter bins (1 staircase entrance) | 3 | nr | 1,000 | 3,000 | 3 | nr | 1,000 | 3,000 | |
| MECHANICAL SERVICES | | | | | | | | | |
| Allowance for rainwater disposal and upper level slab drainage | 17,860 | m ² | 15 | 267,900 | 17,860 | m ² | 15 | 267,900 | |
| ELECTRICAL SERVICES | | | | | | | | | |
| General electrical Installations; including mains supply and lighting | 17,860 | m ² | 30 | 535,800 | 17,860 | m ² | 30 | 535,800 | |
| CCTV | 17,860 | m ² | 5 | 89,300 | 17,860 | m ² | 5 | 89,300 | |
| Ticket Machines | 6 | nr | 4,000 | 24,000 | 6 | nr | 4,000 | 24,000 | Previously advised that 4 were required! |
| Entry / exit barriers | | item | 50,000 | 50,000 | 4 | No | 5,000 | 20,000 | appears excessive for 2 in 2 out |
| Electric charge points 6nr (as advised by the client) | | item | 20,000 | 20,000 | | item | 20,000 | 20,000 | |
| Allowance for wind turbines 6kw and solar panels; quotation from Quiet Revoluton | 9 | nr | 40,000 | 360,000 | 9 | nr | 30,000 | 270,000 | Excessive |
| BUILDERS WORK IN CONNECTION | | | | | | | | | |
| Builders work in connection with mechanical and electrical services | | item | | 46,883 | | item | | 46,883 | |
| SERVICE DIVERSION/CONNECTION COSTS | | | | | | | | | |
| Allowance for statutory service diversion/connection costs | | item | | refer to utilities | | item | | refer to utilities | |
| EXTERNAL WORKS | | | | | | | | | |

| Element | Quantity | Unit | Rate | Total | Quantity | Unit | Rate | Total | Comments |
|--|----------|----------------|--------|-----------|----------|----------------|------|-----------|---|
| Drainage below ground | 8,930 | m ² | 15 | 133,950 | 8,930 | m ² | 15 | 133,950 | Drainage scheme avoids need for petrol intercepters |
| Allowance for petrol interceptor | | item | 25,000 | 25,000 | | item | | 75,000 | |
| Allowance for feature car park entrance | | item | 75,000 | 75,000 | | item | | 75,000 | |
| | | | | 6,644,733 | | | | 6,247,943 | |
| Preliminaries @ 15% (including contractors OH&P) | | | | 996,710 | | | | 937,191 | |
| Sub total | | | | 7,641,442 | | | | 7,185,134 | |

Ground Level Car Park (Car Park C2)

| Element | Quantity | Unit | Rate | Total | Quantity | Unit | Rate | Total | Comments |
|---|----------|----------------|------|---------|----------|----------------|------|---------|---|
| REMEDIATION/DEMOLITION | | | | | | | | | |
| General Site Clearance | 2,560 | m ² | 5 | 12,800 | 2,560 | m ² | 2.00 | 5,120 | is this required as an item; if however deemed appropriate then the rate is excessive |
| CAR PARK | | | | | | | | | |
| Creation of new ground level car park; including breaking out, excavation, disposal, kerbs, lighting etc. | 2,560 | m ² | 70 | 179,200 | 2,560 | m ² | 70 | 179,200 | This is a robust rate and would include white lining |
| Signage / road markings | | item | | 10,000 | | item | | 0 | |
| Drainage below ground | 2,560 | m ² | 15 | 38,400 | 2,560 | m ² | 15 | 38,400 | |
| Allowance for petrol interceptor | | item | | 5,000 | | item | | 0 | Drainage scheme avoids need for petrol interceptors |
| | | | | 245,400 | | | | 222,720 | |
| Preliminaries @ 15% (including contractors OH&P) | | | | 36,810 | | | | 33,408 | |
| Sub total | | | | 282,210 | | | | 256,128 | |

Highway Works and Adjustments to existing Highways

| Element | Quantity | Unit | Rate | Total | Quantity | Unit | Rate | Total | Comments |
|---|----------|----------------|--------|----------------|----------|----------------|--------|----------------|---|
| Creation of new slip road for bus traffic only; including breaking out, drainage, lighting etc. | 65 | m | 1,500 | 97,500 | 65 | m | 1,500 | 97,500 | |
| Creation of new off side right turn for bus traffic only; including breaking out, drainage, lighting etc. | 102 | m | 1,500 | 153,000 | 102 | m | 1,500 | 153,000 | |
| Allowance for re-surfacing works to existing A404 | | item | 75,000 | 75,000 | | item | 0 | 0 | included in next section "Access Road" works to A404 widening |
| DOT Pedestrian Barriers | 60 | m | 200 | 12,000 | 60 | m | 200 | 12,000 | |
| Signage; 4000 x 3000mm directional signs | 2 | nr | 5,000 | 10,000 | 2 | nr | 5,000 | 10,000 | |
| Signage / road markings | | item | 25,000 | 25,000 | | item | 10,000 | 10,000 | excessive |
| Pedestrian crossings | 7 | nr | 25,000 | 175,000 | 7 | nr | 25,000 | 175,000 | |
| Landscaping (trees, grass, gravel) | 65 | m ² | 50 | 3,250 | 65 | m ² | 50 | 3,250 | |
| Cycleways to A404, including excavaton, sub base, surface course, drainage, lighting etc | 750 | m ² | 110 | 82,500 | | | | | not shown on drawing s provided |
| | | | | 633,250 | | | | 460,750 | |
| Allowance for traffic management | | | | 200,000 | | | | 200,000 | |
| Preliminaries @ 15% (including contractors OH&P) | | | | 124,988 | | | | 99,113 | |
| Sub total | | | | 958,238 | | | | 759,863 | Deemed reasonable |

New Access Road (East)

| Element | Quantity | Unit | Rate | Total | Quantity | Unit | Rate | Total | Comments |
|---|----------|----------------|---------|-----------|----------|----------------|--------|-----------|--|
| Creation of access roads; including breaking out, drainage, lighting etc. | 85 | m | 1,400 | 119,000 | 85 | m | 1,400 | 119,000 | |
| Creation of block paved access roads; including breaking out, drainage, lighting etc. | 130 | m | 1,500 | 195,000 | 130 | m | 1,500 | 195,000 | |
| Extra over cost for Roundabout | 1 | nr | 75,000 | 75,000 | 1 | nr | 75,000 | 75,000 | |
| Road widening to north existing access road | 90 | m | 1,500 | 135,000 | 90 | m | 1,500 | 135,000 | |
| Street furniture | | item | 30,000 | 30,000 | | item | 30,000 | 30,000 | |
| Directional signage | | item | 50,000 | 50,000 | | item | 20,000 | 30,000 | excessive |
| Pedestrian Crossings | 6 | nr | 2,500 | 15,000 | 6 | nr | 2,500 | 15,000 | |
| Creation of spine and access roads; including breaking out, drainage, lighting etc. | 639 | m | 1,400 | 894,600 | 639 | nr | 1,400 | 894,600 | |
| Creation of block paved access roads; including breaking out, drainage, lighting etc. | 110 | m | 1,500 | 165,000 | 110 | m | 1,500 | 165,000 | |
| Road widening to existing A404 and access road | 100 | m | 1,400 | 140,000 | 100 | m | 1,400 | 140,000 | |
| Roundabout/Square junction | 1 | nr | 150,000 | 150,000 | 1 | nr | 75,000 | 75,000 | excessive as this is deemed form part of the block paved spines road |
| Extra over allowance for crossing points | | item | 10,000 | 10,000 | 1 | nr | 10,000 | 10,000 | |
| Allowance for retaining wall structure adjacent to square junction; assumed 1m height | 40 | m ² | 350 | 14,000 | 40 | m ² | 350 | 14,000 | |
| | | | | 1,992,600 | | | | 1,897,600 | |
| Preliminaries @ 15% (including contractors OH&P) | | | | 298,890 | | | | 284,640 | |
| Sub total | | | | 2,291,490 | | | | 2,182,240 | |

Landscaping

| Element | Quantity | Unit | Rate | Total | Quantity | Unit | Rate | Total | Comments |
|---|----------|----------------|--------|-----------|----------|----------------|--------|-----------|---|
| Remediation/Demolition | | | | | | | | | |
| General Site Clearance | 10,950 | m ² | 5 | 54,750 | 10,950 | m ² | 2.00 | 21,900 | is this required as an item; if however deemed appropriate then the rate is excessive |
| Removal of existing trees | 88 | nr | 350 | 30,800 | 20 | nr | 350 | 7,000 | Excessive number of trees and greater than previously advised! |
| Landscaping | | | | | | | | | |
| Soft Landscaping (shrubs, grass, gravel) | 8,470 | m ² | 40 | 338,800 | 8,470 | m ² | 40 | 338,800 | |
| Trees (large) | 126 | nr | 750 | 94,500 | 126 | nr | 750 | 94,500 | |
| Trees box trees | 200 | nr | 500 | 100,000 | 200 | nr | 500 | 100,000 | |
| Hard landscaping (paving) | 2,480 | m ² | 75 | 186,000 | 2,480 | m ² | 75 | 186,000 | |
| Drainage below ground | 10,950 | m ² | 15 | 164,250 | 10,950 | m ² | 15 | 164,250 | |
| Pond; including excavation, disposal, tanking etc | | item | 30,000 | 30,000 | | item | 30,000 | 30,000 | |
| Allowance for re-location of existing Highway Agency Soakaway | | item | | 50,000 | | item | | 50,000 | |
| Provisional allowance for upgrading existing foul pumping station | | item | | 50,000 | | item | | 50,000 | |
| | | | | 1,099,100 | | | | 1,042,450 | |
| Preliminaries @ 15% (including contractors OH&P) | | | | 164,865 | | | | 156,368 | |
| Sub total | | | | 1,263,965 | | | | 1,198,818 | |

Sports Facilities

| Element | Quantity | Unit | Rate | Total | Quantity | Unit | Rate | Total | Comments |
|---|----------|----------------|-------|---------|----------|----------------|-------|---------|--|
| Athletics track clearance. | 20,700 | m ² | 10 | 207,000 | 20,700 | m ² | 0 | 10,000 | This deemed excessive and not required. The extent of the earthworks required would deem these works insignificant. Additionally the elliptical inner space of the running track is deemed to topsoil and could be reused/sold. Allowance for nominal sum only |
| All-weather sports pitch clearance | 7,242 | m ² | 10 | 72,420 | 7,242 | m ² | 0 | 10,000 | |
| Construction of new all-weather sports pitch; including excvavtion, disposal, kerbs etc | 7,242 | m ² | 60 | 434,520 | 7,242 | m ² | 60 | 434,520 | |
| Galvanised chainlink fence and posts; including gates | 340 | m | 130 | 44,200 | 340 | m | 130 | 44,200 | |
| Access path | 125 | m ² | 70 | 8,750 | 125 | m ² | 70 | 8,750 | |
| Bollards | 2 | nr | 750 | 1,500 | 2 | nr | 750 | 1,500 | |
| Litter bins | 2 | nr | 100 | 200 | 2 | nr | 100 | 200 | |
| External lighting; floodlighting | 8 | nr | 2,500 | 20,000 | 8 | nr | 2,500 | 20,000 | |
| Drainage | 7,242 | m ² | 7 | 50,694 | 7,242 | m ² | 7 | 50,694 | |
| | | | | 839,284 | | | | 579,864 | |
| Preliminaries @ 15% (including contractors OH&P) | | | | 125,893 | | | | 86,980 | |
| Sub total | | | | 965,177 | | | | 666,844 | |

Leisure Centre Car Park

| Element | Quantity | Unit | Rate | Total | Quantity | Unit | Rate | Total | Comments |
|--|----------|----------------|------|---------|----------|----------------|------|---------|-------------------|
| CAR PARK | | | | | | | | | |
| Remodel of existing ground level car park; including new surface course etc. (re-use existing base course) | 3,665 | m ² | 50 | 183,250 | 3,665 | m ² | 50 | 183,250 | |
| Signage / road markings | | item | | 25,000 | | item | | 25,000 | |
| Landscaping (trees, grass, gravel) | 200 | m ² | 50 | 10,000 | 200 | m ² | 50 | 10,000 | |
| | | | | 218,250 | | | | 218,250 | |
| Preliminaries @ 15% (including contractors OH&P) | | | | 32,738 | | | | 32,738 | |
| Sub total | | | | 250,988 | | | | 250,988 | deemed reasonable |

| Buckinghamshire County Council Handy Cross Hub Budget Cost Estimate | | | | | JACOBS | | | | |
|---|----------|------|---------|---------|---------------|------|---------|-----------|---------------------------------------|
| Utilities and Services | | | | | | | | | |
| Element | Quantity | Unit | Rate | Total | Quantity | Unit | Rate | Total | Comments |
| Electricity (Scottish and Southern Energy) as email dated 19/11/2009 | | item | 235,000 | 235,000 | | item | 736,000 | 736,000 | Report states a greater sum required. |
| Fresh Water (Thames Water) as email dated 19/11/2009 | | item | 102,000 | 102,000 | | item | 102,000 | 102,000 | All as previously advised |
| Telecommunications (British Telecom) as email dated 19/11/2009 | | item | 400,000 | 400,000 | | item | 400,000 | 400,000 | All as previously advised |
| Gas as email dated 19/11/2009 | | item | - | - | | item | - | - | |
| Cable and Wireless / Virgin Media as email dated 19/11/2009 | | item | - | - | | item | - | - | |
| Sub total | | | | 737,000 | | | | 1,238,000 | |
| | | | | | | | | 1,238,000 | |