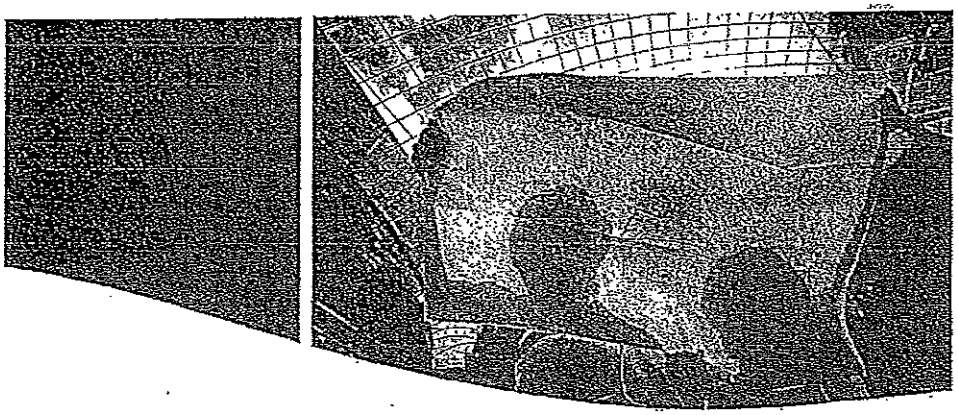
Hereford & Worcester Fire and Rescue Service



Hereford Fire Station

Feasibility Study

April 2010

cyril sweett
global knowhow

Hereford Fire Station
for Hereford & Worcester Fire and Rescue Service
Hereford, Herefordshire
Preliminary Order of Cost Nr 1

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QUALITY ASSURANCE APPROVALS

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1.0 Executive Summary

The existing Fire Station was constructed during the middle of the 20th Century circa 1950. The site is unconventional in its layout and the combination of the buildings on site together with the necessity to maintain egress through the site results in a congested and inefficient use of space.

The main building generally remains as its original construction and is now in fairly poor condition overall. The building fails to comply with a number of current legislation requirements such as DDA and it is considered that it has a limited future life span without significant investment.

To address the current issues with the Fire Station five options have been identified for consideration:

- Option 1 – Do nothing
- Option 2 – Full refurbishment
- Option 3 – Demolish existing and rebuild at St Owen Street site
- Option 4a – New build on alternative site 2 [redacted]
- Option 4b – New build on alternative site 3 [redacted]

Option 1 does not address any of the current inherent issues and does not provide the Authority with a feasible solution to the ongoing operation of the station in Hereford. For these reasons the 'Do Nothing' option has been excluded from any further analysis.

Option 2 is a complete refurbishment of the existing station. The existing structure of the station is retained but it will undergo structural repairs as necessary. All of the existing roofing will be replaced with new including a completely new roof to replace the existing concrete/glass block roof. Internally the building will retain the existing layout with the exception of some new dormitories and relocation of the TV and lecture room. The building will be completely refurbished throughout including new Mechanical and Electrical installations. Externally the existing buildings will be retained and refurbished and the existing yard will be relayed.

Option 3 is to demolish all of the existing buildings on site and to develop a new Fire and Rescue Station on the cleared site. The new station will need to be constructed within the confines of the existing site but it is unlikely to meet the Fire Authorities requirements for 8 bays due to the restricted nature of the site. The remainder of the site is laid with a new yard and a replacement BA facility and 4 stage training tower will be provided.

Option 4a considers the cost of relocating the existing Fire Station to the vacant site at [redacted]. This involves the Fire and Rescue Authority purchasing the new site which is significantly larger than required on which the new facility together with the associated infrastructures work would be constructed. Once commissioned and operational the existing station would be decommissioned and sold together with any surplus land remaining after the new station had been constructed. A replacement 4 stage training tower is included in these works.

Option 4b undertakes the same process as 4a but using an alternate site on [redacted] which is currently occupied by [redacted]

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The site at [redacted] is smaller than that at [redacted] and closer to the size required by the Fire Authority but will require some demolition works.

The total costs for each option inclusive of fees and risk but exclusive of VAT have been assessed as follows:

Option	Capital Cost £	NPV £
1 Do Nothing	N/A	N/A
2 Full Refurbishment	[redacted]	
3 Rebuild on existing site	[redacted]	
4a New build [redacted]	[redacted]	
4b New build [redacted]	[redacted]	

The above costs exclude the following which the Authority will need to factor into the overall capital costs and whole life costs:

- Specialist Fire & Rescue Service equipment
- IT and Comms equipment other than the equipment allowances included in the costs
- Staffing costs

The advantages and disadvantages of each option are as follows:

Option	Advantages	Disadvantages
1 Do Nothing	- No capital cost	- Leaves the facility with substandard accommodation - Does not address failing building fabric - The building services (electrical circuits, hot water pipes, radiators etc) are in many instances reaching the end of their economic life and will start to fail with increasing regularity in the future - Inefficient use of the site - No opportunity to replace training facilities (tower, etc)
2 Full refurbishment	- Substantially reduces risk of future failure of the building structure and services	- Temporary relocation required to facilitate works - Retains current site layout which is congested and inefficient. - Retains current structure and layout of building

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		resulting in compromised and uneconomic use of space. - Building still unlikely to last the 30 year lifecycle without further substantial investment.
3 Rebuild on existing site	- Modern DDA compliant Fire Station created - Improved efficiency of new building structure and components - Sustainability measures included - Removes risk of the existing building or services failing - Improved training facility	- Temporary relocation required to facilitate works - Building still unlikely to satisfy requirements in terms of bay numbers (8 required). - Building required within the confined site.
4a New Build at [redacted]	- No requirement for temporary relocation - Large site allows creation of ideal facility - Large site provides potential opportunity for additional future use - No demolition required, site is vacant and cleared - Removes risk of the existing building or services failing - Modern DDA compliant Fire Station created - Improved efficiency of new building structure and components - Sustainability measures included - Improved training facility - Lowest Capital and NPV option	- Risk of the existing building or services failing during the construction of the new facility - Inability to sell existing site when new facility complete - Inability to sell surplus land once new facility created - Site is significantly larger than required - Risk of ground contamination from previous use
4b New Build at [redacted]	- No requirement for temporary relocation - Large site allows creation of ideal facility - Large site provides potential opportunity for additional future use - Removes risk of the existing building or services failing - Modern DDA compliant Fire Station created - Improved efficiency of new building structure and components - Sustainability measures included - Improved training facility	- Risk of the existing building or services failing during the construction of the new facility - Inability to sell existing site when new facility complete - Inability to sell surplus land once new facility created - Site is larger than required - Demolition of existing buildings required - Risk of ground contamination from previous use

Summary

Option 1 'Do Nothing' does little except defer expenditure. With no initial expenditure to address the components of the station requiring immediate attention it does not offer the Fire Authority a feasible solution.

Option 2 'Full Refurbishment' substantially reduces the risk of failure of the existing building structure and services but does not provide the Fire Authority with a long term investment for the building. It is considered that due to the nature of the site and the condition of the building that significant investment will be required during the 30 year life cycle.

Option 3 'Rebuild at St Owen Street' replaces the existing station with a modern DDA compliant fire station with a replacement training tower. The new station also incorporates some sustainable technologies and offers the Fire Authority the chance to create a more efficient building but it is apparent that this option will not provide the 8 appliance bays required. This option also suffers from the requirement for a temporary relocation in order to facilitate the works.

Option 4a 'New Build at [redacted] fully satisfies the requirements of the Fire and Rescue Authority with improved facilities, efficiency, health and safety, sustainability and the opportunity to create the ideal station on a large cleared site. This option does however have some inherent risk as it is sensitive to land prices in both the purchase and sale of the surplus land. It is also recognised that there is some risk with potential land remediation required as a result of the prior land use which is currently unknown.

Option 4b 'New Build [redacted] fully satisfies the requirements of the Fire and Rescue Authority with improved facilities, efficiency, health and safety, sustainability and the opportunity to create the ideal station on a large site. This option does however have some inherent risk as it is sensitive to land prices in both the purchase and sale of the surplus land. This option would however include some demolition of the existing buildings and potential land remediation caused by the prior use as a bus station.

The study concludes that option 4a, new build at [redacted] represents the best value for money and provides the Fire and Rescue Authority with the chance to create the ideal station to satisfy both themselves and the public. The site is significantly larger than required and it is recognised that this could be a potential risk in terms of sale of the surplus land but at this early stage this large site could also provides the Fire Authority with the opportunity to consider future utilisation of part of this space. Such risks together with that of ground contamination from prior use should be subject to early consideration at the next stage of development in order to reduce the financial liability of the Authority.

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2.0 Introduction

Hereford & Worcester Fire and Rescue Authority are developing a strategy for the re-provision/relocation of the Hereford Fire Station within the context of their overall Capital Property Strategy and Asset Management Plan.

The existing Fire Station was constructed during the middle of the 20th Century circa 1950. The site is currently occupied by a number of buildings which include the main station which fronts onto St Owen Street, a [redacted] a [redacted] and [redacted] room, a 5 storey training tower, a [redacted] facility and an [redacted] block currently occupied by the Sign Posting team. Access to the site is adjacent the main building from St Owen Street and [redacted] The site is unconventional in its layout and the combination of buildings combined with the necessity to maintain egress through the site results in a congested and inefficient use of space.

The main building generally remains as its original construction and is now in fairly poor condition overall. The building fails to comply with a number of current legislation requirements such as DDA and it is considered that it has a limited future life span without significant investment.

To address the current issues with the Fire Station five options have been identified for consideration:

- Option 1 – Do nothing
- Option 2 – Full refurbishment
- Option 3 – Demolish existing and rebuild at St Owen Street site
- Option 4a – New build on alternative site 2 [redacted]
- Option 4b – New build on alternative site 3 [redacted]

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3.0 Methodology

Capital costing information

The construction capital costs are based upon the Consultants internal cost database for similar projects updated to current prices (2nd Quarter 2010).

Capital costs for new buildings are based upon £/m2 rates from in house data and BCIS average prices, uplifted for inflation as appropriate. Capital costs for refurbishment of the existing station are based upon the site visit conducted by Cyril Sweett in the presence of Property Services. Capital costs for site works and infrastructure are based upon allowances derived from those included for previous Fire Station appraisals and comparative in house data.

Detailed Capital costs can be found in Annex A. Key costing assumptions and exclusions for each option are detailed with the costs for each option.

Costs will remain valid for 1 Quarter, they will then require review to reflect any changes that may occur in the currently unstable market conditions. As a guide, the current forecasted trends indicate a fall in prices to the end of the year (4th Quarter 2010) of almost 1% but then in the next year between 4th Quarter 2010 and the 4th Quarter 2011 forecast an increase of 2.9%.

Whole life costs

The whole life cost models are based on a 30 year cycle.

Cyclical replacement costs have been extracted from the BCIS average life cycle prices for Fire Stations updated to 2nd Quarter 2010 price levels. The £/m^2 rates included are for decoration, works to fabric, services, utilities, overheads and external works/services.

Maintenance and other costs including cleaning, business rates and health and safety costs are based on figures provided by the Fire and Rescue Authority for Worcester Fire Station.

Residual values are based upon on a 50 year building life expectancy and the proportion of this period left at the end of the whole life cost cycle. It should be noted that Option 2 assumes that the building despite undergoing significant investment will not last the 30 year cycle. The costs of undertaking the option 4a new build station have therefore been included at year 16 when it is anticipated that the current building will be reaching the end of its economic life.

The costs provided within the appraisals are indicative only for comparison purposes. They do not necessarily reflect the actual expenditure during the life of the cycle as key decisions on materials and building form have not been made.

The expected life cycle of each option has been considered over a 30 year period with a discount rate of 3.5% in accordance with current government guidance. Year 0 in the cost model is the current year.

Whole life cost models for all options are provided at Annex B.

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4.0 Options Considered

Option 1 – Do Nothing

Option 1 does not address any of the current inherent issues and does not provide the Authority with a feasible solution to the ongoing operation of the station in Hereford. For these reasons the 'Do Nothing' option has been excluded from the analysis.

Option 2 – Full refurbishment

The refurbishment cost has been developed by Cyril Sweett based upon the site visit conducted and the building condition report produced by Allen, Sheppard & Partners Ltd. The details are summarised in the Cost Plan developed which is provided at Annex A. Due to the substantial nature of the planned works the existing station must be temporarily relocated for an estimated 18 month period to facilitate the works.

As the cost of including the construction of a new build facility after 15 years significantly increases the whole life costs of option 2 it was deemed appropriate to subject the costs to a sensitivity analysis. The whole life costs have therefore been considered for maintaining the existing facility for the duration of the life cycle. The results of this analysis can be found in Annex C.

Option 3 – Rebuild on existing site

New build costs have been based upon Worcestershire County Councils (WCC) sketch plan proposals for a new Hereford Fire Station which generate the total gross internal floor area of 1,938m^2. The costs are based upon the BCIS average building prices £1,351/m^2 adjusted for inflation and location. Allowances have been included for the associated site works to the remainder of the existing site together with the demolition of the existing buildings. Once again, due to the substantial nature of the planned works the existing station must be temporarily relocated for an estimated 18 month period to facilitate the works. It should be noted that whilst the costs are based on WCC's sketch design it is recognised that this design would not be possible due to the restricted nature of the site.

Options 4a and 4b – New build

New build costs have been based upon Worcestershire County Councils (WCC) sketch plan proposals for a new Hereford Fire Station which generate the total gross internal floor area of 1,938m^2. The site works are based on WCC's sketch site plan proposals for the same. The costs are based upon the BCIS average building prices £1,351/m^2 and a number of assumptions based on aerial images of the two sites have been made for the site works required. An allowance has been made for S106/Highways improvements works to access the sites and in the case of option 4b an allowance has been made for demolition of the existing buildings together with some minor remediation caused by the existing site use as [redacted]

As the costs of option 4a and 4b are subject to risk in respect of land prices and potential requirements for remediation it was deemed appropriate to subject the costs to a sensitivity analysis. The whole life costs have therefore been considered for an increased land purchase value, a decreased sale value and for more significant land remediation at both sites. The results of this analysis can be found in Annex C.

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5.0 Capital Costs & Whole Life Costs

5.1 Option 1 – Do nothing

This option does not have a capital or whole life costs.

5.2 Option 2 – Full refurbishment

The overall capital cost estimates are:

Element	Cost £
Temporary Relocation	
Temporary Lease (inc fees & legals)	[redacted]
Construction costs	[redacted]
Fees	[redacted]
Furniture, equipment, telephony & data	[redacted]
Decant	[redacted]
Contingency	[redacted]
Subtotal	[redacted]
Refurbishment Works	
Construction Costs	[redacted]
Fees	[redacted]
Furniture, equipment, telephony & data	[redacted]
Decant	[redacted]
Contingency	[redacted]
Subtotal	[redacted]
Total (ex VAT)	[redacted]
VAT	[redacted]
Total (Include VAT @17.5%)	[redacted]

The net present value is as follows. Note that this includes the cost of a new build facility after 15 years. This figure is exclusive of VAT.

Element	30 Years £
NPV discounted by 3.5% per annum	[redacted]

5.3 Option 3 – Rebuild at Worcester Road site

The overall capital cost estimates are:

Element	Cost £
Temporary Relocation	
Temporary Lease (inc fees & legals)	[redacted]
Construction costs	[redacted]
Fees	[redacted]
Furniture, equipment, telephony & data	[redacted]
Decant	[redacted]
Contingency	[redacted]
Subtotal	[redacted]
Demolish & Rebuild Works	
Construction Costs	[redacted]
Fees	[redacted]
Furniture, equipment, telephony & data	[redacted]
Decant	[redacted]
Contingency	[redacted]
Subtotal	[redacted]
Total (ex VAT)	[redacted]
VAT	[redacted]
Total (Include VAT @17.5%)	[redacted]

The net present value is as follows. This figure is exclusive of VAT.

Element	30 Years £
NPV discounted by 3.5% per annum	[redacted]

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5.4 Option 4a – New build on [redacted]

The overall capital cost estimates are:

Element	Cost £
New Build Works	
Construction Costs	[redacted]
Fees	[redacted]
Furniture, equipment, telephony & data	[redacted]
Decant	[redacted]
Contingency	[redacted]
Subtotal	[redacted]
Land Costs	
Land Costs	[redacted]
Fees & Legals	[redacted]
Subtotal	[redacted]
Receipts	
Sale of existing	[redacted]
Fees & Legals	[redacted]
Sale of surplus land ([redacted])	[redacted]
Fees & Legals	[redacted]
Subtotal	[redacted]
Total (ex VAT)	[redacted]
VAT	[redacted]
Total (Include VAT @17.5%)	[redacted]

The net present value is as follows. This figure is exclusive of VAT.

Element	30 Years £
NPV discounted by 3.5% per annum	[redacted]

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5.4 Option 4b – New build on Commercial Road Site

The overall capital cost estimates are:

Element	Cost £
New Build Works	
Construction Costs	[redacted]
Fees	[redacted]
Furniture, equipment, telephony & data	[redacted]
Decant	[redacted]
Contingency	[redacted]
Subtotal	[redacted]
Land Costs	
Land Costs	[redacted]
Fees & Legals	[redacted]
Subtotal	[redacted]
Receipts	
Sale of existing	[redacted]
Fees & Legals	[redacted]
Sale of surplus land ([redacted])	[redacted]
Fees & Legals	[redacted]
Subtotal	[redacted]
Total (ex VAT)	[redacted]
VAT	[redacted]
Total (Include VAT @17.5%)	[redacted]

The net present value is as follows. This figure is exclusive of VAT.

Element	30 Years £
NPV discounted by 3.5% per annum	[redacted]

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6.0 Conclusions and Recommendation

The capital cost and net present values for the options are as follows, which indicate that a new build facility on the [redacted] is the preferred option financially.

Option	Capital Cost £	NPV £
1 Do Nothing	N/A	N/A
2 Full Refurbishment	[redacted]	[redacted]
3 Rebuild on existing site	[redacted]	[redacted]
4a New build [redacted]	[redacted]	[redacted]
4b New build [redacted]	[redacted]	[redacted]

When the Sensitivity of alternate scenarios is considered it becomes clear that the new build option remains the preferred option.

If the existing building could be retained for the full 30 year life cycle period it would still not offer the best value for money with an NPV of [redacted] as illustrated at Annex C.

In a separate analysis the major risks associated with the new build options were examined to determine whether the effects of an increased land purchase value, a decreased sale value and more significant land remediation at both sites would change the order of the options.

The results on the NPV of Option 4a and 4b were to increase them to [redacted] and [redacted] respectively. Both of these still remain well within the next lowest NPV and thus option 4a remains the preferred option. The analysis can be found in Annex C.

[redacted]

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