Feasibility Study for the Expansion of Theale C of E Primary School

Oxford Architects LLP

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Contents

1.0 Executive Summary

The school is currently operating at 1.5 form entry at Key Stage 1. By September 2015 there will be a requirement for the school to operate at 1.5 form entry at all year groups, and accommodation will need to be sufficient to allow this. Furthermore, due to strong demographic growth in the district and planned residential developments in Theale, there is a need to plan for an eventual expansion to 2.0 form entry at an as yet unspecified time. As such, the project brief calls for an expansion in two phases and with a budget given for the first phase of £2.55 million.

The existing school site is constrained and has an area of approx. 1.5 Acres (2/3rds Hectare) with the site curtilage bounded by church grounds, playing fields, public highway and hotel/PH property. The purpose of this study is to establish if we can actually accommodate an expansion on the existing confined site to a 1.5 form entry school (phase 1) and rising to a 2.0 form entry school (phase 2) in the future.

In effect, phase 1 will require the net addition of four classrooms and phase 2 will require a further three classrooms. In addition, to comply with D of E guidelines we will need to provide a hard surfaced multi-use games area.

In this study the feasibility team has considered six options, four of which allow for 2 phase development. Alternative local sites have been considered but do not form part of this report.

The outcome of the study is essentially that the existing site is only of sufficient size to build a completely new 2 form entry school whereas the site is not of sufficient size to accommodate a 2 phase expansion programme to facilitate the development of a 2 form entry school . A 2 phase development programme on this site would require a derogation from Building Bulletin guidelines in respect of a multi-use games area (MUGA) and parking unless agreement can be resolved with the diocese and additional neighbouring land can be purchased.

With regard to additional land purchase, legal issues still need to be resolved in particular:-

Possible purchase of additional ground to the north of site (recreation ground) for purpose of a MUGA.

Regularisation of the land ownership to the east of the site adjacent the old school house.

Agreement between the church and the council on utilising the rough ground car park to the east of site, currently part of the Diocese ownership.

Each option is considered in terms of its approach and the effect on the school and at the end of each section there is an advantages and disadvantages table with estimated costs for building and temporary accommodation.

Of the options in the study, Option 6 is perhaps the best 2 phase way of going forward in terms of practical buildability, least disruption to schooling and provision within budget.

With the uncertainty of future demographic growth and demand for a 2 form entry school it does not seem realistic to build a 'new' school at this stage which may cost in excess of £6 million. The immediate requirement for a 1.5 form entry can best be achieved by staying on the existing site which may also be favoured by the local populace, provided additional land requirements can be satisfactorily dealt with.

The existing site area is 0.64 Hectares whereas a new school site would need to be of up to 1.51Hectares for a 315 pupil school or 1.93 Hectares for a 420 pupil school.

Alternative sites have been brought to our attention although studies of these sites have yet to be undertaken at this stage.

1.1 General Description

- The school is a single form entry (1FE) primary school, with a 52 place nursery. The school also two Resourced Units on site
- A 12 place Autistic Spectrum Disorder (ASD) Resourced Unit that provides facilities to support children with Autistic Spectrum Disorder, whilst maintaining inclusion in a mainstream school environment
- A Language and Literacy Unit that provides additional support for 3 pupils, not on roll at the school.
- The school lies within the heart of Theale village with its catchment serving the main Theale urban area.
- Primary admission numbers for September 2012 have seen a significant increase across the district, being particularly acute within the urban areas. Theale Primary school is experiencing this increased demand and will be taking in a 1.5FE entry into Foundation 2 from this September in order to cater for the increase in pupil numbers in Theale.
- There is a local housing development of 350 dwellings that has planning permission and further proposed housing as identified within West Berkshire Council's (WBC) Core Strategy.
- The aim of the project is to ultimately provide sufficient provision in Theale for 2FE (i.e. 420 pupils). The project needs to be able to be delivered in two distinct phases – expansion to 1.5FE and further expansion to 2FE. This is to cater for the unknown future demographic pressures and the unknown timeframes for new housing development.

1.2 Requirement

- The significant increase in pupils coming into the school from within the school's catchment area at Foundation 2 has created unmanageable accommodation pressures at the school. Temporary classrooms have been installed onto the site to enable the additional 0.5FE of pupils this year and next to be accommodated for the 2012, 2013 and 2014 academic years. These temporary classrooms are only a stop gap solution and sterilise valuable external area.

- The expected number of primary aged pupils arising from the local approved 350 dwelling housing development is 69, with a further approximate 35-50 primary aged pupils expected from further proposed housing developments in Theale.

1.3 Drivers & Objectives

- The district is experiencing strong demographic growth, putting pressure on the existing amount of pupil places available

- Approved and future new housing will put existing provision under even more pressure;

- The LA has a statutory duty to ensure there are sufficient pupil places to meet demand across West Berkshire;

- Ensuring that there is good quality local education provision for the local community.

- The existing building is predominantly single storey and has, at present 5 temporary modular units which are generally in poor condition. Not all of the units currently have planning approval.

- The broad aim of developing this site is to increase the number of two storey units such that it will increase the availability of land for hard and soft play and parking.

- The school has previously explored off site options for staff parking but has not yet found a long term satisfactory solution. However, negotiations are currently taking place with a nearby church which has available parking.

1.4 Programme

The school already has temporary classrooms which provide 1.5 FE KS1. However, KS2 classes also need to increase to 1.5 form entry by August 2015.

2.00 Feasibility Brief

The project team were commissioned by WBC to carry out the feasibility report **to** investigate the options available for increasing the capacity of the site to achieve a 1.5 form entry school designed to BB99 area requirements.

However, the planned increase in the level of residential development locally is likely to increase the requirement eventually to 2 form entry. Therefore this study also explores the options of 1.5 FE and 2FE layouts.

This will of cause require additional teaching spaces, additional play areas and additional staff who in turn tend to increase the need for parking.

The architect was appointed towards the end of April and the first full design team meeting took place 13th June 2013

2.1 External Project team

Architect	Oxford Architects LLP Bagley Croft, Hinksey Hill Oxford OX15BS
Quantity Surveyor	Ridge &Partners Beaumont House 59 High Street Theale Reading, RG7 5AL
Structural Engineer	KRP Consulting Engineers, 239 College Road College Town Sandhurst Berkshire GU47 0RG
Services Engineer	PRO Air Consultants 25 The Birchwoods, Tilehurst, Reading, Berks, RG31 5UH.
CDMC	PB Safety Solutions Fareham Grove Lightwood Stoke on Trent, ST37TE
BREEAM	Southfacing Services Ltd 81 Essex Road, London. N1 2SF

3.0 Stakeholder Liaison

3.1 School input .There has been three meetings with the school

20th May - to look at preliminary ideas and discuss the final briefing document (schedule of accommodation etc.) The school is high achieving with a particular focus on Music and one of the considerations in reviewing the area schedules.

13th June to make initial comments on 3 options tabled at the meeting. At this meeting it was clear that the school was painfully aware of the site limitations but are keen to remain on the site if at all possible. The operational needs of the school in relation building out options within a live school these comments were taken into account with the later design options.

4th July to review the finally proposed options

Feedback from all stakeholders, including the school, are summarised in the advantages / disadvantages section within each option.

Greg Bowman and Jan Ralph met with Dave Pearson, Planning Development Control Team Leader, and Alan Macro Ward (who is a Ward Councillor and a member of the Project Board for this project) on site 10th September 2013.

Main comments/ issues discussed raised were as follows:-

a) The site is becoming over developed; however, removal of the existing temporaries would improve the situation.

b) 2-storey options could be an issue? However, the existing school house is already 2 storey and the site slopes down from the school house buildings to the main school building. Therefore a second storey on the main school is less obtrusive than originally thought.

c) The school house side seemed to be on the boundary of a listed building (the church). However, the listed building and listed wall stops on the boundary of the church car park. This would allow the boundary wall to be continued along the car park, as it is at present, so subject to the design and materials being acceptable this could be viewed as improvement.

d) The existing view form the church steps towards the school is not good. The option to replace that building would not be detrimental and with planting would enhance the environment of the church

4.0 Existing School Facilities

4.01 Site Issues

- The site is reasonably level, except for the areas of the ASD Resource & Year 6 Buildings, which are at a slightly higher elevation that the reminder of the site.

- Numerous trees on the site but none have TPO's. There are three trees with TPO's in the recreation ground to the rear of the site but these would not be affected by either the works to the school or the possible MUGA.(NB the most northern of these trees no longer exists)

- Geological map indicates that the existing subsoil is Sands and Gravels over Chalk, and this was confirmed in CJ Associates investigation carried out in August 2012, for the two storey modular classroom block.
This report identified subsoil suitable for shallow spread foundations with ground water levels at approximately 2.30m, with no visual or olfactory contamination observed. At this stage it is assumed that these conditions prevail throughout the site.

- Foul drainage is generally to gravity fall to the last manhole within the site, which is adjacent to the Church Street boundary.
There is however, a pumped main serving the drainage from the KS1 Buildings in the north east corner of the site, which is a single pump system with no apparent alarm provisions.

  There is no evidence that public sewers cross this site, (however this will need to be verified), and that the drains do not serve adjacent properties. Thames Water Utilities agreements are therefore unlikely to be required.

- Record drawings and feedback from the caretaker suggest that storm drainage is generally into soak ways, although the foul and storm drainage from the ASD Building seems to be combined.

- We were advised by the caretaker of the school that in the front garden between the ASD Building and Church car park, there is an in filled swimming pool.

- There are no listed buildings on the school site. Nearest structure which may be affected, depending on scheme, is the boundary wall between the road and churchyard.

- A topographical and sub surface survey was prepared in support of this study.

4.02 Existing Buildings

- Generally comprise single storey loadbearing masonry structures, of various ages, with pitched timber framed or flat timber roof structures,

Typical construction of the school.

- Modular / system buildings including a fairly new two storey unit are seen as a poor option as they are piecemeal, do not create a quality space and tend to be 'land hungry.'

- Generally comprise single storey loadbearing masonry structures, of various ages, with pitched timber framed or flat roof structures or modular/ system buildings.

- The main hall is a steel framed structure with a pitched metal decked roof and curtain wall cladding. We understand that there are no basements to any of these buildings.

- The original Victorian school house (literally a house) and masonry classroom is now used as and ASD unit, a LAL and a single classroom KS2. However the buildings are generally in poor condition, the roof leaks and the LAL in particular, the house' is made up of small, inappropriate spaces not befitting a modern school. There are also access issues to the upper floor.

- The existing main school building, which is constructed of loadbearing masonry, could potentially support a future first floor extension. However this would be subject to a detailed building survey to establish loadbearing elements and foundation details.

  If this first floor extension option is pursued then it would be achieved by introducing steel framing within and / or outside the building, to create a first floor platform / transfer structure, over which would be constructed the new first floor, possibly using a lightweight metal frame system such as the Metsec SFS system.

- A measured survey of the existing plans and elevations of the building were prepared in support of this report and will be used for any more detailed schemes to follow.

4.03 Services overview

Main services installation

The services installation throughout the school with exception or a few locations is getting tired and in need of a refurbishment. The boilers are nearly 20 years old and the pipework systems through the majority of the school are in excess of 40 years old. The radiators vary in age with some in excess of 40 years whilst others were replaced in the 1990s. The hot water systems are very inefficient with localized water heaters dotted around the school that operate 24 hours a day unless manually switched off.

The Electrical services installation dates back to the 1960s/1970s with various areas being upgraded in more recent years. The main switchgear and cable distribution are dated and date back to the 1960s or 1970s with the equipment now obsolete. A lot of the cabling dates back to the same time with the exception of a few areas where new lighting and power has been installed to spruce up the school and provide power for the IT installation.

In general the main services installation is tired and coming to the end of its useful life. Consideration should be given to a new services installation throughout the school, this shall provide the school with an efficient installation with low energy usage and minimal maintenance.

We would strongly recommend that as a minimum if the current buildings are to be modified, then consideration is given to insulating the entire building to the latest standards and for new energy efficient services to be installed throughout the school using Renewable energy sources and energy saving systems to meet the council's energy policy and carbon reduction programme.

Should a new build option be considered then new services shall be required throughout, these shall be in compliance with BREEAM and the councils own energy policy to reduce the carbon footprint.

Utility supplies

The current electrical supply is sufficient for the current and future needs of the school and if anything would only require relocation if a new purpose built school was being constructed.

There is only a small gas supply on site for the cooking, although there are three main gas pipelines in the road at the front of the school it remains reliant on Oil for the heating.

The water supply to the school is sufficient for the school needs although the infrastructure pipes are a mixture of old and new and could we do with replacement

There are two new oil tanks on site, one serving the main building and the other serving the original school building, these are new and to the current regulations.

4.04 Flood Risk Assessment

A Flood Risk Assessment was carried out by KRP Consulting on 9th September 2013. This document comprises a Flood Risk Assessment in accordance with the National Planning Policy Framework (NPPF) including its technical guidance in support of a planning application for the proposed expansion of the Theale Primary School – Option 6.

In conclusion the report stated

"It is considered that this Flood Risk Assessment has demonstrated that the proposed addition:

- *Will not pose an increased flood risk elsewhere either on site or to neighbouring premises.*
- *Has incorporated a design to mitigate the potential impact of climate change*

On the basis of the above, it is considered the proposals put forward fully address and comply with the requirements of national and local planning policy for a zone 1 flood risk development."

The full FRA is included in the appendix.

4.05 BREEAM Statement

1) Energy – In considering the options, care should be taken to ensure the energy performance of the new and existing buildings are as good as possible. Good thermal performance of the building fabric (more easily achievable in new build), natural ventilation, efficient heating/hot water systems and the use of renewables e.g. PV panels all contribute to lowering energy demands and reducing energy costs.

2) Materials – materials should be reused where possible (it is noted that re-use of buildings would be good in terms of materials use, but more difficult to achieve good energy efficiency, a balance will need to be sought) and chosen with a Green Guide rating of A or A+ where possible (www.thegreenguide.org.uk).

3) Surface water run-off – a flood risk assessment should be carried out to confirm that the area is in a low flood risk (1 in 1000) and to provide calculation to show that the run-off is no worse post-development. Further options for attenuating rainfall, and SuDs should also be explored.

4) Further issues will discussed in more detail when design options have been crystallised and a BREEAM pre-assessment carried out.

4.06 Ecology Statement

1) The buildings should be surveyed for bats and breeding birds before work commences.

2) Trees/Ecology – Given there are trees on site, options should be explored that minimise the removal of these and any other ecological features. This should be done in conjunction with an ecologist.

4.07 Access Statement

The options were reviews by WBC Access Officer (Valery Witton) who had the following comments. Most areas of the school should be fully accessible.

However, because of the constraints of this very tight site the school should be able to create a management strategy for the occasional rooms which are not fully accessible e.g. first floor of existing two storey modular.

4.07 Fire

There are no sprinklers on site at present and costing's do not allow for new sprinklers / fire suppression. However, we are aware that WBC has a fire suppression policy in place.

Upon selection of a design option a FRA will need to be carried out. The school has an existing fire risk assessment which will be updated as the design develops

4.08 Asbestos

There is an original Type 2 survey which was conducted in 2004 which was updated in June 2009.

WYG's prepared a management survey 19th September 2013. They specifically highlighted the following:

Lab analysis for Thermal Insulation residue has come back positive to both the plant room and tank room at Theale CE Primary School. There is also AIB Debris in the tank room above.

The school have been asked to restrict access to the above areas until they've been cleaned.

There will need to be a Refurbishment & Demolition survey carried out before any building work is carried out as a result of this study.

4.09 Parking

BB99 states that car parking is usually equivalent to one parking bay per full-time equivalent teaching staff, plus appropriate visitors' and disabled facilities.

Existing parking provision for the school is not ideal and is already restricted.

There are currently 16 teachers and 35 part time staff and 5 non-teaching staff. (Say 38.5 FTE staff). Existing, on-site parking comprises 17 spaces within the car park and 2 additional spaces adjacent to the school. (Near the admin block).

With the school potentially increasing to 2 form entry the head teacher has estimated that the parking requirement will increase to 28 Spaces. However, this does not allow for either visitors, peripatetic teachers, or overlaps where part time teachers are both on site.

Taking a view of likely future staffing levels and BB99 requirements it has been estimated that target parking provision should be 40 spaces for 315 Pupils and 50 Spaces for 420 pupils.

However, whilst these figures are target figures in practice levels of parking need to be agreed with the planning authorities who insist on the preparation of a green travel plan. Final firm parking requirements cannot be assessed at the time of the report.

The existing car park could only be extended or re-marked to provide a few more parking spaces as the access is too narrow to let many more use it. However, if remarking is carried out it should include 2 no accessible parking spaces. (Note: Jan Ralph spoke with Bob Turner, Highways on this matter)

The adjacent church car park area might be useable if agreed with the diocese and highways department however, the top end will need to be marked out as a turning point which may require part of the school site to achieve the turning radiuses required.

A revised travel plan will have to be developed with the school once a preferred option is under development and prior to this a Traffic Impact Assessment (TIA) or Transport Survey should be carried out.

4.10 Options for increasing the site

Increasing the capacity of the school has a consequential impact on the requirement for additional parking and for additional play space both hard and soft.

One option for increasing parking capacity is to negotiate with the Church for the use of their parking area during the week. No negotiations have taken place to date.

Play areas are also under pressure. To adhere to external space guidelines in BB99 most of the options require the addition of a multi-use games area which might be possible on the adjoining playing field. As a MUGA is a recreational facility and might be used in conjunction with the community initial thoughts were that this should be possible.

However, the landowner has not been approached to date.

4.11 Service Engineering

A separate report has been prepared in relation to the existing services onto and around the site. This covers heating, hot and cold water, electrical IT and Fire alarm systems.

Please read this report, as included in Appendix 3.

5.0 The Options

Several options have been considered in sketch format which have not been developed because it was felt that they were untenable, whether on cost grounds or because it would have a significant impact on the running of the school on site.

5.1 Options explored in this document

Option 1 — Phase 1 - Some adaptation to existing lower school buildings and introduction of new drama/ small hall, 4 New KS2 classrooms adjacent to the ASD unit.

Phase 2- New two storey building on site of existing nursery building.

Option 2 — Phase 1- New KS2 classrooms and small hall adjacent to ASD Unit, No work carried out to Lower school buildings

Phase 2- New two storey KS1 / Nursery unit and activity areas integrated into main school building

Option 3 — Decamp existing school into temporary buildings, demolish old school and build new school on existing site.

Option 3A for 315 pupils

Option 3B for 420 pupils

Option 4 — New build on new site elsewhere in Theale. This is not a design issue but has been included for cost comparison.

Option 4A for 315 pupils

` Option 4B for 420 pupils

Option 5 — Phase1 – New KS2 building which wraps around existing ASD unit. (As Option 2)

Phase 2- Main school strengthened and extended into two storey unit.

New nursery / foundation at front of existing main school building.

Temporary / modular buildings removed

Option 6 — Phase 1 – Demolish old school house, ASD unit and temporary classroom. New purpose built Lower school building including F1, F2, small hall and secure outdoor learning environment.

Phase 2- Main school strengthened and extended into two storey unit.

Temporary / modular buildings removed

5.2 Option 1 (Drawing number 12, 24 &14)

Phase 1 - Some adaptation to existing lower school buildings and introduction of new drama/ small hall, 4 New KS2 classrooms adjacent to the ASD unit.

Phase 2- New two storey building on site of existing nursery building.

- **Architectural issues**

This option attempts to make a minimal intervention into the existing fabric during phase 1 at least. It should be possible to re-roof the current ASD unit during the holidays and work around retaining the room which is currently the ASD unit in operation. However , this would require careful planning in terms of temporary services and control of the site. In addition, whilst the class should be able to remain in operation it is unlikely that it would be an appropriate environment for ASD children.

The second phase gives a bespoke lower school F1,F2 and KS1 building. It also retains a secure outside play / learning space adjacent to the field boundary.

This option provides enough teaching accommodation without impacting negatively on play area. However it does not address the need to increase play area to BB99. Indeed the site as it stands cannot accommodate a MUGA which would bring the school close to compliance. However it may well be possible to negotiate to erect a MUGA on the adjoining site.

Below are the external areas based on BB99. On average the areas can be made to work for confined site PROVIDING a MUGA is sited elsewhere for example on the playing field.

Area description	Option 1 Phase1 Site Areas 315	BB99 315	Overage /Underage compared to 315 confined	Option 1 Phase 2 Site Area 420	BB99 420	Overage /Underage compared to 420 confined
Pitches	0		0	0	0	0
MUGA	0	1000	-1000	0	1000	-1000
Soft Play Inf.	1566	1230	336	1438	1440	-2
Hard Play	1926	515	1411	1296	620	676
Habitat	260	158	102	260	210	50
Total above	3752		849	2994		-276

NB Whereas the overall areas appear to be above the minimum recommended within BB99 for 1.5FE there is a shortfall of a MUGA which cannot be accommodated within the existing geometry of the site.

- **Services issues**
  This option shall require the removal of the boiler room for the original school building to make way for access, this boiler room would need to be relocated and would include the installation of a new Gas supply to serve the boiler removing the reliance and space required for the Oil tank installation. The heating installation within the building would also be stripped out and new installed

  The distribution pipework in the main school boiler room shall require alteration to accommodate new heating circuits to serve the extension. A dedicated circuit shall be run out to the new extension to serve under floor heating.

  The existing domestic electrical supply serving the Original school building would in our opinion not be sufficient to serve the extension; we would therefore propose the removal of the existing electrical supply and the installation of a new sub main from the main school building. The original school building electrical services shall require strip out and new installation provided throughout.

  A new fire alarm installation shall be required throughout the site to bring the building up to L2 standard

- **Structural issues**
  - Demolition of the existing classroom / toilet block and boiler room adjacent to the ASD Building, could be carried out with minimal temporary works requirements with regards to the retained structures. This also applies to the demolition of the existing buildings adjacent to the main hall.
  - All the new build structures could be constructed on shallow spread foundations, with suspended precast concrete ground floors.
  - Foul drainage from buildings constructed towards the North West corner of the site may require a pumped main to link into the gravity system. Storm drainage to discharge to soak ways.
  - Additional hard landscape areas drained via soak ways or permeable paving.
  - Potential buildability issues having two distinct site areas within an already ‘tight’ site, and access / craneage issues for the build adjacent to the existing hall. Likely to require dual access routes on to the site for Phase 1 works. The construction structural form will need to address these issues.

- **CDMC issues**

  With phase 1 works being in 2 locations, this would require significant space for the contractor to access both areas and would disrupt the running of the school.
  The school house area is relatively easy to isolate, but would require KS2 and ASD to be relocated during the works in temp accommodation.
  The works to the main school to provide Drama/IT Suite/Food Tech will be more disruptive as it involves work within the main school buildings. Some temporary accommodation for the class rooms directly affected will be required for a limited period.
  Set up and access for the contractors will require considerable management if on site or from the Recreation Ground if permitted.
  Phase 2 works, the contractor can be isolated to the west end of the site. Access possibly through a) the Recreation Ground, b) the Lamb PH car park, or c) the Old Lamb Hotel (altering the existing drive way from Church Street).
  The interface between the new phase 2 and the existing buildings being carried out during the summer holiday.

- Costs Cost of this option

Phase 1	£1,786,000
Phase 2	£2,657,000
Total	**£4,443,000**

Advantages	Disadvantages
• Small hall adjacent to existing hall • Minimal impact on running of the school. • Minimal demolition required • Retain existing ASD unit / repair roof etc.	• No significant increase in play area • Buildability / access to site poor for small drama hall etc. • Buildability access to site poor for phase 2 • Split first phase causes issues with management of the construction site. • Two heating and lighting systems affected. • Narrow spaces around the new ASD building would be difficult to police. They would need to be fenced off further reducing outdoor play areas. • Car parking not addressed/ improved • Temporary classrooms would still be required (on the field) during construction. • Contractor's compound?

5.3 Option 2 (Drawing number 17 & 25)

Phase 1- New KS2 classrooms and small hall adjacent to ASD Unit, No work carried out to Lower school buildings

Phase 2- New two storey KS1 / Nursery unit and activity areas integrated into main school building

- **Architectural issues**
  This option attempts to make zone all the construction work during phase 1 to the front of the site. All construction work including the small hall wraps around the Existing ASD unit.
  Comments on the retained use of the ASD building are the same as Option 1.

  The second phase gives a bespoke lower school F1, F2 and KS1 building. It also retains a secure outside play / learning space adjacent to the field boundary.

  This option provides enough teaching accommodation and gives a slightly larger play area (phase 2 building sited further into original building footprint). However it does not address the need to increase play area to BB99. Indeed the site as it stands cannot accommodate a MUGA which would bring the school close to compliance. However it may well be possible to negotiate to erect a MUGA on the adjoining site.

Area description	Option 2 Phase 1 Site Areas 315	BB99 315	Overage /Underage compared to 315 confined	Option 2 , Phase 2 Site Area 420	BB99 420	Overage /Underage compared to 420 confined
Pitches	0		0	0	0	0
MUGA	0	1000	-1000	0	1000	-1000
Soft Play Inf.	1528	1230	298	1372	1440	-68
Hard Play	1926	515	1411	1296	620	620
Habitat	260	158	102	260	210	50
Total above	3714		811	2928		-398

NB Whereas the overall areas appear to be above the minimum recommended within BB99 for 1.5FE there is a shortfall of a MUGA which cannot be accommodated within the existing geometry of the site.

- **Services issues**
  This option shall require the removal of the boiler room for the original school building to make way for access, this boiler room would need to be relocated and would include the installation of a new Gas supply to serve the boiler removing the reliance and space required for the Oil tank installation. The heating installation within the building would also be stripped out and new installed

  The Boilers and the distribution pipework in the main school boiler room shall require alteration to accommodate new heating circuits to serve the extension. For this proposal we would propose a new boiler room to serve the main building.

  The existing domestic electrical supply serving the Original school building would in our opinion not be sufficient to serve the extension; we would therefore propose the removal of the existing electrical supply and the installation of a new sub main from the main school building. The original school building electrical services shall require strip out and new installation provided throughout.
  A new fire alarm installation shall be required throughout the site to bring the building up to L2 standard.

- **Structural issues**
  - Demolition of the existing classroom / toilet block and boiler room adjacent to the ASD Building, could be carried out with minimal temporary works requirements with regards to the retained structures. This also applies to the demolition of the existing buildings adjacent to the main hall.
  - All the new build structures could be constructed on shallow spread foundations, with suspended precast concrete ground floors.
  - Foul drainage from buildings constructed towards the North West corner of the site may require a pumped main to link into the gravity system. Storm drainage to discharge to soak ways.
  - Additional hard landscape areas drained via soak ways or permeable paving.

- **CDMC issues**
  Phase 1 works, all within the area of the School House, will be much easier to manage and isolate from the remainder of the site.
  ASD will need to be relocated into temp accommodation during these works.
  Contractors access from either Church Street, or possibly from the Church car park.
  Phase 2 works, the contractor can be isolated the west end of the site. Access possibly through a) the Recreation Ground, b) the Lamb PH car park, or c) the Old Lamb Hotel (altering the existing drive way from Church Street).
  The interface between the new phase 2 and the existing buildings being carried out during the summer holiday + some temporary accommodation for the class rooms directly affected for a limited period.

Costs Cost of this option

Phase 1	£1,683,000
Phase2	£2,869,000
Total	**£4,552,000**

Advantages	Disadvantages
• All work in one area • Less disruption to the school than option 1. • Contractor's compound could be contained easily / managed. • Retain existing ASD unit / repair roof etc. • One additional class above what is strictly required • 'looks tidier' • Removes one more temporary class. • Only one heating lighting scheme affected	• No significant increase in play area • Buildability access to site poor for phase 2 • Two heating and lighting systems affected. • Car parking not addressed/ improved • Temporary classrooms would still be required (on the field) during construction.

5.4 Option 3a and 3b 3A = 1.5 Form Entry (Drawing No 26 & 16)

3B = 2Form Entry (Drawings No 15 &16)

Decamp existing school into temporary buildings, demolish old school and build new school on existing site.

- **Architectural issues.**
  - This option provides the best fit for accommodation and best improvement in the play area and parking. However this scheme does assume that there is agreement from the diocese to utilize this portion of the site.
  - The majority of the school is two storey; however the KS1 and Nursery rooms are at ground floor level and have dedicated play / external learning spaces.
  - For option 3A i.e. 315 children the ground floor layout is still based on a 420 pupil entry which will allow for future extension to a 2FE school in the future. The first floor layout is therefore somewhat smaller but has the option to extend over the roof area.
  - For Option 3B i.e. 420 children, the teaching wing is fully developed to a full two storeys.
  - With respect to Option 3A 1.5 form entirely school. Drawing 26 there are certain inefficiencies in the plan layout which should be recognised if it retains the options to extend in the future. If this scheme is selected, the briefing of the design team for the planning application should reflect the likelihood of the school being extended in the future to 420.
  - This option would be best pursued on an 'all or nothing' basis. Strategically making the decision to move all functions off site and paying for the temporary classrooms and new school on the basis of predicted numbers.

Below are the external areas based on BB99. On average the areas can be made to work for confined site. Note: this option assumes the use of the Church Ground and does not fully satisfy parking requirements.

Area description	Option **3a** New Build Existing Site Areas 1.5 FE option 315	BB99 315 Confined sites	Overage /Underage compared to 315 confined	Notes
Pitches	0	0	0	
Games Courts MUGA	648	1000	-352	
Soft Play Inf.	1600	1230	370	Part of overall area of 2468
Hard Play inf	1508	515	993	Part of overall area of 2468
Habitat	206	158	48	Part of overall area of 2468
Total above	3962	2903	1059	

Area description	Option 3b New Build Existing Site Areas 2FE option 420	BB99 420 Confined Sites	Overage /Underage compared to 420 confined	Notes
Pitches	0	0	0	
Games Courts MUGA	648	1000	-352	
Soft Play Inf.	1600	1440	160	Part of overall area of 2468
Hard Play inf	1508	620	888	Part of overall area of 2468
Habitat	206	210	-4	Part of overall area of 2468
Total above	3962	1000	692	

Note:-The MUGA appears to be slightly undersized compared to BB99. Site geometry limits size, however, may prove to be adequate should this option be adopted.

- **Services issues**

This option is based around a new building; therefore the existing boiler rooms and supply serves shall require isolation and new services and systems installed. The building shall require a BREEAM Excellent rating therefore renewable energy sources shall be required for the new building. This is likely to consist of either air source heat pumps or Ground source using bore holes. The latter is the more energy efficient and would be less to run in terms of energy costs. It would also attract Renewable energy rebates which would amount to around £2K per annum.

All supply services would be new with a 200A electrical supply, Gas supply and water supply.

All services on site would be new; systems would be installed to ensure that future maintenance costs are kept to a minimum, with systems designed for low maintenance over a long period of time.

The proposal would be to have under floor heating, daylight sensitive lighting and automatic controls, to control and minimize energy usage.

- **Structural**
  - All existing school building to be demolished.
  - All the new build structures could be constructed on shallow spread foundations, with suspended precast concrete ground floors.
  - Foul drainage from this new detached building likely to be all gravity fall. Storm drainage to discharge to soak ways.
  - Additional hard landscape areas drained via soak ways or permeable paving. issues

- **CDMC issues**
  Being a demolish and new build on an empty site, there will not be the issues of working on an occupied site. Only those of working on a restricted site, which are not unusual or difficult to manage for a competent contractor.

  Costs Cost of Option 3A Single *phase*

  Total ***£6,234,000***

  Costs Cost of Option 3B Single *phase*

  Total ***£6,552,000***

Advantages	Disadvantages
• Brand new fit for purpose school • Only single (major) disruption to school. • Contractor's controls whole site. Safest option. • Internal flow better • Children's safeguarding better. • Layout would provide more parking • Layout would work well with additional play area options at rear of the site (on the field) • Will have much lower maintenance and energy in use • Fully accessible	• Assumes that church agree to the use of their land, • Still has some parking issues • Disruptive , temporary classrooms elsewhere (no site established) • External flow of pupils would need to be improved • Will not suit 315 pupil requirements.

5.5 Options 4A and 4B New builds on New Site

This option has not been explored in detail and a bespoke design has not been drafted. It has been agreed at design team level that a price is prepared based on the build cost as option 3.

- No site has been found of a suitable size and location
- Any new site found would need to suit BB99 external space standards
- The new site is likely to be valued as 'housing land'
- The cost of the site plus new building is likely to significantly higher than other options
- CDMC issues would need to be assessed site on a site specific basis.
- Services considerations are as option 3 subject to site conditions.

Areas	**1.5 FE Primary School 4A**	**2 FE Primary School 4B**
Highest NOR	350	420
Pitches	6300	8,400
Games Courts (hard surfaced)	1,230	1,440
Soft Play (informal & social)	1,588	1,850
Hard Play (informal & social)	873	1,030
Habitat	515	620
float'	1,575	2,100
Buildings & access from:	1,460	1,880
to:	3,020	3,860
Total School Site Area from:	13,540	17,320
to:	15,100	19,300

Cost of Option 4A Single Phase

Total £9,274,000

Cost of Option 4B Single Phase

Total £12,016,000

* this needs to be verified in relation to cost of new site

5.6 Option 5 – (Drawings 18, 19 & 22)

Phase 1 – Demolish old school house, ASD unit and temporary classroom. New purpose built Lower school building including F1, F2, small hall and secure outdoor learning environment.

Phase 2- Main school strengthened and extended into two storey unit.

Temporary / modular buildings removed

Architectural issues.

This option seeks to increase the quantity of two storey accommodation over the existing school footprint thereby maximizing the amount of available play area.

It comprises of Phase1 – New KS2 building which wraps around existing ASD unit. (As Option 2), with a second phase which is built over the front portion of the existing school.

It assumes that the upper school is retained to the stand alone, old school portion of the site and a new nursery / foundation suite is sited on the ground floor of the existing, extended, school. There is scope for a small external teaching / play space to the front of these classrooms but it tends to be limited because of the current location of the car park compound.

The ground floor of the current school buildings will be out of commission during construction and the siting of temporary buildings to house teaching space will have to be established probably on the playing field.

Area description	Option 5 Site Areas 315	BB99 315	Overage /Underage compared to 315 confined	Option 5 Site Area 420	BB99 420	Overage /Underage compared to 420 confined
Pitches	0	0	0	0	0	0
Games Courts MUGA	0	1000	-1000	0	1000	-1000
Soft Play Inf.	1545	1230	315	1545	1440	105
Hard Play inf	1853	515	1338	2486	620	1866
Habitat	260	158	102	260	210	50
Total above	3658		755	4291		1021

NB Whereas the overall areas appear to be above the minimum recommended within BB99 there is a shortfall of a MUGA which cannot be accommodated within the existing geometry of the site. The issue of parking is also not fully resolved.

- **Services issues**
  This option shall require the removal of the boiler room for the original school building to make way for access, this boiler room would need to be relocated and would include the installation of a new Gas supply to serve the boiler removing the reliance and space required for the Oil tank installation. The heating installation within the building would also be stripped out and new installed

  The distribution pipework in the main school boiler room shall require alteration to accommodate new heating circuits to serve the extension. A dedicated circuit shall be run out to the new extension to serve under floor heating.

  The existing domestic electrical supply serving the Original school building would in our opinion not be sufficient to serve the extension, we would therefore propose the removal of the existing electrical supply and the installation of a new sub main from the main school building. The original school building electrical services shall require strip out and new installation provided throughout.

  A new fire alarm installation shall be required throughout the site to bring the building up to L2 standard.

- **Structural**

New building can either be lightweight framing system as described in 5.6 or more traditional loadbearing masonry, concrete plank flooring and trussed rafter roof.

For the existing building we would assume existing roofs would be removed completely to plate level.

We would adopt a system such as Metsec SFS (or similar), for the new first floor construction, i.e., floor walls and roof, and assume a 300mm thick structural floor zone, spans should be limited to 6.5 – 7.5m, (over 6.5m, 300mm steel 'C' section deep joists will need to be doubled-up.)

The Metsec SFS System comprises steel 'C' Section, floor walls and roof framing, which can be clad in a variety of materials. It is a lightweight, dry, and site assembled form of construction, or can be prefabricated in panels

The supporting structure will comprise a hot rolled steel grillage of beams set at first floor level, on supporting steel posts set within the ground storey, ideally adjacent to or within existing walls, plus possibly reinforced concrete capping beams on the existing walls, (assuming they have adequate foundations). The new posts would be supported on either the existing foundations if adequate, or underpinned foundations, or new pad foundations. The site investigation information we have indicates the subsoil to be suitable for shallow spread foundations.

Note: The ground floor areas would need to be taken out of use.

Further information

Will need a detailed structural survey of existing buildings including several trial pits to determine the foundations for internal and external walls. It appears that the existing ground floors are of in-situ ground bearing construction and not suspended precast concrete.

- **CDMC issues**
  Phase 1 works all within the area of the School House, much easier to manage and isolate from the remainder of the site.

  ASD will need to be relocated into temp accommodation during these works.
  The retention of part of the existing building (ASD) will entail some consideration in constructing and connecting the new building into the existing and future access, repair and maintenance of the existing structure.

  Contractors access from either Church Street, or possibly from Church car park.
  Phase 2 works, the contractor can be isolated the west end of the site. Access possibly through a) the Recreation Ground, b) the Lamb PH car park, or c) the Old Lamb Hotel (altering the existing drive way from Church Street).

  This will require the out housing of the main school into temporary accommodation, possibly on the Recreation Ground. It would also provide a simpler construction programme if the temporary classrooms to the west end of the site were removed at the beginning of phase 2, to allow the contractor to set up in the west end of the site.

- Costs Cost of this option

Phase 1	£1,656,000
Phase2	£4,048,000
Total	**£5,704,000**

Advantages	Disadvantages
For phase 1 • **All work in one area** • **Less disruption to the school than option 1 & 3.** • **Contractor's compound could be contained easily / managed.** • **Retain existing ASD unit / repair roof etc.** • **One additional class above what is strictly required** • **'looks tidier'** • **Removes one more temporary class.** • **Only one heating lighting scheme affected** **Phase2** • **Significant increase in space for play**	• **The whole of the front of the school would need to be decanted for phase 2** • **Challenging management of the school during second phase** • **No improvement in parking provision**

5.7 Option 6 – (Drawings 20, 21 & 23)

Phase 1 – Demolish old school house, ASD unit and temporary classroom. New purpose built Lower school building including F1, F2, small hall and secure outdoor learning environment.

Phase 2- Main school strengthened and extended into two storey unit.

Temporary / modular buildings removed

- **Architectural issues.**
  This option also seeks to increase the quantity of two storey accommodation over the existing school footprint thereby maximizing the amount of available play area similar to Option 5 , however,
  - This option flips the geography of the existing school so that all KS1 and foundations classes are towards the pedestrian entrance of the school. The new two storey block can be tailored to latest education guidelines.
  - New building also incorporates a small activity room / hall which can be uses for lower school activities.
  - Secure south facing external foundation garden formed.

The ground floor of the current school buildings will be also be out of commission during construction and the siting of temporary buildings to house teaching space will have to be established probably on the playing field.

One of the disadvantages of this scheme is the demolition of the existing historic school building. This is a 1.5 storey building which currently has issues including

- poor insulation
- Leaking roof
- Poor disabled access
- Out of date heating and lighting installation

By replacing this building with a new two storey building we would

A Provide modern well serviced teaching space and

B an additional 60sqm of play area (two storey v single storey)

Re BB99 external site analysis. This analysis is very similar to option 5. The same limits on parking and play space apply as with other options subject to siting a MUGA on the adjacent field.

Area description	Option 6 Site Areas 315	BB99 315	Overage /Underage compared to 315 confined	Option 6 Site Area 420	BB99 420	Overage /Underage compared to 420 confined
Pitches	0	0	0	0	0	0
Games Courts MUGA	0	1000	-1000	0	1000	-1000
Soft Play Inf.	1670	1230	440	1670	1440	230
Hard Play inf	1802	515	1287	2438	620	1818
Habitat	260	158	102	260	210	50
Total above	3732		829	4368		1098

NB Whereas the overall areas appear to be above the minimum recommended within BB99 there is a shortfall of a MUGA which cannot be accommodated within the existing geometry of the site.

- **Services issues**

  Identical issues as highlighted for option 6

- **Structural**
  As description in 5.6

- **CDMC issues**
  Phase 1 works all within the area of the School House, much easier to manage and isolate from the remainder of the site.

  Contractors access from either Church Street, or possibly from Church car park.
  Phase 2 works, the contractor can be isolated the west end of the site. Access possibly through a) the Recreation Ground, b) the Lamb PH car park, or c) the Old Lamb Hotel (altering the existing drive way from Church Street).

This will require the out housing of the main school into temporary accommodation, possibly on the Recreation Ground. It would also provide a simpler construction programme if the temporary classrooms to the west end of the site were removed at the beginning of phase 2, to allow the contractor to set up in the west end of the site

- Costs Cost of this option

Phase 1	£1,808,000
Phase 2	£4,033,000
Total	**£5,841,000**

Advantages	Disadvantages
For phase 1 • **All work in one area** • **Less disruption to the school than option 1 & 3.** • **Contractor's compound could be contained easily / managed.** • **KS1 and Foundation unit located near front gate. Ease of drop off / pick up.** • **An area can be formed to the rear as service yard.** **Phase2** • **Significant increase in space for play**	• **The whole of the front of the school would need to be decanted for phase 2** • **Challenging management of the school during second phase** • **No improvement in parking provision** • **Demolition of the original school building**

7.00 Further Investigations

The following investigations should be allowed for to verify the above considerations:-

a) Geotechnical investigation – this should include for a Phase 1 environmental investigation and contamination testing, together with infiltration tests for soakaway / permeable paving design, and possibly CBR tests.

b) CCTV Survey of the existing below ground drainage.

c) The topographical survey should be extended to include the church car park on the eastern boundary of the site, together with locating and identifying the mature trees close to any boundary.

d) Existing buildings structural inspection / investigation, with opening up works as required.

e) There are two trees highlighted in the adjoining field which may be impacted on by any possible MUGA therefore it may be necessary to carry out an Arboricultural report – and possibly a tree protection plan.

f) Existing services have only had a visual inspection to date further inspections will be required depending on the preferred option.

g) It is recommended as a matter of good practice that because this survey was visual only that all mains water services distribution pipework is traced throughout to ensure that with historical extension / reconfiguration works to serve various outlets have no redundant sections that could cause stagnation issues together with ensuring suitable back contamination protection devices have been installed as required.

7.00 Conclusions

The issues of either moving the school or developing the school on the existing site are complex. The existing school has been there for many years and therefore the residents see the site as core to the community. In addition, no site within Theale has been sourced to date; therefore any analysis of a potential new site is theoretical.

Developing the existing site also has challenges primarily the size of the site which affects both parking and external play areas significantly. Developing the site would also have a significant impact on school life and would need to be very carefully considered in order to reduce risk to pupils and staff.

In essence the best way forward is a phased development where extended / new accommodation can be developed in separate zones so that school and construction site are segregated.

The restricted site area favours a building that is predominantly two storey rather than single storey and in terms of longevity and energy usage good quality new building would be preferred over temporary buildings or old building stock.

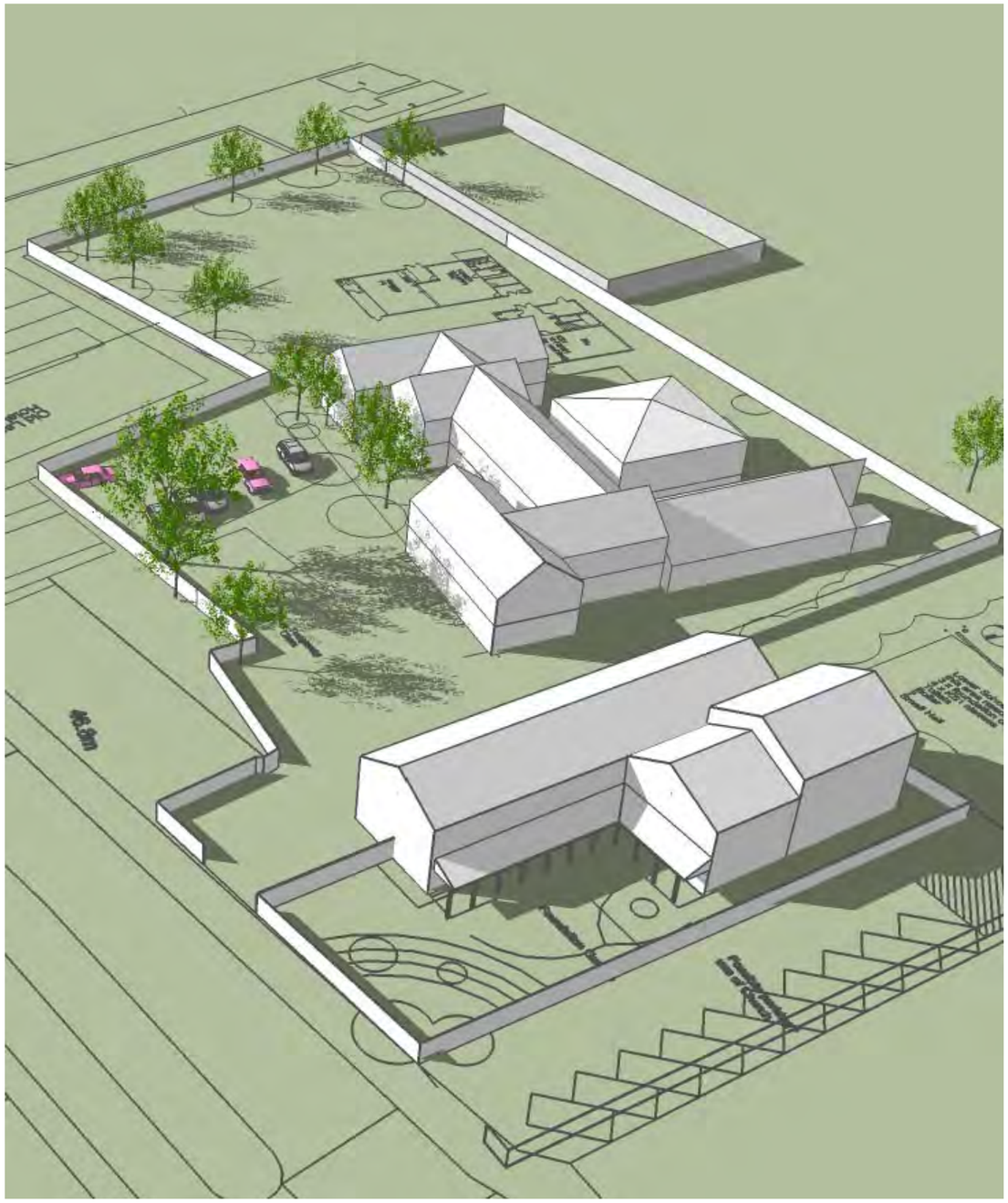
Four options explore this possibility 1,2 5 & 6, however only options 5 & 6 propose a significant second storey extension above the existing school.

However, taking all of the above into account and taking on board comments from the school **Option 6** is the design teams preferred option. (drawings 20, 21 and 23)

This is the only option that develops a bespoke foundation KS1 block near the front of the site and which frees up significant site area. Whilst phase 2 disrupts the main school building there is scope for temporary classrooms on the adjacent field and a slight over capacity in the Phase 1 KS1 building.

In terms of cost for the phase 1 option 6 is £1,808,00 which is the slightly more expensive option (compared to £1,786,000, £1,683,000, and £1,656,000) , however, it should be borne in mind that the running costs and maintenance for this portion of the school should be considerably lower as it is the only option that is 100% new build.

However it is worth pointing out that with all the options further work will need to be done in negotiating additional playing field if the issues of parking and external play are to be resolved.



Massing model Option 6- Both phase 1 & 2 (note possible MUGA to top of illustration)

1 Basic Needs Schedule of accommodation

This Accommodation Schedule, while almost completed, is not yet the finished article and is subject to further revision which is envisaged should be minor in nature.

2 Drawings @ A3

Existing	13019_10	Existing plan of buildings
	13019_13	Existing Site / Play areas
Option 1	13019_12	Option 1 Ground Floor Plan
	13019_24	Option 2 First Floor Plan
	13019_14	Option 1 Site / Play areas
Option2	13019_17	Option 2 Ground Floor Plans
	03019_25	Option 2 First Floor Plans
Option 3	1301_26	Option 3A Ground & First Floor Plans
	13019_15	Option 3B Ground & First Floor Plans
	13019_16	Option 3 A & B Site Areas
Option 5	13019_18	Option 5 Ground Floor Plan
	13019_19	Option 5 First Floor Plans
	13019_22	Option 5 Site Areas
Option 6	13019_20	Option6 Ground Floor Plan
	13019_21	Option 6 First Floor Plan
	13019_23	Option 6 Site Areas

3	**Services Report**	Pro Air	Full Services Report.- Summary within main document
4	**Cost Report**	Ridge	Full Cost Report - Headline costs within main document
5	**FRA**	KRP Consulting	Flood Risk Assessment for Option6

Appendix 1 Schedule of Accommodation

Theale CofE Primary School Version 1.4
Accommodation Schedule - 315 / 420 places with 52 place Nursery

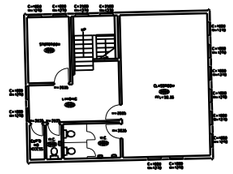
			Existing Areas					BB 99 - 315 Pupils (less 5%)					BB 99 - 420 Pupils (less 5%)					Requirement - 315 Pupils					DFE Baseline Designs Requirement - 315 Pupils						Requirement - 420 Pupils					DFE Baseline Designs Requirement - 420 Pupils					Cells shaded in green represent a positive difference of more than 10 sqm between accommodation schedules at Version 1.3 and 1.4. Cells shaded in blue represent a negative difference of more than 10 sqm.
	Space	Room Reference	Area per Space	Group Size	Number	Total		Area per Space	Group Size	Number	Total		Area per Space	Group Size	Number	Total		Area per Space	Group Size	Number	Total		Area per Space	Group Size	Number	Total	Comparison Between V1.1 & V1.3		Area per Space	Group Size	Number	Total		Area per Space	Group Size	Number	Total	Comparison Between V1.1 & V1.3	Comments
Basic Teaching	**Basic Teaching Areas**						Basic Teaching BB99					Basic Teaching BB99					Basic Teaching BB99					Basic Teaching BB99						Basic Teaching Feasibility Study					Basic Teaching Feasibility Study						
	Nursery (Foundation 1)																																						
	Modular building		54	26	1	54		60	26	1	57		60	26	1	57		60	26	1	57		59	26	1	59	2		60	26	1	57		59	30	1	59	2	Adjacent to Reception (Foundation 2) classroom and with direct access to Foundation Stage external learning area.
	Reception (Foundation 2)																																						
	Modular building		60	30	1	60		66	30	1.5	94		66	30	2	125		63	30	1	60		59	30	1	59	-1		63	30	2	120		59	30	2	118	-2	For 315 place school class arrangements will be qty 3 mixed Foundation Stage 2 and Year 1 classes. Classroom should have access to a secure outdoor learning environment for the F2 pupils and ideally access to a separate KS1 outdoor area
	KS1																																						
	Year 1 Classroom (modular)		57	30	1	57		60	30	3	171		60	30	4	228		60	30	1	57		59	30	1	59	2		60		4	228		59		4	236	8	For 315 place school class arrangements will be qty 3 mixed Foundation Stage 2 and Year 1 classes. Classroom should have access to a secure outdoor learning environment for the F2 pupils and ideally access to a separate KS1 outdoor area
	Year 2 Classroom		57	30	1	57												60	30	1	57		59	30	1	59	2												
	KS2																																						
	Year 3 Classroom		64	30	1	64		60		6.0	342		60		8	456		60	30	1	57		55	30	1	55	-2		60	30	8	456		55	30	8	440	-16	
	Year 4 Classroom		64	30	1	64												60	30	1	57		55	30	1	55	-2												For 315 place school class arrangements will be qty 3 mixed Year 2 and Year 3 classes, qty 3 mixed Year 4 and Year 5 classes and qty 2 year 6 classes.
	Year 5 Classroom		72	30	1	72												60	30	1	57		55	30	1	55	-2												
	Year 6 Classroom (modular)		58	30	1	58												60	30	1	57		55	30	1	55	-2												
																		60	30	1	57		55	30	1	55	-2												All classrooms should be arranged such that there is a natural progression through the school.
																		60	30	1	57		55	30	1	55	-2												
																		45	22	1	43		55	30	1	55	12												
																		46	23	1	44		55	30	1	55	11												
	Specialist Practical Areas																																						
	ICT Suite		51	30	1	51.0		54	23	1	51		68	30	1	65		51	30	1	48		50		1	50	2		51	30	1	48		54	30	1	54	6	To be centrally located, accessible by all and located appropriately from a security perspective.
	Food Tech		6		1	6.0		24		1	23		38		1	36		24		1	23		18		1	18	-5		24		1	22		18		1	18	-4	To be centrally located and accessible for all.
	Science/D&T/Art		9		1	9.0												0			0		0		0	0	0		0			0		0		0	0	0	To be carried out in classrooms
	Music Room		30		1	30.0												0			0		0			0	0		0			0		0			0	0	To be carried out in small hall - see small hall/studios line
	TOTAL BASIC TEACHING AREA					**489.0**					**738**					**967**					**731**					**744**	**13**					**931**					**925**	**-6**	
Halls	**Hall Areas**						Halls BB99					Halls BB99					Halls BB99					Halls BB99						Halls Feasibility					Halls Feasibility						
	Main Hall		159		1	159.0		150		1	150		150		1	150		159		1	159		159		1	159	0		159		1	159		159		1	159	0	Retain current Hall as already suitably sized
	Small Hall/Studio		0			0.0		50		1	48		80		1	76		80		1	76		77		1	77	1		80		1	70		77		1	77	7	Small hall for music, drama and dance for a full class. Does not need to be adjacent to main hall but ideally should be easily accessed and secured for use out of hours.
	TOTAL HALLS AREA					**159.0**					**198**					**226**					**235**					**236**	**1**					**229**					**236**	**7**	
Learning Resource	**Learning Resource Areas**						Learning Resource BB99					Learning Resource BB99					Learning Resource BB99					Learning Resource BB99						Learning Resource Feasibility Study					Learning Resource Feasibility Study						
	Library Resource Centre		18		1	18.0		33		1	31		40		1	38		40		1	38		10		1	10	-28		40		1	38		10		1	10	-28	To be centrally located and accessible by all. LRC and Library needn't be separate rooms.
	Library		0		0	0.0		0		0	0		0		0	0		0		0	0		24		1	24	24					0		24		1	24	24	To be centrally located and accessible by all. LRC and Library needn't be separate rooms.
	Small Group Room (SENco)		12		1	12.0		12		1	11		12		1	11		12		1	11		12		1	12	1		12		1	11		12		1	12	1	
	Small Group Rooms		0			0.0		9		2	17		9		3	26		9		4	32		9		2	18	-14		9		6	51		9		3	27	-24	Group rooms to be adjacent to classrooms.
	TOTAL LEARNING RESOURCE AREA					**30.0**					**60**					**75**					**81**					**64**	**-17**					**101**					**73**	**-28**	
	TOTAL TEACHING AREA					**678.0**					**996**					**1,268**					**1,047**					**1,044**	**-3**					**1,261**					**1,234**	**-27**	
Staff & Admin	**Staff & Admin Areas**						Staff & Admin BB99					Staff & Admin BB99					Staff & Admin BB99					Staff & Admin BB99						Staff & Admin Feasibility Study					Staff & Admin Feasibility Study						
	Head's Office / Meeting Room		25		1	25.0		12		1	12		14		1	14		25		1	25		16		1	16	-9		25		1	25		16		1	16	-9	
	Senior Management Offices		9		1	9.0		8		1	8		8		1	8		8		1	8		9		1	9	1		8		1	8		9		1	9	1	
	Staff Room (includes PPA)		51		1	51.0		45		1	45		58		1	58		58		1	58		55		1	55	-3		58		1	58		55		1	55	-3	
	General Office / Reception		13		1	13.0		12		1	12		14		1	14		18	4	1	18		13	4	1	13	-5		18	4	1	18		13	4	1	13	-5	
	Finance Office		13		1	13.0		0		1	0		0		1	0		8	1	1	8		8	1	1	8	0		8	1	1	8		8	1	1	8	0	
	Nursery Office		7		1	7.0		7		1	7		7		1	7		7		1	7		0		1	0	-7		7	1	1	7		0	1	1	0	-7	Direct access from Nursery classroom
	Sick Bay		6		1	6.0		3		1	3		3		1	3		6	1	1	6		4	1	1	4	-2		6	1	1	6		4	1	1	4	-2	Adjacent to General Office for supervision purposes, but away from reception.
	Entrance / Lobby		8		1	8.0		4		1	4		5		1	5		10		1	10		10		1	10	0		10		1	10		10		1	10	0	Secure main entrance area that should ideally be obvious to all visitors.
	Copier / Reprographics		0			0.0		6		1	6		8		1	8		8		1	8		0		1	0	-8		8		1	8		0		1	0	-8	A distinct space near to the general office but accessible by all staff.
	SEN therapy / MI Room		0			0.0		12		1	12		12		1	12		0			0		0		1	0	0		0			0		0		1	0	0	Not required - utilise one of the group room spaces
	Interview / Social Services		0			0.0		8		1	8		8		1	8		0			0		0		1	0	0		0			0		0		1	0	0	Not required - utilise one of the group room spaces
	TOTAL STAFF & ADMIN AREA					**132.0**					**117**					**137**					**148**					**115**	**-33**					**148**					**115**	**-33**	
orage	**Storage Areas**						ge BB99					ge BB99					orage BB99					ge BB99						Feasibility Study					asibility Study						
	Teaching Storage																																						
	Class Storage Nursery		0			0.0		3		1.0	3.0		3		1	3		3		1	3		3		1	3	0		3		1	3		3		1	3	0	
	Class Storage F2		0			0.0		3		1.5	4.5		3		1	3		3		1	3		3		1	3	0		3		1	3		3		1	3	0	
	Class Storage F2												3		1	3													3		1	3		3		1	3	0	
	Class Storage KS1		4		1	4.0		1.5		1	1.5		1.5		1	1.5		1.5		1	1.5		2.0		1	2	0.5		1.5		1	1.5		2.0		1	2.0	1	
	Class Storage KS1		2		1	2.0		1.5		1	1.5		1.5		1	1.5		1.5		1	1.5		2.0		1	2	0.5		1.5		1	1.5		2.0		1	2.0	1	
	Class Storage KS1							1.5		1	1.5		1.5		1	1.5													1.5		1	1.5		2.0		1	2.0	1	
	Class Storage KS1												1.5		1	1.5													1.5		1	1.5		2.0		1	2.0	1	
	Class Storage KS2		0			0.0		1.5		1	1.5		1.5		1	1.5		1.5		1	1.5		2.0		1	2	0.5		1.5		1	1.5		2.0		1	2.0	1	To be built in walk in cupboards in each class.
	Class Storage KS2		2		1	2.0		1.5		1	1.5		1.5		1	1.5		1.5		1	1.5		2.0		1	2	0.5		1.5		1	1.5		2.0		1	2.0	1	
	Class Storage KS2		0			0.0		1.5		1	1.5		1.5		1	1.5		1.5		1	1.5		2.0		1	2	0.5		1.5		1	1.5		2.0		1	2.0	1	
	Class Storage KS2		4		1	4.0		1.5		1	1.5		1.5		1	1.5		1.5		1	1.5		2.0		1	2	0.5		1.5		1	1.5		2.0		1	2.0	1	
	Class Storage KS2							1.5		1	1.5		1.5		1	1.5		1.5		1	1.5		2.0		1	2	0.5		1.5		1	1.5		2.0		1	2.0	1	
	Class Storage KS2							1.5		1	1.5		1.5		1	1.5		1.5		1	1.5		2.0		1	2	0.5		1.5		1	1.5		2.0		1	2.0	1	
	Class Storage KS2												1.5		1	1.5		1.5		1	1.5		2.0		1	2	0.5		1.5		1	1.5		2.0		1	2.0	1	
	Class Storage KS2												1.5		1	1.5		1.5		1	1.5		2.0		1	2	0.5		1.5		1	1.5		2.0		1	2.0	1	
	Specialist Stores							6		4	24		8		3	24																							
	Music/Art/Science Store		3		1	3.0												12		1	12		6		1	6	-6		12		1	12		6		1	6	-6	To be directly accessible from second hall/studio
	Central Resource Stores		3		3	9.0												6		2	12		0		0	0	-12		6		2	12		0		0	0	-12	Teaching resource stores - one on each storey
	Storage/Resource Areas (Old building)		17		2	34.0																																	
	PE Store (Adjacent to Hall)		0			0.0		12		1.0	12		12		1	12		12		1	12		18		1	18	6		12		1	12		18		1	18	6	
	PE Store (External)		10		1	10.0		4		1.0	4		4		1	4		4		1	4		4		1	4	0		4		1	4		4		1	4	0	
	Non-Teaching Storage										0					0																							

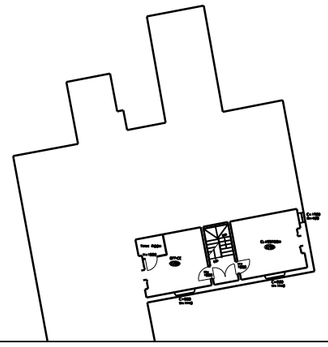
Cells shaded in green represent a positive difference of more than 10 sqm between accommodation schedules at Version 1.3 and 1.4. Cells shaded in blue represent a negative difference of more than 10 sqm.

	Space	Room Reference	Existing Areas: Area per Space	Group Size	Number	Total	BB 99 - 315 Pupils (less 5%): Area per Space	Group Size	Number	Total	BB 99 - 420 Pupils (less 5%): Area per Space	Group Size	Number	Total
St	Cloakroom Nursery		10		1	10.0	4		1.0	4	4		1	4
	Cloakroom F2		8		1	8.0	3		1.5	5	3		1	3
	Cloakroom F2										3		1	3
	Cloakroom KS1		4		1	4.0	3		1.0	3	3		1	3
	Cloakroom KS1		2		1	2.0	3		1.0	3	3		1	3
	Cloakroom KS1						3		1.0	3	3		1	3
	Cloakroom KS1										3		1	3
	Cloakroom KS2		2		1	2.0	3		1.0	3	3		1	3
	Cloakroom KS2		2		1	2.0	3		1.0	3	3		1	3
	Cloakroom KS2		8		1	8.0	3		1.0	3	3		1	3
	Cloakroom KS2		4		1	4.0	3		1.0	3	3		1	3
	Cloakroom KS2						3		1.0	3	3		1	3
	Cloakroom KS2						3		1.0	3	3		1	3
	Cloakroom KS2										3		1	3
	Cloakroom KS2										3		1	3
	Central Stock		2.5		1	2.5	8		1.0	8	8		1	8
	Dining Chair / Table Store		0			0.0	16		1.0	16	16		1	16
	Staging / Appliance Store		0			0.0	8		1.0	8	8		1	8
	Community Store		0			0.0	4		1.0	4	4		1	4
	Caretakers / Maintenance Store		0			0.0	6		1.0	6	7		1	7
	Cleaner's Store		10		1	10.0	1.5		3.0	4.5	1.5		3	4.5
	TOTAL STORAGE AREA					**120.5**				**143**				**161**
	TOTAL NET AREA					**930.5**				**1,256**				**1,566**
Non-Net	**Non-Net Areas**													
	Kitchen and servery													
	Kitchen (full service)		63		1	63.0	61		1.0	61	77		1	77
	Servery		0			0.0	8		1.0	8	8		1	8
	Kitchen (Nursery)		7		1	7.0	7		1.0	7	7		1	7
	Toilets (and personal care)													
	Toilets Nursery		15		1	15.0	8		1.0	8	8		1	8
	Toilets F2		9		1	9.0	12		1.0	12	12		1	12
	Toilets KS1 (boys)		15		1	15.0	8		1.0	8	10		1	10
	Toilets KS1 (girls)					0.0	8		1.0	8	10		1	10
	Toilets KS2 (yr 3&4 boys)		9		1	9.0	8		1.0	8	10		1	10
	Toilets KS2 (yr 3&4 girls)		10		1	10.0	8		1.0	8	10		1	10
	Toilets KS2 (yr 5&6 boys)		7		1	7.0	8		1.0	8	10		1	10
	Toilets KS2 (yr 5&6 girls)		7		1	7.0	8		1.0	8	10		1	10
	Accessible Toilets / Hygiene		5		1	5.0	14			0	16			0
	Assisted Changing		0		0	0.0								
	Staff Toilets		13		1	12.5	10.5		1.0	11	14		1	14
	Language and Literacy Unit (LAL)		16		2	32.0	16		2	32.0	16		2	32.0
	Autistic Spectrum Disorder Unit (ASD)													
	Classroom		60		1	60.0	60		1	60.0	60		1	60.0
	Office		8		1	8.0	8		1	8.0	8		1	8.0
	Quiet Rooms		8		2	16.0	8		2	16.0	8		2	16.0
	Cloakroom		3		1	3.0	3		1	3.0	3		1	3.0
	Storage Areas		5		1	5.0	5		1	5.0	5		1	5.0
	Toilets		14		1	14.0	14		1	14.0	14		1	14.0
	Circulation					175	net area x 0.225			282	net area x 0.225			352
	Plant (incl. server)					32.0	net area x 0.03			38	net area x 0.03			47
	Partitions					46.5	net area x 0.05			63	net area x 0.05			78
	TOTAL NON-NET AREA					**551.0**				**675**				**802**
	TOTAL GROSS INTERNAL AREA					**1481.5**				**1,931**				**2,367**

Space	Requirement - 315 Pupils: Area per Space	Group Size	Number	Total	DFE Baseline Designs Requirement - 315 Pupils: Area per Space	Group Size	Number	Total	Comparison Between V1.1 & V1.3	Requirement - 420 Pupils: Area per Space	Group Size	Number	Total	DFE Baseline Designs Requirement - 420 Pupils: Area per Space	Group Size	Number	Total	Comparison Between V1.1 & V1.3	Comments
Cloakroom Nursery	4		1	4	4		1	4	0	4		1	4	4		1	4	0	
Cloakroom F2	3		1	3	2		1	2	-1	3		1	3	2		1	2	-1	Cloakrooms to be distinct spaces directly accessed from classroom and adjacent to
Cloakroom F2										3		1	3	2		1	2	-1	outdoor learning environment access door.
Cloakroom KS1	3		1	3	2		1	2	-1	3		1	3	2		1	2	-1	
Cloakroom KS1	3		1	3	2		1	2	-1	3		1	3	2		1	2	-1	
Cloakroom KS1										3		1	3	2		1	2	-1	
Cloakroom KS1										3		1	3	2		1	2	-1	
Cloakroom KS2	3		1	3	2		1	2	-1	3		1	3	2		1	2	-1	
Cloakroom KS2	3		1	3	2		1	2	-1	3		1	3	2		1	2	-1	Cloakrooms to be distinct spaces off circulation, adjacent to external classroom doors.
Cloakroom KS2	3		1	3	2		1	2	-1	3		1	3	2		1	2	-1	
Cloakroom KS2	3		1	3	2		1	2	-1	3		1	3	2		1	2	-1	
Cloakroom KS2	3		1	3	2		1	2	-1	3		1	3	2		1	2	-1	
Cloakroom KS2	3		1	3	2		1	2	-1	3		1	3	2		1	2	-1	
Cloakroom KS2	3		1	3	2		1	2	-1	3		1	3	2		1	2	-1	
Cloakroom KS2	3		1	3	2		1	2	-1	3		1	3	2		1	2	-1	
Central Stock	8		1	8	6		1	6	-2	8		1	8	6		1	6	-2	Stock cupboard to be ideally located near to general office.
Dining Chair / Table Store	16		1	16	16		1	16	0	16		1	16	16		1	16	0	Directly off main hall. Can use combine servery space with dining/chair store if appropriate to reduce overall space requirements.
Staging / Appliance Store	8		1	8	1.5		2	3	-5	8		1	8	1.5		2	3	-5	
Community Store	4		1	4	0		1	0	-4	4		1	4	0		1	0	-4	
Caretakers / Maintenance Store	6		1	6	5		1	5	-1	6		1	6	5		1	5	-1	On ground floor and externally accessible
Cleaner's Store	1.5		2	3	1.5		2	3	0	1.5		2	3	1.5		2	3	0	One store per storey
TOTAL STORAGE AREA				**143**				**113**	**-30**				**158**				**126**	**-32**	
TOTAL NET AREA				**1,338**				**1,272**	**-66**				**1,567**				**1,475**	**-92**	
Non-Net Areas																			
Kitchen and servery																			
Kitchen (full service)	77		1	77	77		1	77	0	77		1	77	77		1	77	0	Located adjacent to main hall and accessible for kitchen deliveries.
Servery	8		1	8	8		1	8	0	8		1	8	8		1	8	0	Between kitchen and main hall. Can use combine servery space with dining/chair store if appropriate to reduce overall space requirements.
Kitchen (Nursery)	7		1	7	7		1	7	0	7		1	7	7		1	7	0	Small kitchenette area directly off Nursery classroom.
Toilets (and personal care)																			
Toilets Nursery	8		1	8	8		1	8	0	8		1	8	8		1	8	0	Qty 3 WCs with qty 3 hand basins directly accessed from Nursery classroom.
Toilets F2	12		1.0	12	12		1.0	12	0	12		1	12	12		1	12	0	Qty 4 WCs with qty 4 hand basins for 315 place school and qty 5 WCs and qty 5 hand basins for 420 place school
Toilets KS1 (boys)	8		1.0	8	10		1.0	10	2	10		1	10	10		1	10	0	Separate boys and girls toilets. Overall number of WCs should be 5 across both
Toilets KS1 (girls)	8		1.0	8	10		1.0	10	2	10		1	10	10		1	10	0	washrooms for 315 place school and 6 for 420 place school.
Toilets KS2 (yr 3&4 boys)	8		1.0	8	10		1.0	10	2	10		1	10	10		1	10	0	Separate boys and girls toilets. Overall number of WCs should be 5 across both
Toilets KS2 (yr 3&4 girls)	8		1.0	8	10		1.0	10	2	10		1	10	10		1	10	0	washrooms for 315 place school and 6 for 420 place school.
Toilets KS2 (yr 5&6 boys)	8		1.0	8	10		1.0	10	2	10		1	10	10		1	10	0	Separate boys and girls toilets. Overall number of WCs should be 5 across both
Toilets KS2 (yr 5&6 girls)	8		1.0	8	10		1.0	10	2	10		1	10	10		1	10	0	washrooms for 315 place school and 6 for 420 place school.
Accessible Toilets / Hygiene	14		1.0	14	4.5		1.0	4.5	-10	16		1	16	4.5		1	4.5	-12	Accessible toilet(s) should be located adjacent to performance spaces and main entrance for secure and appropriate access out of hours. Should be designed in line with Part M.
Assisted Changing					9.0		1.0	9.0	9					9.0		1	9.0	9	To be close to the Foundation/Nursery.
Staff Toilets	10.5		1.0	11	10.5		1.0	10.5	0	14		1	14	14		1	14.0	0	Can also double up as an accessible toilet where appropriate.
Language and Literacy Unit (LAL)	16		2	32.0	22		1	22.0	-10	16		2	32.0	22		1	22.0	-10	
Autistic Spectrum Disorder Unit (ASD)																			
Classroom	60		1	60.0	60		1	60.0	0.0	60		1	60.0	60		1	60.0	0.0	
Office	8		1	8.0	8		1	8.0	0.0	8		1	8.0	8		1	8.0	0.0	
Quiet Rooms	8		2	16.0	8		2	16.0	0.0	8		2	16.0	8		2	16.0	0.0	
Cloakroom	3		1	3.0	3		1	3.0	0.0	3		1	3.0	3		1	3.0	0.0	
Storage Areas	5		1	5.0	5		1	5.0	0.0	5		1	5.0	5		1	5.0	0.0	
Toilets	14		1	14.0	14		1	14.0	0.0	14		1	14.0	14		1	14.0	0.0	
Circulation	net area x 0.225			301	net area x 0.225			286	-14.8	net area x 0.225			353	net area x 0.225			332	-20.7	
Plant (incl. server)	net area x 0.03			40	net area x 0.02			25	-14.7	net area x 0.03			47	net area x 0.02			44	-2.8	
Partitions	net area x 0.05			67	net area x 0.05			64	-3.3	net area x 0.05			78	net area x 0.05			74	-4.6	
TOTAL NON-NET AREA				**731**				**699**	**-31**				**818**				**777**	**-41**	
TOTAL GROSS INTERNAL AREA				**2,069**				**1,971**	**-97**				**2,385**				**2,252**	**-132**	

Appendix 2 Drawings Existing





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Rev	Date	Revision

Partner	Drawn	Date
DG		26/02/13

Status
PRELIMINARY

Scale
1:200 @ A1

Project
Theale C of E
Primary School

Title
Existing Plans

Job No	Drawing No	Revision
13019	10	

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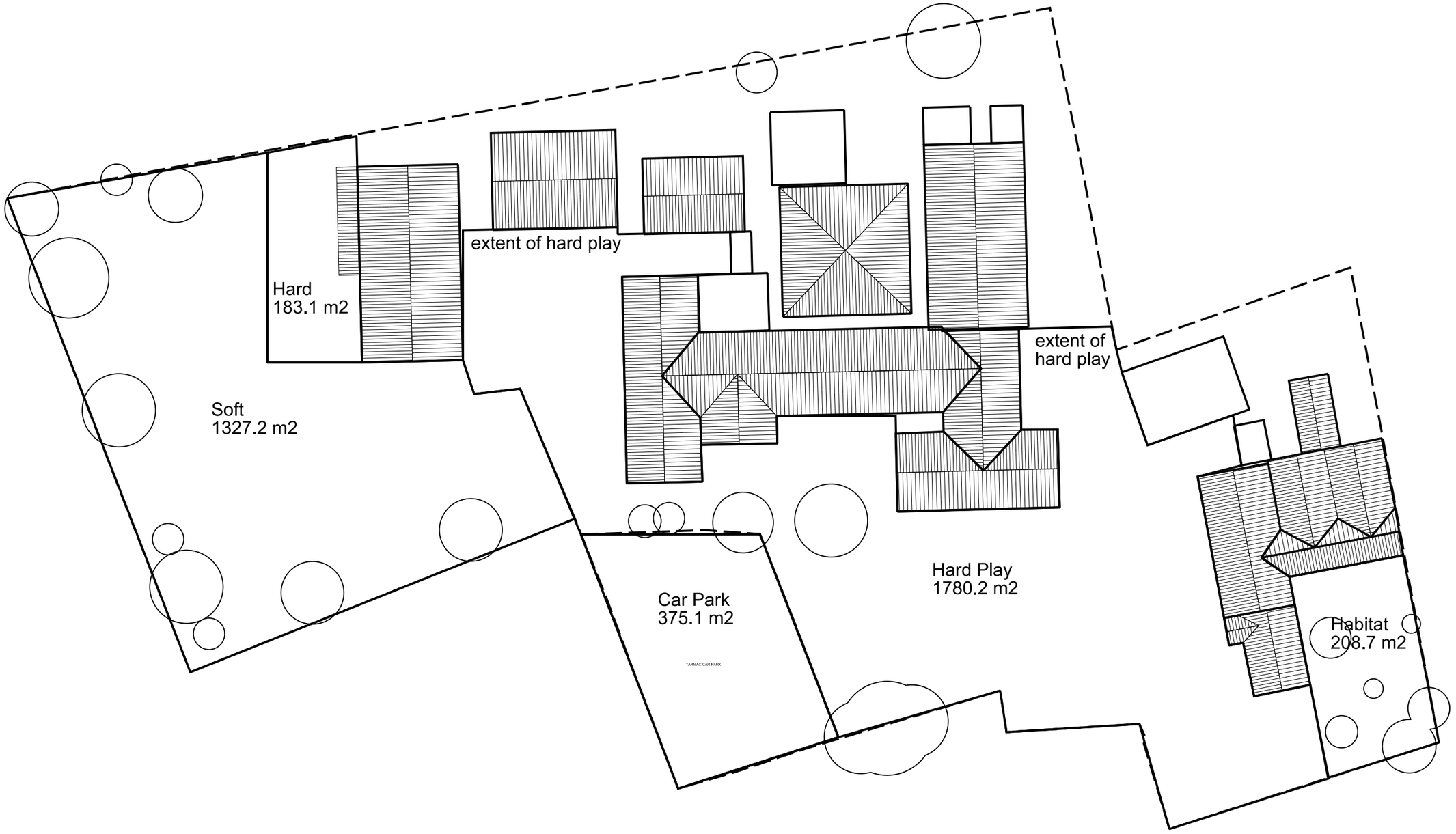

	Existing
Pitches	off site
Soft Play Informal	1327
Games Courts	0
Hard Play	1963
Habitiat	208
Float	861
Parking compound	375
Total surfaces	4734

Rev Date Revision

Partner DG | Drawn | Date 26/02/13

Status
PRELIMINARY

Scale
1:200 @ A1

Project
Theale C of E
Primary School

Title
Existing
External Play Areas

Job No 13019 | Drawing No 13 | Revision A

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Appendix 2 Drawings Option 1

13019_12	Option 1 Ground Floor Plan
13019_24	Option 2 First Floor Plan
13019_14	Option 1 Site / Play areas

h Mews

Year 1
Inc resource etc

Found 2
& Cloaks etc

Found 1
& Cloaks etc

Toilets
Cloaks

F2/ KS1
Yr F2/Yr1

KS1
Yr F2/Yr1
(gr. and first)

Nursery
F1

Nursery

Phase2
3 foundation/ KS1
4 KS1 upstairs

Drama

Group

Group

Library ?
58.0 m2

IT Suite

LIGHT WELL

Food Tech
23 sqm

Group
8 sqm

Group
8 sqm

Store

WCs

Ex Hall

Admin
Kitchen
As
Before

Resource
/cloaks

KS2
Yr 3/4

KS2
Yr 3/4

KS2
Yr 3/4

Resource/
Library

Waiting toilets
as before

WCs/ Coats

SV

KS2
Yr 4/5

STAFF

Ph2
KS2
Class

KS2 Temp
Yr 4/5

KS2
Yr 4/5 Ground
KS2
Yr6 1isrt

lift

Boiler

QT

QT

WC

WC

ASD

Boiler
Room

LAL & Group
Ground
KS2 Yr 6
First

Possible parking?
use of Church

Existing Car Park

The

Lamb

(PH)

Old Lamb
Hotel

16

46.8m

TRINITY COURT

5

3

North

0

10m

Phase 1 works

Existing Buildings (retained Phase1)

Proposed phase 2 works

Circulation zone

Rev	Date	Revision
C	06/09/13	Redrawn Ground and First
B	04/07/13	Boiler house added
A	12/06/13	minor alterations

Partner	Drawn	Date
DG		26/02/13

Status
PRELIMINARY

Scale
1:200 @ A1

Project
Theale C of E
Primary School

Title
Proposed Schematic
Option 1 - Ground

Job No	Drawing No	Revision
13019	12	C

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h Mews

KS1 Class
KS1 Class
KS1 Class
KS1 Class
Toilets Cloaks

KS1
Yr F2/Yr1
(gr. and first)

Phase2
3 foundation/ KS1
4 KS1 upstairs

Ph2
KS2
Class

KS2
Yr 4/5

KS2
Yr 4/5 Ground
KS2
Yr6 1isr

lift
Boiler

WC
WC

LAL & Group
Ground
KS2 Yr 6
First

Boiler
Room

Possible parking?
use of Church

New Play Space
Soft landscape??

The
Lamb
(PH)

Old Lamb
Hotel

16

46.8m

TRINITY COURT

5

3

North

0
10m

Phase 1 works

Existing Buildings (retained Phase1)

Proposed phase 2 works

Circulation zone

Rev	Date	Revision
Partner	Drawn	Date
DG		26/02/13

Status
PRELIMINARY

Scale
1:200 @ A1

Project
Theale Primary School

Title
Proposed Schematic
Option 1 - First

Job No	Drawing No	Revision
13019	24	

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Possible
MUGA location
1000.0 m2

Habitat
260.1 m2

extent of hard play

Hard
183.1 m2

extent of
hard play

Soft
1327.2 m2

Poss Car
Park
438.6 m2

Possible parking?
use of Church

Hard Play
1743.5 m2

Ex car park
375.1 m2

TARMAC CAR PARK

Soft Play
239.2 m2

Rev	Date	Revision
B	17/7/13	Possible MUGA added
A	Date	General Updates

Partner	Drawn	Date
DG		26/02/13

Status
PRELIMINARY

Scale
1:200 @ A1

Project
Theale C of E
Primary School

Title
External Play Areas
Option 1- Phase1

Job No	Drawing No	Revision
13019	14	B

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Appendix 2 Drawings Option2

13019_17	Option 2 Ground Floor Plans
03019_25	Option 2 First Floor Plans

h Mews

Phase 1 works

Existing Buildings (retained Phase1)

Proposed phase 2 works

Circulation zone

Year 1
Inc resource etc

Found 2
Cloaks & Reseources

Found 1
Cloaks & Resources

Toilets
Cloaks

lift

Food
Tech

F2/ KS1
Yr F2/Yr1

Nursery
F1

KS1
Yr F2/Yr1
(gr. and first)

Phase2 Footprint

KS1

Music/ Practical
area 36 sqm

Ex Hall

Admin
Kitchen
As
Before

WCs

Resource
/cloaks

KS2
Yr 3/4

KS2
Yr 3/4

KS2
Yr 3/4

Resource/
Library

Waiting toilets
as before

WCs/ Coats

SV

KS2
Yr 4/5

STAFF

0 10m

Small Hall

KS2
Yr 4/5 Ground

Plant

Porch

WC

QT

QT

st

st

st

KS2
Yr 4/5 Ground

ASD
Area
52.2 m2

LAL

Cloaks

WC

WC

Possible parking?
use of Church

New Play Space
Soft landscape??

Nursery

The

Lamb

(PH)

Old Lamb
Hotel

46.8m

16

TRINITY COURT

5

3

Rev	Date	Revision
B	06/09/13	First and Ground
A	04/07/13	Renamed option2

Partner	Drawn	Date
DG		26/02/13

Status
PRELIMINARY

Scale
1:200 @ A1

Project
Theale C of E
Primary School

Title
Proposed Schematic
Option 2 _ Ground

Job No	Drawing No	Revision
13019	17	B

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Phase 1 works

Existing Buildings (retained Phase1)

Proposed phase 2 works

Circulation zone

h Mews

KS1 Class

KS1 Class

KS1 Class

KS1 Class

Toilets Cloaks

Group Rooms / Res.

KS1 Yr F2/Yr1 (gr. and first)

Phase2
3 foundation/ KS1
4 KS1 upstairs

0 10m

KS2 & Resource Area

KS2 Yr6 first

Plant

Group

CWC

st

st

st

KS2 Yr6 first

IT First

Possible parking? use of Church

Existing Car Park

The Lamb (PH)

Old Lamb Hotel

16

46.8m

TRINITY COURT

5

3

Rev	Date	Revision
Partner	Drawn	Date
DG		26/02/13

Status
PRELIMINARY

Scale
1:200 @ A1

Project
Theale C of E Primary School

Title
Proposed Schematic Option 2 _ First

Job No	Drawing No	Revision
13019	25	

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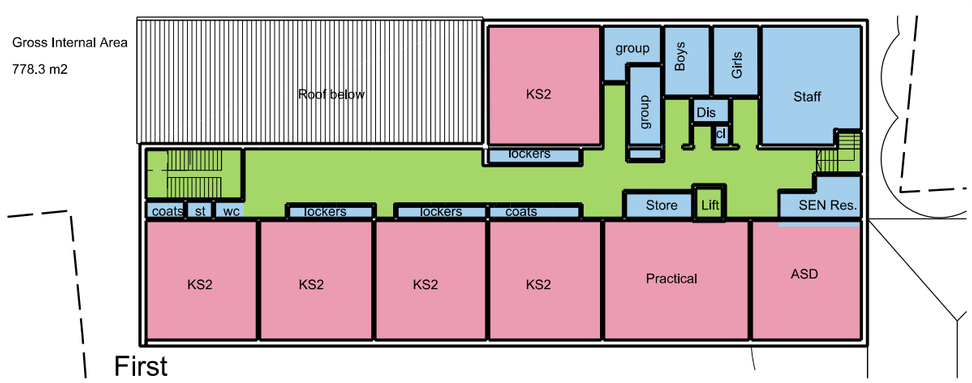
Appendix 2 Drawings Option 3

1301_26	Option 3A Ground & First Floor Plans
13019_15	Option 3B Ground & First Floor Plans
13019_16	Option 3 A & B Site Areas

Gross Internal Area
778.3 m2



First

Rev	Date	Revision

Partner	Drawn	Date
DG		26/02/13

Status
PRELIMINARY

Scale
1:200 @ A1

Project
Theale C of E
Primary School

Title
Proposed Floor paln
Option 3a - New Build 315

Job No	Drawing No	Revision
13019	26	

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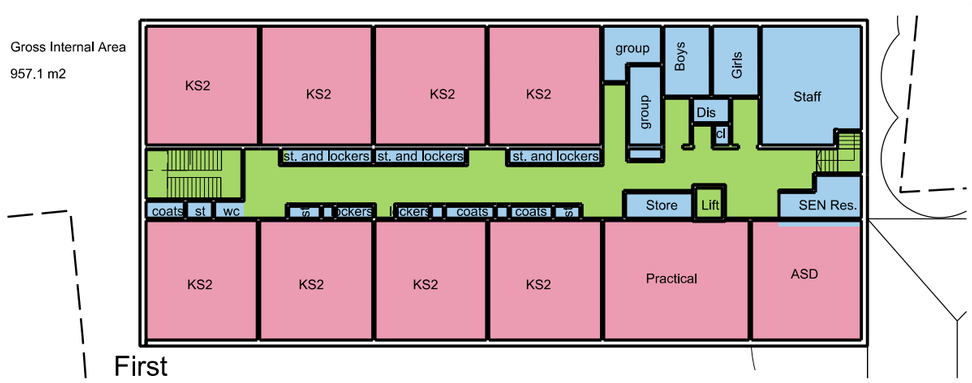

Rev	Date	Revision
D	14/02/14	Revised to 3b
C	06/09/13	Room areas Removed
B	July 13	Option name changed to 3
A	July 13	ff added

Partner	Drawn	Date
DG		26/02/13

Status
PRELIMINARY

Scale
1:200 @ A1

Project
Theale C of E
Primary School

Title
Proposed Floor paln
Option 3b - New Build 420

Job No	Drawing No	Revision
13019	15	D

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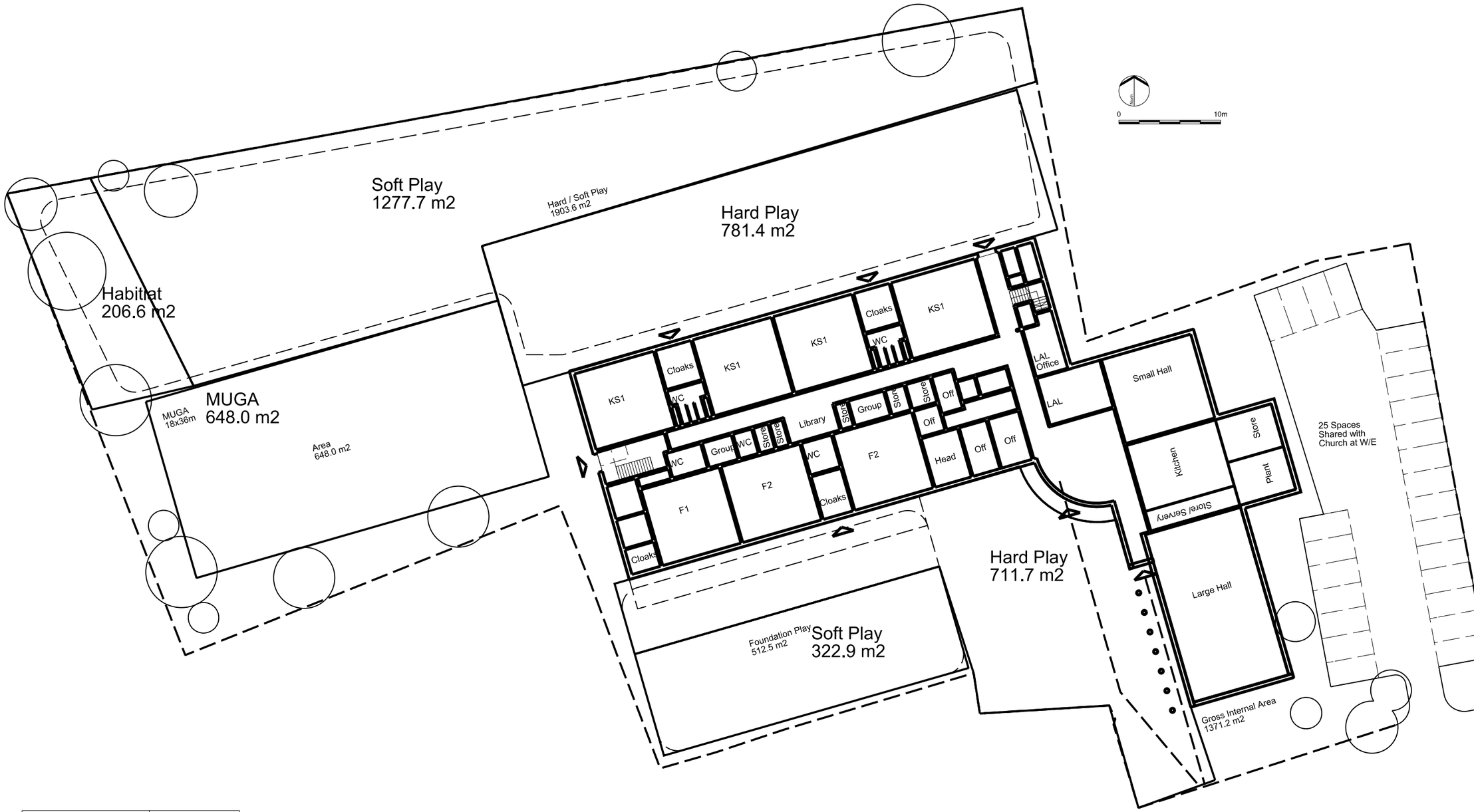

	Existing
Pitches	off site
Soft Play Informal	1599
Games Courts	648
Hard Play	1508
Habitiat	206
Float/parking	793
Total surfaces	5461

Includes Church Car Park

First Floor Plan

Rev	Date	Revision
C	14/02/14	Area for 3A and 3B
B	06/09/12	Room areas removed
A	04/07/13	Option 3

Partner	Drawn	Date
DG		26/02/13

Status
PRELIMINARY

Scale
1:200 @ A1

Project
Theale C of E
Primary School

Title
Site Areas
Option 3A and 3B

Job No	Drawing No	Revision
13019	16	C

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Appendix 2 Drawings Option 5

13019_18	Option 5 Ground Floor Plan
13019_19	Option 5 First Floor Plans
13019_22	Option 5 Site Areas

Phase 1 works

Existing Buildings (retained Phase1)

Proposed phase 2 works

h Mews

0 10m

Found.1
Area
58.0 Sq. m

Found.2
Area
64.2 Sq. m

Found.3
Area
64.8 Sq. m

Found external space
104 sqm

Staff
New Staff Room
56.1 m2

Amin Suite
New Admin Suite
53.0 m2

lift

Small Hall

KS2
Class

Plant

Porch

QT

QT

ASD
Area
####

st

st

st

KS2
Class

LAL

Cloaks

WC

WC

Ex car park

The

Lamb

(PH)

Old Lamb
Hotel

16

46.8m

TRINITY COURT

Rev	Date	Revision

Partner	Drawn	Date
DG		26/02/13

Status
PRELIMINARY

Scale
1:200 @ A1

Project
Theale C of E
Primary School

Title
Proposed Schematic
Option 5 _ Ground

Job No	Drawing No	Revision
13019	18	A

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Phase 1 works

Existing Buildings (retained Phase1)

Proposed phase 2 works

h Mews

0 10m

KS1
Yr F2/Yr1
(gr. and first)

KS1
Class

lift

stock cloaks

stock cloaks

KS1
Resource/
Group

KS1
Class

KS1
Class

KS1
Class

IT
46 sqm

KS2
Resource
Group

KS2
Class

KS2
Class

KS2
Class

KS2
Class

KS2
Class

Plant

Group

C/C

st

st

st

KS2
Class

Group
Rooms

Existing Car Park

The

Lamb

(PH)

Old Lamb
Hotel

16

46.8m

TRINITY COURT

5

3

Rev	Date	Revision
A	06/09/13	Colours clarified, gen. update

Partner	Drawn	Date
DG		26/02/13

Status
PRELIMINARY

Scale
1:200 @ A1

Project
Theale C of E
Primary School

Title
Proposed Schematic
Option 5 _ First

Job No	Drawing No	Revision
13019	19	A

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Possible
MUGA location
1000.0 m2

Habitat
260.1 m2

Phase 2 hard
636.0 m2

Hard
191.0 m2

Soft
1326.3 m2

Found external space
104 sqm

Hard Phase 1
1662.2 m2

Soft
219.1 m2

Soft
223.4 m2

Found.1
Area
58.0 Sq. m

Found.2
Area
64.2 Sq. m

Found.3
Area
64.9 Sq. m

Staff
New Staff Room
50.1 m2

Amin Suite
New Admin Suite
50.0 m2

lift

Small Hall

KS2
Class

Plant

Porch

WC

st

st

st

KS2
Class

QT

QT

ASD
Area
####

LAL

Cloaks

WC

WC

0 10m

North

Rev	Date	Revision
A	09/09/13	Edited colours added

Partner	Drawn	Date
DG		26/02/13

Status
PRELIMINARY

Scale
1:200 @ A1

Project
Theale C of E
Primary School

Title
External Play Areas
Option 5- Phase1&2

Job No	Drawing No	Revision
13019	22	A

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Appendix 2 Drawings Option 6

Option 6	13019_20	Option6 Ground Floor Plan
	13019_21	Option 6 First Floor Plan
	13019_23	Option 6 Site Areas

Phase 1 works

Existing Buildings (retained Phase1)

Proposed phase 2 works

h Mews

KS1
Yr F2/Yr1
(gr. and first)

Temporary
Hoarding Line

KS2

KS2

KS2

Library

Staff

Amin Suite

lift

Boilers

WC
16

Staff
Room

Small Hall

lift

F2 Class

F2 Class

F1 Class

Foundation Garden

Possible parking?
use of Church

Existing Car park

The

Lamb

(PH)

Old Lamb
Hotel

16

46.8m

TRINITY COURT

5

3

0

10m

Rev	Date	Revision
A	06/09/13	Some temporaries demolished re class numbers Colours simplified

Partner	Drawn	Date
DG		26/02/13

Status
PRELIMINARY

Scale
1:200 @ A1

Project
Theale C of E
Primary School

Title
Proposed Schematic
Option 6 _ Ground

Job No	Drawing No	Revision
13019	20	A

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h Mews

Phase 1 works

Existing Buildings (retained Phase1)

Phase 2 classrooms

North

0 10m

KS1
Yr F2/Yr1
(gr. and first)

ASD
Unit

LAL
& LAL Office

lift

stock cloaks

stock cloaks

KS1
Resource/
Group

KS2

KS2

KS2

IT
46 sqm

KS2
Resource
Group

KS2
Toilets
KS2 office?

KS2

KS2

Group
Rooms

WC
16

KS1 Class

lift

KS1 Class

KS1 Class

KS1 Class

Existing Parking

The

Lamb

(PH)

Old Lamb
Hotel

16

46.8m

TRINITY COURT

5

3

Rev	Date	Revision
A	06/09/13	Colouring revised / clarified.

Partner	Drawn	Date
DG		26/02/13

Status
PRELIMINARY

Scale
1:200 @ A1

Project
Theale C of E
Primary School

Title
Proposed Schematic
Option 6 _ First

Job No	Drawing No	Revision
13019	21	A

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Possible
MUGA location
1000.0 m2

Soft
1326.3 m2

Hard
191.0 m2

Phase 2 hard
636.0 m2

Habitat
260.1 m2

KS1
Yr F2/Yr1
(gr. and first)

Temporary
Hoarding Line

KS2
Area
64.7 m2

KS2
Area
64.9 m2

KS2
Area
58.0 m2

Library
Area
46.3 m2

lift

Staff
New Staff Room
50.1 m2

Amin Suite
New Admin Suite
50.0 m2

Hard Phase 1
1611.5 m2

Existing Car park

Boilers

WC
16

Staff
Room

Small Hall

lift

F2 Class

F2 Class

F1 Class

Foundation Garden

Soft
344.8 m2

Possible parking?
use of Church

N
Norm

0 10m

Rev	Date	Revision
A	09/09/13	Edited colours added

Partner	Drawn	Date
DG		26/02/13

Status
PRELIMINARY

Scale
1:200 @ A1

Project
Theale C of E
Primary School

Title
External Play Areas
Option 6 - Phase1&2

Job No	Drawing No	Revision
13019	23	A

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Appendix 3 Services Report ProAir Consulting

Proair Consultants

Mechanical and Electrical Services Engineers

Services Installation
Survey and Feasibility Report

At

Theale Church of England Primary School
Church Street
Theale
West Berkshire

For

West Berkshire Council
Property Department

7305
July 2013 Rev A
Feasibility Report

Index

1.0

Introduction

Proair Consultants have been employed by West Berkshire Council to carry out a review of the current services installation and options available for serving either a new build school or carrying out extensive alterations to the existing school in the coming years.

The report aims to establish the condition of the existing services installation and its suitability for each of the options being considered. This includes the main site services infrastructure and spare capacity on the supply services.

In addition we have carried out a visual survey of the existing Electrical and Mechanical services on site. The aim of the report is to identify any capacity in the electrical services that can be utilised for further alteration, expansion or rebuilding of the school and what elements of the existing services are worth being retained with the proposed alterations.

Engineering staff from Proair have attended site on a number of occasions to review the services installation and condition of the equipment. The first visit was a visual survey of the electrical installation on site during April 2013, this was followed by a number of visits to assess the condition of the existing services and record their details.

A seven day load test has not been carried out yet as there has been insufficient usage to record the peak loads on the current supply.

For the purposes of this Report we have assumed that the full capacity of the supply service as entering the site is available, however prior to proceeding with the detailed design of the proposals and recommendations discussed in this Report, we would recommend dialogue with the Supply Service Provider or Shipper to confirm and agree any proposed increase to the electrical supply load. This would then ensure that the load is available and that the appropriate maximum demands are agreed so not to incur additional costs for energy used above the previously agreed rates.

Location

Theale Church of England primary school
Church Street
Theale
Reading
RG7 5BZ

The Theale Church of England primary school is located in the centre of the village and adjacent to the church. The buildings are thought to range from the early 1900s to 1970s. There are two separate buildings the main school building which is thought to be from the 1970s and the old school building which is the original school. The school has had a number of elements refurbished in recent years, the most noticeable one being the main office and reception area.

The building is single story mainly brick construction and utilizes gas fired central heating systems and electrical services for lighting and power.

2.0
Incoming Utilities

Gas

Although the heating systems to the Old school house and main building is oil fired there is an existing gas supply that enters the site at the edge of the playground south boundary wall and connects to a U16 (16m3/h max duty.) located within a dedicated brick built meter cupboard. The incoming pipe is badly corroded and is recorded as 50mm incoming and outgoing, even though the meter pipework connections are 28mm, on a locally positioned Schematic Diagram produced by Ridge Services Consultants 1997. This schematic shows the gas pipework being distributed below ground to serve the main school building Kitchen and then routing around the back of the school to serve the 'Nursery' Building.

Mains Water

Incoming mains water to the old School building is a 22mm supply entering in the corner of the boys toilets with meter point in pavement on boundary. Incoming mains water to main building is local to Boiler Plant room complete with inline meter. Staffroom building is served via pipework routed from the old school building and it is assumed that the 'Nursery' building is served via an underground pipe served from the main school building.

Main Electrical Supplies

The existing two electrical supplies that serve the school are derived from the Scottish and Southern local area network at low voltage. Supply one the original supply terminates in a high level cupboard in the entrance area to the old school. Supply two enters the main building from a new Cabinet outside at the front of the building and terminates in the electrical cupboard.

Supply one is a 100A fuse cartridge single phase supply rated between 15 and 23 kVA depending upon fuse rating in the cartridge. This terminates into a 9 way distribution board with meter mounted locally. From this main board both sub main circuits and final circuits route throughout the building. There are two other distribution boards connected to this supply they are in series with the main board and serve remote areas of the building.

Supply two is a 200A three phase supply rated at 140 kVA and terminates into a 200 Amp TP&N cabinet with supply meter. This is located outside of the main entrance. From the main supply cabinet the sub main cable routes to the main electrical cupboard where it terminates into the main bus bar then into onto the main loose switchgear. From this loose switchgear sub main electrical supply cables route throughout the school to distribution boards in the school and boiler room

Note

The majority of the services route into the school through the playground from the pedestrian entrance area near to the pedestrian crossing. These services route through the playground below ground to serve the original school building and the main school building. Drainage services are present in this area.

Main electrical supply Number two

Telecoms supplies

The telecoms cables enter the site, from the front of the school routing though the playground to the main school building from where they terminate in the main distribution point.

Oil

There are two oil tanks on site, these serve the two main boiler rooms for the school. Tank number one is located outside of the original school building and services the boiler room for that building only. Tank number two is located at the rear of the site behind the current Kitchen, this supplies oil to the main boiler room serving the main school building.

The two tanks are manufactured from steel and were installed at the school some 20 to 30 years ago. These are located in dedicated bunded areas where any spillage can be caught. The tanks are not in good condition and are coming to the end of their useful life. There are plans for these tanks to be replaced in the coming year.

Main oil tank number two

3.0

Existing Mechanical Installation

Original School Building

The original school building is located on the eastern side and is brick built dating back to early 19th Century, primarily of single storey construction with the exception of the attached old school house that has a small first floor area and the built date of 1833 inscribed. As such the building fabric and construction will not offer the thermal performance of a new building and will require a higher heating capacity as a result.

The heating system for this Building is primarily by a low pressure hot water (lphw) pipework distribution system serving a mixture of steel panel type radiators and oversized exposed pipework sections fed from an oil fired pressure jet Boiler. In addition it was noted that electric wall fan heaters (Dimplex) have also been installed to serve the old School first floor office areas. These heaters were advised as being utilised as frost protection operation during out of hours. It was further noted that these two first floor rooms had mobile oil filled electric radiators installed assumed to provide background heating during normal hour's operation as the lphw pipework did not extend up to these rooms.

The Boiler is located within the ground floor plant room/ maintenance office and is a Beeston Brinkley Model 6/53 *(Serial No. 35354 / Date of Manufacture 1993*) incorporating a Riello 40 burner. The Boiler provides a maximum heating output of 53KW and is approximately 16 years old and in reasonable condition for age with Service record label filled out 12th March 2009 by Maintenance Co. IEI. The pipework and associated heat emitters appear to be a mix of original and replacement installation with some minor reconfiguration in previous years and of fair condition. A stainless steel flue discharges flue gases vertically through roof above. Oil supply is from an external storage tank located adjacent the Maintenance office within a brick bunded area with storage of 2700 litre max. capacity. The 22mm steel oil pipe feed enters through rear wall at low level with an inline weight shut off valve held open by fusible linked wire installed over the Boiler. Main plant control is via a *JEL Micro 2000* controller installed within Boiler room / Maintenance Office. The date of installation was not indicated however this controller is microprocessor based and designed for efficient control of heating systems either as a standalone installation or part of a Network. The control functions available include Optimiser, Compensator, and time and calendar programmer, together with separate temperature control for a domestic hot water system if required.

No Thermostatic Radiator Valves were noted as fitted to the lphw heating system steel panel radiators and the overall system control is via a single zone thermostat controller mounted in the main classroom.

It was noted that there is no visible thermal insulation applied to the distributing heating flow and return pipework even within the Plant room.

Ventilation to the Boiler Plant room was not clearly visible due to congested storage and this should be checked against Maintenance Company service reports to ensure sufficient combustion ventilation is provided and that any wall grilles are kept clear at all times.

Boiler room number one

Main School Building

The main school building is centrally positioned and a single storey brick and framed panelling construction, the age of which was not available at time of survey. There is evidence of extensions having been carried out including a conservatory type construction main hall together with further localised brick constructions. The age of the building and associated extensions is unknown but is estimated at approximately 40 years old. As such the building fabric and construction will not offer the thermal performance of a new building and will require a higher heating capacity as a result.

The heating system for this Building is by a low pressure hot water (lphw) pipework distribution system serving a mixture of column style and steel panel type radiators as well as floor standing boxed convector units and oversized exposed pipework sections fed from 2 No. Floor mounted oil fired Boilers. In addition the Main Hall is served by 4 No. High level wall mounted fan convector heater units (again served off the lphw pipework distribution.

The Boilers are located within a ground floor plant room adjoining the Building next to the Kitchen and accessed externally by fully louvered doors. Above the Plant room is the Tank room providing Feed and Expansion tank to the Boilers together with a pre insulated GRP Cold water Storage Tank for down service to the hot water generator and toilets. The Boilers are Stelrad Ideal Harrier ES/6 models each incorporating a Nuway burner and providing a maximum heating output of 116KW. The Boilers are approximately 16 years old and in reasonable condition for age. Individual stainless steel flues discharge flue gases vertically through brick built chimney. These are not considered the original Boilers due to the age of the building and the pipework and associated heat emitters appear to be a mix of original and replacement installation with some minor reconfiguration in previous years of fair condition. Oil supply is from an adjacent external storage tank located within a brick bunded area with storage of 4990 litre max. capacity and dated 1996. The 28mm steel oil pipe feed enters through rear wall at low level with an inline weight shut off valve held open by fusible linked wire installed over the Boilers. There is aluminium clad thermal insulation applied to the majority of the distributing heating flow and return pipework within the Plant room. The Heating circulation pumps appear to be replacement units as manufactured by Grundfos *(UPC50-120)* and in good condition.

Main plant control is via a *JEL Micro 2000* controller with summer status currently shown and both Boilers turned off. The date of installation was not indicated however this controller is microprocessor based and designed for efficient control of heating systems either as a standalone installation or part

of a Network. The control functions available include Optimiser, Compensator, and time and calendar programmer, together with separate temperature control for a domestic hot water system if required.

Thermostatic Radiator Valves were noted as fitted to the majority of the lphw heating system emitters with system control via zone thermostat controller mounted in the main hall.

Boiler room Number two

Staffroom Prefab Building

The prefab building located adjacent the original School Building is a single storey composite panel construction, the age of which was not available at time of survey though believed to be fairly recent. As such the building fabric and construction should offer reasonable thermal performance.

The heating system for this Building is by 3 No. Electric convector units (Sector) though no data available on outputs. Each Heater has a cage guard surround installed as surface temperature protection.

'Nursery' / 'Foundation' Prefab Building

The prefab building located on the West side of the Site is a single storey composite panel construction, the age of which was not available at time of survey though believed to be approximately 15 years old. As such, even though the windows are double glazed, the building fabric and construction would not be expected to offer the thermal performance of a new building and will require a higher heating capacity as a result.

The heating system for this Building is by a number of gas fired convector heater units mounted on external wall of room served with localised rear flue discharge configuration and fixed guard surround to prevent burns from accidental touching of appliance when operational. It was noted that the guard surround fixing was not considered very secure as well as noted flammable materials positioned in close proximity. Whilst the units were not operational at the time of the survey and these issues may not be occurring when they are operational it is something to be checked. The units are considered original installation and are manufactured by Vulcana Gas Appliances Ltd. The two classrooms are each served by a Vulcana *Temcana Kestrel 250S* powered flue gas fired convector unit providing 7.3KW output. The office is served by a single Vulcana *Temcana 3C* balanced flue natural convection unit providing 4.2KW output. It was noted that this unit had been isolated and labelled as an unsafe

appliance though no details or date of this notice was found. A time clock controller is located in the Office linked to a Brook Crompton heating controller and thermostat.

In addition a number of electric fan heater units were noted as installed to serve following: over door to each of the entrance / access lobbies, over door within each of the two Toilet areas, and over door within the Kitchenette. Three of the six were considered original items with three being replacement as Manufactured by Dimplex. Each heater was operated by a locally positioned wall mounted thermostat.

Nursery building heating

Domestic Hot & Cold Water Services

Original School Building

The original school building is provided with hot water by means of a number of localised points of use electric hot water heaters, as noted in the following list:

Electric Hot Water Heater unvented kit	-	Heatrae Sadia Hot-flo 10 (2.0 – 2.2KW) / with Date of Manufacture unknown / good condition Located beneath Main Classroom Sink. Serves sink unit.
Electric Hot Water Heater	-	Heatrae Sadia Multipoint 10 (2.75 – 3.0 KW) / with unvented kit Date of Manufacture unknown / good condition High level wall mounted in Girls Toilets (southern Block) Serves 2 WHB's complete with TMV.
Electric Hot Water Heater	-	Heatrae Sadia Multipoint 15 (2.75 – 3.0 KW) / with unvented kit Date of Manufacture unknown / good condition High level wall mounted in Disabled Toilet (southern Block) Serves 3 WHB's including adjacent Boys toilet complete with TMV.
Electric Hot Water Heater	-	Heatrae Sadia Multipoint 15 (2.75 – 3.0 KW) / with unvented kit Date of Manufacture unknown / fair condition

		High level wall mounted in Boys Toilet (northern Block) Serves 2 WHB's complete with TMV.
Electric Hot Water Heater	-	Heatrae Sadia Multipoint 10 (2.75 – 3.0 KW) / with unvented kit Date of Manufacture unknown / fair condition High level wall mounted in Girls Toilet (northern Block) Serves 2 WHB's complete with TMV.
Electric Hot Water Heater	-	Heatrae Sadia Streamline 10 / with unvented kit Date of Manufacture unknown / good condition High level wall mounted over first floor LAL Office Sink Serves sink only.

Generally Thermostatic Mixing Valves are noted as being installed to wash hand basins limit hot water temperature to prevent scalding danger. However the safety valve discharges from a number of point use hot water heaters were noted to be in exposed locations, together with tundished collection points exposed over doorways that could constitute a scalding risk to children / staff if in vicinity if discharge occurred. Protective screening recommended and / or alternatively discharge drain points could be reconfigured to safer positions.

The cold water service feeding the water heaters is by mains water distribution. There is a single plastic cold water storage / combined feed and expansion tank located in high level cupboard space accessed from the first floor LAL office. The tank is provided with a lid and foil faced insulation which is poorly attached. The tank condition is reasonable externally but has scale build up of internal surface indicating hard water area and little or no conditioning / softening treatment. The cold water storage is utilised to provide cold water down service for toilet cisterns and heating system top up.

It was noted that a branch pipe from the disabled toilet passes through the external wall to serve wall mounted Bib Tap with hose union. At the time of the survey a hose reel was connected to the bib tap and though not being used the hose end was laid at ground level. Although bib taps can incorporate double check valve arrangement where installed as a 'commercial or public' use this contravenes Water Regulations and BS6700 as it constitutes a contamination risk from both stagnating water together with ground contaminants. Commercial use bib taps require either an RPZ Valve installation or alternatively a dedicated supply with air gap / break tank provision. A simple solution would be to remove hose union connection to ensure hose cannot be left attached when not in use.

Main School Building

The main school building is provided with hot water by a combination of a dedicated gas fired Boiler and associated hot water storage cylinder located within the Boiler room, thought to serve the Kitchen only, as well as a number of localised electric point of use heaters. The gas fired combination Boiler (Glow worm Spacesaver KFB) age is approximately 15 years old and considered to have been added as possibly a replacement to hot water generation originally either by the heating Boilers or possibly a separate dedicated oil fired boiler. There is a Danfoss 811 controller installed within the Plantroom providing 7 day digital time programmer assumed for gas fired plant Hot Water generation.

The hot water localised point of use electric hot water heaters, are as noted in the following list:

Electric Hot Water Heater	-	Heatrae Sadia Multipoint 15 (2.75 – 3.0 KW) / with unvented kit Date of Manufacture unknown / fair condition High level wall mounted in Girls Toilet (western Block) Serves 2 WHB's complete with TMV.

Electric Hot Water Heater	-	Sadia type 'B' Heater (1.5 KW) Date of Manufacture unknown / decommissioned Condition. Recommended complete removal. High level wall mounted over Computer area.
Electric Hot Water Heater	-	Heatrae Sadia Streamline / with unvented kit Date of Manufacture unknown / fair condition Under sink mounted / serves sink only.
Electric Hot Water Heater	-	Not identified due to sealed access Date of Manufacture unknown / non operating Condition. Details to be clarified further with site maintenance. High level wall mounted within cupboard off Girls Toilet (eastern Block) Extent of fittings served subject to verification.

Generally Thermostatic Mixing Valves are noted as being installed to wash hand basins to limit hot water temperature to prevent scalding danger. However the safety valve discharges from a number of point use hot water heaters were noted to be in exposed locations, together with tundished collection points exposed over doorways that could constitute a scalding risk to children / staff if in vicinity if discharge occurred. Protective screening recommended and / or alternatively discharge drain points could be reconfigured to safer positions.

The cold water service feeding the water heaters is by mains water distribution. Above the Plant room is the Tank room providing Feed and Expansion tank to the Boilers together with pre insulated GRP Cold water Storage Tank for down service to the hot water generator and toilets. The GRP tank is in reasonable condition and provided with a lid, access cove and screened vent. Access to the tank room is either by a crude ladder arrangement from Boiler room below or via openable external doors requiring suitable external access platform.

Staffroom Prefab Building

The prefab building has a single Kitchenette sink unit is served by a localised point of use electric hot water heater and hot water drinking point as noted in the following list:

Electric Hot Water Heater unvented kit	-	Heatrae Sadia Hot-flo 10 (2.0 – 2.2KW) / with Date of Manufacture unknown / good condition Located beneath sink / serves sink unit.
Electric Hot Water Dispenser	-	Heatrae Sadia Supreme140 (2.5 litre) / 2.5KW. Wall hung type located over sink. Good condition. There is disabled toilet provided off the entrance lobby however a dedicated hot water heater serving the TMV tap fitting could not be located.

The cold water service to the building is fed from the adjacent old school Building.

'Nursery' / 'Foundation' Prefab Building

The prefab building has two sets of toilets, a Kitchenette and two classroom sinks each served by a localised point of use electric hot water heater and hot water drinking point as noted in the following list:

Electric Hot Water Heater	-	Heatrae Sadia Streamline 10 / with unvented kit Date of Manufacture unknown / fair condition

		Located beneath Classroom sink / serves sink unit.
Electric Hot Water Heater	-	Heatrae Sadia Multipoint 10 (2.75 – 3.0 KW) / with unvented kit Date of Manufacture unknown / fair condition High level wall mounted in Toilet 1 Serves Cleaners Sink and 3 WHB's complete with TMV.
Electric Shower Unit	-	Heatrae Sadia Carousel 10 / with unvented kit Date of Manufacture unknown / fair condition High level wall mounted in Toilet Serves Cleaners Sink
Electric Hot Water Heater	-	Heatrae Sadia Streamline 10 / with unvented kit Date of Manufacture unknown / fair condition Located beneath rear lobby sink / serves sink unit.
Electric Hot Water Heater	-	Ariston unit (2.0KW) / with unvented kit Date of Manufacture unknown / fair condition Located beneath Classroom sink / serves sink unit.
Electric Hot Water Heater	-	Santon (KW) / integrated break tank Date of Manufacture unknown / good condition High level wall mounted in Toilet 2 Serves 2 WHB's without TMV.
Electric Hot Water Heater	-	Santon electronic (KW) / integrated break tank Date of Manufacture unknown / fair condition High level wall mounted in Kitchenette Serves sink.

The cold water service to the building is believed to be fed from the adjacent main school Building. This serves the hot water heaters, Sanitaryware and Kitchen.

The safety valve discharge from the high level wall mounted heater is in an exposed location that, whilst visible to assist in quick response to problem with heater, could cause harm and Burns and suitable protective screen recommended to avoid this. Thermostatic mixer valves were noted as installed to WHB's to maintain safe maximum temperature output. Distribution pipework from wall mounted point of use hot water heaters generally un-insulated which could cause possible scalding risk prior to TMV positions where in exposed locations.

Ventilation Services

Original School Building

The original school building is provided with fresh air ventilation by means of openable windows. Toilets have mixed provision of natural vent via openable windows only or a combination of natural vent together with dedicated mechanical extract with passive make up. The noted mechanical fan units installed are as noted in the following list:

Extract Fan Unit 1 discharge	-	Vent Axia Duet Wall twin fan / through the wall Date of Manufacture unknown / good condition Wall Mounted in Boys Toilets (northern Block) and operated with run on timer.

Main School Building

The main school building is provided with fresh air ventilation by means of openable windows. Toilets have mixed provision of natural vent via openable windows only or a combination of natural vent together with dedicated mechanical extract with passive make up. In addition a number of further rooms have wall fan mechanical extract. The noted mechanical fan units installed are as noted in the following list:

Extract Fan Unit	-	Vent Axia Duet Wall twin fan / through the wall discharge Date of Manufacture unknown / good condition Wall Mounted in Boys Toilets (western Block) and operated with run on timer.
Extract Fan Unit	-	Vent Axia Duet Wall twin fan / through the wall discharge Date of Manufacture unknown / good condition Wall Mounted in Girls Toilets (western Block) and operated with run on timer.
Extract Fan Unit	-	Vent Axia T Series Wall fan / through the wall discharge Date of Manufacture unknown / good condition Wall Mounted in ICT Room with speed controller.

Staffroom Prefab Building

The prefab building has a single Kitchenette sink unit is served by a localised point of use electric hot

The prefab building is provided with fresh air ventilation by means of openable windows. However in addition there are a number of through the wall mechanical extract fans each with individual controls serving classrooms, toilets and Kitchenette.

'Nursery' / 'Foundation' Prefab Building

The prefab building is provided with fresh air ventilation by means of openable windows. However in addition there are a number of through the wall mechanical extract fans each with individual controls serving classrooms, toilets and Kitchenette.

Conclusions & Recommendations

With both gas and oil fuel available for Mechanical heating and hot water possible future consideration of replacing numerous electric hot water point of use heaters, to save electrical load, with a centralised hot water generation plant could be made utilising either fuels. The duty of gas available to the site would need to be ascertained however with an existing 50mm incoming supply pipe it is anticipated that the current U16 Metered supply could be increased as there are three Gas supply pipes in the area which are able to deliver the increased load.

It is recommended as a matter of good practice that because this survey was visual only that all mains water services distribution pipework is traced throughout to ensure that with historical extension / reconfiguration works to serve various outlets have no redundant sections that could cause stagnation issues together with ensuring suitable back contamination protection devices have been installed as required. This would include items such as external bib tap uses and the removal of hose union connections unless use is classed as domestic.

As a general requirement Thermostatic Radiator Valves should be fitted to all heat emitter devices where not located in area of central thermostat control location, including suitable bypass configuration to maintain circulation.

As a general requirement all heating pipework should be thermally insulated throughout to optimise energy efficiencies, unless there is reliance upon sections of exposed oversized pipe installation to provide background heating. Consideration should also be made for the thermal insulation of all domestic water services where routed through ceiling voids or enclosed service voids to both prevent freezing as well as limit heat transfer.

Generally Boiler Plant is between 15 – 20 years old and as such will be reaching end of economic use within the next 5 years. However because of the age of the existing equipment the operational efficiencies are a lot lower than equipment that can be selected today and consideration should be given going forward for replacement based upon a calculated payback upon energy savings that could be made together with higher efficiency controls and sub metering monitoring facilities.

Whilst the consideration of more efficient plant may be considered to reduce operating costs a fundamental exercise of improving the Buildings' fabric / construction thermal performance should also be addressed as this could have a substantial effect on sizing of any replacement plant thereby reducing both capital and operational costs accordingly. As a minimum single glazed window units should be replaced with double glazed units together with simple Management initiatives to prevent excessive opening of external doors etc. as this will not only ensure existing heating systems remain adequate but also allows for possible extensions as well as to enable electric heating facility to be removed which would be a more energy efficient operation.

It was noted that though proprietary guarded tundishes have been utilised for the discharge of unvented point of use hot water heaters the positions of these as well as final drain points are considered to be in exposed locations that could possibly cause scalding to any person adjacent said items if safety valves operated. This should be reviewed as a matter of safety. The locations include tundish positions over open doorways into toilets and discharge pipework terminating through external walls to playground areas. Protective screening to safety valve discharges is suggested and discharge drain points reconfigured to safer positions where in exposed locations to school children.

Low surface temperature covers need to be installed to heat emitters and exposed heating and hot water pipework within disabled toilet facilities.

4.0

Existing Electrical Installation

There are two main electrical supplies to the school, these are located in the old building and the main building and serve all buildings on site.

Supply Number one serves the old building and is located at the back of the classroom. This supply services the original school buildings along with the temporary building at the back of the block. The installation is dated and is thought to date back to the 1950s or 1960s and was the main supply to the school before the main school block was built. Supply rating 100A SP & N

Supply number two is located at the front of the main school in a dedicated cabinet, this was recently upgraded from 100A to 200A TP & N to cater for the heat pump units that have been provided in the temporary building. The supply was originally located in the school and served the main school buildings and the Kitchen which had a dedicated meter. The supply which is now rated at 200A with a single meter serves the main building, Kitchen, original temporary buildings and the two story temporary building recently constructed. The second supply has been moved from the main switch cupboard to a dedicated cabinet outside of the main entrance up against the wall. A new sub main cable routes from this location to a dedicated bus bar in the main cupboard, which then serves the existing switchgear.

Proair staff have clamp tested the existing supplies and recorded the following figures, these are not thought to be the peak loads as at the time of the survey was summer. To get real time information on the actual full loads the load monitoring needs to be carried out in deep winter.

Electrical Test carried out from 23 July 2013 1530 hours, with the school in full operation.

Supply one Old school

Not recorded

Supply Two Main School

Phase	Peak load
R	129 amps
Y	132 amps
B	140 amps

Supply Meter reference One (Old school)

V98R26319 100A SP & N

Supply Meter reference Two (Main school)

P03C04744 200A TP & N

The above results appear to indicate that there is an imbalance across the phases on the electrical supply at peak times. The installation should be tested during the winter when the electrical loads are at their highest and then building balanced.

The above figures show that there is around 30% of the current electrical supply available for daytime use.

The majority of the electrical installation in both the old school and the main school is a mixture of installation dating back to the late 1970s with various areas of the school refurbished between 1980 and 2006. The main switchgear is from the original installation but in reasonable condition. The electrical inspection and test was carried out in 2004 and is due the next test in 2009.

Old school

The electrical installation in the old school comprises of three distribution boards, with the old C60 type circuit breakers which are now redundant, these are wired in series which raises concerns as there is no discrimination on the circuit protection systems and no residual circuit devices for safety.

The electrical installation is a mixture of single core cables in conduits, multi core PVC cables and MICC cables serving the lighting and power throughout the building, these service both power and lighting. The lighting is mainly linear fluorescent with luminaires that were installed in the last 25 years. Small power is a mixture of surface and recessed sockets thought to date back to the 1960s/1970s.

In our opinion the client should consider a rewire and relight of this building to bring it up to current standards whilst retain the architectural features of the original building.

Main Building.

The electrical installation in the main school comprises of the main distribution and multiple distribution boards around the school which vary in date of installation. The main switchgear dates back to the original installation which is thought to be the 1970s and although it is 30 plus years old it is in reasonable condition. The distribution boards vary in age depending upon location. The distribution boards serve the lighting and power throughout the building. The majority of the circuits protected by miniature circuit breakers and there only a very few residual circuit devices for safety.

The electrical installation is a mixture of single core cables in conduits, multi core PVC cables and MICC cables serving the lighting and power throughout the building, these service both power and lighting. The lighting is mainly linear fluorescent with luminaires that were installed in the last 25 years. Small power is a mixture of surface and recessed sockets thought to date between the1970s and 2000s depending upon area.

The main building has had a number of areas refurbished over the years with the most noticeable area being the reception and offices which was refurbished in the last couple of years. The building shall be due for a rewire in the next few years and new lighting installation to bring the installation up to current standards.

General comments

There was no main electrical schematic on site, no up to date distribution schedule and the labelling requires updating.

The fire alarm panel is Advanced with an Analogue addressable panel this is located in the main reception area, the school has both manual breakglasess and fire detection although the level of detection was not confirmed.

The school appear to take a proactive approach to maintenance, and the caretaker is taking a key role in the delivery and upgrade of the school.

There is a fire alarm system in the building with a new fire alarm panel recently installed in the reception area, the standard of the installation is not known but additional detection shall be required to bring the installation up to L2 standard.

There is emergency lighting within the buildings which consists of a variety of luminaire types depending upon location and building. Should any alterations be carried out we would recommend a full review and re certification of the entire installation.

Recommendations:

We would recommend that a number of measures should be considered before upgrading of the electrical supply, these are as follows.

1 Look into the use of alternative sources for heating the buildings and providing insulation in accordance with building regulations.
2 Review the lighting and associated controls to make best use of daylight, this will reduce the electrical load.
3 Carefully design any proposed electrical services installation so that it maximizes the use of the existing supply utilizing all three phases and balancing the load.
4 Consider the refurbishment of the old school building for both electrical and mechanical systems.
5 Consider the rewiring of the school over a few years concentrating to the old school building and then the main school building. This should be carried out taking into account the future IT aspirations of the school.
6 Replace the current switchgear on site.
7 Retain the current main electrical supply if plans allow.
8 Upgrade the fire alarm system to L2 standard in accordance with WBC standards.
9 Remove all local electrical water heaters and controls and centralize the system, thus reducing the electrical load on the building at peak times by 10%.
10 Install new lighting throughout with Daylight dimming, further reducing the electrical load.
11 Rewire the kitchen and bring the installation up to current standards.

5.0

Conclusion and general recommendations

The mechanical services installation although operational is getting tired and in need of a refurbishment. The boilers are nearly 20 years old and the pipework systems through the majority of the school are in excess of 40 years old. The radiators vary in age with some in excess of 40 years whilst others were replaced in the 1990s.

Consideration should be given to the installation of new efficient services and systems throughout the building regardless of which option is considered. We would strongly recommend that if the current buildings are to be modified, then consideration is given to insulating the entire building to the latest standards and for the installation of new mechanical services throughout, using Renewable energy or Gas as dictated by building control and council's energy policy.

The Electrical services installation is a mixture of new and existing, this varies depending upon location in the school. The main switchgear and cable distribution are dated and date back to the 1960s or 1970s with the odd new distribution board installed in recent years. A lot of the cabling dates back to the same time with the exception of a few areas where new lighting and power has been installed to spruce up the school and provide power for the IT installation.

Consideration should be given to the installation of new efficient Lighting systems and associated controls throughout the building regardless of which option is considered.

The fire alarm installation requires upgrading to WBC standards and L2 certification, this shall require modifications to the current installation and new fire alarm panel.

As with any extension refurbishment or new build the council are obliged to comply with the following standards, this shall determine the extent of the services installation required in the building.

Whilst with clever thinking we may be able to retain the existing electrical supply to site, the other services may not be sufficient in size or condition to be retained in the longer term.

Careful consideration during the design of the services could reduce the current electrical supply load by in excess of 15% per annum, reduce energy costs by some 20% and remove the reliance upon oil.

Should a new option be considered then new services shall be provided throughout, these shall be in compliance with BREEAM and the councils own energy policy to reduce the carbon footprint.

Reference Documents

BSEN9999
BS5839
BSEN1838, BS5266
BB100.
Building regulations part B
Building regulations part L
Building regulations part M

6.0

Options Appraisal

The following options appraisal is based upon the drawings supplied by Oxford Architects which have been produced in dialogue with the School and councils project team. The options are a mixture of new build on or off site and extensions/refurbishments. The comments below need to be read in conjunction with the main report as we have established the condition of the existing services installation. This shall affect the budgets and the scope of works for each option.

We have commented on each of these below.

Option 1

This option shall require the removal of the boiler room for the original school building to make way for access, this boiler room would need to be relocated and would include the installation of a new Gas supply to serve the boiler removing the reliance and space required for the Oil tank installation. The heating installation within the building would also be stripped out and new installed

The distribution pipework in the main school boiler room shall require alteration to accommodate new heating circuits to serve the extension. A dedicated circuit shall be run out to the new extension to serve under floor heating.

The existing domestic electrical supply serving the Original school building would in our opinion not be sufficient to serve the extension, we would therefore propose the removal of the existing electrical supply and the installation of a new sub main from the main school building. The original school building electrical services shall require strip out and new installation provided throughout.

A new fire alarm installation shall be required throughout the site to bring the building up to L2 standard.

Option 2

This option shall require the removal of the boiler room for the original school building to make way for access, this boiler room would need to be relocated and would include the installation of a new Gas supply to serve the boiler removing the reliance and space required for the Oil tank installation. The heating installation within the building would also be stripped out and new installed

The Boilers and the distribution pipework in the main school boiler room shall require alteration to accommodate new heating circuits to serve the extension. For this proposal we would propose a new boiler room to serve the main building.

The existing domestic electrical supply serving the Original school building would in our opinion not be sufficient to serve the extension, we would therefore propose the removal of the existing electrical supply and the installation of a new sub main from the main school building. The original school building electrical services shall require strip out and new installation provided throughout.

A new fire alarm installation shall be required throughout the site to bring the building up to L2 standard.

Option 3

This option is based around a new building, therefore the existing boiler rooms and supply serves shall require isolation and new services and systems installed. The building shall require a Breeam Excellent rating therefore renewable energy sources shall be required for the new building. This is likely to consist of either air source heat pumps or Ground source using bore holes. The latter is the more energy efficient and would be less to run in terms of energy costs. It would also attract Renewable energy rebates which would amount to around £2K per annum.

All supply services would be new with a 200A electrical supply, Gas supply and water supply.

All services on site would be new, systems would be installed to ensure that future maintenance costs are kept to a minimum, with systems designed for low maintenance over a long period of time.

The proposal would be to have under floor heating, daylight sensitive lighting and automatic controls, to control and minimize energy usage.

Option 4

This option is based around a new building, therefore the existing boiler rooms and supply serves shall require isolation and new services and systems installed. The building shall require a Breeam Excellent rating therefore renewable energy sources shall be required for the new building. This is likely to consist of either air source heat pumps or Ground source using bore holes. The latter is the more energy efficient and would be less to run in terms of energy costs. It would also attract Renewable energy rebates which would amount to around £2K per annum.

All supply services would be new with a 200A electrical supply, Gas supply and water supply.

All services on site would be new, systems would be installed to ensure that future maintenance costs are kept to a minimum, with systems designed for low maintenance over a long period of time.

The proposal would be to have under floor heating, daylight sensitive lighting and automatic controls, to control and minimize energy usage.

Option 5

This option shall require the removal of the boiler room for the original school building to make way for access, this boiler room would need to be relocated and would include the installation of a new Gas supply to serve the boiler removing the reliance and space required for the Oil tank installation. The heating installation within the building would also be stripped out and new installed

The distribution pipework in the main school boiler room shall require alteration to accommodate new heating circuits to serve the extension. A dedicated circuit shall be run out to the new extension to serve under floor heating.

The existing domestic electrical supply serving the Original school building would in our opinion not be sufficient to serve the extension, we would therefore propose the removal of the existing electrical supply and the installation of a new sub main from the main school building. The original school building electrical services shall require strip out and new installation provided throughout.

A new fire alarm installation shall be required throughout the site to bring the building up to L2 standard.

Option 6

This option shall require the removal of the boiler room for the original school building to make way for access, this boiler room would need to be relocated and would include the installation of a new Gas supply to serve the boiler removing the reliance and space required for the Oil tank installation. The heating installation within the building would also be stripped out and new installed

The distribution pipework in the main school boiler room shall require alteration to accommodate new heating circuits to serve the extension. A dedicated circuit shall be run out to the new extension to serve under floor heating.

The existing domestic electrical supply serving the Original school building would in our opinion not be sufficient to serve the extension, we would therefore propose the removal of the existing electrical supply and the installation of a new sub main from the main school building. The original school building electrical services shall require strip out and new installation provided throughout.

A new fire alarm installation shall be required throughout the site to bring the building up to L2 standard.

Appendix 4 Cost Report Ridge & Partners

RIDGE

Property and Construction Consultants

Options Study

Report Nr. 4

Order of Cost Estimate

Feasibility Study

Theale Primary School

25 February 2014

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CONTENTS

Sections

Appendices

Issue	Date	Description	Created By	Reviewed by
4	25/02/2014	Revised to include Options 3A and 4A; prices rebased to 1st Quarter 2014 levels	PF	PF

1.0) INTRODUCTION

1.1) Project Background

This Project Estimate relates to the development of Theale Primary School with a view to expansion from single form entry (1FE) to two from entry (2FE) in two phases.

1.2) Project Brief

To provide an estimate of the construction costs at present day rates for the proposed options for the re-development. Also, to project these costs to the anticipated construction period.

1.3) Previous Estimate Reports

This is the fourth budget estimate for the scheme. Previous estimate reports were issued as follows:

1 Initial Options Assessment, 24 June 2013
2 Initial Options Assessment Report 2, 26 July 2013
3 Feasibility Study, 27 September 2013

1.4) Further Considerations

No specification has been issued and limited sketch drawings are available, as set out in Section 2.2 below.

The next stage would be to progress the sketch design drawings and prepare a brief outline specification detailing the specific proposals for the building fabric and fit out, together with the proposed site works and drainage solutions. From this information a full approximate quantity estimate can be produced to provide a more detailed and accurate assessment of the Project costs and provide a cost plan for use in monitoring and checking the design development process.

A value management/engineering session may be appropriate to ensure value for money is maintained.

2.0) DESIGN BASIS OF THE REPORT

2.1) Information Requirements

At this stage there is limited information available and as such we have not completed the estimate questionnaire as set out in the 'RICS:NRM'.

2.2) Design Proposals, Drawings

The project estimate has been prepared from the following drawings:

Architect : Oxford Architects

Drawing:	13019 10	Existing Plan
	13019 11	Existing Roof Plans
	13019 12C	Option 1 - Ground
	13019 14B	Option 1 - External Play Areas
	13019 15D	Option 3B - New Build 420

13019 16C	Option 3A and 3B - New Build - Site Areas
13019 17B	Option 2 - Ground
13019 18A	Option 5 - Ground
13019 19A	Option 5 - First
13019 20A	Option 6 - Ground
13019 21A	Option 6 - First
13019 22A	Option 5 - External Play
13019 23A	Option 6 - External Play
13019 24	Option 1 - First
13019 25	Option 2 - First
13019 26	Option 3A - New Build 315

2.3) Design Proposals, Specifications

No Specification has been prepared at this stage of the Feasibility Study. We have assumed a mid range level of specification and a good quality of finishes.

3.0) FINANCIAL BASIS OF THE REPORT

3.1) Cost Information

The project estimate has been prepared generally on the basis of 'Cost per m²' rates for buildings of a similar size specification. These rates have been derived from our in-house cost information and/or from Cost Analyses published by the BCIS-Online services.

3.2) Procurement

The estimate assumes that tenders will be sought on a competitive single stage basis and that the contract will be awarded on a standard form of building contract.

For the purposes of this estimate we have assumed a 'Traditional' fully designed fixed price tender, however, other possible procurement routes could be considered. The choice of procurement route may have an effect on the cost for the project, we would recommend an early discussion to resolve this issue.

3.3) Programme

We have assumed a single main works building contract. If Options 1, 2, 5 or 6 are selected, this would be carried out in two consecutive phases. No anticipated commencment date has been set, and this estimate excludes the effects of building cost inflation.

3.4) Pricing Levels

The Base Date for this estimate is the publish date stated on the front cover.

The level of pricing assumes a contractor will have clear access to the working areas and that the work will be executed during normal working hours.

The estimate is based at present day prices and no adjustment is made to the estimated total to allow for market trends up to the mid point of the construction period.

Options Study RIDGE
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The pricing levels are based on current Building Cost Information Services (BCIS) information, updated on 22 February 2014. Their predictions for building cost inflation are as follows:

All-in Tender Prices Adjustment: 3.78% over the next 12 months.

3.5) Risk Allowances

Due to the early stages of the project, Risk Allowances have been included as a global contingency allowance.

3.6) Abbreviations and Definitions

The estimate adopts the abbreviations and definitions as set out in the 'RICS:NRM'. In addition the following abbreviations are used in this report.

th	thick/thickness
dia	diameter
av	average
&	and
EO.	extra over
grd	ground
dp	deep/depth
rem	remove/removal
bldg	building

Note, where dimensions and sizes are quoted throughout this report, they are quoted in millimetres, unless specifically stated otherwise.

4 EXCLUSION AND QUALIFICATIONS

4.1 Exclusions

The following are not included in this Project Estimate.

- Value Added Tax
- Professional fees
- Ground investigation surveys and reports
- Survey and legal fees associated with land purchase
- Land acquisition, rental or license costs associated with use of land outside current school boundaries for the MUGA or car parking areas
- Planning and other Local Authority charges
- Contributions to Section 106 and 278 works agreements
- Finance Charges
- Any costs caused by 'Third Party Rights'
- Loose furniture and soft furnishings
- Classroom equipment fitout
- Data/IT equipment and fitout (containment and wiring is allowed for)
- Specialist Security
- Statutory utility infrastructure charges or any upgrading of the off site services.
- Works associated with any archaeological studies.

- New Play Space/Soft Landscape to existing car park and possible new parking area on Church-owned adjacent property (except Option 3)
- Sports equipment, goal posts, etc, associated with MUGA.

4.2 Qualifications

Options 1 & 2
Significant external works are excluded, other than the provision of a new MUGA, which is included as Phase 2 work.

It is assumed that the renewal of services to the existing, retained school buildings would be Phase 2 works.

Options 3A and 3B
The provisional assessment of cost for a temporary school should be confirmed by ascertaining the number and type of units required and obtaining quotations from appropriate suppliers in the event that Option 3 is under consideration.

Options 4A and 4B
The estimate of cost for Option 4 includes the construction cost of the new school buildings and external works, together with some allowance for demolitions.

The effects of land acquisition and disposal on the feasibility of this option must be taken into consideration, and the advice of appropriate land agents is recommended in this regard. The assessment of land acquisition cost in the estimate is based on a requirement for 1.5 acres purchased @ £1 million/acre, a rule of thumb assessment provided by WBC.

The assessment of potential receipt from the sale of the existing site is taken from Carter Jonas' Valuation Report dated January 2014. This report proposes a range of values for the site from £790,000 to £1,500,000. The more conservative valuation is included in the cost summary.

No allowance has been made for the additional costs of land transfers, surveys, fees and charges.

No allowance has been made for Temporary School Accommodation. It is assumed that temporary accommodation is not required as the existing school site will be retained until new school is opened.

Options 5 and 6
It is assumed that existing areas not otherwise being refurbished but which are affected by the works shall receive redecoration and local making good of finishings only.

It is assumed that the renewal of services to the existing, retained school buildings would be Phase 2 works.

Significant external works are excluded, other than the provision of a new MUGA, which is included as Phase 2 work.

5.0) ESTIMATE OF CONSTRUCTION COSTS

5.1) Estimate Collection of Construction Costs

The £/m² analysis for the current proposed schemes are included in the appendices.

In summary the Estimates of Construction Cost for the options, taken from the appendices, are as follows:

Ref.	Option 1 (Drawing 13019 12C, 24)		£
1	**Phase 1:**	Phase 1 works (Appendix A)	1,691,000
		Temporary Classrooms x 2	130,000
	Sub-total: Phase 1 works		**£ 1,821,000**
	Phase 2:	Phase 2 works (Appendix A)	1,937,000
		Renewal of electrical, heating and fire alarm installations to existing, retained buildings; including new boiler room	560,000
		Temporary Classrooms x 4	260,000
	Sub-total: Phase 2 works		**£ 2,757,000**
	Estimate of Projected Construction Cost		**£ 4,578,000**

- Rounded to the nearest thousand
- See section 4 for exclusions & qualifications

Ref.	Option 2 (Drawing 13019 17B, 25)		£
2	**Phase 1:**	Phase 1 works (Appendix B)	1,608,000
		Temporary Classrooms x 2	130,000
	Sub-total: Phase 1 works		**£ 1,738,000**
	Phase 2:	Phase 2 works (Appendix B)	2,151,000
		Renewal of electrical, heating and fire alarm installations to existing, retained buildings; including new boiler room	560,000
		Temporary Classrooms x 4	260,000
	Sub-total: Phase 2 works		**£ 2,971,000**
	Estimate of Projected Construction Cost		**£ 4,709,000**

- Rounded to the nearest thousand
- See section 4 for exclusions & qualifications

5.1) Estimate Collection of Construction Costs (continued)

Ref.	Option 3A (1.5FE - Drawing 13019 26)	£
3A	New School on existing site (Appendix C)	4,434,000
	Temporary School Accommodation: provisional budget based upon 15 temporary building units for 24 months	1,800,000
	Estimate of Projected Construction Cost	**£ 6,234,000**

- Rounded to the nearest thousand
- See section 4 for exclusions & qualifications

Ref.	Option 3B (2FE - Drawings 13019 15D, 16C)	£
3B	New School on existing site (Appendix C)	4,752,000
	Temporary School Accommodation: provisional budget based upon 15 temporary building units for 24 months	1,800,000
	Estimate of Projected Construction Cost	**£ 6,552,000**

- Rounded to the nearest thousand
- See section 4 for exclusions & qualifications

Ref.	Option 4A (1.5FE - New Build on New Site)	£
4A	New build on new site elsewhere in Theale: assumed some demolition necessary	6,032,000
	Additional contingency for risk for unknown site : 5%	302,000
	Receipts from land sales	(790,000)
	Acquisition of new site, excluding fees, surveys, due diligence reports, legal transactions, etc: see Notes item 4.2	3,730,000
	Estimate of Projected Construction Cost	**£ 9,274,000**

- Rounded to the nearest thousand
- See section 4 for exclusions & qualifications

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Client Name : West Berkshire Council Estimate Summary
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5.1) Estimate Collection of Construction Costs (continued)

Ref.	Option 4B (2FE - New Build on New Site)	£
4B	New build on new site elsewhere in Theale: assumed some demolition necessary	7,653,000
	Additional contingency for risk for unknown site : 5%	383,000
	Receipts from land sales	(790,000)
	Acquisition of new site, excluding fees, surveys, due diligence reports, legal transactions, etc: see Notes item 4.2	4,770,000
	Estimate of Projected Construction Cost	**£ 12,016,000**

- Rounded to the nearest thousand
- See section 4 for exclusions & qualifications

Ref.	Option 5 (Drawings 13019 18A, 19A)		£
5	**Phase 1:**	Phase 1 works (Appendix D)	1,582,000
		Temporary Classrooms x 2	130,000
	Sub-total: Phase 1 works		**£ 1,712,000**
	Phase 2:	Phase 2 works (Appendix D)	2,570,000
		Renewal of electrical, heating and fire alarm installations to existing, retained buildings	560,000
		Temporary School Accommodation: provisional budget based upon 9 temporary building units for 18 months	930,000
	Sub-total: Phase 2 works		**£ 4,060,000**
	Estimate of Projected Construction Cost		**£ 5,772,000**

- Rounded to the nearest thousand
- See section 4 for exclusions & qualifications

5.1) Estimate Collection of Construction Costs (continued)

Ref.	Option 6 (Drawings 13019 20A, 21A)		£
6	**Phase 1:**	Phase 1 works (Appendix E)	1,616,000
		Temporary Classrooms x 4	240,000
	Sub-total: Phase 1 works	**£**	**1,856,000**
	Phase 2:	Phase 2 works (Appendix E)	2,556,000
		Renewal of electrical, heating and fire alarm installations to existing, retained buildings	560,000
		Temporary School Accommodation: provisional budget based upon 9 temporary building units for 18 months	930,000
	Sub-total: Phase 2 works	**£**	**4,046,000**
	Estimate of Projected Construction Cost	**£**	**5,902,000**

- Rounded to the nearest thousand
- See section 4 for exclusions & qualifications

Appendix A

Option 1

Client Name : **West Berkshire Council** **Appendix A**

Project Title : **Theale Primary School** **Estimate Analysis**

Project Nr : **130346** Report Nr. : **4**

Project Stage : **Order of Cost Estimate** Stage Ref : **OoCE**

Section Title : **Option 1 : Phase 1 (Drawing 13019 12C, 24)** Section Ref. : **Op1**

Item	Description	Quantity		Rate	Item Total	Group Total
1	**Demolition and Alterations**					
1	Demolition of School House	1,112	m³	20	22,240	
2	Decommissioning of services in school house		Item	1,100	1,100	
3	Re-roof existing ASD block including conversion after removal of School House	202	m²	100	20,200	
4	Making good affected facades of ASD block after removal of School House	108	m²	50	5,400	
5	Demolition of KS1 classroom and wing	632	m³	20	12,640	
6	Decommissioning of services in affected areas		Item	2,700	2,700	
7	Additional propping, structural adaption and/or re-roofing retained spaces in partially demolished buildings, eg. WCs		Item	11,000	11,000	
8	Major Refurbishment to: Resource/Library/WCs/Cloaks	90	m²	1,020	91,800	
9	Minor Refurbishment to: Resource/cloaks; KS2 Classroom - IT Suite only	128	m²	423	54,144	
						221,224
2	**New Building Works**					
1	New build 2-storey teaching block for LAL, KS2 Yr 4/5 and KS2 Yr 6	444	m²	1,424	632,256	
2	New build single storey extension comprising Drama, IT Suite, Food Tech and associated areas	219	m²	1,488	325,872	
3	New build single storey extension to Reception	12	m²	1,488	17,856	
						975,984
3	**Site Works**					
1	Allowance for removal of hard pavings		item	3,200	3,200	
2	Allowance for tree removal/pruning		item	800	800	
3	Paved finishes	440	m²	35	15,400	
4	Landscaping (provisional allowance)		item	8,000	8,000	
5	Drainage: Extension to existing systems	675	m²	20	13,500	
	Allowance for diversions		item	3,200	3,200	
6	External Services: gas, electricity and water sub-mains to building; trenching and making good		item	16,000	16,000	
7	Sundries		item	11,000	11,000	

Options Study RIDGE

Client Name : West Berkshire Council Appendix A

Project Title : Theale Primary School Estimate Analysis

Project Nr : 130346 Report Nr. : 4

Project Stage : Order of Cost Estimate Stage Ref : OoCE

Section Title : Option 1 : Phase 1 (Drawing 13019 12C, 24) Section Ref. : Op1

Item	Description	Quantity		Rate	Item Total	Group Total
8	Rebuild walls to Church car park where demolished with School House	15	m	210	3,150	74,250
	Sub Total: Building Works				£	1,271,458
4	**Main contractor's preliminaries**					
1	General Site Preliminaries		%	13.00	165,290	165,290
5	**Main contractor's overheads and profit**					
1	Main Contractor's Overheads & Profit		%	7.00	100,572	100,572
	Total: Building Works Estimate				**£**	**1,537,320**
6	**Risk Allowance Estimate (Contingency)**					
1	Design development risks		%	5.00	76,900	
2	Construction risks		%	5.00	76,900	153,800
	Total: Risk Allowance Estimate				£	153,800
	Cost Limit (excluding Inflation)				**£**	**1,691,120**
7	**Inflation**					**Excluded**
	Total: Inflation Allowance				£	--
	Cost Limit (excluding VAT assessment)				**£**	**1,691,120**
8	**VAT Assessment**				**£**	**Excluded**

- Rounded to the nearest pound
- Based at 1Q 2014 pricing, inflation allowance excluded
- See section 4 for exclusions & qualifications

Client Name : **West Berkshire Council** **Appendix A**

Project Title : **Theale Primary School** **Estimate Analysis**

Project Nr : **130346** Report Nr. : **4**

Project Stage : **Order of Cost Estimate** Stage Ref : **OoCE**

Section Title : **Option 1 : Phase 2 (Drawing 13019 12C, 24)** Section Ref. : **Op1**

Item	Description	Quantity		Rate	Item Total	Group Total
1	**Demolition and Alterations**					
1	Demolition of Classroom blocks	2,180	m³	20	43,600	
2	Decommissioning of services to classroom blocks		Item	1,100	1,100	44,700
2	**New Building Works**					
1	New build 2-storey teaching block for Foundation & Yr 1/2	732	m²	1,424	1,042,368	
2	New build 2-storey teaching block for KS2	146	m²	1,424	207,904	1,250,272
3	**Site Works**					
1	Allowance for removal of hard pavings		item	1,600	1,600	
2	Allowance for tree removal/pruning		item	800	800	
3	Paved finishes	188	m²	35	6,580	
4	Landscaping (provisional allowance)		item	2,100	2,100	
5	Multi Use Games Area (MUGA): assumed 3G Synthetic Turf; fencing; lighting	1,000	m²	111	111,000	
6	Drainage:					
	Extension to existing systems	732	m²	20	14,640	
	Allowance for diversions		item	3,200	3,200	
7	External Services: gas, electricity and water sub-mains to building; trenching and making good		item	16,000	16,000	
8	Sundries		item	5,300	5,300	161,220
	Sub Total: Building Works				£	1,456,192
4	**Main contractor's preliminaries**					
1	General Site Preliminaries		%	13.00	189,305	189,305
5	**Main contractor's overheads and profit**					
1	Main Contractor's Overheads & Profit		%	7.00	115,185	115,185
	Total: Building Works Estimate				**£**	**1,760,682**

Options Study RIDGE
Client Name : West Berkshire Council Appendix A
Project Title : Theale Primary School Estimate Analysis
Project Nr : 130346 Report Nr. : 4
Project Stage : Order of Cost Estimate Stage Ref : OoCE
Section Title : Option 1 : Phase 2 (Drawing 13019 12C, 24) Section Ref. : Op1

Item	Description	Quantity		Rate	Item Total	Group Total
6	**Risk Allowance Estimate (Contingency)**					
1	Design development risks		%	5.00	88,000	
2	Construction risks		%	5.00	88,000	176,000
	Total: Risk Allowance Estimate				£	176,000
	Cost Limit (excluding Inflation)				**£**	**1,936,682**
7	**Inflation**					**Excluded**
	Total: Inflation Allowance				£	--
	Cost Limit (excluding VAT assessment)				**£**	**1,936,682**
8	**VAT Assessment**				**£**	**Excluded**

- Rounded to the nearest pound
- Based at 1Q 2014 pricing, inflation allowance excluded
- See section 4 for exclusions & qualifications

Appendix B

Option 2

RIDGE

Client Name : **West Berkshire Council** — **Appendix B**

Project Title : **Theale Primary School** — **Estimate Analysis**

Project Nr : **130346** — Report Nr. : **4**

Project Stage : **Order of Cost Estimate** — Stage Ref : **OoCE**

Section Title : **Option 2 : Phase 1 (Drawing 13019 17B, 25)** — Section Ref. : **Op2**

Item	Description	Quantity		Rate	Item Total	Group Total
1	**Demolition and Alterations**					
1	Demolition of School House and adjacent KS2 classroom	1,322	m³	20	26,440	
2	Decommissioning of services in school house		Item	1,600	1,600	
3	Re-roof existing ASD block including conversion after removal of School House	202	m²	105	21,210	
4	Making good affected facades of ASD block after removal of School House	108	m²	50	5,400	
						54,650
2	**New Building Works**					
1	New build 2-storey teaching block for LAL, KS2 Yr 4/5, KS2 Yr 6 and Small Hall	748	m²	1,424	1,065,152	
2	New build single storey extension to Reception	18	m²	1,488	26,784	
						1,091,936
3	**Site Works**					
1	Allowance for removal of hard pavings		item	2,100	2,100	
2	Allowance for tree removal/pruning		item	800	800	
3	Paved finishes	312	m²	35	10,920	
4	Landscaping (provisional allowance)		item	8,000	8,000	
5	Drainage:					
	Extension to existing systems	766	m²	20	15,320	
	Allowance for diversions		item	2,650	2,650	
6	External Services: gas, electricity and water sub-mains to building; trenching and making good		item	8,500	8,500	
7	Sundries		item	11,000	11,000	
8	Rebuild walls to Church car park where demolished with School House	15	m	210	3,150	
						62,440
	Sub Total: Building Works				£	1,209,026
4	**Main contractor's preliminaries**					
1	General Site Preliminaries		%	13.00	157,173	
						157,173
5	**Main contractor's overheads and profit**					
1	Main Contractor's Overheads & Profit		%	7.00	95,634	
						95,634

Client Name : **West Berkshire Council** **Appendix B**

Project Title : **Theale Primary School** **Estimate Analysis**

Project Nr : **130346** Report Nr. : **4**

Project Stage :	**Order of Cost Estimate**	Stage Ref :	**OoCE**
Section Title :	**Option 2 : Phase 1 (Drawing 13019 17B, 25)**	Section Ref. :	**Op2**

Item	Description	Quantity	Rate	Item Total	Group Total
	Total: Building Works Estimate			**£**	**1,461,833**
6	**Risk Allowance Estimate (Contingency)**				
1	Design development risks	%	5.00	73,100	
2	Construction risks	%	5.00	73,100	
					146,200
	Total: Risk Allowance Estimate			£	146,200
	Cost Limit (excluding Inflation)			**£**	**1,608,033**
7	**Inflation**				**Excluded**
	Total: Inflation Allowance			£	--
	Cost Limit (excluding VAT assessment)			**£**	**1,608,033**
8	**VAT Assessment**			**£**	**Excluded**

- Rounded to the nearest pound
- Based at 1Q 2014 pricing, inflation allowance excluded
- See section 4 for exclusions & qualifications

Options Study RIDGE

Client Name : **West Berkshire Council** **Appendix B**

Project Title : **Theale Primary School** **Estimate Analysis**

Project Nr : **130346** Report Nr. : **4**

Project Stage :	**Order of Cost Estimate**	Stage Ref :	**OoCE**
Section Title :	**Option 2 : Phase 2 (Drawing 13019 17B, 25)**	Section Ref. :	**Op2**

Item	Description	Quantity		Rate	Item Total	Group Total
1	**Demolition and Alterations**					
1	Demolition of KS1 classroom and wing including WCs, Kitchen, Deputy Head Office, etc	740	m³	20	14,800	
2	Decommissioning of services in affected areas		Item	2,650	2,650	
3	Demolition of Nursery/Foundation/KS1 Classroom blocks	2,180	m³	20	43,600	
4	Decommissioning of services to classroom blocks		Item	1,100	1,100	
5	Additional propping, structural adaption and/or re-roofing retained spaces in partially demolished buildings, eg. Resource/Cloaks		Item	11,000	11,000	
6	Major Refurbishment to: Resource/Library/WCs/Cloaks	90	m²	1,020	91,800	
7	Minor Refurbishment to: Resource/cloaks; KS2 Classroom - IT Suite only; Music/Practical Area	144	m²	423	60,912	
						225,862
2	**New Building Works**					
1	New build 2-storey teaching block for Foundation & Yr 1/2	858	m²	1,424	1,221,792	
						1,221,792
3	**Site Works**					
1	Allowance for removal of hard pavings		item	2,100	2,100	
2	Allowance for tree removal/pruning		item	800	800	
3	Paved finishes	228	m²	35	7,980	
4	Landscaping (provisional allowance)		item	3,200	3,200	
5	Multi Use Games Area (MUGA): assumed 3G Synthetic Turf; fencing; lighting	1,000	m²	111	111,000	
6	Drainage: Extension to existing systems	858	m²	20	17,160	
	Allowance for diversions		item	3,200	3,200	
7	External Services: gas, electricity and water sub-mains to building; trenching and making good		item	16,000	16,000	
8	Sundries		item	5,300	5,300	
9	Rebuild walls to Church car park where demolished with School House	15	m	210	3,150	

Client Name : **West Berkshire Council** — **Appendix B**

Project Title : **Theale Primary School** — **Estimate Analysis**

Project Nr : **130346** — Report Nr. : **4**

Project Stage :	**Order of Cost Estimate**	Stage Ref :	**OoCE**
Section Title :	**Option 2 : Phase 2 (Drawing 13019 17B, 25)**	Section Ref. :	**Op2**

Item	Description	Quantity	Rate	Item Total	Group Total
					169,890
	Sub Total: Building Works			£	1,617,544
4	**Main contractor's preliminaries**				
1	General Site Preliminaries	%	13.00	210,281	210,281
5	**Main contractor's overheads and profit**				
1	Main Contractor's Overheads & Profit	%	7.00	127,948	127,948
	Total: Building Works Estimate			**£**	**1,955,773**
6	**Risk Allowance Estimate (Contingency)**				
14.1	Design development risks	%	5.00	97,800	
14.2	Construction risks	%	5.00	97,800	195,600
	Total: Risk Allowance Estimate			£	195,600
	Cost Limit (excluding Inflation)			**£**	**2,151,373**
7	**Inflation**				**Excluded**
	Total: Inflation Allowance			£	--
	Cost Limit (excluding VAT assessment)			**£**	**2,151,373**
8	**VAT Assessment**			**£**	**Excluded**

- Rounded to the nearest pound
- Based at 1Q 2014 pricing, inflation allowance excluded
- See section 4 for exclusions & qualifications

Appendix C

Option 3A and 3B

Client Name : **West Berkshire Council** **Appendix C**

Project Title : **Theale Primary School** **Estimate Analysis**

Project Nr : **130346** Report Nr. : **4**

Project Stage : **Order of Cost Estimate** Stage Ref : **OoCE**

Section Title : **Option 3A (1.5FE - Drawing 13019 26)** Section Ref. : **Op3**

Item	Description	Quantity		Rate	Item Total	Group Total
1	**Demolition and Alterations**					
1	Demolition of existing school	7,337	m³	15	110,055	
2	Decommissioning of services : removal to boundary of site		Item	16,000	16,000	
						126,055
2	**New Building Works**					
1	New build 2-storey school buildings	2,150	m²	1,311	2,818,650	
						2,818,650
3	**Site Works**					
1	Allowance for removal of hard pavings		item	16,000	16,000	
2	Allowance for tree removal/pruning		item	5,300	5,300	
3	General hard surfaces	590	m²	35	20,650	
4	General landscaped areas	291	m²	10	2,910	
5	Car Park , including drainage and lighting	578	m²	90	52,020	
6	Hard play areas / Games Courts	1,683	m²	50	84,150	
7	MUGA	648	m²	119	77,112	
8	Soft play areas (turf finish; land drained)	1,601	m²	19	30,419	
9	Habitat	207	m²	29	6,003	
10	Drainage:					
	Building drainage	2,150	m²	15	32,250	
	Site drainage	2,273	m²	10	22,730	
11	External Services: gas, electricity and water sub-mains to building; trenching and making good		item	23,500	23,500	
12	Sundries		item	16,000	16,000	
						389,044
	Sub Total: Building Works				£	3,333,749
4	**Main contractor's preliminaries**					
1	General Site Preliminaries		%	13.00	433,387	
						433,387
5	**Main contractor's overheads and profit**					
1	Main Contractor's Overheads & Profit		%	7.00	263,700	
						263,700
	Total: Building Works Estimate				**£**	**4,030,836**

Options Study RIDGE

Client Name : **West Berkshire Council** **Appendix C**

Project Title : **Theale Primary School** **Estimate Analysis**

Project Nr : **130346** Report Nr. : **4**

Project Stage : **Order of Cost Estimate** Stage Ref : **OoCE**

Section Title : **Option 3A (1.5FE - Drawing 13019 26)** Section Ref. : **Op3**

Item	Description	Quantity	Rate	Item Total	Group Total
6	**Risk Allowance Estimate (Contingency)**				
1	Design development risks	%	5.00	201,500	
2	Construction risks	%	5.00	201,500	
					403,000
	Total: Risk Allowance Estimate			£	403,000
	Cost Limit (excluding Inflation)			**£**	**4,433,836**
7	**Inflation**				**Excluded**
	Total: Inflation Allowance			£	--
	Cost Limit (excluding VAT assessment)			**£**	**4,433,836**
8	**VAT Assessment**			**£**	**Excluded**

- Rounded to the nearest pound
- Based at 1Q 2014 pricing, inflation allowance excluded
- See section 4 for exclusions & qualifications

Client Name : **West Berkshire Council** **Appendix C**

Project Title : **Theale Primary School** **Estimate Analysis**

Project Nr : **130346** Report Nr. : **4**

Project Stage : **Order of Cost Estimate** Stage Ref : **OoCE**

Section Title : **Option 3B (2FE - Drawings 13019 15D, 16C)** Section Ref. : **Op3**

Item	Description	Quantity		Rate	Item Total	Group Total
1	**Demolition and Alterations**					
1	Demolition of existing school	7,337	m³	15	110,055	
2	Decommissioning of services : removal to boundary of site		Item	16,000	16,000	
						126,055
2	**New Building Works**					
1	New build 2-storey school buildings	2,328	m²	1,311	3,052,008	
						3,052,008
3	**Site Works**					
1	Allowance for removal of hard pavings		item	16,000	16,000	
2	Allowance for tree removal/pruning		item	5,300	5,300	
3	General hard surfaces	590	m²	35	20,650	
4	General landscaped areas	291	m²	10	2,910	
5	Car Park , including drainage and lighting	578	m²	90	52,020	
6	Hard play areas / Games Courts	1,683	m²	50	84,150	
7	MUGA	648	m²	119	77,112	
8	Soft play areas (turf finish; land drained)	1,601	m²	19	30,419	
9	Habitat	207	m²	29	6,003	
10	Drainage:					
	Building drainage	2,328	m²	15	34,920	
	Site drainage	2,273	m²	10	22,730	
11	External Services: gas, electricity and water sub-mains to building; trenching and making good		item	26,500	26,500	
12	Sundries		item	16,000	16,000	
						394,714
	Sub Total: Building Works				£	3,572,777
4	**Main contractor's preliminaries**					
1	General Site Preliminaries		%	13.00	464,461	
						464,461
5	**Main contractor's overheads and profit**					
1	Main Contractor's Overheads & Profit		%	7.00	282,607	
						282,607
	Total: Building Works Estimate				**£**	**4,319,845**

Options Study RIDGE

Client Name : **West Berkshire Council** **Appendix C**

Project Title : **Theale Primary School** **Estimate Analysis**

Project Nr : **130346** Report Nr. : **4**

Project Stage : **Order of Cost Estimate** Stage Ref : **OoCE**

Section Title : **Option 3B (2FE - Drawings 13019 15D, 16C)** Section Ref. : **Op3**

Item	Description	Quantity		Rate	Item Total	Group Total
6	**Risk Allowance Estimate (Contingency)**					
1	Design development risks		%	5.00	216,000	
2	Construction risks		%	5.00	216,000	
						432,000
	Total: Risk Allowance Estimate				£	432,000
	Cost Limit (excluding Inflation)				**£**	**4,751,845**
7	**Inflation**					**Excluded**
	Total: Inflation Allowance				£	--
	Cost Limit (excluding VAT assessment)				**£**	**4,751,845**
8	**VAT Assessment**				**£**	**Excluded**

- Rounded to the nearest pound
- Based at 1Q 2014 pricing, inflation allowance excluded
- See section 4 for exclusions & qualifications

Appendix D

Option 4A and 4B

RIDGE

Project Stage : **Order of Cost Estimate** Stage Ref : **OoCE**

Section Title : **Option 4A (1.5FE - New Build on New Site)** Section Ref. : **Op3**

Item	Description	Quantity		Rate	Item Total	Group Total
1	**Demolition and Alterations**					
1	Allowance for demolitions		item	110,000	110,000	
2	Allowance for decommissioning of existing services		Item	16,000	16,000	
						126,000
2	**New Building Works**					
1	New build 2-storey school buildings	3,020	m²	1,311	3,959,220	
						3,959,220
3	**Site Works**					
1	Allowance for removal of hard pavings		item	16,000	16,000	
2	Allowance for tree removal/pruning		item	5,300	5,300	
3	General hard surfaces	873	m²	35	30,555	
4	General landscaped areas	3,163	m²	10	31,630	
5	Car Park , including drainage and lighting	578	m²	90	52,020	
6	Hard play areas / Games Courts	1,230	m²	50	61,500	
7	MUGA (not required)	--	m²	119	--	
8	Soft play areas (turf finish; land drained)	6,300	m²	19	119,700	
9	Habitat	515	m²	29	14,935	
10	Drainage:					
	Building drainage	3,020	m²	15	45,300	
	Site drainage	2,103	m²	10	21,030	
11	External Services: gas, electricity and water sub-mains to building; trenching and making good	3,020	m²	12	36,240	
12	Sundries		item	16,000	16,000	
						450,210
	Sub Total: Building Works				£	4,535,430
4	**Main contractor's preliminaries**					
1	General Site Preliminaries		%	13.00	589,606	
						589,606
5	**Main contractor's overheads and profit**					
1	Main Contractor's Overheads & Profit		%	7.00	358,753	
						358,753
	Total: Building Works Estimate				**£**	**5,483,789**

Client Name : **West Berkshire Council** **Appendix D**

Project Title : **Theale Primary School** **Estimate Analysis**

Project Nr : **130346** Report Nr. : **4**

Project Stage : **Order of Cost Estimate** Stage Ref : **OoCE**

Section Title : **Option 4A (1.5FE - New Build on New Site)** Section Ref. : **Op3**

Item	Description	Quantity		Rate	Item Total	Group Total
6	**Risk Allowance Estimate (Contingency)**					
1	Design development risks		%	5.00	274,200	
2	Construction risks		%	5.00	274,200	
						548,400
	Total: Risk Allowance Estimate				£	548,400
	Cost Limit (excluding Inflation)				**£**	**6,032,189**
7	**Inflation**					**Excluded**
	Total: Inflation Allowance				£	--
	Cost Limit (excluding VAT assessment)				**£**	**6,032,189**
8	**VAT Assessment**				**£**	**Excluded**

- Rounded to the nearest pound
- Based at 1Q 2014 pricing, inflation allowance excluded
- See section 4 for exclusions & qualifications

Options Study RIDGE

Client Name : **West Berkshire Council** **Appendix D**

Project Title : **Theale Primary School** **Estimate Analysis**

Project Nr : **130346** Report Nr. : **4**

Project Stage : **Order of Cost Estimate** Stage Ref : **OoCE**

Section Title : **Option 4B (2FE - New Build on New Site)** Section Ref. : **Op3**

Item	Description	Quantity		Rate	Item Total	Group Total
1	**Demolition and Alterations**					
1	Allowance for demolitions		item	110,000	110,000	
2	Allowance for decommissioning of existing services		Item	16,000	16,000	
						126,000
2	**New Building Works**					
1	New build 2-storey school buildings	3,860	m²	1,311	5,060,460	
						5,060,460
3	**Site Works**					
1	Allowance for removal of hard pavings		item	16,000	16,000	
2	Allowance for tree removal/pruning		item	5,300	5,300	
3	General hard surfaces	1,030	m²	35	36,050	
4	General landscaped areas	3,950	m²	10	39,500	
5	Car Park , including drainage and lighting	750	m²	90	67,500	
6	Hard play areas / Games Courts	1,440	m²	50	72,000	
7	MUGA (not required)	--	m²	119	--	
8	Soft play areas (turf finish; land drained)	8,400	m²	19	159,600	
9	Habitat	620	m²	29	17,980	
10	Drainage:					
	Building drainage	3,860	m²	15	57,900	
	Site drainage	2,470	m²	10	24,700	
11	External Services: gas, electricity and water sub-mains to building; trenching and making good	3,860	m²	12	46,320	
12	Sundries		item	25,000	25,000	
						567,850
	Sub Total: Building Works				£	5,754,310
4	**Main contractor's preliminaries**					
1	General Site Preliminaries		%	13.00	748,060	
						748,060
5	**Main contractor's overheads and profit**					
1	Main Contractor's Overheads & Profit		%	7.00	455,166	
						455,166
	Total: Building Works Estimate				**£**	**6,957,536**

Client Name : **West Berkshire Council** — **Appendix D**

Project Title : **Theale Primary School** — **Estimate Analysis**

Project Nr : **130346** — Report Nr. : **4**

Project Stage :	**Order of Cost Estimate**	Stage Ref :	**OoCE**
Section Title :	**Option 4B (2FE - New Build on New Site)**	Section Ref. :	**Op3**

Item	Description	Quantity	Rate	Item Total	Group Total
6	**Risk Allowance Estimate (Contingency)**				
1	Design development risks	%	5.00	347,900	
2	Construction risks	%	5.00	347,900	
					695,800
	Total: Risk Allowance Estimate			£	695,800
	Cost Limit (excluding Inflation)			**£**	**7,653,336**
7	**Inflation**				**Excluded**
	Total: Inflation Allowance			£	--
	Cost Limit (excluding VAT assessment)			**£**	**7,653,336**
8	**VAT Assessment**			**£**	**Excluded**

- Rounded to the nearest pound
- Based at 1Q 2014 pricing, inflation allowance excluded
- See section 4 for exclusions & qualifications

Appendix E

Option 5

Client Name : **West Berkshire Council** **Appendix E**

Project Title : **Theale Primary School** **Estimate Analysis**

Project Nr : **130346** Report Nr. : **4**

Project Stage : **Order of Cost Estimate** Stage Ref : **OoCE**

Section Title : **Option 5 : Phase 1 (Drawings 13019 18A, 19A)** Section Ref. : **Op5**

Item	Description	Quantity	Rate	Item Total	Group Total
1	**Demolition and Alterations**				
1	Demolition of School House and adjacent KS2 classroom	1,322 m³	20	26,440	
2	Decommissioning of services in school house	Item	1,100	1,100	
3	Re-roof existing ASD block including conversion after removal of School House	202 m²	110	22,220	
4	Making good affected facades of ASD block after removal of School House	108 m²	50	5,400	
					55,160
2	**New Building Works**				
1	New build 2-storey teaching block for LAL, KS2 Yr 4/5, KS2 Yr 6 and Small Hall	748 m²	1,424	1,065,152	
					1,065,152
3	**Site Works**				
1	Allowance for removal of hard pavings	item	2,100	2,100	
2	Allowance for tree removal/pruning	item	800	800	
3	Paved finishes	312 m²	35	10,920	
4	Landscaping (provisional allowance)	item	8,000	8,000	
5	Drainage:				
	Extension to existing systems	748 m²	20	14,960	
	Allowance for diversions	item	2,650	2,650	
6	External Services: gas, electricity and water sub-mains to building; trenching and making good	item	16,000	16,000	
7	Sundries	item	11,000	11,000	
8	Rebuild walls to Church car park where demolished with School House	15 m	210	3,150	
					69,580
	Sub Total: Building Works			£	1,189,892
4	**Main contractor's preliminaries**				
1	General Site Preliminaries	%	13.00	154,686	
					154,686
5	**Main contractor's overheads and profit**				
1	Main Contractor's Overheads & Profit	%	7.00	94,120	
					94,120
	Total: Building Works Estimate			**£**	**1,438,698**

Options Study RIDGE

Client Name : **West Berkshire Council** **Appendix E**

Project Title : **Theale Primary School** **Estimate Analysis**

Project Nr : **130346** Report Nr. : **4**

Project Stage : **Order of Cost Estimate** Stage Ref : **OoCE**

Section Title : **Option 5 : Phase 1 (Drawings 13019 18A, 19A)** Section Ref. : **Op5**

Item	Description	Quantity	Rate	Item Total	Group Total
6	**Risk Allowance Estimate (Contingency)**				
1	Design development risks	%	5.00	71,900	
2	Construction risks	%	5.00	71,900	
					143,800
	Total: Risk Allowance Estimate			£	143,800
	Cost Limit (excluding Inflation)			**£**	**1,582,498**
7	**Inflation**				**Excluded**
	Total: Inflation Allowance			£	--
	Cost Limit (excluding VAT assessment)			**£**	**1,582,498**
8	**VAT Assessment**			**£**	**Excluded**

- Rounded to the nearest pound
- Based at 1Q 2014 pricing, inflation allowance excluded
- See section 4 for exclusions & qualifications

Client Name : **West Berkshire Council** **Appendix E**

Project Title : **Theale Primary School** **Estimate Analysis**

Project Nr : **130346** Report Nr. : **4**

Project Stage : **Order of Cost Estimate** Stage Ref : **OoCE**

Section Title : **Option 5 : Phase 2 (Drawings 13019 18A, 19A)** Section Ref. : **Op5**

Item	Description	Quantity		Rate	Item Total	Group Total
1	**Demolition and Alterations**					
1	Demolition of KS1 classroom and wing	335	m³	20	6,700	
2	Decommissioning of services in affected areas		Item	2,650	2,650	
3	Demolition of Nursery/Foundation/KS1 Classroom blocks	2,180	m³	20	43,600	
4	Decommissioning of services to classroom blocks		Item	1,100	1,100	
5	Making good exposed faces of existing		Item	5,300	5,300	
6	Minor Refurbishment to existing ground floor retained underneath new vertical extension	654	m²	423	276,642	335,992
2	**New Building Works**					
1	New build vertical extension including reinforcement of existing building	798	m²	1,792	1,430,016	1,430,016
3	**Site Works**					
1	Allowance for removal of hard pavings		item	2,100	2,100	
2	Allowance for tree removal/pruning		item	800	800	
3	New paved landscaped areas	200	m²	35	7,000	
4	Landscaping (provisional allowance)		item	2,100	2,100	
5	Multi Use Games Area (MUGA): assumed 3G Synthetic Turf; fencing; lighting	1,000	m²	111	111,000	
6	Drainage: Extension to existing systems	798	m²	20	15,960	
	Allowance for diversions		item	3,200	3,200	
7	External Services: gas, electricity and water sub-mains to building; trenching and making good		item	16,000	16,000	
8	Sundries		item	5,300	5,300	
9	Rebuild walls to Church car park where demolished with School House	15	m	210	3,150	166,610
	Sub Total: Building Works				£	1,932,618

Options Study RIDGE

Client Name : **West Berkshire Council** **Appendix E**

Project Title : **Theale Primary School** **Estimate Analysis**

Project Nr : **130346** Report Nr. : **4**

Project Stage : **Order of Cost Estimate** Stage Ref : **OoCE**

Section Title : **Option 5 : Phase 2 (Drawings 13019 18A, 19A)** Section Ref. : **Op5**

Item	Description	Quantity	Rate	Item Total	Group Total
4	**Main contractor's preliminaries**				
1	General Site Preliminaries	%	13.00	251,240	251,240
5	**Main contractor's overheads and profit**				
1	Main Contractor's Overheads & Profit	%	7.00	152,870	152,870
	Total: Building Works Estimate			**£**	**2,336,728**
6	**Risk Allowance Estimate (Contingency)**				
14.1	Design development risks	%	5.00	116,800	
14.2	Construction risks	%	5.00	116,800	233,600
	Total: Risk Allowance Estimate			£	233,600
	Cost Limit (excluding Inflation)			**£**	**2,570,328**
7	**Inflation**				**Excluded**
	Total: Inflation Allowance			£	--
	Cost Limit (excluding VAT assessment)			**£**	**2,570,328**
8	**VAT Assessment**			**£**	**Excluded**

- Rounded to the nearest pound
- Based at 1Q 2014 pricing, inflation allowance excluded
- See section 4 for exclusions & qualifications

Appendix F

Option 6

RIDGE

Client Name : **West Berkshire Council** — **Appendix F**

Project Title : **Theale Primary School** — **Estimate Analysis**

Project Nr : **130346** — Report Nr. : **4**

Project Stage : **Order of Cost Estimate** — Stage Ref : **OoCE**

Section Title : **Option 6 : Phase 1 (Drawings 13019 20A, 21A)** — Section Ref. : **Op5**

Item	Description	Quantity		Rate	Item Total	Group Total
1	**Demolition and Alterations**					
1	Demolition of School House, ASD and adjacent KS2 classroom	1,998	m³	20	39,960	
2	Decommissioning of services in school house, ASD and adjacent KS2 classroom		Item	2,100	2,100	
						42,060
2	**New Building Works**					
1	New build 2-storey teaching block for Foundation & KS1 I ncluding Small Hall	771	m²	1,424	1,097,904	
						1,097,904
3	**Site Works**					
1	Allowance for removal of hard pavings		item	2,100	2,100	
2	Allowance for tree removal/pruning		item	800	800	
3	Paved finishes	360	m²	35	12,600	
4	Landscaping (provisional allowance)		item	11,000	11,000	
5	Drainage:					
	Extension to existing systems	771	m²	20	15,420	
	Allowance for diversions		item	2,700	2,700	
6	External Services: gas, electricity and water sub-mains to building; trenching and making good		item	16,000	16,000	
7	Sundries		item	11,000	11,000	
8	Rebuild walls to Church car park where demolished with School House	15	m	210	3,150	
						74,770
	Sub Total: Building Works				£	1,214,734
4	**Main contractor's preliminaries**					
1	General Site Preliminaries		%	13.00	157,915	
						157,915
5	**Main contractor's overheads and profit**					
1	Main Contractor's Overheads & Profit		%	7.00	96,085	
						96,085
	Total: Building Works Estimate				**£**	**1,468,734**

Client Name : **West Berkshire Council** **Appendix F**

Project Title : **Theale Primary School** **Estimate Analysis**

Project Nr : **130346** Report Nr. : **4**

Project Stage :	**Order of Cost Estimate**	Stage Ref :	**OoCE**
Section Title :	**Option 6 : Phase 1 (Drawings 13019 20A, 21A)**	Section Ref. :	**Op5**

Item	Description	Quantity	Rate	Item Total	Group Total
6	**Risk Allowance Estimate (Contingency)**				
1	Design development risks	%	5.00	73,400	
2	Construction risks	%	5.00	73,400	
					146,800
	Total: Risk Allowance Estimate			£	146,800
	Cost Limit (excluding Inflation)			**£**	**1,615,534**
7	**Inflation**				**Excluded**
	Total: Inflation Allowance			£	--
	Cost Limit (excluding VAT assessment)			**£**	**1,615,534**
8	**VAT Assessment**			**£**	**Excluded**

- Rounded to the nearest pound
- Based at 1Q 2014 pricing, inflation allowance excluded
- See section 4 for exclusions & qualifications

Options Study RIDGE

Client Name : **West Berkshire Council** **Appendix F**

Project Title : **Theale Primary School** **Estimate Analysis**

Project Nr : **130346** Report Nr. : **4**

Project Stage :	**Order of Cost Estimate**	Stage Ref :	**OoCE**
Section Title :	**Option 6 : Phase 2 (Drawings 13019 20A, 21A)**	Section Ref. :	**Op5**

Item	Description	Quantity		Rate	Item Total	Group Total
1	**Demolition and Alterations**					
1	Demolition of KS1 classroom and wing	335	m³	20	6,700	
2	Decommissioning of services in affected areas		Item	2,700	2,700	
3	Demolition of Nursery/Foundation/KS1 Classroom blocks	2,180	m³	20	43,600	
4	Decommissioning of services to classroom blocks		Item	1,100	1,100	
5	Making good exposed faces of existing		Item	5,300	5,300	
6	Minor Refurbishment to existing ground floor retained underneath new vertical extension	654	m²	423	276,642	
						336,042
2	**New Building Works**					
1	New build vertical extension including reinforcement of existing building	792	m²	1,792	1,419,264	
						1,419,264
3	**Site Works**					
1	Allowance for removal of hard pavings		item	2,100	2,100	
2	Allowance for tree removal/pruning		item	800	800	
3	New paved landscaped areas	200	m²	35	7,000	
4	Landscaping (provisional allowance)		item	2,100	2,100	
5	Multi Use Games Area (MUGA): assumed 3G Synthetic Turf; fencing; lighting	1,000	m²	111	111,000	
6	Drainage:					
	Extension to existing systems	792	m²	20	15,840	
	Allowance for diversions		item	3,200	3,200	
7	External Services: gas, electricity and water sub-mains to building; trenching and making good		item	16,000	16,000	
8	Sundries		item	5,300	5,300	
9	Rebuild walls to Church car park where demolished with School House	15	m	210	3,150	
						166,490
	Sub Total: Building Works				£	1,921,796

Client Name : **West Berkshire Council** — **Appendix F**

Project Title : **Theale Primary School** — **Estimate Analysis**

Project Nr : **130346** — Report Nr. : **4**

Project Stage : **Order of Cost Estimate** — Stage Ref : **OoCE**

Section Title : **Option 6 : Phase 2 (Drawings 13019 20A, 21A)** — Section Ref. : **Op5**

Item	Description	Quantity	Rate	Item Total	Group Total
4	**Main contractor's preliminaries**				
1	General Site Preliminaries	%	13.00	249,833	249,833
5	**Main contractor's overheads and profit**				
1	Main Contractor's Overheads & Profit	%	7.00	152,014	152,014
	Total: Building Works Estimate			**£**	**2,323,643**
6	**Risk Allowance Estimate (Contingency)**				
14.1	Design development risks	%	5.00	116,200	
14.2	Construction risks	%	5.00	116,200	232,400
	Total: Risk Allowance Estimate			£	232,400
	Cost Limit (excluding Inflation)			**£**	**2,556,043**
7	**Inflation**				**Excluded**
	Total: Inflation Allowance			£	--
	Cost Limit (excluding VAT assessment)			**£**	**2,556,043**
8	**VAT Assessment**			**£**	**Excluded**

- Rounded to the nearest pound
- Based at 1Q 2014 pricing, inflation allowance excluded
- See section 4 for exclusions & qualifications

Appendix 5 Flood Risk Assesment

KRP

KENNETH R. PAUL
CONSULTING ENGINEERS
Structural & Civil

FLOOD RISK ASSESSMENT AND STORM WATER MANAGEMENT

FOR

EXPANSION OF C of E THEALE PRIMARY SCHOOL – OPTION 6

AT

CHURCH STREET

THEALE, BERKS RG7 5BZ

Client :- **WEST BERKSHIRE COUNCIL**

Job No :- **1388**

Date:- **Sept 2013**

Registered in England and Wales under Company Number 07314420

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The Institution of Structural Engineers

Contents

Appendices

Introduction

This document comprises a Flood Risk Assessment in accordance with the National Planning Policy Framework (NPPF) including its technical guidance in support of a planning application for the proposed expansion of the Theale Primary School – Option 6.

The purpose of this document is to identify and manage flood risk and outline the strategy for the control and discharge of surface water run-off associated with the proposals as part of the overall feasibility study and, if required by the local authority, secure planning permission.

The proposals comprise demolition of existing detached buildings for replacement by a new classroom block, a second storey addition to a retained building, creation of a new soft play area and a new hardened access and parking court for use by the adjoining church. The new buildings will provide additional classrooms, toilet and administration facilities. Additional classroom space will be afforded by converting part of the single storey school buildings to 2 storey. The nett effect of the proposals will result in a 560m^2 decrease of hardened area to be drained.

Figures 01 and 02 in Appendix A show an aerial photograph of the site and a proposed site plan respectively. Figure 03 identifies the land and development areas referenced in the body of the report. Figure 04 presents the strategy for dealing with new surface water run-off generated by the new development.

Appendix B contains extracted maps from the West Berkshire 2008 SFRA showing land considered to be vulnerable to flooding and the map locating areas flooded due to groundwater breeching the surface.

Development Site Existing Conditions

Location

The site is irregular shaped on plan covering an area of6535m^2 located at approximate National Grid reference SU 639712 located towards the western edge of Theale. Theale itself is a medium sized village itself located about 5miles west of the centre of Reading. The local area is primarily residential of a density typical of a village setting. The northern boundary adjoins a local green recreation area. The eastern boundary adjoins the local church premises. The southern boundary abuts Church Street from which both pedestrian and vehicular access in gained. The more irregular western boundary adjoins land owned by various non-residential properties including a local library and a Hotel and local small business. The premises comprise an original 2 storey brick building with tiled roof dating back to Victorian times at the eastern end of the site. This is due to be demolished and, along with an existing temporary pre-fabricated type building, to be replaced by a new structure. The newer school buildings comprise single storey brick and tile complimenting the Victorian structure, but with glazing and clad timber infill typical of its time. A 2 storey modular style structure completes the school facilities.

Topography and Overland Flows

The topographical survey demonstrates that the site is generally flat in nature. The nominal fall that is present is generally in a south east to northwest direction. The majority of the site is hard paved and identifies a number of gullies coincident with low spots seemingly demonstrating they are all positively drained. There are a number of isolated areas of soft landscaping and a single large probably natural undeveloped area forming the most westerly section of the site. Residual overland flows would be very limited and following the direction of fall identified would tend to shed onto the adjoining recreation ground and library parking court.

Local Watercourses

There are no watercourses on site. The local Ordnance Survey map shows the River Kennet and Kennet-Avon canal approximately 1-1.5km south & south east of the site with a number of large ponds between the rive, canal and the main line rail 500m south of the site. There is a network of minor streams and ditches approximately 750m northwest of the site at Englefield.

Existing Surface Water Drainage

The survey identifies surface water from the original building draining off site – presumably to a public sewer system in Church Street which would come under the ownership of Thames Water. The survey also confirms the presence of soakaways on site and whilst not all pipe routing has been able to be established, these would appear to be the sole means of surface water disposal. This would be in keeping with the findings of the available site investigation information indicating sub soils of a type which would expect to exhibit a permeable characteristic

Ground Conditions

A Site Investigation was undertaken by CJ Associates in August 2012. This revealed a consistent horizon of topsoil and made ground to a maximum depth of 0.4m overlying generally medium dense gravely sand. This is in keeping with the published British Geological Data which notes the site as being underlain by Valley Terrace Gravels. No infiltration testing was carried out, but such soils would be expected to be permeable and suited to the use of infiltration systems for disposing of any new surface water run-off generated by the proposals.

New Development Proposals – Option 6

The option 6 proposals consist of demolition of the existing detached Victorian building at the eastern end of the site and removal of the temporary building adjacent to it together with the single storey and modular buildings near the western boundary. These will be replaced by a new 2 storey structure on the site of the Victorian house plus a 2nd story addition to the retained building. These proposals resulting in a decrease of 204m^2 of roof area to be drained. In addition to the on site proposals, provision is also being made for a hardened parking court adjoining the school's eastern boundary. The aerial photo in appendix A shows an existing parking court and access in this location. The new parking court will encompass the entire area available which measures 480m^2. The aerial photo suggests existing coverage is about 60% of the available space meaning an increase of 160m^2.

The above photo of the land proposed for the extended church parking court does indicate the area to have suffered a recent flooding event. It is not known if this event extended into the school premises.

Planning and Legislation

The National Planning Policy Framework (NPPF) and its associated technical guidance ensure flood risk is taken into account at all stages of the planning process. The aim is to avoid inappropriate development in areas at risk of flooding and direct development to low risk areas. The EA flood map in Appendix A demonstrates the site to be in a zone 1 low flood risk area. Likewise, the vulnerable land map in Appendix B shows the site to be outside areas of potential flood risk. Therefore, the site is deemed to satisfy as far appropriate and neither the sequential or exceptions test are pertinent.

Sources of Potential Flooding

i) Groundwater

The site investigation noted groundwater found in 2 of the 3 boreholes to be at about 2.3m below ground level. The West Berkshire 2008 SFRA record map for groundwater breeching is included in Appendix B. This shows no records on site. Also included is a copy of figure 7form the 2011 PFRA. This classifies the site as having a 75% or greater chance of flooding as a result of groundwater breeching the surface.

ii) Flooding From Sewers

Neither the 2008 SFRA or 2011 PFRA include details of any data maps or record incidents of flooding from sewers.

iii) Surface Water Flooding

Both the EA website and the 2008 SFRA show the site to be in an area classified as a zone 1 low risk of flood.

iv) Reservoir Flooding

There are a number of bodies of water that would expect to have a volume classifying them as reservoirs west and south of the site. The Environment Agency reservoir flood map Fig 05 is included in Appendix A. This shows there is no considered risk in the location of the site.

v) Flooding From Canals

The Kennet-Avon Canal is a distant 1.0km south east of the site and so is not a flood risk.

Surface Water Drainage Strategy

Since it is expected that the sub soils will have sufficient permeability to support infiltration systems, all surface water from the new roofs will be routed to soakaways. Infiltration testing will be required to determine the type and construction. The site is underlain by an aquifer and so the Environment Agency will need to be consulted to determine the maximum depth.

Further investigation and surveying of the existing church will need to be carried out to develop a final design, but it is recommended in view of the known flood issues, that permeable paving utilised.

Infiltration systems should be designed to accommodate the 1 in 100yr storm event including an allowance for climate change effects.

All existing and new surface water sewerage should be properly managed and maintained to provide a level of performance that would not compromise any future flood risk.

Summary

- This Flood Risk Assessment has been prepared in accordance the National Planning Policy Framework (NPPF) and accompanying Technical Guidance

- Environment Agency flood mapping information provided intimates the site to be partly within flood zone 1.

- The development will not result in a decrease in surface water discharge to the public sewer system and incorporates infiltration systems to dispose of surface water run-off to ground.

Conclusions

It is considered that this Flood Risk Assessment has demonstrated that the proposed addition:

- Will not pose an increased flood risk elsewhere either on site or to neighbouring premises.

- Has incorporated a design to mitigate the potential impact of climate change

On the basis of the above, it is considered the proposals put forward fully address and comply with the requirements of national and local planning policy for a zone 1 flood risk development.

APPENDIX A

KRP
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CONSULTING ENGINEERS
Structural & Civil

Project: THEALE C of E PRIMARY SCHOOL CHURCH ST, THEALE, BERKS RG7 5BZ		
Element: AERIAL PHOTO		
Date: Sept 2013	**Job No.** 1388	**Sheet No.** FIG 01

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Design Surveys Inspections CAD Drawings
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The Institution of Structural Engineers

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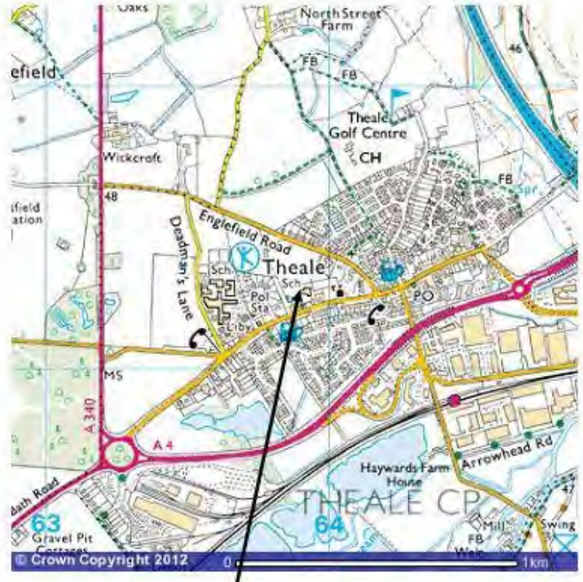
KENNETH R. PAUL
CONSULTING ENGINEERS
Structural & Civil

Project: THEALE C of E PRIMARY SCHOOL CHURCH ST, THEALE, BERKS RG7 5BZ		
Element: LOCATION PLAN		
Date: Sept 2013	**Job No.** 1388	**Sheet No.** FIG 02

N



SITE

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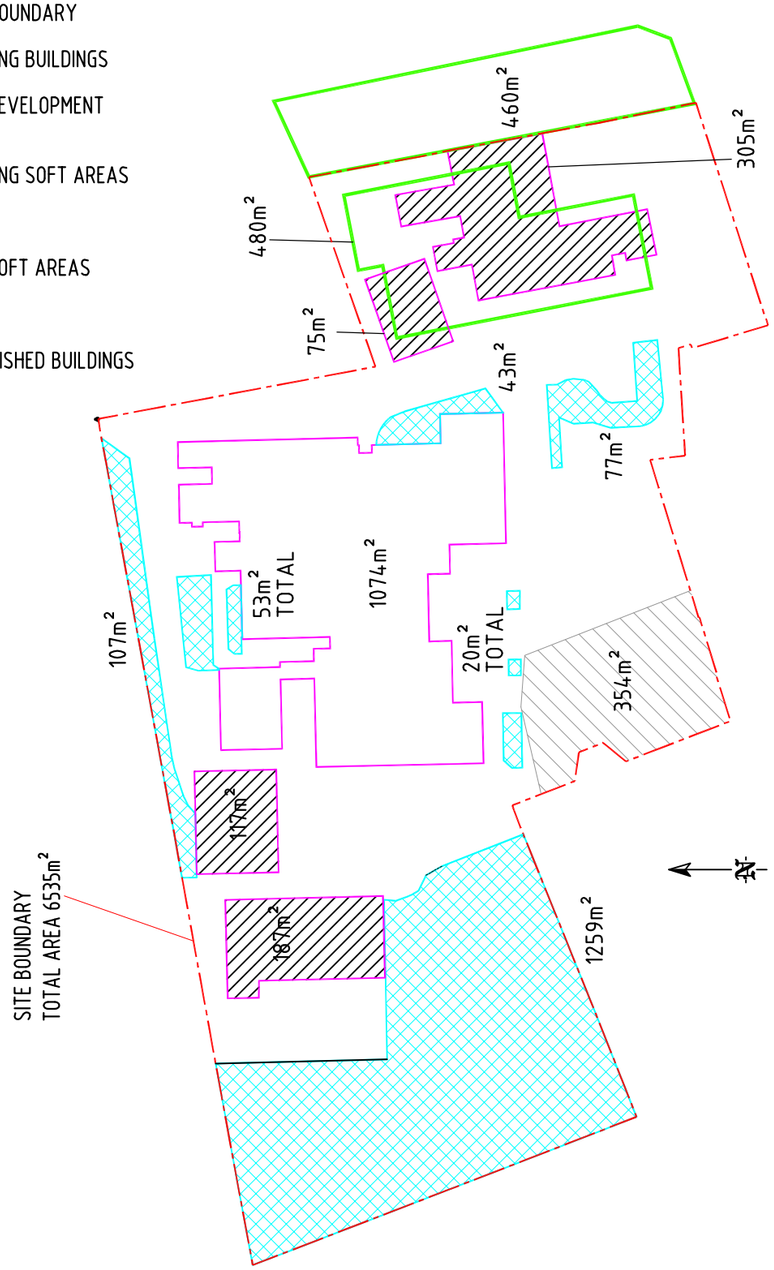
Project: THEALE C of E PRIMARY SCHOOL CHURCH ST, THEALE RB7 5BZ		
Element: NEW & EXISTING AREAS OPTION 6		
Date: Sept 2013	**Job No.** 1388	**Sheet No.** FIG 03

SITE BOUNDARY
EXISTING BUILDINGS
NEW DEVELOPMENT
EXISTING SOFT AREAS
NEW SOFT AREAS
DEMOLISHED BUILDINGS



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KENNETH R. PAUL
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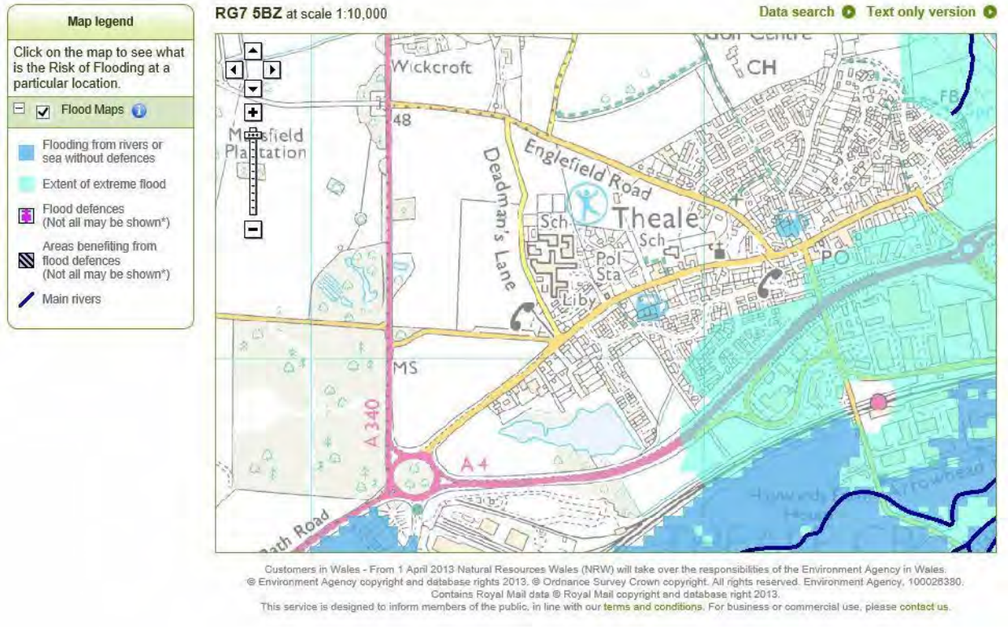
Structural & Civil

Project: THEALE C of E PRIMARY SCHOOL CHURCH ST, THEALE, BERKS RG7 5BZ		
Element: EA RIVER FLOOD MAP		
Date: Sept 2013	**Job No.** 1388	**Sheet No.** FIG 04



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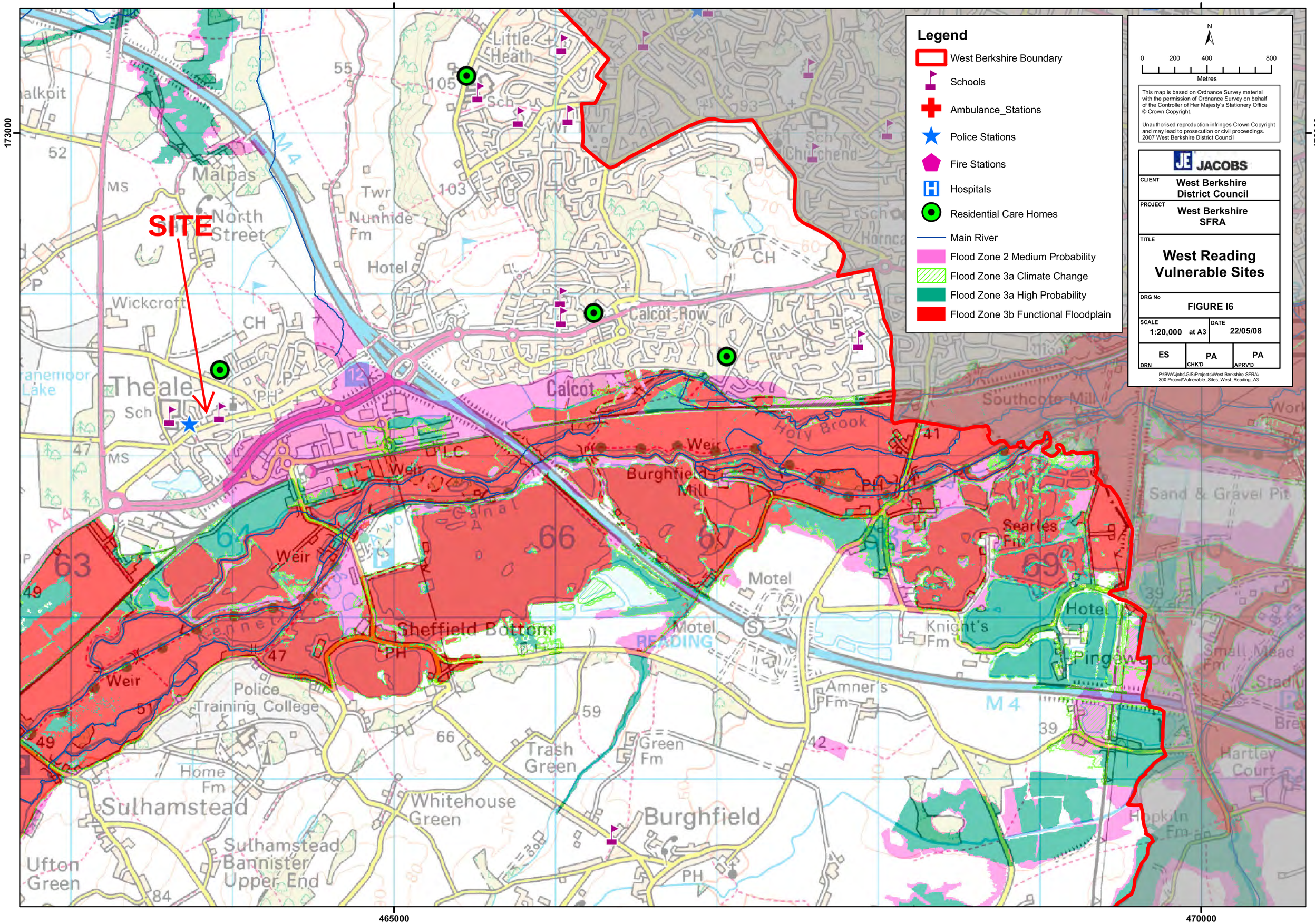
APPENDIX B

West Berkshire SFRA vulnerability map
West Berkshire future flood map
West Berkshire PFRA groundwater breeching map


465000
470000
173000
SITE
Legend
West Berkshire Boundary
Schools
Ambulance_Stations
Police Stations
Fire Stations
Hospitals
Residential Care Homes
Main River
Flood Zone 2 Medium Probability
Flood Zone 3a Climate Change
Flood Zone 3a High Probability
Flood Zone 3b Functional Floodplain
N
0 200 400 800
Metres
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JACOBS
CLIENT West Berkshire District Council
PROJECT West Berkshire SFRA
TITLE West Reading Vulnerable Sites
DRG No FIGURE I6
SCALE 1:20,000 at A3
DATE 22/05/08
DRN ES
CHK'D PA
APRV'D PA
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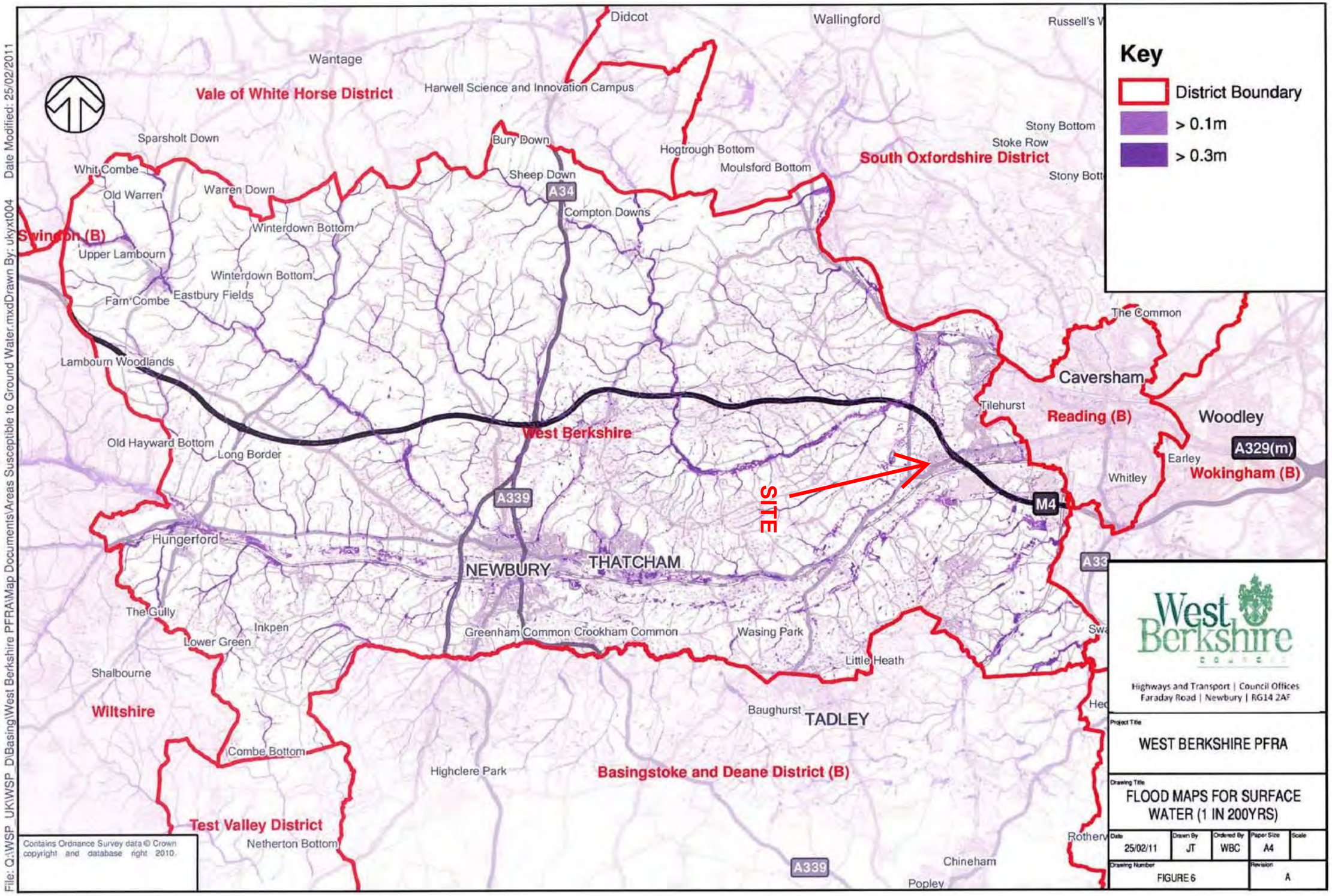
Malpas
North Street
Nunhide Fm
Hotel
Wickcroft
Theale
Calcot Row
Calcot
Holy Brook
Weir
Burghfield Mill
Canal
Sheffield Bottom
Motel
READING
Police Training College
Trash Green
Green Fm
Amner's Fm
Knight's Fm
Searles Fm
Sand & Gravel Pit
Southcote Mill
Home Fm
Sulhamstead
Whitehouse Green
Burghfield
Sulhamstead Bannister Upper End
Ufton Green
Small Mead Fm
Hartley Court
Hopkiln Fm
M4
A4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> 0.3m
Didcot
Wallingford
Wantage
Vale of White Horse District
Harwell Science and Innovation Campus
Sparsholt Down
Bury Down
Hogtrough Bottom
Moulsford Bottom
Stony Bottom
Stoke Row
South Oxfordshire District
Whit Combe
Old Warren
Warren Down
Sheep Down
A34
Compton Downs
Winterdown Bottom
Upper Lambourn
Farn Combe
Eastbury Fields
Lambourn Woodlands
The Common
Caversham
Tilehurst
Reading (B)
Woodley
Old Hayward Bottom
Long Border
West Berkshire
A329(m)
Earley
Whitley
Wokingham (B)
SITE
A339
M4
Hungerford
NEWBURY
THATCHAM
The Gully
Inkpen
Lower Green
Greenham Common
Crookham Common
Wasing Park
Little Heath
Shalbourne
Wiltshire
Baughurst
TADLEY
Combe Bottom
Highclere Park
Basingstoke and Deane District (B)
Test Valley District
Netherton Bottom
Chineham
Popley
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Project Title
WEST BERKSHIRE PFRA
Drawing Title
FLOOD MAPS FOR SURFACE WATER (1 IN 200YRS)
Date 25/02/11
Drawn By JT
Ordered By WBC
Paper Size A4
Drawing Number FIGURE 6
Revision A
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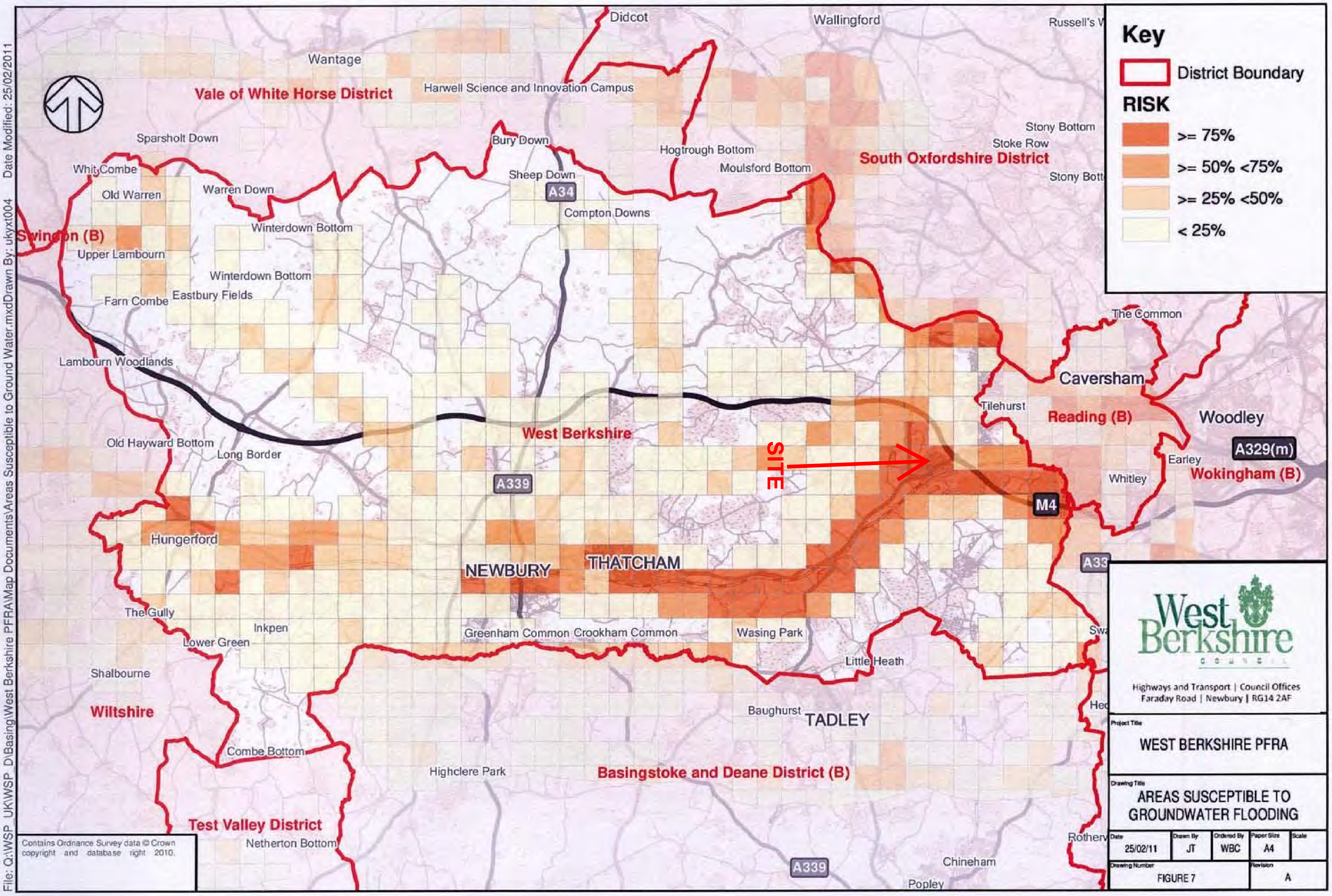
Key
District Boundary
RISK
>= 75%
>= 50% <75%
>= 25% <50%
< 25%
Didcot
Wallingford
Wantage
Vale of White Horse District
Harwell Science and Innovation Campus
South Oxfordshire District
Swindon (B)
West Berkshire
SITE
Caversham
Reading (B)
Woodley
Wokingham (B)
Tilehurst
Earley
Whitley
A329(m)
M4
A34
A339
NEWBURY
THATCHAM
Hungerford
Wiltshire
Basingstoke and Deane District (B)
Test Valley District
TADLEY
Baughurst
Highclere Park
Greenham Common
Crookham Common
Wasing Park
Little Heath
Inkpen
Lower Green
Shalbourne
Combe Bottom
Netherton Bottom
Chineham
Popley
Lambourn Woodlands
Upper Lambourn
Old Warren
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Compton Downs
Hogtrough Bottom
Moulsford Bottom
Stony Bottom
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The Gully
The Common
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Project Title
WEST BERKSHIRE PFRA
Drawing Title
AREAS SUSCEPTIBLE TO GROUNDWATER FLOODING
Date 25/02/11
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Ordered By WBC
Paper Size A4
Drawing Number FIGURE 7
Revision A