# **CLAY FARM - DESIGN CODE**

A

Testing Day Summary (23<sup>rd</sup> February 2010)





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### Introduction



On Tuesday 23<sup>rd</sup> February 2010 Countryside Properties hosted a Design Code testing day at the request of Cambridge City Council. The purpose of the event was to ensure that the Clay Farm Design Code would deliver good quality design.

This notion was tested by a group of independent architects through analysis of sample areas of the masterplan, against the rules set out in the draft Design Code Document.

#### **Clay Farm**

Clay Farm is situated within the Cambridge Southern Fringe, close to Trumpington Village.

Once developed, it will form part of a distinctive new urban extension to Cambridge. This urban extension will provide housing, employment, additional clinical facilities and biomedical activities, as well as related higher education and research institutes. The extension will also create improved access to the open countryside as well as providing public open space, enhanced amenities and enriched biodiversity.

The Clay Farm development will provide new homes for more than 5,800 people, new schools, a mixed use neighbourhood centre, a new transport interchange and a substantial area of open space.

#### **Design Statement**

In June 2007 the Clay Farm Design Statement was submitted by Countryside Properties in support of the Outline Planning Application. The purpose of this statement was to ensure that the development of the site is carried out in accordance with best practice approaches to urban design and place making and that it follows the principles set out in the Cambridge Southern Fringe Area Development Framework (January 2006).

The design Statement includes an Illustrative Masterplan showing how the built form could be arranged in urban blocks of varying scale and density.

#### **Design and Access Statement**

The Design and Access Statement also submitted with the Outline application includes six binding parameter plans to regulate the land use, movement, landscape, storey heights, density and urban deign principles. These plans were created from the work behind the Illustrative Masterplan.

#### **Design Code**

In May 2008 the Joint Development Control Committee resolved to approve the Outline Planning Application with a series of planning conditions and subject to finalising the Section 106 agreement. The submission and approval of a Design Code is one of these conditions.

The draft Design Code was prepared by Countryside Properties Plc through extensive consultation with Cambridge City Council and a number of other stakeholders.

The purpose of the Design Code is to ensure that design quality is maintained throughout the entire development and that the original vision for Clay Farm is delivered.

The Design Code follows the design intent of the Design Statement and the Design and Access Statement. The design content of the document is a refinement of the masterplan and takes the urban block masterplan to a more detailed level. Understanding the detail has enabled Countryside Properties and Cambridge City Council to produce a robust Design Code that is deliverable.

At the 'testing day', independent architects were invited to analyse sample areas of the masterplan using the rules set out in the Code in order to establish if it was fit for purpose.



The area outlined in Red is the Character Area Northern.

The area shaded in Yellow was the sample area that was tested.

#### **Architects**

#### **Scott Brownrigg**

John Richards Bruce Carlton

#### **Campbell Architects Ltd**

Chris Campbell Rachel Simmonds



#### **Explanation**

This is a relatively high density area of the site with a pattern of existing field boundaries of hedges and ditches which create an orthogonal grid within which the residential development parcels sit. It includes the 'northern arrival square' which is the single point of access into the northern half of the entire site, from Long Road.

The area tested is entirely residential and was a good sample to analyse against the detail of the draft code.

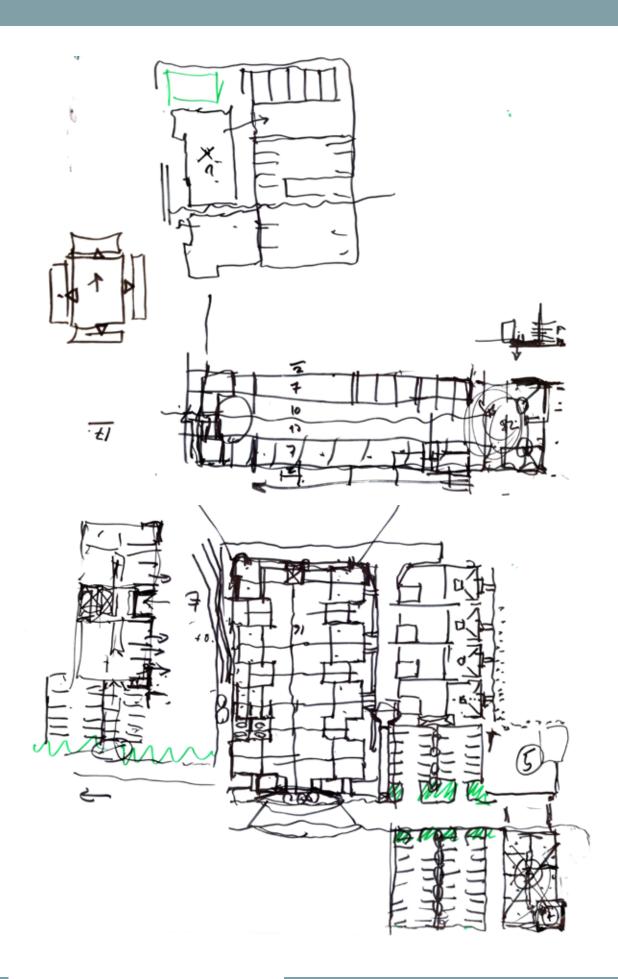
This group first looked at the site constraints and then chose to proceed on the basis of maximising the number of units on the sample area within the upper limits of the Parameter plans whilst meeting the other requirements of the Code.

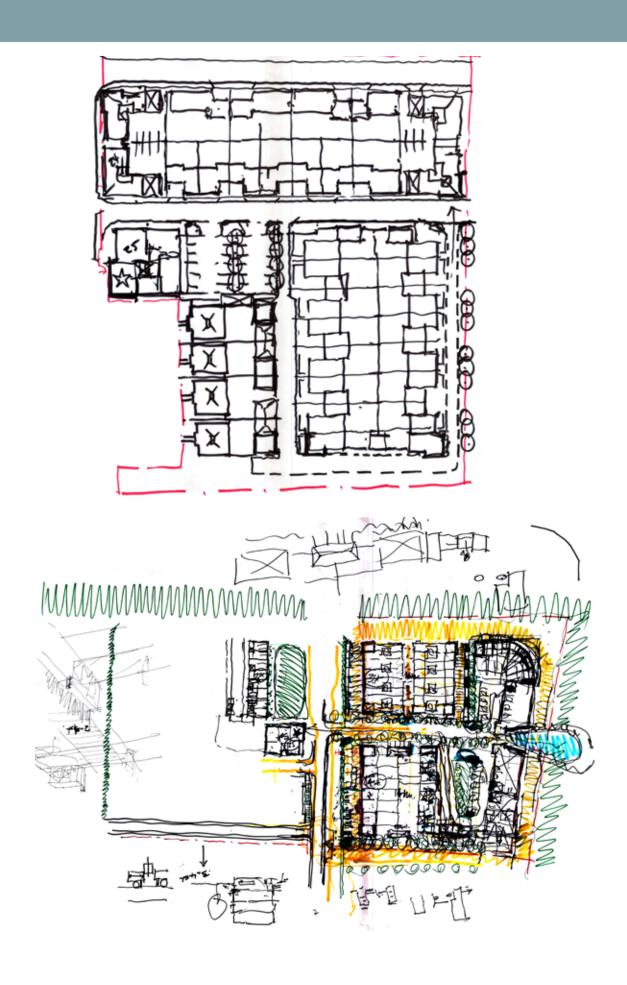
The following pages show their sketch ideas.

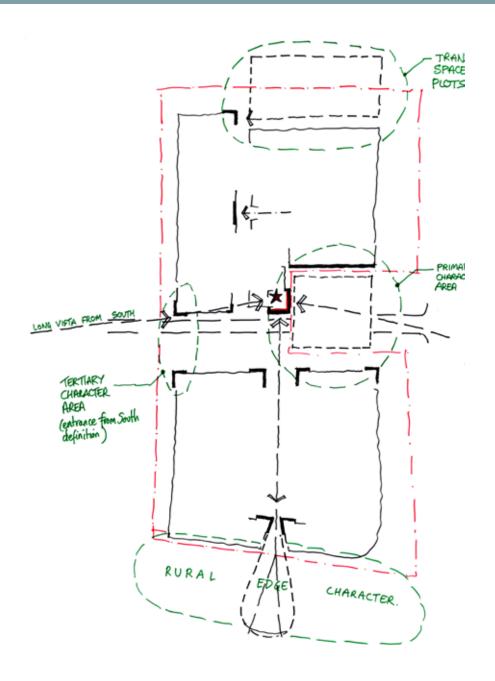
They also looked at the relevant data sheets in the addendum to see what worked and what didn't and marked up their copy. These marked up pages have also been included in this summary.

At the end of this section can be found the notes taken during the feedback session.

These notes form the conclusions from this group.







## ABLE 2

## MORTHERN ZONE

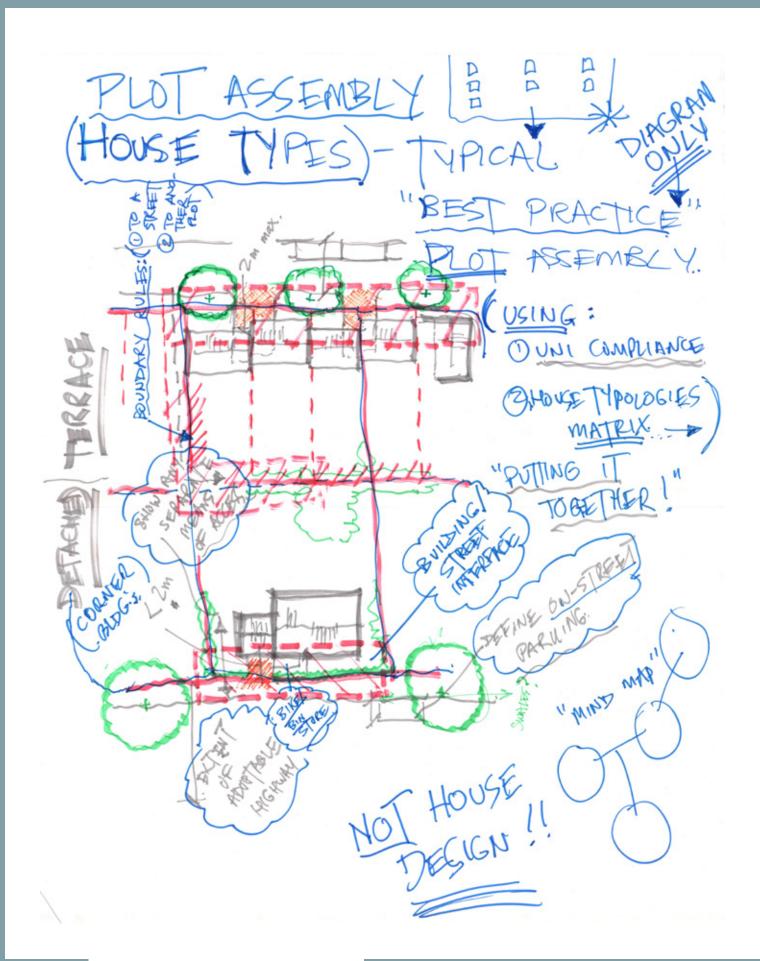
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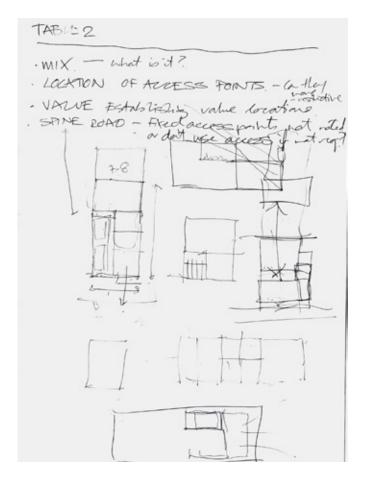
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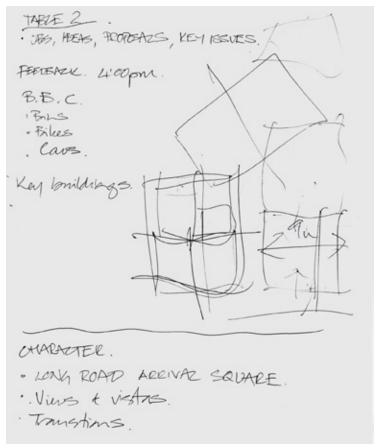
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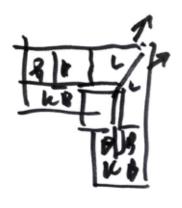








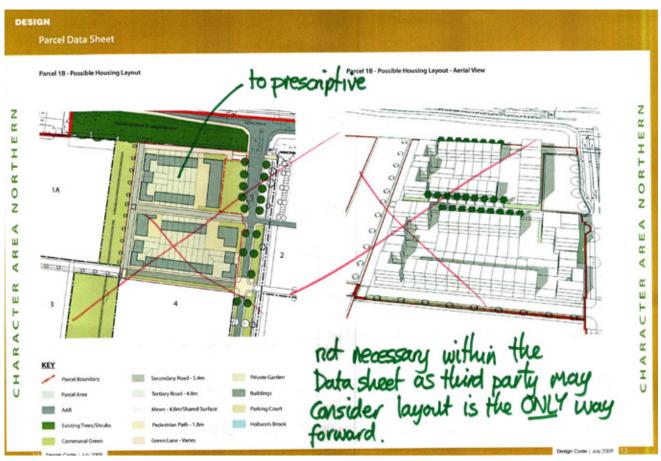
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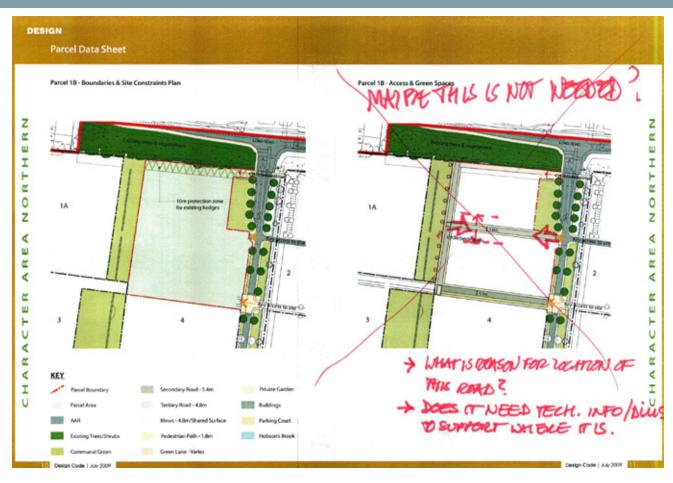


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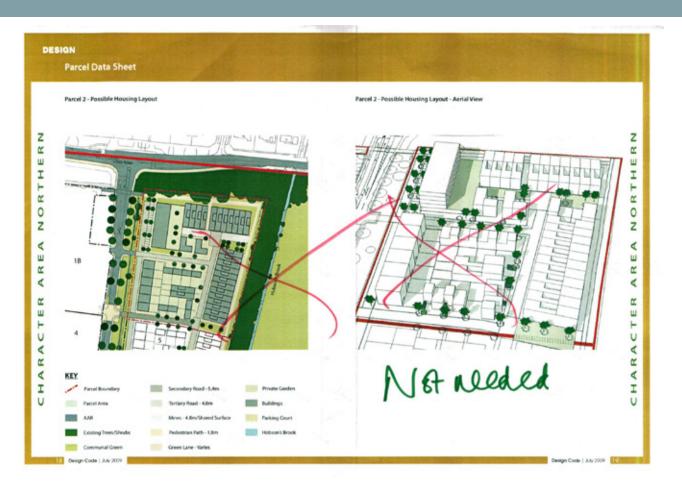
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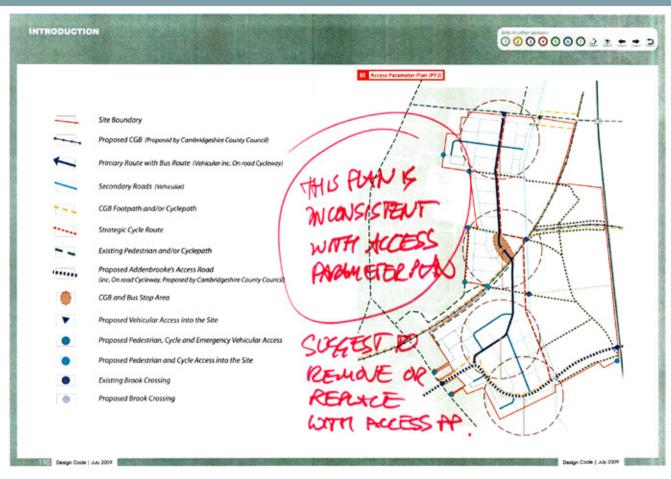


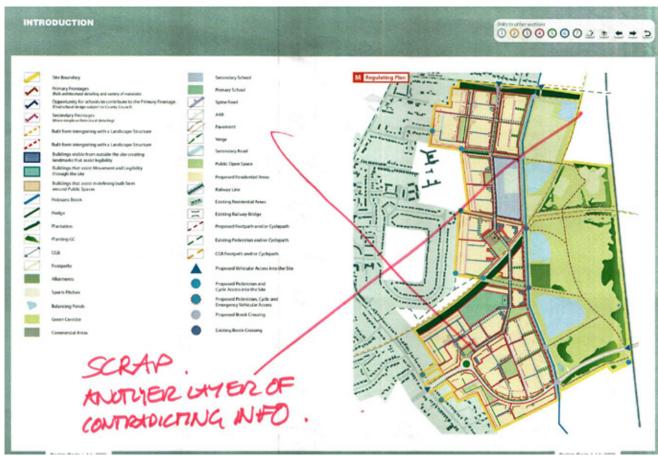












### **Transcript of the feedback**

The sample area is constrained by the existing vegetation which creates dimensions within which urban blocks are defined.

Our first question was; what is the mix of dwellings needed on the site? We then used the guide data sheet to find the density and unit number range.

We looked at how to achieve the maximum density with 60% apartments / 40% housing. We chose to put the higher buildings overlooking Hobson's Brook with the finer grain to the edge of the spine road, which was achievable within the parameter plans, but was different to the illustrative masterplan.

We initially felt that too much information was provided within the design code. This constrained the designer, but because of the spine road application the road junctions are fixed anyway, these constraints are actual.

We were able to create a range of house types within good urban design principles.

The design codes allows you to achieve the maximum densities.

We found that we could accommodate the bins, bikes and cars.

Some of the plans were contradictory. The simple blocks don't need so much prescription because they are so small and simple.

We did want to know how buildings relate to adjoining plots? A link to the adjoining data sheets would be helpful – particularly around the open spaces. We liked the fact the document was interactive and easy to navigate.

A description of the Character area and maybe even the Sub-Character areas should be included.

We felt that a tall landmark building in the northern arrival square would be appropriate for navigation within and from outside the site.

We were able to work out suitable plot depths and create layouts using the code.

Some parcel sheet conflict with the parameter plans - too many restrictions.



The area outlined in Red is the Character Area Southern.

The area shaded in Yellow was the sample area that was tested.

#### **Architects**

**Maccreanor Lavington**Richard Lavington
Rowan Seaford

**LDA Design**John Phillipps



#### **Explanation**

This is a relatively low density area of the site with few existing field boundaries. It includes the 'Southern Arrival Square' which is the single point of access into the southern half of the entire site, from Shelford Road.

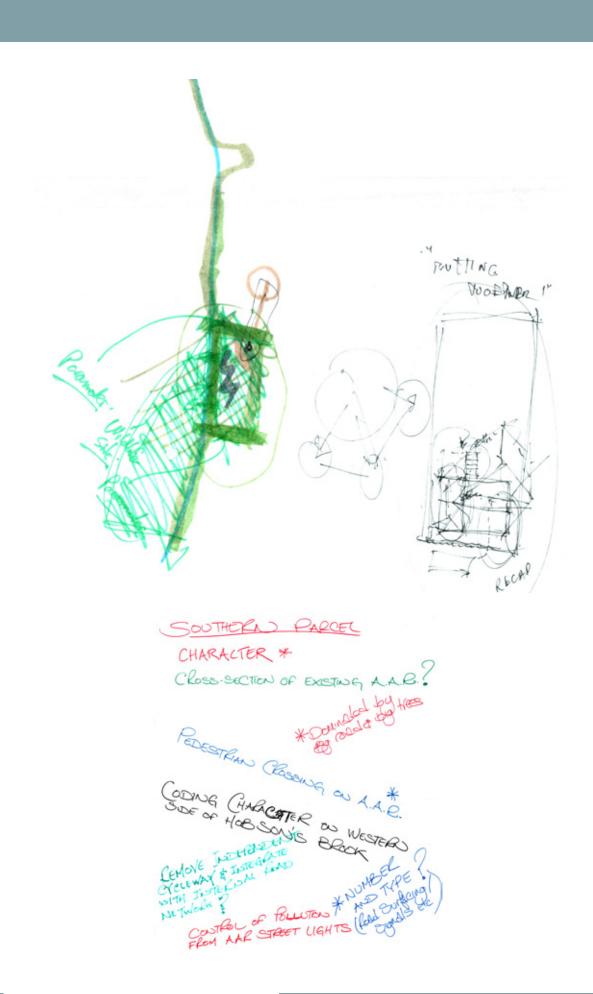
The area tested is entirely residential and was a good sample to analyse against the detail of the draft code.

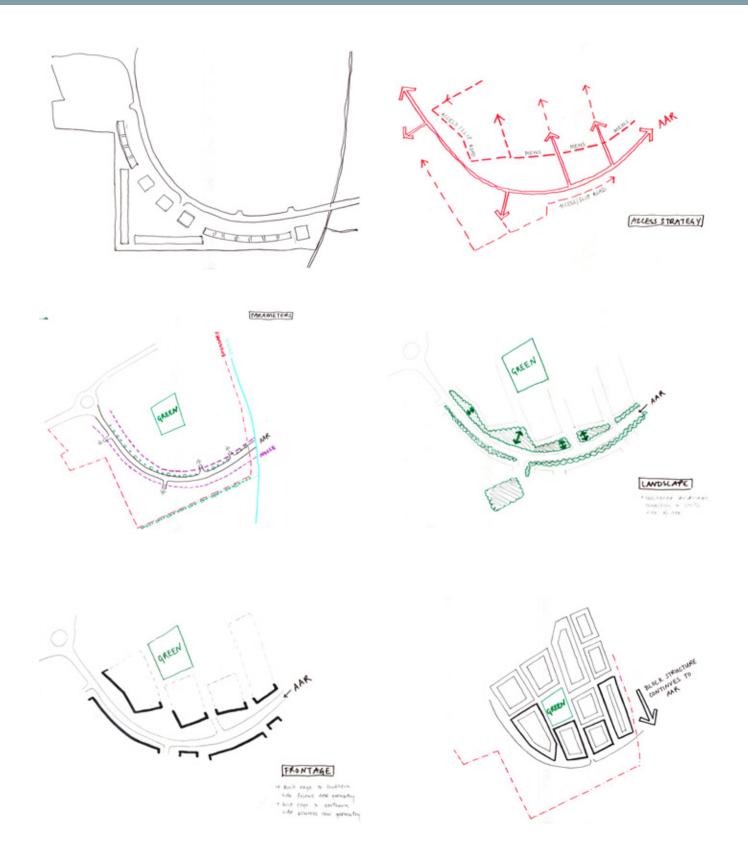
This group first looked at the site constraints and were immediately confronted with the Addenbrooke's Access Road. They spent a lot of time analysing the effect of this road on the residential areas and the issue of levels around the road which are higher than the existing (and surrounding) ground level because of drainage requirements. There was also the issue of noise and light pollution to consider and the group worked on ideas to allow for safe movement across the AAR in order to connect the residential areas on either side of the road.

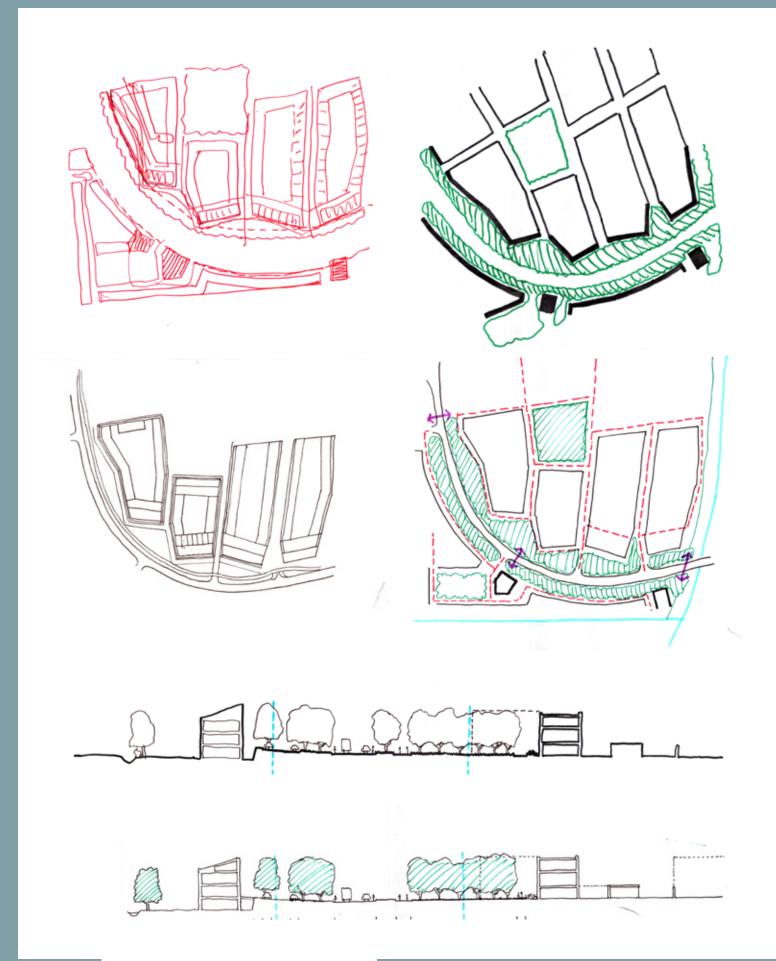
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#### **Transcript of the feedback**

AAR bears no relationship to the surrounding housing and is a major feature of the sample area.

We could create a coherent built edge along the southern side of the AAR. The northern edge could be treated differently to provide sensible housing plots/urban blocks. At the moment the code suggests that the building line on both sides of the road is almost solid and follows the shape of the AAR. The space could be treated asymmetrically, so the south side would have a coherent frontage and a continuous line. In contrast the north edge could be more varied - 'zig zags' - with the green edge widening and narrowing.

The noise contours were accounted for and a section was drawn up. This highlighted the issue of levels and the actual distance between facades.

We proposed using the buildings to take up the level differences and the gardens can be at the natural current level. Building height parameters can be achieved with the building that takes up the level change i.e. 3 storeys from existing ground and 3 storeys on filled ground.

The fronts of buildings need to be treated carefully because of their proximity to the AAR.

To the north of the AAR the green space between the road edge and the facades can vary and the access to the dwellings can vary to avoid an access road parallel to the AAR although in some cases this will be required. We felt more could be made of the open space to the north of AAR.

We need to define the character of the AAR and its edges. This should be added to the Design Code.

On street parking would be appropriate.

Sections through the AAR are essential in the Code.

Crossing points should be added, one close to the roundabout, one close to the brook and one in the middle.

Street lighting and light pollution must be addressed.

Our proposal seeks to improve the quality of the space around the AAR.

The code was useful in that the 'rules' for bins, bikes, landscape species and road types are clear. However, the code needs to say more about the AAR and the levels and more information about the character of the space adjacent to the AAR is required.

The Design Code needs to be more clear on the brook edge.

The Design Code needs clarification on the perpendicular spaces.

The AAR could take four storeys quite easily.



The area outlined in Red is the Character Area Central.

The whole of this area was tested.

#### **Architects**

#### **MJP Architects**

Sir Richard MacCormac Yoko Takahashi

#### **Proctor & Matthews**

Andrew Matthews Stephen Proctor



#### **Explanation**

This is the highest density area of the site. The area tested is the parcel of land containing the neighbourhood square, the CGB stop, the bus gate and the Council's proposed community building. The area was not fully resolved at the Outline Planning Application stage and this testing day provided a good opportunity to review the unresolved issues.

The architects began the day with a list of pre-prepared questions. The answers to the questions helped them to form a brief. They looked at the landscaped central square, the movement strategies, the location of the community building and proposed retail units (paying particular attention to parking and servicing) and also looking at innovative models for high density family housing. It was felt that the transition between the existing built settlement, adjacent to this part of the site, and the proposed high density shown on the illustrative masterplan was too sharp.

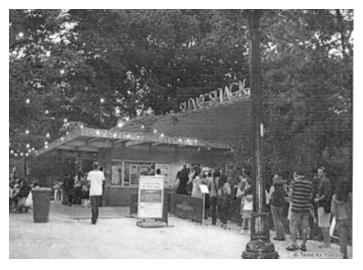
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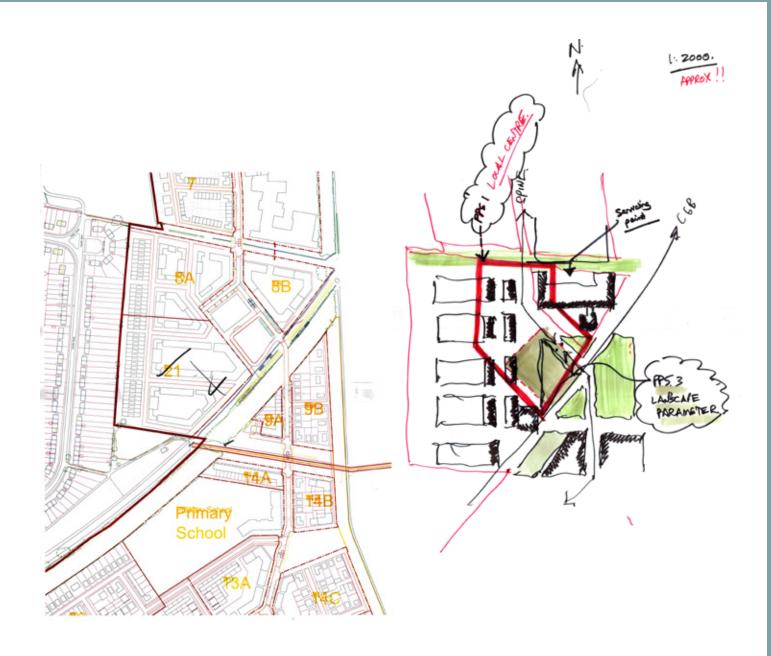


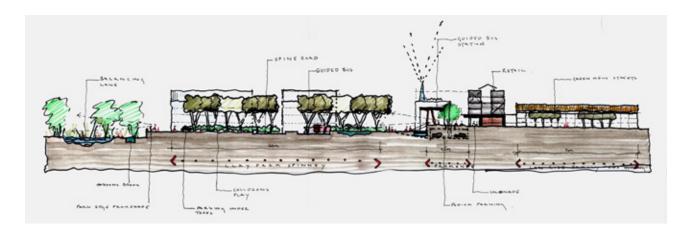


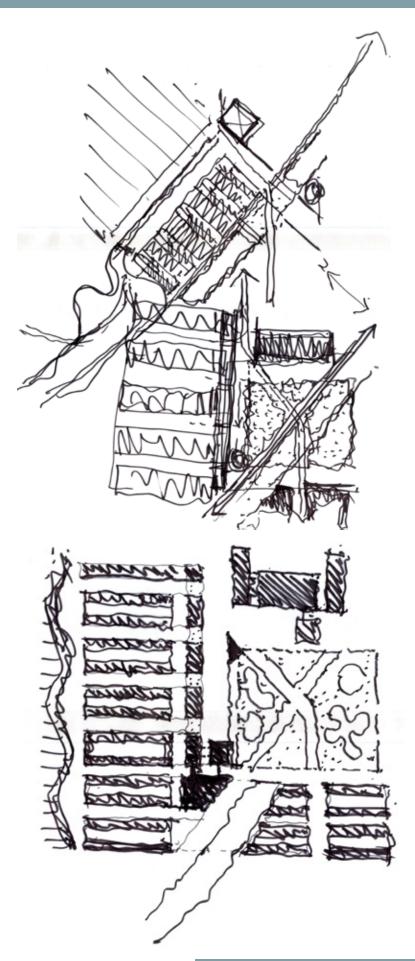


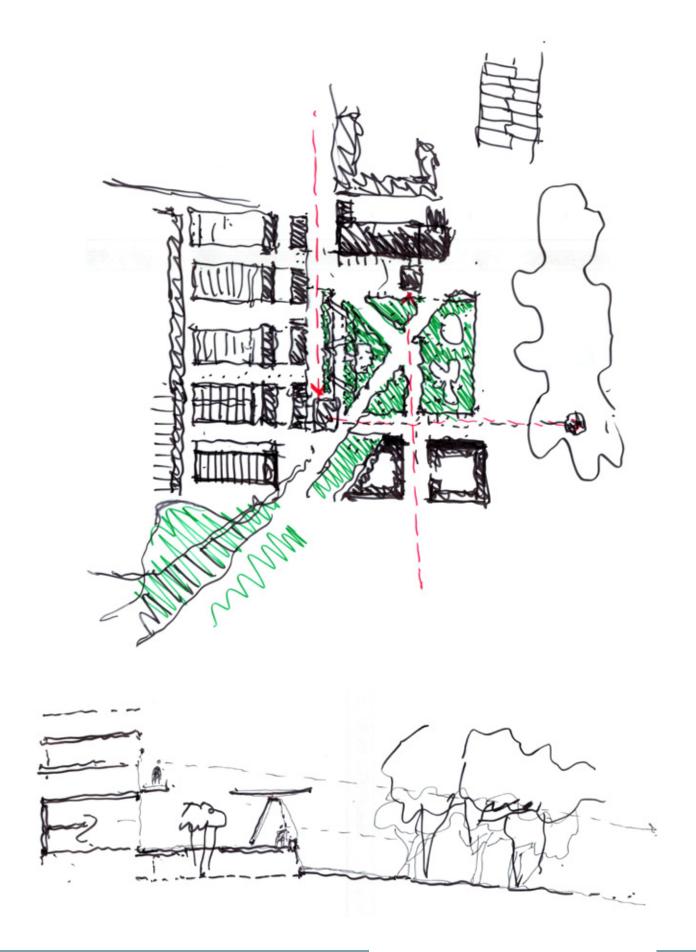


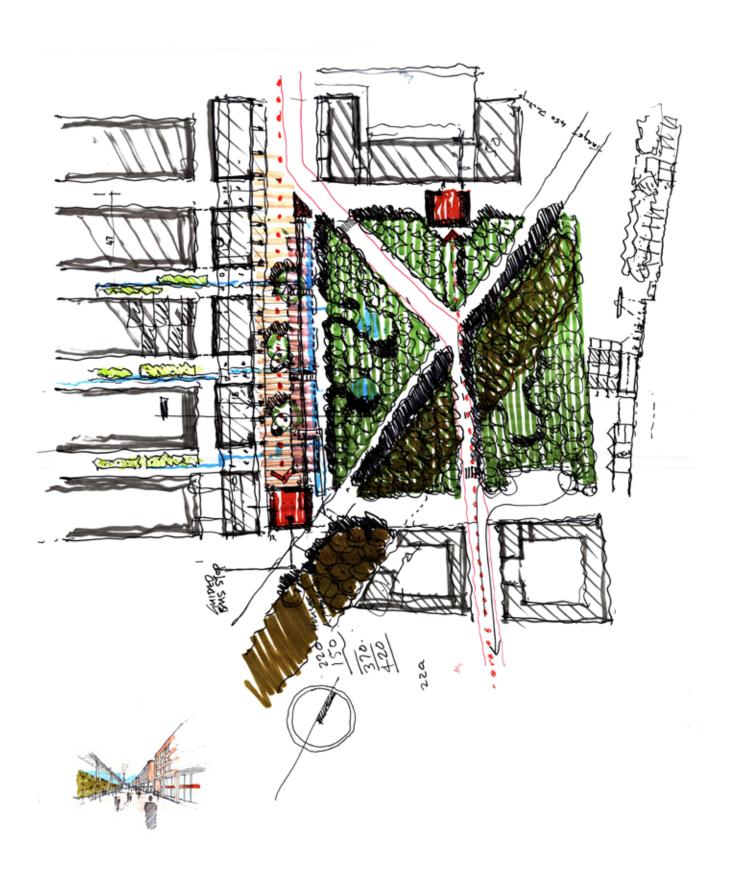












### **Transcript of the feedback**

This part of the site has not yet been coded and is not just residential, it contains mixed use elements.

We questioned the broken spine road with bus gate – does this work?

First, we discussed the main square location – and asked if the local centre could connect to the open space and balancing lake, could the plantation be chopped up?

It appeared from the code that there was an assumption that this would be a middle rise scheme of apartments. We have looked at achieving the densities with family housing typologies.

There are servicing issues for the commercial buildings and we concluded that they work better at the edge rather than in the centre of the central square.

The existing plantation is a barrier. So we examined how to make a connection with the open space to the east.

We decided to absorb and expand the plantation. A contemporary parterre on a giant scale.

Having made that big gesture the idea of the market square became awkward.

Our sketch proposal, (shown adjacent page), maintained the spine road. The creation of the universe happens in a bus gate. Only the bus can travel through the centre.

We proposed creating a promenade to the west side of the square.

We could contain a commercial frontage behind the colonnaded promenade.

There should be more synergy between the community centre and the schools.

The nature of the residential properties adjacent to the existing settlement was analysed. The code suggests a quite abrupt transition. Have developed new typologies to achieve the densities required to meet the parameter plans – maisonettes, mews, retail with four storeys above.

We used the natural fall of the site in the design proposal.

We asked whether we could tuck cars away under the promenade, underground perhaps.

Does this deviate from the parameter plans? NO it is loose enough to encourage a different approach. The fixed elements are maintained in this proposal.

The proposal suggests limited access into the plantation corridor – could have educational amenity embedded within it which could be used by the school. A new kind of public space.

Public spaces can be too big and this proposal creates a tighter and more interesting space.

We do need to study this proposal against the parameter plans.

This part of the site should be coded differently to the residential parcels because there are still so many variables such as the CGB stop and the community building design.

We felt we could turn that the plantation 'constraints' into a real attribute.

### **School Sites**



The School sites are outlined in Red, with the secondary school to the north and the primary school to the south.

The two sites were tested.

**Architects** 

### **Space Craft Architects**

Nik Randall



#### **Explanation**

There are two school sites proposed; a primary school in Southern Character Area and a secondary school in Northern Character Area.

The guest architect in this group was Nik Randall of Space Craft Architects who had spent some time prior to this event working out a number of different options for both sites. This was extremely helpful as it enabled us to test the various options on the day with the assistance of Robert Lewis, the School Planning Officer.

The brief was to agree a number of design principles for the two school sites that would ensure the layout and architecture of the sites were sympathetic to their surroundings and fully integrated into the development.

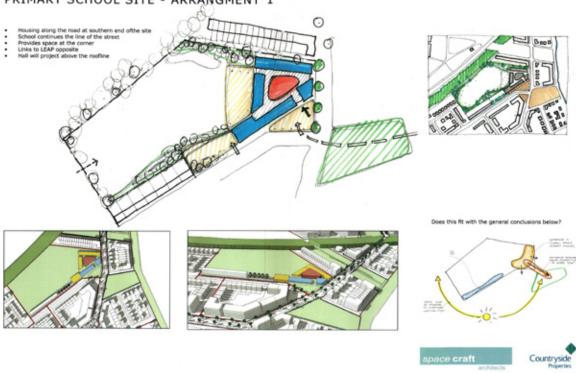
The following pages show the options.

The notes taken during the feedback session can be found at the end of this section.

These notes form the conclusions from this group.

## CLAY FARM TESTING DAY 23RD FEBRUARY 2010

PRIMARY SCHOOL SITE - ARRANGMENT 1

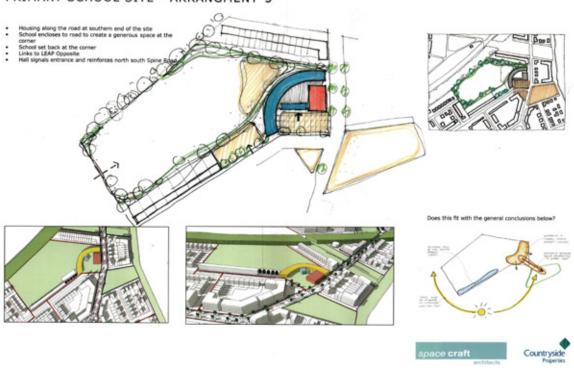


### CLAY FARM TESTING DAY 23RD FEBRUARY 2010

PRIMARY SCHOOL SITE - ARRANGMENT 2



### PRIMARY SCHOOL SITE - ARRANGMENT 3

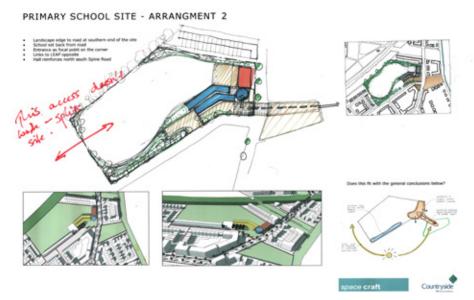


### CLAY FARM TESTING DAY 23RD FEBRUARY 2010

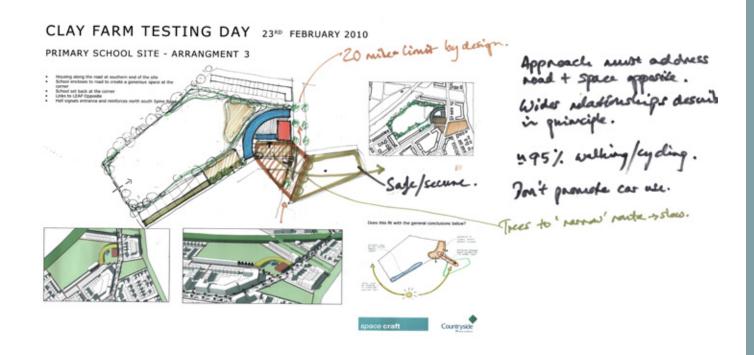


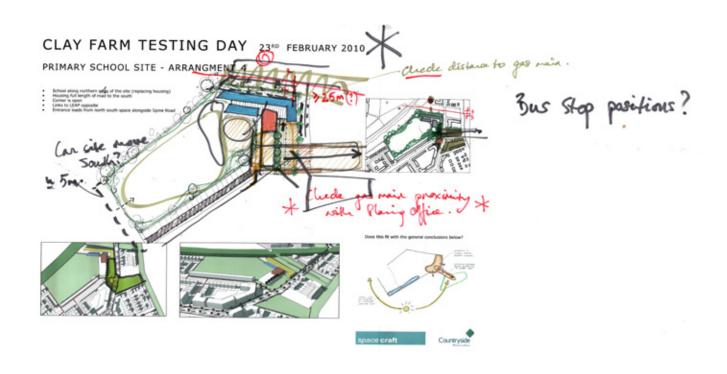
PRIMARY SCHOOL SITE - ARRANGMENT 1

### CLAY FARM TESTING DAY 23RD FEBRUARY 2010

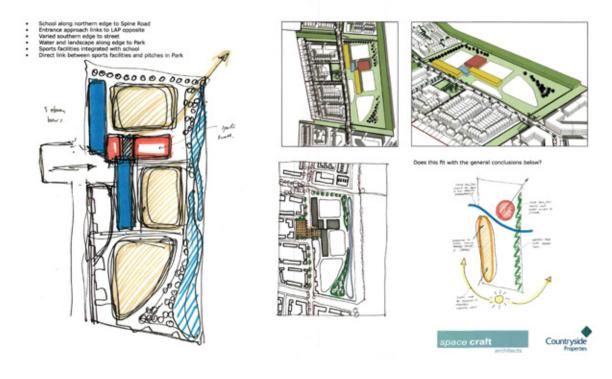


How do Campside doulgo having first ... whilst allowing Novikity for school?



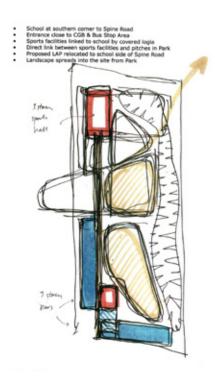


SECONDARY SCHOOL SITE - ARRANGEMENT 1 (NORTH END 1)

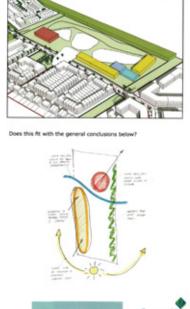


# CLAY FARM TESTING DAY 23RD FEBRUARY 2010

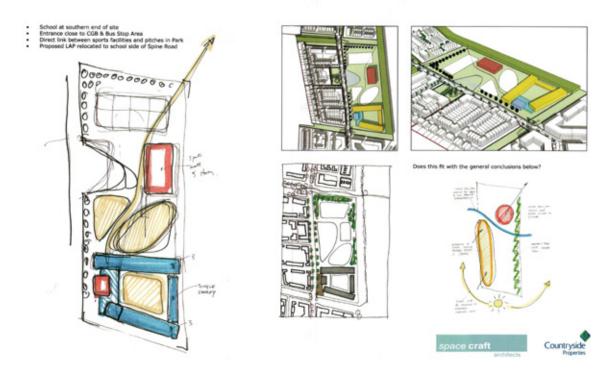
SECONDARY SCHOOL SITE - ARRANGEMENT 2 (SOUTH END 1)





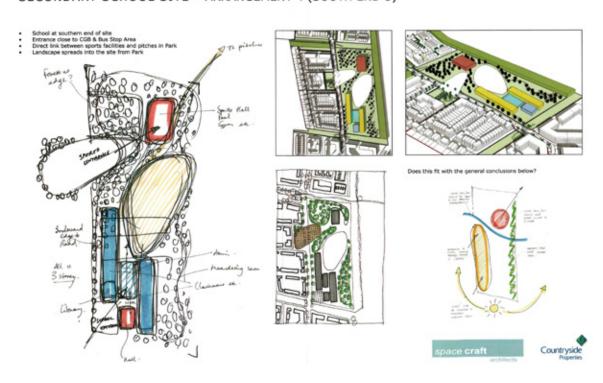


SECONDARY SCHOOL SITE - ARRANGEMENT 3 (SOUTH END 2)

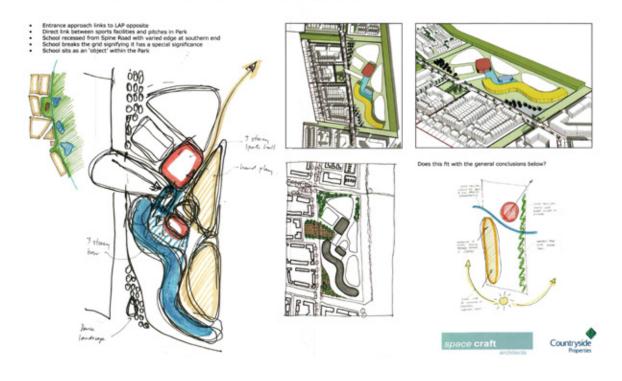


# CLAY FARM TESTING DAY 23RD FEBRUARY 2010

SECONDARY SCHOOL SITE - ARRANGEMENT 4 (SOUTH END 3)

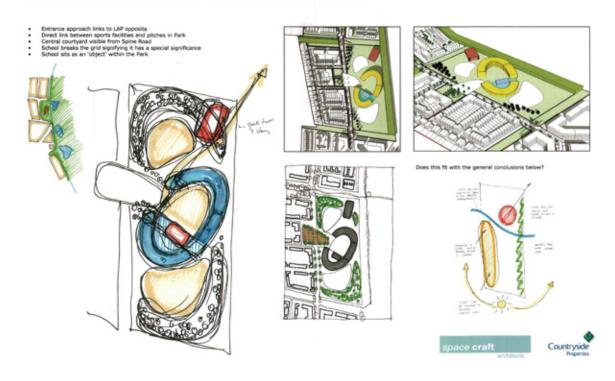


SECONDARY SCHOOL SITE - ARRANGEMENT 5 (PARK 1)

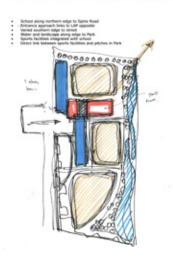


### CLAY FARM TESTING DAY 23RD FEBRUARY 2010

SECONDARY SCHOOL SITE - ARRANGEMENT 6 (PARK 2)

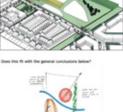


SECONDARY SCHOOL SITE - ARRANGEMENT 1 (NORTH END 1)





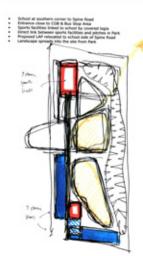




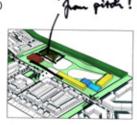


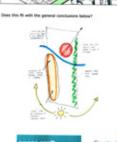
All weather pitch? Sports Hall - cannot access?







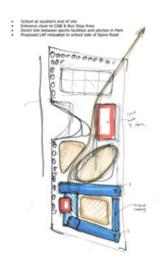




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### CLAY FARM TESTING DAY 23RD FEBRUARY 2010

SECONDARY SCHOOL SITE - ARRANGEMENT 3 (SOUTH END 2)

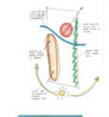








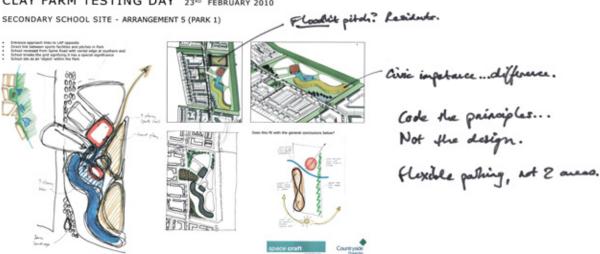






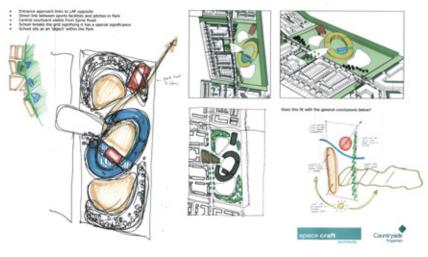
SECONDARY SCHOOL SITE - ARRANGEMENT 4 (SOUTH END 3) Pitch.





### CLAY FARM TESTING DAY 23RD FEBRUARY 2010

SECONDARY SCHOOL SITE - ARRANGEMENT 6 (PARK 2)



Street scene + car pathin Define our or activing them.

### **Transcript of the feedback**

This group set down principles, steering clear of being definitive. Some principles are common to both sites and some are site specific.

The general principles we proposed were:

- 1. Boundaries should make the school secure but respond to the surroundings. No need to define a fence.
- 2. Buildings should be BREEAM very good or excellent.
- 3. Siting should not adversely affect the neighbouring properties in terms of sound and light.
- 4. Scale and massing should positively contribute to the surrounding area. The buildings footprints should allow for future flexibility.
- 5. The school must reflect the social and civic character of their locations. They should act as reference points within the development. The schools must provide a sense of place and way-finding.
- 6. The landscape should provide a variety of teaching/learning opportunities.
- The approaches to the schools and entrances should be welcoming and promote a sense of inclusion.
- 8. Must meet or exceed the required provision for cycle parking and should minimise car parking provision especially for the primary school.
- Location of servicing should not impact on neighbouring properties or the highway.
- 10. Service access should not interfere with the movement into and around the school.
- 11. Drainage should maximise surface water drainage, retention and re-use.

#### **Primary school** – (See diagram on 1:500 plan)

- 1. The school could link to the community gardens rather than face the backs of housing on the adjoining parcel.
- 2. The bus stop locations should be moved closer to the entrance to the school.
- 3. The external entrance should integrate with the landscape opposite. The link to the open space should form part of the traffic calming of the spine road.
- 4. There should be no designated separate drop off area (discouraging car use).
- 5. The design Code shows a service access to the west but this is very poorly placed, there would be lots of tarmac and it would split the site. This needs to be changed.

#### **Secondary School** – (See diagram on 1:500 plan)

- 1. The code currently refers to buildings reinforcing the edges but there isn't enough built form to achieve this so the alternative is that the east edge appears open and allows the park to permeate into the site, so that the school is set within the landscape creating a soft edge to the Green Corridor.
- 2. The all weather pitch and sports provision should have a clear link to the school and also to the sports pitches in the green corridor.
- 3. The approach to the school entrance should relate to the local green space or the Neighbourhood Centre. It is important to agree the relationship between the strategic cycle route, the spine road and the school site.

### **Conclusion**

There were several conclusions drawn from the work carried out on the testing day.

The document was clear and legible and the structure worked well. The interactive version was strongly supported by the architects because moving between sections was faster and easier than with the hard copy version. The universal compliance sections were recognised as a good and effective set of codes that were deliverable.

What has been established is that the following changes should be made to the Design Code Document:

- 1. Create a new Illustrative Masterplan and put it in the Design Code, next to the original one (which accompanied the Outline Planning Application) and describe the variations and the reasoning behind the variations.
- 2. Remove the regulating plan as it is too prescriptive and complex.
- 3. The data sheets and detail shown within the parcel plans in the addendum were felt to be too restrictive and we propose to subsume these within the character areas, illustrating examples of best practice in the proposed plot arrangement examples.
- 4. Code the design principles for the two school sites.
- 5. Lightly code the mixed use part of Character Area Central because there is insufficient information to code it to the same level of detail as the residential parcels.
- Soften the transition between the existing settlement to the west of Character Area Central and the residential area of Character Area Central.
- 7. Drawings should be added to the Design Code showing Key groupings of buildings around significant public open spaces. These key groupings may straddle a number of development parcels.
- 8. Plot arrangements should be added to the code to illustrate best practice particularly illustrating ways of accommodating bins, bikes and cars.
- 9. Because of the elevated levels of the AAR and the proposed Spine Road, due to surface water drainage requirements, more sections through the site were required by the designers and these should be added to the Design Code.
- 10. The proposed development should be a little more organic along the Hobson's brook edge in the Southern Character Area. This can be achieved by altering the building set backs to create a staggered or undulating building line.

The Design Code testing day was certainly successful for Countryside Properties and Cambridge City Council and was described by Sir Richard MacCormac as 'exemplar'.

Many issues were raised and solved and the result of the analysis, questioning and well considered proposals has undoubtedly helped the design team to move towards a better quality scheme within the parameters set out in the Outline Planning Application.

Thank you to the following people who attended the event and contributed to its success:

Helen Shaw

Elizabeth Rolph

Glen Richardson

Jonathan Brookes

Dinah Foley-Norman

Simon Bunn

Clare Rankin

Mark Taylor

Ian Dyer

Jon Finney

**Robert Lewis** 

Peter Studdert

**Charlotte Smith** 

Paul Gibbs

John Phillipps

**Richard Lavington** 

Rowan Seaford

Christopher Campbell

Rachel Simmonds

**Bruce Carlton** 

John Richards

Stephen Proctor

**Andrew Matthews** 

Sir Richard MacCormac

Yoko Takahashi

Nik Randall

Chris Crook

John Oldham

Jo Clark

Nigel Borrell

Jonathan Gimblett

**Garry Batt** 

Harminder Dhanota

**Richard Rutherford** 

Joe Whiteman

Choonsin Ho

Julius Viehoff

**Alex Maltby** 

Mette McLarney

### **Clay Farm testing Day Programme**

10.00	Coffee
10.15	Introduction to the Design Code (Mette McLarney, CPPLC)
10.30	Introduce the architects and get into 4 design teams

Each team will have a team leader and will include two external architects.

- 1. McCreanor Lavington, LDA, Garry Batt (CPPLC)
- 2. MJP Architects, Proctor Matthews, Julius Viehoff (CPPLC)
- 3. Spacecraft, Choonsin Ho (CPPLC)
- 4. Campbell Architects, Scott Brownrigg, Mette McLarney (CPPLC)

Each team will be provided with a laptop with the interactive Design Code document up loaded for easy reference.

Also in attendance to assist the design teams will be Joe Whiteman, Group Chief Engineer (CPPLC) and Paul Gibbs Urban Designer and Landscape architect (David Jarvis Associates), both of whom are fully involved with the project. Along with several other members of the Countryside Properties project team.

10.30 -11.30	Design teams discuss their briefs and agree their working methods. Opportunity for questions to/from attending consultees.
11.30 – 1.00	Sketch proposals.
1.00 -1.30	Lunch.
1.30- 4.30	Develop designs and collate comments on Design Code (what works/doesn't work etc).
4.30- 5.50	Feedback from design groups (15 minutes each).

Full notes of the feedback session will be taken.

Other invitees will be able to drop in, circulate, observe, and get involved with the design teams if they wish. There will be information boards and drawings displayed.



