

# East Devon District Council

## Assessment of potential playing field development sites in Exmouth

STRI

Client Name: East Devon District Council

Prepared By: James Westwood

Date: 26 May 2016



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Report Title:                    Assessment of potential playing field development sites in Exmouth  
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Client:                            East Devon District Council

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## 1.0 Introduction

The STRI was engaged to undertake a series of topographical surveys at various locations in the seaside resort of Exmouth. These included both existing playing fields and parcels of agricultural land which East Devon District Council is considering for either enhancement or developing as new winter games playing fields for local community usage.

The topographical surveys took place over the 29<sup>th</sup> February and the 1<sup>st</sup> March 2016 and were undertaken by James Westwood of STRI Ltd.

In addition to the onsite surveys carried out, assessments of other sites in Exmouth were also made, these being based upon existing topographical survey information provided by East Devon District Council, as well as satellite imagery of the sites concerned.

Where 3D co-ordinate survey information was already available, a CAD modelling exercise was undertaken with a view to developing graded pitch platforms where significant ground slopes currently exist.

As part of the assessment of the different sites, proposed pitch layouts have been developed based on the playing field requirements identified by the Council.

## 2.0 Proposed Developments – Surveyed Sites

### 2.1 General

For each location, a topographical survey has been provided showing existing ground contouring over the areas being considered for potential redevelopment. In addition, a CAD modelling exercise has been undertaken on each of the sites based on the number and size of pitches which are to be potentially developed there, as guided by East Devon District Council. This has resulted in the design of a series of graded platforms accommodating either a single or block of pitches, as appropriate.

At each site, the layouts provided illustrate how the land could be utilised and the likely impact of the associated level adjustment works on the existing topography. However, it must be appreciated that these are purely indicative and would need further refinement once the precise mix of pitches has been finalised, as well as the extent of any associated facilities such as clubhouses, access roads and car parking.

It has been assumed that the dimensions of the pitches shown correspond with FA/Sport England guidelines for the different age groups of teams potentially using the facilities. In addition, the gradients on the pitches are compliant with current Sport England/FA guidelines for pitch slopes, i.e. the pitches should not have a slope exceeding 1:80 (1.25%) along the line of play and 1:50 (2%) across the line of play.

### 2.2 Hulham Road Site (E.12)

#### 2.2.1 Existing Topography

This site is located on the northern outskirts of the town and comprises two large fields running alongside the northern edge of the Hulham Road opposite the Kings Garden and Leisure Centre.

The two fields in question lie end to end the larger western most field being bordered by the Exe View Road which runs along its western boundary. The field to the east tapers gradually towards its eastern end, the two fields being separated by a hedgerow which is interspersed with mature deciduous trees. There is a gateway linking the two fields at the north-western end of the hedgerow.

Access to the eastern most field can be gained directly off Hulham Road via a gateway located at its south-western corner and similarly in the western field, there is a further gateway at its south-western corner at the junction between Hulham Road and Exe View Road.

The topographical survey confirm that there is a pronounced slope across the fields in a south-westerly direction, this varying between 1:20 and 1:30.

The topographical survey of the fields is shown on Drawing No: DE105617-002-001.

### 2.2.2 Proposed Pitch Layouts

At this location, there is a requirement for several football pitches of varying sizes catering for different age groups and potentially a cricket square, if this can be accommodated. The possibility of providing rugby pitches has been ruled out on this site owing to the restricted width of the two fields here.

There would also be need for clubhouse/changing facilities and car parking to service the various facilities. The most logical place to locate the clubhouse and car parking would be across the south-western portion of the western most field utilising the existing site entrance off Exe View Road.

Whilst the remainder of the area available within the two fields is reasonably generous, the severity of the existing slope across them will dictate the need for fairly extensive level adjustment operations in order to produce graded platforms conforming to current day guidelines.

A preliminary modelling exercise was undertaken based on a potential layout provided by the Council which included two Youth U15/U16 11 v 11 pitches located within the western most field with a cricket square positioned in between them. However, owing to the platform area required for the outfield and pitches, the associated cut/fill adjustment would be over 3 m and the embankments formed such that the central hedgerow and trees would have to be removed to accommodate them. As this would be unacceptable, a revised layout was developed in which the cricket ground was omitted and the development in the lower south-western field restricted to the two youth 11v11 pitches located on a single plateau on which the associated cut embankment stops short of the hedgerow. In this case the depth of cut at the north-eastern end of the platform would be reduced to approximately 1.6 m.

If additional clearance was required here to avoid potential damage to the tree rooting systems associated with the hedge, then the dimensions of the adjoining pitch would have to be reduced to a Youth U13/U14 sized facility, thereby moving the top of the cut embankment away from the hedge line by around 5 m.

A single platform accommodating both pitches is shown on the proposed layout, as there would be insufficient space to develop two separate graded platforms and the constraints of the site would not facilitate this.

In the field to the north-east, a single adult sized football pitch is shown on the EDDC layout proposal. In the case of the latter, the existing slope across the field exceeds the recommended slope along the line of play for a winter games pitch and therefore significant level adjustment would be needed to reduce this slope to the maximum of 1:80.

Whilst the north-eastern field could accommodate a U15/U16 11v11 sized pitch, the earthworks required to form the required platform with a reduced slope would be such that the associated cut/fill embankments would extend beyond the available width, particularly at the tapering north-eastern end of the field. Therefore, a practical layout would be to have a block of up to three U7/U8 5v5 Mini-Soccer pitches (37 m x 27 m) plus one U9/U10 7v7 Mini-Soccer pitch (55 m x 37 m), these running across the width of the field with a 1:80 cross fall and a level grade along the line of play.

The proposed arrangement of the pitches and finished levels are shown on Drawing No: DE105617-002-002 Rev A.

## 2.3 Land at Courtlands Cross (E.11)

### 2.3.1 Existing Topography

This potential development site comprises four fields of various dimensions and outlines but overall, they cover a significant area totalling just under 10 ha. The fields lie due west of the junction between the A376 Exmouth Road and Courtlands Lane on the north-western outskirts of the town.

The topographical survey indicates that there is a general fall across the fields in a west to south-westerly direction, this varying between 1:30 and 1:35. In the western most field, a small pond has been developed at its north-western corner which is the lowest part of the site. Another feature of this field is the presence of a wooden pole supporting electricity cables which would be potentially in the way of any future redevelopment works.

There are currently two gated entrances to the fields on Courtlands Lane, the first of these being located at the south-eastern corner of the western most field and there is a further double gated entrance at the south-eastern corner of the middle field. A section of the East Devon Way footpath also runs along the eastern boundary of the middle field via the gated entrance.

The fields are delineated by a series of hedges interspersed with trees of various types and sizes. In the smallest field to the north, this has been partially infilled by recent tree planting, thus reducing the potential area available for development here.

The topographical survey of the fields at this site is shown on Drawing No: DE105617-003-001.

### 2.3.2 Proposed Pitch Layouts

There is a potential requirement to accommodate a number of senior sized rugby pitches within the fields allocated for the scheme, together with associated car parking and clubhouse facilities.

The large size of the three adjoining fields is such that they each could comfortably accommodate at least one full sized senior rugby pitch with dimensions of 100 m by 70 m including a 10 m in goal area

and three 3 m outer margin. In the central field, two full sized pitches could be developed whilst in the western field, the presence of the pond would potentially restrict the development of any further pitches here other than a junior sized pitch which has been allowed for in the proposed layout.

The pitches shown have been formed on graded platforms, each with a cross fall of 1:80 with the pitches being level along the line of play.

Each platform has been produced on a balanced cut and fill basis resulting in cut and fill embankments up to 1.5 m in height in places, these being shown with in 1:3 gradient on the proposed layout drawing.

The smallest field to the north is less well suited for the provision of rugby pitches and it has been assumed that this area could potentially be used for car parking and clubhouse facilities.

In the middle field and eastern fields, the graded platform would need to be positioned so that it does not interfere with route of the East Devon Way footpath.

In terms of access, it is understood that the County Council's draft plans for completion of the Dinan Way include a potential roundabout on the A376 approximately halfway along the eastern boundary of the eastern most field. This will be an obvious location to form a new access to the fields if the development was to go ahead considering the access constraint of the existing Courtlands Lane. The orientation of the pitch within this field would have to be adjusted in order to facilitate the routing of the new access road from the roundabout and this has been allowed for in the proposed layout.

The relative narrowness of Courtlands Lane means that the existing entrances are less well suited for a proposed playing field development here, as increased traffic levels along the lane on match days would lead to severe congestion and potential safety issues here.

In the western most field, allowance would need to be made for re-routing of the overhead power cables which would obviously be affected by any proposed playing pitch development here, and these would need to be diverted around the edge of any platforms formed or buried below ground.

It would be possible to locate a senior rugby pitch with a south-west to north-easterly orientation immediately to the north of the pole within the western field, thereby avoiding the need to re-route the cables. However, if the overhead power cables are left in place they would traverse the pitch surface and for the game of rugby and also football, this would be a health and safety issue as the relatively low level of the cables would make them susceptible to being hit by balls kicked high into the air. In addition, the northern edge of the pitch would run close alongside the adjoining hedge and this would be impacted by the cut/fill embankments need to form the graded platform for the pitch. Therefore if a senior sized rugby pitch is to be located within this field, the cables would need to be rerouted or buried.

Some additional tree planting may be required along the south-eastern edge of the field alongside Exmouth Road and along the eastern edge of the smaller northern field to provide some protective screening for the nearby National Trust A La Ronde building located to the east of the site on Summer Lane. Some indicative screening planting is shown on the layout drawing.

The proposed arrangement of the pitches and finished levels are shown on Drawing No: DE105617-003-002 Rev A.



## 2.4 Land opposite Archery Club at Withycombe Common (E.19)

### 2.4.1 Existing Topography

This comprises a large rectangular field with dimensions of approximately 315 m by 115 m, lying on the south-western edge of the B3179 road immediately opposite the archery club located on the edge of Withycombe Common.

There is a pronounced general fall across the field in a south-westerly direction, the gradient being in the region of 1:15, although at the north-western end of the field this eases out slightly to around 1:20.

There are two access points currently available for the field, the north-western most of which is shared with the adjoining property located at the northern most corner of the field. There is a secondary access approximately 50 m to the south-east of this directly off the main road, where there is a concreted ramp down to the edge of the field.

The topographical survey of the fields at this site is shown on Drawing No: DE105617-006-001.

### 2.4.2 Proposed Pitch Layout

The brief here is to look at the possibility of developing a range of pitches including rugby and/or football and potentially a cricket square if there is sufficient room available.

Owing to the severe slope across the field, extensive earthworks will be required in order to produce a graded platform here. The long rectangular nature of the field dictates that the most practical solution here would be to develop a single graded platform which could accommodate up to two full sized rugby pitches end to end (i.e. with overall dimensions of 252 m x 76 m). The platform would be graded with a fall across its width of 1:80 with the pitches being level along their line of play. This would result in a cut/fill adjustment of up to 3 m as shown on the drawing provided and again, the associated embankments had been shown with a gradient of 1:3. A platform of this size could also comfortably accommodate two full sized senior football pitches end to end.

It would not be possible to set the rugby pitches out on this site with a north-east to south-west orientation, as the platform would need to be graded with a fall of 1:80 along the length of the pitches, against the natural fall across the field. This would result in the formation of pronounced cut/fill embankments some 8-9 m in length (assuming a 1:3 grade) which would extend beyond the field boundaries. This would also apply to a senior sized football pitches, although it may be possible to fit in youth team pitches running up the slope. If non-compliant gradients are acceptable on the pitches provided here, then by steepening the longitudinal slope on them, the amount of cut/fill adjustment would be lessened. However, having pitches with this orientation would be less desirable, as this would increase the possibilities of balls being kicked onto the B3179 and some form of ball stop fencing would be required along the roadside boundary.

The constraints imposed by the severity of the existing slope and the width of the platform proposed means that it would not be feasible to accommodate a cricket square and senior sized outfield at this site. Under ECB guidelines, the minimum boundary length for senior matches is 45.72 m.

With this arrangement it has been assumed that a new access could be formed from the shared gateway at the northern most corner of the field, if there is the need for car parking and a clubhouse building to be accommodated on the site as well. These would be located at the north-western end of the field. However, it is understood that such facilities may not be required, should the proposed additional car

parking capacity be provided within the adjoining Withycombe Common pitches development located to the north of the field. However, if this is the case, it is likely that a formal crossing point will be required across the busy B3179 for the players and officials accessing the site, this possibly having to be light controlled.

## 2.5 Littleham Primary School (E.4)

### 2.5.1 Existing Topography

The primary school is located on the south-eastern outskirts of Exmouth and the existing playing field area lies approximately 80 m to the south-west of the main school complex, access to which is gained via a grassed track. The existing playing field is rectangular in outline and occupies an area of just over 1 ha.

The topographical survey indicated that there is a slightly more level area at the highest part of the site at its south eastern end, this extending over a distance of approximately 40 m. From here, the ground starts to fall quite steeply in a north-westerly direction with an overall gradient in the region of 1:25.

The topographical survey of the existing playing field area adjoining the school is shown on Drawing No: DE105617-005-001.

### 2.5.2 Proposed Pitch Layout

For this site, the requirement is to accommodate two No. 7 v 7 pitches or larger if possible.

Again the marked slope across the site dictates that level adjustment will be required in order to produce pitches that have the appropriate slopes across them.

Based on the survey obtained of the site, a single graded platform has been designed which accommodates a single mini soccer pitch and a separate youth pitch, the former lying at the north-western end of the platform catering for U9/U10 7v7 teams, this having dimensions of 55 m x 37 m and a 3 m outer margin. The second pitch which lies at the south-eastern end of the platform is slightly larger, this being for U11/U12 9v9 teams with dimensions 73 m x 46 m with outer margins. The development of two pitches of this size would not be possible here, owing to the tapering outline of the playing field as it slopes to the north-west.

The platform shown has a gradient of 1:80 in a north-westerly direction with the pitches being level along the line of play.

It is understood that plans for new housing in the fields immediately south-west of this site show a potential access to the school for new residents via a new gate in the hedgerow in the south-west corner of the field. This could facilitate community access to any formal pitches developed on this site. The proposed platform shown on the drawing would facilitate such an access to the field, although the gateway would be better positioned at the south-western corner of the field so that vehicles do not drive directly onto the southernmost pitch when entering and leaving the site.

Another requirement of the scheme would be the provision of a small toilet block to be located adjoining the new pitches.

The proposed layout is shown on Drawing No. 105617-05-002 Rev A.



## 2.6 Raleigh Park (E.G)

### 2.6.1 Existing topography

Raleigh Park is the home to Withycombe Rugby Football Club which is situated within the northern half of the Exmouth, just off Hulham Road.

The main clubhouse and small parking area are located at the north-western corner on the site and there is a single full sized natural grassed rugby pitch which occupies the larger part of the field lying to the south-east of the clubhouse building. Immediately to the north-east of the pitch, there is a further grassed area separated by a crowd control barrier which is currently marked out for junior rugby pitches.

The current landfall across the site is diagonally across the pitch in a southerly direction, this being in the region of 1:65. The current main pitch has dimensions of 70 m x 100 m with a 6 m in goal area.

A feature of the site is a deep drainage channel which runs along its south-eastern boundary. Here, there is a steep grassed embankment which falls with a gradient of about 1:2 to a central channel formed from concrete blockwork, the base of which lies approximately 2 m above the adjoining field level. This channel connects up with a further manmade water course and culvert which lies at the south-eastern corner of the rugby ground.

The presence of a cast iron inspection chamber cover was also noted near the south-eastern corner of the ground, this possibly being associated with a drainage system serving the pitch.

The topographical survey of the existing rugby ground is shown on Drawing No: DE105617-004-001.

### 2.6.2 Proposed Pitch Layout

The Rugby Club is looking at the possibility of converting the existing natural turf pitch to a 3G IRB compliant synthetic turf surface.

Under England Rugby guidelines for synthetic turf pitches, the recommended pitch dimensions for a full sized Rugby Union pitch are the length should be a maximum of 100 m and a minimum of 94 m, whilst the maximum width should be 70 m and the minimum width 68 m. In terms of the in-goal areas, the minimum length of these should be 6 m with the maximum being up to 22 m. In addition, run off areas have to be allowed around the outer perimeter of the pitch and this should be the same surfacing as used on the main playing area. The recommended run offs at the ends and sides of the pitch for a full sized facility are 5 m.

A further requirement is that the maximum slope across the pitch in any direction should be no more than 1:100.

Whilst a full sized pitch is currently marked out on the existing playing field at Raleigh Park, these dimensions could not be retained if the pitch was to be converted to 3G surface owing to the requirement of the 5 m run off areas around its outer edge. Therefore if a compliant 3G playing surface is to be provided here, the overall pitch dimensions would have to be reduced to the minimum recommended, i.e. the pitch would have dimensions of 94 m in length and 68 m in width with a 6 m in-goal area plus the 5 m outer surrounds. However, it is apparent that even with these reduced dimensions, it would be difficult to fit the 3G surface over the existing pitch footprint and the only way this could be achieved would be to rotate its orientation slightly. Similarly, the existing grandstand on the south-western edge of the pitch would need to be repositioned to correspond with the new pitch alignment.

If the current orientation was retained, then the pitch surrounds would encroach onto the current timber terraced area immediately in front of the clubhouse building and this would have to be removed.

In addition, regrading of the pitch area would be required in order to achieve the maximum recommended slope of 1:100 which in this case would be diagonally across the playing surface in a southerly direction.

A platform showing a reduced sized pitch with the required slope and run off areas is shown on Drawing No. DE105617-04-002 Rev A.

The construction of a 3G pitch on this site would necessitate excavating out the existing topsoil profile and underlying subsoil to a depth of around 350 mm. Following regrading of the sub-base, a piped drainage system would be installed and the new pitch profile built up using imported granular stone laid on a geotextile separator membrane and contained within concrete kerb edging. This would either be blinded with a finer material or provided with an engineered base in the form of two layers of porous macadam, prior to laying the required IRB compliant shock pad and synthetic turf carpet with associated sand and rubber crumb infill.

For synthetic pitches, it is normal practice to enclose these within a perimeter fence, this typically being of a weld mesh type up to 3-5 m in height. However, at this location an open facility might be considered, assuming that access to the pitch can be restricted by the site wide perimeter fencing.

In order to maximise the night time and winter utilisation of the pitch, floodlighting would also normally be provided, this usually comprising between three and four columns down either side of the pitch, these typically being between 12 m and 15 m in height. However, the amenity of local residents would need to be carefully considered in the designing and locating of any floodlights.

In terms of drainage for the new pitch construction, it may be possible to utilise the existing chamber located at the south-eastern side of the pitch, although this would be subject to further investigation. Alternatively, the drainage water could be diverted into the drainage channel to the south-east, assuming that the appropriate approvals can be obtained for this.

## 2.7 Cost Estimates

Based on the proposed pitch layouts and platforms formed at each location, estimates of the total costs (excluding VAT) of developing the facilities shown on the drawings are set out for each site below.

These all include the associated earthworks, primary drainage systems with laterals at 4 m centres, cultivations, sand amelioration, secondary drainage in the form of excavated sand bands, seed bed preparation and seeding, as well as initial maintenance. A 10% contingency allowance has also been included.

The cost estimates on rates which would typically be charged by specialist sportsground contractors.

- Hulham Road Site (E.12)                      £267,000
- Courtlands Cross (E.11)                      £435,000
- Withycombe Common (E.19)                £244,000
- Littleham Primary School (E.4)            £82,000

- Raleigh Park (E.G) £500,000

The above costings do not cover extra items such as the removal of spoil excavated from drain trenches which on some of the larger sites could be considerable, as well as any costs associated with the removal of or diversion of existing services, either above or below ground. It has also been assumed that a positive drainage outfall can be established on site as the above figures do not include any attenuation requirements, SUDs systems etc.

The costs of developing the clubhouse facilities and car parking areas required at each location would be an extra, the size and extent of these being directly related to the number of pitches ultimately provided.

At Raleigh Park, the figure shown includes floodlighting (typically between £40-60K) and perimeter fencing which would normally be of a weld mesh type between 3-5 m in height, the costs for which would be around £50K. Obviously these items could be deducted if not required or not allowed by the planners. However, there would be additional costs for removal of the existing upper soil profile in order to accommodate the pitch construction and these could be up to £50K or more.

The costs of constructing a clubhouse/changing room facilities will be dependent upon the size and of type of building required. However, some indicative costs (excluding VAT) are provided for the following sites which include a clubhouse with changing rooms and social facilities as well as associated car parking.

- Hulham Road (E.12) £650,000
- Courtlands Cross (E.11) £725,000
- Withycombe Common (E.19) £365,000

The costs of a toilet block at Littleham School will be dependent upon whether this is purpose built or a prefabricated building. In addition, the costs of connecting to the nearest foul drainage and mains water supply will need to be considered. Therefore, it is anticipated that this could cost in the region of £10-15K to install plus VAT.

## 3.0 Proposed Developments – Non-surveyed Sites

### 3.1 St Johns Road (E.1)

The existing playing field on St Johns Road lies within the north-eastern outskirts of Exmouth, this being roughly 'L' shaped in outline and occupies an area of approximately 1 ha. St Johns Road runs around the northern and western edges of the field and there is a small housing development located on its north eastern edges. The southern boundary of the field is marked by a dense belt of woodland which falls down onto ground of lower elevation.

The site has previously undergone level adjustment and on the western edge of the playing field there is a distinct cut embankment approximately 3 m deep, immediately to the south-west of which is a graded area over which a single football pitch had previously been marked out. On this part of the site there is a general fall in a south easterly direction with the overall gradient being in the region of 1 in 40.

On the eastern half of the playing field there is a relatively steeply graded open grassed area which it is assumed is on undisturbed ground. This is approximately rectangular in outline with overall dimensions of 90 m x 60 m. However, on this part of the site the existing gradient is much steeper, the ground generally falling in a south easterly direction with a fall of 1 in 20. This area is not currently used for any formal recreational activities.

Whilst the existing graded area can accommodate a senior sized football pitch, the gradients here slightly exceed current guidelines. Therefore, there would be scope for some minor re-grading on this part of the site to produce a playing surface which is fully compliant. Ideally, this would involve stripping off the existing topsoil and re-grading the existing sub-base to produce a finished surface on which the pitch would have a longitudinal fall of 1 in 80 and a cross fall of 1 in 60. Remodelling of this part of the site to the slopes would involve approximately 450 m<sup>3</sup> of level adjustment and any associated cut/fill embankments would be accommodated within the existing graded area.

The graded area could also just accommodate a full sized rugby pitch, although it would not be possible to accommodate the required run-off areas as well and therefore, the pitch dimensions would need to be reduced accordingly in order to fit one in. Similarly, if there was a requirement for a 3G synthetic turf rugby pitch here, there would be insufficient space available to build a full sized pitch complete with the 5 m wide outer safety margins which are also a requirement for this type of facility.

To the east, there would be the potential for accommodating a junior sized pitch, this having dimensions of 73 m x 46 m with a 3m outer margin which would cater for a U11/U12 9v9 aged group teams. This area could also potentially accommodate a U11/U12 junior sized rugby pitch, if required.

A graded platform would need to be formed by the process of cut and fill and in this case, the aim being to achieve a fall across the width of the pitch of 1 in 50, whilst the playing surface would be level along the line of play. To achieve such a platform, would involve in the region of 1,850 m<sup>3</sup> of cut/fill adjustment. The formation of the platform would also generate cut and fill embankments which are shown with a 1:3 gradient which will facilitate their management with ride on mowing equipment. However, at the north-eastern corner of the platform, does extend close to the adjoining residential properties and if this site is to be redeveloped, then some trial hole excavations should be undertaken here and assessment made by a civil engineer as to whether this could cause any stability problems with the adjoining properties/gardens.

On the southern edge of the graded platform, the fill embankment general stops short of the outer canopy line of the surveyed hedge, but does encroach as far as a single Ash tree located at its south-western corner where some local steepening and adjustment of the bank may be required to avoid this.

The proposed pitch platforms are illustrated on drawing number DE105617-10-001.

In addition to the regrading works, provision would need to be made for the installation of an intensive system of pipe drains with laterals at 4 m centres and allowance could also be made for amelioration of the upper topsoil layer with sand as well as the introduction of secondary drainage in the form of excavated sand bands.

Based on the earthworks shown, the cost of redeveloping the two pitches on this site if carried out by a specialist sportsground contractor would be in the region of £150,000 plus VAT. However, if the western pitch area was to be left undisturbed and the existing gradients accepted, then the cost savings achieved by not carrying out the regrading works here would be around £36,000 plus VAT.

As part of the upgrading of this site, a clubhouse facility would be required and this would most logically be located on the undisturbed section of the site immediately to the north-east of the existing cut embankment on ground of higher elevation. This could accommodate a small clubhouse and car parking area which would utilise the existing access point immediately off St Johns Road to the north. The cost of developing a small two changing room clubhouse facility on this site would be in the order of £160,000.00 and associated car parking area would be around £30,000.00.

It is assumed that a suitable outfall would be available on this site for any drainage systems installed, ideally in the form of an existing all surface water system, subject to the appropriate approvals being obtained beforehand.

### 3.2 Brixington Primary School (E.7)

The school is located within the northern outskirts of Exmouth, access to which is gained directly off Brixington Lane. The existing playing fields here are roughly 'L' shaped in outline occupying a total area in the region of 9,000 m<sup>2</sup>. The playing field is divided in half by what appears to be a tarmac surfaced path which extends from the school buildings located on the southern half of the site, this running in a north-easterly direction where it terminates at two tarmac surfaced netball courts.

The presence of this path and the general irregular outline of the north-western half of the playing field site will restrict any future marking out of winter games pitches here. On the north-western part of the site, the maximum dimensions are 86 m from south-west to north-east and 70 m from south-east to north-west. However, it should be possible to mark out a mini soccer pitch here with dimensions of 55 m x 37 m plus a 3 m outer margin, this being suitable for U9/U10 7v7 aged group teams. If marked out here, the pitch would have a north-east to south-westerly orientation.

On the smaller section of playing field to the south east of the path, the dimensions here are 70 m from north-west to south-east and 33 m from south-west to north-east. Therefore this restricts the potential size of any pitch marked out here which would have to be limited to a single mini soccer pitch with dimensions of 37 m x 27 m plus a 3 m outer margin suitable for U7/U8 5v5 age group teams.

A small toilet block is also shown located at the north-western end of the tarmac surfaced area between the two pitches.

The costs of installing primary drainage on the pitches with lateral drains at 4 m centres would be in the region of £15,000 plus VAT. If secondary drainage was also provided in the form of excavated sand bands, then these treatments would cost a further £5,500 plus VAT. The costs of a toilet block at will be dependent upon whether this is purpose built or a prefabricated building. In addition, the costs of connecting to the nearest foul drainage and mains water supply will need to be considered. Therefore, it is anticipated that this could cost around £10-15K to install plus VAT.

A potential layout of these pitches as described above is shown on drawing number DE105617-11-001A.

### 3.3 Salterton Road (E.9 + 6.16)

This site comprises two adjoining agricultural fields lying on the eastern edge of the town immediately to the south of Salterton Road and opposite Liverton Business Park.

A feature of both fields is the pronounced fall across them which generally runs in a south to south-easterly direction with a gradient in the region of 1 in 15. Therefore, if these areas are to be developed for winter games purposes, extensive level adjustment will be required to form graded platforms which

comply with current day guidelines. However, it is understood that as the fields occur within an area of natural beauty, and the adjoining hedge banks and trees are to be protected which will limit the extent of any such development.

On the 2D survey drawing provided, a potential arrangement of pitches is proposed, this comprising a full sized football pitch within each field, these running parallel to Salterton Road. The pitches shown have dimensions of 100 m x 64 m with a 3 m outer margin which would be suitable for senior age group teams and if required, these could be sub-divided into junior/mini pitches, as appropriate. In the western field, a Youth U11/U12 9v9 pitch is also shown, this having dimensions of 73 m x 46 m plus a 3 m outer surround. The eastern most pitch has been positioned so that the earthworks avoid the oak tree located on the southern part of the field. The pitches would also be positioned so that their associated embankments do not extend as far as the adjoining hedgerows.

The fields would be large enough to accommodate two senior sized rugby pitches, plus a junior facility using the same layout as shown for the football pitches. The steepness of the existing land is such that the fields would not be suited to the provision of a cricket square and outfield owing to the extent of level adjustment and earthworks required.

Owing to the existing cross fall, the pitches would need to be provided with a maximum gradient of 1 in 50 across the line of play, the playing surfaces being level along the line of play. With the existing gradients, there would need to be in the region of 1.2 – 1.7 m of cut/fill adjustment and any associated embankments would be provided with a gradient of 1 in 3 to facilitate their ongoing management, these extending for a distance of approximately 5 m and the indicative extent of these are shown as dashed lines on the drawing.. It is estimated that the total amount of earthworks to form such platforms would be in the region of 8,000 – 9,000 m<sup>3</sup> of cut/fill.

Again, as part of the development of the pitches, provision would need to be made for the installation of pipe drains with laterals at 4m centres, sand amelioration and secondary drainage in the form of sand bands and it is estimated that the total cost of developing the pitches along these lines would be in the region of £240,000 plus VAT. However, more accurate costings could be obtained following a full modelling exercise on the proposed platforms based on a 3D topographic survey.

With regard to the provision of a clubhouse and car parking facilities, then these could be located at the eastern end of the larger western field as there is already an existing gateway onto Salterton Road directly opposite the main entrance to the business park. The cost of developing a clubhouse catering for four teams would be in the region of £300,000 with the associated car parking being in the order of £40,000.00 + VAT.

A potential layout of these pitches as described above is shown on drawing number DE105617-11-001A.

### 3.4 Rolle College Playing Fields (E.C)

The playing fields here are located on the southern edge of the town only some 400 m north of the coastline at the mouth of the estuary. The main part of the playing fields are rectangular in outline, the overall dimensions of which are approximately 300 m x 80 m. At the north eastern end of the main field, there is a former 'Redgra' type all weather surface which in more recent years has been used for a car park. Immediately to the north-west of this there is an overgrown *Leylandii* hedgerow which separates an additional parcel of land bordered on its eastern and northern edges by a track leading down to the all-weather facility.



At the north-eastern corner of the site, there are two derelict tennis courts and conversion of these to natural grassed areas for winter games purposes would involve excavation and removal of their existing construction profiles and replacement with imported topsoil. Therefore these facilities could be retained and potentially brought back into use.

The former Rolle College playing fields site is understood to be subject to a current planning application proposing housing on the upper plateau and retention and enhancement of the sports pitches plus a new clubhouse on the lower plateau. However, should the site be retained in its entirety for sports pitches therefore maximising use of the site for sports, then there would be scope to provide for some limited pitch development on the upper plateau and potentially (as no SUDS would be required) extended pitch development on the southern plateau.

Assuming that the housing development does not proceed, then there would be the potential on this site to accommodate up to three senior 11v11 football pitches with dimensions of 100 m x 64 m with a 3 m outer margin, these running end to end on the existing main playing field area. However, the north-eastern most pitch would be located over the site of the old all-weather pitch and provision would need to be made for removing the surfacing material and importing suitable quantities of topsoil to replace this and help establish a natural grass cover here.

On the grassed area at the north-eastern end of the main field which was allocated for the siting of SUDS could accommodate a mini soccer U7/U8 5v5 pitch (37 m x 27 m) and on the grassed area to the north of the hedge, another slightly larger mini soccer U9/U10 7v7 pitch (55 m x 37 m) could be developed.

A potential layout of these pitches as described above is shown on drawing number DE105617-15-001.

Before any further detailed design could be done for these facilities a full topographical survey would need to be carried out to enable the appropriate earthworks calculations to be made where required.

If all the proposed pitch areas were to be drained, then the costs of installing pipe drains with laterals at 4 m centres would be in the region of £75,000 plus VAT. If supplemented by secondary drains in the form of excavated sand bands and sand top dressing, these operations would cost a further £50,000 plus VAT. There would be additional costs associated with any level adjustment works, importing topsoil and cultivations and these could only be determined following further design development.

### 3.5 Warren View Playing Fields (E.D)

The playing fields are located on the western outskirts of the town and lie very close to the eastern banks of the estuary close to the East Devon Way road. The fields are divided into two distinct sections, the larger northern section sitting within a bowl like feature, this occupying an area of approximately 2.2 ha. Around the western, northern and eastern edges of the playing field area there is a pronounced cut embankment several meters in height, which is presumably associated with some previous earthworks or quarrying in this part of the town. The eastern cut embankment is now densely covered with tree and scrub vegetation and beyond the embankment to the north and east lie the gardens of properties located on Halsdon Avenue, which encircles this section of the playing field. The existing football pitch here has approximate dimensions of 90 m x 57 m, this having a north-east to south-westerly orientation.

With regard to the potential future redevelopment of this site, two options are being considered by the Council. The first involves retaining the existing natural grassed areas and maximising their current usage, based on current day guidelines for pitch dimensions etc.

A major constraint on this site is the presence of the significant cut embankment at the northern end of the site. Therefore, the arrangement and size of pitches which can be accommodated here will be determined by extent of the levelled area of ground lying immediately to the south of this. Indeed, it would be desirable not to consider any layouts which necessitate significant cutting into the embankment which would increase overall development costs and potentially lead to stability problems with the adjoining slope. Before undertaking any final detailed design, the existing topographical survey would need to be extended to cover the northern half of the site including the cut embankment, so that the potential pitch sizes and layout could be more accurately determined.

In Option 1, there would be scope for marking out two youth team pitches on the northern section of the playing fields, the larger of the two having dimensions of 91 m x 55 m together with a 3 m outer margin which would be suitable for U15/U16 youth 11v11 teams. Immediately to the east of this pitch a smaller youth pitch could be provided, this having dimensions of 82 m x 50 m with a 3 m outer margin, this catering for U13/U14 11v11 teams. Both these pitches would have a north to south orientation and would be accommodated on the existing levelled area, although there might be some limited extension of the western pitch into the cut embankment.

On the southern section of the playing fields, there is limited opportunity for any further expansion, although one option would be to increase the size of the pitch area to one with dimensions of 100 m x 60 m with a 3 m outer margin. However, this would involve moving the footprint of the pitch slightly by approximately 5 m in a north-easterly direction so that the increased width of the pitch can be accommodated where the site tapers at its south-western end. However, the consequence of moving the pitch as suggested would be that the south-eastern most corner of the new pitch footprint would encroach into the belt of trees lining the south-eastern and eastern edges of the playing field site. In addition, once cleared, there would potentially be shading issues around this corner of the pitch caused by the adjoining retained trees.

A proposed layout of the pitches as detailed above is shown on drawing number DE105617-13-001A.

Another consideration for this site is the construction of a full sized 3G rugby pitch which could also be used for other activities including American football and football, as well as training activities.

Under England Rugby guidelines for synthetic turf pitches, the recommended pitch dimensions for a full sized Rugby Union pitch are that the lengths should be a maximum of 100 m and a minimum of 94 m whilst the maximum width should be 70 m and the minimum width 68 m. In terms of the in-goal areas, the minimum length of these should be 6 m with a maximum being up to 22 m. In addition, runoff areas have to be allowed for around the outer perimeter of the pitch and this should be of the same surfacing as used for the main playing area. The recommended run offs at the ends and sides of the pitch for a full sized facility are 5 m.

A further requirement is that the maximum slope across the pitch in any one direction should be no more than 1 in 100.

Again the presence of the cut embankment will dictate how any such facility could be laid out on the northern section of the playing fields. However, according to the survey information provided, it should be possible to accommodate a full sized pitch with the necessary outer margins on the northern section of the playing field, although in this case the pitch would have to be set out with a west to easterly orientation.

Whilst the existing playing fields are considered to be fairly level, some minor surface grading may be required in order to achieve the uniform maximum 1 in 100 gradient required for such a facility.

A drawing showing the location and dimensions of the proposed pitch under Option 2 is shown on drawing number DE105617-13-002A.

The construction of a 3G pitch would necessitate excavating this existing topsoil profile and underlying subbase to a depth of around 350 mm following grading of the formation surface, a pipe drainage system would be installed and a new pitch profile built-up using imported granular stone laid on a geotextile separator membrane and contained within concrete kerb edging. This would either be blinded with a finer material or provided with an engineered base in the form of two layers of porous macadam, prior to laying the required IRB compliant shock pad and synthetic turf carpet with associated sand and rubber crumb infill.

For synthetic pitches, it is normal practice to enclose these within a perimeter fence, this typically being of a weld mesh type up to 3-5 m in height. In addition, in order to maximise the night time and winter utilisation of the pitch, floodlighting would also normally be provided, this usually comprising between 3 and 4 columns located down each side of the pitch, these typically being between 12 and 15 m in height. The installation of the fencing and floodlighting would be subject to local planning approval.

A positive outfall would also be required for any drainage system installed and this would need to be established before commencing works on site.

It is understood that the northern part of the playing fields may have been developed on a former landfill facility and therefore before carrying out any further design work, additional ground investigations would be required in order to ascertain the nature and depth of the underlying profile and confirm the presence of any landfill material. If there has been extensive tipping here in the past, there may be potential future stability and settlement problems within the sub-base, thus necessitating localised excavation of any such areas, replacing these with more stable material in order to provide a firm and consolidated sub-base for the new pitch.

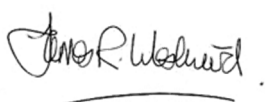
If Option 1 is adopted, then it is likely that the provision of primary drainage in the form of pipe drains will be needed over the northern section of the site, in view of the wet nature of the ground here.

The costs of installing pipe drains at 4 m centres over the pitch areas would be in the region of £45,000 plus VAT. If secondary drainage was also provided using excavated sand bands, then the cost of these including a sand top dressing would be in the order of £25,000 plus VAT.

If the southern pitch is to be expanded and slightly relocated as previously indicated, then this could cost in approximately £150,000 to £250,000 plus VAT, depending upon the type of construction being utilised and the extent of any earthworks required.

The costs of developing a full sized 3G synthetic turf rugby pitch complete with floodlights and perimeter fencing could be up to £500,000 plus VAT. However, this assumes that the pitch can be built on the existing ground and no special stabilisation or strengthening measures have to be taken in view of the presence of any possible landfill material underneath,

Signed:

A handwritten signature in black ink, which appears to read 'James Westwood', is written over a horizontal line.

James Westwood BSc (Hons)  
Senior Design Consultant