COLOMA CONVENT GIRLS’ SCHOOL

CROYDON

Status: Completed 2011
Client: Coloma Convent Girls’ School
Value: £314k

Coloma Convent Girls’ School is a secondary school with a strong sports ethos. The main sports played at the school are football and lacrosse, in addition to tennis and netball.

This project involved the creation of a new 3G pitch, suitable for both football and lacrosse, on the site of an existing cinder pitch.

The scope of work included the removal of the cinder pitch, regrading the existing stone base and adding more stone to form a new base level. The kerbs, macadam base, shockpad and 3G carpet were then installed to form the new pitch together with fencing and floodlighting.

The client also instructed the contractor to construct a training area on the remainder of the cinder area using the same construction, surfacing and fencing as the main pitch. The pitch and floodlights were tested to The Football Association (FA) requirements on completion.
The project was jointly funded by Coloma Convent Girls’ School and the Football Foundation.

As-built layout

- New 2 m wide ramped macadam access leading to pitch double gate
- New double gate
- New single gate
- Existing brick retaining wall
- Training area
- Floodlight columns
- Dividing net
- Concrete boundary wall
- Fold away goal
- New 4.5 m high fence on all boundaries of 3G pitch
- Goal recess (10 x 2.5 m) Lacrosse / Soccer

Space for storing goals which are not in use is provided at the ends of the pitch.
Facility Case Study

The longitudinal gradient of the existing cinder pitch was 1:80. Once the cinder was stripped, the existing stone base had to be re-graded to form a longitudinal gradient of 1:100 to meet FA / Sport England guidelines. This meant lifting the northern end of the pitch, thus requiring the need for a DDA compliant access ramp and handrail.

The 52 m width of the new pitch just fitted within the boundary walls of the site and floodlight columns had to be fitted in a tight space. In order to maintain them, they are lowered side ways and fence panels removed.

Because of the tight fit, goal recesses could not be formed on the sides so swing out goals were used.

**Floodlighting**

The pitch has 6 no. 15 m high columns which give 350 lux at full power (for lacrosse) and can be switched down to 200 lux for football use and 120 lux for football training use.

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**Schedule of Areas (m²)**

<table>
<thead>
<tr>
<th>Area Description</th>
<th>Area (m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area of original cinder pitch</td>
<td>4,586 m²</td>
</tr>
<tr>
<td>Area of new 3G pitch</td>
<td>3,640 m²</td>
</tr>
<tr>
<td>Area of training area to northern end of new 3G pitch</td>
<td>775 m²</td>
</tr>
<tr>
<td>The remaining area is accounted for by margins, pathways and fence lines and by the fact that the original pitch was out of square</td>
<td></td>
</tr>
</tbody>
</table>

**General Accommodation**

<table>
<thead>
<tr>
<th>Sport</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lacrosse</td>
<td>1 pitch</td>
</tr>
<tr>
<td>Football</td>
<td>1 pitch</td>
</tr>
<tr>
<td>Mini-soccer</td>
<td>2 pitches</td>
</tr>
<tr>
<td>Additional training area</td>
<td>1 zone</td>
</tr>
</tbody>
</table>

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Facility Case Study

General Description of Key Specifications and Materials

Drainage
- 80 mm diameter perforated plastic laterals at 10 m centres, connected to 110 mm diameter perimeter drains

Geotextile membrane
- Woven polypropylene sheet

Stone sub-base
- MOT Type 1 grade recycled material installed at 270 mm depth onto existing stone base

Macadam
- Two-layer macadam, comprising 40 mm thickness of 20 mm grade porous macadam topped with 25 mm thickness of 10 mm grade porous macadam

Kerbs
- 150 x 50 mm pcc units

Fencing
- 4.5 m high twin wire, with lower 1.2 m of rebound grade twin wire

Shockpad
- 15 mm thick in-situ formed (resin bound rubber crumb)

3G carpet
- 60 mm pile length 3G – monofilament pile

Summary of Elemental Costs

<table>
<thead>
<tr>
<th>Element</th>
<th>Total Cost (£)</th>
<th>Cost (£) per m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Pitch base works consisting of preparatory work / excavations, stone and geotextile, drainage, macadam, kerbs</td>
<td>93,201</td>
<td>25.60</td>
</tr>
<tr>
<td>2 Synthetic surfacing consisting of shockpad and 3G carpet</td>
<td>88,175</td>
<td>24.22</td>
</tr>
<tr>
<td>3 Fencing</td>
<td>32,854</td>
<td>9.03</td>
</tr>
<tr>
<td>4 Floodlighting</td>
<td>39,590</td>
<td>10.88</td>
</tr>
<tr>
<td>5 Equipment including tractor and drag brush</td>
<td>14,032</td>
<td>3.85</td>
</tr>
<tr>
<td>6 Retaining walls, ramp and paths</td>
<td>9,705</td>
<td>2.67</td>
</tr>
<tr>
<td>7 Landscaping and reinstatement</td>
<td>2,274</td>
<td>0.63</td>
</tr>
<tr>
<td>7 Preliminaries</td>
<td>3,775</td>
<td>1.04</td>
</tr>
<tr>
<td>7 Consultant Fees</td>
<td>30,292</td>
<td>8.32</td>
</tr>
<tr>
<td><strong>TOTAL CONTRACT SUM</strong></td>
<td><strong>313,898</strong></td>
<td><strong>86.24</strong></td>
</tr>
</tbody>
</table>

Notes:
1. Costs stated are based on 4th Quarter 2011.
2. Additional cost of the training area was £45,000 (not included in above costs).
3. At the start of the project a reserve of £30,000, approximately 10% of the expected pitch build sum, was set aside for contingencies.
4. The above contract sum excludes the initial maintenance for 12 months following construction.
5. Caution should be taken when using any sets of figures, and professional advice should be sought regarding current market rates.

Environmental Sustainability

Some of the existing stone sub-base under the existing cinder pitch was reused. Additional stone needed to complete the new sub-base level utilized recycled material.

Procurement / Programme

- Tender: 7 tenderers were selected from the SAPCA Principle Contractors list
- Contract: JCT Design and Build 05
- Duration: 2.5 weeks for tender period with a 10 week contract period to practical completion

Specific Items of Interest

- Lighting columns: 6 no. ‘raise-and-lower’ lighting columns, 15 m high with a galvanised finish
- Luminaire type: 16 no. Thorn Champion fitted with 2 kW lamps
- Lux levels: 350 lux for lacrosse, 200 lux for football, 120 lux for training

...The school is delighted with the more efficient use of space and the additional use that is now possible with the new 3G pitch...

A training area was constructed on the remainder of the original cinder pitch

A general view of the completed pitch looking north

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