

**Specification for the Construction of
Natural Winter Games Pitches & Cricket Square
Imberhorne Lane, East Grinstead**

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SPECIFICATION FOR NATURAL WINTER GAMES PITCHES & CRICKET FACILITIES

Job Title Construction of Natural Turf Winter Games Pitches & Cricket Square at Imberhorne Lane East Grinstead

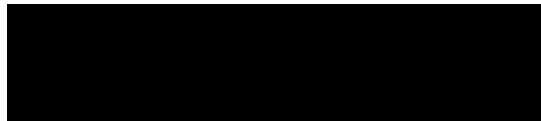
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Signed



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SPECIFICATION

PREAMBLE TO THE SPECIFICATION

Documents

The following documents form part of this Specification and shall be deemed to be part of the Specification:

1. Highways Agency Manual of Contract Documents for Highways Works. Volume 1. Specification for Highway Works, published March 1998 by HMSO.
2. Sport England Design Guidance Note Natural Turf for Sport - Updated Guidance for 2025 Revision 003

Interpretation of Specification

Any clauses in the Specification, which relate to work or materials not required by the Works shall be deemed not to apply. British Standards, Codes of Practice, and other Standards referred to in the Specification shall be those current at the time of construction.

Where material is specified by reference to a particular trade name or manufacturer, equivalent materials will satisfy the Specification provided that they are approved by the Designer.

Where material is specified by reference to British Standards, material conforming to similar European Standards shall be permitted provided that it can be shown that the material also conforms to the relevant British Standard.

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S100 DESCRIPTION OF WORKS

S101 Location

- 1 The site located on land off Imberhorne Lane, East Grinstead.

S102 Access

1. Main access to the site is off Imberhorne Lane, East Grinstead.

S103 Drawings

- 1 The specification should be read in conjunction with the following drawings:-
 - Proposed Layout
 - Proposed Drainage

S104 Description Of The Main Operations

The work to the development areas shall consist of the following: -

Natural Turf Winter Games Pitches & Cricket Outfield – Scope of Works

- Flail and remove any vegetation and remove to disposal on-site
- Spray-off remaining vegetation using a total non-residual herbicide.
- Cultivate topsoil
- Strip topsoil and place in stockpile
- Cut and fill earthworks
- Laser grade formation
- Decompact subsoil
- Replace topsoil
- Ameliorate topsoil with 40mm sand
- Install primary drainage with lateral drains at 4.0m centres
- Ameliorate topsoil with 20mm sand
- Remove remaining stones
- Fertilise & seed
- Establish grass with intensive maintenance and irrigation.
- Install secondary drainage
- Top-dress with sand and over-seed
- Top-up settled drains.

Undertake pitch and cricket outfield maintenance operations for 12 months including but not limited to:-

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- Undertake specified mowing (40 cuts)
- Supply and spread specified fertiliser (4 applications)
- Supply and apply fungicide and herbicide as required (1 application)
- Undertake verti-draining on 3 occasions
- Overseed
- Top up drain lines
- Weed control

Cricket Square – Scope of Works

- Flail and remove any vegetation and remove to disposal on-site
- Spray-off remaining vegetation using a total non-residual herbicide.
- Cultivate topsoil
- Strip topsoil and place in stockpile
- Undertake cut and fill earthworks
- Laser grade formation
- Subsoil compact formation
- Place geotextile
- Place and compact stone layer
- Place and compact cricket loam
- Prepare seedbed fertilise and seed

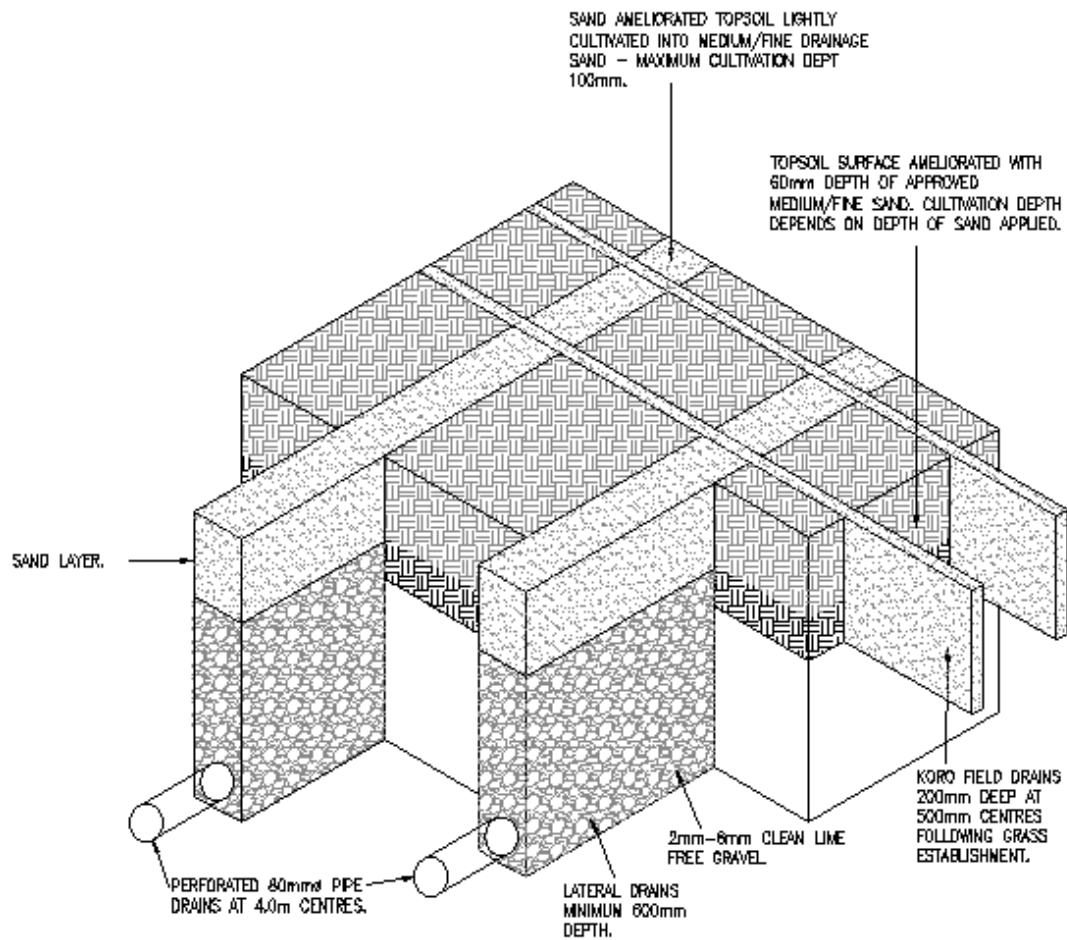
Undertake cricket square maintenance operations for 12 months including but not limited to:-

- Undertake specified mowing (40 cuts)
- Supply and spread specified fertiliser (4 applications)
- Supply and apply fungicide and herbicide as required (1 application)
- Weed control
- Overseed
- Rolling
- Topdressing

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Section of Proposed Winter Games Pitches & Cricket Outfield



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S200 GENERAL REQUIREMENTS

S201 Assistance to the Designer

1. The Contractor shall provide assistance to the Designer in carrying out his duties including the services of a competent chainman whenever required.

S202 British Standards

1. Where an appropriate British Standard Specification or British Standard Code of Practice issued by the British Standards Institution is current at the date of the tender all goods and materials used or supplied, and all workmanship, shall either be in accordance with that standard, any equivalent European Economic Community standard, or of a higher standard.

S203 Testing of Materials

1. No material shall be supplied for the Works without prior approval from the Designer.
2. Upon acceptance of the Tender the Contractor shall submit samples of the main construction materials, i.e. gravel/stone and sand/rootzone materials.
3. Representative samples of all approved materials shall be retained on site throughout the duration of the works.

S204 Services

1. The Contractor shall be responsible for determining the exact position of any services affected by the works. Any information provided to the Contractor shall be confirmed on site by liaising with the relevant Authority and hand digging where necessary.

S205 Site Conditions

1. The Contractor's attention is drawn to the need to satisfy himself as to the conditions on site and is advised to visit and inspect the site prior to submitting the tender.

S206 Hand Work

1. The Contractor shall allow in his pricing for hand working on parts and in conditions where the use of machinery will not produce results to the

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Designers satisfaction even though specific reference is not made to such in the body of the Specification.

S207 Procedure

1. No variation from the sequence and nature of the works detailed in the specification will be permitted except with the prior written consent of the Designer.

S208 Inclement Weather

1. The Works or any part thereof shall be suspended temporarily by the Designer when, in his opinion, working conditions are unsuitable due to inclement weather.
2. Work must cease when ground conditions on site are such that puddling and/or deep rutting of the soil or any other detriment would result.

S209 Site Meetings

1. The Contractor shall attend periodic meetings on site as required.

S210 Traffic Control and Pedestrian Safety

1. The Contractor shall provide and maintain all necessary road signs on public highways as required by the Employer's representative or by the Police and Local Authority.
2. Vehicular and pedestrian access for the public and residents to all dwellings and services adjoining the site and affected by the Contractor's access needs and works must be maintained at all times in a manner acceptable to the Employer's representative.
3. The Contractor shall remove from the surface of any public or private road any earth or other materials deposited by vehicles passing to or from the Site.
4. The Contractor shall take adequate precautions to prevent the spilling of oil, petrol or diesel fuel from vehicles, plant, storage drums or tanks on any access road or the Site in general. Any spillage shall be immediately cleared and the contaminated material disposed of at an appropriately licensed landfill site, and the damage made good.

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S211 Maintenance of Public and Private Roads, Etc.

1. The Contractor shall be responsible for keeping clean all public roads, pavements, verges and other areas and shall allow for all costs incurred by him in the maintenance of same and for making good at his own expense any damage thereto when carrying out the Works.

S212 Traffic Regulations

1. The Contractor shall be responsible for avoiding any infringements of local traffic regulations.

S213 Delivery of Plant and Materials

1. All off-loading of materials and plant including that belonging to domestic and nominated sub-contractors is to take place WITHIN the boundaries of the site.

S214 Site Restrictions & Security

1. The Contractor shall confine his workmen and materials, plant, etc. to the area of the Site allocated for his use to be defined on the Drawings. Traffic shall be confined to designated site roads.
2. The normal working hours within the site shall be Monday to Friday between 08:00 and 18:00 hours with no working on public holidays. Working beyond these hours will not be permitted without the approval of the Employers Agent. Such approval shall be requested and given in writing and this ruling applies equally to nominated sub-contractors and other operatives for whom the Contractor is responsible. A minimum of 1 day's notice is required from the Contractor when seeking such consents.

S215 Off Site Trespass

1. Allow for all measures and precautions necessary to prevent any trespass upon adjoining land or property, and to preclude any rubbish, materials, etc. from being deposited thereon.

S216 Boundary Protection

1. The Contractor shall allow for protecting and avoiding all damage to adjoining owners' boundaries.

S217 Restriction of Advertising

1. The Contractor shall not use nor let the Site or any part thereof for any advertising purposes save only that he may exhibit his own name and

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address together with those of his sub-contractors and suppliers. The board shall also display the title of the Works. Such nameboards shall be approved before erection.

S218 Programme of Works

1. Progress Charts shall be prepared by the Contractor and submitted to the Employers Agent for approval prior to the commencement of the Works to show how the Contractor intends to execute the Works within the time stated in the Form of Tender. In the event of Extension of Time being granted in accordance with the Conditions of Contract, the Contractor shall prepare and submit revised progress charts to the Employers Agent.

S219 Staff Welfare Facilities

1. The Contractor shall provide and maintain adequate shelter accommodation for the use of all workmen. Their siting, maintenance and clearance on completion shall be to the satisfaction of the Employers Agent.
2. The Contractor shall be supply their own toilet facilities for all workmen within a designated part of the works area.

S220 Surface and Ground Water Run-off

1. The Contractor shall make all necessary temporary provision for the run-off of surface and groundwater from any areas of excavation during the period between the start of the Works and the final connections to the drainage outfalls.
2. All labour, materials and plant necessary for the purpose shall be provided by the Contractor and all costs shall be deemed to be included in his rates.

S221 Temporary Works

1. The Contractor shall provide and maintain all temporary access roads, sleeper tracks, storage areas or any other temporary works required during the execution of the Contract, remove the same as required and make good on completion of the Works.
2. The Contractor will be deemed to have taken due account in his Tender of the total cost of all temporary works necessary for the proper execution and completion of the Contract.

S222 General Protection

1. Allow for all temporary fencing, planked footways, guard rails, lighting and the like as may be necessary for protecting the public, and for the proper executing of the Works as may be required by the Employers Agent.

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S223 Clearing Site

1. The Contractor shall, upon completion of the Works, clear all plant, unused materials, etc., clean all roads, drains, etc. affected by the Works and leave the whole of the Site in a clean and tidy condition acceptable to the Employers Agent.

S224 Protection of Public Footways and Highways

1. The Contractor shall make all necessary provision including the supply of protective coverings as appropriate to protect and maintain:
 - a) the public highway along the proposed access and egress routes to the training ground.
 - b) all public footways adjacent to the public highways detailed in a) above.
 - c) all foul and storm sewer drain covers and road drainage gullies within the areas covered by a) and b) above.
 - d) The contractor will be deemed to have included in his works the costs for supplying and maintaining all temporary covering.

S225 Control of Dust

1. The Contractor shall conduct his operations so that as far as possible any dust settles within the Site and is not carried beyond the immediate working area.
2. The Contractor shall also undertake a daily visual inspection of vehicles (if any) parked in the site compound areas and adjacent the areas of working for the presence of any settled dust.
3. The Contractor shall adjust the location of any excavation, regrading or filling operations having regard to the wind direction and speed, and shall suspend such operations altogether in the event that any such adjustment fails to prevent dust from being carried beyond the immediate working area.
4. Any stockpiles of material subject to wind whipping shall be damped down and covered to ensure satisfactory dust control.
5. The Contractor shall ensure that airborne dust is kept to a minimum by the regular use of water bowsters during periods of dry weather. The Contractor shall also deploy other water spraying equipment as required to control dust emissions whenever significant fugitive dust emissions are created or are likely to be generated by site operations.

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S226 Control of Noise and Vibration

1. The Contractor shall employ the best practical means to minimise noise and vibration produced by his operations and shall have regard to the recommendations in BS 5228. Noise Control on Construction and Open Sites, the Noise Abatement Act (1960) and all amendments thereto, and the Department of the Environment Advisory Leaflet No. 72 "Noise Control and Building Sites" and such subsequent publications.
2. Without prejudice to the generality of the Contractor's obligations under the preceding paragraph, the Contractor shall comply in particular with the following requirements:
 - a) all vehicles and mechanical plant used for the purpose of the Works shall be fitted with effective exhaust silencers and shall be maintained in good and efficient working order
 - b) all compressors shall be "sound reduced" models fitted with properly lined and sealed acoustic covers which shall be kept closed whenever the machines are in use, and all pneumatic percussive tools shall be fitted with mufflers or silencers of the type recommended by the manufacturers
 - c) machines in intermittent use shall be shut down in the intervening period between work or throttled down to a minimum
 - d) all pumps shall be fitted with effective exhaust silencers and shall be maintained in good and efficient working order. All de-watering pumps shall be "sound reduced" models fitted with properly lined and sealed acoustic covers.
3. The Contractor shall pay special regard to minimising noise at the site boundaries. Such measures include:
 - a) the location of the site offices, stockpiles and mobile noise screens
 - b) limits on the amount of plant at work
 - c) silencing of plant as described above
4. The Contractor shall take suitable steps in his method of working to prevent damage to adjacent structures due to vibrations caused by executing the Works.

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SPECIFICATION OF WORKS

S300 DETAILED REQUIREMENTS

SITE FACILITIES TO BE PROVIDED

S301 Accommodation and welfare units

1. A main compound area and storage area shall be established at the location within the site boundary as agreed with the Employers Agent. As a minimum requirement the following accommodation and welfare will be provided at the main site compound.

1 No site office for contractors use including dedicated telephone and fax machine

1 No welfare/mess room

The following facilities within the unit/mess room unit shall be provided and maintained in an acceptable clean and tidy condition within the main site compound

- adequately heated and lighted accommodation containing a table chairs or benches for use during meal breaks
 - facilities for heating food and providing hot water
 - adequate first aid equipment
 - a wash basin with hot and cold water
 - toilet facility
2. The Contractor shall agree with the Employer's Agent the proposed layout for these accommodation units prior to mobilisation to site.
 3. The Contractor shall supply at his own cost any temporary supply of electricity for the works.
 4. The Contractor shall in the execution of the works keep all plant and materials and all things connected with the works in reasonably good order and shall tidy the site to the satisfaction of the Employers Agent.
 5. The Contractor shall ensure that any liquid including fuel oil used on site in connection with the works are stored in suitably labelled containers with appropriate "Hazchem" notices. Such containers shall be stored on an impermeable hardstanding in accordance with the Environment Agency's Special Requirements. Any spillages shall be disposed of at the contractors expense to an appropriate disposal site, Any spillage of liquid which may give rise to an environmental pollution incident, shall be reported to the

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Employers Agent, contained, and removed immediately to an appropriate disposal site.

S302 Information boards

1. The contractor shall provide, maintain and remove on completion of the works two information boards that shall be sited at the entrance to the compound and main site entrance. The information boards shall give details of the Contractor's name together with telephone contact numbers for both office hours and out of office hours. The position design and layout of these boards are to be approved by the Employers Agent.

S303 Photographs and Condition Survey of Existing Access Roadway, Footways and Hardstanding Area

Advance Photographs

1. Colour photographs shall be taken in advance of the works at locations agreed with the Employers Agent and their positions accurately located. Photographs will be taken of the existing ground surface at the main site entrance and will be used in the preparation of a pre-work highway condition survey as detailed below.
2. The Contractor shall, prior to the commencement of any excavation Works, undertake a condition survey of the existing access roadway, footway and hardstanding areas. As a minimum the survey shall comprise a full photographic record of the road, footway and hardstanding surfaces, together with a written report of any damage to existing surfaces, kerbstones or manhole constructions. The Contractor should also note that complete photographic coverage of each roadway, footway and hardstanding area is required. Simple panoramic photographs will not be considered acceptable by the Employers Agent.
3. Two copies of the written report, together with one bound copy of the photographic record of each roadway, footway and hardstanding area shall be handed to the Employers Agent at least 48 hours in advance of the commencement of any excavation works.

Progress Photographs

1. The Contractor shall arrange to have record photographs taken of the works as directed by the Employers Agent.
2. As a minimum requirement photographs shall be taken prior to commencement and upon completion of each main operation, such as earthworks, pipe and slit drain installation, and each rootzone amelioration operation.

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3. The copyrights of all photographs shall be re-vested in the Employer and the images shall be delivered to the Employers Agent within 7 days of exposure. The photographs shall not be used for any purpose whatsoever without the Employers approval.

S304 Standards Quality Assurance

Proposed suppliers of drainage and sand materials

1. The contractor shall submit to the Designer a list of the suppliers from whom he proposes to purchase materials necessary for the construction of the works and shall forward full details of the proposed materials together with test certificates confirming the suitability as appropriate for approval to the Designer a minimum of five working days before delivery of any material to site.
2. The Designer reserves the right to inspect the proposed materials at source and in this respect the Contractor shall ensure that each supplier will admit the Designer his representative to his premises during ordinary working hours for the purpose of inspecting, witnessing, required testing or obtaining samples of the materials.
3. Alternatively if required by the Designer, the contractor shall deliver the samples of the materials to the Designer or to a laboratory nominated by the Employers Agent. Samples shall be taken in accordance with the relevant British Standard where applicable.
4. Materials subsequently used in the works shall be consistent with the samples as tested or approved by the Designer.
5. Where it is necessary for the samples to be submitted to the Designer. The Contractor shall ensure that samples are supplied to the Designer in sufficient time for them to be satisfactorily tested.
6. The information regarding the names of the suppliers may be submitted at different times as may be convenient, but no sources of supply shall be changed without the Designers prior approval.

General requirements for general fill material

7. Any site-derived or imported general fill material for use in the works shall be obtained from a clean identified source. The source shall have had no former use which could result in the potential for contaminating the proposed soil. Any imported fill material shall be clean and inert and shall not cause a risk to human health or the environment. It shall not contain chemicals that can be leached out and cause contamination of controlled waters. The Employers Agent reserves the right to test and to undertake specific risk assessments of any material which the contractor proposes to import onto

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site. The Employers Agent reserves the right to reject any imported soil material based on the findings of the contamination tests and risk assessments.

8. Any imported general fill shall, unless otherwise instructed in writing by the Employers Agent or specified in the contract documentation, be naturally occurring materials commensurate with Class 2C, 2D or 6F1 as defined by Table 6/1 of the Highways Agency Specification for Highway Works, but with the specific exception of marine gravel and chalk. Marine gravel, chalk and recycled materials such as crushed concrete shall not be considered as suitable general fill. The imported general fill shall also comply with the chemical criteria described in Clause S304/7.
9. Any material which fails to comply with the above Clauses shall be replaced with approved material.
10. As a control on the quality of all drainage and rootzone and sand materials imported onto site the contractor shall take 2 kg mass samples of the material, at a rate of 1 sample for every 250m³ delivered to site. The contractor shall then forward them to the approved laboratory for analysis to confirm compliance with the requirements of the specification. Any drainage material which fails to comply with the above Clauses, shall be replaced with approved material. The cost for all drainage material conformance-testing and any subsequent testing required in the event of a failure will be paid by the Contractor and should be included in his rates.

S305 Site Operations Method Statement

1. Prior to the commencement of the works, the Contractor shall prepare a detailed method statement for the site operations. Attention is drawn to the specific requirements. The Contractor will be deemed to have included in his rates for all method statements required:-
 - a That all site personnel are subjected to an appropriate induction course prior to commencement of work on site, covering all aspects of site work and appropriate Health and Safety measures in place.
 - b That appropriate control measures are instigated to prevent and control as necessary generation of dust and/or odours.
 - c That areas designated for temporary stockpiling of excavated material prior to removal from site are clearly identified.
 - d The procedure to be followed should old drain runs or any other unidentified or unspecified or unexpected materials such as contamination be encountered during excavation or any other site works.
 - e That appropriate measures/ precautions are to be taken to prevent the discharge of water from the site into the foul or storm water sewage system (including water used to control dust).

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S306 General Health & Safety Procedures

Safe working practices

1. The main access point shall be permanently attended by the contractor to supervise the movement of delivery lorries into and out of the site. When not in use or outside working hours the access point shall be securely closed and locked. Appropriate signage warning the general public of construction hazard shall be established. The works site area shall be fenced where appropriate with Herras type fencing to prevent public access. All works shall be undertaken in accordance with the 2015 CDM Health & Safety regulations
2. As a minimum all staff will be issued with the following Personal Protective Equipment (PPE)
 - Protective footwear (steel toe caps and insoles to BS 1870)
 - Safety helmets
 - Reflective jackets or waistcoats
 - Rubber gloves
 - Safety glasses
3. The contractor shall provide qualified First Aiders as appropriate and shall ensure that at any time during site working hours at least one qualified First Aider is in full time attendance. The Contractor will be deemed to have included in his rates for providing a First Aider.

S307 Workmanship

- 1 Each stage of the pitch construction works shall be subject to inspection and approval before the Contractor progresses to the next stage.
- 2 The Contractor shall particularly satisfy himself of the condition of the formation surface and the need for other works required to produce a satisfactory surface prior to continuing with the next phase.
- 3 The Contractor shall draw the Employers Agent's attention to any problem areas identified during preparation works. Each operation shall be subject to confirmation that the following requirements have been met in accordance with the specified tolerances in the Specification.
 - Trimmed formation surface – stability and level.
 - Pipe drains – line, gradient and connection.
 - Depth of materials.
 - Firmness.
 - Surface tolerances.

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Construction tolerances under a 3 metre straight edge refer to upper surface of specified zones: -

- Formation + or – 15 mm
- Topsoil & Cricket Loam + or – 10 mm*

*Notwithstanding the above the firmed minimum depth of topsoil required is 250 mm.

S308 Waste Disposal

- 1 The Contractor shall be responsible for the correct disposal of all non-re-usable surplus material and shall include for undertaking Waste Acceptance Criteria Testing if required. Where required all waste shall be disposed of in accordance with the current Landfill Regulations for England and Wales at an appropriately licensed landfill facility. Waste shall also be disposed of with the waste management regulations in place at the time of the works.
- 2 All materials removed from site, including natural soils (e.g. Topsoil), shall be done so in accordance with the current waste regulations. The DoWCoP procedures published by CL:AIRE provides a quicker and more economical method than environmental permitting and may be used, provided that the materials to be removed are suitable for such procedures and that an appropriate materials management plan is signed off by a qualified person. The Contractor shall include in his tender his proposed method of meeting the waste regulations requirements, and copies of all correspondence relating to such matters shall be sent to the Client, so that he can be confident that these regulations are being adhered to throughout the Contract.

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NATURAL TURF CRICKET FACILITY DEVELOPMENT WORKS

S309 Vegetation Removal & Cultivation

- 1 Prior to any works being undertaken a full site services check shall be undertaken. Once this has been completed and it is clear that no services will be disturbed resulting from the works
- 2 The contractor shall make arrangements to cut and remove tall vegetation with a flail mower and remove arisings off site. The remaining vegetation shall then be sprayed off with a total non-residual herbicide strictly according to manufacturer's recommendations and all current legislation and health & safety regulations. On absolutely no account must the herbicide be allowed to drift or otherwise affect any areas beyond the designated working boundary. The remaining areas with long grass and weed vegetation shall be cut within 25mm of the topsoil and all cuttings removed off site. Following cutting the remaining vegetation shall be sprayed off with a non-residual herbicide as detailed above.
- 3 A minimum of one week following spraying the topsoil shall be cultivated using a power harrow, rotary cultivator or other approved equipment to break up the existing vegetation to a minimum depth of 150mm.

S310 Topsoil Strip

- 1 The topsoil shall be stripped from the plateau area and stockpiled at the location to be agreed on site. Following stripping the maximum height of topsoil stockpile shall be 1.5m. The Contractor shall include in his rates for haulage to and from the stockpile from the works area, and for the reinstatement or protection of ground within the stockpile footprint and associated haul routes. Soil shall be handled at low moisture content and the contractor shall maintain soil structure by minimising soil compaction and using the appropriate soil handling techniques. The depth of the topsoil strip shall be nominally **250mm** and great care shall be taken to prevent subsoil being mixed with topsoil. Any subsoil identified within the stripped topsoil shall be removed at the contractor's expense. There is no topsoil present on the cricket area and therefore stripping will not be required.

S311 Earthworks Cut and Fill

- 1 Once the existing vegetation and topsoil has been excavated and removed from works areas the subgrade profile shall be re-graded to the required subgrade design levels to give 1 in 100 fall from south to north. Filling works shall proceed using suitable site generated subsoil material. Topsoil materials shall not be used for the fill works to subsoil formation. The material type for use in filling work shall be classified in accordance with Tables 6/1 and 6/2 of Highway Agency Specification for Highway Works. Method compaction shall be adopted for filling. The method shall be in

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accordance with Table 6/4 of the Highway Agency Specification for Highway Works. As subsoil placed to within 1m of the final surface shall not be compacted and shall be considered in 200 mm thick layers with low ground pressure track machines. The subsoil to be cut and filled to formation so that on placement of topsoil and sand the finished ground levels shall be achieved as shown on the earthworks design drawing.

- 2 During the placement, consolidation of compaction of the fill material the Contractor may be required under the direction of the Designer to undertake sampling and testing as detailed below. The test locations will be directed by the Designer.

Property	Test method	Required value	
Dry density/moisture content relationship	test no. 3-5 BS 1377 Part 4 1990	maximum dry density/ optimum moisture content	
Density	Test no. 24 BS 1377 Part 5 1990	Dry Density moisture content value	

S312 Proof Rolling and Laser Grading

- 1 Following the cut and fill earthworks the subgrade shall be laser graded with an approved specialist laser controlled tractor mounted laser grading equipment.
- 2 Prior to subsoiling and the installation of pipe drainage the re-graded plateau formation shall be proof rolled by the contractor in the presence of the Designer and the location of any soft spots identified and agreed. The soft spots shall then be made good to the satisfaction of the Designer prior to subsoil de-compaction works drainage installation and topsoil placement commencing.

S313 Subsoil De-compaction

- 1 Following proof rolling, the works area shall be sub-soiled in two alternate directions at right angles with approved tine sub-soiling equipment to a minimum depth of 600mm. The contractor shall allow in his rates for picking and removing stones or other deleterious material with any one dimension greater than 100mm from the upper 300mm of the subsoil prior to topsoil replacement. Following sub-soiling the formation surface shall then be consolidated using a light roller in 'dead-weight' mode. The formation shall be trimmed to + or – 10 mm over a 3 metre straight edge to give an even grade free from humps, ruts depressions and left in accordance with the

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designed finished levels. The subsoil shall be inspected in the presence of the Designer and approved prior to the installation of drains.

S314 Topsoil Placement

1. Prior to drain installation the contractor shall place screened topsoil over the approved subsoil formation to the cricket outfield and embankments. The topsoil shall be placed to a consolidated (by tracking not rolling) nominal depth of **250mm** above the upper subsoil surface. The topsoil shall be placed in a single layer and under no circumstances shall the topsoil be trafficked by wheeled vehicles. Wheeled vehicles will deliver the topsoil by tipping in heaps around the perimeter of the pitch for spreading. The plant used to place the soil shall have a maximum bearing pressure of 30KPA, and will be a combination of LGP dozer blades and 360 backactor fitted with grading bucket. Any compacted top-soil shall be remediated at the contractor's expense. The surface produced shall be made smooth to the gradients desired i.e. free from humps, depressions and ruts and approved by the Designer. Any topsoil found to be contaminated with glass shall be removed and placed to a separate stockpile.

S315 Topsoil Replacement to Embankments

1. Prior to drain installation the contractor shall place topsoil over the subsoil to the off pitch embankments to a consolidated (by tracking not rolling) minimum depth of **250mm** above the upper subsoil surface. The soil shall be placed in a single layer and under no circumstances shall the top-soil be trafficked by wheeled vehicles. Wheeled vehicles will deliver the topsoil by tipping in heaps around the perimeter of the pitch for spreading. The plant used to place the soil shall have a maximum bearing pressure of 30KPA, and will be a combination of LGP dozer blades and 360 backactor fitted with grading bucket. Any compacted top-soil shall be remediated at the contractor's expense. The surface produced shall be made smooth to the gradients desired i.e. free from humps, depressions and ruts and approved by the Designer. Any topsoil found to be contaminated with glass shall be removed and placed to a separate stockpile.

S316 Initial Grading, Additional Cultivation & Stone Removal

1. Following cultivation the works area shall be treated with a tractor-mounted Blec stone rake and stones collected into windrows. The stone/flint windrows shall then be removed from the works area and disposed of **off site** at an appropriately licensed landfill facility. Alternatively stones shall be removed using mobile sieve equipment such as the Squire stone-picker.
2. Following stone removal the topsoil it shall be lightly cultivated to produce a surface that shall be smooth free from humps, depressions and ruts with a finished grade of ± 10 mm over a 3 metre straight edge. The surface of the

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top-soil will be inspected and approved by the Employers Agent prior to allowing the placement of sand for amelioration to proceed.

S317 Initial Sand Amelioration of Topsoil

1. Following topsoil stone removal and grading, supply and place an approved medium-fine sand free of salt and lime (to a grading as specified in Appendix 1) to form a minimum 40mm depth over the entire areas of the cricket outfield and pitches including the margins. The sand shall be spread in an approved manner and the Contractor shall note that lorries will not be allowed on the pitch area and surrounds in any circumstances nor elsewhere on other top-soiled areas of the site.
2. The sand shall be lime and salt free (less than 2000 μ S/cm) and shall have a particle size distribution within the central recommended limits of the grading curve in Appendix 1. The sand shall have a pH value in the range of 6.0 to 7.5.
3. Cultivate the sand into the upper 30mm depth of the underlying topsoil using tractor-mounted Blec Blecavator. The cultivation operation shall produce a homogenous high sand-content soil of minimum of 70mm deep. **The cultivation of the sand into the topsoil shall take place along the lines of the pipe drains and not across them.**

S318 Pipe Drainage Installation Pitches & Cricket Outfield

- 1 Following initial grading and stone/flint removal the pipe drainage system shall be installed using a laser controlled purpose-made trencher which excavates, pipe-lays and backfills in a continuous operation and will install a new piped drainage system with lateral drains at **4.0m centres over cricket outfield and margins**. All lateral and carrier drains shall have end caps and the lateral drains shall be connected with appropriate tee-junctions to 100mm and 160mm diameter carrier drains located off the playing surface. The pipe drains will then be supplemented with Koro field drains following grass establishment. Cut off drains should also be installed at the toe of the embankments adjacent to the cricket outfield. The sand used in the sand bands shall have a texture detailed in Appendix 1 and shall be salt and lime free. **The drainage shall be completed in accordance with details shown on drawings GTC001046 SK01 and GTC001046 SK02.**
- 2 Laying of pipes and backfilling of drain trenches shall not be carried out in temperatures less than those specified by the pipe manufacturer. The contractor shall familiarise himself with all existing site drainage. Drain trenches shall be cut by laser guided trenching equipment.
- 3 The 80mm + 100mm dia lateral and 160mm dia carrier drains shall be laid at a minimum invert depth of 600mm and 700mm respectively and with a uniform and constant fall (this should be no shallower than 1:300) and as

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indicated on the drainage layout drawing. Levels and pipe gradients to be accurately laser controlled. Note that drainage shall not be installed at a depth greater than 1,500mm below subsoil formation. If the above cannot be achieved, alternative drain falls and invert levels must be agreed with the Employers Agent prior to installation.

- 4 160mm dia Perforated plastic drain pipes to BS3962 shall be used for cut-off carrier drains. Perforated plastic drain pipes (80mm + 100mm diameter) to BS4969:1989 shall be used for lateral drain pipes. Twin wall 160mm dia pipes solid carrier pipes shall be used along the northern edge of the facility. All joints in the line of drains shall be made using purpose-made couplers of appropriate size. Drain trenches shall be as wide as necessary (150mm minimum for 80 + 100mm dia drains and a minimum of 200mm for the 150mm dia. pipe) at ground level to allow laying of pipes.
- 5 Excavate soil to form drain trenches to required depth and shape the trench bed to receive pipes. Lay drain pipes of specified sizes to a true line on a firm foundation. Purpose made junctions, end stops etc. shall be set into the drain lines as required. The excavated arisings shall be removed **off site or retained on site** as agreed in accordance with the main building contractor in accordance with waste management legislation in place at the time.
- 7 The contractor shall allow for connecting into the silt trap chamber and for pointing and sealing all units and pipes to ensure efficient waterproofing on completion.
- 8 The perforated lateral and carrier drain trenches shall be backfilled to the subsoil formation level using an approved (lime free) hard and durable clean 2-6mm gauge hard angular lime-free grit or stone to within 150mm of the topsoil surface. The grading of the grit shall comply with the table below. The contractor shall allow in their rates for the use of tracked dumpers for the transport and placement of grit if required. The grit shall be approved for use by the employer's agent prior to importation on to site.
- 9 Any subsoil debris located either side of the trenches shall then be carefully removed by a front shovel to leave the sub soil formation surface smooth with the lateral drain stone infill clearly visible and not contaminated by soil.
- 10 The contractor shall then place a 150mm depth of approved salt and lime-free medium fine sand (to Appendix 1 specified grading) directly above each lateral and cut-off carrier drain. The drains shall be inspected and approved by the Employer's Agent prior to allowing the placement of the sand. Any disturbance to the topsoil must be made good. Where 150mm Cut-off or Catch-water drains are required the 2-6mm grit shall be filled to the topsoil surface. The contractor shall allow in their rates for the use of tracked dumpers for the transport and placement of sand if required. Solid carrier

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pipes can be back filled with site derived subsoil and then 250mm depth of topsoil.

S319 Second Sand Amelioration

1. Following drain installation supply and place an approved medium-fine sand free of salt and lime (to a grading as specified in Appendix 1) to form a minimum 20mm depth over the entire areas of the cricket outfield and pitches including the margins. The sand shall be spread in an approved manner and the Contractor shall note that lorries will not be allowed on the pitch areas and surrounds in any circumstances nor elsewhere on other top-soiled areas of the site.
2. The sand shall be lime and salt free (less than 2000 μ S/cm) and shall have a particle size distribution within the central recommended limits of the grading curve in Appendix 1. The sand shall have a pH value in the range of 6.0 to 7.5.
3. Prior to sand spreading supply and uniformly apply with an approved distributor approved slow-release fertiliser at a rate of 70 g/m².
4. Cultivate the sand and fertiliser into the upper 20mm depth of the underlying topsoil using tractor-mounted Blec Blecavator. The cultivation operation shall produce a homogenous high sand-content soil of minimum of 40mm deep. **The cultivation of the sand into the topsoil shall take place along the lines of the pipe drains and not across them.**

S320 Silt Chambers

1. Excavate to required depth and construct silt/outlet chambers at locations shown on the drainage drawing with minimum inside measurements of 900mm x 600mm and to a depth of 300 mm below the invert of the outlet pipe. The main outlet chambers shall be 1.2m dia concrete ring chambers.
2. The silt chamber shall be set on 150 mm thick concrete (1-3-6 40 mm aggregate) bases and shall be constructed with purpose made reinforced precast concrete units to BS5911: 1981. Each unit bedded and pointed in cement mortar. The proposed silt chamber shall be approved by the Employers Agent prior to installation.
3. Allowance shall be made for building in inlet and outlet pipes and for pointing and sealing around all units and pipes to ensure efficient waterproofing. Any trench topsoil and subsoil arising to be disposed of as specified for trench arisings, where required.
4. The drain shall be formed using unperforated plastic pipe to BS 3962 or equivalent approved and shall be laid to the levels and gradients which are to be confirmed by the Employers Agent prior to installation.

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5. When excavating the drain trench the topsoil followed by the subsoil shall be removed. All ground shall be re-instated to a standard acceptable to the Employers Agent. The Contractor shall allow for breaking into any chambers and for pointing and sealing all units and pipes to ensure efficient waterproofing on completion.

S321 Seedbed Preparation

1. The Contractor is to carry out final levelling and surface finishing of all areas to the satisfaction of the Employers Agent, using a Blec rotary stone rake or other equivalent approved unit. The seedbed shall be fine, smooth and evenly firmed but not over consolidated.
2. During seedbed preparation all surplus vegetable matter, rubbish and surface stones having one dimension of 15mm or more shall be collected and removed off site to a tip provided by the Contractor.
3. After the seedbed has been approved by the Employers Agent in writing and shortly before seeding is carried out supply and uniformly apply with an approved distributor approved slow-release fertiliser at a rate of 35 g/m².

S322 Seeding Cricket Outfield & Pitches

1. Provide a seed mixture composed by weight of:

100% perennial : Ryegrass	Approved Johnston seed for sowing at a rate of 55g/m ² . Note: Alternatives to the cultivars will only be approved before the tender is submitted.
	The seeds mixture shall comply with the minimum standards set out in the relevant Seed Regulations.
2. Supply a proprietary seed mixture composed of hard wearing, certified seed of perennial ryegrass cultivars with a mean rating of not less than 6.5 for live ground cover and visual merit as published in Table S1 of the current Turfgrass Seed Booklet published by STRI/BSBP.
3. The seeds mixture shall comply with the minimum standards set out in the Seed Regulations at the time of sowing and shall be to the Agents satisfaction to achieve the required grow-in. Sow the grass seed in suitable ground and weather conditions. The seed shall be split into equal proportions and sown evenly working in three directions to provide a total rate of sowing of 500 kg/ha. The seed shall be sown with an approved distributor such as a self-propelled dimple or slot seeder to an agreed depth

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or an alternative approved machine. It will be the Contractor's responsibility to ensure suitable density is achieved at establishment.

- 4 The Contractor will ensure that the pitch is adequately watered for germination and the initial establishment of the grass. Similarly the Contractor will ensure the irrigation is fully operational for each pitch they are going seed prior to seeding the pitch. The Contractor shall allow for any additional seeding necessary within the initial establishment period to achieve the sward density and standard of establishment for handover. The contractor shall allow for the use of at least 1 evergreen germination sheets for a period of 10-14 days to cover the pitches and speed up germination. The cover will be rotated between pitches as necessary. It will be the contractor's responsibility to protect against or repair washout experienced during heavy rainfall.

S323 Reinstatement

1. The Contractor shall allow for reinstating any haulage routes and storage areas on site or other areas damaged during the Works to their original condition.
2. On completion of all works the site shall be cleared of all debris, arisings and other surplus materials, leaving it clean and tidy.

S324 Koro Top Drain Installation

1. Following grass establishment secondary drains shall be installed across the line of play. These will be installed using a Koro Top drain or similar approved machine and shall connect the grit in the pipe drains. The Koro Top drains shall be 40 mm wide, 500 mm spacing and at least 200 mm deep. A clean connection and gravel displacement into the arisings must be demonstrated. The Koro Top drains shall be in-filled with medium, coarse sand with a grading curve which lies within the central recommended portion of the diagram at Appendix 1. Where settlement occurs prior to completion of the Works, the Contractor shall top up the slits and it will be the contractor's responsibility to ensure drain infill material is suitably compact.

S325 Topping up Pipe & Koro Drains

- 1 The contractor shall allow for returning to site two months after completing the drainage works to top up all the drain lines which have settled. The topping up shall be undertaken with an approved high sand content rootzone material. Where necessary additional grass seed shall be sown.
- 2 The contractor shall allow for returning a second time six months after completion of the drainage works to top up the drain lines which have settled using the same rootzone as initially used to top up the drains. Where

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necessary additional grass seed shall be sown as described above. At handover the surface of all drain lines shall be flush with the adjacent topsoil surface. The contractor shall allow in his rates to ensure that all drain lines are adequately topped up to ensure this.

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S400 – OUTLINE MAINTENANCE CRICKET OUTFIELD & WINTER GAMES PITCHES

S401 General

1. The turf maintenance and establishment period shall be for 12 months following seeding. It shall be the Contractor's responsibility to ensure they are suitably equipped and resourced to provide the required standards. The appointed Contractor shall have to undertake the required irrigation of the pitches during the grass establishment periods stated to ensure that the required standards are met. .
2. At the end of the periods the grass sward shall be growing vigorously with a good uniform colour and no areas of bare ground. The sward shall be substantially free of broad-leaved weeds with a minimum live ground cover of 85% of the specified grass species when measured with the sward cut at a height of 30 mm.
3. During the initial maintenance and establishment period the Contractor shall allow for all operations (including irrigation) necessary to promote the rapid establishment, root development and vigour of the turf in accordance with the requirements outlined below.
4. All personnel undertaking maintenance work on the turf areas shall be experienced and skilled in the maintenance of natural sports turf surfaces.
5. All tractors and equipment shall be of appropriate size and shall be fitted with low ground-pressure turf tyres to avoid creating ruts or wheel marks in the surface.
6. Maintenance operations shall take account of the prevailing soil and weather conditions and the timing of the works to ensure that delays in grass establishment are kept to a minimum and the specified standards are achieved.
7. The Contractor shall remain responsible for the rectification of any defects throughout the specified Defects Correction Period after completion of the initial turf maintenance and establishment period.

S402 Stone Removal

1. Any stones with any dimension greater than 16mm exposed during the maintenance period shall be removed by raking and hand picking prior to rolling.

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S403 Equipment and Staffing

1. The following equipment will be used to maintain the pitches and outfield during the 12 month maintenance period.
 - 1 rotary LGP ride-on mower with 1.5 metre cut and grass collection ability
 - Honda rotary mowers
 - 1 strimmer
 - 1 40 hp tractor with LGP turf tyres
 - 1 vertidrain
 - 1 trailer
 - 1 ride-on cylinder mower (Tri King or similar)
 - 1 dimple overseeder
 - 1 fertiliser spreader
 - 1 sprayer
2. At the end of the grow-in periods the grass sward shall be growing vigorously with a good uniform colour and no areas of bare ground. The sward shall be substantially free of broad-leaved weeds with a minimum live ground cover of 90% of the specified grass species when measured with the sward cut at a height of 35 mm.
3. During the initial maintenance and establishment period the Contractor shall allow for all operations necessary to promote the rapid establishment, root development and vigour of the turf in accordance with the requirements outlined below.
4. All personnel undertaking maintenance work on the turf area shall be experienced and skilled in the maintenance of natural sports turf surfaces.

S404 Rolling

1. The contractor will allow for rolling with a smooth flat roller to be carried on as required when 50-70% germination has occurred on the pitches, pressing in the partially germinated seed. Rolling shall only be carried out when the surface is sufficiently dry taking care to avoid creating ridges or ruts.

S405 Mowing

1. The grass shall be cut when it has reached a height of 40-50 mm using a well-sharpened rotary mower removing no more than 25 mm of the leaf blade. Grass clippings shall be allowed to fly providing they are well dispersed. Accumulated clippings shall be removed immediately following mowing to prevent smother.

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S406 Additional Mowing

1. The grass shall be maintained at a height of 30-40mm during the initial growing periods and through to handover. The number of cuts required to the pitches and surrounds during the 12 month maintenance period shall be 40. Accumulated clippings shall be removed immediately following mowing to prevent smothering of the grass.
2. After the first 2-3 mows the Contractor will commence mowing with a cylinder mower and collect clippings.

S407 Fertiliser

1. Supply and evenly spread fertiliser in accordance with the following provisional details. Alternative products may be applied subject to prior approval of the Employer's Agent. The Contractor should note that the application rates may be varied subject to grass growth, condition and the prevailing weather conditions.

Timing of each of the fertiliser applications shall be the responsibility of the contractor. As a minimum the following applications shall be made using a high quality amenity fertiliser.

- 10:15:10 (N:P:K) at a rate of 35 gm/².
- 3:12:12 (N:P:K) at a rate of 35 gm/².
- 20:10:10 (N:P:K)at a rate of 35 g/m².
- 10:15:10 (N:P:K)at a rate of 35 gm/².

S408 Selective Herbicide & Fungicide

1. The Contractor shall allow for the supply and application of a broad spectrum selective herbicide, it will the Contractor's responsibility to control weed content prior to handover. The herbicide shall be applied strictly in accordance with the manufacturer's instructions, COSHH regulations and all relevant legislation. The contractor shall allow to supply and apply fungicide as required. The fungicide and herbicide shall be applied strictly in accordance with the manufacturer's instructions, COSHH regulations and all relevant legislation.

S409 Verti-Draining

1. On two occasions when the soil profile is dry relieve soil compaction using a 2.5 m wide "Sportsground" Verti-drain or an equivalent approved machine equipped with 25mm diameter solid tines.

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2. The machine shall be set up to achieve the optimum soil heave for the prevailing soil conditions. The depth of penetration of the tines shall be specified by the Employers Agent, up to a maximum of 150mm.

S410 Top-dressing

- 1 On two separate occasions supply and apply 5mm depth of approved sports turf medium fine sand per pitch. The sand shall be applied evenly with a specialist sand top-dresser and thoroughly brushed into the sward to form an even depth. The sand shall not be channel-dredged and shall be lime free with a pH value between 5.5 and 7.5.

S411 Over-seeding

- 1 The Contractor shall allow for over-seeding with the approved seeds mixture at a rate of 250 kg/ha. The seed shall be sown evenly using an approved disc over-seeder with 3 passes in different directions.

S412 Temporary Irrigation

- 1 Between the months of April and September during the 12 months grass establishment and maintenance period the contractor supply, maintain and operate temporary hose reel irrigation equipment. The irrigation system shall be designed and supplied to maintain the soil moisture content at no lower than 20% to a depth of 150mm during the grass establishment period. The pitches shall not be over watered and the soil moisture content should ideally be maintained between 20 and 30%. Regular irrigation of the pitch will be required for at least the four weeks following seeding. The equipment used shall not cause damage to the pitch surface and seedlings and shall be modified if required.

S413 Performance Quality Standards at Handover

Turf density

1. The client will take over the maintenance of each pitch and surrounds 12 months following seeding and once 85% grass plant density has been achieved. If the pitches have not achieved the standards detailed below after twelve months then the contractor shall carry on maintaining the pitches while in use and at their own cost until the required grass density has been achieved.
2. It will be the contractor's responsibility to rectify, during the grow-in process, any areas which are not achieving the required turf density criteria.

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Mowing heights

At the point of handover the Contractor will have reduced mowing heights to 28mm in height and be using a cylinder mower and collecting clippings.

Weed Content

The Contractor will ensure prior to handover pitches are weed free and that any existing weeds have been hand pulled or effectively treated using a selective herbicide.

Disease Scars

It will be the Contractor's responsibility to ensure no disease scars are evident at the point of handover to the client. Any disease emerging at this point should be treated by the Contractor.

Traction

Traction will be measured on each pitch at six locations using Sole plated traction meter with 4 no 14mm studs and weighted to 40Kg, to STRI testing methodology and should attain between 35-50Nm readings.

Surface Hardness

At the point of handover pitches will be measured on a 20.0m grid using a 2.25Kg flat head Clegg hammer weight. Results (in gravities) should be between 65-90g.

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S500 CRICKET SQUARE CONSTRUCTION & MAINTENANCE

S501 Formation Grading Trimming

1. Following completion of the earthworks the exposed formation shall be laser graded to achieve a uniform slope in accordance with the design drawings.
2. Following grading of the subsoil the formation shall be compacted in accordance with Table 6/4 Method 6 of the Highways Agency Specification for Highway Works. The method of compaction, type of compaction plant to be used and the number of passes shall be approved by the Contract manager.
3. Following compaction the subsoil formation shall be trimmed to produce a smooth uniform surface free from ruts, humps and depressions. With a tolerance of +/-10mm over a three metre straight edge.

S502 Importation and Placement Of Cricket Loam

1. Following grading of the formation a separator geotextile (terram 1000 or similar approved, shall be laid over the formation with 300mm overlap. Following this import place and compact 120mm depth of MOT Type 3 stone. With a tolerance of +/-8mm over a three metre straight edge.
2. Sufficient quantities of the approved heavy loam topsoil shall be supplied to provide a final firmed depth of 250 mm compacted depth over the area of the square. The Loam shall be Surrey loam or similar approved suitable for the purposes of cricket screened down to 4mm, i.e. containing between 28-33% clay particles, organic content of 3-6%, Soil binding (motty strength) of 60 kg or more and substantially free from stone i.e. no more than 5% above 8mm. All cricket loam samples should be sent to the GEO Turf Consulting Ltd for approval.
3. The imported loam shall be spread in five separate layers the first being put on evenly to a depth of 30 mm and then lightly cultivated by approved means into the underlying 25 mm of the indigenous topsoil. The second layer shall then be spread to a uniform firmed thickness of 50 mm over the area of the squares. The third layer shall then be spread to a uniform firmed thickness of 50 mm over the area of the square. The fourth layer shall then be spread to a uniform firmed thickness of 50 mm over the area of the square. The fifth layer shall then be spread to a uniform firmed thickness of 50 mm over the area of the square.
4. Thoroughly firm each layer by and approved method and raking before adding the next. Small mechanical dumpers and/or wheelbarrows shall be

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used to transport the material and disturbance of the formation layer shall be avoided by running the vehicles over planks or suitable protective sheets.

- 5 The square shall be constructed so that the finished levels shall be 30 mm higher than that of the surrounding outfield. The contractor should allow in his rates for and earthworks required to the footprint of the squares so that the desired levels may be achieved. The squares and the surround shall be smoothly married in to each other. The surface evenness shall be graded to a precise level with a tolerance of no more than 5 mm deviation under a 3.0m straight edge. The final average bulk density of the loam shall be 1.65 M gm⁻³ throughout the top 75mm once the square is established.
6. The use of laser-guided blade grader in combination with a notched roller mounted to a compact tractor will be permitted, provided that prevailing ground conditions are sufficiently dry. The Contractor must ensure this item is carefully carried out and that the edges of the squares are married in with surrounding ground levels. Once spread the surface shall be trimmed and firmed to produce a smooth uniform surface free from ruts, humps and depressions corresponding with the overall gradient on the outfield areas. Rake up all surface stones having one dimension of 12mm or more and dispose of as specified for the other turf works detailed previously. Rake up all surface stones having one dimension of 12 mm or more and dispose of as directed on site.

S503 Cultivation, Fertiliser Application and Sowing to Square and Surrounds

- 1 Following installation of the outfield drainage system adjacent to the square, supply and evenly apply a pre-seeding granular fertilizer with an analysis of 6:9:6 or similar approved at a rate of 70 g/m² and lightly rake into the immediate surface.
- 2 Provide approved Johnston cricket square grass seed for sowing at the rate of 350 kg per ha. Note: Alternatives to the cultivars listed will only be approved before the Tender is submitted. All seeds mixtures shall comply with the minimum standards set out in the Seed Regulations at the time of sowing.
- 3 Seeding shall be carried out during suitable weather conditions. The total quantity of seed shall be divided in half, each half being sown evenly in transverse directions by broadcasting and then lightly raked in.

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S504 Cricket Square Grass Establishment

1. The Contractor shall be responsible for maintaining the cricket square until it is in a fully established, weed free and manageable condition which can then be transferred to the client. It is anticipated that the maintenance period will be 1- 2 months in duration.
2. When the young grass is about 25 mm in height, lift and remove off site to tip provided by Contractor all surface stones having one dimension of 12 mm or more.
3. Following stone removal, carefully roll under suitable conditions using a 250 kg hand roller.
4. When the grass is no more than 60 mm in height carry out mowing using an approved mower which will box off the clippings. No more than 25 mm of grass foliage shall be removed.
5. Undertake mowing on four further occasions with the mower blades set at 35 mm never allowing the grass to grow taller than 50 mm before repeating.
6. During the remainder of the growing season the grass cover shall be gradually reduced in 3-5 mm intervals until a routine mowing level of 15 mm is achieved. The table shall then be cut on a weekly basis (or more frequently if grass growth demands) using a pedestrian cylinder mower, boxing off the clippings on each occasion. The grass shall not be allowed to grow taller than 20 mm between each cut.
7. Supply and evenly apply at 35 g/m² a granular fertilizer with an analysis of 12:6:6 as instructed by the Designer. The fertilizer shall be applied during a period when rainfall can be expected in the following 24 hour period.
8. Appropriate selective weed control measures shall be undertaken during good growing conditions, if weed infestation is deemed to be significant and as instructed by the Designer. An approved herbicide shall be applied appropriate to the weeds present strictly in accordance with the manufacturer's rates and recommendations.

S505 Cricket Square Maintenance

1. The Contractor shall be responsible for maintaining the cricket square until it is in a fully established, weed free and manageable condition which can then be transferred to the client. It is anticipated that the maintenance period will be 12 months in duration.

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2. When the young grass is about 25 mm in height, lift and remove off site to tip provided by Contractor all surface stones having one dimension of 12 mm or more.
3. Following stone removal, carefully roll under suitable conditions using a 250 kg hand roller.
4. When the grass is no more than 60 mm in height carry out mowing using an approved mower which will box off the clippings. No more than 25 mm of grass foliage shall be removed.
5. Undertake mowing on four further occasions with the mower blades set at 35 mm never allowing the grass to grow taller than 50 mm before repeating.
6. During the remainder of the growing season the grass cover shall be gradually reduced in 3-5 mm intervals until a routine mowing level of 15 mm is achieved. The table shall then be cut on a weekly basis (or more frequently if grass growth demands) using a pedestrian cylinder mower, boxing off the clippings on each occasion. The grass shall not be allowed to grow taller than 20 mm between each cut.

Fertilisers

- 1 Supply and evenly spread fertiliser, in accordance with the following provisional details.
- 2 Alternative products may be applied subject to prior approval of the designer. The Contractor should note that the application rates may be varied subject to grass growth, condition and the prevailing weather conditions.
- 3 Timing of each of the fertiliser applications shall be agreed with the designer prior to application.
 - b) fertiliser with analysis 10:15:10 at a rate of 25 g/m².
 - c) fertiliser with analysis 3:12:12 at a rate of 35 g/m².
 - d) fertiliser with analysis 3:0:3 + 1% Mg + 4% Fe at a rate of 35 g/m².
 - e) fertiliser with analysis 20:10:10 at a rate of 25 g/m².

The application of liquid fertilisers may also be required especially during the early grow in period.

Square Selective Herbicide and Fungicide

1. The Contractor shall allow for the supply and application of both a broad

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spectrum selective herbicide and a fungicide as directed by the Contract Manager

2. The herbicide shall be applied strictly in accordance with the manufacturer's instructions, COSHH regulations and all relevant legislation.
3. The fungicide shall be applied strictly in accordance with the manufacturer's instructions, COSHH regulations and all relevant legislation.
4. Appropriate selective weed control measures shall be undertaken during good growing conditions, if weed infestation is deemed to be significant and as instructed by the Contract manager. An approved herbicide shall be applied appropriate to the weeds present strictly in accordance with the manufacturer's rates and recommendations.

Square Topdressing

- 1 If required the square shall be top-dressed with the same loam as originally used to construct it.

S507 Cricket Square Performance Standards

- 1 Prior to handover to the client the cricket square shall meet with the requirement of the following Performance Quality Standards.

Cricket Square - Structural Quality

Performance Standard	IOG Method of Test	Quality Standard
A Herbage		
i) Length of herbage: growing season non-growing season	1	6 mm – 10 mm 8 mm – 13 mm
ii) Bare area. total area diameter of any individual bare area	3 3	≤ 10 % ≤ 25 mm
iii) Total ground cover	3	≥ 90%
iv) Desirable grass species	3	≥ 90%
v) Poa annua	3	≤ 10%
vi) Other undesirable grass species	3	Nil
vii) Weeds - Large-leaved	3	Nil

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SPECIFICATION FOR NATURAL WINTER GAMES PITCHES & CRICKET FACILITIES

viii) Weeds - Small-leaved	3	Nil
ix) Moss	3	Nil
x) Algae and Lichen	3	Nil
B Pests & Diseases		
i) Diseases	3	Nil
ii) Earthworms	3	Nil
iii) Pests	3	Nil
C Profile		
i) Root depth	4	$\geq 100 \text{ mm}$
ii) Thatch depth	4	Nil
vi) Evenness: 2 m straight edge 0.5 m straight edge	2	$\pm 4 \text{ mm}$ $\pm 3 \text{ mm}$
vii) Hydraulic conductivity: (autumn-winter period)		$\geq 2 \text{ mm h}^{-1}$
viii) Soil pH	15	5.5 - 7.0
ix) Soil nutrient level: P ₂ O ₅	11	Index 2
x) Soil nutrient level: K ₂ O	12	Index 2
xi) Organic matter	19	2% - 6%

Cricket Squares - Presentational Quality

Performance Standard	Method of Test	Quality Standard
i) Appearance	Visual	Min. 90% uniform texture
ii) Surface debris	Visual	Nil
iii) Sward colour	Visual	90% uniform

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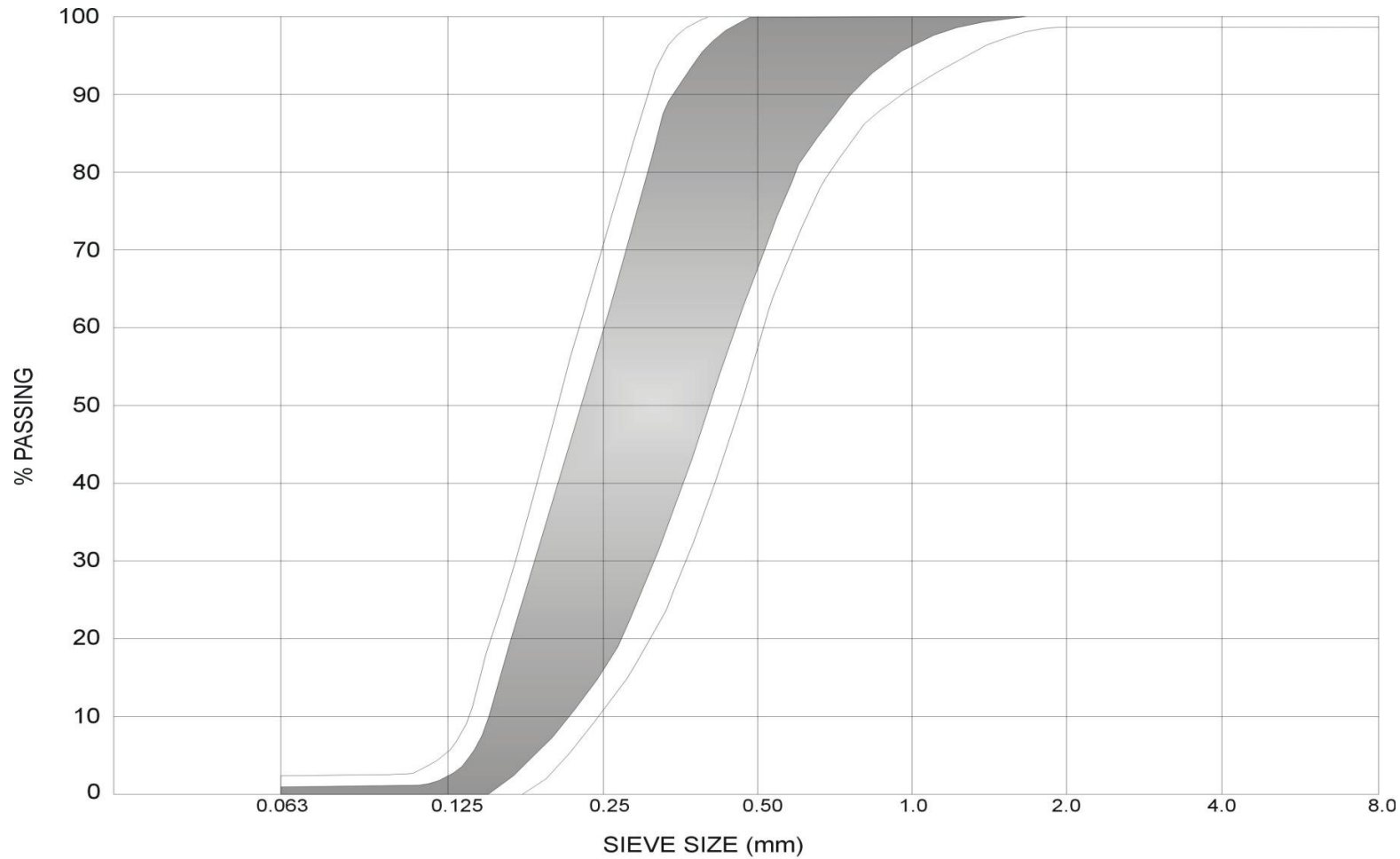
**SPECIFICATION FOR NATURAL WINTER GAMES PITCHES & CRICKET
FACILITIES**

SPECIFICATION

APPENDIX 1

**KORO TOP DRAIN, TOPDRESSING & AMELIORATION
SAND GRADING CURVE**

SPECIFICATION FOR NATURAL WINTER GAMES PITCHES & CRICKET FACILITIES



Grading curve defining recommended and acceptable limits of sand size for soil modification and top dressing of winter games pitches.

SAND GRADING CURVE

