IAAF TECHNICAL COMMITTEE

STADIA CONSTRUCTION PROJECTS

Introduction

The purpose of this paper is to set out some of the issues that federations and stadium owners should consider when developing a new stadium.

Budget

An adequate budget must be determined before initiating the project taking account of investigation, testing and survey costs, consultants' fees, stadium equipment costs as well as the actual construction costs.

Brief

The client should develop a detailed Design Brief from which an order of cost estimate can be prepared by a cost planner or engineer to test whether the initial budget is adequate.

Project Implementation

There are many different ways in which a stadium can be developed each with advantages and disadvantages.

The more usual project delivery mechanisms are:

- Traditional where the client engages a consultant, usually a civil engineer, to undertake full design and construction supervision or if the client has engineering expertise and appropriate experience this could be done in-house. The consultant would prepare detailed drawings and specifications to enable competitive tenders to be called from experienced contractors preferably pre-qualified.
- Design and construction where usually a head civil engineering contractor engages a design consultant to undertake the documentation

and the contractor constructs the facility. The client would be well advised to have a separate consultant oversight the contract and supervise construction.

- Construction management where a prime consultant engages the design consultant and the various construction trades, and supervises the construction on behalf of the client.

It is essential that the consultants engaged have had experience in the design of athletics facilities and this should be one of the more important selection criteria. If there is not such experience in country then an international consultant should be engaged. The IAAF can provide a list of consultants who have such experience.

Synthetic Surfacing

Quite frequently the civil engineering for the track and the track surfacing are undertaken by separate contractors employed by the client as this allows greater control over the selection of the synthetic surfacing contractor in a competitive situation. However, this often results in disputes between the two parties about the quality of the bitumen surface over which the synthetic surface is laid.

It is possible to maintain control of the synthetic surfacing by pre-qualifying synthetic surfacing contractors and nominating several acceptable surfacing contractors in the tender documents. Usually the surfacing contractors should tender on laying a synthetic surface product that has an IAAF certificate.

The tenderers for the main contract then select the surfacing contractor that not only gives them a competitive price but also is able to work under the main contractor. The selected main contractor then takes total responsibility for the quality of all the work including the synthetic surfacing.

The tolerances required on the longitudinal and lateral grades of the synthetic surfacing are very tight. It will only be possible to meet these tolerances if the road-type construction underneath also meets tight tolerances that are equal or tighter than that required for the best highway construction in developed countries.

Testing

To ensure that the base construction design of the track is adequate a geotechnical investigation of the site should be undertaken. Refer to page 144 of the IAAF Track and Field Facilities Manual 2003 edition.

Quality control of surfacing should be ensured by casting samples of the material being poured or cutting a sample of prefabricated material from the roll at the rate of one sample for every 1000 square metres of surfacing. These samples are tested by an IAAF approved laboratory to ensure that the material as laid complies with the IAAF Performance Standards.

The thickness of the surfacing, surface flatness, colour and drainage of the finished track should be checked as per Chapter 3.1 of the Manual.

An independent surveyor and not the track marker should certify all the track markings and their measurements. The IAAF has a track measurement proforma that can be used for the surveyor's measurement report.

It is best if a consultant or the client and not the contractor arrange the testing of quality control samples and the track survey so as to maintain complete independence.

Conclusion

Any further information can be obtained from the IAAF Competition Department, BP 359 - MC98007 Monaco Cedex, Facsimile (377) 93 15 95 15 or from the writer, Facsimile (61) 2 6288 7595, Email: <dwilson@webone.com.au>.

Denis Wilson
Chairman Stadia Working Group
IAAF Technical Committee

Reissued September 2003