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**SECTION 3**  
**THE ROLE OF THE PROJECT MANAGER**

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## Project Control Manual

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### 3. THE ROLE OF THE PROJECT MANAGER

#### 3.1 GENERAL

The Project Managers are basically an extension of the Client's organisation. As such, the interest and priorities of the Project Manager are identical with those of the Client in relation to the successful completion of the project. The functions of the Project Manager and the Architect, insofar as their relationship with each other and the Client is concerned, are defined as follows:

- The Project Manager shall be responsible for and Primary Agent of the administration, management, and communication co-ordination of the project.
- The Architect shall be responsible for and Primary Agent of the design function, technical co-ordination and quality control of the project.
- The responsibilities of the Project Manager are threefold:
  - To monitor and control progress and scheduling;
  - To monitor the control of costs on all contracts;
  - To co-ordinate the efforts of all the Consultants, Contractors and Suppliers associated with the project.

## **Project Control Manual**

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The Project Manager will adopt an impartial and multi-disciplinary approach in the handling of the project. The Project Manager will display a globular interest in the total project, encompassing the Design Team, Construction Personnel and Client. It is not intended that the Project Manager displace any member of the Design Team. The Project Manager's primary concern is with the management and administration of the project rather than the technical design of the project.

### **3.2 EXPEDITING**

The Project Manager will assist in the expediting of the project as a whole, including design progress, progress on site, deliveries of the long lead or critical equipment, appointment of Selected Sub-Contractors and Direct Contractors. This service will not reduce the contractual responsibilities of the various parties in the fulfilment of their respective obligations.

### **3.3 QUALITY CONTROL**

Quality Control will be exercised by the representative members of the Professional Team. The Project Managers will ensure that defects lists are drawn up by the individual members of the Design Team at the appropriate times during construction and that the necessary rectification by the Contractor is carried out as expeditiously as possible.

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**SECTION 4**  
**COMMUNICATIONS ORGANIGRAMS**

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## **4. COMMUNICATIONS ORGANOGRAMS**

PROJECT COMMUNICATIONS ORGANOGRAM  
DESIGN DEVELOPMENT PHASE



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**SECTION 5**  
**PROJECT CONTROL MEETINGS**

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## **5. PROJECT CONTROL MEETINGS**

### **5.1 MANAGEMENT MEETINGS**

#### **5.1.1 Concept Meetings**

Concept presentations will be scheduled in accordance with the Documentation Programme Milestones.

At these meetings the Architects will present proposed concepts for the various sections of the project. At the first Presentation Meeting, the concept will be presented and this will be followed by the presentation of the detail drawings, peg boards of proposed finishes and samples where applicable. All presentations are to be accompanied by Cost Estimates prepared by the Quantity Surveyors. All Concept Meetings will be chaired by the Project Manager.

These meetings should be attended by the following representatives:

- Client
- Architect
- Leasing Agent
- Quantity Surveyors
- Project Managers

Other members of either the Client or Professional Team bodies will be invited as and when required.

## Project Control Manual

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Prior to any presentation being made at Concept Meetings, these drawings are to be distributed amongst all members of the Professional Team for their comment and input and such comment and input is to be immediately returned to the Project Managers and Quantity Surveyors so that upon presentation, the Client can be fully briefed of all the implications of the concept being presented.

### 5.1.2 Budget Meetings

Budget Meetings will be held on a monthly basis and will be chaired and minuted by the Project Managers.

Budget Meetings should be attended by the following representatives:

- Quantity Surveyor
- Project Manager
- Architect

Other parties will be invited to attend Budget Meetings as and when deemed necessary. Budget Meetings will be held at the offices of the Project Manager.

## Project Control Manual

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Cost reports presented at Budget Meetings must include:-

- Variance from previous report suitably categorised with detail explanation as to the reasons for such movement.
- Current budget comparison with base budget with a full list of approved variations explaining the movement in the Budget from base to current.
- Tender reconciliation reports which identify all tenders awarded and/or received since the last cost report and comparing these against the budget allowance.
- Updating of committed and uncommitted expenditure which will provide the Client with an idea as to the risk relating to the extent of work which has not yet been tendered. Our committed expenditure being all expenditure for which the client has not incurred a contractual liability.
- Updated cash flow
- A comprehensive list of “items for Consideration” to be contemplated by the Client together with associated costs.

### 5.1.3 Management Meetings

Management meetings will be attended by the Project Manager and Client. The purpose of these meetings will be to appraise the Client of overall progress of the project. At these meetings the Project Manager will table a Management Report which will include:-

- Design Progress Report
- Update Documentation Programme
- Letting Status Report
- Construction Progress Report
- Identification of Pending Claims
- Identification of Problems
- List of Client Decisions required

## Project Control Manual

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- Drawings
- Professionals
- Budget Report

### **5.1.4 Site Progress and Status Inspections**

These meetings will be held at times and intervals as decided upon by the Project Manager in consultation with the Client. The purpose of these meetings will be to keep the Client informed as to the Status and Progress of Construction, as well as inspecting work already completed and highlighting on-site problems requiring input from the Client body.

These meetings should be attended by the following representatives:

- Client
- Architect
- Project Manager
- Consultants as required

## **5.2 CONSULTANTS MEETINGS**

### **5.2.1 Planning Meetings**

Planning Meetings will be held on a fortnightly basis and will be chaired and minuted by the Project Managers. The main purpose of these meetings will be to monitor the progress of the production of Construction Documentation against the pre-agreed documentation tender procurement programmes. This meeting will also be the forum for the Consultants together with any aspects that require co-ordination and any therefore be the subject of discussion at the Co-ordination Meetings.

## **Project Control Manual**

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### **5.2.2 Design Co-ordination Meetings**

Regular design Co-ordination Meetings will be to resolve design interfaces between the various Consultants and resolve queries raised at Planning Meetings. The Architect will prepare and distribute an Agenda prior to Design Co-ordination Meetings so that all parties prepared with all necessary documentation.

### **5.2.3 Leasing Meetings**

A fortnightly leasing meeting to be held for the Letting Agent to report back on leasing progress. The meeting will be attended by the Letting Agent, Project Manager and Architect. The Letting Agent will table a written report in schedule form of letting status. This report to be updated by the Letting Agent to include for decisions of the meeting.

## **5.3 CONTRACTOR/SITE MEETINGS**

### **5.3.1 Query Meetings**

Normally a substantial part of the site meetings would resolve around the Contractor raising various queries which the various members of the professional team then debate and endeavour to answer. Query Meetings will therefore be introduced in order to alleviate this. Each member of the professional team will have a scheduled time slot during which any queries which the Contractor may have pertaining to their particular discipline will be discussed.

In order for these meetings to be effective the Contractor will be required to submit to the various members of the professional team a schedule of queries which he proposes tabling at the query meeting at least 24 hours prior to the meeting taking place. This will enable the professional team to resolve most of the issues ahead of the meeting thereby adding to the efficiency of the overall process. By creating a separate forum at which to discuss and resolve queries there will no longer be a requirement for these to be discussed at a general all embracing site meeting.

## Project Control Manual

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Query Meetings will be held at the site office of the Contractor. Query Meetings will generally be held on a weekly basis and will be chaired and minuted by the Project Manager.

### 5.3.2 Programme Meetings

Once the contract programme has been agreed the Project Manager and Contractor will meet on a regular basis (normally fortnightly) to review the progress being made on site relative to programme. Any deviation from the original analysed, the reason for the diversion recorded and agreed and where necessary remedial measures to make up any delays agreed upon. These programme update meetings should normally precede the formal site meetings at which the status of the programme will be tabled and since this will already have been agreed between the Contractor and the Project Manager no further debate ought to pursue.

### 5.3.3 Claims Meetings

One of the fundamental reasons for relationships breaking down between Contractor and the professional team is very often the fact that problems relating to potential claims are not addressed and resolved at the time that they arise. In order to circumvent this problem the Project Manager will arrange monthly claims assessment meetings with the Contractor. These meetings should also be attended by the Quantity Surveyor. At these meetings the Contractor should be requested to table any claims which he may have on the project so that these may be reviewed by the Project Manager and assessed in terms of the contract. By pursuing this avenue the Contractor will be placed under pressure to identify any claims at the time that they occur and these can then best be resolved whilst the situation is fresh in everyone's mind.

## Project Control Manual

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### 5.3.4 Quality Inspections

Although it is clearly the Contractor's responsibility to produce a building that complies with specification, it is in the interest of the project as a whole that the various consultants, on a regular basis, review the product being produced by the Contractor and comment on the quality aspects thereof.

Each Consultant will be required to review those aspects of the contract works which fall under their jurisdiction in terms of quality and provide a regular formal report which can be tabled to the Contractor for action. Progress of remedial work can thereafter be monitored by the Project Manager to ensure that any quality problems that have been raised are timeously addressed by the Contractor.

The Quality Report to be in a written form at the quality meetings. The site instruction book should only be used for instructions relating to specific requirements on remedial action not on general quality comments.

### 5.3.5 Site Meetings

Having dealt with the majority of items which normally get discussed in the formal site meetings, these meetings now become a mere formality whereby the various aspects dealt with in the other meetings noted previously are consolidated and other aspects of contractual administration attended to as necessary. These meetings will be held fortnightly and chaired and minuted by the Project Manager and should be attended by the Contractor, Architect and Quantity Surveyor. It should not be necessary for other parties to attend these meetings although should they so wish they would not be precluded from attending same.

The Quantity Report is to be in a written form tabled at the quality meetings. The site instruction book should only be used for instructions relating to specific requirements on remedial action not on general quality comments.

The Quantity Surveyor to prepare a list of sub trades to be included in the main contract and a separate list of direct contracts. Based on this list the project team to agree on trades to be prequalified. List of prospective invitees to prequalify to be agreed by project's team and main contractor when appropriate.

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**SECTION 6**  
**PROCEDURES FOR TENDERS, ADJUDICATION AND**  
**CONTRACTOR APPOINTMENTS**

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## **6. PROCEDURES FOR TENDER, ADJUDICATION AND CONTRACTOR APPOINTMENTS**

### **6.1 PRE-QUALIFICATION OF TENDERERS**

The tender list for the Principal Contract and where appropriate specialist sub-contractors will be established by way of a pre-qualification process. The Pre-qualification Enquiry will include a review of :-

- Resources available
- Proposed personnel for the project including organogram
- Record of “Fast Track” Construction on previous similar projects
- Current workload
- Company Curriculum Vitae
- Proposed Staff Curriculum Vitae
- Appropriate References

The Pre-qualification Enquiry will also request the applicants to provide the following information:-

- Acceptance of or comments on the proposed terms and conditions of the contract
- Comments as to any restrictions which may have a significant impact on time and or cost.

For the Principal Contract Pre-qualification to be as effective as possible, each applicant should have the proposed project presented to them when the enquiry document is issued to them.

The Quantity Surveyor to prepare a list of sub trades to be included in the main contract and a separate list of direct contracts. Based on this list the project team to agree on trades to be pre-qualified. List of prospective invitees to pre-qualify to be agreed by project team and main contractor when appropriate.

## Project Control Manual

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### 6.2 TENDER PROCEDURES

It will be highlighted in the documentation programme as to when the various Contractors are to be invited to tender and the following parameters and procedures should be complied with:

- The Conditions of Contract and General Preliminaries as prepared by the Quantity in consultation with the Project Manager will be used for all Contracts and Sub-Contracts.
- All restrictions that are applicable to the contract must be clearly described. These restrictions would include aspects such as:-
  - Phased Access
  - Information Flow Assumptions
  - Phase Completion Requirements.
  - Technical Constrains
- Technical specifications are to be submitted by the relevant consultant to the Quantity Surveyor.
- All tender documents must be submitted to the Project Managers for perusal and appraisal before published for tender purposes.
- All tender documents will be issued from the Quantity Surveyors offices and returned to the same offices on closing of the tenders. This, however, may be altered by agreement dependant upon the distance from the site.
- Tenders to be returned to the Quantity Surveyors offices in Harare or Johannesburg. Tender opening will not be public and Quantity Surveyor and Project Manager to be in attendance.

## Project Control Manual

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- All queries on tender documentation by the various Contractors are to be confirmed to the querying Contractor and the balance of the Contractors in the form of a written Addendum, in order to ensure that all tenders are based on an equal “Apples with Apples” basis.
- If the Contractor’s tender pertains to building aspects, the Quantity Surveyors will be required to undertake a formal adjudication of the tenders, taking into account all financial aspects and submit such adjudication to the Project Managers.
- If these tenders represent work to be done under the supervision of one of the relevant Consultants, the relevant Consultant will be required to submit a detailed adjudication and recommendation in writing to the Quantity Surveyors and Project Managers.

The adjudication will be co-ordinated by the Project Managers who will arrange a Client meeting with the Development Consultant in order to present the tender adjudications and recommendations.

### 6.3 TENDER DOCUMENTATION

All tender documentation is to include the following:

- Preliminary and General section referring to the Conditions of Contract and General Preliminaries as agreed between the Quantity Surveyor and Project Manager.
- A comprehensive list of tender drawings
- Commencement and completion dates relative to that particular aspect of work upon which tenders are being issued.

## Project Control Manual

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- If lump sum prices are called, a full schedule of rates is to be attached for purposes of variation assessment.
- All pertinent Pro Forma's for Performance Bonds, Sureties, Guarantees, etc.

If a delay is expected in the finalisation of the actual document for signing, the relevant Consultant is to forward a comprehensive list of technically related items and/or conditions to the Project Managers for inclusion in the letter of intent to be forwarded to the Contractor.

A full list of tenderers and tender prices received are to be incorporated into the Cost Report for information purposes.

Cognisance should be taken of the time to be spent on various aspects of work in relation to the volume of work to be undertaken and obviously if the constraints are fairly large, consideration should be given for the appointment of more than one Contractor or sub-contractor to undertake clearly defined different sections of the work.

It is to be understood that all sureties and/or performance guarantees supplied by Contractors are to be made in favour of the Employer and to be forwarded to the Quantity Surveyors for safekeeping.

### **6.4 SIGNING OF CONTRACTS**

The following items have to be attended to by the Quantity Surveyor and Project Manager at the time of awarding Contracts:

## Project Control Manual

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- The signing of Contract Documents comprising:
  - Preliminary and General section
  - Priced Bills of Quantities/Schedule of Rates
  - Relevant Drawings
  - Annexures to Contract Documents
  - Construction Programme
- Obtain Performance Bonds (in form as incorporated in the Bills of Quantities).
- Obtain proof that insurance (in form of premiums, receipts or letter of confirmation from Insurer) will be in force for the duration of the project.
- Obtain Retention Fund guarantee (where applicable).
- Obtain “Waiver of Contractor’s Lien”.
- Obtain resolutions from companies authorising signatories to the Contract.
- On commencement on site ensure that any restriction on site area be occupied by the Contractor is clearly defined (Clause B2.1 of Model Preliminaries).
- Prior to commencement on site, agree with the Contractor the location of his temporary sheds, offices, latrines, plant, etc as well as access routes for material deliveries, etc.
- The main contractor to be responsible for ensuring that the relevant documentation is signed by selected sub-contractors on receipt of an instruction from the Project Manager to appoint a sub-contractor.

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**SECTION 7**  
**CONTROL AND ISSUE OF DRAWINGS**

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## **7. CONTROL AND ISSUE OF DRAWINGS**

### **7.1 DRAWING REGISTER**

It is imperative that an up-to-date record is maintained of the drawings and revisions of same issued to the various Contractors by the Professional Team. Updated drawing registers are to be issued by all Consultants and the Contractors on a weekly basis.

### **7.2 DRAWINGS FOR CO-ORDINATION**

Two copies of relevant drawings should be sent by all Consultants to the Architects for co-ordination purposes before issuing such for construction. One of these drawings should be returned to the relevant Consultants with the various remarks recorded and a copy of a similar drawing should be retained by the Architect for record purposes. The Architect is to ensure that these drawings are returned to the relevant Consultant within two days of receipt for co-ordination purposes.

### **7.3 DRAWINGS FOR INFORMATION AND TENDER PURPOSES**

All drawings as completed should be issued to all parties for information purposes and should be marked as such. This will also apply to drawings which are issued “For Tender Purposes” and should also be marked accordingly.

### **7.4 DRAWINGS FOR CONSTRUCTION**

The required number of “for Construction” drawings should be issued directly to the Main Contractor and no drawings are to be issued directly to Sub-Contractors. This procedure is to ensure that contractual responsibilities are maintained between all parties.

All drawings issued for construction purposes shall be issued by relevant Consultants’ office, to site. A copy of all transmittal forms must be sent to the Project Managers for record purposes. All drawings issued for construction will be assumed to be approved by the Architect prior to issuing to site and clearly stamped “ISSUED FOR CONSTRUCTION”.

## **7.5 REVISED DRAWINGS FOR CONSTRUCTION**

Any drawing issued for construction purposes, which is a revision of a previously issued drawing, must be clearly marked with the latest revision number, date and description of revision. The description “general revision” is not acceptable and the revision must be fully detailed. Where possible, the drawing itself is to be annotated to show where the revision is located.

## **7.6 SHOP DRAWINGS**

The terms “shop drawings” means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by the Contractor/Sub-Contractors to illustrate details of a portion of the work.

The Contractor shall arrange for the preparation of clearly identified shop drawings as called for by the Contract Documents or as the Consultant may reasonably request.

Prior to submission to the Consultant the Contractor should review all shop drawings. By this review the Contractor represents that he has determined and verified all field measurements, field construction criteria, materials, catalogue numbers and similar data or will do so and that he has checked and co-ordinated each shop drawing with the requirements of the Works and of the Contract Documents. The Contractor’s review of each shop drawing shall be indicated by stamp, date and signature of a responsible person.

The Contractor shall submit shop drawings to the Consultant for his review with reasonable promptness and in orderly sequence so as to cause no delay in the Works or in the work of Other Contractors. At the time of submission the Contractor must notify the Consultant in writing of any deviations in the shop drawings from the requirements of the Contract Documents.



## Project Control Manual

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The Consultant will review and return shop drawings within one week to the Contractor. The Consultant's review will be for conformity to the design concept and for general arrangement only and such review shall not relieve the Contractor of responsibility for errors or omissions in the shop drawings or of responsibility for meeting all requirements of the Contract Documents.

Shop drawings are to be signed and dated when approved and the above conditions clearly stated with the approval signature.

The Contractor shall make any changes in shop drawings which the Consultant may require consistent with the Contract Documents and resubmit unless otherwise directed by the Consultant. When resubmitting, the Contractor shall notify the Consultant in writing of any revisions other than those requested by the Consultant.

It is the Consultant's responsibility to ensure that the above procedures are followed when approving shop drawings and that the Contractor is informed of his obligations in this regard. If procedures are not being properly followed the Project Manager is to be informed immediately so that remedial action can be taken.

**Project Control Manual**

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**SECTION 8  
GENERAL ADMINISTRATION**

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## **8. GENERAL ADMINISTRATION**

### **8.1 CORRESPONDENCE**

Copies of all correspondence relating to the Project emanating from the various Consultants' offices, must be copied to the Project Managers who will in turn follow up action by all concerned.

### **8.2 PAYMENT TO CONTRACTORS**

The procedure to be followed when making payment in terms of the Contract is:

- The original valuation by the Quantity Surveyor will be passed on to the Project Managers for their attention and comments. This will be assessed in terms of the various contra charges and the performance being made by the respective Contractors on site and approved in principle accordingly. Thereafter the valuation will be passed on to the Architects for certification.
- On receipt of the valuation, the Architect will immediately proceed to issue an Architect's Payment Certificate for payment by the Client. The Architect is to forward his Architect's Payment Certificate with a copy of the approved Quantity Surveyor's Valuation to the Contractor for submission to the Client for payment. Should the Contractor so request, the Architect may forward the Architect's Certificate directly to the Client on behalf of the Contractor provided that the Contractor indemnifies the Architect against any responsibilities in this regard. The Architects certificate to be issued not later than 7<sup>th</sup> of the month following the being claimed.
- The Project Manager and/or Architects to include with the certificate advice to the Employer of any deductions to be made under Clause 31 of the JBCC.
- All Contractors must be notified by the Quantity Surveyor or relevant Consultants that their monthly claims must reach the Quantity Surveyor on or before 25<sup>th</sup> of the relevant month in order to endeavour to achieve payment to the respective Contractors by the end of the following month.
- Where separate direct contracts are let or materials are purchased on behalf of the Client, the above procedure must be followed on a different series of valuations and certificates.

### **8.3 PAYMENT TO SPECIALIST CONTRACTORS**

(WHERE A CONSULTANT IS EMPLOYED)

The procedure to be followed when making payment to specialist Contractors is as follows:

- Specialist contractor to issue a claim to the relevant consultant with a copy to main contractor and Quantity Surveyor.
- The original Valuation by the Consultant will be addressed to the Quantity Surveyor.
- The Quantity Surveyor will check the valuation and after any adjustments that may be required will incorporate the value due to the Specialist Sub- Contractor in the valuation for the Project.
- Should the Specialist Contractor be employed as a Direct Contractor, the Quantity Surveyor is to issue a separate valuation as in 8.2 taking cognisance of any approved contra charges from other Contractors. A separate certificate will accordingly be issued by the Architect.

### **8.4 PAYMENT OF PROFESSIONAL FEES AND DISBURSEMENTS**

- Fees are to be agreed between the Professional Team member and the Client detailing a monthly draw-down over the period of the Project. Thereafter, invoices are to be sent to the Project Management for payment will be made automatically by the Client.

### **8.5 SITE INSTRUCTIONS**

The Site Instructions Book will be issued by the Project Managers, kept on site and all members of the Professional Team are to utilise this single Site Instruction Book. The purpose of this is to ensure that site instructions will bear consecutive numbers relating to this particular project, which allows for a greater ease of administering and controlling such instructions.

The Site Instruction Books contain four copies and are to be issued as follows:

- Original top copy issued to Contractor (white)
- The second copy is passed on to the Project Manager who will then distribute copies of the site instruction to all relevant members of the Professional Team (pink).
- The third copy is to be left in the Site Instruction Book for collection by the Quantity Surveyor (yellow).
- Fourth copy remains in the Site Instruction Book as a record of the site instruction (green).

### **8.6 QUALITY CONTROL**

Although it is the Contractor's sole responsibility to ensure that all work is carried out in accordance with specification, the Architect has a duty to the Client to see that the Contractor delivers work of the required quality.

The Architect must inspect work on a regular and frequent basis and ensure that any sub-standard work is condemned and remedial immediately.

### **8.7 LOCAL AUTHORITY LIAISON**

Prior to any contact being made by any member of the Professional Team or Contractor with Local Authorities, the Project Manager is to be made aware of the reasons or such contact and given the opportunity of attending such meeting should a meeting be anticipated.

At no time are any financial matters to be discussed with Local Authorities - this will be done only with the Client's representative present and after the Client has had a comprehensive brief of the intended agenda of meeting.

**Project Control Manual**

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**SECTION 9  
PROPOSED PROGRAMME CONTROL SYSTEM**

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## **9. PROGRAMME CONTROL SYSTEM**

### **9.1 PRE-CONTRACT AND DOCUMENTATION PHASE:**

#### **9.1.1 Indicative Construction Programme**

The initial step to be taken would be the setting up of an indicative construction programme which would be carried out on a network basis after discussions with the professional team with regard to the following, inter alia, issues:-

- Proposed design of the building in order to assess the preferred construction method.
- Required beneficial occupation dates.
- Method of construction in relation to design parameters.
- Local Authority approvals.
- Intended Sub-Contractors to be appointed and the like.

The above would be taken into account in order to determine an indicative construction programme on a broad basis but in sufficient detail to allocate financial costs per activity (substantially synonymous with Elemental Estimate) to attain an accurate cash flow prediction and also to determine the major milestones and target dates that have to be achieved during the construction process.

## Project Control Manual

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### 9.1.2 Documentation Programme

From the construction programme described above, a documentation programme will be devised which will highlight when the various Contracts and Sub-Contracts are to be let on the project in order to achieve the pre-determined construction programme. This documentation programme will highlight when Council approvals are required so as not to delay the construction phase. It will identify the procurement period required for the various major items of plant and equipment. It will highlight the lead-in periods required by the various Contractors and Sub-Contractors in order to ensure timeous mobilisation for arrival on site. By the incorporation of this in the Tender Document, the Tenderers will be provided with the knowledge of when documentation will be finalised and will serve as a contractual condition against which the Contractor will tender.

A meeting will be called with each of the Consultants in order to establish the drawings that each will be producing for the project and thereafter starting with the Architect, meetings will be held in order to determine the procedure for the production of these drawings in relation to the time available highlighting the following:-

- The number of resources available for design purposes.
- The sequence in which drawings will be produced in relation to both design requirements and construction priority.
- The integration of co-ordination requirements in the form of approvals by the Architect.

A copy of the Initiation Documentation Programme follows at the end of this section.



## 9.2 CONSTRUCTION PHASE

### 9.2.1 Contractual Considerations:

The Construction Phase is that phase of the contract after which the Main Contractor has been appointed in which he would be required to participate in the programming. It is essential for the Main Contractor to understand and perceive that a substantial amount of pre-contract design has been completed to pre-determined priority. Should the Contractor believe that the method of Construction requires modification of the documentation priorities, he must be aware of the fact that this may constitute a major change in direction for the Professional Team. The Project Manager and Professional Team will need the opportunity of assessing the Contractor's revised requirements. Hopefully they can be met without opening the Client up for claims for delay and late information and the like.

It is obviously preferred that the successful tenderer accepts the Documentation Programme and Schedule as proposed and then sets about drawing up a detailed construction network for the project in conjunction with the Project Manager based on the parameters laid down in the Indicative Construction Programme and Documentation Programme.

### 9.2.2 Contract Programme

Once the Main Contractor is appointed, the Project Manager and the Main Contractor's senior representatives will arrange a meeting to devise a detailed construction network for the project. This will be based on the parameters laid down in the indicative construction programme.

The degree of detail to which the network is drawn will be kept to a practical level to allow the Contractor a degree of flexibility on site should problems be encountered so as to require re-programming every time a problem arises. Once this detailed construction network is agreed and a

## Project Control Manual

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critical path is determined, these network drawings must be signed by both the Contractor and the Project Manager, as this would represent the contractual programme and would be incorporated in the signed contract. If any claims are made by the Contractor on the project, they would obviously have to be made against this programme and hence the flexibility of the network is important from the Employer's point of view as well.

While drawing up this detailed construction network, cognisance will be taken of the pre-determined documentation schedule in order to ensure that sufficient lead-in time is being provided for the contractor, after the issue of information and prior to commencement of actual work on site. Cognisance will also have to be taken of the beneficial occupation dates required by the Employer for tenants etc. and these identified in the Contract Document with penalties attached. These specific dates will be highlighted and plugged within the network to ensure that progress is being monitored against the successful achievement of these beneficial occupation dates as well as the overall completion date.

The contractual network as described will be monitored on a monthly basis and this will incorporate the assessment of current activities in relation to programme by means of assessing the proportion of work completed and projecting, on basis of achievement, the amount of time still required to complete each activity. It will also identify the utilisation of any of the float available on the non-critical activities and the reason for such utilisation of float in order to assess any delay claims which may be made by the Contractor. The monitoring of the actual progress will be carried out against the originally contractual programme and will be displayed as such in the updated reports.

The Contractor will be expected to participate in the exercise of monitoring the programme in order to ensure that the assessment of progress on each update is agreed to by all parties.

## Project Control Manual

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### 9.2.3 Detailed Daily Bar Charts:

A detailed daily bar chart will be agreed with the Contractor on a short term basis.

The relationship between the activities on the Daily Bar Chart and those in overall contract network will be clearly annotated as this will represent a further breakdown of the detail of the contract network.

Contractually, the overall contractual network will take precedence and the basic purpose of devising and agreeing these short term detailed Daily Bar Charts with the Contractor is as follows:

- To provide a means of monitoring progress on a daily basis in order to identify potential delays to the contract as early as possible.
- To devise ways and means of ensuring the achievement of the contract network and making up for any delays incurred in a preceding period.
- The identification and provision of short term target for the Contractor's management in order to ensure communication of such targets to middle and lower on-site management.