

# Civil Engineering and Planning



This description of services serves as a basis for providing consultancy in connection with civil engineering and planning projects.

The consultant's services and fees are contractually based on ABR 89 ("General Conditions for Consulting Services").

Agreements should be drawn up using the standard form of agreement prepared by the Danish Association of Consulting Engineers (FRI), the Danish Council of Practising Landscape Architects (PLR) and the Danish Association of Architectural Firms (DANSKE ARK).

It should be noted that services provided by the consultant comprise only services within the consultant's field as expressly specified in the consultancy agreement.

In connection with arrangements for the provision of digital project data, agreements are prepared in this respect, for example as specified in the 2005 IT/CAD Project Agreement from bips (construction - IT - productivity - cooperation).

In connection with arrangements for the provision of digital designs, IT project agreements may be prepared using the relevant form of FRI, PLR and DANSKE ARK.

FRI, PLR and DANSKE ARK have issued individual codes of practice for a number of specific areas.

DANSKE ARK and FRI have drawn up general descriptions of services for "Building and Planning" (January 2006), "Client Consultancy" (December 2003) and "*Som udført*" (As built) (2000).

Reference is made to the organisations' websites: [www.frinet.dk](http://www.frinet.dk), [www.p-l-r.dk](http://www.p-l-r.dk) and [www.danskeark.org](http://www.danskeark.org).

This document does not describe the general organisation of a civil engineering project, including calls for tenders under specialist, large, general and turnkey contracts or partnering agreements. Reference is made to the description of services for "Client Consultancy".

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## 0. Role of consultant

The consultant is the client's independent representative and adviser, see ABR 89 (article 1.1, Work of the Consultant). The services provided by the consultant in connection with civil engineering and planning projects comprise both architect/landscape architect-specific and engineer-specific services. The consultant is trained specifically to handle issues of architecture, technology, time and finances in relation to civil engineering and planning projects and to manage human, aesthetic and functional aspects in a comprehensive solution.

Consultancy may be provided in the following forms:

- 0.1 Client consultancy
- 0.2 Full-service consultancy
- 0.3 Split consultancy
- 0.4 Sub-consultancy

### 0.1 CLIENT CONSULTANCY

As consultant to the client, the consultant safeguards the interests of the client in matters involving the designers and the constructors.

Consultancy may include the appraisal and programming phases and/or may cover the full design and construction periods.

Reference is made to the relevant description of services.

### 0.2 FULL-SERVICE CONSULTANCY

When a full-service consultant is responsible for the entire project, the client need only enter into one consultancy agreement.

The full-service consultant engages the services of required sub-consultants and is responsible to the client for their work.

Full-service consultancy may also be provided by a group of consultants.

The full-service consultant appoints the design manager and makes that party responsible for client relations.

### 0.3 SPLIT CONSULTANCY

Each consultant concludes a separate agreement with the client. The consultants are under an obligation to cooperate with each other, but have no direct contractual obligation to each other.

The client is responsible for consultancy management and coordination and for interaction between the consultants. The client may delegate this responsibility to a design manager (see 2.1).

The client appoints the design manager in dialogue with the consultants. The design manager handles relations between the client and the consultants.

### 0.4 SUB-CONSULTANCY

A sub-consultant concludes a separate agreement with its 'client', which is often a full-service consultant.

The sub-consultant is in contact with the design manager and the client through this party.

## 1. Pre-design consultancy

Pre-design consultancy comprises the following services:

1.1 Appraisal

1.2 Construction programme

### 1.1 APPRAISAL

The appraisal is the result of initial work on the client's thoughts and ideas for the purpose of deciding whether to implement the project in question.

The agreement specifies the scope of services to be provided.

#### 1.1.1 Contents

The initial work on the client's ideas is presented in a report. This report analyses the potential of the client's ideas and assesses whether and how these ideas can be implemented. The appraisal may include alternatives to the client's ideas.

The necessary planning and relevant investigations of existing conditions, including research in archives, are summarised in the appraisal.

The appraisal may also include information about the intended location of facilities, including details of soil conditions.

The appraisal may also include analyses of alternative locations or layouts, etc.

The appraisal may include accounts of the outcome of negotiations conducted.

The appraisal may include an analysis of needs and functions.

The appraisal may include a risk analysis focusing on quality, time, finances, etc.

The appraisal must include an organisational chart for the civil engineering project. An account must be given of how decisions are made, including any need for hearings and user influence in connection with the construction programme.

### 1.1.2 Project

The appraisal may include existing drawings detailing the location and size of the facilities as well as particulars of their nature, site development, plot ratios, easements, profits and restrictive covenants, zoning, etc.

If no drawings are available, the client may let the consultant arrange for any existing facilities and buildings to be registered, measured and drawn.

In projects involving renovation or alteration of existing facilities, the appraisal may include advance details for programme work comprising an account of the use of the facilities, the environmental conditions of the area, the combination of materials used for the facilities as well as a structural survey.

### 1.1.3 Time

The appraisal may include a time frame for the completion of the project, including particularly critical milestones such as deadlines for site acquisition commitment.

### 1.1.4 Financial basis

The appraisal may include proposals for budget limits in connection with project implementation, including an estimate of total construction costs, site acquisition costs, other costs, etc.

### 1.1.5 Authorities

The appraisal may include a section on regulatory matters and proposals for consideration of other regulatory aspects, including zoning.

### 1.1.6 Quality assurance

The consultant reviews the appraisal and its basis.

### 1.1.7 Client

The client obtains existing drawings, details, etc.

The client participates actively in the necessary meetings and provides information about the possibilities of completing the project in terms of finances as well as information about profitability targets, if any.

Having assessed the material and its conclusions, the client decides whether further details are needed to supplement the material or whether it

can form the basis for drawing up a construction programme.

If the client involves other consultants, such involvement must be coordinated with the principal consultant.

The client approves the appraisal before the beginning of the construction programme.

The client decides on the type of tendering procedure.

## **1.2 CONSTRUCTION PROGRAMME**

The construction programme is a coordinated summary of the client's requirements and wishes for the facilities.

The level of detail of the construction programme is adjusted to match the organisation of the civil engineering project.

### **1.2.1 Contents**

The construction programme is drawn up on the basis of the appraisal, which lists the necessary conditions for the further development of the project.

The construction programme may be drawn up as a description (possibly in a schematic form) specifying the physical requirements for facilities, structures, installations and surface quality as well as the environmental objectives to be met.

The construction programme must specify the extent of and the requirements for lighting systems, if any.

The construction programme must specify the extent of and the requirements for traffic control systems, if any, including traffic signal systems and electronically variable information or mandatory signs.

If required, a statement of preliminary studies is prepared in cooperation with other consultants, listing the basic conditions of the facilities: these may be geological, environmental, topographical or climatic conditions, archaeology, area conditions, legal matters as well as specific regulatory requirements, existing supply conditions, operation and maintenance, etc.

The construction programme must include an organisational chart as well as procedures for communication and cooperation between the parties involved in the civil engineering project.

The consultant prepares a draft plan for project decisions and approvals to be obtained from the client by the designers.

The consultant informs the client of the latter's obligations in relation to health and safety legislation.

The construction programme must state any special requirements for accessibility in addition to those contained in Danish building regulations and other legislation.

If the appraisal contains no analysis of needs and functions, such analysis may be included in the construction programme.

The construction programme may include a risk analysis focusing on quality, time, finances, etc., and must, if included, assess the need for special risk management activities during the design and construction phases.

The construction programme must include an overall assessment of the operational conditions.

### **1.2.2 Project**

The nature of the project may call for the preparation of preliminary designs indicating principles of function and diagrams giving details such as area sizes, functional relationships, etc.

Drawings are generally not made, but drawings of any existing buildings and facilities should be included.

### **1.2.3 Time**

The construction programme includes an assessment of the project's time frame for design and construction, including the progress of individual phases, consideration by the authorities, health and safety legislation matters, approvals, etc.

### **1.2.4 Financial basis**

An overall budget is prepared for the civil engineering project.

The budget limits are divided into the following main items:

- site acquisition
- demolition and clearing
- construction costs
- other costs
- VAT

Available funds are set aside for contingencies, construction site costs as well as winter and weather conditions likely to occur during the course of the civil engineering project.

The budget must contain information about the price index used and the price adjustments expected.

### **1.2.5 Authorities**

Information about general regulatory requirements, including zoning, easements, profits and restrictive covenants, title documentation, levelling survey, environmental conditions and supply and discharge connections, as well as particulars of site use and traffic and road conditions are obtained in cooperation with the client. These details are included in the construction programme.

### **1.2.6 Quality assurance**

The consultant describes the QA requirements for design and construction, including requirements for supervision and construction management plans.

The consultant reviews the construction programme and its basis systematically to ensure that requirements for the quality (form, function, technology, finances, time and environmental conditions) of the facilities are adequately described to form the basis for drawing up a proposal.

### **1.2.7 Client**

The client assists in initiating analyses of functions and needs and in preparing budget limits, etc. If required, the client appoints user representatives and defines their responsibilities.

Together with the consultant, the client must ensure that

- a construction programme is drawn up before the design process begins;
- a description of consultancy services is drawn up;

- the quality level of the facilities is set in consideration of the purposes of the facilities;
- programme requirements are consistent with construction and operating finances; and
- sufficient time has been set aside for the design, tender and construction processes.

The client must consider any transfer of client obligations (see current health and safety legislation).

The client approves the construction programme as the basis for starting the design process.

## 2. Design management consultancy

Design management consultancy comprises the following services:

- 2.1 Design management
- 2.2 IT coordination in respect of digitally designed projects

If one consultant handles the total project, this consultant will be in charge of design management, including any IT coordination agreed upon.

However, the client may, as agreed between the parties, be responsible for design management.

### 2.1 DESIGN MANAGEMENT

The design manager handles relations between the client and consultants, including any design suppliers and contractors.

#### 2.1.1 Contents

The design manager is responsible for cooperation between the consultants and ensures coordination of project work performed by the individual consultants with particular focus on interfaces. This is also the case if project work is performed by the constructors.

The design manager checks that the client has arranged for competence and responsibility to be delegated and has established ways of communication and also that an approved construction programme has been drawn up.

The design manager determines the form of cooperation in concert with the individual consultants and the client; this work includes defining the responsibilities of the consultants on the basis of agreements concluded with the client.

The design manager draws up an organisational chart for design and project follow-up.

The design manager is responsible for ensuring that the client receives adequate information, that the client is provided with a basis on which to make decisions and that any approvals and decisions made by the client are communicated to the consultants.

The design manager arranges for approved drawing and description principles to be used.

The design manager convenes and presides at design meetings and any required meetings with the client during the design phase and also prepares minutes.

The design manager recommends the type of tendering procedure and the allocation of contracts to the client and coordinates the process of inviting tenders.

The design manager prepares draft tender conditions, a draft tender letter and a draft construction contract.

The design manager prepares draft special conditions/a draft description of the civil engineering project on the basis of proposals made by the consultants.

The design manager coordinates services to be provided by the consultants as stipulated in health and safety legislation.

Furthermore, when the consultants have undertaken to assist the client in its obligations to draw up a basis for a health and safety plan, the design manager will coordinate such work, including providing a construction site plan for the tender documents. The design manager coordinates this work in relation to the designers and the construction manager.

The design manager presents the full tender documents to the client and obtains its approval.

The design manager coordinates the process of inviting tenders as well as assessing and recommending tenders submitted.

The design manager provides consultancy to the client in respect of the scope and nature of construction management and technical supervision.

The design manager coordinates follow-up by the consultants, including any revision of drawings, drawing lists, etc.

#### 2.1.2 Time

The design manager draws up a design timetable in cooperation with the consultants, is responsible

for any revisions and ensures that the design timetable is met.

The design manager draws up a tender timetable in cooperation with the consultants.

### **2.1.3 Financial basis**

The design manager monitors the finances of the project, including obtaining financial estimates from the individual project consultants for the preparation of a budget defined on the basis of budget items established by the client.

This budget is updated at every design stage.

Following tender action, the design manager updates the budget and prepares an overall recommendation to the client that compares the most recently approved budget with the tender results. This recommendation is based on contributions from the individual consultants.

### **2.1.4 Authorities**

The design manager handles any advance dialogue, ensures that the consultants submit applications for planning permission in due time and coordinates other negotiations with miscellaneous authorities for the purpose of obtaining a planning permission and other permits required and finally clarifies the conditions of such permission and permits.

### **2.1.5 Quality assurance**

If the client has delegated the responsibility for drawing up a QA plan to the design manager, this party will be responsible for drawing up such a plan in cooperation with the other consultants. The quality plan defines the scope and time of review and control procedures.

The design manager coordinates interdisciplinary project reviews during the project proposal and main project stages.

When the consultants have undertaken to assist the client in drawing up a supervision plan, the design manager will coordinate such work.

### **2.1.6 Client**

The client grants the design manager appropriate authorisation, etc.

The client approves the type of tendering procedure and the allocation of contracts.

The client draws up the basis for a health and safety plan.

The client reviews the draft tender documents, construction contracts, etc., drawn up by the consultants for compliance with contract law.

The client approves the updated budgets.

The client approves tenders recommended and enters into construction contracts.

The client prepares and updates its budget for other expenses.

The client takes out insurance as needed.

## **2.2 IT COORDINATION**

In respect of digital designs, the IT coordinator is responsible, in consultation with the design manager, for coordinating digital cooperation between the consultants, design suppliers and contractors, the client and authorities, if any.

### **2.2.1 Contents**

The IT coordinator is responsible for drawing up IT project agreements in cooperation with the consultants and on the basis of the client's requirements in this respect.

The IT coordinator arranges for the conclusion of agreements on levels and a coordinate system, units and file formats.

The IT coordinator determines the data structure, including file name conventions. In the case of a project web, the IT coordinator also sets up access rights for the parties involved.

The IT coordinator assists in drafting an agreement for the provision of digital data.

The IT coordinator determines the scope of and procedures for exchanging data and data security rules as well as antivirus measures.

The IT coordinator is responsible for coordinating digital cooperation between the consultants, the client and any authorities involved.

The IT coordinator participates in design meetings to the extent necessary for the purpose of handling IT coordination.

The IT coordinator organises, presides at and reports from other necessary meetings in this respect.

The IT coordinator ensures that digital data are handed over to the client as stipulated in IT project agreements.

### **2.2.2 Time**

The IT coordinator participates in drawing up a design timetable.

### **2.2.3 Client**

The client hands over an accessible digital basis to the consultants in the agreed format.

The client specifies any requirements for access rights, data security, etc.

The client specifies requirements for the structure and extent of data to be provided.

### 3. Design phase consultancy

Design phase consultancy comprises the following services:

- 3.1 Outline proposal
- 3.2 Project proposal
- 3.3 Preliminary project (regulatory project)
- 3.4 Main project
- 3.5 Project follow-up

As stipulated in ABR 89, the outline proposal and the project proposal make up the proposal phase and may be implemented on an ongoing basis as one phase.

As stipulated in ABR 89, the preliminary project and the main project make up the design phase and may be implemented on an ongoing basis as one phase.

In connection with the conclusion of a consultancy agreement, it is agreed whether and to what extent the project will be put up for tender on the basis of functional requirements.

The services to be provided by the consultant are coordinated with those of the other designers under the management of the design manager, and the consultant participates in design meetings in this connection.

#### 3.1 OUTLINE PROPOSAL

The outline proposal is a motivated proposal for the completion of the project on the basis of an approved construction programme.

##### 3.1.1 Contents

The outline proposal contains a description of the basis of the proposal, its aesthetic idea, functions and environment, including proposals for the general choice of materials, engineering principles as well as reflections on operation and maintenance.

##### 3.1.2 Project

Depending on the nature of the project, for example construction of new facilities, extension of existing facilities, or renovation or restoration, the following documents are prepared:

Landscape architect and architect:

- a description of the proposal, including preliminary studies and analyses completed, a description of the site area's topography, climate, plants and trees, soil, possible uses and environmental adaptation
- a proposal for the general choice of materials as well as trees and plants
- plans (scale 1:500/1:1000) providing an overall idea of the main characteristics of the facilities

Engineer:

- a description and rough drawings of design principles for constructions and important structures
- a description and rough drawings of the extent and design of installations, an assessment of capacities and main supply principles

##### 3.1.3 Time

In cooperation with the design manager, the consultant assists in drawing up design, tender and construction timetables.

##### 3.1.4 Financial basis

On the basis of its own responsibilities, the consultant provides the design manager with an estimate.

This estimate will generally include the following items:

- site acquisition
- demolition and clearing
- connection fees
- excavation
- piping and draining
- fixing and surfacing
- construction
- installation
- plants and trees
- fittings, fixtures and equipment
- construction site costs and special measures taken in respect of weather conditions
- environmental and other public taxes
- administration and costs
- contingencies
- VAT

The estimate is normally drawn up using estimated unit prices based on project main volumes (typically measures of length and area). If the facilities consist of different types, such types will be estimated separately.

The budget must contain information about the price index used and the price adjustments expected.

### 3.1.5 Authorities

In cooperation with the design manager, the consultant submits matters to the relevant authorities and files general applications for exemption, if required.

The consultant participates in any negotiations with the authorities.

### 3.1.6 Quality assurance

The consultant makes an overall assessment of the solutions contained in the outline proposal.

### 3.1.7 Client

During the process of drawing up the outline proposal, the client and/or user representatives appointed by this party participate in meetings required.

The client prepares a budget for its other expenses such as special completion work and financing.

The client approves the outline proposal as a basis for drawing up the project proposal.

## 3.2 PROJECT PROPOSAL

The project proposal is a revision of the approved outline proposal to such an extent that all decisions pivotal to the project have been made and included in the proposal.

### 3.2.1 Contents

The project proposal is the basis on which the client makes its decisions on the aesthetic, functional, technical and financial solution of the project in question, principles of operation and maintenance as well as financing.

All investigations, including registration of existing conditions needed for the further design process, must be completed.

The project proposal must contain a proposal for the type of tendering procedure and the allocation of contracts.

### 3.2.2 Project

Depending on the nature of the project, the following documents are prepared:

Landscape architect and architect:

- a description accounting for the main characteristics and data of the facilities
- a description of important parts and components
- plans (scale 1:200/1:500) as well as sections describing for the extent and nature of planned and existing building and civil engineering work; details must be given for surfaces, plants and trees, ground structures and equipment, and all material levels and ground adjustment must also be specified
- a statement of areas

Engineer:

- a description of main design principles and constructions, calculations of estimates and a report on the static main system for facility structures as well as a description of loads
- plans (scale 1:200/1:500) as well as sections describing all important geometrical data
- a description of the extent, design and main components of installations
- plans of installations

### 3.2.3 Time

In cooperation with the design manager, the consultant assists in updating design, tender and construction timetables.

### 3.2.4 Financial basis

On the basis of its own responsibilities, the consultant submits a budget to the design manager.

The budget is prepared as a summary budget or as a specialist budget on the basis of the project proposal.

In a standard civil engineering project, the budget is divided into the following main items:

- site acquisition
- demolition and clearing
- connection fees
- excavation
- piping and draining
- fixing and surfacing
- construction
- installation

- plants and trees
- fittings, fixtures and equipment
- artistic decoration
- construction site costs and special measures taken in respect of weather conditions
- environmental and other public taxes
- administration and costs, possibly broken down by consultant fees, including construction management and technical supervision, reproduction, other costs and client administration
- contingencies
- VAT

This budget is an overall budget to be kept by the consultant and is the financial basis on which the client makes its decisions.

The budget must contain information about:

- the index used and any agreements for index adjustments
- the intended type of tendering procedure
- other conditions and any reservations in respect of the budget and its items such as employment and market conditions as well as other matters essential to the preparation of the budget

### **3.2.5 Authorities**

The consultant provides the design manager with relevant material to obtain the required acceptances or basic approvals from the authorities.

The consultant participates in any negotiations with the authorities.

### **3.2.6 Quality assurance**

The consultant reviews the project proposal to ensure that

- the project proposal is consistent with the particulars of the outline proposal;
- the requirements contained in the construction programme for the quality (form, function, technology, finances, time and environmental conditions) of the facilities have been met; and
- the project proposal can form the basis for preparing a preliminary project and a main project.

The consultant notifies the client of any specific or risky conditions found during the review process.

The consultant participates in interdisciplinary project reviews.

### **3.2.7 Client**

During the process of drawing up the project proposal, the client and/or user representatives appointed by this party participate in meetings required.

The client approves the overall budget and updates its budget for other expenses.

The client approves the project proposal as a basis for the further design process.

## **3.3 PRELIMINARY PROJECT (REGULATORY PROJECT)**

The preliminary project (regulatory project) is a revision of the approved project proposal to such an extent that it can form the basis for approval by the authorities.

The preliminary project (regulatory project) forms an integral part of the main project.

### **3.3.1 Contents**

The preliminary project (regulatory project) contains a statement describing the final design of the project in relation to regulatory requirements, including a description of the project's intentions, materials, structures and technical installations.

### **3.3.2 Project**

The main drawings must comply with regulatory requirements for documenting legislative matters and describe the design, facilities and structures as well as technical installation principles.

The landscape architect/architect prepares a statement describing zoning as well as rules and regulations relevant to the project, including any necessary exemptions.

### **3.3.3 Time**

In cooperation with the design manager, the consultant assists in updating design, tender and construction timetables.

### **3.3.4 Financial basis**

In cooperation with the design manager, the consultant assists in updating the overall budget of

the project proposal in accordance with the general trend in prices and any agreed project changes.

### 3.3.5 Authorities

The consultant submits relevant information to the authorities and notifies the design manager accordingly.

The consultant participates in any negotiations with the authorities.

### 3.3.6 Quality assurance

The consultant reviews the project prepared (regulatory project) to ensure that

- the preliminary project (regulatory project) is consistent with the particulars of the project proposal;
- regulatory requirements for the design, function and construction technology of the facilities have been met; and
- the preliminary project (regulatory project), together with the project proposal, can form the basis for preparing the main project and drawing up other tender documents.

### 3.3.7 Client

The client approves the preliminary project (regulatory project).

The client updates its budget for other expenses.

The client approves any applications for exemption in respect of regulatory matters.

## 3.4 MAIN PROJECT

The main project describes the project in unique terms and with such a level of detail that it can form the basis for final clarification of the conditions contained in the planning permission and for tendering, contracting and construction.

### 3.4.1 Contents

The main project must include a list of documents, conditions (special conditions/a description of the civil engineering project with conditions for tendering, inviting tenders and implementation procedures), work specifications, drawings, a timetable and schedules of rates.

The main project must list requirements for operation and maintenance instructions, etc., to be handed over by the constructors.

In cooperation with the design manager, the consultant assists in preparing draft special conditions/a draft description of the civil engineering project.

In cooperation with the other consultants involved in the project, the principal consultant assists in handling the process of inviting tenders, assessing tenders submitted, handling technical and financial clarification as well as making recommendations for tenders submitted.

### 3.4.2 Project

Depending on the nature of the project, the following documents are prepared as a basis for inviting tenders and completing the project:

Landscape architect/architect:

- work specifications and schedules of rates
- drawings comprising general drawings, layout drawings and detailed drawings
- updates of area calculations in relation to approvals made by the authorities

Engineer:

- work specifications and schedules of rates
- drawings comprising general drawings, layout drawings, construction component drawings, installation charts and detailed drawings
- dimensioning specifications, including statistical calculations, if needed
- drawings of electrical panels, including power circuits
- a report on holes and setting out

### 3.4.3 Time

In cooperation with the design manager, the consultant assists in preparing the tender document timetable for the completion of the project, including a statement of the starting and ending dates of the individual contracts as well as any dates on which penalties will be imposed.

### 3.4.4 Financial basis

The overall budget of the project proposal is updated in accordance with the general trend in prices and any agreed project changes. The budget is sent to the design manager.

The budget is allocated on the basis of contracts allocated.

Following tender action, the consultant assists the design manager in updating the overall budget.

If the total updated budget – following tender action at the same time – appears to exceed the agreed variances in relation to the approved budget, the client may demand that the project be revised in cooperation with the consultant on the basis of detailed terms and conditions to be agreed upon.

If the overrun of the approved budget is the result of

- an agreed price adjustment
- changes in the project as agreed with the client
- changes in the specified budget assumptions
- conditions of which the consultant was not or should not have been aware at the time when the budget was updated,

a project revision is made, if required, with full payment to the consultant.

If an agreement to redesign the project involves the assistance of another consultant and so results in redesign expenses on the part of that consultant, the client will be under an obligation to pay such expenses directly to the consultant in question, possibly with recourse against the consultant being responsible for the budget overrun.

If the design work is performed on a cost reimbursement basis, the relevant agreement must specify the payment of costs incurred in connection with any such redesign work.

### **3.4.5 Authorities**

The consultant submits any supplementary material to the authorities and notifies the design manager accordingly.

The consultant participates in any negotiations with the authorities.

### **3.4.6 Quality assurance**

The consultant draws up a tender verification plan. The consultant performs internal reviews and checks by systematically going over the main project and the tender documents for the purpose of ensuring that

- the main project is consistent with the particulars of the project proposal; and
- the individual items of the project material are consistent with one another.

The consultant participates in interdisciplinary project reviews.

The consultant draws up a supervision plan if it has undertaken to assist the client in this respect.

### **3.4.7 Client**

The client reviews the draft tender documents, construction contracts, etc., drawn up by the consultant for compliance with contract law.

The client draws up supervision and construction management plans.

If required, the client participates in a revision of the project as stipulated in 3.4.4 above.

The client takes out insurance as needed.

## **3.5 PROJECT FOLLOW-UP**

These services are design services related to main project work performed by the consultant.

The purpose of project follow-up is to help ensure that work performed is consistent with the intentions of the project. For information about performance control, see 4.2, Technical supervision.

### **3.5.1 Contents**

The services are provided during the construction phase and comprise services in continuation of the preceding design phases in the form of required project specifications.

At project follow-up, efforts must be made to ensure that relevant project material is handed over to the construction manager and the technical supervisor.

The consultant assists the technical supervisor in approving and assessing working drawings, working calculations, material samples, colours, structures and installations within its technical field.

### **3.5.2 Project**

The consultant updates the project on the basis of project specifications made by the consultant. Updates are made at 'level 1' (see PAR's and FRI's description of services for "*Som udført*", 2000).

### **3.5.3 Time**

The technical supervisor is assisted in assessing the consequences of any project specifications in terms of time.

### **3.5.4 Financial basis**

The technical supervisor is assisted in inviting tenders and assessing tenders in connection with project specifications.

### **3.5.5 Authorities**

The consultant provides the design manager with the updated regulatory project (see 3.5.2).

### **3.5.6 Quality assurance**

The consultant reviews and checks the current project specifications on an internal basis for the purpose of ensuring that the project continues to be consistent with the particulars of the main project.

To the extent agreed upon, the consultant holds project review meetings with contractors and prepares minutes from such meetings.

## 4. Construction phase consultancy

Construction phase consultancy comprises the following services:

4.1 Construction management

4.2 Technical supervision

### 4.1 CONSTRUCTION MANAGEMENT

A construction manager is appointed before work commences.

The construction manager monitors the overall progress of the civil engineering project in terms of time, quality and finances and handles relevant documentation. The construction manager is also responsible for coordinating general construction site activities.

#### 4.1.1 Contents

The construction manager represents the client in matters involving the contractors in respect of organisation and performance of work and has powers and obligations as stipulated in article 17 of AB 92 ("General Conditions for the Provision of Works and Supplies within Building and Engineering").

The construction manager assists the design manager in drawing up a construction site plan.

When the consultant has undertaken to assist the client in its obligations to establish a health and safety plan, the construction manager will provide relevant assistance to the design manager.

When the construction manager has undertaken to assist the client in its obligations to complete and update the health and safety plan, the construction manager will handle such coordination.

The construction manager is responsible for drawing up administrative rules on the overall supervisory function and monitors compliance with such rules.

The construction manager coordinates overall technical supervision.

The construction manager convenes and presides at construction meetings and prepares minutes from such meetings.

The construction manager presents problems encountered and any proposals for project changes during the construction phase to the design manager and makes arrangements for how to address such problems or changes.

The construction manager reports to the client on the progress of the civil engineering project in terms of time and finances and arranges for transactions made during the course of the project to be approved by the client.

The construction manager coordinates activities to obtain operation and maintenance instructions drawn up by suppliers and contractors and hands over such material to the client.

The construction manager organises and manages the handing-over meeting with the assistance of the technical supervisor.

The construction manager organises and manages the 1-year inspection with the assistance of the technical supervisor and assesses whether performance bonds can be reduced.

#### 4.1.2 Time

The construction manager assists the design manager in drawing up a tender timetable.

The construction manager monitors the overall progress of the civil engineering project in terms of time and manages relevant documentation. The construction manager draws up and updates timetables in cooperation with the technical supervisor and the constructors on the basis of the tender timetable.

The construction manager registers the progress of work on the basis of information provided by the technical supervisor and records weather conditions and days lost.

The construction manager reports to the client and the design consultants on the progress of the civil engineering project in terms of time and arranges, in cooperation with the technical supervisor, for the consequences in terms of time resulting from changes made during the course of the civil engineering project to be agreed with the parties involved.

**4.1.3 Financial basis**

During the construction phase, the construction manager monitors the overall progress of the civil engineering project in terms of finances and manages relevant documentation.

The construction manager keeps construction accounts, approves on-account bills and invoices and draws up the final construction accounts.

In cooperation with the technical supervisor, the construction manager considers claims made by the contractors.

The construction manager reports to the client and the design consultants on the progress of the civil engineering project in terms of finances and arranges, in cooperation with the technical supervisor, for transactions made during the course of the civil engineering project to be approved by the client.

**4.1.4 Authorities**

The construction manager handles relations with authorities in respect of construction site functions.

The construction manager is responsible for submitting statements of completion and for obtaining a use permit.

**4.1.5 Quality assurance**

The construction manager checks that the client has delegated competence and responsibility and has established ways of communication.

The construction manager makes plans and ensures that a QA plan is available from the constructors and that project review meetings are held.

**4.1.6 Client**

Before construction phase consultancy is provided, an organisational chart must be drawn up, listing the competences and responsibilities of the person or persons duly authorised.

The client handles project review meetings, but may delegate such responsibility to the construction manager.

The client assesses and approves any alterations in writing or authorises the construction manager to perform such tasks.

The client pays expenditure vouchers presented by the construction manager.

The client completes the health and safety plan, holds health and safety meetings and updates the plan. These services may be delegated to the construction manager or to a general or turnkey contractor, if required.

The client participates in the handing-over meeting and signs the handing-over documents.

The client starts the 1-year inspection process.

**4.2 TECHNICAL SUPERVISION**

The technical supervisor is responsible for quantitative and qualitative control procedures in the form of inspections performed on a spot check basis. The scope of such procedures is laid down in an agreement between the client and the consultant.

The technical supervisor draws up the supervision plan on the basis of the client's draft plan for technical supervision.

**4.2.1 Contents**

On the basis of the supervision plan, the technical supervisor performs on-site checks to ensure that work is performed in accordance with the project and as stipulated in the construction contracts.

The technical supervisor orders any necessary specifications from the party responsible for project follow-up and notifies the construction manager of any consequences in terms of time and finances.

The technical supervisor ensures that revised drawings, etc., are handed over to the constructors.

The technical supervisor provides the construction manager with information needed to perform its coordinating and administrative functions.

The technical supervisor participates in construction meetings to the extent agreed upon.

The technical supervisor draws up punch lists for the handing-over meeting and checks that defects are remedied.

Operation and maintenance instructions, etc., listed as required in the project material are obtained from the constructors and handed over to the construction manager.

The technical supervisor draws up punch lists for the 1-year inspection and checks that defects are remedied.

#### **4.2.2 Documentation**

The technical supervisor draws up supervision notes and reports on construction site staffing and plant and equipment, work performed, etc., in respect of own contracts.

#### **4.2.3 Time**

The technical supervisor assists the construction manager in drawing up and updating construction timetables.

The technical supervisor prepares progress reports.

#### **4.2.4 Financial basis**

The technical supervisor reviews invoices issued, including the final accounts.

The technical supervisor assists in managing the budget in connection with any changes in the scope of contracts, measures taken in respect of weather conditions, additional foundation work, etc.

The technical supervisor checks services provided on a volume basis.

#### **4.2.5 Authorities**

The technical supervisor performs spot checks to establish that the contractors arrange for the required inspections by the authorities to be made and that the conditions stipulated by the authorities for the performance of work are met. The technical supervisor also provides the construction manager with information for the statements of completion to be submitted to the authorities.

#### **4.2.6 Quality assurance**

The technical supervisor checks that the inspection plans of the contractors comply with the requirements of the tender documents.

The technical supervisor participates in project review meetings.

The technical supervisor performs checks as specified in the supervision plan.

#### **4.2.7 Client**

The client approves supervision plans.

The client approves material samples and construction tests as stipulated in the project material.

## 5. Operational phase consultancy

The consultant may assist in performing tasks related to using and operating the facilities (facilities and buildings, if any).

The term *operation and maintenance plan* is used below. For the purposes of this document, it also covers the term *maintenance plan* often used by landscape architects.

The services to be provided by the consultant and the scope of such services may be agreed separately for each service to be provided:

- 5.1 Preparation of operation and maintenance plan
- 5.2 Implementation of operation and maintenance plan
- 5.3 Assistance with facility operation

### 5.1 PREPARATION OF OPERATION AND MAINTENANCE PLAN

The operation and maintenance plan is drawn up for the purpose of optimising and systematising the operation of facilities and facility components.

The operation and maintenance plan describes operational activities and inspection routines required to make the facilities operate adequately when they have been handed over to the client, including activities to be performed for the client to keep 1-year and 5-year guarantees valid.

The operation and maintenance plan must contain relevant information about the operation and maintenance of the facilities in question.

Unless otherwise agreed, the operation and maintenance plan must include sections on

- required operational and maintenance activities, including operational and maintenance routines;
- completion dates for maintenance work with conditions specifying the required state of maintenance for the facilities and listing estimated dates for the replacement of facility components and installations; and
- financial resources required to comply with the plan.

For landscape architect work, a plan is prepared for the purpose of describing routine work to be performed during the four seasons as well as the

expected development, over a number of years, of facility vegetation and fixing and special work to be performed in this relation. The plan specifies the level of quality and the maintenance efforts for the individual landscape facilities and for the individual components, if required.

Operational activities must be documented in such a way as to produce a systematic overview of the plan's implementation.

The scope and system of documentation must be determined in accordance with the client's needs.

### 5.2 IMPLEMENTATION OF OPERATION AND MAINTENANCE PLAN

The client is responsible for implementing the operation and maintenance plan. At the request of the client, the consultant may assist in implementing the operation and maintenance plan drawn up.

An agreement may be concluded to provide assistance in setting up an operational organisation for the facilities in question.

### 5.3 ASSISTANCE WITH FACILITY OPERATION

The client is responsible for the operation of the facilities. At the request of the client, the consultant may provide assistance in connection with such operation. The purpose of providing assistance is to ensure that the intentions of the operation and maintenance plan are met, that the operation and maintenance plan is updated and that maintenance action is performed in a technically correct manner.

The extent of assistance must be defined for the individual facilities with reference to the operation and maintenance plan and may comprise:

- maintenance routines such as performing inspections and preparing structural surveys as well as monitoring and managing preventive and corrective maintenance work;
- preparation of maintenance budgets for specified periods;
- assistance in drawing up tender documents, implementing calls for tenders, assessing tenders and managing the performance of maintenance work;
- systematisation of experience gained by the operational organisation;

- clarification of questions from the operational organisation and advice in connection with questions relating to the operation of the facilities;
- quality assurance of the operation of the facilities by checking that the instructions specified in the operation and maintenance plan are followed;
- proposals for concluding/terminating service and insurance agreements; and
- proposal for and management of the process of revising the operation and maintenance plan.

For landscape architect work, the consultant may perform inspections to establish that the intentions of the plan are met and that the prescribed routines are implemented and work performed correctly.

The consultant may monitor the development of the facilities and make adjustments to the plan, if required, in cooperation with the client.

It is recommended that assistance be provided in the form of regular inspections, on which basis notes are prepared to make up the log of the landscape facilities.

To the extent agreed upon, the consultant checks that routines are implemented as planned and that the operation and maintenance plan is followed.

## 6. Planning consultancy

The consultant may, as agreed between the parties, provide assistance in connection with plans regarded as general plans in relation to building and civil engineering projects. Such assistance may typically be provided in connection with urban development, changes in the existing urban layout as well as landscape planning and adaptation of transport structures.

These plans often form the basis for subsequent building and civil engineering work.

The different types of planning are listed in 6.1 below, whereas consultancy stages and services in connection with planning are specified in 6.2-6.9 below.

### 6.1 PLANNING TASKS

Planning tasks comprise the following:

#### 6.1.1 Summary plans

#### 6.1.2 Sector plans

#### 6.1.3 EIA

#### 6.1.4 Other tasks

##### 6.1.1. Summary plans

- Landscape planning contributions
- Regional plans
- Local authority plans
- Urban policy and strategic planning
- Local plans
- Area and layout plans
- Urban district and centre plans
- General urban renewal
- Holiday and recreational areas
- Open landscape, etc.
- Sustainable development, for example in relation to Agenda 21 plans

Such summary plans are often physical plans covering all matters within a geographically defined area.

##### 6.1.2. Sector plans

- Population trends
- Improvement of private and public services
- Industrial development (local and regional)
- Utilities such as electricity, water and heat
- Waste disposal
- Protection of nature
- Areas of interest in terms of culture history

- Development of tourism
- Extraction of raw materials
- Environmental protection
- Traffic planning
- Urban renewal, etc.

Sector plans often take the form of action plans and so in many cases form the basis for summary physical planning.

##### 6.1.3 EIA (environmental impact assessment)

- Large-scale building complexes
- Large-scale infrastructural facilities
- Large-scale technical facilities

An EIA is made on the basis of a specific, large project and is an assessment of the environmental impacts of the project in general terms. EIAs take the form of regional plan supplements.

##### 6.1.4 Other tasks

- Analyses, for example in connection with location and market conditions
- Links between physical, economic, social and cultural planning
- Contributions in the form of assumptions for and preparation of forecasts and similar projections for the future
- Organisation of and participation in public comment procedures, including organisation and arrangement of competitions
- Organisation of and participation in conferences and seminars
- Preparation of publications, exhibition materials, etc.
- Logistics, for example in connection with design and construction of large transport structures
- Preparation of time schedules and investment plans
- Preparation of action plans
- Development work, for example in connection with legislative preparation and drafting of guidelines

Such tasks are usually based on needs established in connection with work performed under 6.1.1-6.1.3 above.

## 6.2 BRIEF AND WORK PROGRAMME

In cooperation with the client, the consultant prepares a brief as well as a work programme as

the basis for an agreement on the services to be provided.

Focus must be on matters serving to specify the agreement between the parties.

Such specification must form the basis for regularly assessing whether the nature or scope of tasks to be performed changes during the process and so whether the agreement needs to be amended.

A brief and a resulting work programme must typically specify the following details:

- the purpose of work
- a description of how to perform work
- a timetable as well as a work schedule
- information about any necessary background material such as relevant data and maps
- a specification of services to be provided by the client and the consultant, respectively
- form of presentation and communication
- the extent to which meetings are included in the agreement (and a list specifying such meetings, if required)
- a handing-over agreement, for example for public presentation, final approval by local councils, etc.
- a list of employees likely to work on the project in question and a list of persons responsible to the client

### **6.3 PREPARATORY WORK**

Physical planning is often based on a number of existing conditions. This may generate a need for preparatory work such as:

- preliminary inspection
- registrations and measurements
- providing updated data and map material
- collecting and processing new data
- interviews, etc., with representatives and reference groups, if required

### **6.4 PROBLEM DESCRIPTION**

An analysis and an assessment of the existing situation and thus an identification of problems are made on the basis of the material obtained. Such work may take into account both qualitative and quantitative aspects.

One purpose of the problem description is to establish the interdependence of the various factors relevant to the project in question.

### **6.5 FORECASTS**

As a basis for planning work, forecasts may need to be prepared in cooperation with the client. Such forecasts may be projections based on figures or merely assumptions of future conditions.

### **6.6 OBJECTIVE(S)**

On the basis of elements such as forecasts, one or more draft objectives are formulated – usually in cooperation with the client – for the problems to be addressed in the plan.

### **6.7 ALTERNATIVE PLANS**

It may often be expedient or even necessary to provide alternative proposals to perform the tasks in question. In this case, such arrangements must be agreed with the client. Alternatives must be prepared for EIAs.

### **6.8 IMPACT ASSESSMENT**

To assist the client in choosing between alternative proposals, descriptions of impacts may be drawn up for each alternative proposal. The impacts of alternatives must be described for EIAs.

### **6.9 PUBLIC COMMENT PROCEDURES**

The consultant may assist in completing a public comment phase, if needed.

Such work may comprise preparation of discussion papers, exhibition material, organisation of and participation in public meetings and study groups, preparation of leaflets, etc.

## 7. Other services

The consultant may, if agreed with the client, provide the following services or, on behalf of the client, arrange for such services to be provided by other parties. The scope of services must be specified in each case.

### 7.1 REGISTRATION OF EXISTING CONDITIONS AND FACILITIES

Registration of existing conditions. This is an assessment of the condition of the facilities before alteration and serves as documentation to the owner of the facilities and to the authorities.

The registration includes only facility components affected by the current renovation and alteration project as well as any adjacent facility components if such components involve a risk of damage to planned work.

The registration is updated if the further design process or the physical performance of work alters the present conditions.

The registration may be extended to include inspection, measurement and drawing of existing facilities, photo registration of existing conditions, registration of archaeological investigations as well as relevant research in archives.

If required, digitalisation of existing drawings.

### 7.2 LANDSCAPE ANALYSIS

Assistance in analysing landscape history, topography, fauna, climate, etc., in connection with appraisal preparation.

### 7.3 GEOTECHNICAL INVESTIGATIONS

Initial geotechnical assessments based on available existing investigations in the area in question, supplemented by individual geotechnical drilling and water level sounding, if required.

Development of a programme for geotechnical investigations as a basis for design work, including estimates of such investigations.

Completion of geotechnical investigations comprising field work, laboratory tests, geological evaluation and classification, reporting, including

drilling profiles as well as determination of strength parameters and design water levels.

Follow-up during the construction phase.

### 7.4 GEOPHYSICAL INVESTIGATIONS

Geophysical borehole logging as a supplement to or in substitution for geotechnical investigations.

Geophysical area mapping to demarcate characteristic geological formations and to correlate bore information.

### 7.5 HYDROLOGICAL INVESTIGATIONS

Performance of hydrogeological preliminary studies based on existing geological and hydrogeological information.

Performance of short or long-term pumping experiments for the purpose of determining hydraulic parameters as a basis for dimensioning groundwater lowering and reinfiltration systems. Use of IT models for the purpose of assessing and optimising such systems.

Consideration, inspection and follow-up of facilities by the authorities during the operational phase.

### 7.6 ENVIRONMENTAL INVESTIGATIONS

Collection of basic information about the construction site and compilation of history, including assessment of the likelihood of pollution and contamination and the nature of such pollution and contamination.

Development of a programme for environmental investigations, including estimates of such investigations.

Completion of environmental investigations, analysis of samples and processing of test results. Reporting on investigations, including assessment of the extent and nature of pollution and contamination, proposals for remediation and estimates of the costs of such remediation.

Follow-up during the construction phase.

Consideration by the authorities.

### **7.7 NOISE AND VIBRATION**

Performance of noise level measurements for existing noise level conditions as well as planning and design of measures required to reduce noise levels and vibrations during the course of the civil engineering project and from the completed facilities.

### **7.8 OFFICIAL DUTIES**

Preparation of material for and participation in official duties such as inspection and expropriation, including preparation for and negotiations with the authorities.

### **7.9 RISK ANALYSIS**

Analysis and management of specific conditions subject to risk.

### **7.10 FINANCIAL ANALYSIS**

Performance of calculations to determine the financial consequences of alternative scenarios, preparation of operating budgets, preparation of investment plans and performance of profitability calculations.

Preparation of special estimates, including successive calculations, etc., itemised and made in accordance with the client's specific demands.

Performance of overall financial calculations comprising capitalisation of total construction and operating costs during the lifetime of the relevant facilities.

### **7.11 INSURANCE**

Advice on types of insurance in connection with the design, construction and operation of the facilities, including invitation of quotations, if required, through an insurance broker.

### **7.12 PROCESS MANAGEMENT/ CONSULTANCY**

Organisation of user involvement, including holding of special user seminars, etc.

Team building, including holding of workshops, start-up seminars, etc., in connection with the planning and completion of the civil engineering project.

Implementation of final evaluations.

### **7.13 DIGITAL DESIGN, ETC.**

The client's requirements for

- digital tendering
- project web
- 3D design
- digital handing-over process

must be specified in the agreement.

### **7.14 INTERNET PORTAL**

Establishment and operation of an Internet portal containing information about the project for users, citizens and other interest groups.

### **7.15 LIGHTING SYSTEMS**

Consultancy in connection with lighting systems other than that described in the construction programme as falling within the scope of the consultant's area.

### **7.16 CONSULTANCY IN CONNECTION WITH SIGNS**

The standard services include traffic signs of the A, B, C and D type and roadway markings as stipulated in road traffic legislation.

Assistance in establishing traffic signs, information signs and road signs other than those mentioned above and in establishing portals for all signs may be provided as agreed.

### **7.17 TRAFFIC CONTROL SYSTEMS**

Consultancy in connection with traffic control systems other than that described in the construction programme as falling within the scope of the consultant's area.

### **7.18 ENVIRONMENTALLY FRIENDLY DESIGN**

Environmentally friendly design is a strategy pursued for the purpose of ensuring environmentally optimum results within the framework of a civil engineering project (such framework to be established by the client). Environmentally friendly design documents that environmental considerations form an integral part of the project.

Assistance in connection with environmentally friendly design may be provided at different levels, depending on the nature of the project and the client's environmental ambitions.

The services to be provided by the consultant are incorporated into the individual stages of the design phase and may comprise the following main activities:

Environmental programming and planning:

- definition of the client's environmental policy and targets, in general
- definition of the client's environmental policy and targets, according to the specific project
- determination of the level of ambition and allocation of roles for environmentally friendly design in the current project
- mapping of relevant and important environmental impacts and effects likely to be caused by the project during the lifetime of the relevant facilities
- recommendation of priority action areas or objectives to reduce environmental impacts
- prioritisation of environmental impacts and effects to be reduced through specific action
- determination of scope, documentation, allocation of responsibility and financial limits for environmentally friendly design during the individual design stages

Design:

- an assessment of and proposals for measures
- instructions for how and when measures must be established and incorporated as well as documentation of such incorporation
- preparation of environmental status reports at the end of each individual stage for the purpose of making recommendations for subsequent stages

Construction:

- a description of environmental requirements to be met by the constructors in the current project as well as the scope of supervision to be performed to ensure the effectiveness of the measures incorporated

Operation:

- a description of environmental requirements to be incorporated into operation and maintenance guidelines

### **7.19 ENVIRONMENTAL MANAGEMENT**

The consultant may undertake environmental management responsibilities in connection with design management (2.1) or in the form of separate services. The services may comprise the following main activities:

- interdisciplinary coordination of environmentally friendly design
- interdisciplinary maintenance of environmental programme and plan
- interdisciplinary environmental review

### **7.20 HEALTH AND SAFETY PLAN**

The consultant may undertake to assist the client in its obligations to establish, complete and update a health and safety plan.

### **7.21 TRAFFIC CHANGES DURING THE CONSTRUCTION PERIOD**

Assistance in connection with steps taken to maintain traffic during the construction period in so far as such steps are so complex that the contractors cannot be ordered to handle traffic on their own. Steps may include providing temporary signalling systems, signs and roadway markings.

### **7.22 SPECIAL TESTS**

Completion of laboratory and model testing.

### **7.23 CLIENT DELIVERABLES**

Responsibility for tendering, purchasing and coordination of any client deliverables.

### **7.24 WORKING AND ASSEMBLY DRAWINGS**

Working and assembly drawings are usually made by the individual contractor or supplier. If it is more expedient in the relevant project that the consultant make such drawings, a separate agreement must be concluded with the client in this respect.

### **7.25 FITTINGS, FIXTURES AND EQUIPMENT**

The consultant may, as agreed between the parties, assist in purchasing standard fittings, fixtures and equipment (fixed/non-fixed) and in adjusting such fittings, fixtures and equipment to functions and technical installations.

The consultant may, as agreed between the parties, also provide assistance in connection with the design, etc., of special fittings, fixtures and equipment, including waste containers, benches, tables, information signs, bicycle racks, plant bowls, advertising signs, etc.

### **7.26 SPECIAL VISUALISATION**

Development of physical or digital models, architectural photos, photorealistic visualisation, 3D

visualisation, animations and real-time visualisation.

#### **7.27 SALES MATERIAL, ETC.**

Assistance with the preparation of sales and lease material.

#### **7.28 COMPLEMENTARY/ALTERNATIVE PROJECTS AND PROJECT CHANGES**

- Preparation of complementary projects ordered by the client
- Review of alternative projects drawn up by other consultants
- Assistance in connection with the implementation of project changes (i.e. redesign work bringing the project to the same level as before the implementation of changes)
- Project adjustments as a result of changes introduced by the client

#### **7.29 ARTISTIC DECORATION**

Assistance in connection with organisation of and negotiations in respect of artistic decoration.

#### **7.30 PREQUALIFICATION**

Assistance in connection with the implementation of a prequalification round.

#### **7.31 NEGOTIATIONS UNDER THE DANISH INVITATION TO SUBMIT TENDERS ACT**

Assistance in connection with negotiations to be conducted according to the Danish Invitation to Submit Tenders Act.

#### **7.32 EU PROCEDURES**

Assistance in connection with the implementation of procedures in accordance with EU public procurement directives.

#### **7.33 NEGOTIATIONS UNDER EU PUBLIC PROCUREMENT DIRECTIVES**

Assistance in connection with negotiations to be conducted according to EU public procurement directives.

#### **7.34 PROVISION OF DIGITAL DATA ON AN 'AS IS' BASIS**

The consultancy agreement specifies the scope of services to be provided.

Project data are provided in the structured format in which they appear in the consultant's IT systems.

#### **7.35 PROVISION OF DIGITAL DATA FOLLOWING PROCESSING**

The consultancy agreement specifies the scope of services to be provided.

Preparation of post-processed CAD and non-graphic data if the client wants the project to be provided in a special format and/or structure or if the client wants special data to be generated and such data cannot be directly extracted from the project.

#### **7.36 'AS BUILT'**

'As built' services are services to be provided to bring the project material to a level where such material and the currently completed project are consistent with one another. The level of consistency is set for the current project.

#### **7.37 DETAILED TIMETABLES**

Preparation of detailed timetables in addition to those described during the individual stages and phases.

#### **7.38 SPECIAL ACCESSIBILITY REQUIREMENTS**

Assistance in ensuring compliance with special accessibility requirements in addition to those contained in Danish building regulations, road rules and other legislation.

#### **7.39 ACCESSIBILITY AUDIT**

Assistance in performing an accessibility audit to assess whether the "traffic areas for everybody" road rule has been observed.

#### **7.40 ROAD SAFETY AUDIT**

Assistance in performing a road safety audit to assess whether the design of the road system is satisfactory from a road safety point of view.

#### **7.41 COMPLIANCE WITH SPECIAL REGULATORY REQUIREMENTS**

Assistance in ensuring compliance with requirements in addition to those contained in legislation, provisions, etc., governing the facilities in question, including function-based fire requirements, fire strategy plans, escape route and area allocation plans, Central Register of Buildings and Dwellings forms and documentation.

Assistance in ensuring compliance with requirements contained in legislation, provisions, etc., taking effect after the conclusion of the consultancy agreement.

#### **7.42 INCREASED QUALITY ASSURANCE**

Assistance in connection with quality assurance comprising client requirements of increased or special internal quality assurance in the form of organisation and documentation of internal quality assurance as specified by the client in connection with the design and construction processes.

The consultant makes an assessment by reviewing the solutions presented in the main project. Any critical and/or risky conditions are incorporated as separate items into the tender verification and supervision plans.

The plans establish the scope of spot checks and special controls according to an agreement concluded with the client.

The consultant prepares draft technical supervision plans.

The consultant establishes on a spot check basis that the contractors comply with the approved control plans and that documentation is drawn up and handed over as agreed.

The consultant collects the quality documentation provided.

#### **7.43 CHANGE OF CONSULTANTS**

If there is a change of consultants during the design process, the new consultant will review and check the material taken over from the previous consultant.

#### **7.44 SPECIAL MEETING ACTIVITIES DURING THE DESIGN PHASE**

Assistance in connection with special meeting activities such as preparation of material for and participation in client/user meetings, including general meetings, board meetings, political meetings and public meetings where the client's representative participates.

#### **7.45 SPECIAL MEETING ACTIVITIES DURING THE CONSTRUCTION PHASE**

Holding of special start-up, coordination and technical meetings.

Participants may be project follow-up, construction management and technical supervision staff.

#### **7.46 INCREASED TECHNICAL SUPERVISION**

Assistance in connection with technical supervision in addition to supervision responsibilities as described in 4.2.

In each case, the need for increased technical supervision must be assessed on the basis of the nature of the project and the qualifications of the contractors to perform adequate checks to be performed.

#### **7.47 DISPUTES**

Assistance in connection with legal disputes between the client and contractors or suppliers, in connection with work stoppages by the contractors, in connection with completion statements, in connection with inspections and surveys and in connection with suspension of payments, insolvency or liquidation by the contractors.

#### **7.48 FIVE-YEAR INSPECTION**

Inspection is performed according to the guidelines laid down by the Danish Building Defects Fund or according to agreement.

Services may also include technical assistance in connection with 5-year inspections performed by other consultants.