Capital Works Management Framework
Guidance Note

Project Definition and Development of the Definitive Project Brief

GN 1.2

Project Definition and Development
of the Definitive Project Brief

Document Reference GN 1.2 v.1.0.

28 July 2009

Published by: Department of Finance
Government Buildings
Upper Merrion Street
Dublin 2.

Contents

Foreword

Purpose of this document

This document is one of a number of guidance notes aimed at facilitating the implementation of the Government's reform objectives in public sector construction procurement. It is a key part of the Capital Works Management Framework (CWMF) which is an integrated set of contract forms, guidance notes and standard templates that are required to assist in the satisfactory delivery of public sector capital works projects.

The purpose of this document is to provide guidance on how the outputs and other requirements that form part of a project should be defined so that its scope and budget are firmly established. The Project Definition is the first step, after Approval-in-Principal, in the planning stage (i.e. Planning Initial Stage) of the development, management and delivery of capital works projects.

The project definition involves a range of activities that have as their ultimate goal a comprehensive description with a realistic budget for all requirements that make up a project. These activities are conducted in a systematic, rigorous and formal manner, and lead to defined outputs in the form of the *Definitive Project Brief* which includes *the Design Brief*, and the *Final Output Specification.*

Audience for this document

This document is intended primarily for the guidance of Sponsoring Agencies embarking on traditional and design-and-build projects. It should be promoted by Sanctioning Authorities as best practice for Sponsoring Agencies to follow at the beginning of the Planning Initial Stage (prior to appointment of professional experts for the main design service) when determining the optimum output requirements that can be provided within the approved budget.

While many of the planning principles in this document apply equally to projects that are to be financed through Public-Private Partnerships, the detailed planning of such projects is outside the scope of the guidance notes in the Planning Developed Stage of the CWMF.

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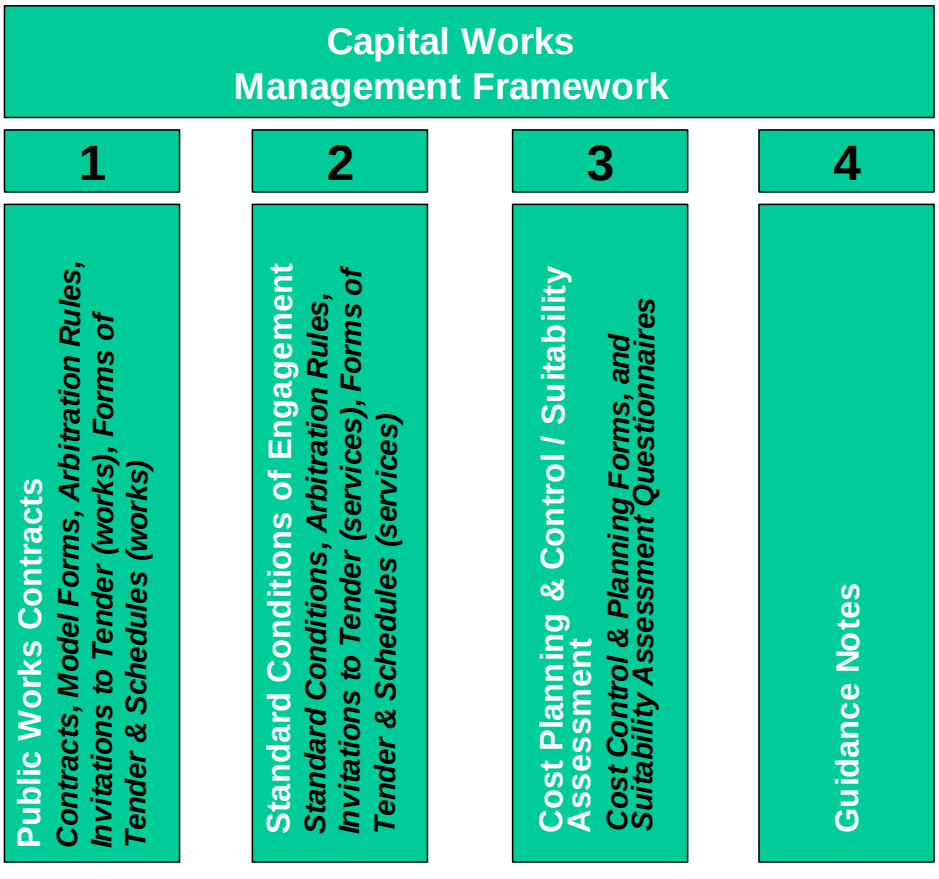
What is the Capital Works Framework

The Capital Works Management Framework (CWMF) is a structure that has been developed to deliver the Government's objectives in relation to public sector construction procurement reform. It consists of a suite of best practice guidance, standard contracts and generic template documents that form four pillars that support the Framework; the pillars are:

1. A suite of standard forms of construction contracts and associated model forms, dispute resolution rules, model invitations to tender, forms of tender and schedules;
2. The standard conditions of engagement for consultants, dispute resolution rules, model invitations to tender, forms of tender and schedules;
3. Standard templates to record cost planning and control information; and for suitability assessment; and
4. Extensive guidance notes covering the various activities in a project delivery process.



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What is the Capital Works Framework (continued)

The content of the four pillars is outlined below. The constituent documents are coded according to the following scheme:

Code	Description	Code	Description
PW-CF	*Public Works Contract Form*	*COE*	*Standard Conditions of Engagement*
MF	*Model Form*	*GN*	*Guidance Note*
AR	*Arbitration Rules*	*CO*	*Cost Planning / Control Form*
ITTS	*Invitation To Tender, Services*	*ITTW*	*Invitation To Tender, Works*
QC	*Questionnaire: Suitability Assessment for Service Provider*	*QW*	*Questionnaire: Suitability Assessment for Works Contractor*
FTS	*Form of Tender and Schedule*	*GL*	*Glossary*
WE	*Data on Weather Event*		

CWMF Pillar 1 *Public Works Contracts*

Contracts, Model Forms, Arbitration Rules, Invitations to Tender (works), and Forms of Tender & Schedules (works)

Contracts	
PW-CF1	*Public Works Contract for Building Works designed by the Employer*
PW-CF2	*Public Works Contract for Building Works designed by the Contractor*
PW-CF3	*Public Works Contract for Civil Engineering Works designed by the Employer*
PW-CF4	*Public Works Contract for Civil Engineering Works designed by the Contractor*
PW-CF5	*Public Works Contract for Minor Building and Civil Engineering works designed by the Employer*
PW-CF6	*Public Works Short Form of Contract*
PW-CF7	*Public Works Investigation Contract*
PW-CF8	*Public Works Short Form of Investigation Contract*
PW-CF9	*Public Works Framework Agreement*
Weather Events	
WE1.0	*Met Éireann's calculations of Weather Events*

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CWMF Pillar 1
(continued)

Model Forms	
MF 1.0	*Model Forms (compendium of all model forms)*
MF 1.1	*Bid Bond*
MF 1.2	*Letter to Apparently Unsuccessful Tenderer*
MF 1.3	*Letter of Intent*
MF 1.4	*Letter of Acceptance*
MF 1.5	*Letter to Tenderers Notifying Award*
MF 1.6	*Performance Bond*
MF 1.7	*Parent Company Guarantee*
MF 1.8	*Novation and Guarantee Agreement*
MF 1.9	*Novation Agreement*
MF 1.10	*Appointment of Project Supervisor*
MF 1.11	*Professional Indemnity Insurance Certificate*
MF 1.12	*Collateral Warranty*
MF 1.13	*Rates of Pay and Conditions of Employment Certificate*
MF 1.14	*Bond – Unfixed Works Items*
MF 1.15	*Retention Bond*
MF 1.16	*Appointment of Conciliator*
MF 1.17	*Bond – Conciliator's Recommendation*
Arbitration Rules	
AR 1.0	*Arbitration Rules*
Invitations to Tender (works)	
ITTW 1	*Invitation to Tender for Works, Restricted Procedure*
ITTW 2	*Invitation to Tender for Works, Open Procedure*
ITTW 3	*Invitation to Tender, Investigation Contract under an Open Procedure*
Forms of Tender and Schedules	
FTS 1	*Form of Tender and Schedule: Public Works Contract for Building Works designed by the Employer*
FTS 2	*Form of Tender and Schedule: Public Works Contract for Building Works designed by the Contractor*
FTS 3	*Form of Tender and Schedule: Public Works Contract for Civil Engineering Works designed by the Employer*
FTS 4	*Form of Tender and Schedule: Public Works Contract for Civil Engineering Works designed by the Contractor*
FTS 5	*Form of Tender and Schedule: Public Works Contract for Minor Building and Civil Engineering Works designed by the Employer*
FTS 6	*Form of Tender and Schedule: Public Works Short Form of Contract*
FTS 7	*Form of Tender and Schedule: Public Works Investigation Contract*
FTS 8	*Form of Tender and Schedule: Public Works Short Form of Investigation Contract*

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CWMF Pillar 2 *Standard Conditions*

Standard Conditions of Engagement, Arbitration Rules, Invitations to Tender (services), and Forms of Tender & Schedules (services).

Standard Conditions	
COE 1	*Standard Conditions of Engagement for Consultancy Services (Technical)*
COE 2	*Standard Conditions of Engagement for Archaeology Services*
Arbitration Rules	
AR 1.0	*Arbitration Rules*
Invitations to Tender (services)	
ITTS 1	*Invitation to Tender for Services, Restricted Procedure*
ITTS 2	*Invitation to Tender for Services, Open Procedure*
Forms of Tender & Schedule (services)	
FTS 9	*Form of Tender and Schedule, Consultancy Services (Technical)*
FTS 10	*Form of Tender and Schedule, Archaeology Services*

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CWMF Pillar 3 ***Cost Planning & Control / Suitability Assessment***

Cost Control & Planning Forms; and Suitability Assessment Forms for works and services.

Cost Planning & Control Forms	
CO 1	*How to Use the Costing Document (Building Works) Template*
CO 1.1	*Costing Document (Building Works)*
CO 2	*How to Use the Costing Document (Civil Engineering Works) Template*
CO 2.1	*Costing Document (Civil Engineering Works, Roads)*
CO 2.2	*Costing Document (Civil Engineering Works, Water Sector)*
CO 2.3	*Costing Document (Civil Engineering Works, Marine)*
Suitability Questionnaires (works)	
QW 1	*Questionnaire: Suitability Assessment for Works Contractor, Restricted Procedure*
QW 2	*Questionnaire: Suitability Assessment for Works Contractor, Open Procedure*
QW 3	*Questionnaire: Suitability Assessment for Works Specialist for specialist area*
Suitability Questionnaires (services)	
QC 1	*Questionnaire: Suitability Assessment for Service Provider, Restricted Procedure*
QC 2	*Questionnaire: Suitability Assessment for Service Provider, Open Procedure*
QC 3	*Questionnaire: Suitability Assessment for Service Provider, Independent PSDP*
QC 4	*Questionnaire: Suitability Assessment for Service Provider, Independent PSCS*

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CWMF Pillar 4 *Guidance Notes*

Guidance Notes	
GN 1.0	*Introduction to the Capital Works Management Framework*
GN 1.1	*Project Management*
GN 1.2	***Project Definition and Development of the Definitive Project Brief*** [1]
GN 1.3	*Budget Development*
GN 1.4	*Procurement and Contract Strategy for Public Works Contracts*
GN 1.5	*Public Works Contracts*
GN 1.6	*Procurement Process for Consultancy Services (Technical)*
GN 1.6.1	*Suitability Assessment of Construction Service Providers, Restricted Procedure*
GN 1.6.2	*Suitability Assessment of Construction Service Providers, Open Procedure*
GN 1.7	*Standard Conditions of Engagement, Guidance Note and Sample Schedules*
GN 2.1	*Design Development Process*
GN 2.2	*Planning and Control of Capital Costs*
GN 2.3	*Procurement Process for Works Contractors*
GN 2.3.1	*Suitability Assessment of Works Contractors, Restricted Procedure*
GN 2.3.2	*Suitability Assessment of Works Contractors, Open Procedure*
GN 3.1	*Implementation Process*
GN 4.1	*Project Review*
Glossary	
GL 1.0	*Glossary*

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[1] The current guidance note.

Stages in capital works management

The four major stages in the delivery process of a public works project are set out in the Department of Finance's *Guidelines for the Appraisal and Management of Capital Expenditure Proposals in the Public Sector* (February 2005). The four stages are:

	Stage	What happens
Capital Works Management	**1. Appraisal**	The needs are identified, the broad parameters of a solution are agreed, and a decision-in-principle is made to proceed.
	2. Planning	The needs are quantified and assumptions verified, the desired outputs are specified, and the solution is designed.
	3. Implementation	The solution is constructed.
	4. Project review	An assessment is carried out of how successfully the delivered solution addresses the needs.

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Strategic Objectives of the CWMF

The strategic objectives of the Government's Capital Works Management Framework are to ensure:

- Greater cost certainty at contract award stage;
- Better value for money at all stages during project delivery, particularly at handover stage; and
- More efficient end-user delivery.

Provided there is a comprehensive definition of the Client's requirements in terms of output specifications, and adequate pre-tender detail design input (in the cast of traditional contracts), the new public works contracts will enable the key objectives outlined above be achieved. The degree to which output specifications and the pre-tender detailed design input is developed is determined by the following guiding principles which underpin the new contracts:

- To ensure as far as practicable that the accepted tender prices and the final outturn costs are the same; and
- To allocate risk so that there is optimal transfer of risk to the Contractor.

The public sector Client is called 'the Employer' in the new public works contracts. The achievement of optimal risk transfer is dependent on the Employer providing complete and detailed information in the tender documentation:

- For design-and-build projects, the Employer must provide detailed output specifications; and
- For traditional projects, the Employer must provide comprehensive input designs and specifications

In response to an invitation to tender, prospective contractors can assess the impact of the risks being transferred and build the costs of such risks into their tender price.

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Content

This document is divided into three chapters and an appendix, as follows:

Capital Works Management Framework

Main Project Processes

Project Stages		Project Management	Design Activities (Building)	Design Activities (Civil Eng.)	Cost Control Activities	Risk and Value Management	Documents for Approval
Appraisal							
Approval in Principle							
Stage 1 ***Planning Initial***	**Stage (i)** ***Feasibility Study / Preliminary Report***	**Manage outputs: Project Definition (through 16 Nº overall parameters)** **Manage technical experts' appointment (if required)**	Conduct Feasibility Studies Develop *Definitive Project Brief* Appoint technical experts (if required) Appoint PSDP (if required)	Conduct Preliminary Report Conduct design studies Develop *Definitive Project Brief* Appoint technical experts (if required) Appoint PSDP (if required)	Conduct cost assessment of Feasibility Studies / Preliminary Report (capital and maintenance costs)	**VM:** Confirm strategic functional performance Review Feasibility Studies / Preliminary Report options Identify VM strategies Develop functional performance model **RM:** Identify and assess risk relating to the *Project Execution Plan* Develop high-level *Risk Management Plan*	*Project Management Structure* *Preliminary Project Brief* *Preliminary Output Specification* *Feasibility Study and Cost Plan* *Design Brief* *Final Output Specification* *Definitive Project Brief* *Project Execution Plan* *Risk Management Plan*
	Stage (ii) ***Design***	***Project Review 1: Confirm approval for design expenditure*** (Report to Sanctioning Authority and await approval prior to proceeding)					
		Manage procurement strategy **Manage design consultant appointment** **Manage assessment of output requirements**	Appoint Design Team / Design Team Leader Assess output requirements	Appoint Design Team / Lead Consultant Develop design standards Assess output requirements	Check / assess budget	**VM:** Consider VM in relation to procurement strategy **RM:** Identify risk in relation to procurement Agree risk allocation	*Definitive Procurement Strategy* *Contract Type Proposal* *Project Team Selection Report*
Stage 2 ***Planning Developed***		***Project Review 2: Confirm requirements; review procurement strategy*** (C ertify compliance to Sanctioning Authority; and proceed after agreed period provided no queries / hold from Sanctioning Authority)					
		Manage Outline Design process	Develop *Outline Sketch Scheme* Appoint PSDP (if not appointed earlier)	Develop Preliminary Planning Appoint PSDP (if not appointed earlier)	Develop *Outline Cost Plan*	VM: Consider VM in relation to Outline Sketch Scheme / Preliminary Planning RM: Consider RM in relation to Outline Sketch Scheme	*Outline Sketch Scheme (Building)* *Preliminary Planning drawings (C. Eng.)* *Outline Cost Plan*
		Project Review 3: Assess project design and Outline Cost Plan (Certify compliance to Sanctioning Authority; and proceed after agreed period provided no queries / hold from Sanctioning Authority)					
		Manage Developed Design process **Manage procurement process**	Develop *Developed Sketch Scheme* Prepare submission for statutory approval	Continue Preliminary Planning Prepare submission for statutory approval	Develop *Developed Cost Plan* Develop *Whole Life Cost Appraisal*	**VM:** Carry out value engineering Assess buildability of the design Consider VM in relation to *Detailed Sketch Scheme* **RM:** Identify residual risks Consider RM in relation to *Detailed Sketch Scheme* Suitability assessment of contractors	*Developed Sketch Scheme* *Developed Cost Plan* *Statutory Approval Submission*
		Project Review 4: Assess project prior to statutory approval (Report to Sanctioning Authority and await approval prior to proceeding)					
		Manage statutory submission process	Submit for statutory approval Review statutory approval outcome	Submit for statutory approval Review statutory approval outcome	Review *Developed Cost Plan*	**VM:** Review any planning conditions for value management impact. **RM:** Review any planning conditions for risk impact.	*Developed Cost Plan (reviewed)*
		Project Review 5: Assess outcome from statutory approval (Certify compliance to Sanctioning Authority; and proceed after agreed period provided no queries / hold from Sanctioning Authority)					
	Stage (iii) ***Tender***	**Manage the Detailed Design Process**	Develop Detailed Design (not design-and-build) Prepare tender documents	Develop Detailed Planning (Design) (not design-and-build) Prepare tender documents	Conduct *Detailed and Pre-Tender Cost Checks* and *Whole Life Cost Update* in advance of preparing tender documents	**VM:** Review suitability assessment of contractors for VM potential **RM:** Review suitability assessment of contractors for risk impact	*Tender Documentation* *Detailed Pre-tender Cost Check* *Whole Life Cost Update* *Contractor List Selection*
		Project Review 6: Approve detailed design solution; review pre-tender cost check; review risk (Report to Sanctioning Authority and await approval prior to proceeding)					
		Manage the Tender Process	Issue tender documents Assess tender returns Recommend successful tenderer	Issue tender documents Assess tender returns Recommend successful tenderer	Develop *Tender Cost Analysis* Develop *Tender Report*	**VM:** Assess tender returns for VM potential **RM:** Assess tender returns for risk impact	*Tender Assessment Criteria* *Tender Analysis And Report* *Contractor Recommendation*
		Project Review 7: Review tender returns in advance of awarding the contract (Report to Sanctioning Authority and await approval prior to proceeding)					
Stage 3 ***Implementation***	**Stages (iv)** ***Construction &*** **(v)** ***Handover***	**Manage the implementation / construction process** **Manage change control** **Manage contract**	Develop Detailed Design (Design and Build) Implement design	Develop Detailed Planning (Design and Build) Implement design	Manage change control for costs Prepare final account	**VM:** Carry out value engineering (for design and build projects only) **RM:** Manage residual risk Manage construction risk	Various contract management reports
Stage 4 ***Review***		**Manage the Project Review**	Conduct design review	Conduct design review	Develop *Analysis of Outturn Cost*	**VM:** Evaluate value achieved **RM:** Evaluate the risk management and risk mitigation process Consider operational risk reviews	*Project Outturn Review*

Capital Appraisal

Standard Conditions of Engagement

Design and Build

1. Overview: Project Planning

1.1 Introduction to Project Planning

Importance of project definition

Project definition is the single most important exercise in the design process. It consists of a set of activities that have as their final purpose the development of a Definitive Project Brief that can enable a responsive and efficient design process, with a minimum number of iterations arising out of amendments. When clear project objectives are set, a mechanism for cost planning and cost control can also be established. The importance of the role of the project definition cannot be emphasised enough, and the Sponsoring Agency should ensure that sufficient time and resources are allocated to it so that all aspects of the Client's objectives are explored and clearly defined.

Benefits of good planning

Good planning takes time and effort, but brings significant benefits:

- It saves time and cost in later stages;
- It ensures that Clients' requirements are addressed and their organisational values respected;
- It helps deliver better design and reduce waste; and
- It enables project personnel to minimise and manage risks, and to minimise delays and cost increases.

This chapter deals with project planning and the activities involved in it.

1.2 Project Planning: Stages and Responsibilities

Responsibilities

The Sanctioning Authority and the Sponsoring Agency divide responsibilities for planning between them in the following way:

The Sanctioning Authority...	... has responsibility for approving and funding a project, within specified parameters of scope, cost, time and standards. *The Sanctioning Authority is typically a Government Department or Statutory Agency dealing with Local Authorities on public works projects.*
The Sponsoring Agency...	... has the overall responsibility for financing, proper planning, management and implementation of a project, and for seeking the approval of the Sanctioning Authority for the original project proposal and for any material change subsequently introduced. *The Sponsoring Agency is usually a Government Department, a Local Authority or other State agency responding to a public need through a public works project.*

Responsibilities

In some cases, the Sponsoring Agency and the Sanctioning Authority are the same body. Where this occurs there should be a clear demarcation between the two roles within the body. The responsibilities should be clearly distinguished and the duties assigned to different individuals.

Approval-in-Principle

If the appraisal shows sufficient justification for the project to proceed**,** the Sanctioning Authority grants Approval-in-Principle to the Sponsoring Agency. This is an essential requirement before the project can proceed to the Planning stage.

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1.2 Project Planning: Stages and Responsibilities, Continued

Steps in project planning

The Planning Stage involves a number of steps that are usually spread across two sub-stages, Planning Initial and Planning Developed. The following table summarizes the steps (high level actions conducted by a Sponsoring Agency) in project planning, and indicates the guidance notes where you can find more detailed information on each sub-stage. This document is concerned with guidance in relation to the development of a definitive project brief in the Planning Initial stage.

Planning Initial	Establish a Project Management Structure (including the appointment of a Project Coordinator) *Project Management* (GN 1.1)
	Develop a Definitive Project Brief (including Feasibility Study/Preliminary Report) *Project Definition and Definitive Project Brief* (GN 1.2)
	Develop and refine the budget within the Definitive Project Brief *Budget Development* (GN 1.3)
	Develop A Project Execution Plan *Project Management* (GN 1.1)
	Project Review 1
	Decide on procurement strategy and contract type *Procurement and Contract Strategy for Public Works Contracts* (GN 1.4)
	Appoint design team and other consultants *Procurement Process for Consultancy Services (Technical)* (GN 1.6)
	Project Review 2
Planning Developed	Develop designs to tender documentation stage *Design Process* (GN 2.1)
	Plan and control capital costs during design development *Planning and Control of Capital Costs* (GN 2.2)
	Project Review 3
	Project Review 4
	Project Review 5
	Project Review 6
	Conduct a tender competition *Procurement Process for Works Contractors* (GN 2.3)
	Evaluate tender responses and select the most economically advantageous *Tender Process for Works* (GN 1.8)
	Project Review 7

Note: Project Review 7 in the planning stage does *not* involve the awarding of works contracts or making any irrevocable commitment to undertake the project where greatest level of expenditure is involved.

1.3 Project Planning Activities

Project activities and parameters

There are sixteen project parameters, each of which is considered and re-visited as the project progresses through six key project activities. Each activity is reviewed in the context of sixteen parameters in order to refine, improve and quantify the output of that activity. The final activity, the development of the Definitive Project Brief, represents the aggregate of all actions undertaken in previous activities cumulating in a comprehensive statement of the Client's output requirements which meet the public service need.

The following table summarises the interaction of project parameters (represented by rows) and definition activities (represented by columns). As a project progresses through the various actions its requirements become more accurately defined. The table below may be used to track progress of each project parameter across the six activities.

	PROJECT DEFINITION ACTIVITIES					
PROJECT PARAMETERS	1.Preliminary Project Brief	2. Prelim. Output Specification	3. Feasibility Study	4. Design Brief	5. Final Output Specification	6. Definitive Project Brief
1. Objectives	✓	→	→	→	→	✓
2. Purpose	✓	→	→	→	→	✓
3. Scope	✓	→	→	→	→	✓
4. Deliverables/ desired outcome	✓	→	→	→	→	✓
5. Performance	✓	→	→	→	→	✓
6. Assumptions	✓	→	→	→	→	✓
7. Governance and reporting	✓	→	→	→	→	✓
8. Preferred options	✓	→	→	→	→	✓
9. Known risks	✓	→	→	→	→	✓
10. VM strategies	✓	→	→	→	→	✓
11. Project execution plan	✓	→	→	→	→	✓
12. Functional life	✓	→	→	→	→	✓
13. Design / restrictions requirements	✓	→	→	→	→	✓
14. Location	✓	→	→	→	→	✓
15. Budget	✓	→	→	→	→	✓
16. Constraints	✓	→	→	→	→	✓

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1.3 Project Planning Activities, Continued

Flexible approach to planning

The interaction of project parameters and project definition activities presented in the table on the previous page represents the ideal or optimal progression of best practice in a linear manner. In practice some of these activities may take place concurrently or in a different sequence, and some of them might not always be necessary. However, all sixteen parameters and six activities need to be carefully considered before deciding to exclude any one of them.

Above all, the project team (i.e. the Client Team, Project Coordinator and independent technical experts appointed to assist) needs to be flexible with the planning methodologies it uses, provided of course, that the accuracy and comprehensiveness of the required information is not compromised. For example, if a Feasibility Study or Preliminary Report was carried out at Appraisal stage in advance of obtaining Approval-in-Principle from the Sanctioning Authority, then this activity will not need to be repeated during project definition. All that needs to be done is that the outcomes that were arrived at to allow the project to proceed are checked to ensure that they continue to hold true.

Also, if the project scale is such that it would be disproportionately expensive or time-consuming to examine each activity exhaustively and in detail during project definition, the activities may be doubled up or passed over as appropriate provided major issues, that might otherwise question the viability of a project, are not overlooked.

1.4 Developing the Project Brief

What is a project brief?

A project brief is a complete statement of user requirements and other technical, administrative and financial information relevant to a capital works project that is required to satisfy a particular need. The project brief should address all sixteen project parameters appropriately having carefully considered each one of them – these are described in more detail on page 24.

The project brief is developed in two steps as a project progresses through the project definition stage:

1. Early on in the process a preliminary project brief is established after Approval-in-Principle has been granted by the Sanctioning Authority. This includes in addition to certain facts about the project a wide variety of assumptions that constitute the rest of the project which are all predicated on an approved budget.
2. At the end of the process a Definitive Project Brief is arrived at. This contains nearly all the facts and few assumptions (that cannot impact negatively on advancement) that represent the project including confirmation that the approved budget is realistic (Project Review 1). The Definitive Project Brief is the final output of project definition. It contains all the information that is necessary for a project to proceed including the approved budget. Once the approved budget has been confirmed as being realistic at Project Review 1 and clearance has been given by the Sanctioning Authority the project can proceed to procurement, contract strategy, and design development stage.

Why develop a Definitive Project Brief?

Developing a project brief is a process that involves adding new information and continuous refinement of initial information made available at the approval in principal stage of a project, leading to greater understanding and certainty as to what the project proposes to deliver and the actions necessary to achieve this objective. In the course of developing the Definitive Project Brief, the project team needs to:

- Confirm the assumptions upon which the Approval-in-Principle was based, including the budgetary estimates;
- Clarify and quantify the requirements precisely;
- Examine in broad terms any alternative ways of satisfying those requirements; and
- Draw up an output specification (from design and other studies, for example, a feasibility study or a preliminary report) that is detailed and accurate enough to enable:

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1.4 Developing the Project Brief, Continued

Why develop a Definitive Project Brief, (continued)

The Sponsoring Agency ...	▪ ... to compare and evaluate proposed solutions; ▪ ... to select the most appropriate option and to identify it in the Definitive Project Brief as the one being advanced; ▪ ... to confirm that is satisfied that the requirement can satisfactorily be met within the budgetary and other constraints based on the selected option; and ▪ …to confirm to the Sanctioning Authority that the project continues to be viable and to obtain approval to continue.
Professional experts (consultants) ...	▪ ... to assess the feasibility of the solutions chosen to address the requirements; ▪ ... to confirm that the selected option satisfying the requirements is the correct choice; and ▪ ... if necessary to recommend a number of practical and realistic changes to the selected option without impacting negatively on it, or ▪ …to recommend the adoption of one of the other alternative realistic options should the Sponsoring Agency's choice prove not to be feasible (this should be very exceptional and might only arise if circumstances which existed when the preferred option was chosen have since changed);
The Sanctioning Authority ...	▪ ...to be satisfied that the project continues to be viable from a funding and needs perspective.

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Importance of completeness and accuracy

Projects proceeding on incomplete or inaccurate project briefs will usually require amendment and additional material to meet the clients' requirements after the project design or construction has begun. Any such changes inevitably give rise to production inefficiencies that result in delays and additional costs. The later the changes are made in the delivery process, the more expensive they become. To avoid unnecessary, unpredictable and uncontrolled changes in costs, sponsoring agencies are required to specify their output requirements accurately, precisely and comprehensively at the start or as early as possible in the project delivery process – **this is the primary purpose of project definition and of the Definitive Project Brief.**

Sponsoring agencies should ensure that adequate time and appropriate resources are provided in the planning stages, so that scarce resources are not wasted later undoing work that is not correct. They should also ensure that clear and recognised cost planning and control procedures are operated throughout the planning stage, so that project costs are constantly monitored and regularly confirmed and benchmarked against the approved budget.

A project brief that is complete and accurate (i.e. the Definitive Project Brief) is of particular importance in the procurement of consultants for technical services. The reason being that fees can be competitively tendered on a fixed price lump sum basis. An incomplete or inaccurate brief would almost certainly have implications for the scope and delivery of the services, and would result in the fixed-price being compromised and the loss of cost certainty at tender stage. This would be contrary to the Government's objective of obtaining greater cost certainty at contract award stage.

Who develops the project brief?

The assistance of experts (prior to engagement of design consultants) is normally required for project definition and the development of the Definitive Project Brief. Sponsoring agencies should therefore assess their in-house capacity and, where resources are non-existent or inadequate, they should seek them from within the wider public sector. Only if that is unsuccessful should the employment of external expert consultants be considered.

Where external specialists are required to assist in the development of the project definition, they should be appointed following a tender competition in accordance with the guidance in GN1.6 *Procurement of Service Providers*.

Most building and civil engineering projects require the following expert services and their associated responsibilities to be engaged so as to assist in project definition and the development of the Definitive Project Brief:

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1.4 Developing the Project Brief, Continued

Who develops the project brief? (continued)

Service	Responsibilities
Architect – not as design team member (*generally only on building projects*)	▪ As part of the feasibility study illustrate on drawings the selected site or sites showing the various footprint options available to accommodate the Client's requirements; and ▪ As lead Consultant coordinate and assimilate into the feasibility study report studies carried out by other technical experts.
Mechanical and electrical engineer – engaged for this part only of the overall technical services required for the project delivery.	As a technical expert prepare schematic or specimen designs and other studies for inclusion by lead Consultant in the feasibility study.
Civil / structural engineer – engaged for this part only of the overall technical services required for the project delivery.	▪ Preparing schematic designs and other design studies for the preliminary report; and ▪ As lead Consultant coordinate and assimilate in a coherent manner into the preliminary report studies carried out by other technical experts.

1.5 Project Parameters

Sixteen Parameters

In the Appraisal stage, all issues that determine whether or not the project should proceed to planning are examined, and the broad parameters of the project are set out. These include:

- The high-level **requirements** that the project is intended to meet;
- The **assumptions** upon which the decision to proceed is based;
- The **constraints** under which the project must be completed; and
- The management and other **principles** that must be applied throughout the project.

Estimates of **cost** and **timescales** are also made, so that the decision is well-informed.

The Approval-in-Principle is based upon the best information available at the time and, in the absence of facts for some issues, on certain assumptions. Once it is given, the information and assumptions on which it is based must be examined, disaggregated (if necessary) and assigned across the sixteen project parameters that are used to help refine in greater detail what constitutes the project. Essentially, the project parameters are broad categories under which information relating to the project can be gathered.

Summary of Project Parameters

The following table summarises the project parameters against which project activities are tracked as a project proceeds through the project definition.

Each of these parameters is continually developed, enhanced, expanded, amended and clarified throughout the project definition process, so that the final output (and the input to the design process) is a Definitive Project Brief that is as detailed, comprehensive, final and certain as possible.

Parameter		Description
1	**Objectives**	The objectives are expressed in terms of *service delivery* (for example, 'to reduce the time of commuting by road between two points', or 'to provide primary education for a community') rather than as a *capital asset* (such as a road or a school building). How the services will be delivered is left open to alternative design solutions.
2	**Purpose**	The desired outcomes are stated (for example, 'improve traffic flow between two points on road network'), while preserving maximum flexibility in relation to matters likely to be subject to the statutory process. Unnecessary design constraints are avoided; any designs provided are for illustrative purposes only and specifications should be generic or indicative.

Continued on next page

1.5 Project Parameters, Continued

Summary of Project Parameters (continued)

Parameter		Description
3	**Scope**	The scope of the project is described, including information on scale, and any cultural, historical, technical and environmental requirements that the project should meet. Consideration also needs to be given to: ▪ Whether the project impacts on other projects, directly or indirectly; ▪ Whether the project is or could be part of a wider strategy (e.g. a Master Plan or a Development Plan); and ▪ Whether the scope of the project should be narrowed or widened.
4	**Deliverables/ desired outcomes**	The functional and service delivery requirements of the project are stated, along with any spatial norms or cost norms (e.g. functional unit cost of a new facility, or the cost per km of motorway), together with other cost and area data.
5	**Performance**	The performance criteria are stated, with details of operating outputs (e.g. the criterion that replacement frequency of major components of a facility over its functional life should be not less than every ten years), but not stating how they are to be achieved. In exceptional circumstances, technical specifications and schematic drawings may be given. **Note:** Any drawing information prepared at this stage should be for illustrative purposes (e.g. to explain the relationship between different spaces or to identify constraints on shape or size of spaces). Technical specifications to illustrate standards should be general or indicative.
6	**Assumptions**	Assumptions that have been made in arriving at the Approval-in-Principle decision in relation to the demand for the public services to be provided or the envisaged cost of satisfying that demand are stated, along with the basis for these assumptions (using appropriate historical and other data).

Continued on next page

1.5 Project Parameters, Continued

Summary of Project Parameters (continued)

Parameter		Description
7	**Governance and reporting**	Corporate governance rules and structures for management, project personnel and other stakeholders (i.e. Sanctioning Authority; Government Department etc) are described, including clear definitions (appropriate to the importance and size of the project) of: ▪ Roles and responsibilities; ▪ Communication lines; and ▪ Formal and informal reporting mechanisms
8	**Preferred option**	The basis of the decision to construct a facility as the best way to address the need (rather than doing nothing or addressing the objectives in other ways) is outlined. In the case of civil engineering projects, pre-statutory public or stakeholder consultation should be conducted to win early public support for the project.
9	**Known risks**	Any known risks are identified, quantified and assigned to an appropriate owner, along with the proposed means of managing, monitoring and reporting on them. The likelihood of each risk materialising should be estimated and a value assigned to it.
10	**Value management strategies**	Value management involves checking continually that the project will deliver value for money to the Sponsoring Agency. The ways in which the project will deliver value for money are described, along with the proposed means of ensuring that value for money is maintained throughout the project delivery lifecycle.
11	**Project execution plan**	The Project Execution Plan shows the overall timescale for completion, time milestones for the design stage and the construction stage, how the project is to be implemented, as well as the projected long-term maintenance and major replacement requirements.
12	**Expected functional life**	The expected functional life of the facility is indicated.

Continued on next page

Summary of Project Parameters (continued)

Parameter		Description
13	**Design restrictions/ requirements**	Considerations that must be taken into account in the design of a facility are listed, to ensure that the: ▪ Outcome is in keeping with the purpose; ▪ Required services are delivered efficiently; and ▪ Customers and staff can use the facility in safety and comfort. These considerations may include architectural, engineering and building services aspects.
14	**Location**	Location or site options proposed for the facility.
15	**Budget**	The estimated total cost of the project is given, along with the basis for the estimate (for example, number of units; unit, cost and area norms; and so on). The running costs over the expected life of the facility; the replacement costs of major components over its functional life; and the demolition, disposal/sale and site reinstatement costs are detailed. This budget is the benchmark for all future project cost studies, and as the information is further refined, the basis (cost and unit norms, number of units, life cycle costs, allowance for inflation and design risks, etc.) must be continuously reviewed to ensure that the budget is not breached when assumptions are replaced with facts. For further details, including advice on how to allow for contingencies and for inflation, see *Budget Development* (GN 1.3).
16	**Constraints**	Constraints to be respected in devising the solution under any of the following categories. Those that are mandatory are distinguished from those that are a matter of preference. ▪ Financial; ▪ Technological; ▪ Legal / regulatory; ▪ Environmental; ▪ Physical inputs and raw material; ▪ Availability of manpower and skills; ▪ Time; ▪ Administrative and managerial ability; ▪ Distributional, social, spatial and land use plan; ▪ Cooperation required from other interests; and ▪ General policy considerations.

Continued on next page

1.5 Project Parameters, Continued

Quantify / refine information in project parameters

The first important task within project definition is to review all the information and assumptions that were used in the appraisal, to disaggregate them, and to assign them to the various project parameters.

Using the template table on page 18, place a ✓ against each project parameter for which you have adequate information to assemble a Preliminary Project Brief (activity 1).

As you progress through activities 2–5, place → marks against each of the project parameters for which you have adequate information. When you come to the final activity (Definitive Project Brief), you should be in a position to place ✓ against all of the project parameters.

If for any reason you find you do not have enough information relating to a project parameter for one of the intermediary stages, place - - → (broken arrow) in the appropriate cell. You can then replace this in a cell of a later activity with → when you have adequate information. Alternatively, a broken arrow can also be used if it is decided to defer the exercise to a later activity, when the information will be more readily available.

On completion of activity 6, there should be a ✓ in the Activity 6 cell for each of the sixteen project parameters; otherwise the Definitive Project Brief is not complete, and further refinement and quantification is necessary.

1.6 Overview of Project Definition

Project Definition: a set of activities

Project definition consists of a set of activities that have as their final purpose the development of a Definitive Project Brief.

The level of detail and precision necessary for the Definitive Project Brief is, in most cases, considerably greater than that needed for project appraisal.

Project definition starts with the assembly of the information used for the Appraisal stage. This is then further developed through research, analysis and pre-design studies. As each activity is completed, the information under each project parameter is progressively refined, elaborated and made more definite. In summary, the process is as follows:

Stage	Description
1	Produce a **Preliminary Project Brief**, setting out all that is known from the Appraisal stage about the proposed project categorised under the sixteen project parameters. It should list alternative ways of satisfying the needs, and should set out the parameters and constraints that informed the approval-in principle.
2	Develop a **Preliminary Output Specification**. This document develops the delivery requirements of the project in more detail, expressed in terms of functionality and output requirements, rather than of physical form.
3	Carry out a **Feasibility Study** (building) or **Preliminary Report** (civil engineering) to examine in detail the 'for and against' arguments that informed the Approval-in-Principle to proceed with the project. This study should cover: ▪ The nature and extent of the requirements; ▪ The likelihood of satisfying those requirements within the given budgetary and other constraints; and ▪ The various locations where the facility could be provided. For civil engineering projects, the pre-statutory public-stakeholder consultation should be initiated in parallel with the preliminary report so as to enlist early public support for the project.
4	Draw up a **Detailed Design Brief** setting out project requirements and the design parameters within which they must be satisfied.
5	Draw up a **Final Output Specification** – this is a further development of the Preliminary Output Specification, as informed by the feasibility study/preliminary report and the Design Brief.
6	Consolidate all the information gathered during the earlier stages of the project definition to draw up a **Definitive Project Brief**. As this will be the primary input into the design phase of the project, all uncertainties should have been eliminated or greatly reduced, and all assumptions verified, so that the Definitive Project Brief is clear, certain and achievable.

Continued on next page

Process may be iterative

The project definition activities do not always take place in exactly the order described here (see **Flexible approach to planning** on page 19), and where necessary they may be developed in parallel, so that each activity informs the others and that all can be advanced in tandem. The Sponsoring Agency must satisfy itself, however, that each of the activities has been adequately completed, and that each of the parameters has been fully addressed before the Definitive Project Brief is finalised.

What the Sponsoring Agency needs to do / know

The work involved in project definition, culminating in the development of the Definitive Project Brief, requires that the Sponsoring Agency should:

- Have a clear understanding of their business needs, their wider responsibilities and the service level and quality that the finished facility must deliver;
- Understand what value for money means in terms of their project, so that there is no uncertainty that might lead to wasteful changes and additional costs during the project; and
- Be open to the possibility that third parties may identify ways of improving value for money at different stages during project development.

Studies needed during project definition

Some pre-design studies (such as feasibility studies) may already have been carried out during project appraisal. Any such studies should be re-examined throughout Project Definition to confirm that their findings remain valid.

Further studies are normally required at project definition stage to:

- Improve or augment existing data;
- Test the veracity of existing information; and
- Introduce new data if required.

The scope of these studies depends on the size, nature and complexity of the project and the extent of and outputs from earlier studies. If the earlier studies adequately defined the project, new studies may not be required, or required only to a limited extent.

To save time and money, once-off studies should be initiated only if all other information sources have been exhausted. For example, it may be possible to use studies for other similar projects, suitably adjusted for the project in question. Sanctioning Authorities should therefore try to ensure that the outputs from every service contract award are retained in a central repository (such as a website), as they may be relevant or useful to other sponsoring agencies under the aegis of the Sanctioning Authorities. Sanctioning Authorities should also consider using a Framework Agreement for such studies, to make it easier for Sponsoring Agencies to procure services.

2: From Preliminary Project Brief to Feasibility Study

2.1 Introduction

Introduction

This chapter covers the first three activities of project definition.

Note: See Appendix A: Template for Project Definition Documents, on page 49.

2.2 Preliminary Project Brief (Activity 1)

Purpose

The Preliminary Project Brief aims to:

- Define the purpose and scope of the project clearly and unambiguously.
- State all requirements, both quantitative and qualitative, that the project must satisfy.
- Minimize the number of project assumptions to a manageable level going forward.
- Identify all known risks and where possible eliminate, mitigate or arrange for the transfer of such risks. For those risks where this is not possible the treatment of these risks should be deferred to the next activity.
- Provide contingency arrangements for the possibility of unknown risks that might subsequently arise during the delivery process.
- Set budget objectives and relate these to service delivery outcomes.
- Reduce the risk of cost and time overruns through realistic master planning.

Development of project parameters

The development of the Preliminary Project Brief starts with the output from the Appraisal stage and the Approval-in-Principle decision. The information used for appraisal is examined and disaggregated and assigned across the sixteen project parameters. As far as possible and within the sixteen project parameters, the Sponsoring Agency should confirm that:

- The information is correct and complete;
- The assumptions and constraints are valid;
- The estimates of time and money are reasonable;
- Contingency plans are realistic, and
- The need for the project still exists to the extent originally approved.

At this stage, it is likely that the process will identify gaps and inconsistencies in the information that must be addressed before a decision to proceed with the project can be made. Such gaps and inconsistencies are dealt with in subsequent stages.

Continued on next page

2.2 Preliminary Project Brief (Activity 1), Continued

Consultation

Appropriate consultation with relevant experts (for example, medical experts in the case of hospitals or teaching experts in the case of schools) should take place during the development of the Preliminary Project Brief to ensure that all issues are identified and addressed in an appropriate manner and at the right time.

The consultation process should be structured, transparent and inclusive. It should be seen to be responsive to the needs and aspirations of the stakeholders involved, and aim to build consensus around a viable solution. The output from the consultation process should document the proposed solution and the standards of service it will provide, and acknowledge the identified constraints. This is a vital part of managing the expectations of users and others affected by the project, and of ensuring that there is understanding, commitment and – as much as possible – local 'ownership' of the project.

The scale of the consultation process should be decided by reference to the size and complexity of the project, the number of stakeholders, the level of standardisation and the nature of the functional requirements.

What if Project Appraisal is contradicted?

If, during development of the preliminary project brief, significant differences from the conclusions of the Project Appraisal and the Approval-in-Principle are uncovered, work on the project should be suspended, and the new findings referred back to the Sanctioning Authority for a decision on the next step to take.

Output from the preliminary project brief

The Preliminary Project Brief should be expressed in a formal statement signed off by the Sponsoring Agency.

2.3 Preliminary Output Specification (Activity 2)

Purpose

The Preliminary Output Specification is an attempt to describe the project's output requirements in more detail. It focuses on *what* the Sponsoring Agency wants to achieve in a project, rather than on *how* the project is to be delivered. The output is the end user's requirements, or what is actually consumed by the users of the service, and not the facility used to provide that service.

In publicly-funded capital works projects, output specifications are of key importance to users of the services provided. Focusing on outputs and constraints associated with those outputs gives scope for innovation and flexibility in design and construction of the facility, within the limitations set at Appraisal stage. Restricting a specification to the required outputs and associated constraints gives designers sufficient freedom to recommend the design they believe best suits the Client's requirements.

Starting point

The development of the Preliminary Output Specification is normally started when the Preliminary Project Brief has been signed off.

Development of project parameters

As the sixteen project parameters are further refined and clarified, additional studies, research, the application of further resources, or the initiation of additional actions may be necessary to resolve known risks (brought forward from Activity 1) that require quantification at this stage. Other risks, not previously identified, that emerge at this stage should be addressed by elimination, mitigation, or transfer. If this is not possible action on them should be deferred to the next activity where they can be dealt with. Action in relation to the following project parameters should not be deferred:

Parameter	Development Activity
Scope	The scope of the project is audited to confirm that all functional and other requirements have been accounted for and quantified as appropriate in the context of the project itself and that of its relationships with other projects.
Deliverables / desired outcomes	The deliverables are expressed in terms of the type and level of service to be provided. There are no formal designs at this stage; and any drawings included are illustrative or diagrammatic only; specifications are generic or indicative.
Performance	A full statement is prepared of the functional and operational requirements for the complete project.
Assumptions	Initial assumptions are refined in relation to the wider strategic issues, including demand forecasts for services, and to those that might affect the design and construction of the facility.

Continued on next page

2.3 Preliminary Output Specification (Activity 2), Continued

Development of project parameters (continued)

Parameter	Development Activity
Governance and reporting	Corporate governance rules and structures are described, with clear definition of roles and responsibilities, communication lines and reporting mechanisms. This should also include the communication requirements with the Sanctioning Authority
Preferred option	The preferred option is examined very carefully to verify that it can stand up to close scrutiny in the light of additional information now becoming available – for example, from actions, research or other studies.
Known risks	Risks other than those relating to design or construction that have been identified under Activity 1 (and action deferred to this activity) are identified and assigned to an appropriate owner. Any risks that can be eliminated, mitigated or transferred at this stage should be dealt with. For the remaining risks including any new risks that have emerged at this stage the proposed means of managing, monitoring and reporting on such risks going forward should be indicated.
Project Execution Plan	The outline Project Execution Plan for the design and the construction stages, as well as the projected long-term maintenance requirements, are developed further.
Budget	The budget is refined as new information becomes available, with actual costs or firm estimates. The basis for all budget figures is given – see *Budget Development* (GN 1.3)
Constraints	Strategic constraints are identified and quantified – these might include, for example, financing, availability of manpower and skills, general policy considerations, and cooperation from other interests.

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2.3 Preliminary Output Specification (Activity 2), Continued

Essential and non-essential requirements

Despite the difficulty in achieving accuracy at this point in the process, every effort should be made to ensure that the key requirements are specified correctly. A clear distinction must be made, however, between essential or core requirements and non-essential non-core requirements, and each should be addressed separately, as follows:

- **Essential** or core requirements are the minimum that must be provided for the public service to be viable; these cannot be varied or compromised.
- **Non-essential** or non-core requirements are ones that would be 'nice to have', if budget and other constraints allow.

This distinction is important as it enables designers to understand where there is and where there isn't room for flexibility.

Example: 'The minimum requirement is to provide a tea-station, but, budget and space permitting, a canteen would be more desirable.

Formal sign-off required

The Preliminary Output Specification should be formally signed off by the Sponsoring Agency.

2.4 Feasibility Study / Preliminary Report (Activity 3)

Purpose

A Feasibility Study (building projects) / Preliminary Report (civil engineering projects) considers key quantitative aspects of the project in sufficient detail to inform a final and reasoned decision on whether or not to proceed.

Where necessary, further studies are carried out to quantify information more precisely and to allow confirmation that the project is feasible.

Starting point

The Feasibility Study / Preliminary Report is normally started after the Preliminary Output Specification has been signed off.

Development of project parameters

The Feasibility Study / Preliminary Report pays particular attention to the following project parameters:

Parameter	Development Activity
Project deliverables / desired outcome	Verifies that the type and level of service to be delivered can be delivered within allocated resources. At this stage there is no formal design; any drawings should be illustrative or diagrammatic, and specifications should be generic or indicative only
Performance	The efficient delivery of the public services through the provision of a new construction facility – confirm that the Client's operating outputs can be provided within allocated resources.
Assumptions	All assumptions previously made are examined in depth, verified as realistic and reasonable, and have a value placed against them. This includes assumptions relating to the demand for the services to be supplied by the project and the cost of satisfying that demand.
Preferred option	Confirms that the option selected is still valid. Existing facilities are examined to ensure that options to refurbish, demolish or dispose of them have not been overlooked. The proposed size/area of the facility is reassessed using spatial analysis, spatial norms, number of spatial units and other data relating to the known functional requirements – to check that the earlier choice remains valid. For civil engineering projects, the pre-statutory public or stakeholder consultation is revisited, to ensure that there is continued public support for the project.

Continued on next page

2.4 Feasibility Study / Preliminary Report (Activity 3), Continued

Development of project parameters (continued)

Parameter	Development Activity
Known risks	The identified risks, along with their likelihood and potential impact, are re-examined to confirm that risk management and budgetary provision are adequate. Risks that have been identified under Activity 2 with action deferred to this activity and any new risks that have emerged at this stage are examined to see if they can be eliminated, mitigated or transferred at this stage. For those remaining that require action to be deferred to the next activity the proposed means of managing, monitoring and reporting on such risks going forward should be indicated.
Value management of project	The status of the project in relation to how it will deliver value (for example, additional public services at an economic cost) is checked to confirm that such value can still be achieved. Any checks that should be carried out in the planning stage should be stated.
Project Execution Plan	The Project Execution Plan is further developed, showing the periods for the planning (design process) and implementation (construction process) stages.
Expected functional life	The expected life of the facility identified in the Preliminary Project Brief is re-examined to confirm that it is realistic.
Location	The site options are examined for feasibility. This may require detailed site investigation, aerial survey, site contour mapping, archaeological investigation, traffic studies, analysis of existing services on or adjacent to the site, technical tests, and so on. The assessment of the site should include preliminary design studies dealing with site coverage (footprint of facility) and block plan options to determine best land use, planning considerations and the overall cost.

Continued on next page

Development of project parameters (continued)

Parameter	Development Activity
Budget	The budget is examined in detail to confirm that it is realistic in all aspects, including design, construction and whole life costs. Where possible, earlier estimates are updated or replaced with more accurate costs.
Constraints	Any further constraints that might directly impact on the project are investigated and solutions are devised for them.

The importance of accuracy

The information in the Feasibility Study / Preliminary Report must be sufficiently accurate that it can be relied upon. If necessary information that is not initially available, the drafter of the Feasibility Study / Preliminary Report should identify any inadequacies arising out of a deficiency in information – in the context of risks and assumptions made. Such inadequacies may need to be addressed through separate studies or investigations, and the decision to proceed with the project will depend heavily on the importance of this information. Inaccurate information could cause a project to be embarked on mistakenly, or result in a lost opportunity.

Who carries out the Feasibility Study / Preliminary Report?

If possible, the Sponsoring Agency should carry out the Feasibility Study / Preliminary Report itself with the assistance of in-house technical experts. However, where this is not possible and external consultants are employed, they should be commissioned on the basis that the contract for their services does not extend beyond the delivery of the Definitive Project Brief. The consultants' fee for the service should be tendered on a fixed price lump sum basis using the *Conditions of Engagement for Consultancy Services (Technical)* COE 1 for a Single Stage.

This does not preclude further service requirements being awarded to the consultants either as members of a Design Team or as Lead Consultant provided the provision of such services were part of the same tender competition for the Feasibility Study/Preliminary Report but with the proviso in the tender documents that the only commitment to award a contract was for the Feasibility Study/ Preliminary Report with the option (not a commitment) to engage the consultants (if decided by the Sponsoring Agency) to provide further expert services to the extent stated in tender documents for the Feasibility Study/Preliminary Report. Alternatively, they may subsequently be engaged as a Design Team member/Lead Consultant after a separate competition. See 3.3 Design Specialists: Roles and Responsibilities in *Project Management* (GN 1.1) for details on the engagement of design consultants.

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2.4 Feasibility Study / Preliminary Report (Activity 3), Continued

Preferred option not supported?	If the Feasibility Study / Preliminary Report fails to support the preferred option, or reveals any conflict with the conclusions of the project appraisal or the assumptions upon which the Approval-in-Principle was given, work on the project should be suspended, and the project should be referred back to the Sanctioning Authority for reassessment.
Formal sign-off required	The Feasibility Study / Preliminary Report should be formally signed off by the Sponsoring Agency.

3: From Design Brief to Definitive Project Brief

3.1 Introduction

Introduction

This chapter covers activities 4–6 of Project Definition.

3.2 Design Brief (Activity 4)

Purpose

The Design Brief is the full and completed statement of the Sponsoring Agency's functional and operational requirements for a project expressed in output requirements. It defines all design requirements for a project including performance standards and quality thresholds. It is the foundation on which design will be developed and is the benchmark for measuring future design development. It is a factual record and a document of importance.

Starting point

The development of the Design Brief normally begins after the Feasibility Study has been signed off.

Development of project parameters

The information collected under the sixteen project parameters continues to be enhanced, added to, checked, measured and verified during the development of the Design Brief.

The Design Brief should elaborate on the project parameters that impact on the design and action those parameters which should not be deferred to a later activity. In particular, it should specify a net spatial area with clearly defined functional spaces (for example, in the case of a building, a schedule of accommodation) and realistic cost limits. The Design Brief should pay particular attention to the following project parameters:

Parameter	Development Activity
Scope	The scope continues to be checked to confirm that there is no augmentation of the requirements or, if there is, that it is within acceptable limits and can be accommodated within the budget.
Assumptions	Wherever possible, assumptions (in relation to the design and construction) are converted into factual data.
Preferred option	Includes a detailed outline of the preferred option, supported with design studies where appropriate, and with reasons for the choice.
Known risks	Known risks (relating to design and construction) are listed, along with estimates of the likelihood of occurrence and their impact on cost and time. For example, a high-level risk assessment workshop could be held to deal with the health and safety aspects of constructing a facility on a contaminated brown-field site. Apart from clarifying the health and safety issues, such an assessment would also provide useful information relating to the cost viability of the project.

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3.2 Design Brief (Activity 4), Continued

Development of project parameters (continued)

Parameter	Development Activity
Project Execution Plan	The Project Execution Plan is further developed in the light of new information emerging as other parameters are defined more precisely.
Expected functional life	The expected functional life confirmed in the Feasibility Study / Preliminary Report is re-examined to verify that the functional life period for the facility has not changed.
Design restrictions / requirements	The design concept is elaborated with the development of earlier or new outline generic design studies with, for example, indicative block plans and massing diagrams.
Location	The location is examined in the context of the design restrictions/requirements to check if there are any new issues arising in the form of previously unforeseen risks – for example, evidence of an underground river running under the location of the facility.
Budget	Any new material or actions that arise are checked to verify that they do not give rise to costs that might exceed the budget
Constraints	At this stage constraints are fully identified and the necessary actions taken so that they can be surmounted.

Formal sign-off required

The Design Brief should be formally signed off by the Sponsoring Agency.

3.3 Final Output Specification (Activity 5)

Purpose

In the Final Output Specification, the sixteen parameters that have been examined in the previous four activities are examined again, and refined even further where appropriate.

All information required for the realisation of optimal designs, within budget, should be defined and provided as clearly and efficiently as possible at this stage. Issues, assumptions and relevant research gathered for earlier studies should be clearly presented.

The Final Output Specification should state the scope in output terms and explain what is expected and when; and it should set out clearly and unambiguously any perceived problems that still require resolution.

Starting point

Though the Final Output Specification is shown as being finalized after the Design Brief has been completed, however in practice because the accuracy and detail of information improves as it is gathered and assimilated, the Final Output Specification is usually refined gradually in parallel with the development of the Feasibility Study and the Design Brief.

Development of project parameters

Any issues raised during the development of the Design Brief and any new issues arising must be reviewed and resolved in the Final Output Specification, with particular attention to the following project parameters:

Parameter	Development Activity
Assumptions	The remaining realistic assumptions (in relation to the design and construction) are stated explicitly.
Known risks	The remaining known risks (relating to design and construction) are stated explicitly.

Similarly, issues that were open in the earlier activities must be reviewed to ensure that they have been adequately addressed, and in particular:

Parameter	Development Activity
Objectives	The service delivery requirements stated in the Preliminary Project Brief (Activity 1) are examined and verified.
Purpose	The desired outcome is examined again to confirm that it is still required.
Scope	The scope is continuously monitored to verify that it does not exceed the approved limit.

Continued on next page

3.3 Final Output Specification (Activity 5), Continued

Development of project parameters (continued)

Parameter	Development Activity
Assumptions	Any remaining realistic assumptions in relation to the wider strategic issues are identified explicitly.
Known risks	Risks other than those associated with design and construction that have been identified under Activity 3 and as an exceptional measure action have been deferred to this activity for examination and resolution. Any new risks that have emerged at this stage are also examined so that they can be eliminated, mitigated or transferred.
Budget	The budget is updated with the latest estimates and actual costs.

Iteration

If any issues are resolved during this activity which would impact on the Design Brief, they should be referred back and addressed in a revised Design Brief, before being incorporated into the Final Output Specification.

Formal sign-off required

The Final Output Specification must be formally signed off by the Sponsoring Agency before work begins on the development of the Definitive Project Brief.

(See Appendix A: Template for output specifications/project briefs.)

3.4 Definitive Project Brief (Activity 6)

Purpose

The Definitive Project Brief represents the detailed accumulated knowledge about a project in output terms and categorised under the sixteen project parameters. This knowledge has been reviewed a number of times as the project has moved through the various project definition activities; and it has been developed, refined, enhanced, added to, checked, measured and verified during each of these activities.

Where studies have been conducted, it takes into account the results, solutions and outputs that these have assembled. The Definitive Project Brief forms the basis of the design that will become the basis for the construction contract.

Starting point

The Definitive Project Brief can be developed following the completion of the Final Output Specification.

The Definitive Project Brief should be finalised using a 'just in time' philosophy – it should not be completed until all sixteen project parameters have been examined in detail and there is a degree of certainty of funding (subject always to the right of a Sanctioning Authority to withdraw such funding if national budgetary circumstances change).

If there is a deficiency in any of the output material, further studies, actions, and / or research should be conducted to eliminate the gaps before the Definitive Project Brief is finalised.

Development of project parameters

In developing the Definitive Project Brief, the conclusions and assumptions upon which earlier decisions were based (including issues that lie outside the design consultant's brief) must be scrutinised to confirm that they remain valid. The Definitive Project Brief should be written in such a way that it is clear, unambiguous and comprehensive.

At this stage, uncertainties should have been eliminated or greatly reduced, assumptions should have been confirmed as realistic, risks should have been quantified, with measures put in place to manage them, and the budget should be adequate to deliver the proposed facility in a fully functioning condition.

Continued on next page

3.4 Definitive Project Brief (Activity 6), Continued

Development of the programme for delivery

The outline programme for the delivery of the various stages of a project is refined as it passes through each of the project definition activities. In particular, the time period for each program activity become more accurate as does the overall programme time. This information will form an essential part of the tender documents issued to consultants for construction-related services and which will subsequently be included as part of the Standard Conditions of Engagement for Consultancy Services.

The programme for delivery forms part of the Project Execution Plan.

Key characteristics of the Definitive Project Brief

The Definitive Project Brief is the key guiding document for the development of the project, and it must be:

- Thoroughly researched and clearly presented;
- Clear about the following:
  - The 'life in service' of the asset;
  - The scope of the project;
  - The available budget;
  - The need for the public service;
  - The objectives of the projects;
  - The anticipated programme for the project;
- Explanatory, where appropriate, in regard to all requirements – functional, spatial, operational, and so on;
- Flexible enough to allow different detail design solutions (not strategic options) to be explored, within constraints previously set by the Sponsoring Agency; and
- Able to accord with generally accepted standards and practices.

Formal sign-off required

The Definitive Project Brief is a formal document that must be formally signed off by the Sponsoring Agency.

Continued on next page

3.4 Definitive Project Brief (Activity 6), Continued

Compliance issues

The Definitive Project Brief must comply with legal obligations under Irish law, EU law and any other relevant Government guidelines.

The Sponsoring Agency should be aware that construction projects have demanding legal compliance standards to which they must adhere. In particular, the legal and regulatory framework for large and complex projects places considerable demands on the Sponsoring Agency in relation to procurement rules, health and safety and planning regulations. The project management staff (including the Project Coordinator where relevant) should identify and assess the legal environment within which they are operating, and satisfy themselves that they have the necessary resources to deal with it. Where necessary, their judgement in this regard should be independently verified by experienced expert personnel.

Changes to the Definitive Project Brief

The Definitive Project Brief should be so well developed at sign-off stage that the need for change to either scope or objectives should not arise during the Design or Implementation stages of a project.

In exceptional circumstances where changes are required, the cost implications (including the effect on design costs) and the effect on the timing of the project should be fully evaluated. The Sanctioning Authority must be informed, and its approval obtained before the amended Design Brief is issued as part of the tender documents to procure design consultants.

Necessary clarifications arising from designers' queries may give rise to minor amendments, but if any major amendments are necessary or further information is required, the project should be referred back to project definition or, if there is a fundamental issue, back to the Appraisal stage.

What happens next?

After the Sponsoring Agency formally signs off on the Definitive Project Brief the outputs are subjected to Project Review 1. This is a mandatory **red light review** requiring clearance from the Sanctioning Authority which takes place when approval for design expenditure, particularly for consultant's fees is required.

Once the project passes through this review successfully, the Design Brief and other relevant information is included in tender documents in the case of design and other services being outsourced and a tender competition is held for those services. Once a Design Team/Lead Consultant is appointed the consultants are as a first exercise required to explore the opportunities, constraints, design options and cost outcomes that the Design Brief presents. They can also develop and test sketch proposals to confirm whether or not a compliant design, or designs, can be developed. See *Design Process* (GN 2.1) and *Procurement of Service Providers* (GN 1.6).

Appendix A: Template for Project Definition Documents

Project Title

Project Description

Sanctioning Authority

Sponsoring Agency

Document (***Tick one)***

- ☐ Preliminary Project Brief
- ☐ Preliminary Output Specification
- ☐ Feasibility Study / Preliminary Report
- ☐ Design Brief
- ☐ Final Output Specification
- ☐ Definitive Project Brief.

a. Objectives that the Project should meet

b. Purpose

c. Scope

Continued on next page

Appendix A: Template for Project Definition Documents, Continued

d. Project deliverables and/or desired outcomes

e. Performance

f. Realistic Assumptions

g. Governance and reporting requirements

h. Preferred Option

i. Risks

j. Value Management Strategies

Continued on next page

Appendix A: Template for Project Definition Documents,
Continued

k. Project Execution Plan

l. Functional Life of Facility

m. Design Restrictions/Requirements

n. Location

o. Budget

p. Constraints

Signed

_____ Manager of Sponsoring Agency

_____ Date