



Standard for an Infrastructure Delivery Management System

First edition

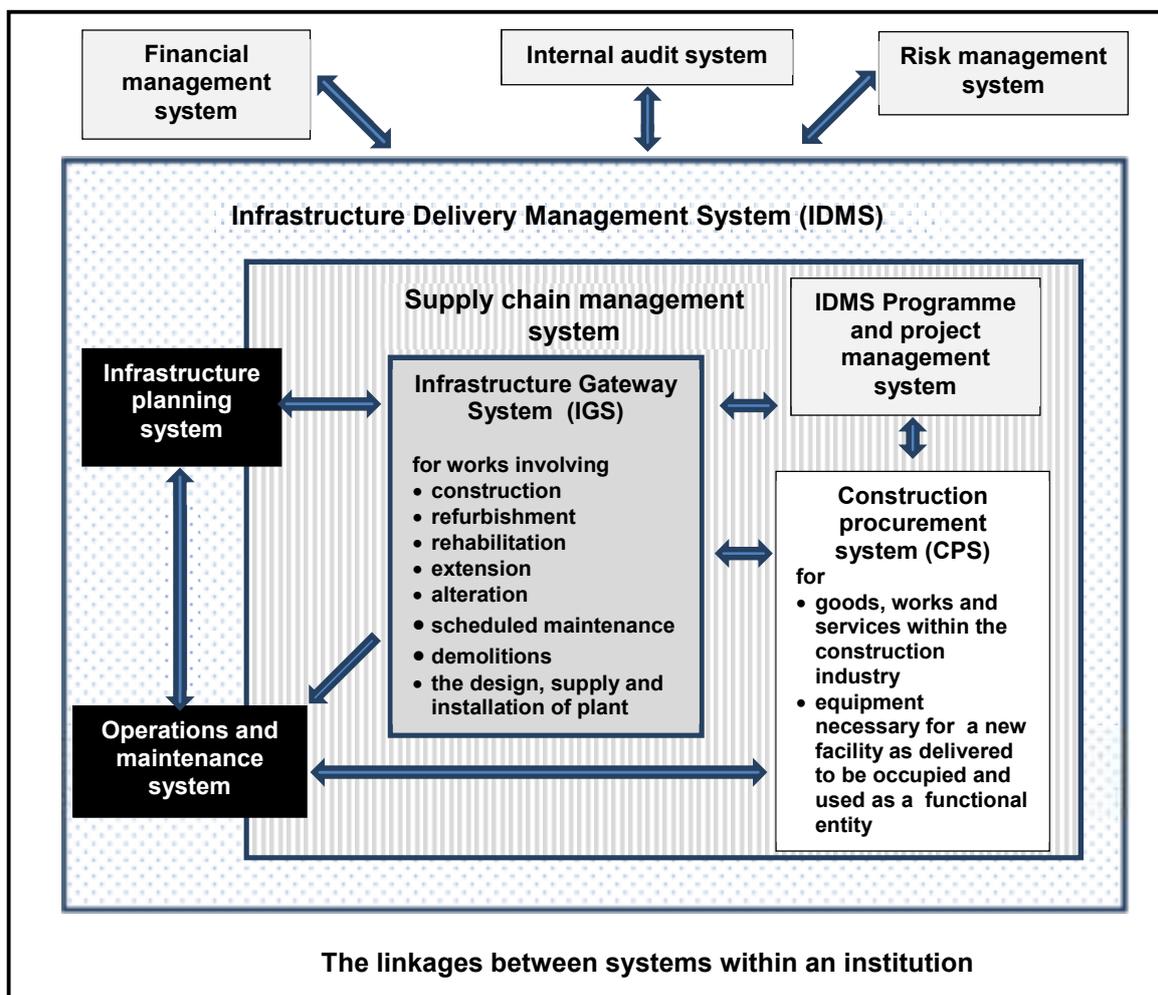
Western Cape Provincial Treasury

1 April 2012

Preface

Sections 38 and 51 of the Public Finance Management Act require accounting officers and accounting authorities, respectively, to ensure that their institutions have and maintain a number of systems relating to risk and financial management, internal control, internal audit, procurement, provisioning and the evaluation of major capital projects. The PFMA regulations also prescribe that institutions implement a supply chain management system.

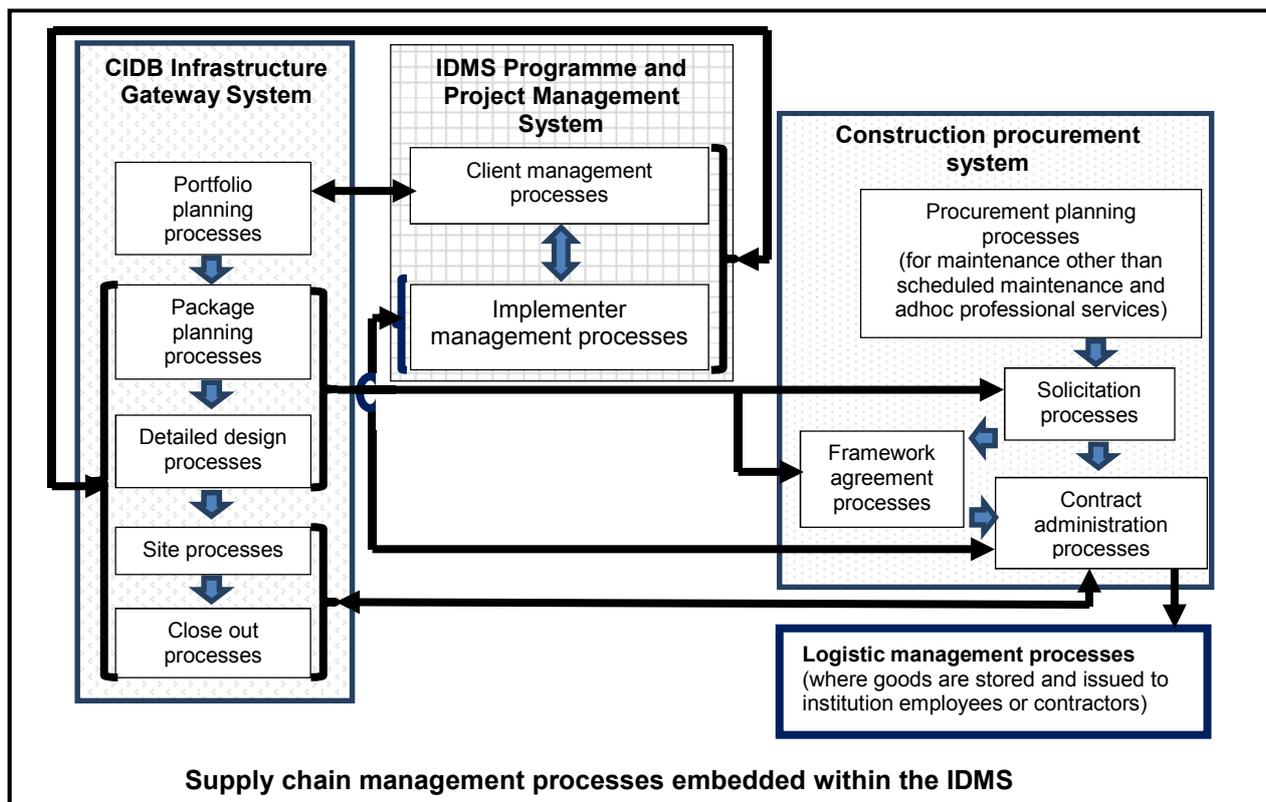
The Infrastructure Delivery Management System (IDMS) has been developed through the Infrastructure Delivery Improvement Programme (IDIP), a partnership between the National Treasury, the CIDB, the Departments of Public Works, Education and Health and the DBSA. It is a Government Management System for planning, budgeting, procurement, delivery, maintenance, operation, monitoring and evaluation of infrastructure. It comprises a set of interrelating or interacting elements that establish processes which transform inputs into outputs.



The IDMS comprises the following systems:

- an infrastructure planning system;
- an infrastructure gateway systems (IGS);
- a construction procurement system (CPS);
- a programme and project management system; and
- an operations and maintenance system.

Risks are managed within each of these systems.

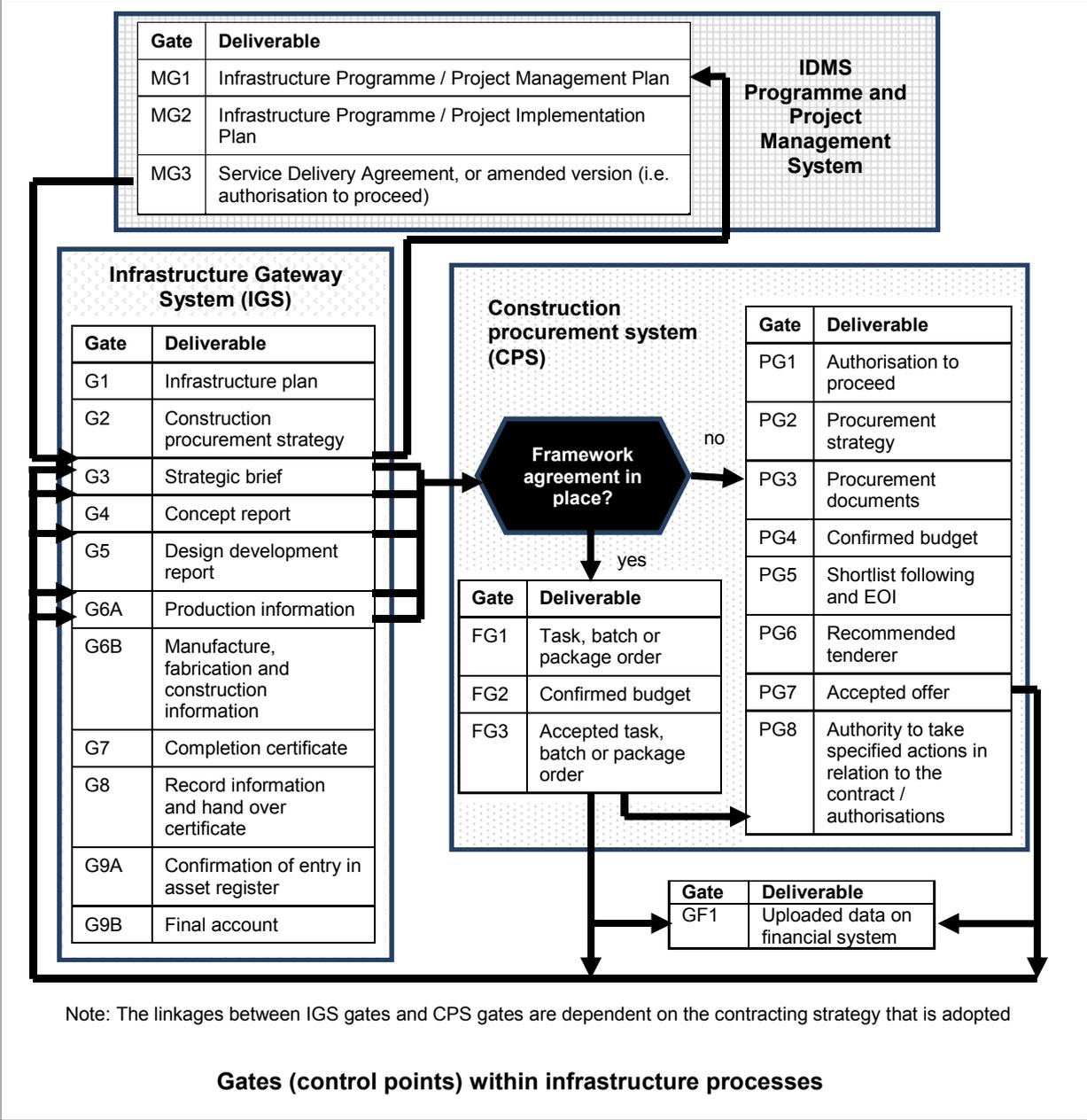


The IDMS is designed to be linked to the Medium Term Expenditure Framework (MTEF). It has a strong focus on outcomes, value for money and the effective and efficient functioning of the procurement and delivery management system in compliance with relevant legislation. It includes a supply chain management system (SCM) and can be readily integrated into the various systems that accounting officers and accounting authorities are required to implement.

The Framework for the Western Cape Infrastructure Delivery Management System (WC IDMS) for the Health and Education Sectors was approved by the Western Cape Cabinet on 13 April 2011. It is based on the CIDB / National Treasury 2010 Infrastructure Delivery Management Toolkit and seeks to improve client ownership and oversight, package infrastructure projects in a manner which reduces programme management complexities, reduces costs and meets the objectives of client departments, proactively manage risks and ensure greater efficiency in service delivery.

- a) In order to institutionalise and operationalise the WC IDMS within provincial institutions, institutions need to identify and document: institutional arrangements – the manner in which the institution interfaces and relates to other institutions in implementing the IDMS including financial arrangements and the provision of planning budgets to enable package planning to take place in advance of an MTEF allocation.
- b) organisational capacity - management and operational capacity to fulfil defined functions in an accountable and responsible manner;
- c) systems - policy, allocation of responsibilities, processes, procedures, methods and procurement documentation to provide order and a platform for the methodical and systematic attainment of system objectives; and
- d) risk / quality oversight (governance and performance) controls - predefined policy or set of measures to be met prior to proceeding with processes in order to ensure that the outputs and outcomes are achieved to the requisite quality, within an acceptable risk exposure and acceptable levels of performance.

The starting point is to document the systems and risk / quality oversight controls and, where possible, institutional arrangements to enable communication of intent and consistency of action and to assign responsibilities. This standard documents the WC IDMS with a strong focus on the SCM system. In time more comprehensive requirements will be developed for those elements of the infrastructure planning system including land acquisition processes (encumbrances - land availability, land ownership, zoning rights and records of decision regarding environmental issues) and the operations and maintenance system which don't overlap with the SCM component. This standard also establishes the control framework in the form of a number of interrelated gates for the SCM system.



This standard, which is issued in terms of Chapter 16B of the Provincial Treasury Instructions, enables institutions to institutionalise the IDMS.

It should be noted that the ultimate objective of the Western Cape Cabinet is to “ensure clean, efficient and effective supply chain management processes with clear delineation of accountability and responsibilities of the various role players within the process and the assurance of transparency.” There is also “a need to reach consensus upfront to the standards against which institutions have to be audited. This allows for proper goal setting and the setting of management standards.” This standard responds to these imperatives.

Standard for an Infrastructure Delivery Management System

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1 Scope

This standard establishes the Western Cape Infrastructure Delivery Management System comprising processes, procedures and methods within an institution for the delivery or maintenance of infrastructure in a staged systematic, disciplined, uniform and auditable manner such that:

- a) responsibilities are clearly allocated;
- b) decisions taken at gates (control points) provide assurance that the proposed works
 - 1) remains within agreed mandates,
 - 2) aligns with the purpose for which it was conceived, and
 - 3) can progress successfully from one stage of the Infrastructure Gateway System (IGS) to the next.
- c) projects can be readily tracked and performance monitored;
- d) progress and key performance indicators can be monitored at each stage of the IGS;
- e) compliance can be monitored; and
- f) projects satisfy client requirements.

2 Terms, definitions and abbreviations

NOTE: Annexure A aligns the terminology used in the National Treasury Infrastructure Budget Categories and the terms used in this standard.

2.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply:

alteration: changing or modifying the character or condition of a building, plant or civil engineering works

asset register: a record of asset information including inventory, historical, financial, condition, technical and financial information.

brief: a working document for an identified project or package which specifies at any point in time the relevant needs, objectives, acceptance criteria and priorities of the client, provides the context of the project or package and any appropriate design or maintenance requirements within which all subsequent briefing (when needed) and designing can take place

client: the institution which is ultimately responsible and accountable for the delivery of services and their organisational strategy, service and delivery plans and annual performance plans

commissioning: a quality-oriented process for achieving, verifying, and documenting that the performance of facilities, systems, and assemblies meets defined objectives and criteria

construction procurement strategy: the documented delivery management strategy and contracting and procurement arrangements for the delivery or maintenance of infrastructure

contractor: person or organisation contracted to construct, refurbish, rehabilitate, extend, alter, repair, maintain or demolish works or components thereof

contract manager: person appointed by the implementer to administer a package as the principal agent of the employer and, where relevant, to perform duties relating to the overall management of such contract from the implementer's point of view

concept report: the document containing the package information which sets out the integrated concept for the works, any statutory permissions and funding or utility approvals granted, a risk report and, where new infrastructure is created, a logistic support plan

control budget: the amount of money which is allocated or made available by the client to deliver or maintain infrastructure associated with a project or package including site costs, professional fees, all service and planning charges, applicable taxes, risk allowances and provision for price inflation which may be adjusted by the client from time to time

construction: everything that is constructed or results from construction operations

cost plan: the document progressively developed by estimating the total cost of the package including any construction, refurbishment, extension and professional service costs, service and planning charges and applicable taxes

custodian: the provincial department designated in terms of the Government Immoveable Asset Management Act 2007 (Act 19 of 2007) to act as the caretaker of infrastructure throughout its lifecycle

Custodian Asset Management Plan (C-AMP): a plan prepared by the custodian which consists of at least:

- a) a portfolio strategy and management plan;
- b) a management plan for each fixed asset throughout its life cycle;
- c) a performance assessment of the fixed asset;
- d) a condition assessment of the fixed asset;
- e) the maintenance activities required and the total and true cost of the maintenance activities identified; and
- f) a disposal strategy and management plan

day-to-day maintenance: maintenance that takes place on an *ad hoc* basis including minor repairs and replacements

design development report: the document containing the package information which sets out the integrated developed design of the works for a package and forms the basis for the development of the production information, any statutory permissions and utility approvals granted and a risk report

emergency maintenance: repairs which are unforeseen and require urgent attention due to the presence of, or the imminent risk of, an extreme or emergency situation arising from one or more of the following:

- a) human injury or death;
- b) human suffering or deprivation of human rights;
- c) serious damage to property or financial loss;
- d) livestock or animal injury, suffering or death;
- e) serious environmental damage or degradation; or
- f) interruption of essential services.

employer: institution intending to or entering into a contract with the contractor for the provision of goods, services, or engineering and construction works

extension: addition to an existing building

gate: a control point at the end of a process where a decision is required before proceeding to the next process or activity

NOTE: A gate is a strategic decision making point.

gateway review: a review of the available information at a gate upon which a decision to proceed or not to the next process is based

independent project: a single package or series of packages involving the delivery and / or maintenance of infrastructure identified in a construction procurement strategy which do not form part of a programme or projects

infrastructure: fixed assets that are constructed or result from construction operations including:

- a) buildings, structures and facilities;
- b) water supply, sanitation, electricity supply, transportation and storm water drainage systems; and
- c) the related permanent fixtures that cannot be readily or economically removed or reused

infrastructure plan: a plan which identifies long term needs and links prioritised needs to a forecasted budget for the next few years, e.g. a U-AMP

information and communication technologies (ICT): diverse set of technological tools and resources used to communicate, and to create, disseminate, store, and manage information including computers, the Internet, broadcasting technologies (radio and television), and telephony

infrastructure Programme / Project Management Plan (IPMP): document prepared by the client which establishes the client's arrangements for the efficient and effective management of programmes of projects / independent projects over the MTEF period, aligns with the adopted construction procurement strategy and indicates the allocation of the MTEF budget to the projects to be implemented over the MTEF period

infrastructure Programme / Project Implementation Plan (IPIP): document prepared by an implementer in response to an IPMP which outlines in organisational terms how the implementer will deliver the packages and which is regularly updated to remain current

implementer: institution or division within an institution responsible for the delivery of infrastructure or maintenance projects

institution: a provincial department, or public entity listed in Schedule 3C of the Public Finance Management Act, 1999 (Act 1 of 1999 as amended)

logistic support plan: a plan which establishes the organisational structure required for operation and maintenance of the asset resulting from the package over life span, and office, stores, furniture, equipment, ICT and staff training requirements to run operation and maintenance facilities as well as engineering infrastructure

manufacture, fabrication and construction information: information produced by or on behalf of the contractor, based on the production information provided for a package which enables manufacture, fabrication or construction to take place

maintenance: combination of all technical and associated administrative actions during an item's service life with the aim of retaining it in a state in which it can perform its required functions

maintenance plan: document outlining and scheduling the maintenance tasks and activities necessary to ensure that a facility or service remains operational in its original design condition complete with a detailed life-cycle budget

major capital project: a project or a series of related packages involving the construction, alteration, extensions, refurbishment or the rehabilitation of infrastructure on a single site having an estimated control budget exceeding a value determined by the Provincial Treasury

package: works which have been grouped together for delivery under a single contract or a package order

package execution plan (PEP): a summary of the accepted package information at each gate as such information is progressively developed and the persons identified to assume functional responsibility for taking aspects of the project forward

package information: information at a point in time, following the identification of a package which is contained in one or more of the following documents:

- a) the brief which is progressively developed from time to time;
- b) the design documentation including specifications, data schedules and drawings;
- c) the schedule which identifies key dates and time periods for the performance of the works and services associated with the package, and
- d) cost plan

order: the instruction to provide goods, services or works under a framework agreement

principal programme manager: official or PSP appointed by the implementer who is responsible for overseeing the implementation of a programme of projects involving the delivery and / or maintenance of infrastructure

principal project manager: official or PSP appointed by the implementer who is responsible for overseeing the implementation of an independent project involving the delivery and / or maintenance of infrastructure

production information: the detailing, performance definition, specification, sizing and positioning of all systems and components enabling either construction (where the contractor is able to build directly from the information prepared) or the production of manufacturing and installation information for construction

professional service provider (PSP): persons whose primary business is to provide impartial and independent knowledge-based services to clients for a fee

programme of projects: a group packages identified in a construction procurement strategy managed in a coordinated way to obtain benefits and control not available from managing them individually.

project: identified elements of work involving the construction, refurbishment, rehabilitation, extension, alteration, demolition or scheduled maintenance of infrastructure, the transfer of infrastructure to another institution or the leasing of infrastructure

quality plan: a document that specifies the procedures and resources that will be needed to carry out a project, perform a process or manage a contract, including who will do what and when

record information: information that

- a) records the condition of the completed works associated with a package;
- b) documents the works as constructed or completed;

- c) contains advice on the care and servicing requirements for the works or a portion thereof;
- d) contains advice on the use of plant and equipment;
- e) confirms the performance requirements of the design development report and production information;
- f) contains certificates confirming compliance with legislation, statutory permissions etc.; or
- g) contains guarantees that extend beyond the defects liability period provided for in the package

NOTE: Record information includes drawings, specifications, design and service life parameters and maintenance and operation manuals.

refurbishment: modification and improvements to an existing plant, building or civil engineering works in order to bring it up to an acceptable condition

review: activity undertaken to determine the suitability, adequacy and effectiveness of the subject matter to achieve established objectives

rehabilitation: extensive work to bring plant, building(s) or civil engineering works back to acceptable functional conditions, often involving improvements

risk: effect of uncertainty on objectives

risk management: coordinated activities to direct and control an organization with regard to risk

risk register: record of information about identified risks

risk report: communication intended to inform particular internal or external stakeholders by providing information regarding the current state of risk and its management

routine maintenance: regular on-going maintenance necessary to keep infrastructure operating safely and to prevent premature failure including repairs

scope of work: document that specifies and describes the goods, services, or engineering and construction works which are to be provided, and any other requirements and constraints relating to the manner in which the contract work is to be performed

schedule:

- a) the planned dates for performing activities and the planned dates for achieving major milestone;
or
- b) a table of items of information

scheduled maintenance: maintenance projects flowing out of condition assessments or life cycle planning and which are included in a list an infrastructure plan for implementation through the IGS

Service Delivery Agreement (SDA): an agreement between two or more organs of state setting out the terms and conditions, and roles and responsibilities with respect to the delivery or maintenance of infrastructure which promotes and facilitates inter-institutional relations and the principles of participation, co-operation and co-ordination

stage: a collection of logically related activities in the infrastructure delivery cycle that culminates in the completion of a major deliverable

strategic brief: the document accepted at the end of stage 3 of the IGS which contains, the package information, risk report, the schedule of statutory permissions, funding requirements, and utility

approvals, as relevant, that are to be obtained as the work proceeds and the procurement strategy for the package

supervising agent: official or PSP appointed by the implementer to check that the works are proceeding in accordance with the provisions of the contract

User Asset Management Plan (U-AMP): an infrastructure plan prepared by a client which consists of at least:

- a) a strategic needs assessment;
- b) an acquisition plan;
- c) an operations plan; and
- d) an immovable asset surrender plan.

2.2 Abbreviations

For the purposes of this document, the following abbreviations apply

CIDB:	Construction Industry Development Board
ICT:	Information and Communication Technologies
IGS:	Infrastructure Gateway System
PEP:	Package Execution Plan
IPIP:	Infrastructure Programme / Project Implementation Plan
IPMP:	Infrastructure Programme / Project Management Plan
MTEF:	Medium Term Expenditure Framework
PSP:	Professional Service Provider
SCM:	Supply Chain Management
SDA:	Service Delivery Agreement
U-AMP:	User Asset Management Plan

3 Normative references

The following referenced documents are indispensable for the application of this standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

Construction Industry Development Board, *Standard for the Delivery and Maintenance of Infrastructure using a Gateway System*

Western Cape Provincial Treasury, *Standard for a Construction Procurement System*.

Western Cape Provincial Treasury, *Occupational Health and Safety Specification for Construction Works Contracts*

4 The framework for the delivery and maintenance of assets

4.1 General

4.1.1 Works involving the construction, refurbishment, rehabilitation, extension or alteration of provincial infrastructure, goods or services necessary for a new facility as delivered to be occupied and used as a functional entity, temporary facilities and the scheduled maintenance of existing provincial infrastructure shall be implemented in accordance with the applicable provisions of:

- a) the *Standard for the Delivery and Maintenance of Infrastructure using a Gateway System* (see Figure 1);
- b) the *Standard for a Construction Procurement System*;
- c) the approved IPMPs developed by **clients**;
- d) the approved IPIPs developed by **implementers**;
- e) where applicable, agreed SDA;
- f) applicable forms of contract used by the institution; and
- g) the provisions of this standard including the controls shown in Figure 2.

NOTE: Goods and services necessary for a new facility can include furniture, equipment and ICT. Temporary facilities can include mobile classrooms and accommodation.

4.1.2 All goods and services relating to routine, day-to-day and emergency maintenance undertaken by contractors shall, unless otherwise permitted in terms of Provincial Treasury Instructions, be procured in accordance with the *Standard for a Construction Procurement System*, the applicable forms of contract and in terms of the procurement controls shown in Figure 2.

4.1.3 Goods and equipment which are stored and issued free of charge to contractors or to officials of an institution to perform maintenance activities shall be procured in accordance with the institution's non-construction supply chain management system;

4.1.4 The control documents that inform decisions made at the control points or confirm that a milestone in the process as shown in Figure 2 has been reached are identified in Table 1. Such documents shall be retained for auditing purposes. Audits and quality assurance processes shall focus on the contents of these documents.

4.1.5 All progress reporting shall be framed around the completion of activities associated with a control point.

4.1.6 Institutions may implement projects relating to the delivery and scheduled maintenance of infrastructure only after stage 4 of the IGS has been completed i.e. a concept report has been developed and accepted by the **client** (see Figure 3).

4.1.7 The **custodian** should commence with land acquisition processes during stage 1 of the IGS. Such processes may not be finalised until such time that the concept report is well advanced and it is clear that the project is viable and is required.

NOTE: The custodian should commence with the land acquisition process well in advance of implementation as a package with encumbered land may not proceed beyond stage 4 (see 5.1.10).

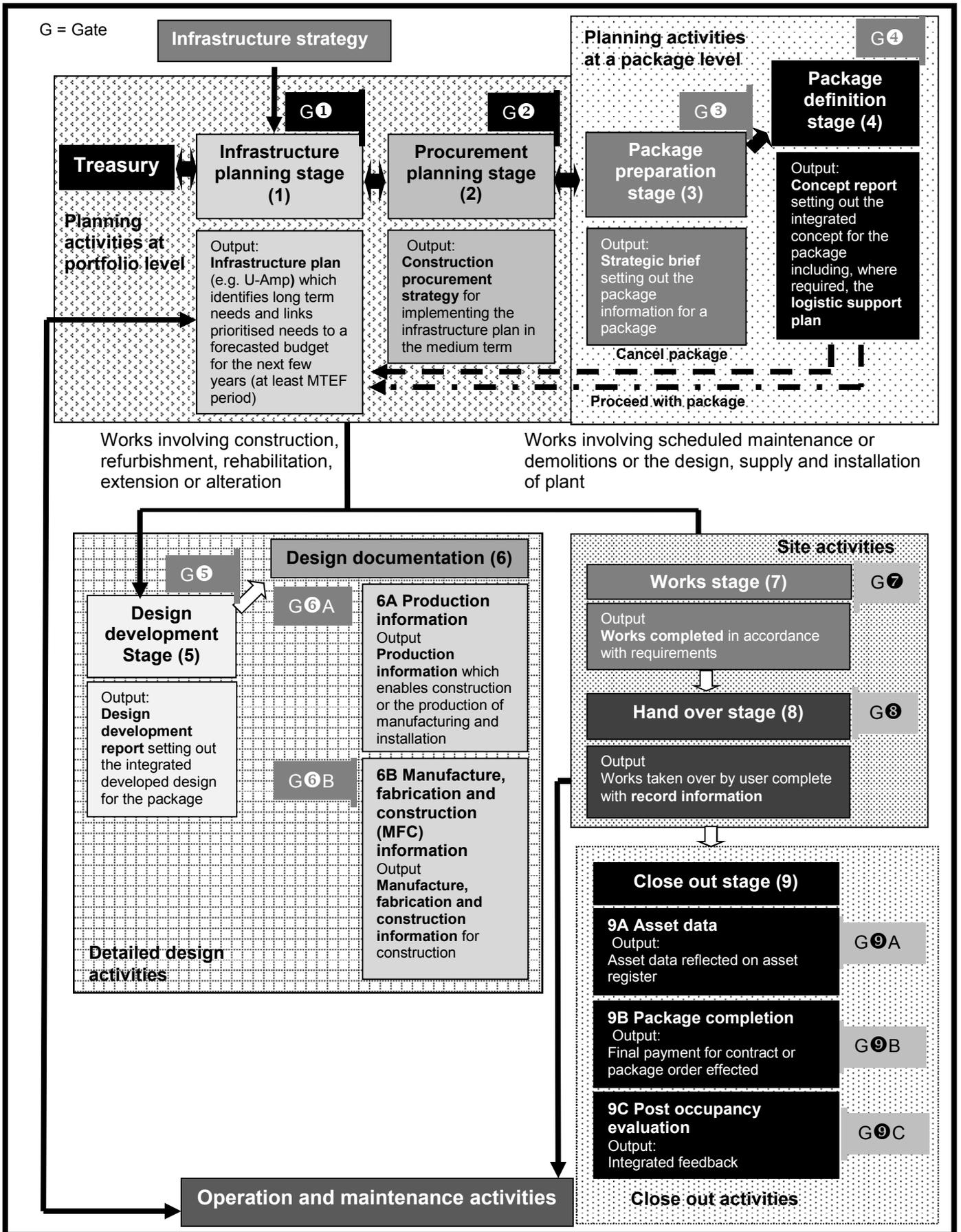
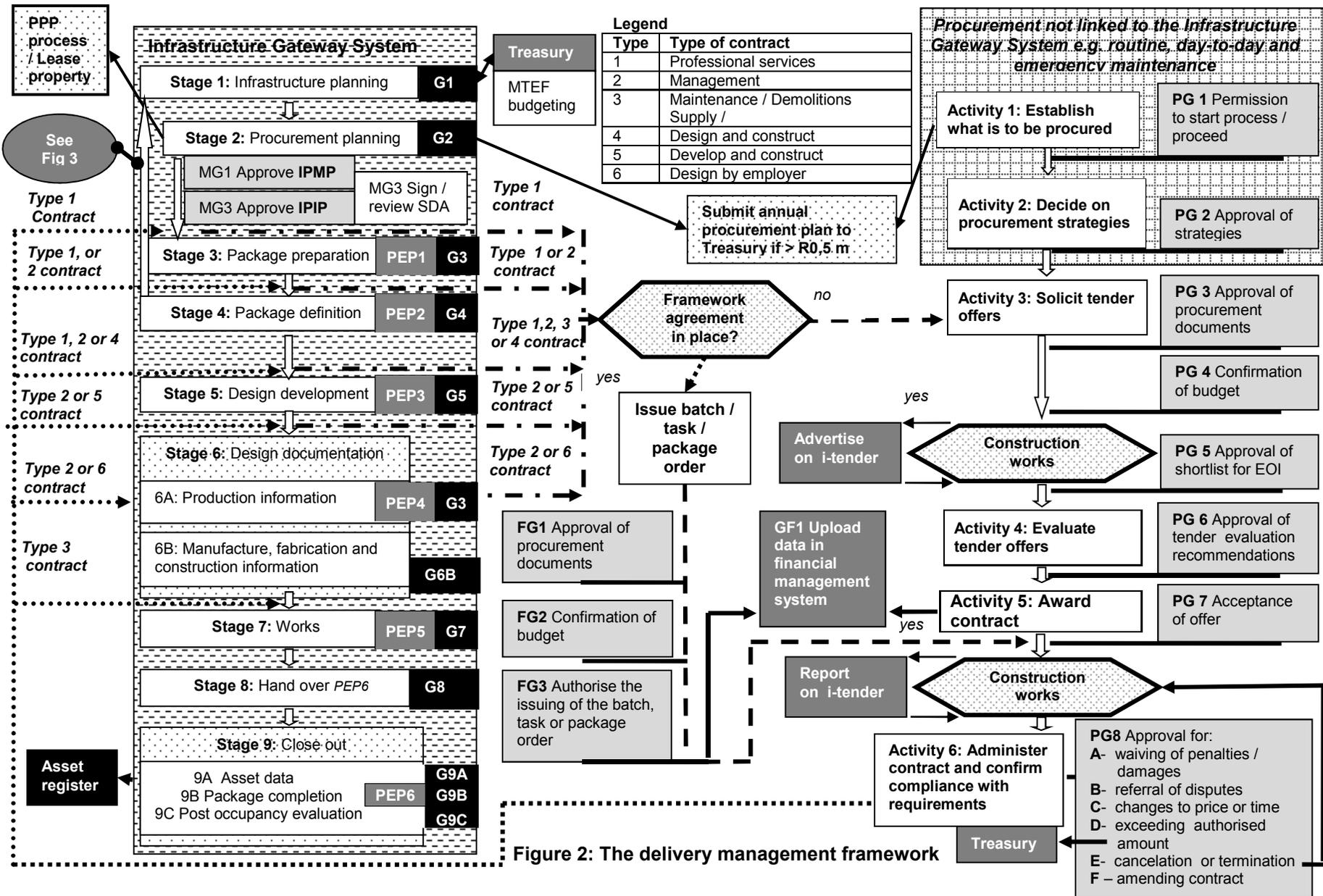


Figure 1 – The stages and gates of the Infrastructure Gateway System (IGS)



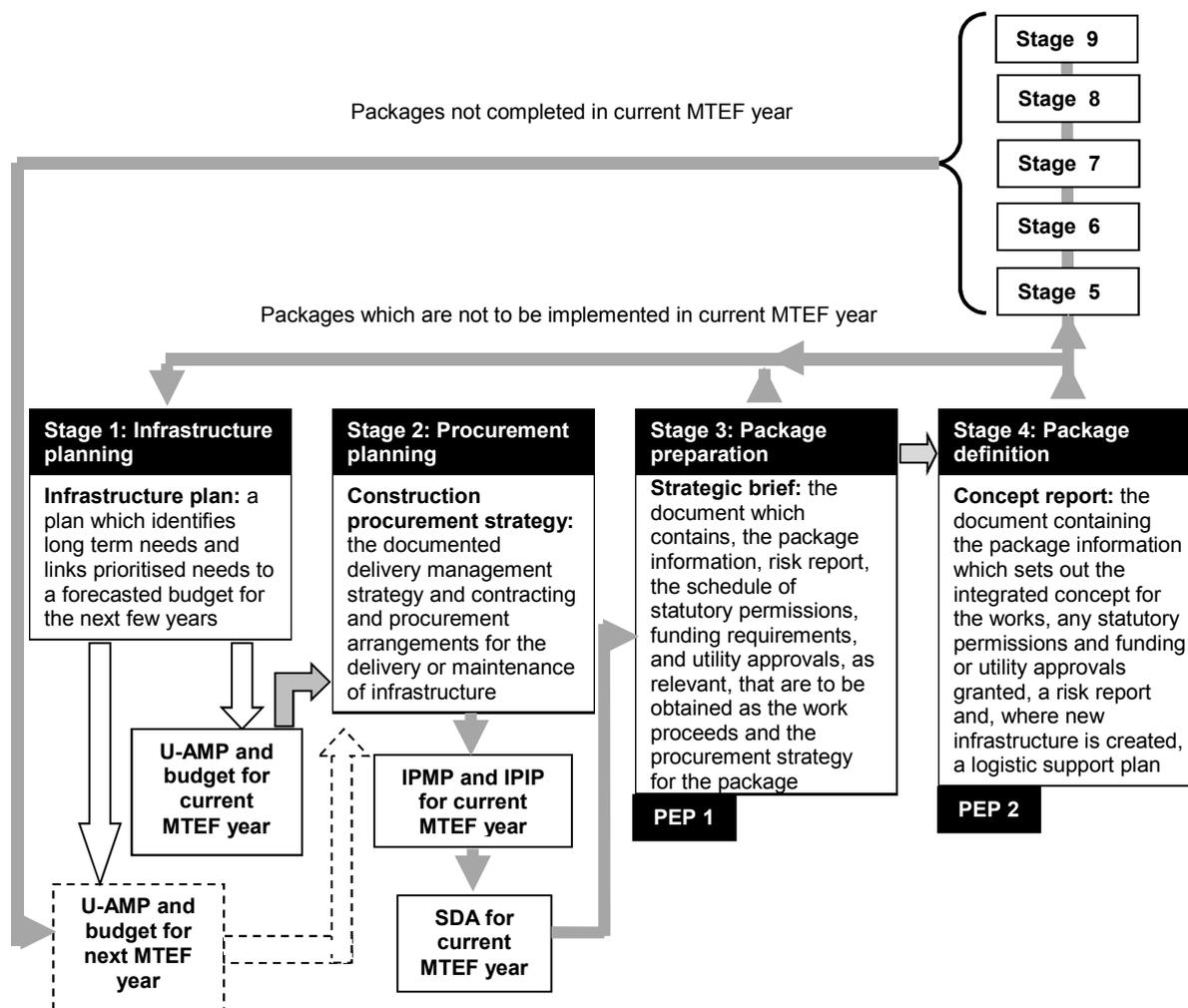


Figure 3: The annual cycle for portfolio and package planning cycle in the IDMS

NOTE 1: The left hand side of Figure 2 outlines the gates associated with the IGS while the right hand side and central portion of Figure 2 outlines the gates associated with the Construction Procurement System including those associated with framework agreements. Figure 2 also indicates the linkages with IPMPs, IPIPs and PEPs as well as those with Provincial Treasury, PPP processes, the CIDB's i-tender system and the institution's financial management system. It also provides the navigation paths between the various parts of the Infrastructure Gateway System and the Construction Procurement System for different types of contracts.

NOTE 2: Contracts unrelated to an infrastructure plan (i.e. U-AMPs) are initiated in the first principal procurement activity (Establish what is to be procured) and pass through PG1 as indicated on the right hand side of Figure 2. Contracts associated with the IGS including professional services are initiated through the infrastructure planning stage (stage 1 of the IGS) on the left hand side of Figure 2. Infrastructure plans (U-AMPs) inform expenditure in the MTEF period, hence the link with Treasury. Projects are allocated to contracts and package orders during stage 2 of the IGS. This completes the planning activities at a portfolio level. Package planning activities can then commence (stages 3 and 4 of the IGS). Should the packages prove not to be viable in their current form (e.g. insufficient budget, unacceptable risk profile, geotechnical / environmental / community constraints, poor return on investment etc.), the infrastructure plan is updated and the process repeated through stages 2 to 4 of the IGS. The acceptance of the procurement plan enables the IPMPs and the IPIPs to be developed and approved. This authorizes the procurement of goods, services and works associated with the projects in the infrastructure plan.

NOTE 3: Goods, services and works can be procured either through framework agreements that are already in place or through the construction procurement system. The PEP is updated whenever stages 3, 4, 5, 6A, 7, 8 and 9B of the IGS are completed. This enables progress to be monitored and reported on. The time, cost and scope of a package can be tracked by viewing the latest PEP for a Package and comparing the latest data with data contained in previous versions of these plans.

NOTE 4: The budgets are confirmed whenever the IPIP is updated or a procurement transaction is proceeded with. The award of a contract or a task, batch or task order provides a linkage with the institution's financial system.

Progress reports via the PEP and payment certificates can inform the financial management system as to the progress of projects and project milestones. The passing through gates can also trigger events e.g. the release of retention amounts, the release of performance bonds etc.

NOTE 5: Portfolio and package planning is an iterative process which can involve a number of MTEF years, depending upon how early planning activities commence (see Figure 3). As a result, the information in the U-AMP can contain information obtained from PEP 1 and PEP 2 which have been extracted from the strategic brief and concept report developed during stages 3 and 4 of the IGS. Where such information is not available when the U-AMP is prepared, assumptions will need to be made regarding such information.

4.2 Financial arrangements

4.2.1 Where an institution functions as a **client** but does not function as an **implementer**, the **client** shall state in the SDA entered into what the financial arrangements are to pay professional service providers and contractors in terms of their contracts. Such arrangements shall make provision for release of retention monies.

4.2.2 An appropriate allowance shall be made in budgets for an MTEF year to enable the **implementer** to proceed with the development of concept reports associated with stage 4 (package planning) of the IGS for packages associated with subsequent MTEF years.

Table 1: Control documents provided at control points

Control point	Control documents	Comments
Infrastructure Gateway System		
G1	Accepted infrastructure plan (e.g. . U-AMP)and MTEF Budget	Developed by client
G2	Accepted construction procurement strategy	Developed by client in collaboration with the implementer
MG1	Approved IPMP	Developed and approved by client and accepted by implementer
MG2	Approved IPIP	Developed and approved by implementer and accepted by client
MG3	SDA	Developed and signed off by client and implementer
G3	Accepted strategic brief	Developed and approved by client and accepted by implementer PEP1 developed using package information contained in the accepted strategic brief
G4	Accepted concept report	Developed by implementer / contractor but accepted by client PEP2 developed using package information contained in the accepted concept report
G5	Accepted design development report	Developed by implementer / contractor but accepted by client PEP3 developed using package information contained in accepted design development report
G6A	Accepted production information	Developed by implementer / contractor. Key documents accepted by client remainder accepted by implementer / contract manager PEP4 developed using package information extracted from priced or forecast of price in terms of contract or package order after production information is sufficiently developed
G6B	Accepted Manufacture, fabrication and construction information for construction	Prepared by contractor and accepted by contract manager

Control point	Control documents	Comments
G7	FIDIC Short form of Contract / Silver Book / Red book / Yellow Book - Taking over Notice	Certified and issued by contract manager PEP5 developed using package information available immediately after certification
	FIDIC Gold Book - Commissioning certificate	
	GCC 2010 - Certificate of Practical Completion and Certificate of Completion	
	JBCC PBA - Certificate of Practical Completion and Certificate of Works Completion	
	JBCC MWA - Certificate of Practical Completion	
	NEC3 Engineering and Construction Contract - Completion Certificate	
	NEC3 Engineering and Construction Short Contract - Completion Certificate	
G8	Accepted record information complete with compliance certificates	Record information developed by implementer / contractor but accepted by client (Compliance certificates are issued by professionally qualified persons)
	Hand over certificate	Certificate issued by implementer and countersigned by client
G9A	Confirmation of entry of data into asset register	Issued by custodian
G9B	FIDIC Silver Book / Red book / Yellow Book - Performance Certificate	Issued by contract manager PEP6 developed using package information available immediately after certification
	FIDIC Gold Book - Contract completion certificate	
	GCC 2010 - Final Approval Certificate	
	JBCC PBA and MWA - Certificate of Final Completion	
	NEC3 Engineering and Construction Contract and NEC3 Engineering and Construction Short Contract - Defects Certificate	
	Final account	
	Accepted close out reports	Developed by implementer and accepted by client
G9C	Integrated feedback	Developed by client in collaboration with implementer
Procurement gates (see Standard for Construction Procurement System)		
PG1	Approved broad scope of work, estimated financial value and timing	Developed by a procurement leader and approved by Designated Person
PG2	Approved contract procurement strategy	Developed by a procurement leader and approved by Designated Person
PG3	Approved procurement document	Developed by procurement leader and approved by Documentation Review Team
	Documentation Review Team Report	Prepared by Documentation Review Team
PG4	Confirmation of budget	Procurement leader advises. Budget office confirms
PG5	Evaluation report	Prepared by Evaluation Panel
	Approval of shortlist for Expression of Interest	Designated person approves

Control point	Control documents	Comments
PG6	Evaluation report	Prepared by Evaluation Panel
	Approval to award contract	Designated person approves
PG7	Authority to award	Delegated Authority authorises.
	Final contract document	Procurement leader provides.
PG8A	Authority to waive penalties / damages	Designated person issues.
PG8B	Authority for referral of dispute	Designated person issues
PG8C	Authority to increase contract value / contract period	Designated person issues
PG8D	Authority to exceed authorized amount	Designated person issues
PG8E	Authority to cancel or terminate contract	Designated person issues
Framework agreement gates		
FG1	Approved procurement document	Developed by procurement leader and approved by Documentation Review Team
	Documentation Review Team Report	Documentation Review Team
FG2	Confirmation of budget	Procurement leader advises. Budget office confirms
FG3	Evaluation report where competition is re-opened amongst framework contractors	Evaluation Panel
	Authority to issue batch, task or package order	Delegated authority authorises. Contract manager issues task, batch or package order.
	Issue batch, task or package order	Contract manager issues the batch, task or package order

NOTE: The terms procurement leader and contract manager refer to persons performing functions and not the designation of posts within an institution. Such persons may be officials or employees of professional service providers.

4.3 Service Delivery Agreement

4.3.1 A **client** shall enter into a Service Delivery Agreement (SDA) with **implementers** only where different institutions assume responsibilities relating to the **client** and **implementer**. Such agreement shall record agreements reached in respect of the IPMP and the IPIP and shall be annually reviewed and amended if necessary by the respective heads of the institutions as soon as possible after the finalisation of the IPIP for an MTEF year but not later than 31st March of each year. The signing off of new or amended SDA between two institutions shall be deemed to be authorisation to proceed with the implementation of the projects contained therein for a MTEF year.

NOTE: SDA's can be drafted in such a manner that it is possible to amend them every year by substituting one annexure for another e.g. the IPMPs and IPIPs can be located in annexures and replaced with the new one ahead of a MTEF year.

4.3.2 A SDA should amongst other things cover the following:

- a) overall aims, objectives and priorities;
- b) parties to the Agreement;
- c) roles and responsibilities;
- d) plans to be implemented through the SDA including the IPMP and IPIPs;

- e) contributing resources (i.e. financial and non-financial resources and agreement on what each party will contribute);
- f) institutional mechanisms including agreement on governance structures, decision making procedures, processes and operating procedures to be followed;
- g) dispute resolution procedures;
- h) financial arrangements including the paying professional service providers and contractors and the release of retention monies; and
- i) commencement, duration and amendments to the agreement.

NOTE: The SDA needs to relate to the full IDMS i.e. not only to programme and project management and the client-implementer relationship, but should also include matters relating to infrastructure planning, operations and maintenance, and property management.

5 Implementation

5.1 General requirements

5.1.1 The delivery and maintenance of infrastructure shall be in accordance with all legislative requirements.

NOTE The legislation that commonly impacts on activities relating to the design and delivery of infrastructure is identified in the CIDB's compendium of legislation (see www.cidb.org.za/legislation/default.aspx).

5.1.2 Institutions shall assign suitably qualified officials or require suitably qualified persons in the employ of a PSP or a contractor to perform the activities associated with a stage of the IGS as stated in Table 2. Officials shall oversee the development of IPMPs and IPIPs, preferably with inputs from suitably qualified professionals in the employ of their institutions.

Table 2: Allocation of functional responsibilities

Stage	Activity	Responsible person(s)	
1	Infrastructure planning	Official(s) in the employ of the client and, where relevant, official(s) in the employ of the custodian	
	Develop, finalise and obtain acceptance of infrastructure plan		
2	Procurement planning	Official(s) in the employ of the client and implementer with inputs as necessary by professionals in their employ or a PSPs	
	Accept infrastructure plans (e.g. U-Amps)		
-	-	Develop an IPMP and revise annually	Official(s) in the employ of the client with inputs as necessary by professionals in the employ of the client or a PSP
		Approval of IPMP	Official in the employ of the client
		Develop an IPIP and revise annually	Officials in the employ of the implementer with inputs as necessary by professionals in the employ of the implementer or a PSP
		Approval of IPIP	Official(s) in the employ of the client
		Enter into a SDA and review / revise annually	An official in the employ of the client and an official in the employ of the implementer
3	Package planning	Develop, finalise and obtain acceptance of the strategic brief	Official(s) in the employ of the client supported as necessary by professionals in the employ of the client or a PSP
		Approve strategic brief	Official in the employ of the client
		Accept strategic brief	Official in the employ of the implementer (e.g. principal programme / project manager)
-	-	Develop version 1 of PEP	Official in the employ of the implementer or a PSP

Stage		Activity	Responsible person(s)
4	Package definition	Develop, finalise and obtain the clients acceptance of the concept report	Professionals in the employ of the implementer, PSP or management contractor
		Accept concept report	Official in the employ of the client
-	-	Develop version 2 of PEP	Official in the employ of the implementer or a PSP
5	Design development	Develop, finalise and obtain acceptance of design development report	Professionals in the employ of the implementer, PSP, management contractor or design and construct contractor
		Accept design development report	Official in the employ of the client
-	-	Develop version 3 of PEP	Official in the employ of the implementer or a PSP
6A	Design documentation (Production information)	Develop, finalise and obtain acceptance of production information	Professionals in the employ of the implementer, a PSP, management contractor, design and construct contractor or develop and construct contractor
		Accept production information	Official in the employ of the client for some parts and professionals in the employ of the implementer or a PSP for the remaining parts
-	-	Develop version 5 of PEP	Official in the employ of the implementer or a PSP
6B	Design documentation (Manufacture, fabrication and construction information)	Develop, finalise and obtain acceptance of manufacture, fabrication and construction information	Professionals in the employ of the contractor
		Accept manufacture, fabrication and construction information	Professionals in the employ of the implementer or a PSP
7	Works	Provide the temporary and permanent works	Professionals in the employ of the contractor
		Accept works completed in accordance with the contract	Professionals in the employ of the implementer or a PSP
-	-	Develop version 5 of PEP	Official in the employ of the implementer or a PSP
8	Handover	Finalise and assemble record information	Professionals in the employ of the implementer, a PSP or contractor
		Hand over the works and record information to the user	Official(s) in the employ of the client supported as necessary by professionals in the employ of the client or a PSP
9A	Close out	Archive record information and update portfolio asset register	Official in the employ of the custodian
9B		Finalise the contract	Professional in the employ of the implementer or a PSP
		Compile close out report	Professional in the employ of the implementer or a PSP
-		Develop version 6 of PEP	Official in the employ of the implementer or a PSP
9C		Conduct post occupancy evaluation	Official(s) in the employ of the client and the employ of the Implementer

5.1.3 Professionals in the employ of an institution, PSP or contractor who provide services associated with the IGS for a project or package shall do so in accordance with the provisions of the *Standard for the Delivery and Maintenance of Infrastructure using a Gateway System*. Such professionals shall, in the case of stages 3 to 9 of the IGS be assigned responsibility to function as one of more of the functionaries identified in Table 3.

NOTE: On complex independent projects, it might be necessary to appoint different professionals to function as a project leader, lead designer, designer and cost consultant, particularly where a design by employer contracting strategy is adopted. On simple projects involving a single disciple, e.g. a road, a single PSP or an individual can be appointed to function as a project leader, lead designer, designer and cost consultant.

Table 3: Professional responsibilities associated with implementing certain stages of the IGS

Designation	Overview of responsibilities
project leader	Provide a non-design role to lead and direct the project team including: a) the establishment of the overall strategy for the development and delivery of the deliverable; b) the monitoring and integration of the activities of the project team; c) the development and maintenance of a schedule and the monitoring of progress towards the attainment of the deliverable; and d) the briefing of, the reporting to and the obtaining of decisions and acceptance of a deliverable
lead designer	a) set design standards for and co-ordinate and integrate the design of designers; and b) co-ordinate advice on design related issues by designers and provide design advice
designer	provide design services relating to the delivery of infrastructure or undertake conditional assessment services relating to scheduled maintenance
cost consultant	provide independent and impartial estimation and control of the cost of constructing, rehabilitating and refurbishing infrastructure by means of one of more of the following: a) accurate measurement of the works, b) comprehensive knowledge of various financing methods, construction systems, forms of contract and the costs of alternative design proposals, construction methods and materials, or c) the application of expert knowledge of costs and prices of work, labour, materials, plant and equipment required.

5.1.4 Implementers shall appoint suitably qualified persons in their employ or in the employ of a PSP to act as (see Annexure D):

- a) **principal programme managers** in relation to each programme of projects and **principal project managers** in relation to each independent project;
- b) **procurement leaders** to take responsibility for the management of the procurement processes in accordance with the provisions of the *Standard for a Construction Procurement System* associated with a procurement package up until such package is awarded; and .
- c) **contract managers** and **supervising agents** in the administration of contracts in accordance with the provisions of the contract.

NOTE: The terms principal programme manager, principal project manager, procurement leader, contract manager and supervising agent refer to persons performing functions and not the designation of posts within an institution (see Annexure D).

5.1.5 Unless otherwise stated in an applicable SDA, all communications in writing between the client and the implementer or their respective representatives, including requests to accept an end of IGS stage deliverable shall be replied to within 7 working days.

5.1.6 Unless otherwise stated in an applicable SDA, the client shall provide written reasons for not accepting or approving an end of IGS stage deliverable. The implementer shall take account of these reasons when resubmitting such deliverables for acceptance or approval.

5.1.7 The **client** shall manage the interface between the end-user and interface with community structures up to the end of IGS stage 4 (package definition) activities. The **client** shall after the conclusion of stage 4, introduce the **implementer's principal programme / project manager** to the community structures. The **implementer** shall thereafter be responsible for implementing any requirements stipulated by the **client** regarding social facilitation and establish the necessary project steering committees, appoint the community liaison officers, recruit and select local labour, manage community related risks, dealing with issues related to labour unrest or disputes during the execution of the works, etc.

5.1.8 Acceptance of an end of an IGS stage deliverable shall be deemed to be the formal authorisation to proceed with the next stage.

5.1.9 Infrastructure projects should, as far as is feasible, be based on standard designs drawings and technical specifications as well as on space planning norms and standards.

NOTE: Clause 5.1.9 reduces the need for both conceptual development of a design and also the need for detailed design work and thereby substantially reduces the cost of professional fees and schedule for delivery. Clients in collaboration with the implementer need to develop and regularly maintain and update space planning norms and standards, standard drawings and technical specifications, design guidelines and cost norms.

5.1.10 No work beyond stage 4 (package definition) of the IGS shall take place on infrastructure located on encumbered land or where agreements have not been put in place for the provision of bulk services or ICT infrastructure.

NOTE: Encumbrances include land availability, land ownership, zoning rights and records of decision regarding environmental issues.

5.1.11 Activities associated with stages 5 to 9 of the IGS of a package may be undertaken in parallel or series, provided that:

- a) each stage is completed in sequence; and
- b) the total of prices, exclusive of price adjustment for inflation, for a contract or package order does not increase from the total of prices upon award of the contract or issue of the package order to the extent that it requires prior written Provincial Treasury approval to proceed (see *Standard for a Construction Procurement System*).

5.2 Conduct of those engaged in the IDMS

The conduct of all personnel and agents applying this standard shall comply with the applicable requirements for conduct established in the *Standard for a Construction Procurement System*.

NOTE: The IDMS incorporates a SCM system. As a result, the applicable requirements for conduct contained in the Construction Procurement System also apply.

5.3 Portfolio planning

5.3.1 Stage 1 (Infrastructure planning)

5.3.1.1 The **client** shall, as part of the annual budget process, produce a suitable infrastructure plan (e.g. U-Amp) which satisfies all legislative requirements and institutional requirements. The infrastructure plan will inform and be informed by inter alia the Provincial Infrastructure Plan, the departmental Strategic Plan and the departmental Comprehensive Service Plan. The infrastructure plan, whilst retaining an overall planning outlook or horizon of 5 to 10 years, shall provide detailed programme and project listings with budgets for the current planning year and the subsequent two years in line with MTEF requirements. Such plans shall furthermore comply with any conditions or requirements associated with grant funding.

NOTE 1: The Provincial Infrastructure Plan provides guidance to planners through the integration and focussing of infrastructure investment and service provision in order to achieve key goals of the Provincial Growth and Development Strategy and the Provincial Spatial Development Framework. This is achieved by addressing the location and sequencing of major integrated infrastructure projects undertaken in the Province.

NOTE 2: The Comprehensive Service Plan includes all aspects of service delivery including service delivery strategy, service delivery mechanisms/concepts, service delivery standards, staffing provisions and management, administration and support arrangements and is an important point of departure for the U-AMP.

5.3.1.2 Where relevant, the **client** together with the **custodian** shall:

- a) assess the utilisation of their immovable assets in terms of service delivery objectives and in terms of Provincial service delivery norms and standards;
- b) assess the functional performance of their immovable assets;
- c) prioritise the need for repair, upgrade or refurbishment of state-owned immovable assets;
- d) plan for future immovable asset needs including the construction of new facilities and services; and
- e) communicate these needs to the Custodian Department in a structured fashion.

5.3.1.3 The **custodian** shall, in response to the U-AMPs, produce a Custodian Asset Management Plan (C-AMP) taking into account the Provincial Infrastructure Plan.

5.3.2 Stage 2 (Procurement planning)

The **client** shall in collaboration with the **implementer** develop and document a construction procurement strategy every year.

5.3.3 Portfolio management plans

5.3.3.1 The **client**, if not the same institution as the implementer, shall, unless the infrastructure funds reside with the **implementer**, develop IPMPs annually for the portfolio of projects contained in the infrastructure plan, which is aligned with the adopted construction procurement strategy. Such a plan should as necessary:

- a) identify the objectives of each programme or projects or independent projects;
- b) identify the scope, budget and schedule for projects / packages, or where available the PEPs (see 5.7.3) for packages included in a programme of projects or an independent project;
- c) provide details of the projects budgeted for implementation in the Medium Term Expenditure Framework(MTEF) period (3 year planning horizon);
- d) outline the construction procurement strategy ;
- e) identify and describe the **client** and community structures, if any, which need to be consulted with or who need to participate in aspects of the delivery cycle;
- f) provide a time management plan for the programme i.e. the baseline against which progress towards the attainment of milestone target dates can be measured;
- g) provide the projected budget and cash flows (cost plan for the programme) which will enable planned and actual expenditure to be compared in different categories of spend and revisions to the budget to be approved and multiple project budgets to be managed and rolled up to infrastructure programme level;
- h) document the key success factors and the key performance indicators which need to be measured, monitored and evaluated;
- i) identify the major risks and how such risks are to be mitigated / managed (risk assessment and management plan);
- j) indicate how **client** quality requirements and expectations are to be met;

- k) document a communication plan which determines the lines of communication and includes as necessary, the following key activities:
 - 1) Communications Planning - determining the information and communications needs of the stakeholders: who needs what information, when will they need it, and how will it be given to them
 - 2) Information Distribution - making needed information available to project stakeholders in a timely manner
 - 3) Performance Reporting - collecting and disseminating performance information. This includes status reporting, progress measurement, and forecasting
 - 4) Administrative Closure - generating, gathering, and disseminating information to formalise phase or project completion; and
- l) quality management requirements.

NOTE 1: The IPMP indicates the allocation of the MTEF budget to the projects to be implemented over the MTEF period. As such it creates an alignment between planning and budgeting. This enables an MTEF project list to be generated so that the planning and design processes can start timeously to ensure expenditure in the financial year budget projections.

NOTE 2: The level of detail in an IPMP depends upon the information that is available (see Figure 3). Where programmes involve repetitive buildings, it is possible to provide much of the strategic brief in the IPMP.

5.3.3.2 The **implementer** shall review the **client's** IPMPs which relate to the **implementer's** IPIP with a view to establishing that such plans:

- a) are comprehensive and addresses all the critical issues including expenditure and project progress issues; and
- b) clearly and unambiguously expresses the **client's** expectations and requirements for the programme or project.

5.3.3.3 The **implementer** who reviews the **client's** IPMP shall either accept such plan or propose revisions and engage with the **client** with a view to amending or modifying such plans to satisfy the requirements of 5.3.3.2. The client shall issue a revised IPMP should the proposed revisions be acceptable.

5.3.3.4 The **implementer** shall develop an IPIP in response to an IPMP which should as necessary:

- a) provides for each package whose concept report developed during stage 4 of the IGS has been accepted by the **client**:
 - 1) a high level summary of the most recent PEPs;
 - 2) the assigned internal and external resources for implementation and responsibilities;
 - 3) the current cash flow forecast;
 - 4) the milestone dates (key deliverables) for implementation of each project;
 - 5) key performance indicators, targets and the means of quantification / measurement; and
 - 6) the controls and measure which will address health, safety, environmental and other project risks.

- b) outlines requirements for projects and packages that have not progressed beyond stage 4 of the IGS.
- c) enables a financial report to be generated which:
 - 1) lists the packages associated with a programme or project which have been finalised during the last two years preceding the MTEF period together with actual expenditure; and
 - 2) shows the following for packages being implemented during each year of the full MTEF period:
 - budget for the year;
 - actual expenditure to date;
 - remaining budget for the year;
 - forecast expenditure for the remainder of the year; and
 - forecast over/under expenditure for the year;.
 - 3) expenditure in relation to projects and packages which have not progressed beyond stage 4 of the IGS; and
 - 4) enables “Actual versus Planned” expenditure and time lines to be compared at a package or programme / project level.

NOTE: The focuses of the IPIP is on managing package scope, time and cost.

5.3.3.5 The **client** shall approve the IPIP developed by the **implementer**, if satisfied that the IPIP is likely to enable the client’s objectives to be satisfied.

5.3.3.6 Where the **client** and the **implementer** are the same institution or where the infrastructure funds reside with the **implementer**, the **implementer** shall develop IPIPs annually and include relevant aspects of 5.3.3.1 in the IPIPs.

5.4 Package planning, design and delivery activities and responsibilities

5.4.1 General

5.4.1.1 The **implementer** shall obtain from the **client** a list of persons who are delegated to make inputs into a deliverable and to accept the end of stage deliverable in respect of each stage, if such information is not included in the IPMP or the SDA.

5.4.1.2 The person functioning as a **project leader** (see Table 3) or a **management / design and construct / develop and construct contractor** shall obtain the **client’s** inputs into the development and finalisation of the concept report, design development report, production information, record information and close out report and the acceptance thereof through the appropriate **principal programme manager / principal project manager** and **contract manager**, respectively.

5.4.1.3 The **principal programme manager** or **principal project manager** shall:

- a) obtain the **client’s** requirements for commissioning and handover, if any, and ensure that such requirements are forwarded to those responsible for compiling procurement documents for professional services and the provision of construction works; and
- b) communicate to the **client** the contractual provisions for the taking over of the works from the contractor responsible for providing the works and make the necessary arrangements with the **client** to ensure that the **implementer** is not liable for securing the site prior to hand over to the **client**.

NOTE: The responsibility for the works passes to the Employer once the contractor achieves completion in terms of the contract.

5.4.2 Stage 3 (Package preparation)

5.4.2.1 A person designated by the **client** shall develop a strategic brief for a package, and once approved, submit it to the **implementer** for review and acceptance.

NOTE: In programmes involving repetitive works it is possible to have a single strategic brief for a programme of projects with tabulated variables for each specific package. It is also possible where planning has been undertaken in advance of implementation to have the strategic brief included in the IPMP as an annexure.

5.4.2.2 A person designated by the **principal programme manager** or **principal project manager** shall review a strategic brief for a package, which is developed and approved by the **client** prior to being issued for implementation in terms of a SDA or this standard, with a view to establishing that the document:

- a) is comprehensive and fulfils the requirements for a strategic brief established in the *Standard for the Delivery and Maintenance of Infrastructure using a Gateway System*; and
- b) clearly and unambiguously expresses the **client's** expectations and is capable of being implemented.

5.4.2.3 The designated person who reviews the **client** approved strategic brief in terms of 5.4.2.2, shall either accept the strategic brief or propose revisions and engage with the **client** through the **principal programme manager** or **principal project manager** with a view to amending or modifying such brief to satisfy the requirements of 5.4.2.1. The designated person shall obtain the **client's** approval for any revised brief in writing.

5.4.3 Stage 4 (Package definition)

5.4.3.1 The **project leader** assigned by the **principal programme manager** / **principal project manager** or a **management contractor** shall either convert or oversee the conversion of the strategic brief for the package into a workable and viable concept for the implementation of the package or, should a viable solution not be found, produce a report recommending the cancellation of the package.

5.4.3.2 The **project leader** or a **management contractor** shall obtain the **client's** acceptance of the concept report as well as inputs into the logistics support plan through the **principal programme manager** / **principal project manager** or **contract manager**, respectively. Proof of the **client's** acceptance of the concept report shall be kept for record and auditing purposes.

5.4.3.3 No work associated with the implementation stages, obtaining planning permissions or commencing a procurement process for infrastructure associated with a package may be undertaken before the **client's** acceptance of the concept report is obtained unless written instructions to the contrary are obtained from the **client**.

5.4.4 Stage 5 (Design development)

The design of infrastructure, if applicable (see Figure 1), shall be developed in such a manner that the **client** accepts a design development report prior to the commencement of construction, fabrication or manufacturing activities. Proof of the **client's** acceptance of the design development report shall be kept for record and auditing purposes.

5.4.5 Stage 6 (Design documentation)

5.4.5.1 The **principal programme manager** or **principal project manager** shall in consultation with the **client** identify which parts of the production information, if applicable (see Figure 1) shall be accepted by the **client** or his delegate before being issued to a contractor. The remaining parts shall be accepted by either the **project leader** or the **contract manager**, depending upon the contracting strategy that is adopted.

5.4.5.2 The **contract manager** shall accept the manufacture, fabrication and construction information in accordance with the provisions of the contract.

5.4.6 Stage 7 (Works)

5.4.6.1 The **principal programme manager** or **principal project manager** shall brief the **contract manager** of the **client's** monitoring and reporting requirements for stage 7 (Works). The **contract manager** shall ensure that these monitoring and reporting requirements are adhered to.

5.4.6.2 The **contract manager** shall provide the **principal programme manager** or **principal project manager** with adequate notice of the anticipated date of completion for a part or whole of the works in accordance with the provisions of the contract so that the necessary hand over arrangements with the **client** may be made.

NOTE: The responsibility for the works passes to the Employer once the contractor achieves completion in terms of the contract. The Employer may have to secure the works if there is a delay in handover to the client. It is therefore important for the contract manager to ascertain what the minimum notice period should be.

5.4.7 Stage 8 (Hand over)

5.4.7.1 The **principal programme manager** or **principal project manager** shall arrange for the handover of a part or the whole of the works to the person(s) nominated by the **client** and assign a person(s) to do so. Proof of the **client's** acceptance of the works shall be kept for record and auditing purposes.

5.4.7.2 The **project leader** or **contractor**, depending upon the contracting strategy that is adopted, shall ensure that all applicable certificates are completed and the record information is assembled and accepted within one week of the certification of completion in accordance with the provisions of the contract which triggers the transfer of the care of the works back to the **client** and / or **custodian**. Such information shall be handed over to the person(s) who hands over a part or the whole of the works to the person(s) nominated by the **client**. Proof of acceptance of the record information shall be kept for record and auditing purposes.

5.4.7.3 Those responsible for developing the record information shall update the information in the design development report, if provided, so that when the works are completed, the record information is available.

5.4.7.4 Requirements for the development and the timing for the delivery of record information shall be incorporated in the scope of work of the relevant contracts for PSP and contractors. Payment items shall be linked to the provision of such information.

NOTE: The design development report documents what is to be delivered. Record information documents what has been delivered.

5.4.7.5 Where required in terms of a SDA, the **project leader** or **contractor** shall attach to the record information a maintenance plan.

5.4.8 Stage 9 (Close out)

5.4.8.1 Stage 9A (Asset data)

The **custodian** shall capture all asset related data (financial and non-financial) onto the asset register to serve as inputs in future infrastructure planning processes.

NOTE: The client should similarly update their records.

5.4.8.2 Stage 9B (Package completion activities)

The **contract manager** shall prepare a close out report in accordance with requirements established by the **principal programme manager** or **principal project manager**, as relevant. Such report shall be

submitted to the **principal programme manager** or **principal project manager** not later than one year after completion or within 30 days of the end of the defects liability period, whichever is the earlier.

5.4.8.3 Stage 9C (Post occupancy evaluation)

Post occupancy evaluation reports which provide integrated feedback aimed at continuous improvement of built environments, infrastructure delivery and procurement methods shall be undertaken in accordance with the provisions of a SDA or on a sample basis on projects or packages identified by the client approximately one year after handover. Such an evaluation shall be undertaken in terms of a procedure developed or adopted by the **client** and accepted by the **principal programme manager** or **principal project manager**.

5.5 Monitoring and reporting on progress

5.5.1 Each time that a deliverable associated with a stage in the IGS is accepted or approved, data relating to the scope, timing and cost of the package, and where relevant, parameters associated with key performance indicators, shall be captured in a standard format in the PEP (see 5.7.3) on a management system put in place by the **implementer** by the responsible **project leader** or **contract manager**.

5.5.2 The management system shall be capable of producing dashboard reports on a regular basis using the information contained in the PEP.

5.6 Gateway reviews

5.6.1 General

5.6.1.1 Gateway reviews may be undertaken by a gateway review team of the deliverables associated with gates 4, 5 or 8 of the IGS. Gateway reviews at gate 4 of the IGS shall be undertaken on all projects which are categorised as being major capital projects. The implementer shall notify the Provincial Treasury of all major capital projects whenever such projects are identified.

5.6.1.2 A gateway review team shall comprise not less than three persons appointed by the **implementer** in consultation with the **client** who are not involved in the programme or the project within which the package falls and who are familiar with the subject matter of the deliverable at the end of the stage under review. In the case of major capital projects, the Provincial Treasury may nominate an additional person to serve on the gateway review team.

5.6.1.3 The **project leader** or, if assigned to do so, **contract manager** responsible for a package which requires a gateway review at a particular stage (see 5.6.2 and 5.6.3) shall ensure that the gateway review team is:

- a) issued at least one week prior to the date set for the review with the end of stage deliverable as well as the following earlier deliverables:
 - 1) review of Stage 4 (Package Definitions): strategic brief
 - 2) review of Stage 5 (Design Development): strategic brief and concept report
 - 3) review of Stage 8 (Handover): design development report;
- b) afforded access to the key staff members and, where relevant, stakeholders.

5.6.1.4 The gateway review team shall:

- a) review the end of stage deliverables for compliance with the requirements of this document and the *Standard for the Delivery and Maintenance of Infrastructure using a Gateway System*;
- b) establish the quality of the documentation through the interviewing of key staff members and stakeholders.

- c) base its findings primarily on:
 - 1) the information contained in the end of stage deliverables;
 - 2) supplementary documentation, if any, provided by key staff obtained during the interview process; and
 - 3) interviews with key staff and stakeholders.
- d) issue a report at the conclusion of a gateway review which indicates the team's assessment of the information at the end of a stage and provides findings or recommendations on areas where further work may be undertaken to improve such information.

5.6.1.5 Aspects in the report should be flagged as being:

- a) Code **red**: Team considers the aspect to pose a significant risk to the project / package.
- b) Code **amber**: Team considers the aspects which indicate a minor risk to the project / package.
- c) Code **green**: Team considers the aspect to have been given adequate consideration to the extent that it is unlikely to jeopardise the success of progressing to the next stage.

NOTE 1: An IGS review is not an audit or about 'passing' or 'failing' gates, but about improving the chances of the successful identification and formulation of projects and the delivery of packages. It is a partnership between the review and project teams and provides everyone with an opportunity to learn lessons from the experience.

NOTE 2: The level of detailed content in a review reports needs to be in line with the importance and impact of the recommendations. Such a report should aim to produce candid and practical recommendations, based on best practice. A spirit of openness and a willingness to work together is essential to the achievement of a useful gateway review report.

5.6.2 Review of major capital projects

All major capital projects shall have a gateway review prior to the acceptance of the end of stage 4. The focus of such a review shall in the first instance be on the quality of the documentation and thereafter on:

- a) **deliverability**: the extent to which a project is deemed likely to delivery the expected benefits within the declared cost / time / performance envelope
- b) **affordability**: the extent to which the level of expenditure and financial risk involved in a project can be taken up on, given the organisation's overall financial position, both singly and in the light of its other commitments
- c) **value for money**: the optimum combination of whole life costs and quality (or fitness of purpose) to meet the user's requirements.

NOTE: This gateway review satisfies the requirements of Section 38(1)(a)(iv) of the Public Finance Management Act of 1999 which requires that all major capital projects be properly evaluated prior to a final decision being taken on the project.

5.6.3 Packages selected for review on a random sample basis

The **implementer** shall identify a random sample of packages and require that a gateway review be undertaken on any of the stages 4, 5 or 8 of the IGS. The focus of such a review, which shall take place after the end of stage deliverable has been accepted, shall be on the quality of the documents.

NOTE: Annexure B provides typical questions that a review team could ask at the end of stages 4 and 5 of IGS.

5.7 Programme and project management arrangements

5.7.1 Procurement plans

5.7.1.1 The **implementer** shall on an annual basis collate information from the IPMPs and IPIPs and prepare a procurement plan for all proposed tenders for the next financial year which contains the following information in a tabular form, where the proposed procurement is estimated to exceed R 500 000 including VAT:

- a) a description of the goods, services or works;
- b) the estimated value of such goods, services or works including all applicable taxes;
- c) the envisaged date of advertisement;
- d) envisaged closing date for tenders;
- e) envisaged date of award; and
- f) the responsible office / regional office.

5.7.1.2 The **implementer** shall submit such a plan to the Head of the SCM Unit on or before the 15th of April of each year, who in turn shall submit to the Provincial Treasury on or before 30th of April of each year.

5.7.1.3 The relevant principal programme manager or principal project manager shall notify the Head of the SCM unit of any cancellation of proposed tenderers or the addition of any tenders whenever such cancellation or addition occurs.

5.7.2 Responsibilities of principal programme and project managers

Principal programme managers and **principal project managers** appointed by the **implementer** shall:

- a) manage the planning and implementation of packages in terms of this standard in a manner that enables both the **implementer** and its **clients** to achieve their objectives and in such a manner that:
 - 1) all projects are developed and managed in terms of a common procedural and programmatic approach and integrated with the **client's** administrative processes and are institutionalised;
 - 2) the various elements of the projects are properly co-ordinated;
 - 3) the projects include all the work required, and only the work required, to complete the project successfully;
 - 4) the timely completion of the projects is facilitated;
 - 5) projects are completed as far as is reasonably possible, within the budget that is agreed from time to time with the **client**;
 - 6) the project satisfies the needs for which it was undertaken;
 - 7) effective use of the people involved with projects is made;
 - 8) timely and appropriate generation, collection, dissemination, storage, and ultimate disposition of project and package information occurs; and
 - 9) the systematic identification, analysis, and response to project risk occurs.

- b) manage assigned **project leaders**, **procurement leaders** and **contract managers**;
- c) regularly review and update the approved IPIP and provide the **client** with copies of each revision of the IPIP.

5.7.3 PEPs and capturing of data

5.7.3.1 The **principal programme manager** or **principal project manager** or a person designated by the **client** shall at the commencement of a financial year ensure that information that is available concerning the packages that are planned to be worked on and which are not already on the financial system is captured on the system. All professional service contracts shall be linked to these packages so that all expenditure incurred can be linked to such packages.

5.7.3.2 The PEP shall contain from stage 3 onwards:

- a) the package profile (see Table 4);
- b) a summary of the package information at each stage of the delivery management cycle as well as the dates of acceptance of the end of stage deliverables;

Table 4: Package profile

Client	<i>Insert client department's name</i>			
Reference number	<i>Insert contract number and if relevant package order number</i>			
Title	<i>Insert title of package</i>			
Location	<i>Insert the location of the site and provide GPS co-ordinates for each project within a package</i>			
Overview of works	<i>Provide a short description of the works, their purpose, etc.</i>			
Type of works (see Annexure A)	One or a combination of:			
	1 New or replaced infrastructure asset – capital <input type="checkbox"/> New construction <input type="checkbox"/> Demolition <input type="checkbox"/> Supply and install plant	2 Upgrade and additions – capital <input type="checkbox"/> Alteration <input type="checkbox"/> Extension <input type="checkbox"/> Supply and install plant	3 Renovations, rehabilitations or refurbishments - capital <input type="checkbox"/> Rehabilitation <input type="checkbox"/> Refurbishment <input type="checkbox"/> Supply and install plant	4 Maintenance and current repairs <input type="checkbox"/> Scheduled maintenance
Socio-objectives	<input type="checkbox"/> B-BBEE <input type="checkbox"/> CIDB registered contractors grades 4 to 7 <input type="checkbox"/> CIDB registered contractors grades 1 to 3 <input type="checkbox"/> black owned consulting firms		<input type="checkbox"/> work opportunities to temporary workers <input type="checkbox"/> experiential work opportunities <input type="checkbox"/> other (state)	
Procurement strategy	Delivery mode: <input type="checkbox"/> programme <input type="checkbox"/> independent project <i>Insert name of programme/ project</i>			
	Service requirement			
	Maintenance only	Pricing strategy <input type="checkbox"/> Priced contract with a priced list <input type="checkbox"/> Cost reimbursable contract <input type="checkbox"/> Target contract		Form of contract <input type="checkbox"/> NEC TSC <input type="checkbox"/> NEC TSSC
	Construction only	Pricing strategy <input type="checkbox"/> Price based –lump sum /activity schedule / price list <input type="checkbox"/> Price based - bill of quantities <input type="checkbox"/> Target cost contract – activity schedule	Contracting strategy <input type="checkbox"/> Design by employer <input type="checkbox"/> Develop and construct <input type="checkbox"/> Design and construct <input type="checkbox"/> Construction management <input type="checkbox"/> Management contractor	Form of contract <input type="checkbox"/> FIDIC RB <input type="checkbox"/> FIDIC SB <input type="checkbox"/> FIDIC YB <input type="checkbox"/> FIDIC SF

		<input type="checkbox"/> Cost reimbursable contract <input type="checkbox"/> Management contract		<input type="checkbox"/> GCC 2010 <input type="checkbox"/> JBCC PBA <input type="checkbox"/> JBCC MWA <input type="checkbox"/> NEC ECC <input type="checkbox"/> NEC ECSC
	Construction and maintenance service	Pricing strategy as per construction and maintenance service	Contracting strategy as per construction service	Form of contract <input type="checkbox"/> NEC ECC <input type="checkbox"/> NEC ECC with NEC TSC
	Construction, maintenance and operation	Pricing strategy	Contracting strategy as per construction service	Form of contract <input type="checkbox"/> FIDIC GB <input type="checkbox"/> NEC ECC plus NEC TSC
	Supply and install	Form of contract <input type="checkbox"/> NEC SC <input type="checkbox"/> NEC SSC		
	Procurement arrangements	Procurement procedure <input type="checkbox"/> Open <input type="checkbox"/> Qualified <input type="checkbox"/> Proposal <input type="checkbox"/> Negotiation <input type="checkbox"/> Competitive negotiations (open) <input type="checkbox"/> Competitive negotiations (restricted)	Targeting strategies <input type="checkbox"/> Preferences <input type="checkbox"/> Incentives for KPIs <input type="checkbox"/> Mandatory subcontracting <input type="checkbox"/> Contractual obligations	Evaluation method <input type="checkbox"/> Method 2 <input type="checkbox"/> Method 4
Tender process	Calls for expressions of interest Date of advertisement Closing date for submissions Number of submissions received (<i>insert data</i>) Number of respondents invited to submit tenders (<i>insert data</i>)		Tenders Date of advertisement / sending of invitations following an EOI Closing date for submissions Number of tenders received (<i>insert data</i>) Number of responsive tenders (<i>insert data</i>) Date of award of contract	

NOTE: The full titles of these standard forms of contract can be found in the *Standard for a Construction Procurement System*. The following abbreviations are applied in this table to identify specific forms of contract in families of contracts:

ECSC – Engineering and Construction Short Contract
ECC - Engineering and construction Contract
SC – Supply Contract
SSC – Short Supply Contract
TSC - Term Service Contract
TSSC –Term Service Short Contract

PBA – Principal Building Agreement
MWA –Minor Works Agreement
GB – Gold Book
RB – Red Book.
SB – Silver Book.
SF – Short Form (Green Book)
YB – Yellow Book

NOTE: The *Standard for a Construction Procurement System* requires that approval be obtained from a designated person to waive penalties or low performance damages, notify and refer a dispute to an adjudicator, accept a quotation for an event which in terms of the contract increase the total of prices or the time for completion at award by more than 1%, exceed the total of prices by more than a specified margin amend the terms of the contract or terminate a contract.

- c) the names of the persons who are appointed as the project leader, the lead designer, the designer, the cost consultant, the procurement leader, the contract manager, health and safety agent, supervising agent and contractor as relevant and as applicable to the stage to which the version of the PEP relates (see Annexure D);
- d) particulars of the individual projects that are linked to the package so that reporting at a project level can take place as necessary; and
- e) details and dates of those persons who accepted an end of stage deliverable.

NOTE 1: A PEP provides a history of the package information as it is progressively developed and enables the changes in the budget and timing for the work to be readily understood. It also contains a record of appointment made to assume functional responsibilities.

NOTE 2: The package profile is the front end of the PEP.

5.7.3.3 The **project leader** or, if assigned to do so, the **contract manager**, shall develop and or update the PEP when required to do so and develop and maintain the following documents between stages for each package for which they are responsible for:

- a) a risk register
- b) a communications plan which is aligned to the IPMP, SDA and IPIP, as relevant; and
- c) a quality plan.

NOTE: A contract manager is only appointed when a package is awarded. This can take place between the end of stage 3 (package planning) and when most of the production information (design documentation) is completed, depending upon the contracting strategy that is adopted. The role of the project leader also diminishes where the contractor takes on management and design responsibilities.

5.7.3.4 The **project leader** shall capture on the system the package profile (see Table 4) when the procurement process commences and update it once it has been concluded.

5.7.3.5 The **project leader** or if assigned to do so, **contract manager**, shall establish and maintain a PEP in respect of each package.

5.8 Contract administration

5.8.1 The **contract manager** assigned to administer a specific contract or task, batch, or package order shall:

- a) capture on the system the following data within two weeks of the award of a contract or task, batch or package order at least the following information:
 - 1) his or her name and contract particulars;
 - 2) the programme or project number, as relevant
 - 3) the contractual dates associated with the contract and where relevant, a task, batch or package order (see Table 5)
 - 4) the assessment dates associated with the contract or task, batch or package order, as relevant (see Table 5);
 - 5) except in the case of very low value goods or services contracts, provide a cash flow forecast against each assessment date;
 - 6) the total of prices or forecasted total of prices, if not already captured;
 - 7) where relevant, whether or not provision is made for price adjustment for inflation, delay damages, company guarantee, performance bond and retention and if so, what is the quantum or estimated quantum of such provisions, where applicable;
- b) administer such contract or task, batch or package order in accordance with the provisions of the contract and the *Standard for a Construction Procurement System*, using the **implementer's** standard templates for communications;
- c) make, where required in terms of the contract (see Table 5) an assessment of the amount due on or before the 1st of the month where monthly assessments are required and certify such payment on or before the 8th of each month and forward such certification to the **principal programme manager** or the **principal project manager** on or before the 9th of each month;
- d) encourage the contractor to make an assessment of the amount due and submit an invoice on or before the 1st of the month where monthly assessments are required and accept the amount due or adjust the amount giving reasons to the contractor on or before the 8th of each month and forward the documentation for the amount due to the **principal programme manager** or the **principal project manager** on or before the 9th of each month;
- e) revise the estimates for price adjustment for inflation where provided for, prepare an updated cash flow for the remainder of the contract based on the contractor's programme and capture these amounts together with the amounts due to the contractor and the retention amounts, if relevant, on a monthly basis;
- f) capture the revised total of the prices for the contract or package order within one week of a contractor revising a forecast of the total of prices or an event being implemented which in terms of the contract increase the total of prices;
- g) capture the revised completion date, delivery date or completion date for a task, as relevant, for the contract or package order within one week of an event being implemented which in terms of the contract causes the contract completion date to be changed and amend as necessary the associated assessment dates;
- h) capture on the system the date when the certificates identified in Table 6 were issued within one week of them being issued;

Table 5: Responsibilities and basic parameters associated with a contract

Contract	Identity of contract manager in terms of the contract	Person responsible for assessing the amount due	Assessment date	Contractual dates	Total of Prices	
					Pricing strategy	Basis for calculation
FIDIC SF	Employer's representative	Contractor	Monthly up until end of period for notifying defects	Commencement Works are complete End of period for notifying defects	Lump sum Lump sum with schedule of rates Cost reimbursable Lump sum with bill of quantities Remeasurement with bill of quantities Cost reimbursable	As set out in the contract data
FIDIC GB	Engineer	Contractor	Monthly up until the taking over certificate and thereafter after the end of the period for notifying defects	Commencement Commissioning Contract completion	Lump sum	Instalments as set out in a schedule in Schedule of Payments for the Design-Build Period and Operation Service Period
FIDIC RB	Engineer	Contractor	Monthly up until the taking over certificate and thereafter after the end of the period for notifying defects	Commencement Works are complete Contract completion	Bill of quantities Lump sum	Sum of quantities times rates plus prices for items which have no quantities As per schedule of payments
FIDIC SB FIDIC YB	Engineer	Contractor	Monthly up until the taking over certificate and thereafter after the end of the period for notifying defects	Commencement Works are complete Contract completion	Lump sum	As per schedule of payments
GCC 2010	Engineer	Contractor	Monthly up until Certificate of Completion and thereafter only after the Final Approval Certificate has been issued	Commencement Due Completion Expiry of Defects Liability Period	Bill of quantities Fixed price	Sum of quantities times rates plus prices for items which have no quantities Lump sums in agreed breakdown
JBCC PBA	Principal agent	Principal agent	Monthly up until final payment certificate	Possession of the site Practical completion End of latent defects liability period	Bill of quantities	Sum of quantities times rates plus prices for items which have no quantities Lump sums representing estimated value of completed work

Contract	Identity of contract manager in terms of the contract	Person responsible for assessing the amount due	Assessment date	Contractual dates	Total of Prices	
					Pricing strategy	Basis for calculation
JBCC MWA	Principal agent	Principal Agent	Monthly up until final payment certificate	Possession of the site Practical completion End of latent defects liability period	Bill of quantities	Sum of quantities times rates plus prices for items which have no quantities
NEC3 Supply Contract (SC)	Supply Manager	Supply Manager	Monthly assessment date Final assessment (4 weeks after the last defects date)	Starting date Delivery date Defects date	Priced contract with Price Schedule	Sum of quantities times rates plus prices for items which have no quantities
NEC3 Supply Short Contract (SSC)	Purchaser's representative	Purchaser	Monthly assessment date Final assessment (4 weeks after the last defects date)	Starting date Delivery date Defects date Start date for batch* Delivery date for batch* Defects date for a batch*	Priced contract with Price Schedule	Sum of quantities times rates plus prices for items which have no quantities
NEC3 Term Service Contract	Service Manager	Service Manager	Monthly assessment date Final assessment (four weeks after the end of the service / the latest date for completion of a task)	Starting date Service period Starting date for task* Task Completion Date*	A: Priced contract with Price List	Sum of quantities times rates plus prices for items which have no quantities
					C: Target contract with Price List	Sum of quantities times rates plus prices for items which have no quantities
					F: Cost reimbursable contract	Forecast of Defined Cost
NEC3 Term Service Short Contract	Employer's representative	Contractor	Monthly assessment date Final assessment (one month after the end of the service / the latest date for completion of a task)	Starting date Service period Starting date for task* Task completion date*	Priced contract with a Price List	Sum of quantities times rates plus prices for items which have no quantities
NEC3 Professional Services Contract	Employer's representative	Consultant	Monthly assessment date Final assessment (8 weeks after the last defects date) Completion of the whole of the services or the latest date for the completion of a task	Starting date Completion date for whole of the services Sectional completion dates Defects date Starting date for task* Task completion date*	A: Priced contract with activity schedule	Sum of prices for activities in activity schedule
					C: Target contract	Sum of prices for activities
					E: Time based	Forecast of the total Time Charge
					G: Term contract	Forecast of the total Time Charge plus sum of lump sum process in Task Schedule

Contract	Identity of contract manager in terms of the contract	Person responsible for assessing the amount due	Assessment date	Contractual dates	Total of Prices	
					Pricing strategy	Basis for calculation
NEC3 Engineering and Construction Contract	Project Manager	Project Manager	Monthly assessment date Final assessment (4 weeks after issue of Defects Certificate) Completion of the whole of the services or the latest date for the completion of a task	Starting date Completion date Sectional completion dates Defects date Starting date for a package* Completion date for a package* Defects date for a package*	A: Priced contract with Activity Schedule	Sum of prices for activities in activity schedule
					B: Priced contract with Bill of quantities	Sum of quantities times rates plus prices for items which have no quantities
					C: Target contract with Activity Schedule	Sum of prices for activities in activity schedule
					E: Cost reimbursable contract	Forecast of Defined Cost
					F: Management contract	Forecast of Defined Cost
NEC3 Engineering and Construction Short Contract	Employer's representative	Contractor	Monthly assessment date Final assessment (4 weeks after the issue of the Defects Certificate)	Starting date Completion date Defects date Starting date for a package* Completion date for a package* Defects date for a package*	Priced contract with a Price List	Sum of quantities times rates plus prices for items which have no quantities

*Applicable where package, task or batch orders are issued in terms of a framework agreement

Table 6: Certificates issued in terms of the contract

Form of contract	Certificate
GCC 2010	Certificate of Practical Completion Completion Certificate Final Approval Certificate
JBCC PBA	Certificate of Final Completion Certificate of Practical Completion Certificate of Works Completion
JBCC MWA	Certificate of Final Completion Certificate of Practical Completion
NEC3 Professional Services Contract	Completion Certificate
NEC3 Engineering and Construction Contract	Completion Certificate Defects Certificate
NEC3 Engineering and Construction Short Contract	Completion Certificate Defects Certificate

- i) capture on the system the date when the following documents, as relevant, have been accepted in terms of the contract within one week of them being accepted;
- 1) policies and certificates of all insurances;
 - 2) parent company guarantees;
 - 3) performance bonds
- j) maintain records in accordance with the requirements of the **implementer's** records management policy and any specific requirements contained in the SDA;
- k) provide a monthly report on events which in terms of the contract cause the total of prices to increase or the contract completion date to be changed, which as a minimum contains:
- 1) the date when such an event was notified together with a brief description of the event, a brief reason for the event being notified and whether or not the event has happened or is expected to happen;
 - 2) whether or not quotations have been instructed;
 - 3) the response to contractor's submissions;
 - 4) approvals granted for the event in terms of the *Standard for a Construction Procurement System*;
 - 5) the status of all such events and the forecasted accumulative effect of all notified events on the time and price parameters associated with a contract or batch, task or package order.
- l) consult with the **principal programme manager** or **principal project manager** before:
- 1) accepting any proposal to change the scope of work to accept a defect;
 - 2) issuing an instruction to stop or not start work after the starting date; or
 - 3) an instruction for acceleration;
- m) report to the **principal programme manager** or **principal project manager** all insurance claims made within one week of the claim being lodged;

- n) report to the **principal programme manager** or **principal project manager** any dispute for referral to an adjudicator that is notified by a contractor; and
- o) prepare a motivation setting out any dissatisfaction with an adjudicator's decision for consideration by the **principal programme manager** or **principal project manager** for referral to a tribunal.

NOTE: The basic data associated with an award of a contract (i.e. title, number, form of contract used and option, award date and where applicable, total of prices is captured in accordance with the *Standard for a Construction Procurement System*.

5.8.2 The **contract manager** shall in terms of a target contract adjust the total of prices for inflation in accordance with the requirements of the contract at the specified intervals and submit a monthly report to the **principal programme manager** or **principal project manager** which contains the following information:

- a) the contractor's latest forecast of total defined cost / time charge together with an explanation of any changes made since the last forecast;
- b) the amount due before the deduction of any retention monies;
- c) the total of prices with and without any adjustments for inflation, if relevant;
- d) the forecasted total adjustment to total of prices for inflation;
- e) in the case of an engineering and construction works contract
 - 1) the total forecasted defined cost plus the fees for the payment due;
 - 2) the actual defined cost plus the fees covering the previous payment certificate;
 - 3) interest due to the contractor or employer for corrections between forecasted and actual defined cost plus fee for the previous month
 - 4) the contractor's planned value, based on the estimated amount that should have been earned at the assessment date in terms of the programme for completed and partially completed activities, where the prices in the activity schedule for partially completed activities are calculated on a pro rata basis; and
 - 5) the contractor's earned value based on the estimated amount that would have been earned at the assessment date for completed and partially completed activities, where the prices in the activity schedule for partially completed activities are calculated on a pro rata basis.

5.8.3 The **supervising agent** shall issue a warning to the **contract manager** regarding any non-conformance on the part of a contractor to requirements (defects) prior to completion or any other matter which is likely to significantly increase costs, delay completion or impair the performance of the works in use.

NOTE: The NEC3 ECC, the JBCC PBA and JBCC MWA forms of contract make provision for persons independent from the person appointed to administer the contract to attend to the technical aspects of the contractor's works. This clause ensures that they advise on aspects that impact upon time and cost and contribute to the management of risks at a package level.

5.9 Occupational Health and Safety

5.9.1 The **implementer** shall include a clause in all its contracts for services, goods and engineering and construction works which in terms of terms of Section 37(2) of the Occupational Health and Safety Act of 1993 (Act 85 of 1993) relieves the **implementer** of any and all of its liabilities in terms of Section

37(1) of this Act in respect of any acts or omissions of the contractor and his employees to the extent permitted by this Act.

5.9.2 The **implementer** shall appoint a **health and safety agent** (i.e. an official in their employ or a service provider) in accordance with the provisions of Regulation 4(5) of the Construction Regulations 2003 issued in terms of the Occupational Health and Safety Act of 1993 (Act 85 of 1993) to assume the responsibilities imposed upon the **implementer** as a “client” in terms of the regulations in respect of each and every package.

5.9.3 All contractors shall be required in terms of their respective contracts to execute construction works in accordance with the provisions of the *Occupational Health and Safety Specification for Engineering and Construction Works Contracts*. The **health and safety agent** shall in terms of this specification issue Improvement Notifications, Contravention Notices and Prohibition Notices, as relevant and applicable, to the contractor concerned and forwarded copies to the **contract manager**. Such notices shall require corrective remedial action by the contractor. In the event that a “life threatening” situation develops on the site, due to negligence, or the lack of preparations, the activity will be terminated immediately. The **contract manager** shall notify the **principal programme manager** or **principal project manager** upon receipt of a Prohibition Notice.

5.9.4 The appointed **health and safety agent** shall in respect of the packages for which he is assigned:

- a) conduct initial site safety inductions for each professional service provider contracted by the **implementer** to provide construction related services for a package and each principal contractor appointed to execute a package.

NOTE: Following the initial induction, it will be the responsibility of the principal contractor to conduct all other on-site inductions.

- b) perform the statutory duties imposed by the Construction Regulations (Regulation 4(5)) issued in terms of the Occupational Health and Safety Act in relation to a package;
- c) act as the **contract manager’s** or **supervising agent’s** representative, depending upon the standard form of contract that is used, in terms of works contracts falling within the scope of the Construction Regulations;
- d) act as the Employer’s health and safety agent in accordance with the provisions of the *Occupational health and safety specification for construction works contracts*;
- e) submit the Notification of Construction Work to the Department of Labour, if not already done so by the principal contractor (Regulation 3(1)a);
- f) handover to the **contract manager** upon completion of a package the principal contractor’s health and safety file together with a brief report on the health and safety performance of the contractor;
- g) attend site meetings when specifically requested to do so by the **contract manager**; and
- h) appoint a suitably qualified safety practitioner to visit the sites at regular intervals specified by the **principal programme manager** or **principal project manager** to conduct site inspections for compliance with the requirements of the *Occupational health and safety specification for construction works contracts* and submit management reports, detailing inspection results and any remedial action required by the principal and / or subcontractors.

5.9.5 The **principal programme manager** or the **principal project manager** shall notify the **health and safety agent** of the award of a contract by the **implementer** to a professional service provider who provides construction related services for a package and each principal contractor appointed to execute a package as soon as possible after the award of the contract or package order.

5.9.6 The **contract manager** or **supervising agent** and their delegates, as relevant shall record in a book, which shall be kept on site in the same place as the health and safety file required in terms of the

Occupational Health and Safety Specification for Construction Works Contracts, all site visits and any notifications or instructions to the contractor regarding defects and the rectification thereof which occur prior to completion of the works.

5.9.7 Designers of construction works or parts thereof shall, when called upon to do so by a **project manager**, provide the necessary inputs into the *Occupational Health and Safety Specification for Construction Works Contracts* for incorporation into the scope of work of a contract using the standard template contained in Annexure B.

5.10 Key performance indicators relating to construction activities

5.10.1 The following key performance indicators relating to construction and maintenance activities shall be reported by the **contract manager** on a monthly basis in respect of each programme of projects and independent project;

- a) the number of people employed on the site including those employed by subcontractors;
- b) the amount of work subcontracted to registered contractors in each contractor grading designation;
- c) the number of improvement, contravention and prohibition notices issued in terms of the *Occupational Health and Safety Specification for Construction Works Contracts*;
- d) incidents reportable in terms of the Construction Regulations issued in terms of the Occupational Health and Safety Act, briefly indicating the nature of the incident;
- e) specific key performance indicators required by a client in terms of an IPMP or SDA.

5.10.2 Key performance indicators relating to the engagement of enterprises, joint venture partners, local resources and local labour shall be measured and quantified in accordance with the relevant requirements of ISO 10845 Construction Procurement or an equivalent South Africa national standard.

5.10.3 Key performance indicators relating to cost norms shall be compiled by the **contract manager** in terms of requirements established by the **principal programme manager** or **principal project manager** in consultation with the **client** and included in the close out report.

NOTE: Key performance indicators such as the cost of a road per km or a certain type of building per square metre can provide useful planning information and enable comparisons with other projects of a similar nature to be made.

5.11 Risk management

5.11.1 Risk registers shall be established by both the **client** and **implementer** at a portfolio, programme / project and contract level and maintained by those responsible for managing activities at such levels. Such registers shall as a minimum contain:

- a) the entry date;
- b) a description of the risk i.e. risk event, cause and possible outcome;
- c) the action to avoid or reduce risk i.e. a description of the action, responsibility for action and time table for implementation;
- d) action status i.e. actioned / take no action / monitor and review / to be auctioned.

5.11.2 Those responsible for establishing and maintaining risk registers shall issue risk reports when called upon to do so.

5.12 Operations

Users and custodians shall as necessary develop and implement in respect of fixed assets under their control:

- a) suitable preventative maintenance and breakdown repair plans;
- b) facilities demobilisation plans;
- c) checking and inspection plans of all facilities assets;
- d) facilities management operations plans; and
- e) facilities management budget requirements.

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Annexure A: Alignment of National Treasury Infrastructure Budget Categories and IDMS terminology

National Treasury's Budget Formats Guide, for the preparation of the Estimates of Provincial Revenue and Expenditure (July 2011) contains the following six infrastructure budget categories:

- a) New and replacement assets.
- b) Upgrading and additions.
- c) Rehabilitation, renovations and refurbishment.
- d) Maintenance and repairs.
- e) Infrastructure transfers.
- f) Other capital assets.

The definitions for these categories and the terminology used in the IDM Toolkit and other CIDB publications are as indicated in Table A1.

Table A1: Alignment of terminology

NT Infrastructure Budget Categories		IDMS terminology
1. New or replaced infrastructure asset - capital	New infrastructure includes any construction of structure such as new building, new school, new clinic, new hospital, new community health care centre, new tarred & gravel roads etc. It does not include additions to existing structures Replaced infrastructure asset refers to the replacing of the existing old structure with a new structure, for example demolition or relocation of a school or health facility to build the new one. When a new asset has been created or an old asset replaced, the expenditure is classified as capital expenditure (payments of capital assets).	Construction
2. Upgrade and additions - capital	This involves activities aimed at improving the capacity and effectiveness of an asset above that of the initial design purpose. The decision to upgrade or enlarge an asset is a deliberate investment decision which may be undertaken at any time and is not dictated by the condition of the asset, but rather in response to a change in demand and or change in service requirements. Upgrades and additions are classified as payments for capital assets.	Alteration Extension
3. Renovations, rehabilitation or refurbishments - capital	Activities that are required due to neglect or unsatisfactory maintenance or degeneration of an asset. The action implies that the asset is restored to its original condition, thereby enhancing the capacity and value of an existing asset that has become inoperative due to the deterioration of the asset. Such transactions are classified as payments for capital assets	Refurbishment Rehabilitation
4. Maintenance and repairs - current	Maintenance and repairs are the activities related to the performance of routine, preventative, predictive, scheduled, and unscheduled actions aimed at preventing the facility failure or decline with the goal of maintaining its efficiency, reliability, and safety in the delivery of the service. A preventative maintenance programme refers to the organised and planned performance of routine maintenance activities in order to prevent system or production problems or failures from occurring. This is in direct contrast to renovation, rehabilitation, refurbishments, upgrade or additions. The maintenance action implies that the asset is kept in its original condition without enhancing its capacity, or the value of the asset. Such transactions are classified as current payments.	Day-to-day maintenance Period maintenance Routine Maintenance Emergency maintenance

Note: Supply and install plant can form part of construction, alterations, extensions, refurbishments and rehabilitations.

Annexure B: Questions which could be asked at the end of stages 4, 5 and 8 of a gateway review

Examples of questions which could be asked may be asked by gateway review teams include:

Stage 4: Package definition

- Is the concept clear and unambiguous?
- Have a wide enough range of options that will satisfy the brief been examined?
- Is there a clear “best option” or would several options satisfy the brief?
- Have the risks for each of the options been fully assessed?
- Does the programme take into account any lead times associated with statutory permissions and critical dependencies that are required?
- Does the proposed solution satisfy the strategic brief?
- Have all the major risks that arose during this stage been resolved?
- If there are unresolved issues, what are the risks of implementing rather than delaying?
- Have all the stakeholder issues been addressed?
- Is there continuing stakeholder support for the project?
- Is the decision on the construction procurement strategy likely to deliver what is need on time and within budget, and will it provide value for money?
- Has whole life costs been adequately considered?
- Is the package ready for implementation / detailed design?
- Will the proposed works, on completion, achieve the service objectives and fulfil the identified need(s), which are consistent with government policy and the organisation’s strategic objectives?
- Have the social, economic and environmental impacts of the project been identified and dealt with?

Stage 5: Design development

- Have all the technical implications, such as “buildability” for construction been addressed?
- Does the design present whole-life value?
- Does the design adequately deal with health, safety, environmental and maintenance issues?
- Is the end product clear and unambiguous?
- Is the proposed design an expansion of the concept report and if not, why not?
- Have all the major risks that arose during this stage been resolved?
- If there are unresolved issues, what are the risks of implementing rather than delaying?
- Have all the stakeholder issues been addressed?

- Has whole life costs been adequately considered?
- Is the package ready for implementation?
- Have the social, economic and environmental impacts of the project been dealt with?

Stage 8: Handover

- Does the record information provide those tasked with the operation and maintenance of works with the necessary information to:
 - o understand how the designers intended buildings and their related site works, systems, subsystems, assemblies and components or works to function?
 - o effectively operate, care for and maintain works, systems, subsystems, assemblies and components?
 - o check, test or replace systems, subsystems, assemblies or components to ensure the satisfactory performance of works, systems, subsystems, assemblies and components over time?
- Does the record information provide information pertaining to the planning and design of works to inform alterations, modifications, renovations and additions that may be required from time to time?.
- Does the record information provide the owner or user with the assurance that the works as handed over satisfies all occupational health and safety requirements?.
- Does the record information contain information to enable safe and efficient operation and maintenance?.
- What is the clarity, quality, and ease of locating information?

Annexure C: Occupational Health and Safety information

Project No:		Document no:	
Description of works:			
To the Project Leader			
Address:			
Tel:		Fax:	
Attention:		Email:	

Service area	Major hazards identified by the designer*	Special construction procedures and sequences of construction**
Architectural design		
Civil engineering		
Electrical engineering		
Fire safety		
Landscape architectural design		
Mechanical engineering		
Structural engineering		
Wet services		

* Insert none if there are none

** Highlight with possible references to drawings

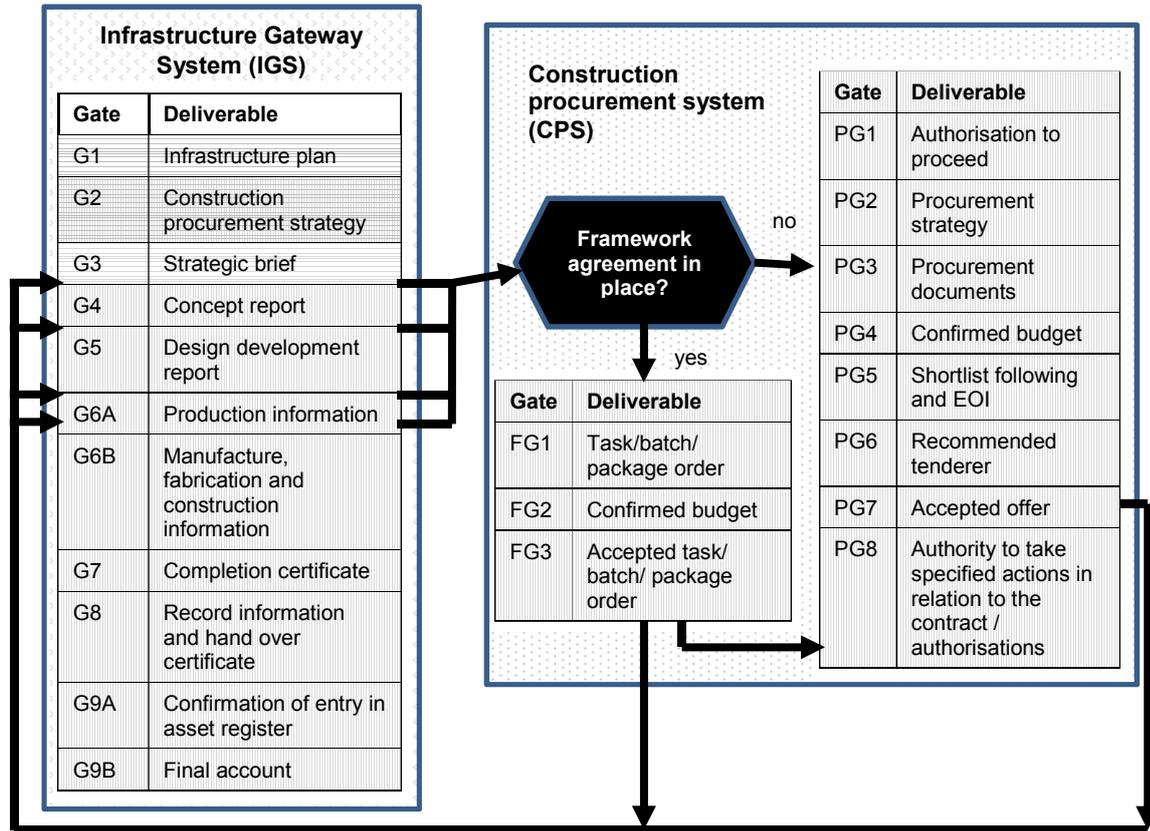
Notified by Designer		
Signature	Name:	Date:
	Company:	

Annexure D: Functional roles and responsibilities

D1 Overview of roles and responsibilities

D1.1 This standard:

- a) assigns functional roles and responsibilities to clients and implementers in the delivery and scheduled maintenance of infrastructure as indicated in Table 1 and illustrated in Figure D1;



Legend



Figure D1: Assigned client and implementer responsibilities

- b) describes the roles and responsibilities of the following suitably qualified professionals appointed by the implementer:
 - 1) principal programme managers who oversee the implementation of programmes of projects;
 - 2) principal project managers who oversee the implementation of independent projects;
 - 3) contract managers who administer a contract or package order and perform duties relating to the overall management of the contract;

- 4) health and safety agent who assume the responsibilities imposed upon the implementer as a “client” in terms of the Construction Regulations; in terms of the Occupational Health and Safety Act, 1993;
 - 5) supervising agent who checks that the works are proceeding in accordance with the provisions of the contract;
- c) refers to roles and responsibilities assigned to persons in the:
- 1) *Standard for a Construction Procurement System*, namely a procurement leader who is tasked to perform or oversee certain procurement functions which are best executed by a built environment professional, and
 - 2) *Standard for the Delivery and Maintenance of Infrastructure using a Gateway System*, namely:
 - project leader who leads and directs the project team which perform design and cost consulting functions;
 - lead designer who co-ordinates and integrates the design,
 - designer who provides design services; and
 - cost consultant who provides cost advice and controls cost.

NOTE 1: The terms that are used in this standard are not related to posts within an institution or necessarily linked to any of the built environment professions. The term “principal” is used in front of programme manager and project manager to identify the person who carries within an institution overall professional responsibility for the implementation of a programme of projects or an independent project, respectively. It is understood that depending upon the size, nature and complexity of a programme or independent project, programme and project managers may work under such persons. The responsibilities of such managers are not described in this standard as the “principal” will be required to assign responsibilities to them and supervise their work.

NOTE 2: The term “programme manager” and “project manager” does not appear in the text without being preceded by “principal”. This is to avoid confusion as these terms are loosely used. The terms “procurement leader” and “project leader” are used. The term “procurement leader” is used to identify the built environment professional who is responsible for overseeing or performing technical activities relating to the procurement process. The term “project leader” is used to identify the built environment professional responsible for leading and directing the project team tasked to develop IGS deliverables.

NOTE 3: Although the focus in the standard is on the implementer making the appointments, it is possible for a client who is not an implementer to appoint a project leader, lead designer, designer and cost consultant to provide stage 3 services. The client is, however, free to approach the implementer for inputs into this stage to obviate the need for such appointments.

NOTE 4: In some programmes of projects or independent projects, the client and the implementer are the same institutions, while in others this is not the case.

D1.3 The basic lines of reporting for each package within a programme of projects or an independent project are set out in Figure D2. There are many options available to an implementer in assigning functional responsibilities to particular persons (officials or PSPs). This ensures flexibility. For example, in some programmes of projects different individuals will be assigned functional responsibilities for each of the identified roles. In other programmes it may be desirable to combine functional roles and responsibilities e.g. the project leader can also be the procurement leader and the same person can be appointed to function as project leader, lead designer, designer and cost consultant or the contract manager and supervising agent.

D2 Outline of assigned functional responsibilities

D2.1 Principal programme / project manager

D2.1.1 The implementer needs to appoint principal programme managers to oversee the implementation of each programme of projects and principal project managers to oversee the implementation of each independent project (see 5.1.4). Such persons, who provide a single point of responsibility for a programme of projects or an independent project, should be made responsible for

the preparation of an IPIP and, where relevant, the acceptance of a strategic brief prepared by the client.

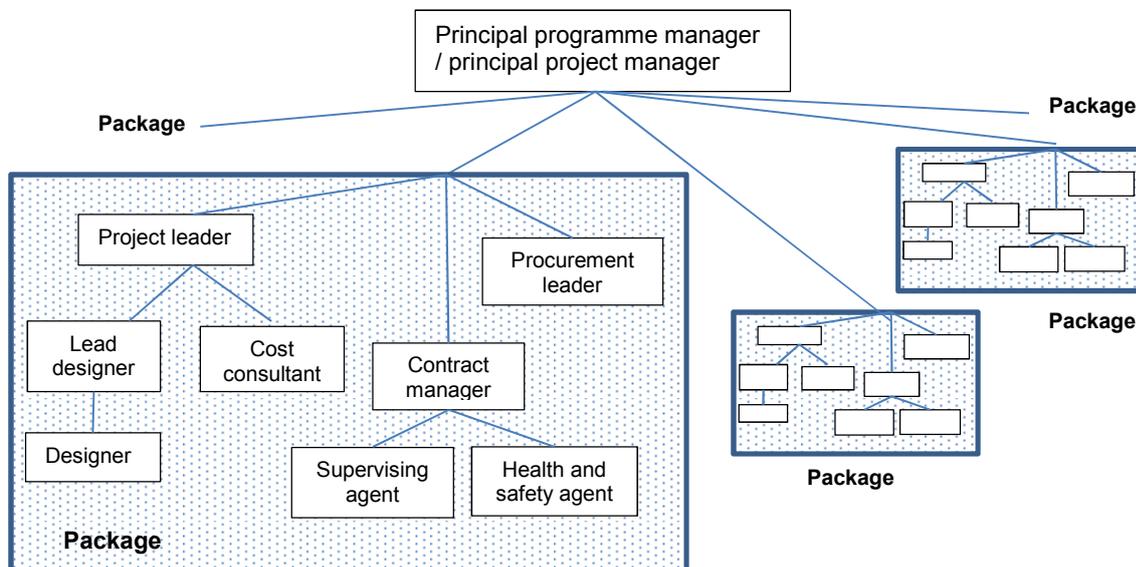


Figure D2: Basic lines of reporting for assigned functional responsibilities for each package

D2.1.2 This standard establishes general and specific duties for principal programme managers and principal project managers to (see 5.7.2.1), namely to:

- a) manage programmes and projects in accordance with normal professional management standards so that both the implementer and client achieve their respective objectives;
- b) manage and receive communications from assigned contract managers (see also 5.8); and
- c) regularly review and update the approved IPIP and provide the client with copies of each revision of the IPIP.

D2.1.3 Principal programme / project managers need in terms of this standard to amongst other things:

- a) designate persons to accept strategic briefs provided by clients (5.4.2.3);
- b) assign responsibilities for taking packages beyond stage 3 to project leaders (see 5.4.3.1) and interface with and facilitate the client's inputs into the development and finalisation of end of stage deliverables and the acceptance thereof (see 5.4.3.2, 5.4.5.1 and 5.4.1.2);
- c) obtain the client's requirements for commissioning and handover, if any, and communicate them to those responsible for compiling procurement documents (see 5.4.1.3a));
- d) implement any requirements regarding social facilitation and establish the necessary project steering committees, appoint the community liaison officers, recruit and select local labour, manage community related risks, deal with issues related to labour unrest or disputes during the execution of the works, etc. (see 5.1.7);
- e) brief the contract manager of the client's monitoring and reporting requirements for stage 7 (Works) (see 5.4.6.1);

- f) communicate to the client the contractual provisions for the taking over of the works and make the necessary hand over arrangements (see 5.4.1.3a, 5.4.6.2 and 5.4.7.1);
- h) establish requirements for close out reports, communicate such requirements to contract managers and receive reports (see 5.4.8.2);
- i) accept the procedures for post occupancy evaluations prepared by the client (see 5.4.8.3);
- j) receive Prohibition Notices issued in terms of the occupational health and safety specification (see 5.9.3);
- k) determine the frequency of site visits by a qualified safety practitioner to conduct site inspections for compliance with the health and safety requirements (see 5.9.4i);
- l) notify the **health and safety agent** of the award of a contract to a PSP who provides construction related services for a package and each principal contractor appointed to execute a package (see 5.9.5); and
- m) establish and maintain risk registers at a programme of projects or an independent project level (see 5.11.1) and issue risk reports (see 5.11.2);

D2.1.4 The principal programme managers and principal project managers may be supported in the carrying out of their duties by programme and project managers. They may also delegate responsibilities to such persons.

D2.1.5 The principal programme manager or principal project manager can be delegated in terms of the Standard for a Construction Procurement System to appoint a Documentation Review Team and an Evaluation Panel and to make decisions at certain gates e.g. approve certain increases in the total of prices or the time for completion which don't exceed a specified margin.

D2.2 Contract managers

The implementer needs to appoint suitably qualified persons to function as contract managers in respect of each package. The primary function of a contract manager is to administer the contract in terms of the provisions of the contract (see second column of Table 5 for term assigned to contract manager in the standard forms of contract that may be used). The contract manager in addition needs to:

- a) manage the interface between the contractor and the project leader in obtaining client inputs where a management, design and construct or develop and construct contracting strategy is utilised (see 5.4.1.2); and
- b) if required to do so, update the PEP, and develop and maintain a risk register, a communications plan and a quality plan (see 5.7.3);
- c) ensure that the client's requirements for monitoring and reporting are adhered to (see 5.4.6.1);
- d) provide the principal programme manager or principal project manager with adequate notice of the anticipated date of completion of a part or the whole of the works so that the necessary handover arrangements with the client may be made (see 5.4.6.2);
- e) prepare the close out report in accordance with requirements (see 5.4.8.2);
- f) if assigned to do so, provide the gateway review team with the documentation that they require to undertake a gateway review (see 5.6.1.2);
- g) report to the principal programme manager or principal project manager, as relevant, see 5.7.2.1b)

NOTE: The second column of Table 5 indicates the identity of the contract manager in terms of the various standard forms of contract. i.e. engineer. employer's representative. project manager, purchaser's representative, service manager or supply manager.

D2.3 Health and safety agents

D2.3.1 The health and safety agent assumes the responsibilities of the implementer as a "client" in terms of the Construction Regulations 2003 issued in terms of the Occupational Health and Safety Act of 1993 in respect of each and every package. The specific duties of a health and safety agent are set out in the *Occupational Health and Safety Specification for Engineering and Construction Works Contracts* (see clause 5.9). The **health and safety agent** may in terms of this specification issue Improvement Notifications, Contravention Notices and Prohibition Notices, as relevant and applicable, to the contractor concerned and forwarded copies to the **contract manager**. Such notices shall require corrective remedial action by the contractor. In the event that a "life threatening" situation develops on the site, due to negligence, or the lack of preparations, the activity will be terminated immediately. The **contract manager** shall notify the **principal programme manager** or **principal project manager** upon receipt of a Prohibition Notice.

D2.3.2 The health and safety agent acts as the **contract manager's** or **supervising agent's** representative, depending upon the standard form of contact that is used, in terms of works contracts falling within the scope of the Construction Regulations

D2.4 Supervising agents

D2.4.1 All the standard forms of contract allow the contract manager or employer to delegate their administrative duties to others. Some forms of contract make standard provision for the separation of administrative duties relating to time and cost from those relating to compliance with the scope of work. The NEC ECC makes provision for a project manager and a supervisor while the JBCC forms of contract make provision for a principal agent and agents. These provisions don't permit the supervisor and agents to issue instructions relating to time and cost. Their role is of a technical nature relating primarily to the quality of the works.

D2.4.2 It is possible in forms of contract which don't make provision for the separation of duties to delegate duties to supervising agents e.g. the engineer in GCC 2010 and the FIDIC family of contracts can delegate duties to a supervising agent.

D2.4.3 There are advantages in complex works, particularly where there are different professions and engineering disciplines involved in the design of a package to separate the roles of the contract manager from the supervising agent. On single discipline and relatively straightforward work, the roles should be combined. .

D2.4.4 The supervising agent needs in support of the risk management system to issue warnings to the contract manager regarding any non-conformance on the part of a contractor to requirements (defects) prior to completion or any other matter which is likely to significantly increase the costs, delay completion or impair the performance of the works in use (see 5.8.3)

D2.4.5 The supervising agent needs to record in a book which shall be kept on site in the same place as the health and safety file required in terms of the *Occupational Health and Safety Specification for Construction Works Contracts*, all site visits and any notifications or instructions to the contractor regarding defects and the rectification thereof which occur prior to completion of the works (see 5.9.6).

D2.5 Project leaders, lead designers, designers and cost consultants

D2.5.1 The *Standard for the Delivery and Maintenance of Infrastructure using a Gateway System* comprehensively establishes the professional services which are to be provided by project leaders, lead designers, designers and cost consultants (see Table 3) in relation to stages 3 to 9 of the IGS irrespective of who employs them or contracts them to provide the services. The professional services of such persons are required as inputs into most of the activities associated with an IGS stage in order to produce a deliverable.

D2.5.2 Professionals providing services relating to project leader, lead designer, designer and cost consultant can be called upon to provide two types of services (see Table D1), depending upon the allocation of design responsibilities in the contracting strategy that is adopted, namely:

- a) definition services which develop the deliverable associated with an end stage; and
- b) review services which review the definition service of a stage undertaken by others for general conformity with the scope of work selected for a particular contracting strategy.

Table D1: Allocation of responsibilities for services in the different contracting strategies

Contracting strategy	IGS Stage (see Figure 1)	Implementer responsibilities	Contractor's responsibilities
Management contractor*	4, 5 and 6A	Review services	Definition services
Design and construct	4	Definition services	None
	5 and 6A	Review services	Definition services
Develop and construct	4 and 5	Definition services	None
	6A	Review services	Definition services
Design by employer	4, 5 and 6A	Definition services	None

* A management contractor can also be appointed after Stage 4, 5 or 6A, in which case, the management contractor will assume the responsibilities for the contractor associated with that stage.

D2.5.3 Services relating to stages 3 to 6 may be provided by suitably qualified employees, contracted individuals or professional service providers appointed by either the implementer or a contractor depending upon the contracting strategy that is adopted as indicated in Table D2. The services in stages 7, 8 and 9 need to be appointed by the implementer.

D2.5.4 The services of the project leader, lead designer, designer and cost consultant tail off during stages 7 and 8. Their only deliverables is the record information. Their services relate to dealing with outstanding issues and answering questions raised by users. They may, however, be called upon to contribute to the close out report or to provide inputs to a post occupancy evaluation.

NOTE: The cost consultant may be required to assist the contract manager with the controlling of costs associated with the contract and the certifying of payment due to contractors. The designer may also be appointed as a supervising agent. These are additional services.

D2.5.5 Designers may be appointed to perform a discipline specific service (e.g. in accordance with those described in Table D3 for building works) in which case, the designer shall provide the service in relation to the identified discipline. Designers are, however, required in terms of the Construction Regulations issued in terms of the Occupational Health and Safety Act of 1993 to carry out sufficient inspections to ensure compliance with the requirements of the design and keep a record of such inspections on site. They may likewise also be required to conduct such inspections in terms of the National Building Regulations issued in terms of the National Building Regulations and Standards Act of 1977. For this reason, it is advisable to appoint the designer as the supervising agent.

D2.5.6 The project leader in addition to the services described in the *Standard for the Delivery and Maintenance of Infrastructure using a Gateway System* is required in terms of this standard to:

- a) accept in the case of a design by employer contracting strategy certain parts of the production information (5.4.5.1);
- b) oversee the development of a maintenance plan if required (5.4.7.5);

- c) update the PEP whenever a deliverable is accepted, , and develop and maintain a risk register, a communications plan and a quality plan (5.5.1 and 5.7.3); and
- d) provide the gateway review team with the documentation that they require to undertake a gateway review (see 5.6.1.2).

Table D2: Person responsible for appointing project leader, lead designer, designer and cost consultant

Infrastructure Gateway System (workflow)				
Stage	Activity	Responsibilities	Responsibilities	
			Design by employer	Develop and construct
3	Package planning	Develop, finalise and obtain acceptance of the strategic brief	Client	
Procure the services of a contractor on a “management contract” basis and professional service providers in accordance with documented procurement strategy				
4	Package definition	Develop, finalise and obtain the clients acceptance of the concept report	Implementer or management contractor	
Procure the services of a contractor on a “design and construct” basis and professional service providers in accordance with documented procurement strategy				
5	Design development	Develop, finalise and obtain acceptance of design development report	Implementer or management contractor	Design and construct contractor Implementer or management contractor for review service
Procure the services of a contractor on a “develop and construct” basis and professional service providers in accordance with documented procurement strategy				
6A	Design documentation (Production information)	Develop, finalise and obtain acceptance of production information	Implementer or management contractor	Design and construct / develop and construct contractor for full service Implementer or management contractor for review service
Procure the services of a contractor on a “design by employer” basis and professional service providers in accordance with documented procurement strategy				
6B	Design documentation (Manufacture, fabrication and construction information)	Develop, finalise and obtain acceptance of manufacture, fabrication and construction information	Contractor for full service Implementer or management contractor for review services (lead design and designer only)	
7	Works	Provide the temporary and permanent works	Implementer or management contractor	Design and construct / develop and construct contractor
8	Handover	Finalise and assemble record information	Implementer or management contractor	Design and construct / develop and construct contractor

D2.6 Procurement leader

D2.6.1 Procurement forms part of the body of knowledge associated with the architectural, construction management, construction project management, engineering and landscape architect professions. It is imperative that professional skills residing in these professions are made use of in the procurement process. The procurement leader needs to oversee the development of the procurement documents and manage the procurement process from the advertisement of tenders to the award of the contract as a single point of responsibility (see 5.1.4) including the conducting of clarification meetings.

D2.6.2 In many projects, it may make sense to make appoint the procurement leader as the project leader, particularly in the smaller and less complex projects.

Table D3: Design services relating to buildings

Service	Principal activities
Architectural design	Plan, design and review the construction, extension or refurbishment of buildings, spaces, structures and associated site works for the use of people by the creative organization of materials and components with consideration to mass, space, form, volume, texture, structure, light, shadow, materials and the project brief.
Acoustic design	Plan, design and review the construction of buildings and building components to achieve acoustical outcomes
Civil engineering	Plan, design and review the construction of site works comprising a structure such as a road, pipeline or sewerage system or the results of operations such as earthworks or geotechnical processes.
Electrical engineering	Plan, design and review the installation of the electrical and electronic systems for and in a building or structure
Facade engineering	Plan, design and review the installation of structures to enclose spaces in buildings and spaces
Fire safety	Plan, design and review the fire protection system to protect people and their environments from the destructive effects of fire and smoke.
Landscape architectural design	Plan, design and review the construction of outdoor and public spaces to achieve environmental, socio-behavioural, or aesthetic outcomes or any combination thereof
Mechanical engineering	Plan, design and review the construction, as relevant, of the gas installation, compressed air installations, thermal and environmental control systems, materials handling systems or mechanical equipment for and in a building
Structural engineering	Plan, design and review the construction of buildings and structures or any component thereof to ensure structural safety and structural serviceability performance during their working life in the environment in which they are located when subject to their intended use in terms of one or more of the following: i) external and internal environmental agents; ii) maintenance schedule and specified component design life; or iii) changes in form or properties
Wet services	Plan, design and review the construction, within buildings or from a point of drainage installations intended for the reception, conveyance, storage or treatment of sewage and water installations or water installation which conveys water for the purpose of fire-fighting or consumption within a building.