

# Northern Cape Province



## Department of Education

### Infrastructure Plan 2009/2010



Version Control			
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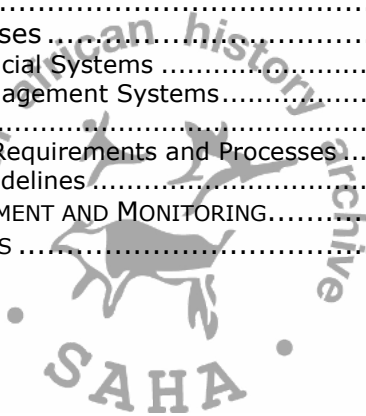
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# **1 Section 1: Executive Summary**

## **1.1 Purpose of the Plan**

In general the purpose of the Infrastructure Plan (IP) is to describe the delivery of institutional infrastructure in the Province in line with the Constitution of the Republic of South Africa, the 2007 State of the Nation Address by the President, National Budget Speech, the pronouncement of the Minister of Education, the Premiers speech and the MEC of Education's Budget speech.

Specifically the Plan seeks to:

- Identify community infrastructure needs;
- Describe the prioritisation of those needs;
- Describe expenditure on the infrastructure programmes in terms of their life cycles;
- Communicate infrastructure plans, requirements and obligations to internal and external stakeholders.

The Physical Facilities Management unit at the Northern Cape Education Department (NCED) is responsible for producing, managing and operationalising the IP. As this is the second IP that the unit has produced much of the data, systems and personnel have not been established to support an operational IP. This is the objective of this version – to identify some of the gaps and to address them through regular mini reviews within the unit to capture improvements as they are implemented

## **1.2 Description of Infrastructure Delivery Services**

The infrastructure covered in this document includes all public school buildings, hostels and administration offices utilised by the Northern Cape Department of Education.

The infrastructure delivery services described in this document refers to:

- the construction of new infrastructure
- the routine (day-to-day) maintenance of existing infrastructure
- the renovation and repair of existing infrastructure
- the disposal of obsolete infrastructure and
- the administration of properties leased by the Department

## **1.3 Levels of Service**

The NCED is responsible for the provision of suitable learning environments throughout the province. It is the intention that all schools and NCED facilities (colleges, offices, hostels, etc.) will provide the same high level learning environment.

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The minimum level of services is described in the National Norms and Standards document. These levels of service are the initial targets for the NCED. The NCED's primary focus is on the provision of water and sanitation and structurally safe buildings conducive to learning.

#### **1.4 Community Need**

The number of schools in the Northern Cape has increased dramatically with the inclusion of the schools in the John Taolo Gaetsewe district (approximately 30%). These schools require urgent rehabilitation and additional facilities. In the rest of the province the need is mainly for improvements to the school facilities (additional classrooms, improved facilities (laboratories, workshops, libraries, etc) and improved maintenance and rehabilitation.

Migration of learners to urban areas and temporary economically active nodes makes planning and the provision of permanent structures (for periods exceeding 20 years) extremely difficult. Thus the department uses high quality mobile units that can be relocated to where the need is most urgent in much shorter time periods than the construction of permanent facilities.

The following factors will influence future demand for new schools, additional classrooms and other schools infrastructure:

- Changes in policy (infrastructure, learning requirements, etc)
- Changes in curriculum requirements
- Health requirements (feeding schemes)
- Population migration patterns
- Increasing requirements to address vandalism and security problems

## **1.5 Existing Physical Facilities (Immovable Assets)**

Data on existing buildings, land and sports fields used by the NCED is not available in a collated form. However estimates on the amount of property indicate that the department uses approximately 1,500,000 m<sup>2</sup> of physical facilities with an estimated current replacement value of R6bn.

The data needs to be verified and collated into an operational immovable asset register. This will be one of the Physical Facilities Management unit's main tasks in the coming year.

In addition a system to monitor all maintenance and to record the condition of all physical facilities needs to be established.

## **1.6 Lifecycle Management Plan**

The description of the infrastructure life cycle plans that the department is managing is covered under the following sections:

Routine Maintenance Plan

Repairs and Renovation Plan

New Works Plan

Disposal Plan

The School Rehabilitation Flagship Programme, although part of the repairs and Renovations programme, is handled separately as it is intended to create community ownership of the school facilities by creating jobs and providing meaningful training to community members especially family members of learners at schools. Construction management support is provided to schools that are responsible for identifying suitable repairs and renovations for each project.

## **1.7 Financial Summary**

The planned expenditure on the department's infrastructure programmes for the 2008/09– 2011/12 financial years is summarised in the following table.

<b>Programmes allocation to 2008/09 - 2011/12 Financial Years</b>					
<b>MTEF (R'000)</b>					
<b>Programme</b>	<b>Total</b>	<b>2008/09</b>	<b>2009/10</b>	<b>2010/11</b>	<b>2011/12</b>
Personnel	6,609	1,977	2,076	2,200	2,333
Administration	3,701	1,108	1,163	1,233	1,305
Leases	15,000	1,959	4,000	5,000	6,000
<b>Sub-Total</b>	<b>25,310</b>	<b>5,044</b>	<b>7,239</b>	<b>8,433</b>	<b>9,638</b>
<b>INFRASTRUCTURE BY CATEGORY</b>					
<b>NEW AND REPLACEMENTS ASSETS</b>					
Schools	58,483	8,989	17,137	21,346	20,000
New Classrooms	15,316	8,918	2,316	3,000	10,000
ECD Classrooms	42,735	7,000	10,735	12,000	20,000
Science & Biology Labs	13,113	2,000	3,113	5,000	5,000
School Halls	10,017		900		9,117
Mobiles	10,220	1,000	2,220	3,000	5,000
Administration Blocks	15,532	1,000	2,032	4,500	9,000
Ablution Blocks	12,389	5,900	3,389	4,000	5,000
Property	180	20	40	40	100
Media Centres	18,360	1,000	3,360	5,000	10,000
Computer Centres	12,892	3,500	2,892	5,000	5,000
<b>Sub-Total</b>	<b>209,237</b>	<b>39,327</b>	<b>48,134</b>	<b>62,886</b>	<b>98,217</b>
<b>MAINTENANCE AND REPAIRS</b>					
SRFP	3,376	13,646	3,376		
Electrical Reticulation	11,859	375	2,352	4,700	4,807
Maintenance	47,565	5,000	10,000	17,565	20,000
<b>Sub-Total</b>	<b>62,800</b>	<b>19,021</b>	<b>15,728</b>	<b>22,265</b>	<b>24,807</b>
<b>UPGRADES AND ADDITIONS</b>					
Disabled	21,650	600	10,250	9,000	2,400
Security Fences	15,365	3,000	5,365	5,000	5,000
Offices	49,609	8,000	14,379	16,335	18,895
Sanitation	11,788	900	2,392	4,396	5,000
Water	12,130	2,900	3,130	4,000	5,000
<b>Sub-Total</b>	<b>110,542</b>	<b>15,400</b>	<b>35,516</b>	<b>38,731</b>	<b>36,295</b>
<b>REHABILITATION/UPGRADING</b>					
Repairs & Renovations	56,363	2,245	13,247	11,327	31,689
Condition Based Refurbishment					
<b>Sub-Total</b>	<b>56,263</b>	<b>2,245</b>	<b>13,247</b>	<b>11,327</b>	<b>31,689</b>
<b>TOTAL : INFRASTRUCTURE</b>	<b>438,842</b>	<b>75,993</b>	<b>112,625</b>	<b>135,209</b>	<b>191,008</b>

The Physical Facilities Management unit has the task of reconciling the available funding as shown above with the requirements as shown in 6.4.5 and 7.2.

In addition the unit will be responsible for the development, prioritisation and management of projects within each programme.

## **1.8 Organisational and Support Plan**

The Physical Facilities Management Unit consists of a Deputy Director, four Control Works Inspectors and an Industrial Technician. All of which is based at the provincial head office. The unit have adequate delivery management staff at the head office, but require staff in each of the five districts, manage the department's infrastructure planning needs.

## **1.9 Monitoring and Improvement Plan**

Monitoring and evaluation of infrastructure delivery is being reviewed as part of the Infrastructure Delivery Improvement Programme (IDIP) implementation phase. Recommendations made during the IDIP will be incorporated into departmental operations.

Areas of improvement that should be included in the mini reviews, as mentioned in 1.1, include:

- Updating, verifying and collation of data on existing immovable assets (asset register);
- Formalise a planning system incorporating circuit, district and municipal needs;
- Develop a prioritisation model that ensure that social and economic objectives are addressed;
- Develop formal systems that ensure that planning and delivery of infrastructure is aligned and supports departmental strategic objectives and is adequately reflected in departmental planning documentation eg APP and budget business plans.

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Head of Department (Northern Cape Department of Education)

Mr EAB Williams





## 2 Section 2: Introduction

The Introduction must provide an overview of all the elements of the infrastructure within the plan. It should provide readers with a sound justification for owning and operating the infrastructures covered, and the reasons for preparing the plan.

### 2.1 Background

The constitution of South Africa demands response to critical obligations and deliverables for the people of the Northern Cape and the country at large. Due to the growth in the demographics in the different areas in the province, a number of existing schools cannot accommodate all learners. The problem has also been exacerbated due to the development of new settlements that leads to limiting learners' access to public education.

Temporary solutions such as mobile (prefabricated) structures are not ideal and need to be phased out where possible.

In order to ensure that poorly resourced schools are given a base from which to provide quality education, the Northern Cape Education Department will also ensure that the Quality Improvement, Development, Support and Upliftment Programme,(QUIDS-UP), becomes particularly pronounced in its planning for upgrading and provision of infrastructure.

The planning, rehabilitation and maintenance of infrastructure model, which will be utilised, will ensure that the designs of schools are modern, learner friendly structures, which are appropriate for the 21<sup>st</sup> century.

Community participation in rehabilitating and maintaining schools, with a view to job creation, will surely empower communities and respond to the objectives set out in the Provincial Growth and Development Strategy (PGDS).

The plan will also be furthermore adapted to respond to the construction of additional facilities and major repairs and renovations of schools in the John Taolo Gaetsewe and Pampierstad Area.

The Northern Cape Education Department is also committed to service delivery standards, therefore timely delivery of the infrastructure to meet the requirements of public schools, e.g. rehabilitation of schools and maintenance will be prioritised. The delivery of infrastructure will be of particular importance because of its potential to create job opportunities and to stimulate growth.

The Northern Cape Education Department, Infrastructure Plan will be managed within the framework of the Extended Public Works Programme (EPWP) and the Infrastructure

Delivery Management System (IDMS), which is aimed at the removal of certain identified bottlenecks in the public infrastructure delivery process.

Long term Infrastructure Planning, with focus on strategic intent, is identified as one of the major elements in the DMS.

This Infrastructure Plan will most definitely respond to the Northern Cape Education Department's (NCED's) strategic objectives for the delivery of infrastructure related services to all public schools in the Northern Cape Province.

## **2.2 Infrastructure Plan Framework**

The Northern Cape Education Department's strategic plan defines how the community will be provided with educational services defined in the policies of government. Infrastructure planning is undertaken in parallel with the development of the strategic plan for service delivery.

## **2.3 Purpose of this Document**

This plan is aimed at identifying the improvement required to make the Infrastructure Plan an essential management tool when delivering education services in the province.

The Infrastructure Planning Process as described in the Figure will be used as the basis for planning. At this stage much of the information is not available in a format that can be used for planning. Identification of the more important information requirements will be done throughout the plan and be included in Section 9.

Detailed analysis of all the existing school buildings and administration offices under control of the NCED needs to be implemented to ensure that these processes are effectively implemented. Departmental strategy, goals and objectives for the routine maintenance, repair, rehabilitation, upgrading and disposal of all schools infrastructure also need to be incorporated.

## **2.4 Relationship with other Planning Documents**

This document has been compiled in terms of requirements outlined in the cidb Toolkit.

It provides the Infrastructure inputs into NCED's Strategic Plan and also serves as the basis for the compilation of the Infrastructure Programme Management Plan and Infrastructure Programme Implementation Plan.

## 2.5 Stakeholders in the Plan

This Infrastructure Plan is written for the interest and use of all the following governmental role-players:

In the Northern Cape Education Department (NCED):

- MEC – responsible for providing infrastructure
- HOD - accounting officer for infrastructure delivery
- CFO – responsible for monitoring and reporting of infrastructure expenditure
- Provisioning unit - for timely acquisition of furniture and equipment
- Human Resources unit- for recruiting of infrastructure personnel, and for Skills Development
- In the Northern Cape Provincial Government
- Provincial Cabinet
- Provincial Cabinet Clusters
- Provincial Department of Public Works - as implementing agent
- Provincial Treasury – responsible for monitoring infrastructure financial planning and expenditure
- In National Government
- National Treasury – as custodians of the IDIP programme and responsible for monitoring provincial infrastructure expenditure
- National Department of Education (DoE) – responsible for implementing national educational policies
- Local Government
- District Municipalities
- Local Municipalities

Other:

- Construction Industry Development Board (CIDB)
- Development Bank of Southern Africa (DBSA) as partners to National Treasury in the IDIP

## 2.6 Infrastructure Delivery Strategic Goals and Objectives

### Constitutional and Other Legislative Mandates

Mandates	Brief description
The Constitution of South Africa, 1996 (Act No 108 of 1996)	Requires education to be transformed and democratised in accordance with the values of human dignity, equality, human rights and freedom, non-racism and non-sexism. It guarantees access to basic education for all with the provision that everyone has the right to basic education, including adult basic education. The fundamental policy framework of the Ministry of Education is stated in the Ministry's first White Paper: Education and Training in a Democratic South Africa: First Steps to Develop a New System (February 1995).
The South African Schools Act (SASA), 1996 (Act No 84 of 1996) as amended.	To provide for a uniform system for the organisation, governance and funding of schools. It promotes access, quality and democratic governance in the schooling system. It ensures that all learners have right of access to quality education without discrimination, and makes schooling compulsory for children aged 7 to 14. It provides for two types of schools – independent schools and public schools. The provision in the Act for democratic school governance through school governing bodies is now in place in public schools countrywide. The school funding norms, outlined in SASA, prioritise redress and target poverty with regard to the allocation of funds for the public schooling system.
The National Education Policy Act, 1996 (Act No 27 of 1996)	To provide for the determination of national policy for education, including the determination of policy on salaries and conditions of employment of educators. It was designed to inscribe in law policies, as well as the legislative and monitoring responsibilities of the Minister of Education, and to formalise relations between national and provincial authorities. It laid the foundation for the establishment of the Council of Education Ministers (CEM), as well as the Heads of Education Departments Committee (HEDCOM), as inter-governmental forums to collaborate in developing a new education system. As such, it provides for the formulation of national policies in general and further education and training for, inter alia, curriculum, assessment, language policy, as well as quality assurance. NEPA embodies the principle of co-operative governance, elaborated upon in Schedule Three of the Constitution.
The Further Education and Training Act, 1998 (Act No 98 of 1998)	To regulate further education and training; to provide for the establishment, governance and funding of public further education and training institutions; to provide for the registration

<b>Mandates</b>	<b>Brief description</b>
	<p>of private further education and training institutions; to provide for quality assurance and quality promotion in further education and training. Together with the Education White Paper 4 on Further Education and Training (1998), and the National Strategy for Further Education and Training (1999-2001), it provides the basis for the development of a nationally co-ordinated further education and training system, comprising the senior secondary component of schooling and technical colleges. It requires further education and training institutions, established in terms of the new legislation, to develop institutional plans, while making provision for programmes-based funding and a national curriculum for learning and teaching.</p>
<p>The General and Further Education and Training Quality Assurance Act, 2001 (Act No 58 of 2001)</p>	<p>To provide for the establishment, composition and functioning of the General and Further Education and Training Quality Assurance Council, to provide for quality assurance in general and further education and training, to provide for control over norms and standards of curriculum and assessment, to provide for the issue of certificates at the exit points, to provide for the conduct of assessment and to repeal the South African Certification Council Act, 1986</p>
<p>The Employment of Educators Act, 1998 (Act No. 76 of 1998)</p>	<p>To provide for the employment of educators by the State and for the regulation of the conditions of service, discipline, retirement and discharge of educators. It regulates the professional, moral and ethical responsibilities of educators, as well as competency requirements for teachers. One Act of Parliament and one professional council, the South African Council of Educators (SACE) now governs the historically divided teaching force.</p>
<p>The Public Finance Management Act, 1999 (Act No 1 of 1999) as amended.</p>	<p>To regulate financial management in the national government and provincial governments, to ensure that all revenue, expenditure, assets and liabilities of those governments are managed efficiently and effectively and to provide for the responsibilities of persons entrusted with financial management in those governments</p>
<p>The annual Division of Revenue Acts</p>	<p>To provide for the equitable division of revenue raised nationally among the national, provincial and local spheres of government for the respective financial years, to provide for reporting requirements for allocations pursuant to such division, to provide for the withholding and delaying of payments and to provide for the liability for costs incurred in litigation in violation of the principles of co-operative governance and intergovernmental relations</p>
<p>The Public Service Act, 1994 as amended [Proclamation No 103</p>	<p>To provide for the organisation and administration of the public service of the Republic as well as the regulation of the conditions</p>

<b>Mandates</b>	<b>Brief description</b>
of 1994]	of employment, terms of office, discipline, retirement and discharge of members of the public service
The South African Qualifications Authority Act, 1995 (Act No 58 of 1995)	To provide for the development and implementation of a National Qualifications Framework and for this purpose to establish the South African Qualifications Authority. The NQF is an essential expression, as well as a guarantor of a national learning system where education and training are of equal importance as complementing facets of human competence. The joint launch of the Human Resources Development Strategy by the Minister of Labour and the Minister of Education on 23 April 2001 reinforces the resolve to establish an integrated education, training and development strategy that will harness the potential of our young and adult learners.
The Adult Basic Education and Training Act, 2000 (Act No 52 of 2000)	To regulate adult basic education and training; to provide for the establishment, governance and funding of public adult learning centres; to provide for the registration of private adult learning centres; and to provide for quality assurance and quality promotion in adult basic education and training

The NCED's Five Year Strategic Plan (2004-2009) summarises the department's infrastructure delivery strategic goals as follows:

- To ensure the effective provisioning of basic education infrastructure;
- To upgrade, renovate and maintain existing education infrastructure;
- Focusing on the construction of new schools through the project implementing agency (Department of Transport, Roads and Public Works);
- Eliminate unsafe structures and "learning under the trees" conditions, by replacing mobile, asbestos structures and other unsuitable learning environments;
- Provision of additional facilities at existing schools to address overcrowding, and promote full school effectiveness where some important facilities never existed;
- Giving more attention to the rehabilitation of farm schools, within the framework of the farm and rural school strategy;
- Upgrading and renovating existing hostels;
- Provision of basic services: water, sanitation and electricity; and
- Providing funds to schools also encouraging and empowering School Governing Bodies to take charge of the rehabilitation of their buildings.

Infrastructure planning will also respond to objectives set out in the National Quality Education Development and Upliftment Programme (NQIDS-UP), especially in terms of:

- rehabilitation and maintenance of schools;
- provision of water, sanitation and electricity; and
- creating a safe and adequate learning environment.

## 2.7 Planning Data and Modelling Techniques

It should be noted that this document is based on information currently available in the NCED.

The task of the Infrastructure Unit is to update, verify and improve on data availability to the unit. This includes developing an operational asset register and needs/requirements planning system.

No sophisticated modelling techniques have been used in the formulation of the plan. Cost estimates used in cost and cash flow forecasts are based on recently completed projects similar in nature to the scheduled projects.





### 3 Section 3: Level of Service

#### 3.1 Legislative Requirements

The following legislation or regulations affect infrastructure levels of service:

##### 3.1.1 National Norms & Standards for School Funding (SA Schools Act 84 of 1996)

This document provides guidelines for prioritising projects and for the allocation of budgeted infrastructure delivery funds to the schools in the province. The guidelines state, in summary, the following:

For the construction of new schools or additional classrooms and learning facilities, infrastructure delivery to be targeted to the “neediest” population, with “need” defined in terms of:

“The lack of existing schools and learning facilities, or Overcrowding of existing schools.”

For recurrent cost items, such as Routine Maintenance, allocation can be targeted on the basis of “need” determined according to:

“The condition of the school buildings, and the relative poverty of the school community, the so-called “poverty rating” of the school.”

##### 3.1.2 Employment of Educators Act 76 of 1998 (Post provisioning norms and principles)

In Clause 4 the maximum class size or learner to educator ratios are prescribed for different grades and subjects respectively.

The Learner: Educator Ratios as prescribed in the Act shown in Table 2:

Table 2: Learner: Educator Ratio	
Grade	Maximum Class Size
R	35
1 to 4	35
5 to 6	40
7	37
8 to 9	37
10 to 12	Varies depending on subject, but 32 used as average

### 3.1.3 National Building Regulations

The National Building Regulations prescribes minimum standards for general building work, as well as norms and ratios for the supply of water and sanitation services.

### 3.2 Infrastructure Delivery Planning Criteria

The National Department of Education has recently begun conducting workshops on the development of an Infrastructure Management Policy/Strategy, Infrastructure delivery models (particularly focussed on addressing a defined and quantified “backlog”) and the development of standard modules/types of infrastructure for education.

### 3.3 Infrastructure Delivery Policy and Objectives

The NCED’s infrastructure delivery policy is as follows:

***“To effect redress and equity in the delivery of educational infrastructure by specifically targeting the needs of the poorest communities in the province”.***

The NCED’s infrastructure delivery policy and objectives are summarised as follows:

#### 3.3.1 Basic Services

- Water supply: All schools to have access to clean water on school premises;
- Sanitation: All schools to be provided with toilets (VIP as minimum standard);
- Electricity supply: All schools to be provided with electricity; and
- Waste disposal: All schools to have waste disposal services.

#### 3.3.2 Classrooms

- Non-brick structures: All non-brick structures to be replaced with permanent structures;
- Additional classrooms: Classrooms to be provided to meet norms described;
- Mobile classrooms: To be used where demand is defined as “temporary” due to migration of learners;
- Science Laboratories: To be built where required. The plan will particularly take the Maths Science and Technology Strategy into consideration, particularly the Dinaledi schools;
- IT Laboratories: To be built where required.

#### 3.3.3 Safety and Security

All schools to be provided with proper security fences.

#### 3.3.4 Maintenance

To be carried out regularly according to a maintenance plan. This plan is to be developed for all facilities.

### **3.3.5 Renovation and Rehabilitation**

Renovation and rehabilitation to be carried out at least every 5 years, and to be confirmed by regular condition and utilisation assessments.

### **3.3.6 Upgrading**

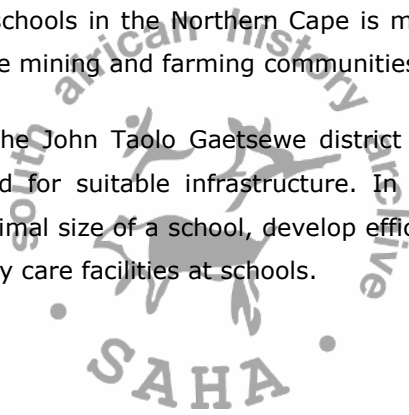
Upgrading of facilities will be determined by needs at each school and by the requirements of curriculum changes.

## **3.4 Community Needs and Expectations**

A formal system to register and monitor community needs should be developed, incorporating inputs from schools, circuit and district offices as well as inputs from local and district municipalities. At present these needs are addressed on an ad hoc basis as funds become available.

Overcrowding in schools in the Northern Cape is mainly influenced by the migration of communities in the mining and farming communities.

Incorporation of the John Taolo Gaetsewe district into the NC has also increased the department's need for suitable infrastructure. In this regard the NCED will have to determine the optimal size of a school, develop efficient transport methods and possibly improve hostel/day care facilities at schools.



### 3.5 Level of Service Gap Analysis

Currently the department is addressing the most urgent community needs. A more formal analysis of reliable data will lead to improved planning, monitoring and delivery of infrastructure to meet NCED requirements.

Currently the infrastructure unit focuses on the following infrastructure categories:

- New schools
- New classrooms (including classrooms for the use of computers)
- ECD classrooms
- Water – new and upgrading
- Sanitation – new and upgrading
- Electrical supply – new and upgrading
- New Laboratories (Science, Biology & Computers)
- Computer laboratories – computer training
- Media Centres/Libraries
- Administration Blocks
- Halls
- Security and Fencing
- Special use classrooms (workshops, domestic science, etc)
- Mobile classrooms
- FET colleges



## **4 Section 4 Demand or Need determination**

### **4.1 Provincial Population**

It is estimated that the provincial population will increase from approximately 900,000 to 1,200,000 with the inclusion of the John Taolo Gaetsewe District. This increase has also led to an increase in the number of learners and educators and school infrastructure in the province.

### **4.2 Number of Schools**

From 1996 to 2005 the number of schools in the NC decreased due to the decrease in the population and the rationalisation of rural schools. After the inclusion of the John Taolo Gaetsewe district the number of public ordinary schools has increase to 602. Rationalisation of rural schools in the John Taolo Gaetsewe district will reduce this number.

### **4.3 Factors Influencing Demand**

The following factors need to be monitored because of the possible impact on the demand school infrastructure and other education facilities:

- Changes in National policy
- Changes in Departmental policy (e.g. use of mobile classrooms)
- Changes in curriculum (e.g. need for more science/IT laboratories due to curriculum requirements and OBE Methodologies)
- Pass rate (e.g. decrease in pass rate will lead to increased retention of learners)
- Changes in community needs and expectations (e.g. non-acceptance of water and sanitation standards)
- Security and vandalism issues

### **4.4 Demand Forecast**

Both the population and the number of learners in the province are not expected to increase significantly over the next few years.

Migration of the population to urban areas and movement of the labour force between development nodes may however result in localised increases in the demand for school infrastructure.

The biggest area where physical facilities are required is in the John Taolo Gaetsewe District. This includes new facilities as well as repairs and renovations to existing facilities.

Growth in demand for infrastructure is expected in the Sishen/Kathu/Postmasburg area due to the recently announced expansion plans at the iron ore mines.

Security and vandalism is becoming an increasing problem for physical facilities management. Physical facilities options to assist in addressing these issues that will be considered include:

- Installation of burglar proofing and stone guards
- Use of security doors where appropriate
- Installation of safes for equipment and lockers for personal valuables
- Installation of security lighting
- Installation of electronic alarms and surveillance in severe cases
- Improved security fencing and access control
- Ensure that the design of facilities provides for limited and controlled access points
- Locate facilities to encourage/enable passive surveillance by community members.

Thus the major demand areas will be to:

- Address overcrowding caused by migration and rationalisation of schools
- Improve facilities to meet curriculum requirements
- Improve the provision of services (water, sanitation, electricity, access)
- Improve the availability of facilities
- Ensure physical facilities design make provision for security enhancement and vandalism reduction

#### **4.5 Demand Management Plan**

The following non-infrastructure solutions are to be considered as alternatives to infrastructure-based solutions in order to manage the demand for additional schools/classrooms:

- Reduce vandalism by improving "ownership" and pride amongst users and beneficiaries of public school facilities
- Reduce theft and malicious damage to facilities by improving passive surveillance and improved response to users needs
- Reduce maintenance and repair requirements by improved operating procedures
- Improved maintenance of existing facilities
- Improved transport methods
- Conversion of single medium schools to parallel or double medium schools
- Combining primary and secondary schools
- Sustain acceptable pass rate

## 5 Section 5: Existing Infrastructure

The report on existing infrastructure data is based on data that has been verified and which is based on a survey conducted in early 2008. It should be noted that the data does correspond with available EMIS data.

### 5.1 Physical Parameters

The following table summarise the facilities analysed:

Type of Facility		
Description	Number	% of Total
Ordinary School	602	62.5%
Office	7	0.7%
ABET	181	18.8%
SNE	10	1.0%
ECD	163	16.9%
<b>TOTAL</b>	<b>963</b>	<b>100.0%</b>

It should be noted that the number of ordinary public schools, including John Taolo Gaetsewe is 602. The data has been verified by the EMIS tenth day snap survey which was completed at the end of January 2008.

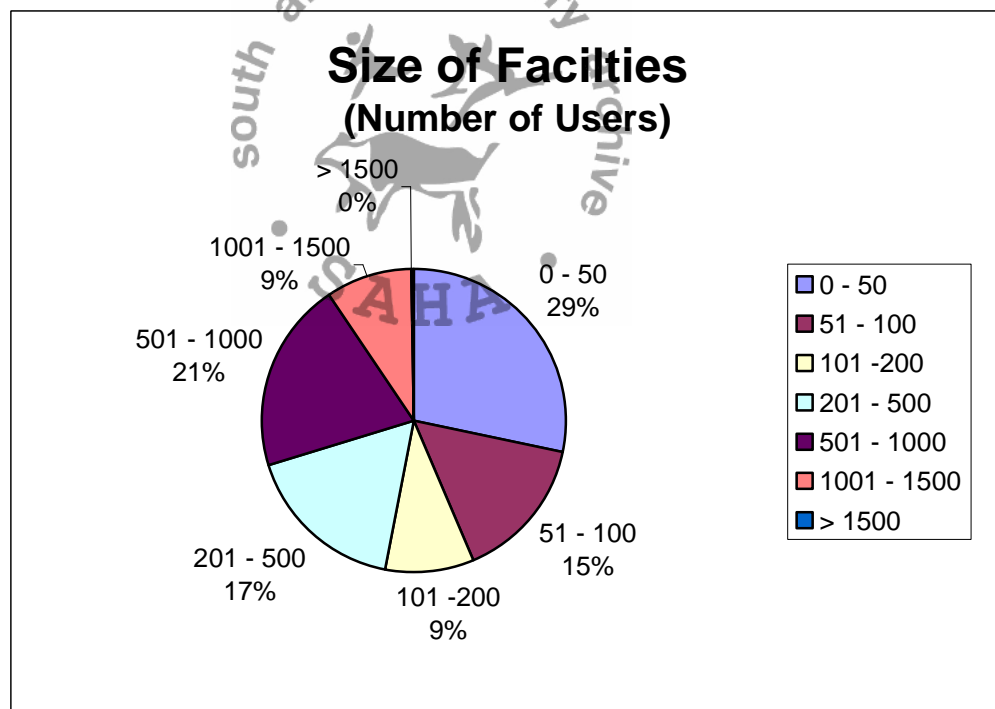
### 5.2 Capacity / Performance

**5.2.1 Size of Facilities**

The following tables and graph show the size of the available facilities.

**\*Note that the figures used in the below table is from surveys conducted in 2006 and is to be verified.**

Size of Facilities		
Number of users	Number of Facilities	% of Total
0 - 50	182	28.3%
51 - 100	98	15.3%
101 -200	60	9.3%
201 - 500	112	17.4%
501 - 1000	129	20.1%
1001 - 1500	60	9.3%
> 1500	1	0.2%
<b>TOTAL</b>	<b>642</b>	<b>100.0%</b>



This data shows that approximately 50% of the departments facilities should be investigated for rationalisation (categories 0 – 50, 51 – 100 and 101 -200) from an economic perspective and approximately 10% of the departments facilities should be investigated from an effectiveness perspective (categories 1001 – 1500 and > 1500).

This could lead to a decrease in the number of facilities, but an increase in the average size of the facilities. This has an implication for the operation and maintenance of facilities.

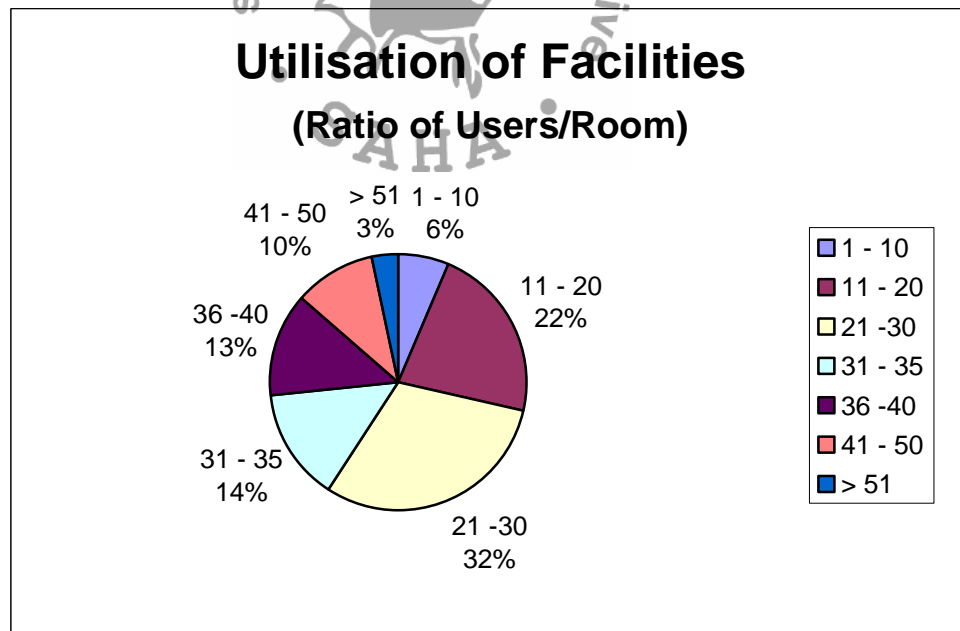


**5.2.2 Utilisation of Facilities**

The following table and graph shows the utilisation of the facilities based on users per room. Although this is not an accurate indication of the utilisation of individual facilities (eg. some are offices) it does provide an indication of the proportion of under and over utilised facilities.

**\*Note that the figures used in the below table is from surveys conducted in 2006 and is to be verified.**

Utilisation of Facilities		
Ratio of Users to Rooms	Number of Facilities	% of Total
1 - 10	39	6.4%
11 - 20	135	22.1%
21 -30	187	30.6%
31 - 35	87	14.2%
36 -40	80	13.1%
41 - 50	62	10.1%
> 51	21	3.4%
<b>TOTAL</b>	<b>611</b>	<b>100.0%</b>



This data indicates that although more than 70% of the department’s facilities fall below the 1:35 ratio more rooms (standard classrooms) are required. This agrees with the previous observation that although provinces learner numbers are decreasing (except for the once off injection of learners from the NW) overcrowding of facilities is still occurring.

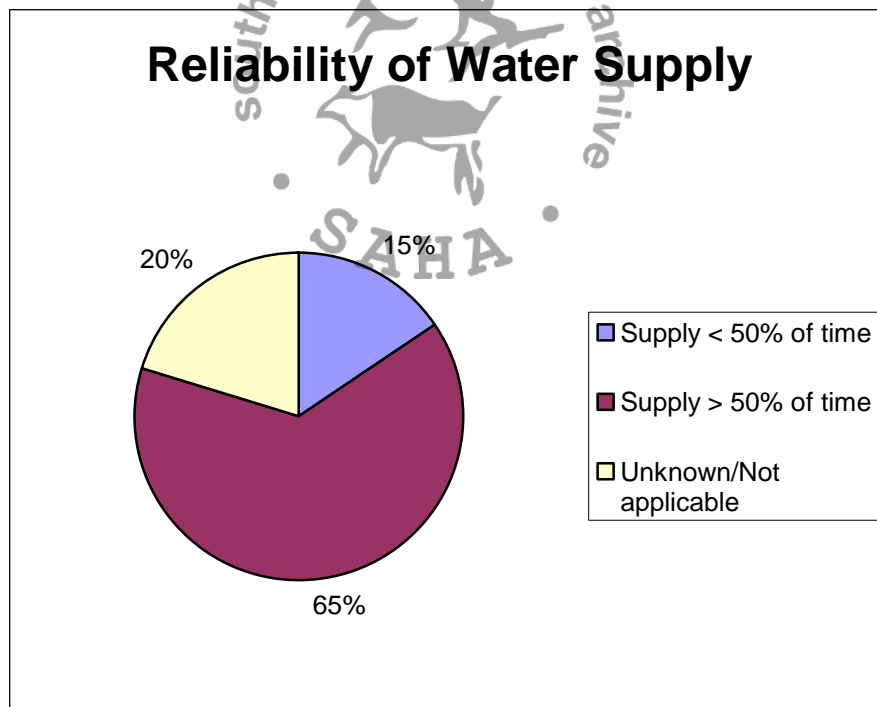
A more detailed analysis is required to determine the location cause and estimated duration of the increased demand for facilities.

**5.2.3 Reliability of Water and Sanitation Supply**

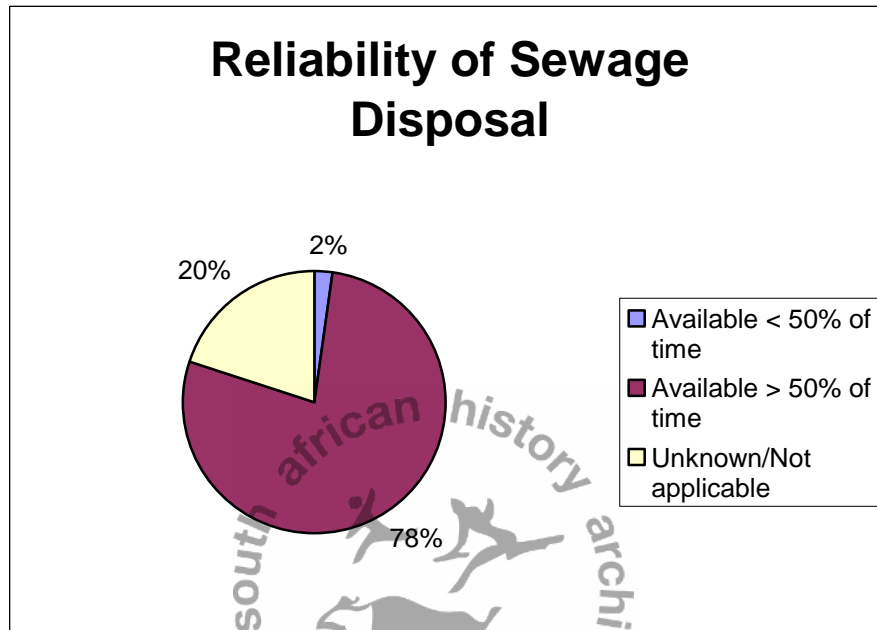
The following tables and graphs indicate the proportion of facilities that receive a reliable water and sanitation service. The reliability is based on the time that the service is available.

**\*Note that the figures used in the below table is from surveys conducted in 2006 and is to be verified.**

Reliability of Water Supply		
Description	Number of Facilities	% of Total
Supply < 50% of time	97	15.5%
Supply > 50% of time	402	64.1%
Unknown/Not applicable	128	20.4%
<b>TOTAL</b>	<b>627</b>	<b>100.0%</b>



Reliability of Sewage Disposal		
Description	Number of Facilities	% of Total
Available < 50% of time	14	2.2%
Available > 50% of time	500	77.9%
Unknown/Not applicable	128	19.9%
<b>TOTAL</b>	<b>642</b>	<b>100.0%</b>



This data indicate that the level of provision of these services is not acceptable. It should be noted that the failure of the water service often adversely affects the sanitation service, while the failure of the sanitation service has living conditions and health impacts.

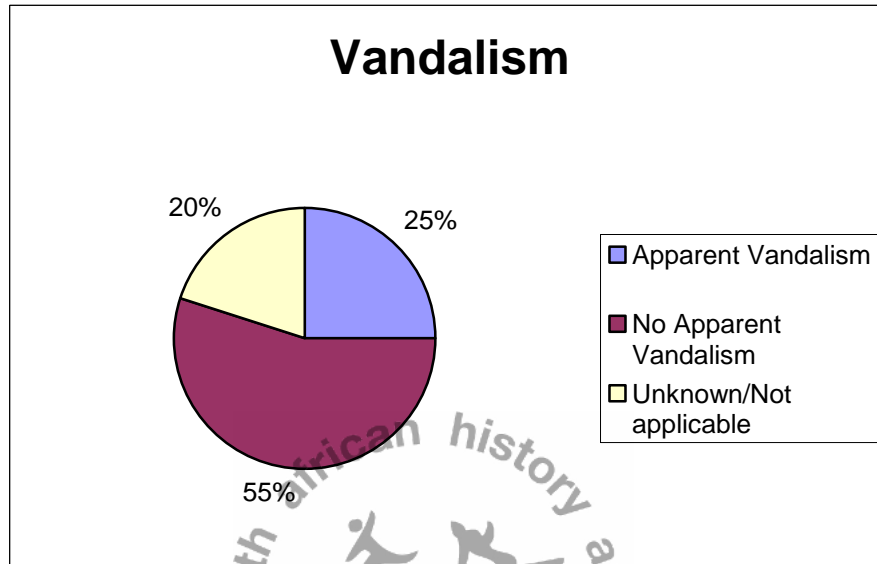
### 5.3 Condition

The condition of all facilities has not been formally surveyed. One of the tasks of the infrastructure unit will be to develop and implement a system to determine, capture and analyse this data.

However data is available on the extent of vandalism of facilities in the province. Although the data does not include the entire John Taolo Gaetsewe district it once again provides an indication of the extent of the problem. The following table and graph indicate the relevant proportions of the problem.

**\*Note that the figures used in the below table is from surveys conducted in 2006 and is to be verified.**

Vandalism		
Occurrence	Number of Facilities	% of Total
Apparent Vandalism	161	25.1%
No Apparent Vandalism	353	55.0%
Unknown/Not applicable	128	19.9%
<b>TOTAL</b>	<b>642</b>	<b>100.0%</b>



#### 5.4 Valuations

Based on data compiled by the CSIR in 2001 the floor area of all schools excluding those in the John Taolo Gaetsewe district, is approximately 1,300,000 m<sup>2</sup>. To this should be added the area of other NCED facilities (colleges, offices, etc). This will assist in determining the value of the required maintenance and refurbishment work.

As an estimate allow an additional 200,000 m<sup>2</sup> for offices, colleges and John Taolo Gaetsewe schools, thus an estimated total of 1,500,000 m<sup>2</sup>

Based on latest tender prices of approximately R5,000/ m<sup>2</sup> this values the infrastructure portfolio of the department at an estimated R7.5bn.

#### 5.5 Historical Data

It is anticipated that a lot of historical data is available at various locations including the finance unit, the Department of Transport Roads and Public Works and at private consultancies. Once an effective asset register has been established this data should be collated to assist in determining maintenance and refurbishment cycles and depreciation values.

## 5.6 Summary of Needs

The anticipated infrastructure requirements are listed below.

- New Schools – to meet urbanisation demands and rationalisation of rural areas
- New Classrooms - to meet urbanisation demands, replacement of non-brick structures and upgrading of infrastructure
- New and refurbished ECD classrooms
- Water – installation of permanent reticulation and upgrading existing services
- Ablution blocks and reticulation – to meet minimum requirements, upgrade existing systems and address increased demands at schools
- Electrical supply – to meet additional demands at schools and to ensure that all schools have adequate supply
- Administration Blocks – to meet additional requirements and ensure a minimum standard of accommodation
- Laboratories – Science, biology and computer to meet curriculum requirements
- Provision of secure classrooms for the installation of computers to be used by learners
- Media centres/libraries
- Workshops and Domestic science rooms
- Security and Fencing
- Halls
- FET colleges requirements
- Improved office accommodation for management
- HOD offices and storerooms at schools

## 6 Section 6 Asset Management - Infrastructure

### 6.1 Routine Maintenance Plan

Routine maintenance is the regular ongoing day-to-day work that is necessary to keep infrastructures operating, including instances where the portions of the infrastructure fail and need immediate repair to make the infrastructure operational again.

## 6.2 Implementation Strategy

Most of the schools in the Northern Cape are Section 21 Schools with the School Governing Body (SGB) responsible for the day-to-day maintenance of the schools. This expenditure is budgeted for in Programme 2 and does not form part of the Infrastructure Budget. This budget is managed by schools.

An allowance from Programme 2 for use by non-section 21 schools with the maintenance responsibility has been made. This budget is managed at district level.

The above two amounts are not included in the Infrastructure Budget and are therefore not reported on by the Physical Facilities Management unit. This should be investigated with a view to recording all maintenance work on infrastructure in a systematic manner in the infrastructure asset register.

The maintenance requirements of Section 14 Schools, i.e. schools located on Farm, Church and Mine owned land, are usually included in the lease agreement with the respective land owners and therefore not included in the Department's maintenance plans.

### 6.2.1 Standards and Specifications

The general approach at the schools is to repair or replace a defective item to the same level/condition as before the breakdown.

### 6.2.2 Summary of Future Costs

Routine maintenance of buildings in a **good condition** usually amounts to about **4%** of the replacement value.

Schools should be made aware of the importance of routine maintenance and the impact of deferred maintenance on the future cost of repairs. The risks associated with deferred maintenance are the following:

Rapid deterioration of infrastructure

- Drastic increase in cost of repairs
- Reduced serviceability of the facility

Routine Maintenance is funded from the provincial funds (equitable share) and is mainly budgeted for in Programme 2 of the provincial budget.

Based on the above estimates a minimum allocation for routine maintenance (minor repairs and preventative work including inspections) should be approximately R300 million per year.

Currently the system used manages about 15% of the norm. This figure needs to be verified and reports of actual work done must be recorded against each facility.

It is therefore proposed that Routine maintenance for 2009/10 be at least 15% of the norm (R22m), but that management requirements are increased. In future years it is proposed that the higher percentages of the norm be allocated until 100% of the norm is allocated in 2017/18.

### 6.3 Renewal / Replacement Plan

Renewal expenditure is major work which does not increase the infrastructure’s design capacity but restores, rehabilitates, replaces or renews an existing infrastructure to its original capacity. Work over and above restoring an infrastructure to original capacity is new works expenditure.

#### 6.3.1 Renewal Plan

##### 6.3.1.1 Condition Assessments

The NCED desired level of service is to renovate and repair each school in the province at least every 5 years. The Infrastructure Unit’s plans to institute an inspection of each school once per year by the District Maintenance Officer and the condition of each building is to be assessed on a five-point scale as follows:

##### Condition Assessment Guidelines

Scale	Asset Condition	Maintenance Need
5	New or nearly new	Nil; continued routine maintenance
4	Good	Minor renovations
3	Fair	Renovations and repairs as required
2	Poor	Major renovations/repairs to return to adequate service provision
1	Failed	Renewal, Replacement or Disposal

The recommended condition assessment system will assist in developing a prioritisation model for Renewals (Renovations) and Replacement (New) projects.

##### 6.3.1.2 School Rehabilitation Flagship Programme

The Northern Cape Education Department has embarked on an innovative model to effectively empower School Governing Bodies allowing them to take charge of maintaining their school buildings.

The objectives of this system include:

- Developing a skills base for future routine maintenance, repairs, renovations and upgrading work in communities
- Encouraging communities to take "ownership" of the school to reduce vandalism and improve discipline at the school
- Providing jobs to the community
- Providing practical training venues for FET colleges
- Assisting SGB's to acquire management skills

In the 07/08 and 08/09 financial years the NCED requested DTRPW to manage the project on their behalf.

### **6.3.2 Renewal Standards**

All Repair and Renovation projects are executed in accordance with the quality standards and material specifications as contained in the Department of Public Works Standard Specifications.

The risks associated with using alternative standards are as follows:

Benchmarking of costs

Availability of maintenance/service personnel

### **6.3.3 Summary of Future Costs**

As in the case for Maintenance it is proposed that Renewals, including the NCED programmes it is proposed that the SRFP, Repairs and Renovations, Water and Sanitation repairs programmes be increased to 15% of the norm (R45m) in 2008/09 and increasing to 100% of the norm in 2017/18.

## **6.4 Creation / Acquisition Plan**

New works are those works that create a new infrastructure that did not previously exist, or works which upgrade or improve an existing infrastructure beyond its existing capacity. They may result from growth, social or environmental needs. Infrastructure may be required at no direct cost to the department (i.e. sub divisional development for local authorities).



**6.4.1 Selection Criteria**

Currently the Physical Facilities Management Unit does not use any formal prioritisation model. Needs are however broadly tested against the criteria of:

- Access to schools within 1 hour walking time; and
- Overcrowding of existing schools.

**6.4.2 Standards and Specifications**

New Works are normally based on standard designs and constructed according to the Public Works Standard Specifications for Materials and Workmanship.

**6.4.3 Summary of Future Costs**

Based on norms for New and Upgrading of facilities 15% of the norm amounts to R27m. However the NCED is required to build a lot of new infrastructure mainly in the John Taolo Gaetsewe district, including:

- ECD classrooms;
- Hostels
- Computer classrooms
- Halls
- Media centres
- Additional water and sanitation facilities.

This infrastructure is an additional burden on the department with preliminary estimates for 2008/09 amounting to:

ECD Classrooms:	R 4m
Hostels:	R5m
Computer Classrooms:	R2m
Halls:	R5m
Media Centres:	R5m
Additional Water and Sanitation facilities:	R 10m
<b>TOTAL</b>	<b>R31m</b>

Thus a total projected need for 2009/10 amounting to R178m.

#### **6.4.4 Disposal Plan**

According to the norms for Infrastructure Management, a 15% of the norm amounts to R9m. These funds will be required once the department starts rationalising facilities throughout the province, but mainly in the Jdistrict.



#### **6.4.5 Projected Requirements**

The NCED has estimated its requirements for infrastructure over the next 3 years. These estimates need to be evaluated based on more accurate data from circuits and districts, but are expected to be conservative. In order for the NCED to implement these estimates, additional capacity (human resources, reporting systems, asset register and planning systems) will be required.





The following table illustrates NCED’s infrastructure requirements:

<b>TABLE 1: Estimated Backlog to meet: (i) Norms &amp; Standards; (ii) Condition based Repairs and Maintenance; (iii) Improved access to high quality education)</b>																	
<b>District</b>		<b>Frances Baard</b>			<b>Kgalagadi</b>			<b>Namaqua</b>		<b>Pixley ka Seme</b>			<b>Siyanda</b>		<b>Total</b>		<b>% of Total Estimated Backlog</b>
No. of Public Primary Schools		58			123			50		57			57		345		
No. of Public Secondary Schools		65			78			30		42			42		257		
Total Public Schools		123			201			80		99			99		602		
No. of Public School Learners		84,597			61,180			23,013		45,053			50,639		264,482		
<b>Programme</b>	<b>Unit</b>	<b>Estimated Average Unit Rate (R'000)</b>	<b>Estimated Quantity</b>	<b>Estimated Cost (R'000)</b>	<b>Estimated Quantity</b>	<b>Estimated Cost (R'000)</b>	<b>Estimated Quantity</b>	<b>Estimated Cost (R'000)</b>	<b>Estimated Quantity</b>	<b>Estimated Cost (R'000)</b>	<b>Estimated Quantity</b>	<b>Estimated Cost (R'000)</b>	<b>Estimated Quantity</b>	<b>Estimated Cost (R'000)</b>			
Administration Blocks	Administration Block	600	30	18,000	100	60,000	40	24,000	40	24,000	45	27,000	255	153,000	1.9%		
Classrooms	Ordinary classroom	190	150	28,500	896	170,240	100	19,000	500	95,000	120	22,800	1,766	335,540	4.1%		
Computer Centres	Computer Centre	750	60	45,000	150	112,500	60	45,000	75	56,250	75	56,250	420	315,000	3.8%		
Disabled Facilities	School	200	100	20,000	200	40,000	80	16,000	99	19,800	99	19,800	578	115,600	1.4%		
ECD Classrooms	ECD Classroom	600	80	48,000	160	96,000	60	36,000	75	45,000	75	45,000	450	270,000	3.3%		
Fencing & Security	School	300	100	30,000	180	54,000	40	12,000	50	15,000	50	15,000	420	126,000	1.5%		

**TABLE 1: Estimated Backlog to meet: (i) Norms & Standards; (ii) Condition based Repairs and Maintenance; (iii) Improved access to high quality education)**

District		Frances Baard			Kgalagadi			Namaqua			Pixley ka Seme			Siyanda			Total		% of Total Estimated Backlog
No. of Public Primary Schools		58			123			50			57			57			345		
No. of Public Secondary Schools		65			78			30			42			42			257		
Total Public Schools		123			201			80			99			99			602		
No. of Public School Learners		84,597			61,180			23,013			45,053			50,639			264,482		
Programme	Unit	Estimated Average Unit Rate (R'000)	Estimated Quantity	Estimated Cost (R'000)	Estimated Quantity	Estimated Cost (R'000)	Estimated Quantity	Estimated Cost (R'000)	Estimated Quantity	Estimated Cost (R'000)	Estimated Quantity	Estimated Cost (R'000)	Estimated Quantity	Estimated Cost (R'000)	Estimated Quantity	Estimated Cost (R'000)			
Hall (Concert, gym, sport, exams, assembly)	School	5,000	40	200,000	180	900,000	30	150,000	40	200,000	40	200,000	330	1,650,000			20.1%		
Hostels (per learner)	Learner in Hostel	50	4,000	200,000	25,000	1,250,000	6,000	300,000	8,000	400,000	8,000	400,000	51,000	2,550,000			31.1%		
Media Centres	Media Centre	900	80	72,000	180	162,000	60	54,000	70	63,000	70	63,000	460	414,000			5.0%		
Mobile Classrooms	Mobile Classroom	140	0	0	20	2,800	10	1,400	10	1,400	20	2,800	60	8,400			0.1%		
Sanitation	School	350	60	21,000	200	70,000	40	14,000	50	17,500	50	17,500	400	140,000			1.7%		
Schools	School	20,000	3	60,000	4	80,000	1	20,000	1	20,000	2	40,000	11	220,000			2.7%		
Science & Biology Labs	Laboratory	750	40	30,000	200	150,000	20	15,000	30	22,500	30	22,500	320	240,000			2.9%		

TABLE 1: Estimated Backlog to meet: (i) Norms & Standards; (ii) Condition based Repairs and Maintenance; (iii) Improved access to high quality education)															
District		Frances Baard		Kgalagadi		Namaqua		Pixley ka Seme		Siyanda		Total		% of Total Estimated Backlog	
No. of Public Primary Schools		58		123		50		57		57		345			
No. of Public Secondary Schools		65		78		30		42		42		257			
Total Public Schools		123		201		80		99		99		602			
No. of Public School Learners		84,597		61,180		23,013		45,053		50,639		264,482			
Programme	Unit	Estimated Average Unit Rate (R'000)	Estimated Quantity	Estimated Cost (R'000)	Estimated Quantity	Estimated Cost (R'000)	Estimated Quantity	Estimated Cost (R'000)	Estimated Quantity	Estimated Cost (R'000)	Estimated Quantity	Estimated Cost (R'000)	Estimated Quantity	Estimated Cost (R'000)	
Sports Facilities	School	1,000	40	40,000	180	180,000	40	40,000	40	40,000	40	40,000	340	340,000	4.1%
Water	School	250	60	15,000	200	50,000	60	15,000	40	10,000	40	10,000	400	100,000	1.2%
Offices (per office)	Office	75	100	7,500	200	15,000	20	1,500	100	7,500	10	750	430	32,250	0.4%
Condition based R&R	% of schools	1,200,000	20%	245,183	33%	400,664	13%	159,468	16%	197,342	16%	197,342	1	1,200,000	14.6%
Totals				1,080,183		3,793,204		922,368		1,234,292		1,179,742		8,209,790	

This table represents perceived needs by the department. It will be the task of the Physical Facilities Management unit to reconcile this table with the table in 7.1 which is based on funding norms based on Current Replacement Values for infrastructure.

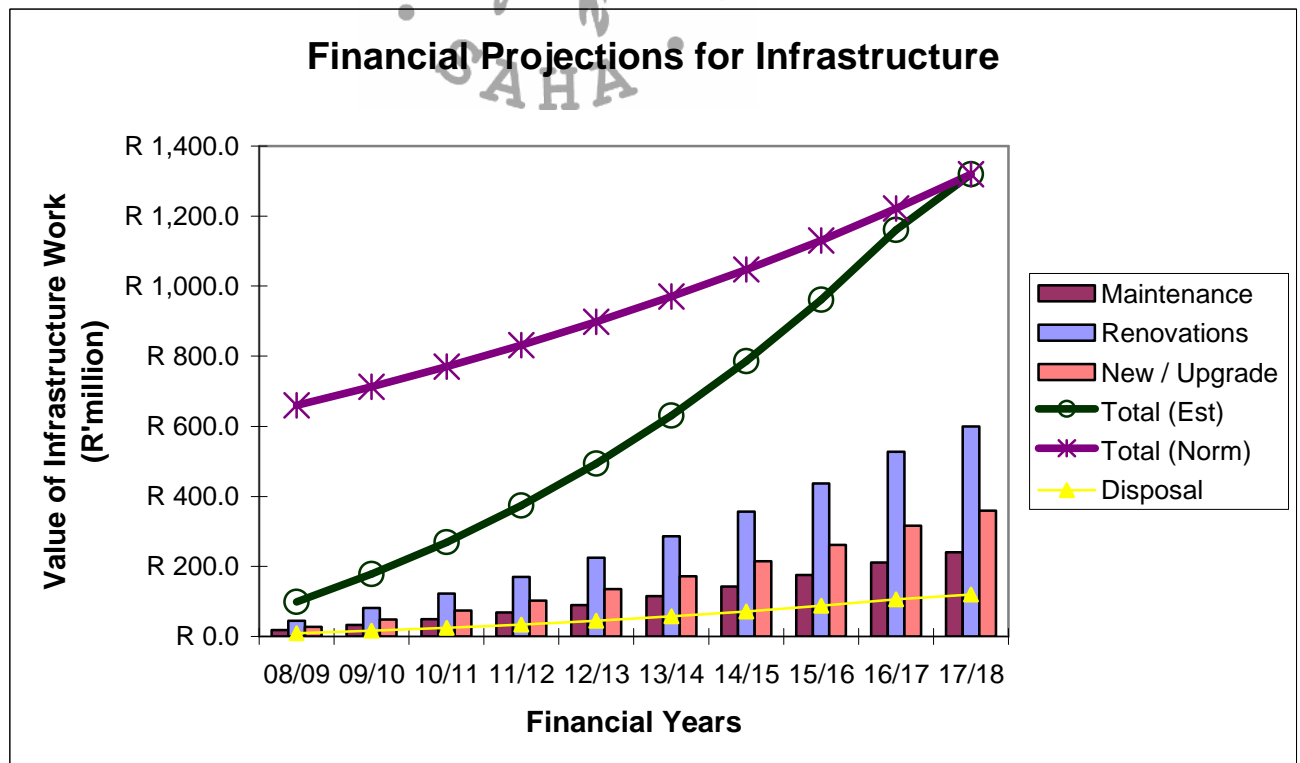
## 7 Section 7: Financial Summary

This section should contain the financial requirements resulting from all the information presented in previous sections. As plans become more advanced, various levels of service / cost scenarios may be included.

### 7.1 Financial Projections

The following table and graph are based on the assumptions listed in Section 7.4.

Projected Budget for Infrastructure per Financial Year (R million)										
Category	Financial Year									
	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18
<b>Estimated NCED Budget</b>										
Maintenance	R 18.0	R 32.4	R 49.0	R 68.0	R 89.8	R 114.6	R 142.8	R 174.8	R 211.0	R 239.9
Renovations	R 45.0	R 81.0	R 122.5	R 170.1	R 224.5	R 286.5	R 357.0	R 437.0	R 527.5	R 599.7
New / Upgrade	R 27.0	R 48.6	R 73.5	R 102.0	R 134.7	R 171.9	R 214.2	R 262.2	R 316.5	R 359.8
Disposal	R 9.0	R 16.2	R 24.5	R 34.0	R 44.9	R 57.3	R 71.4	R 87.4	R 105.5	R 119.9
<b>Total (Est)</b>	<b>R 99.0</b>	<b>R 178.2</b>	<b>R 269.4</b>	<b>R 374.1</b>	<b>R 493.9</b>	<b>R 630.3</b>	<b>R 785.5</b>	<b>R 961.5</b>	<b>R 1,160.5</b>	<b>R 1,319.3</b>
<b>% of Norm</b>	<b>15%</b>	<b>25%</b>	<b>35%</b>	<b>45%</b>	<b>55%</b>	<b>65%</b>	<b>75%</b>	<b>85%</b>	<b>95%</b>	<b>100%</b>
<b>Budget Norms for Infrastructure in Good Condition</b>										
Maintenance	R 120.0	R 129.6	R 140.0	R 151.2	R 163.3	R 176.3	R 190.4	R 205.7	R 222.1	R 239.9
Renovations	R 300.0	R 324.0	R 349.9	R 377.9	R 408.1	R 440.8	R 476.1	R 514.1	R 555.3	R 599.7
New / Upgrade	R 180.0	R 194.4	R 210.0	R 226.7	R 244.9	R 264.5	R 285.6	R 308.5	R 333.2	R 359.8
Disposal	R 60.0	R 64.8	R 70.0	R 75.6	R 81.6	R 88.2	R 95.2	R 102.8	R 111.1	R 119.9
<b>Total (Norm)</b>	<b>R 660.0</b>	<b>R 712.8</b>	<b>R 769.8</b>	<b>R 831.4</b>	<b>R 897.9</b>	<b>R 969.8</b>	<b>R 1,047.3</b>	<b>R 1,131.1</b>	<b>R 1,221.6</b>	<b>R 1,319.3</b>





From the above it is shown that the intention is to reach a normal funding for physical facilities within 10 years. This give the NCED and its infrastructure support departments (DTRPW and the Premier’s Office) time to develop the required capacity to plan and manage this work effectively.

These projections need to be updated regularly and reported on annually.

## 7.2 Funding Strategy

The Physical Facilities Management unit relies mainly on the Infrastructure Grant for Provinces and the funds provided by the NCED from the Equitable Share budget. Some funding is provided by donors.

Increases in the Equitable Share will assist the province achieve other long term goals such as improved skills levels, job creation and a higher level of service provided by the provincial government. In addition an attempt should be made to increase funding from donors to support departmental infrastructure plans.

The currently available funding over the 2008/09 – 2011/12 MTEF and the programmes associated with this funding are shown in the following tables.

It will be the task of the Physical Facilities Management unit to reconcile the requirements reflected in 7.1 and 6.4.5 with the available funding.

<b>Current MTEF Budget (R'000)</b>				
	<b>Financial Year</b>			
<b>Funding Source</b>	<b>08/09</b>	<b>09/10</b>	<b>10/11</b>	<b>11/12</b>
<b>Equitable Share</b>	23,641	24,823	26,312	27,891
<b>Conditional Grant</b>	52,352	87,802	108,879	157,712
<b>Total</b>	<b>75,993</b>	<b>112,625</b>	<b>135,209</b>	<b>191,008</b>

<b>Programmes allocation to 2008/09 - 2011/12 Financial Years</b>					
<b>MTEF (R'000)</b>					
<b>Programme</b>	<b>Total</b>	<b>2008/09</b>	<b>2009/10</b>	<b>2010/11</b>	<b>2011/12</b>
Personnel	6,609	1,977	2,076	2,200	2,333
Administration	3,701	1,108	1,163	1,233	1,305
Leases	15,000	1,959	4,000	5,000	6,000
<b>Sub-Total</b>	<b>25,310</b>	<b>5,044</b>	<b>7,239</b>	<b>8,433</b>	<b>9,638</b>
<b>INFRASTRUCTURE BY CATEGORY</b>					
<b>NEW AND REPLACEMENTS ASSETS</b>					
Schools	58,483	8,989	17,137	21,346	20,000
New Classrooms	15,316	8,918	2,316	3,000	10,000
ECD Classrooms	42,735	7,000	10,735	12,000	20,000
Science & Biology Labs	13,113	2,000	3,113	5,000	5,000
School Halls	10,017		900		9,117
Mobiles	10,220	1,000	2,220	3,000	5,000
Administration Blocks	15,532	1,000	2,032	4,500	9,000
Ablution Blocks	12,389	5,900	3,389	4,000	5,000
Property	180	20	40	40	100
Media Centres	18,360	1,000	3,360	5,000	10,000
Computer Centres	12,892	3,500	2,892	5,000	5,000
<b>Sub-Total</b>	<b>209,237</b>	<b>39,327</b>	<b>48,134</b>	<b>62,886</b>	<b>98,217</b>
<b>MAINTENANCE AND REPAIRS</b>					
SRFP	3,376	13,646	3,376		
Electrical Reticulation	11,859	375	2,352	4,700	4,807
Maintenance	47,565	5,000	10,000	17,565	20,000
<b>Sub-Total</b>	<b>62,800</b>	<b>19,021</b>	<b>15,728</b>	<b>22,265</b>	<b>24,807</b>
<b>UPGRADES AND ADDITIONS</b>					
Disabled	21,650	600	10,250	9,000	2,400
Security Fences	15,365	3,000	5,365	5,000	5,000
Offices	49,609	8,000	14,379	16,335	18,895
Sanitation	11,788	900	2,392	4,396	5,000
Water	12,130	2,900	3,130	4,000	5,000
<b>Sub-Total</b>	<b>110,542</b>	<b>15,400</b>	<b>35,516</b>	<b>38,731</b>	<b>36,295</b>
<b>REHABILITATION/UPGRADING</b>					
Repairs & Renovations	56,363	2,245	13,247	11,327	31,689
Condition Based Refurbishment					
<b>Sub-Total</b>	<b>56,363</b>	<b>2,245</b>	<b>13,247</b>	<b>11,327</b>	<b>31,689</b>
<b>TOTAL :INFRASTRUCTURE</b>	<b>438,842</b>	<b>75,993</b>	<b>112,625</b>	<b>135,209</b>	<b>191,008</b>

### 7.3 Valuation Forecasts

Valuation forecasts can not be done due to the unavailability of sufficient information relating to the floor area and condition of the buildings. The Physical Facilities Management unit should actively participate in the development of a fixed asset register

Based on currently available data and realistic estimates, the replacement value of NCED is estimated at R6,0bn as shown in the following table.

Item	Value
Floor area	1,5 million m2
Cost/m2	R 5,000
Current Replacement Value	R7,5bn
Inflation	8%

### 7.4 What Are the Key Assumption Made in Financial Forecasts?

The following key assumptions were made in the forecasting infrastructure delivery expenditure:

The following key assumptions were made in the forecasting infrastructure delivery expenditure:

- Sufficient capacity will be developed/provided to plan and manage the increased budgets
- An annual inflation rate of 8%
- Maintenance is estimated at 2% per year of replacement value
- Renewal/renovation is estimated at 5% per year of replacement value
- An estimate of 3% of replacement value has been made for the creation of new infrastructure. This includes addressing “backlogs”, but will have to be confirmed by improved surveys and infrastructure studies.

## **8 Section 8: Organisational and Support Plan Structure**

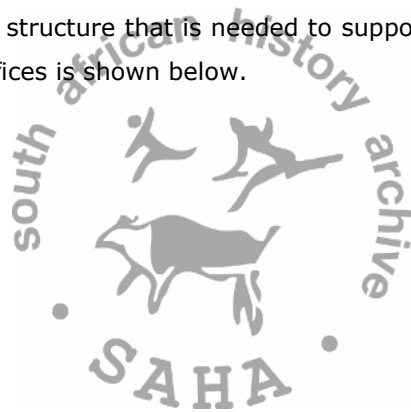
This section outlines the supportive Organisational and Support Plan.

### **8.1 Human Resources**

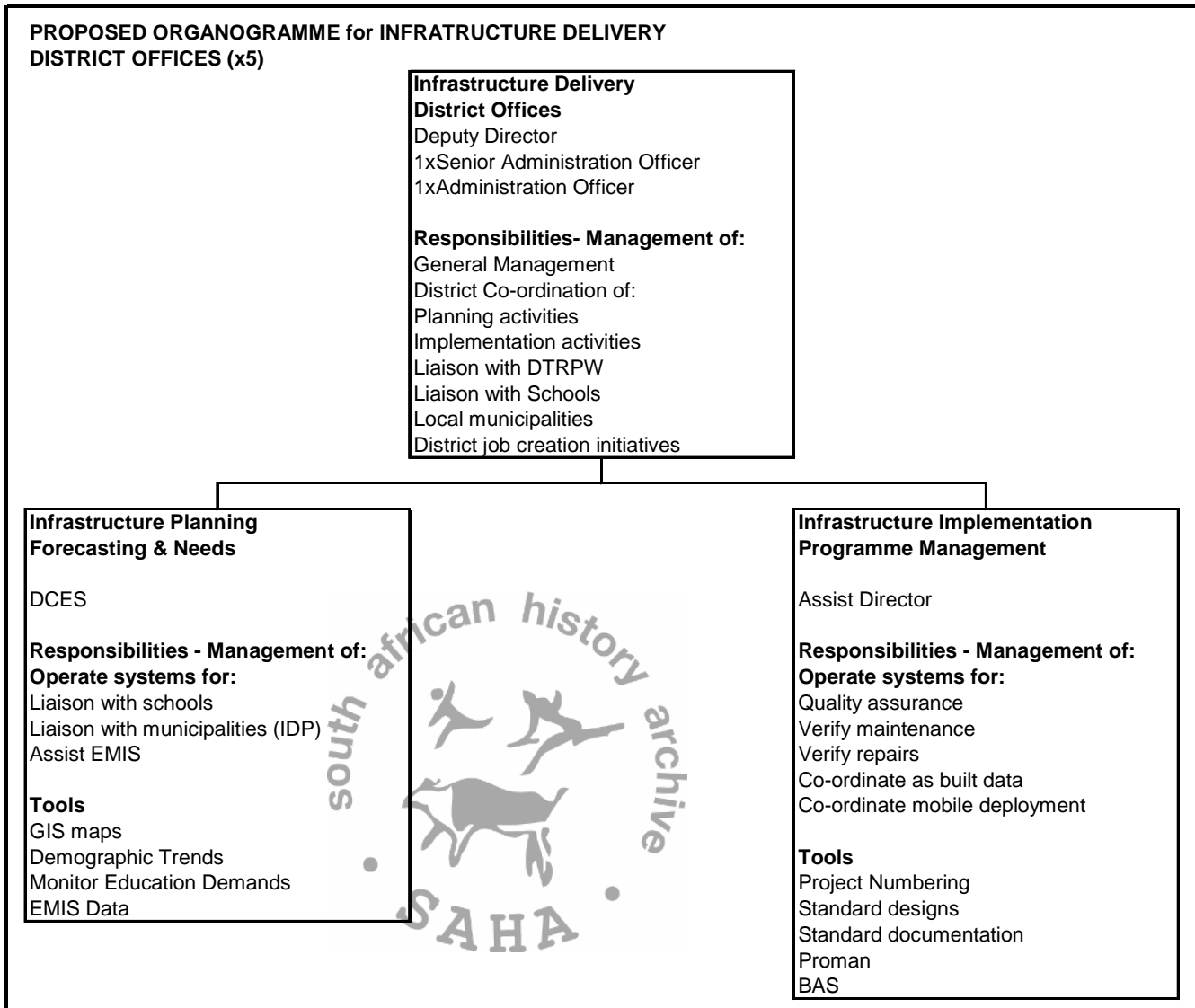
Based on the preliminary organogramme shown in 8.2 below the Physical Facilities Management unit requires 45 skilled people (20 at head office and 25 at district offices) Currently the department has 4 full time people at head office and 4 people in the district offices to provide the infrastructure delivery service

### **8.2 Organisational**

The proposed organisational structure that is needed to support infrastructure delivery at both the head office and at district offices is shown below.



This structure and others are being investigated by the IDIP PMU and the National Department of Educ



The Roles and Responsibilities of the designated personnel as shown in the organogrammes are described in the following table.

<b>Core Functions: NCED Infrastructure Delivery</b>	
<b>1. Infrastructure Planning</b>	NCED performs Planning function
1.1 Demographic & Socio-Economic Analysis	NCED performs these functions with help from external sources including Premier's office, Provincial Treasury, DBSA, cidb and Professional Service Providers (Architects, QSs, Engineers, Economists, Demographers, Statisticians, etc)
1.2 Physical Planning	
1.3 Spatial Planning	
1.4 Norms & Standards	
1.5 Project Prioritisation	
1.6 Project Life Cycle Costing	
1.7 Budgeting & Financial Planning	
1.8 Asset Management	
<b>2. Programme Management</b>	
2.1 Contracting with Programme Implementing Agents (PIA)	NCED contracts with DTRPW
2.2 Review and approval of Infrastructure Programme Implementation Plans (IPIPs)	NCED Implementation Section
2.3 Monitoring & Evaluation	NCED Implementation reviews progress as programme level
2.4 Managing Compliance by PIAs	NCED manages DTRPW's performance
2.5 Financial Management of PIA contracts	NCED manages cash flow made available to DTRPW
2.6 Construction Procurement	NCED ensures that DTRPW complies with SCM regulations
2.7 Reporting Progress	NCED receives and evaluates programme progress
2.8 Risk Management	NCED ensures that DTRPW manages risk
2.9 Communication Management	NCED receives regular reports and holds monthly programme management meetings
2.10 Assessment of quality of infrastructure	NCED ensures that DTRPW has a quality management system in place and audits this system
2.11 Handover & commissioning of Infrastructure	NCED liaises within department to ensure that furniture, educators, LSM, light and water etc are ready when the infrastructure is delivered
2.12 Integration & Process Management	Infrastructure is added to asset register, EMIS, GIS are updated, district and circuit offices include infrastructure on inspection programmes etc.

### **8.3 Financial**

Financial projections for the implementation of the Organisation Support programme will be developed as the systems and organogram is developed.

### **8.4 Systems and Processes**

#### **8.4.1 Accounting / Financial Systems**

Currently the department uses the BAS system and captures all payments for infrastructure on this system. Recently the department has started a project led by the Provincial Treasury to improve reporting on project expenditure by adjusting the structure of the BAS system.

#### **8.4.2 Infrastructure Management Systems**

All infrastructure reporting is currently based on separate Excel spreadsheets which are searched when reports are required.

The DTRPW is developing a project reporting system to improve project management and reporting. This system will probably be available towards the end of the financial year.

Recently the Western Cape has implemented a project portfolio management system which will improve document management as well as project and programme management at both the client and implementing agent. A similar system should be investigated by the Northern Cape.

#### **8.4.3 Data**

Currently the department does not have an accurate fixed asset register and should actively participate in the development and implementation of a fixed asset register.

Data from various sources (National DOE, DTRPW, consultancies, NCED circuit and district offices) should be collated and included in the asset register.

Part of the asset register system should be a method/mechanism to update (collect, collate, standardise and verify) data on a regular, scheduled basis.

#### **8.4.4 Information Flow Requirements and Processes**

Communication links within the NCED and with other provincial infrastructure support departments are being developed. These links could take the form of progress meetings, bidding for budgets, developing estimates, supporting economic development and reduction of vandalism of property.

#### **8.4.5 Standards and Guidelines**

The department is support all legislation related to infrastructure by making use of skilled Built Environment Professionals and working closely with infrastructure delivery departments and advancing the goals of the CIDB.



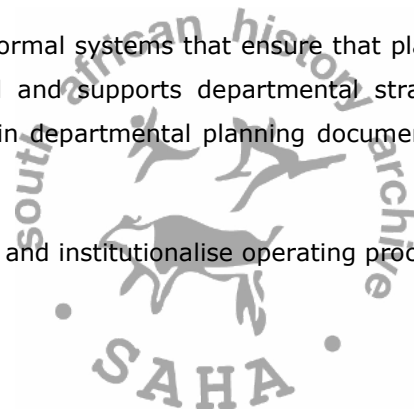


## 9 Section 9: Plan Improvement and Monitoring

In order to make this plan an operational management tool, it must become reviewed, improved and updated regularly during the financial year. It is therefore proposed that monthly mini reviews be conducted by the Physical Facilities Management Unit. This will assist the Unit in the compilation of annual and quarterly reports. In addition this will assist the unit in achieving the department's goal of aligning infrastructure planning with the budget cycle.

Areas of improvement that should be included in the mini reviews include:

- Updating, verifying and collation of data on existing immovable assets (asset register);
- Formalise a planning system incorporating circuit, district and municipal needs;
- Develop a prioritisation model that ensure that social and economic objectives are addressed;
- Develop formal systems that ensure that planning and delivery of infrastructure is aligned and supports departmental strategic objectives and is adequately reflected in departmental planning documentation eg APP and budget business plans;
- Formalise and institutionalise operating procedures of physical facilities.



## 10 Section 10: References

- National Norms and Standards for School Funding
- Physical resources Planning Manual
- IDIP Toolkit

