

# Drakenstein Municipality

## GIS



# Vision

- Support decision making through accessible, accurate and relevant data.
- **Personally – I would like a GIS that is:**
  - Integrated into workflows
  - Custodianship that resides with the relevant departments
  - User base increased
  - Being used for what it has been designed for



# The long road of GIS

- Data capture
- Displaying data
- Manipulation of Data
- Integration with other systems

# Standard Chart Of Accounts (SCOA)

## **CHALLENGES IN LOCAL GOVERNMENT**

**National Treasury expressed their concerns with regards to data challenges experienced within Municipal Financial Data to the Minister of Finance in a memo dated 16 October 2008.**

- 278 different municipal 'charts of accounts' (COA)
- Quality of municipal information is compromised due to lack of uniform classifications for revenue and expenditure items (posting level)
- Lack of consistent information across the IDP, Budget, SDBIP, IYM and AFS
- Monitoring and oversight compromised by Councils, DCoG, treasuries and legislatures
- Government's ability to formulate coherent policies compromised, affecting local government, and its ability to use the budget as a re-distribution tool to address poverty and inequality
- Municipalities continuously change and amend their detail COA – No consistency year-on-year

# GENERAL NOTICE NOTICE 892 OF 2013

## **LOCAL GOVERNMENT: MUNICIPAL FINANCE MANAGEMENT ACT, 2003: PUBLICATION OF DRAFT MUNICIPAL REGULATIONS ON STANDARD CHART OF ACCOUNTS FOR PUBLIC COMMENT**

Additional key objectives, which also illustrate the potential benefits include:

- a) Improved data quality and credibility;
- b) The achievement of a greater level of standardization;
- c) The development of uniform data sets critical for “whole-of-government” reporting; .....

**An Executive Summary was published in July 2013**

## Chapter 3

# MINIMUM BUSINESS PROCESS AND SYSTEM REQUIREMENTS

### **Minimum business process requirements**

6.(1) The Minister may, by notice in the Gazette, determine minimum business process requirements for municipalities and municipal entities to enable implementation of regulations 4 and 5

(2) Each municipality and municipal entity must implement the minimum business process requirements by the date determined in the notice referred to in sub-Regulation (1).

**“minimum business process requirements”** means the set of minimum components of all business processes determined in terms of section 6.

## **Minimum system requirements**

7.(1) The Minister may, by notice in the Gazette, determine minimum system requirements for municipalities and municipal entities to enable implementation of regulation 4 and 5.

**“minimum system requirements”** means those specifications for an integrated software solution, incorporating an enterprise resource management system determined in terms of regulation 7.

## **Minimum specification for financial and related systems (applications)**

The implementation and management of SCOA must be enabled by a web-based integrated software solution that incorporates the key functions and end-to-end business processes of a municipality. In ensuring the full functionality of SCOA as provided for in the segments, an end-to-end software solution needs to incorporate and address certain minimum requirements such as unlimited reporting levels.



- ***Business Integration requirements of an Integrated Software Solution***

An integrated software solution must be driven by a fully integrated Enterprise Resource Management (ERP) system incorporating, among others -

- Integration of multi-year planning and budgeting including past year's information; this needs to include project registration and prioritisation and adequate information for spatial analysis in a GIS system ;

## ***Minimum Requirements of an Integrated Software Solution***

Any modular based integrated web-based software solution, will as a minimum, have to provide for among others –

- Transactions must originate from sub-ledgers and not in the general ledger;
- One database informing the general ledger; could however be multiple applications;
- Single point of entry; information, data and transactions should be captured by eliminating duplicate entries to the maximum extent possible;
- No limit on the number of concurrent users or the size of the database;
- The system should be database independent; able to run on multiple platforms and databases, that are updated to the latest available technologies;
- Open-architecture structure with open standards and middleware capabilities (including but not limited to simple user friendly Graphic User Interface); **that enable seamless integration and or interfacing with other internal or external systems;**
- **The architecture should permit easily connectivity to best of class applications, of all types in a federated approach using web services with interface to GIS platforms, with appropriate workflow and access and authorisations;**

# IT and Network Assessment

Due to the regulation and system expectation the following areas needs to be investigated

- 1) Networking
- 2) Server Environment
- 3) Connectivity Services
- 4) IT Governance

Luckily that's an IT problem – Cobit 5



# Our PROBLEMS

- Infrastructure
- Versioning
- Licensing
- Outdated hardware
- Internet access
- Communication

# Our **GOOD FORTUNE**

AG – Infrastructure Asset Register

We were able to go back to the drawing board.

Designed a new data model – assist in the integration with other systems.



# DATA SETS

- Cadastre
- Civil Infrastructure
- Electricity Infrastructure
- Imagery and DTM (NSIF)
- Other

# WORKFLOWS

- Budgeting
- Tender Process
- Capital Projects
- Project Management
- Asset Maintenance
- Unplanned Maintenance
- Asset Register
- Land-use Applications
- Building Plans

# OTHER

Web Applications:

Ownership and Custodianship

- LED Projects
- Water Meters



FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW Pierre de Villiers

Clipboard: Paste, Cut, Copy, Format Painter

Font: Arial, 9, Bold, Italic, Underline, Text Color, Background Color, Paragraph Spacing, Bullets, Numbering, Merge & Center

Alignment: General, Left, Center, Right, Indent, Decrease Indent, Increase Indent, Wrap Text

Number: \$, %, .00, /100

Styles: Conditional Formatting, Format as Table, Cell Styles

Cells: Insert, Delete, Format

Editing: AutoSum, Fill, Clear, Sort & Filter, Find & Select

ID	Asset Code	Asset Type	Asset Description	Component Type	Civil/ Electrical/ Mechanical	Component Code	Component Description	Component Additional Information	Cost Code	Component Capacity/Size	Unit of Measurement	Me
2	1	BH	Borehole	Borehole Civil Components	Shaft & Casing	Civil	BH5	Borehole Shaft & casing only	Borehole - Shaft & casing only	BH-BH5	No	Qu
3	2	BH	Borehole	Hand/Wind Powered	Shaft & Casing	Civil	BH3	Borehole - Hand Operated	Borehole - Hand/Wind Operated	BH-BH3	No	Qu
4	3	BH	Borehole	Hand/Wind Powered	Shaft & Casing	Civil	BH4	Boreholes - Windmill	Borehole - Windmill	BH-BH4	No	Qu
5	4	BH	Borehole	Motor Driven Borehole Pump	Pump	Civil	BHS2	Borehole - Solar powered pump	Borehole - Solar powered pump	BH-BHS2	No	Qu
6	6	BH	Borehole	Motor Driven Borehole Pump	Pump	Civil	BH1	Borehole pump < 40 kW		BH-BH1	0-40 kW	Qu
7	5	BH	Borehole	Motor Driven Borehole Pump	Pump	Civil	BH2	Borehole > 40 kW		BH-BH2	40-85kW	Qu
8	7	BH	Borehole	Motor Driven Borehole Pump	Shaft & Casing	Civil	BH7	Borehole shaft & Diesel mono pump	Borehole - Shaft & Diesel mono and pump	BH-BH7	No	Qu
9	9	BR	Bridge	Pedestrian/Pipe Bridge	Bridge - Balustrade/Side Railings	Civil	RL	Bridge - Balustrade/Side Railings	Bridge - Side Railings	PPBR-RL	m2	Are
10	10	BR	Bridge	Pedestrian/Pipe Bridge	Bridge - Deck/Pipe Support	Civil	DECK	Bridge - Deck/Pipe Support	Bridge - Deck/Pipe Support	PPBR-DECK	m2	Are
11	11	BR	Bridge	Pedestrian/Pipe Bridge	Bridge - Expansion Joints	Civil	EXJ	Bridge - Expansion Joints	Bridge - Expansion Joints	PPBR-EXJ	No	Qu
12	12	BR	Bridge	Pedestrian/Pipe Bridge	Bridge - Foundation	Civil	FND	Bridge - Foundation	Bridge - Foundation	PPBR-FND	m2	Are
13	13	BR	Bridge	Pedestrian/Pipe Bridge	Bridge - Support Column	Civil	SC	Bridge - Support Column	Bridge - Support Column	PPBR-SC	m2	Are
14	14	BR	Bridge	Road/Rail Bridge	Bridge - Abutments	Civil	ABT.RC	Bridge - Abutments	Bridge - Abutments	BR-ABT.RC	m2	Are
15	15	BR	Bridge	Road/Rail Bridge	Bridge - Barriers	Civil	BARR.RC	Bridge - Barriers	Bridge - Barriers (reinforced concrete)	BR-BARR.RC	m	Ler
16	16	BR	Bridge	Road/Rail Bridge	Bridge - Beams	Civil	BEAM.RC	Bridge - Beams	Bridge - Beams	BR-BEAM.RC	m2	Are
17	17	BR	Bridge	Road/Rail Bridge	Bridge - Bearings	Civil	BEAR.PL	Bridge - Bearings	Bridge - Bearings	BR-BEAR.PL	No	Qu
18	18	BR	Bridge	Road/Rail Bridge	Bridge - Deck	Civil	DECK.RC	Bridge - Deck	Bridge - Deck	BR-DECK.RC	m2	Are
19	19	BR	Bridge	Road/Rail Bridge	Bridge - Expansion Joints	Civil	EXJ	Bridge - Expansion Joints	Bridge - Expansion Joints	BR-EXJ	No	Qu
20	20	BR	Bridge	Road/Rail Bridge	Bridge - Foundation	Civil	FND.RC	Bridge - Foundation	Bridge - Foundation	BR-FND.RC	m2	Are
21	21	BR	Bridge	Road/Rail Bridge	Bridge - Piers	Civil	PIER.RC	Bridge - Piers	Bridge - Piers	BR-PIER.RC	m2	Are
22	22	BG	Building	High Spec Building	High Spec Building - Electrical	Civil	EL	High Spec Building - Electrical	High Spec Building - Electrical	BUHS-EL	m2	Are
23	23	BG	Building	High Spec Building	High Spec Building - Foundations	Civil	FND	High Spec Building - Foundations	High Spec Building - Foundations	BUHS-FND	m2	Are
24	24	BG	Building	High Spec Building	High Spec Building - Internal Finishes & Fittings	Civil	IFF	High Spec Building - Finishes, fittings & fixtures	High Spec Building - Finishes, fittings & fixtures	BUHS-IFF	m2	Are
25	25	BG	Building	High Spec Building	High Spec Building - Roof	Civil	RF	High Spec Building - Roof	High Spec Building - Roof	BUHS-RF	m2	Are
26	26	BG	Building	High Spec Building	High Spec Building - Structural Fabric	Civil	SFB	High Spec Building - Structural Fabric	High Spec Building - Structural Fabric	BUHS-SFB	m2	Are
27	27	BG	Building	Low Spec Building	Low Spec Building - Electrical	Civil	EL	Low Spec Building - Electrical	Low Spec Building - Electrical	BULS-EL	m2	Are
28	28	BG	Building	Low Spec Building	Low Spec Building - Foundations	Civil	FND	Low Spec Building - Foundations	Low Spec Building - Foundations	BULS-FND	m2	Are
29	29	BG	Building	Low Spec Building	Low Spec Building - Internal Finishes & Fittings	Civil	IFF	Low Spec Building - Finishes, fittings & fixtures	Low Spec Building - Finishes, fittings & fixtures	BULS-IFF	m2	Are
30	30	BG	Building	Low Spec Building	Low Spec Building - Roof	Civil	RF	Low Spec Building - Roof	Low Spec Building - Roof	BULS-RF	m2	Are
31	31	BG	Building	Low Spec Building	Low Spec Building - Structural Fabric	Civil	SFB	Low Spec Building - Structural Fabric	Low Spec Building - Structural Fabric	BULS-SFB	m2	Are
32	32	BG	Building	Low Spec RDP Building	Low Spec RDP Building - Electrical	Civil	EL	Low Spec RDP Building - Electrical	Low Spec RDP Building - Electrical	HOLS-EL	m2	Are
33	33	BG	Building	Low Spec RDP Building	Low Spec RDP Building - Foundations	Civil	FND	Low Spec RDP Building - Foundations	Low Spec RDP Building - Foundations	HOLS-FND	m2	Are
34	34	BG	Building	Low Spec RDP Building	Low Spec RDP Building - Internal Finishes & Fittings	Civil	IFF	Low Spec RDP Building - Finishes, fittings & fixtures	Low Spec RDP Building - Finishes, fittings & fixtures	HOLS-IFF	m2	Are
35	35	BG	Building	Low Spec RDP Building	Low Spec RDP Building - Roof	Civil	RF	Low Spec RDP Building - Roof	Low Spec RDP Building - Roof	HOLS-RF	m2	Are
36	36	BG	Building	Low Spec RDP Building	Low Spec RDP Building - Structural Fabric	Civil	SFB	Low Spec RDP Building - Structural Fabric	Low Spec RDP Building - Structural Fabric	HOLS-SFB	m2	Are
37	37	BG	Building	Medium Spec Building	Medium Spec Building - Electrical	Civil	EL	Medium Spec Building - Electrical	Medium Spec Building - Electrical	BUMS-EL	m2	Are
38	38	BG	Building	Medium Spec Building	Medium Spec Building - Foundations	Civil	FND	Medium Spec Building - Foundations	Medium Spec Building - Foundations	BUMS-FND	m2	Are
39	39	BG	Building	Medium Spec Building	Medium Spec Building - Internal Finishes & Fittings	Civil	IFF	Medium Spec Building - Finishes, fittings & fixtures	Medium Spec Building - Finishes, fittings & fixtures	BUMS-IFF	m2	Are
40	40	BG	Building	Medium Spec Building	Medium Spec Building - Roof	Civil	RF	Medium Spec Building - Roof	Medium Spec Building - Roof	BUMS-RF	m2	Are
41	41	BG	Building	Medium Spec Building	Medium Spec Building - Structural Fabric	Civil	SFB	Medium Spec Building - Structural Fabric	Medium Spec Building - Structural Fabric	BUMS-SFB	m2	Are

# WHERE TO FROM HERE?????



**QUESTIONS?**

**THANK YOU!**

