

**TO : COUNCIL**

**FROM : TILFRED MABUZA, GM-GIS**

**SUBJECT : APPROVAL REQUEST FOR CORPORATE GIS POLICY**

## **1. PURPOSE:**

This report is submitted to Council Meeting for the approval of the Corporate Geographic Information System Policy to be implemented within the MMM jurisdiction.

## **2. BACKGROUND:**

The Item of the Corporate Geographic Information System Policy served and approved at Mayoral Committee on the 08 November 2017.

The background of the Corporate GIS Policy is that the Spatial Information in the Metro is scattered and Departments generate information for their own use without sharing across the Organisation. Sharing of information is one of the key requirements for the state as per the Promotion of Access to Information Act 2 of 2000 and Spatial Development Infrastructure Act 54 of 2003.

The primary purpose of the policy will be to improve sharing of Spatial Information within the Institution; avoiding duplication of data and efforts for the same cause; guide and enforce integration of spatial related information within the Metro into a Corporate System facility developed by the Planning Department.

### 3. LEGAL IMPLICATIONS

- Promotion of Access to Information Act 2 of 2000.
- Spatial Data Infrastructure Act 54 of 2003.

### 4. FINANCIAL IMPLICATIONS

Not Applicable

### 5. RECOMMENDATION

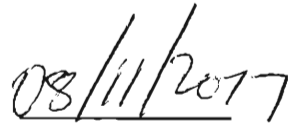
Is recommended that:

5.1 The Corporate GIS Policy be approved by Council for implementation.

Submitted by:



**Bheki Mthembu: HOD Planning**

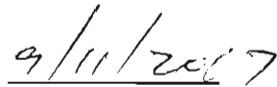


**Date**

Approved for Submission by:

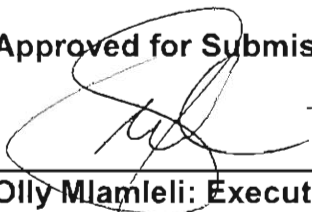


**Adv. Tankiso Mea: City Manager**



**Date**

Approved for Submission by:



**Olly Mlamleli: Executive Mayor**

**Date**

### Annexure A

Corporate GIS Policy



2016

## **DRAFT 2: CORPORATE GIS POLICY**

A PLAN FOR ENHANCED SERVICE DELIVERY

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## GEOGRAPHIC INFORMATION SYSTEM (GIS) POLICY

GIS aims to support the functions of the municipality in delivering services to Mangaung' s citizens, both internal and external clients.

### i) PREAMBLE

The following concerns needs to be considered:

- GIS is a corporative supportive function to all departments in the Mangaung Metro Municipality in order to fulfil their daily duties.
- The Mangaung Metro Municipality GIS sub directorate has established a Corporate GIS which will see the integration and co-operation of various directorates of the MMM.
- Consequently, a policy is required that will provide guidelines and standards that will be necessary to work in synergy with all the MMM user-directorates.
- This policy will serve as a standing document with regards to GIS data acquisition, access, distribution and utilization both for internally as well as externally stakeholders

### ii) DEFINITIONS

GIS - the abbreviation for Geographic Information Systems. For the purpose of this policy, GIS is defined as the information system designed to input, manage, update, analyse and present spatially related information collected and managed by the municipality.

User - any person provided access to MMM's GIS resources.

Custom/ised - this term refers to end products configured to suit specific user needs. It could refer to data sets or software applications.

IT- Information Technology.

MMM – Mangaung Metro Municipality

## 1. INTRODUCTION

### 1.1 Overview

The GIS Sub-directorate, located in the Planning Department, is hereby entrusted with the ownership of all GIS related activities. The mission of the Mangaung Cooperate GIS is to direct corporate GIS policy, provide spatial information and support to all users within MMM area in order to facilitate informed decision-making and enable users to achieve their objectives.

This GIS Sub directorate will provide the technological vision and leadership to deploy appropriate spatial technologies that will contribute towards an enriched community of MMM. It will reinvent, reengineer, and streamline municipal operations wherever spatial technology can contribute towards increased efficiencies, increased effectiveness, and reduced costs.

### 1.2 Purpose

The purpose of this policy is to:

- ✓ promote the use and sharing of spatial information in support of spatial planning, socio economic development and other related activities
- ✓ Provide a process for access to both information contained in the MMM GIS as well as map and data products.
- ✓ Create an environment which facilitates co-ordination and co-operation among all stakeholders regarding access and sharing of spatial information.
- ✓ Eliminate duplication in the capturing of spatial information.
- ✓ To guarantee compliance to all legislative requirements relating to the handling and dissemination of spatial and related information.

### 1.3 Application

This policy governs access, use and management of GIS resources. This includes personnel, hardware, software, data, procedures, policies and methods, and products related to GIS. All users given access to any MMM GIS resources are expected to have read, understood and comply with this policy.

### 1.4 Principles

The MMM GIS has an obligations to build and maintain a spatial information system to provide more efficient service to its citizens and clients. It is the intent of the MMM to provide access to spatial information as permitted or required by law. It should be noted that the Promotion of Access to Information Act No.2 of 2000 requires the organs of state to make all public records available to the public.

Hence the MMM GIS has concluded that the main objectives governing the adoption and use of GIS should be:

- Increased efficiency and effectiveness in the delivery of the municipal service delivery
- Improve data and information integration at all municipal departments;
- Encourage data sharing where ever possible at all levels of government;
- Easy, consistent and effective access to geographic information; and
- Promote use of geographic information and tools as widely as possible.

## 2. PROGRAMMATIC RESPONSIBILITIES

### 2.1 Software

The MMM GIS has adopted the Environmental Science Research institute (ESRI) software as its standard corporate GIS software. The software is Open GIS compliant. It is the MMM GIS sub directorate to purchase the MMM GIS license software shall be administrated and licensed to the GIS sub directorate. The following table outlines the standard software and use that will be supported by corporate GIS:

#### SOFTWARE USE

SOFTWARE	USE
Standard Named User	Versioned Data capture, Data Management, ArcGIS Server configuration, Data Editing and Analysis
Basic Named User	Disconnected Data capture, Data Management, Data Editing and Analysis
ArcGIS Image Extension for server	Data storage

**Note: Above listed are not limited to and it is subject to change**

The GIS sub directorate together with IT will provide support to these software installations and technical queries where required. Networking and operating system queries shall all be referred to IT.

### 2.2 Software Maintenance

In an effort to consolidate software accounts and coordinate continuous upgrades, all ESRI GIS software is to be licensed to GIS under a single customer number. The GIS General Manager will be responsible for the purchase of all GIS software and related licenses. The GIS: GM will be responsible for dissemination and safe keeping of all software materials. Users should be in contact the GIS General Manager for GIS software support. See specification in Annexure 1.



## 2.3 Hardware

The GIS sub directorate shall determine the minimum hardware standards for all GIS users as required by the software supplier. These shall be agreed upon with IT. All acquisitions of GIS hardware shall adhere to the standard procurement policy of the municipality. IT shall be responsible for the maintenance of all hardware equipment. Hence all hardware support shall be referred to IT Service Desk.

## 2.4

### 2.4.1 Data

All spatial datasets in custody of a GIS user or system shall be regarded as the property of the MMM and thus shall conform to the municipal standards. These standards are as follows:

- The coordinate system shall be projected on the datum: Hartebeeshoek 1994 and Transverse –Mercator, WGS84.
- All datasets created or obtained within or from third party organizations must ALWAYS have updated metadata. This shall conform to the published MMM metadata catalogue; This is in compliance of Spatial Data Infrastructure Act 54 of 2003 section 12.
- MMM's datasets must be maintained in a format specified by the GIS sub directorate and be updated within the corporate geographic database.

### 2.4.2 Data acquisition

- Aerial photograph acquisition on a second yearly basis of the Mangaung Metro Municipality.
- Lidar Imagery for valuation generation information.

## 2.5 Metadata

GIS datasets with adequate documentation are more useful to MMM staff and external stakeholders. Such documentation alerts the potential user of the dataset's quality and limitations. Documenting GIS datasets is an important responsibility of the GIS unit creating the datasets. Every GIS dataset created and acquired by a GIS user must have an accurate metadata record according to municipal standard. Corporate GIS will maintain an electronic metadata viewer however GIS units are responsible for the update of the database and hardcopy records where necessary. This is in compliance with the Spatial Data Infrastructure Act, Act no 54 of 2003 section 12. (1)(2)(3). See metadata in Annexure 2.

## 2.6 GIS Projects

All projects conducted on behalf of the municipality, with GIS data as part or entire deliverable shall be supported by the General Manager: GIS or his/her nominated individual. A copy of the latest GIS specifications document shall accompany letters of awards and/or contracts for such projects. All digital data submitted in standard transfer

media shall comply with the GIS specifications of the MMM and will be checked by the responsible GIS staff member. Any deviations to the GIS specifications shall be approved by the General Manager: GIS

### **3. USER CLASSIFICATION AND RESPONSIBILITIES**

To ensure efficient utilization and support for GIS users, the use and level of GIS functionalities has been classified according to user types with different needs and responsibilities. GIS users are classified as follows:

#### **3.1 Corporate GIS**

This office will provide GIS co-ordination functions. Its responsibilities include inter alia drafting and implementation of policies and standards, GIS technical support, and capturing, collection and maintenance of core and base datasets.

#### **3.2 GIS units/Sections**

These offices, reporting directly to their respective departments will provide GIS support to their staff with the assistance of GIS. These units will provide high- end data manipulation and storage support and hence will require access to advanced software and hardware. They should also be equipped with support personnel to render necessary services at their departments. These units shall be equipped with necessary resources to fulfil their responsibilities outlined in the Services Level Agreement (SLA) referred to in section 3.6.

#### **3.3 Power (GIS) Users**

These are municipal employees or contractors who depend on GIS information to perform their daily functions. These users perform basic data capture with no need to adhere to advanced topology. However these users require access to, not necessarily ownership, advanced visualization and query software to perform their functions. Any requirements for advanced data manipulation tools will be performed by GIS units or corporate GIS as agreed.

#### **3.4 MMM Users**

These are users who only require access to GIS information via the Internet or through customised applications. GIS units and corporate GIS will deploy tools to enable access to GIS data and services for these users.

#### **3.5 Members of the public and MMM users**

Any other individual with a specific GIS need at any point in time will be regarded as an Information Browser. Such needs can be fulfilled by hard copy maps, internet tools and/or customised products.

#### **3.6 Service Level Agreements (SLA)**

In order to ensure sustainability of GIS and data integrity, the Head of Departments with GIS functionality will enter into SLA with the General Manager GIS. This contractual document will stipulate the types and frequency of updates where

applicable, of datasets, services and applications that are the responsibilities of parties concerned.

## **4. ACCESS AND DISSEMINATION OF SPATIAL INFORMATION**

### **4.1 Public records vs. custom products**

For the purposes of this policy, there are two types of information that can be obtained from the municipality's GIS; Public records and custom products. Public records are information, hard copy and/or digital formation that have been developed or produced in the normal course of activity for the operation and conduct of local government. Therefore, public records are information that already exist and will be provided to a user in the form that the information is stored and maintained on during the day-to-day operation of the municipality

Custom products are digital and/or hard copy information that the municipality has the ability to create, but is not required for the normal operation and conduct of local government and does exist at the time of the request. For a custom product to be developed, it will require using municipal resources to collect, manipulate, reformat, program and test quality control in order to respond to a specific request. Records identified as exempt under the Promotion of Access to Information Act shall not be considered as public record and will be made available subject to this GIS policy.

### **4.2 Access Constraints**

#### **i) Third part datasets**

The corporate GIS database contains datasets that are obtained from outside organization. These datasets are intended for Municipal use only and cannot be disseminated to other users outside MMMM, as per license agreement by the supplier.

Any request to access these data sets in electronic form should be directed to original organizations that own the dataset.

#### **ii) Personal records**

Any information classified as personal records or containing information making reference to personal records will not be made available to users outside the municipality or any internal users.

#### **iii) Security of individuals and property**

Certain categories of information in the GIS database could endanger safety of individuals and property when disclosed to inappropriate Users. Hence access to such records may be strictly controlled. Where disputes arise, the owner of the data shall determine access to such records in accordance to applicable legislation.

### 4.3 Types of GIS services

All general GIS services to users outside of the council shall be directed to the GIS Office. These services include

- Request for all digital GIS data;
- Basic GIS maps other than for a specific project or day today municipal services rendered by a specific department;
- Customised GIS products and maps;
- Any queries relating to GIS data and/or applications on the Internet; and
- Generic issues relating to access and use of GIS in the municipality.

Upon receipt of a request, by GIS or its designated customer care centre, a notification shall be conveyed to the requestor within five (5) working days as to whether the request can be fulfilled and if so, when. The five day period begins when GM: GIS or his designee receives a written request. If the request description is determined to be insufficient to begin processing, the requestor shall be promptly notified that the request cannot be processed without additional information. This shall satisfy the five (5) day reply requirement. Receipt of an augmented request description shall open another five (5) day reply window. The GIS Representative shall respond promptly in fulfilling such requests. The nature of the request, the content and location of the data as well as the staff size and current and anticipated workload shall bear on the reasonable expeditiousness of the response. All data existing at the time of a GIS data request shall be deemed available for fulfilling such requests. Data that must be created or otherwise manipulated will be taken into account in the execution of the request and such request will not be subject to the Promotion of Access to Information Act.

#### i) Custom products

Written agreements shall be required for all custom GIS products and services and prescribed hourly rates or part thereof shall be charged. An estimated payment fee, or assigned written agreement specifying the fee, must be received before work will be performed for custom products. Fees received for custom GIS products and services shall be reinvested by the municipality within the GIS.

### 4.4 Electronic Access

The goals for GIS accessibility include the ability to download GIS products in pdf format and the ability to view and query these datasets on the GIS web application. The taxpayers and citizens of the city are the "owners" of GIS information produced and stored at any MMM GIS Server.

Departments who collect, update, and distribute data at MMM GIS Server are the "caretakers." If possible, GIS datasets will be stored with the caretaker department. When necessary to make data distribution efficient, a central store for GIS datasets will be set up within the Corporate GIS. The Corporate GIS and the GIS Technical Forum will develop

policies for the inclusion and timely update of datasets in the central store. MMM GIS datasets will meet all requirements for the Public Record Law. Access to datasets, which have been designated "restricted", will be coordinated by the GIS Administrator with the custodial division or with the state's corporate database. Datasets purchased by MMM GIS Server will adhere to the licensing agreement with the dataset provider. Datasets received by MMM GIS Server as the deliverable in satisfying a contract will adhere to licensing and distribution requirements in the contract.

## **5 LICENSING AGREEMENT**

### **5.1 Acknowledgement of conditions**

All GIS users shall abide by the municipality terms and conditions for use of GIS products. In order to minimise administrative obligations, the municipality will not request any written acceptance of conditions for use of GIS products. However every user accepting any GIS product will be provide and/or made aware of the municipal license agreement

### **5.2 Immunity from Liability**

Nothing in this policy shall be interpreted to be in conflict with the legislation applicable to the Republic of South Africa. In making GIS data accessible, the Municipality makes no warranty of accuracy. The information contained in the fulfilment of any GIS data or map request is compiled for use by the Mangaung Metropolitan Municipality, its employees and consultants. The municipality does not warrant the accuracy of any data, map or application. Any person or entity requesting GIS data should conduct an independent inquiry regarding the accuracy of all information provided. Any inaccuracies shall be reported to the municipality or its agents as stipulated in chapter 23 of the Spatial Information Bill or subsequent legislation.

Neither the Municipality nor its employees and representatives shall be liable for the information neither provided nor for any oral representation provided based on said data.

### **5.3 Copyright**

Spatial information products and services originated by the State are protected in terms of the Copyright Act, 1978 (Act 98 of 1978). As the State President is the holder of State copyright, all organs of State enjoy unhindered use of the spatial information products and services of other organs of State, without a need for further permission to copy in terms of that copyright. i.e. © year. MMM. All rights reserved. The Council or other suppliers assert copyright over all works including computer programmes and collections of data supplied to the User as part of the service. All such items are supplied for the personal use of the User only, and only for purposes permitted by applicable law. The data may not be copied or distributed to any other person in any manner or form for reward or any other purpose. The User undertakes to refrain from any infringement of the Council's copyright to the data and to guarantee that all other persons to whom the User makes available any copyrighted data obtained from the Council for authorised purposes, including partners, employees, clients or professional advisers shall do likewise.

#### 5.4 Indemnity

The Municipality shall not be liable for any loss or damages suffered by the User as a result of any inaccuracy in the service or data supplied, any interruption in access or supply or change in service levels in accordance with the provisions of section 3 above or any failure on the part of the Municipality to supply the service timeously or at all. The User acknowledges that the Municipality will have no control over the use made of any data supplied in terms hereof. The User waives all claims against the Municipality for any loss or damage suffered by the User and indemnifies the Municipality against any claim by any other person arising from incorporation thereof.

#### MMM GIS POLICY

The data in any plan, design or other work, or from reliance upon the completeness or accuracy of the data for any purpose whatsoever. The Municipality, as public authority subject to budgetary constraints, reserves the right to change, from time to time, its official policy regarding the level of service provided, including conditions of supply and fees payable. In case of conflict between the provisions of this GIS policy and directives contained in any amended Council policy, the latter shall prevail.

**ANNEXURE 1****ARCGIS DESKTOP SUPPORTED PLATFORMS**

Operating Systems	Minimum OS Version	Maximum OS Version
Windows 10 Home, Pro, and Enterprise (32 bit and 64 bit [EM64T])**		
Windows 8.1 Basic, Pro and Enterprise (32 bit and 64 bit [EM64T])	Update: April 2014	
Windows 8 Basic, Pro and Enterprise (32 bit and 64 bit [EM64T])		
Windows 7 Ultimate, Professional and Enterprise (32 bit and 64 bit [EM64T])	SP1	
Windows Server 2012 R2 Standard and Datacenter (64 bit [EM64T])	Update: April 2014	
Windows Server 2012 Standard and Datacenter (64 bit [EM64T])		
Windows Server 2008 R2 Standard, Enterprise and Datacenter (64 bit [EM64T])	SP1	
Windows Server 2008 Standard, Enterprise and Datacenter (32 bit and 64 bit [EM64T])	SP2	SP2

## HARDWARE REQUIREMENTS

### Supported and Recommended

CPU Speed	2.2 GHz minimum ; Hyper-threading (HHT) or Multi-core recommended
Platform	x86 or x64 with SSE2 extensions
Memory/RAM	2 GB minimum
Display properties	24-bit colour depth
Screen resolution	1024 x 768 recommended minimum at normal size (96 dpi)
Swap space	Determined by the operating system; 500 MB minimum.
Disk space	<p>2.4 GB</p> <p>In addition, up to 50 MB of disk space may be needed in the Windows System directory (typically, C:\Windows\System32). You can view the disk space requirement for each of the 10.3 components in the Setup program.</p> <p>If using ArcGlobe, additional disk space may be required. ArcGlobe will create cache files when used.</p>
Video/Graphics adaptor	<p>64 MB RAM minimum, 256 MB RAM or higher recommended. NVIDIA, ATI, and Intel chipsets supported.</p> <p>24-bit capable graphics accelerator</p> <p>OpenGL version 2.0 runtime minimum is required, and Shader Model 3.0 or higher is recommended.</p> <p>Be sure to use the latest available driver.</p>
Networking Hardware	Simple TCP/IP, Network Card, or Microsoft Loopback Adapter is required for the license manager.



## ANNEXURE 2

### METADATA SPECIFICATIONS

#### Data distributors

- Custodian
- Data type
- Distributor
- Date last modified
- Contact details of distributor

#### Data recipient

- Recipients
- Received by
- Date received
- Status of data
- Purpose
- Summary